PRB | Performance review body of the single european sky

Performance Review Body Monitoring Report 2023

Detailed Analysis for Experts at Union-wide and local levels

The 2023 monitoring is complemented by a Digital dashboard, including a detailed analysis per Member State.

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1 Introduction

This document is Annex II to the PRB Monitoring Report 2023. It presents a summary of the Union-wide and local performance in 2023 for each key performance indicator (KPI), followed by detailed analyses at Union-wide and local levels in each of the four key performance areas.

It has been prepared in a collaboration between the Performance Review Unit (PRU) of Eurocontrol and the European Union Aviation Safety Agency (EASA).

The legal basis for monitoring the performance of the air traffic management in the Single European Sky (SES) area during the third reference period (RP3) is defined in Articles 11, 12, 14, 15 and 16 of Regulation (EC) No 549/2004 (the Framework Regulation), and in the Implementing Regulation (EU) No 2019/317 (the Performance and Charging Regulation).

Due to the outbreak of the COVID-19 pandemic, the European Commission adopted exceptional measures for RP3 (Commission Implementing Decision (EU) 2020/1627 of 3 November 2020) and adopted revised Union-wide targets for RP3 in June 2021 (Commission Implementing Decision (EU) 2021/891 of 2 June 2021).

The Member States submitted their draft performance plans containing revised targets for RP3 ensuring consistency with the revised Union-wide performance targets in October-November 2021.

The European Commission issued decisions on consistency and inconsistency of the performance targets of the plans pursuant to Regulation (EC) No 549/2004 of the European Parliament and of the Council on 13 April 2022, as follows:

- Commission Decisions (EU) 2022/764 to 2022/779 of 13 April 2022 on the consistency of the performance targets contained in the draft performance plan submitted by Croatia, Finland, Ireland, Portugal, Slovakia, Lithuania, Denmark, Estonia, Czech Republic, Italy, Austria, Hungary, Spain, Slovenia, Bulgaria and Poland;
- Commission Implementing Decision (EU) 2022/728 of 13 April 2022 on the inconsistency of certain performance targets contained in the draft national and functional airspace block performance plans submitted by Belgium, Germany, Greece, France, Cyprus, Latvia, Luxembourg, Malta, the Netherlands, Romania and Sweden;
- Commission Implementing Decision (EU) 2022/780 of 13 April 2022 on the inconsistency of certain performance targets contained in the draft functional airspace block performance plan submitted by Switzerland.

The Member States with inconsistent targets submitted revised draft performance plans to the European Commission in July 2022 (as per Article 14(3) of (EU) No 2019/317).

The European Commission issued decisions on consistency of the performance targets of the revised plans pursuant to Regulation (EC) No 549/2004 of the European Parliament and of the Council in December 2022, as follows:

- Commission Decision (EU) 2022 /2421 to 2022/2426 of 5 December 2022 on the consistency of the performance targets contained in the draft revised performance plan submitted by Greece, Cyprus, Sweden, Romania, Malta and Latvia;
- Commission Decision (EU) 2023 /176 to 2023/179 of 14 December 2022 on the consistency of the performance targets contained in the draft revised performance plan submitted by France, Germany, Switzerland and the Netherlands.

Additionally, due to Russia's war of aggression against Ukraine and the consequent decrease in traffic resulting from it, Lithuania, on 26 August 2022, and Estonia, on 26 September 2022, requested permission from the Commission to enter the process of performance plan revision (as per Article 18 of (EU) No 2019/317). Through Decision (EU) 2022/2494 of 9 December 2022 the Commission approved the request submitted by Lithuania for the revision of its performance targets for the third reference period. Differently, as a result of the Estonian decision to withdraw the performance plan revision request, the final

2 Summary of the performance in 2023 at Union-wide level

Table 1 shows the Union-wide performance in 2023 against the targets for the Key Performance Areas of Environment and Capacity. The value for KEA taking in consideration the effects of the war in Ukraine is 2.71% (correction of 0.28%).

KPI (UNION-WIDE)	2023		
	EU TARGET	PERFORMANCE	Actual vs target
ENVIRONMENT			
KEA (horizontal en route flight efficiency – actual route)	2.40%	2.99%	✖
CAPACITY			
Average en route air traffic flow management (ATFM) delay per flight (Minutes)	0.50	1.81	✖

Table 1 - Actual performance at Union-level (2023) – Environment and Capacity

Table 2 presents the actual real en route unit cost (AUC) recorded at Union-wide level in 2023 compared to the assumption in terms of determined real en route unit cost (DUC) underpinning the Union-wide cost-efficiency target from Commission Implementing Decision (EU) 2021/891 of 2 June 2021.

KPI (UNION-WIDE)	2023		
	EU TARGET	PERFORMANCE	Actual vs target
COST-EFFICIENCY			
Real en route unit cost for en route ANS (€$_{2017}$)	59.02	50.17	-15.0%

Table 2 - Actual performance at Union-level (2023) – Cost-efficiency

Table 3 shows the actual unit cost incurred by users separately for en route and terminal air navigation services at Union level compared to the average DUC in euro in nominal terms in 2023.

PI (UNION-WIDE)	2023		
	DUC	AUCU	Actual vs target
COST-EFFICIENCY			
Actual unit cost incurred by users for en route (€)	56.05	60.48	+7.9%
Actual unit cost incurred by users for terminal (€)	202.60	204.92	+1.1%

Table 3 - Actual performance at Union-level (2023) – Cost-efficiency

3 Summary of the performance in 2023 at local level (National)

3.1 Environment and capacity

Table 4 shows the operational performance in 2023 against the targets for the Key Performance Areas of Environment and Capacity at local level.

State	KEA (%)			En route delay (minute / flight)		Arrival delay (minute / flight)	
	Target	Actual	Corrected	Target	Actual	Target	Actual
Austria	1.96	2.11 ✗	1.93	0.17	0.10 ✓	0.84	0.30 ✓
Belgium Luxembourg	3.00	3.59 ✗	3.51	0.17	0.18 ✗	1.08 0.05	0.43 ✓ 1.36 ✗
Bulgaria	2.25	3.40 ✗	2.12	0.07	0.06 ✓	0.40	0.07 ✓
Croatia	1.46	1.51 ✗	1.44	0.17	0.43 ✗	N/A	
Cyprus	3.84	4.73 ✗	3.84	0.15	0.04 ✓	N/A	
Czech Republic	2.05	2.61 ✗	2.26	0.11	0.09 ✓	0.40	0.07 ✓
Denmark	1.14	1.44 ✗	1.32	0.06	0.10 ✗	0.10	3.09 ✗
Estonia	1.22	6.55 ✗	2.38	0.03	0.00 ✓	0.00	0.00 ✓
Finland	0.88	3.39 ✗	1.53	0.05	0.00 ✓	0.32	0.14 ✓
France	2.83	3.33 ✗	3.30	0.25	2.13 ✗	0.40	0.70 ✗
Germany	2.30	2.69 ✗	2.53	0.27	1.93 ✗	0.45	0.54 ✗
Greece	1.92	2.26 ✗	2.13	0.15	0.83 ✗	0.40	3.24 ✗
Hungary	1.49	2.11 ✗	1.36	0.11	0.81 ✗	0.05	0.02 ✓
Ireland	1.13	1.44 ✗	1.42	0.03	0.02 ✓	0.20	0.30 ✗
Italy	2.67	3.09 ✗	3.04	0.11	0.14 ✗	0.33	0.15 ✓
Latvia	1.25	7.97 ✗	2.83	0.03	0.00 ✓	0.02	0.00 ✓
Lithuania	1.92	13.14 ✗	4.52	0.02	0.00 ✓	N/A	
Malta	1.80	1.58 ✓	1.53	0.01	0.00 ✓	0.01	0.00 ✓
Netherlands	2.62	2.94 ✗	2.83	0.14	0.06 ✓	1.60	2.42 ✗
Norway	1.55	1.29 ✓	1.15	0.11	0.03 ✓	0.50	0.16 ✓
Poland	1.65	4.58 ✗	2.18	0.12	0.20 ✗	0.24	0.19 ✓
Portugal	1.80	1.50 ✓	1.49	0.13	0.48 ✗	2.28	2.59 ✗
Romania	2.05	3.61 ✗	1.71	0.04	0.16 ✗	0.39	0.00 ✓
Slovakia	2.13	4.05 ✗	2.10	0.08	0.03 ✓	N/A	
Slovenia	1.55	1.73 ✗	1.63	0.09	0.03 ✓	N/A	
Spain	3.08	3.26 ✗	3.24	0.19	0.47 ✗	0.57	0.70 ✗
Sweden	1.05	1.75 ✗	1.19	0.08	0.01 ✓	0.15	0.30 ✗
Switzerland	3.95	4.43 ✗	4.36	0.19	0.13 ✓	1.28	1.50 ✗

Table 4 - Actual performance at local level (2023) – Environment and Capacity

Environment:

Three States met the target in 2023, namely Malta, Norway and Portugal. A separate study has been published with a detailed analysis of the effects of the geopolitical situation in Ukraine on traffic flows and the calculation of revised values for the KEA indicator.

When considering the flows affected by the war in Ukraine, six more States would have made the target, namely Bulgaria, Croatia, Cyprus, Hungary, Romania and Slovakia. The revised indicator for Estonia, Finland, Latvia, Lithuania and Poland is more than halved.

En route Capacity:

Thirteen States did not achieve their local target for en route capacity performance in 2023: Belgium & Luxembourg, Croatia, Denmark, France, Germany, Greece, Hungary, Italy, Poland, Portugal, Romania and Spain.

The Network Manager initiated a range of measures (eNM/S23) to mitigate continuing capacity shortfalls in Karlsruhe UAC.

Delays attributed to adverse weather were an increasing factor in several States including, Belgium & Luxembourg, Bulgaria, Croatia, Italy, Romania, Slovenia, Spain.

3.2 Cost-efficiency

Figure 1 for en route) and Figure 2 (for terminal) show the details per charging zone of the AUC for 2023 against the DUC in real terms in €2017.

2023 AUC vs DUC (€2017) for en route

En route charging zones	AUC vs DUC	Actual vs determined costs	Actual vs forecast TSUs
Croatia	-31.0%	-9.1%	31.7%
Hungary	-29.7%	-9.1%	29.3%
Bulgaria	-27.3%	-8.5%	25.9%
Greece	-21.2%	-12.5%	11.0%
Malta	-18.9%	-22.0%	-3.8%
Spain Canarias	-15.9%	4.0%	23.6%
Slovenia	-15.8%	-0.2%	18.6%
Austria	-13.2%	2.2%	17.7%
Slovakia	-12.8%	-0.9%	13.7%
Portugal Continental	-12.4%	0.9%	15.1%
Italy	-9.7%	-8.3%	1.5%
Cyprus	-6.5%	-9.3%	-2.9%
Norway	-5.2%	-4.7%	0.5%
Romania	-5.1%	1.6%	7.0%
Spain Continental	-5.0%	1.7%	7.0%
France	-4.5%	-4.2%	0.3%
Czech Republic	-3.6%	-12.0%	-8.7%
Belgium-Luxembourg	-2.5%	-0.8%	1.8%
Lithuania	-1.3%	-4.1%	-2.8%
Germany	-0.5%	-8.8%	-8.4%
Ireland	4.7%	3.1%	-1.5%
Latvia	8.0%	-8.2%	-15.0%
Netherlands	8.4%	-0.3%	-8.0%
Denmark	19.7%	5.2%	-12.2%
Switzerland	22.6%	15.7%	-5.6%
Poland	25.5%	-6.8%	-25.7%
Finland	34.8%	-18.3%	-39.4%
Sweden	38.0%	13.3%	-17.9%
Estonia	59.3%	-17.9%	-48.4%
Union-Wide	**-4.6%**	**-3.4%**	**1.2%**

Figure 1 - Actual en route unit costs vs the DUC (2023)

2023 AUC vs DUC (€2017) for terminal

Terminal charging zone	AUC vs DUC	Actual vs determined costs	Actual vs forecast TNSUs
Malta	-33.8%	-29.1%	7.1%
Hungary	-24.2%	-21.3%	3.9%
Portugal	-18.8%	-3.6%	18.7%
Greece	-18.6%	-10.5%	10.0%
Ireland	-16.1%	-7.7%	10.0%
France zone 1	-14.0%	-13.0%	1.1%
Italy zone 2	-13.8%	-9.1%	5.4%
Spain	-9.8%	-4.5%	5.9%
Poland zone 2	-6.2%	16.0%	23.7%
Czech Republic	-5.2%	-14.4%	-9.7%
Belgium Brussels	-2.1%	-4.4%	-2.3%
Netherlands	-0.3%	-2.1%	-1.8%
Italy zone 1	0.3%	-6.2%	-6.5%
Poland zone 1	2.5%	4.9%	2.3%
France zone 2	2.9%	-4.9%	-7.6%
Denmark	4.1%	-2.8%	-6.6%
Romania	12.8%	9.6%	-2.8%
Finland	12.8%	-16.2%	-25.7%
Luxembourg	13.9%	7.3%	-5.8%
Norway	14.2%	8.2%	-5.3%
Switzerland	14.7%	14.1%	-0.5%
Germany	14.8%	-6.1%	-18.2%
Austria	15.1%	6.3%	-7.6%
Latvia	15.6%	-7.9%	-20.3%
Estonia	24.3%	14.5%	-7.9%
Sweden	31.7%	14.8%	-12.8%
Union-Wide	**0.6%**	**-3.0%**	**-3.6%**

Figure 2 - Actual terminal unit costs vs the DUC (2023)

Table 5 (for en route) and Table 6 (for terminal) provide details per charging zone of the actual unit cost incurred by users in 2023 against the DUC in nominal €.

En route charging zones	DUC (€)	AUCU (€)	AUCU vs. DUC (%)
Belgium-Luxembourg	109.02	106.60	-2.2%
Germany	67.96	78.59	15.6%
Estonia	32.75	70.08	114.0%
Finland	43.91	71.48	62.8%
Netherlands	82.26	96.69	17.6%
Ireland	26.42	29.51	11.7%
Denmark	59.04	68.38	15.8%
Norway	46.82	50.16	7.1%
Poland	42.29	60.17	42.3%
Sweden	63.35	91.17	43.9%
Latvia	41.44	50.65	22.2%
Lithuania	59.90	60.27	0.6%
Spain Canarias	61.86	38.20	-38.2%
Bulgaria	34.07	30.54	-10.3%
Cyprus	31.56	32.72	3.7%
Croatia	48.05	40.10	-16.5%
Spain Continental	54.12	59.21	9.4%
France	65.75	69.11	5.1%
Greece	28.73	26.91	-6.3%
Hungary	35.73	32.94	-7.8%
Italy	64.44	71.14	10.4%
Slovenia	63.47	60.71	-4.4%
Czech Republic	62.96	74.58	18.5%
Malta	23.64	23.53	-0.4%
Austria	60.01	61.33	2.2%
Portugal Continental	41.95	39.55	-5.7%
Romania	41.61	44.07	5.9%
Switzerland	108.59	116.29	7.1%
Slovakia	65.14	69.92	7.3%
Union-wide	**56.05**	**60.48**	**7.9%**

Table 5 - Actual en route unit cost incurred by users vs plan (2023)

Terminal charging zones	DUC (€)	AUCU (€)	AUCU vs. DUC (%)
Belgium Brussels	289.88	214.99	-25.8%
Germany	213.78	276.30	29.2%
Estonia	134.62	135.95	1.0%
Finland	156.51	220.02	40.6%
Netherlands	207.09	234.45	13.2%
Ireland	175.78	163.34	-7.1%
Denmark	155.05	171.47	10.6%
Luxembourg	269.71	236.97	-12.1%
Norway	157.08	173.41	10.4%
Poland zone 1	114.42	134.74	17.8%
Poland zone 2	251.83	252.15	0.1%
Sweden	130.95	181.26	38.4%
Latvia	149.20	156.13	4.6%
Spain	119.13	34.16	-71.3%
France zone 1	107.74	174.77	62.2%
France zone 2	361.30	261.74	-27.6%
Greece	195.40	148.21	-24.2%
Hungary	333.83	335.29	0.4%
Italy zone 1	155.08	179.31	15.6%
Italy zone 2	198.54	213.48	7.5%
Czech Republic	289.29	316.01	9.2%
Malta	173.96	160.96	-7.5%
Austria	214.56	268.75	25.3%
Portugal	156.31	143.65	-8.1%
Romania	313.29	351.63	12.2%
Switzerland	400.34	412.14	2.9%
Union-wide	**202.60**	**204.92**	**1.1%**

Table 6 - Actual terminal unit cost incurred by users vs plan (2023)

4 Cost-efficiency monitoring at State level: Reader's Guide

4.1 Introduction

4.1.1 The objective of this section is to facilitate the understanding of the cost-efficiency analysis at State level presented in Annex II to the annual monitoring report.

4.1.2 The source of the data used for the cost-efficiency monitoring are the June 2024 en route and terminal Reporting Tables provided by the States for each charging zone (CZ). These have been complemented by the updates of ANSPs costs exempted provided in the NSA reports on the verification of cost risk sharing for the year 2023 due to be submitted by 1 September 2024.

4.1.3 The analysis is structured into three main parts: en route charging zone(s), terminal charging zone(s) and gate-to-gate ANS cost-efficiency monitoring for all the charging zones covered by the SES performance scheme under the responsibility of the State. Common templates and analytical frameworks are used for both en route and terminal ANS, and for the States having several en route (Spain) or terminal (Italy, France and Poland) charging zones, the framework is replicated for each charging zone.

4.1.4 Graphs, tables and comments are displayed into "boxes", with each box focusing on a particular aspect of the monitoring analysis. Section 4.2 below provides explanations of the content of each box constituting the en route and the terminal analysis. Section 4.3 presents the content of the gate-to-gate analysis.

4.2 En route and terminal ANS analysis

1. Contextual economic information
Box 1 presents information on: - The State's share in SES ANS actual costs in 2023; - The national currency and the exchange rates against the € (source: Average of the daily "Closing Rates" calculated by Reuters based on daily BID rates) for the years: 2017: used for the conversion in real €2017; 2023: used for the conversion of 2023 costs and adjustments into €; - The date of issue of the performance plan and whether or not it was found consistent with the references of the relevant EC decision. Information on the adoption and submission of final performance plans or revised performance plans where applicable. - For Terminal Charging Zones, box 1 also indicates the number of airports in the TCZ (with a classification per number of air transport movements).
2. Monitoring of the en route (or terminal) determined unit costs (DUC) at charging zone level
Box 2 contains standard text identical for all States, explaining the notions of determined unit costs (DUC) and actual unit cost (AUC).
3. En route (or terminal) actual unit cost (AUC) vs en route (or terminal) determined unit cost (DUC)
Box 3 identifies whether the AUC is lower (improvement of the performance indicator) or higher (deterioration of the performance indicator) than the DUC target set in the Performance Plan (PP), and what were the drivers for the improvement or deterioration (costs, traffic). It provides transparency on the different steps required to undertake the monitoring of the DUC, for the calendar year 2023, showing: • The planned performance (based on RP3 PP data); • The actual performance (based on the June 2024 Reporting Tables for all RP3 years); • And the differences between actual and planned performance. To ensure consistency with the determined costs data provided in the adopted PP, actual costs are expressed in 2017 prices. Planned and actual inflation indices are also shown in box 3.
4. Focus on en route (or terminal) DUC monitoring at charging zone level

Box 4 contains graphical summaries (right-hand side) of the differences in traffic (service units), costs by entity, and costs by nature for the main ANSP as well as comments (left-hand side) on the situation observed for the calendar year 2023.

The comments provide an analysis and general conclusions on the 2023 DUC at State/Charging zone level, including:

- Comparison between the AUC and the DUC;
- Comparison of actual costs and traffic to the costs and traffic in the PP;
- Comments on the application of the traffic risk sharing mechanism in the State;
- Comments on which entity is driving the difference between actual and planned costs, and on which drivers for the main ANSP.

For the purpose of analysing the differences between determined and actual costs, as presented in box 4, all cost items are expressed in real 2017 terms on the basis of the inflation index computed using the planned/actual inflation rates provided by States in the en route and terminal reporting tables. Specifically, as provided by article 26 of Regulation (EU) 2019/317, costs incurred by competent authorities, qualified entities and EUROCONTROL costs are not corrected for inflation. Similarly, for all the ANSPs and METSPs, depreciation costs and the cost of capital are not corrected for inflation.

5. Monitoring of the en route (or terminal) actual unit cost for users (AUCU) at charging zone level

Box 5 contains standard text identical for all States, explaining the notion of actual unit cost for users (AUCU).

6. En route (or terminal) actual unit cost for users (AUCU) at charging zone level

Box 6 shows all the adjustments required to calculate the AUCU for the calendar year 2023, starting from the DUC (in national currency in nominal terms). This reflects the unit cost that airspace users genuinely incur in respect of the activities performed in 2023.

The bar on the left-hand side of the chart presents the 2023 DUC and each bar moving to the right shows the contribution (in nominal terms) of each adjustment to reach the 2023 AUCU (the last bar on right-hand side of the chart). The detailed figures, both in national currency and in € are given in the table on the right-hand side.

The rationale for the different adjustments, and the methodology used for their conversion into € is provided below:

- Inflation adjustment: to reflect the impact of higher/lower inflation index in 2023 which will be charged/reimbursed to airspace users in year 2025;
- Costs reported by the State as being exempted from cost-sharing in accordance with Art. 28(3) to 28(6) of Regulation (EU) 2019/317 (i.e. costs exempt from cost-sharing): to reflect the elements of the cost sharing mechanism, where differences between determined costs included in the performance plan and actual costs for 2023 are shared between air navigation service providers and airspace users, in accordance with the provisions of Article 28 (EU) 2019/317 and will be charged/reimbursed to airspace users in future years' unit rates.
- Traffic risk sharing adjustment: to reflect the gain/loss in revenues due to higher/lower traffic than planned in 2023, which will be reimbursed/charged to airspace users in 2025.
- Traffic adjustment (for costs not subject to traffic risk sharing): reflects the fact that, for the costs not subject to traffic risk sharing, over/under recoveries due to higher/lower traffic than planned in 2023 will be fully reimbursed/charged to airspace users in 2025.
- Traffic adjustment on adjustments: Left blank. The traffic adjustment on adjustments for 2023 relates to adjustments that have already been taken into account in full in the AUCU for the current year (i.e. other revenues or cross-financing between charging zones that relate to years 2023) or previous years (i.e. adjustments from the combined year 2020-2021 or from 2022). As a result, the traffic adjustment on adjustments is not considered, in order to avoid double counting.
- Financial incentives: to reflect the adjustment relating to achievement (or failure to achieve) capacity performance targets in 2023 that will be fully reimbursed/charged to airspace users in 2025 in accordance with Article 11 of Regulation (EU) 2019/317. These incentives are under review by the European Commission;
- Modulation of charges: to reflect the adjustment relating to 2023 that will be fully reimbursed/charged to airspace users in 2025 to ensure that the modulation of charges in respect of points (a) to (c) of Article 32 (1) of Regulation (EU) 2019/317 does not result in any overall change in annual revenue for the ANSP compared to the situation where charges would not have been modulated.
- Temporary UR: Left blank. The difference in revenue due to the application of the temporary unit rates in the reporting year is already reflected in the DUC presented (DUC to be charged retroactively) and is therefore not

considered in the total adjustments, in order to avoid double counting.

- Cross-financing: to reflect the amounts of cross-financing between en route charging zones, or between terminal charging zones, in accordance with point (e) of Article 15(2) of Regulation (EC) No 550/2004;
- Other revenues: to reflect the deduction of "other revenues" obtained in 2023.
- Application of a lower unit rate: to reflect the actual reduction per service units given to airspace users through the application of a lower unit rate as foreseen in Art. 29(6) of (EU) 2019/317.

For the calculation of the AUCU in box 6, all cost categories listed above are divided by the actual TSUs for the calendar year 2023.

7. En route (or terminal) costs exempt from cost sharing

Box 7 contains a table presenting the costs reported by the State as being exempted from cost-sharing (Differences between determined and actual costs referred to in (EU) 2019/317 Art. 28(4) to 28(6)). Costs are listed by item (in nominal national currency, in nominal €, as well per actual service unit in nominal national currency and in nominal €). The total costs exempted from cost-sharing are summed at the bottom of the table. If the total is negative, the costs are to be reimbursed to airspace users in future years; if costs are positive, they are to be recovered from airspace users. These data are taken from the June 2024 en route (for Eurocontrol costs) and terminal Reporting Tables and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317. It is to be noted that these amounts may still be updated in the context of the compliance review process in line with Art. 29(3) of (EU) 2019/317.

8. En route (or terminal) regulatory result at charging zone level

Box 8 presents the share of the regulatory result (RR) in the AUCU at charging zone level. For this, the AUCU is considered before the deduction of the other revenues (financing from other sources) in order to show a fair view of the share and to be consistent with the computation of the RR itself (described in boxes 10 to 14).

The RR is shown separately for each ANSP/METSP, in nominal national currency, in nominal €, as well per actual service unit in nominal national currency and in nominal €. For the NSAs and Eurocontrol costs, it is considered that there is no RR since the amounts charged *in fine* to users are their actual costs, through the cost-exempt and traffic adjustment mechanisms.

The RR in percentage of the AUCU corresponds to the total RR for the charging zone divided by the AUCU before the deduction of the other revenues. It indicates the share of "margin" contained in the charges paid *in fine* by the airspace users.

9. Focus on en route (or terminal) AUCU monitoring at charging zone level

Box 9 summarises the conclusions on the AUCU for the calendar year 2023, its components and comparison with the DUC. It also refers to the share of the regulatory result in the AUCU.

10. Monitoring of the en route (or terminal) regulatory results (RR)

Box 10 contains standard text identical for all States, explaining the notion of regulatory result (RR), including the net gain/loss.

11. Net gain/loss for the main ANSP for the en route (or terminal) activity at charging zone level

Box 11 focuses on the main ANSP net gain/loss on ANS activities for the calendar year 2023. A graphical illustration of this analysis is also shown on the left-hand side of box 13. The main ANSP is the most significant contributor to the State's costs and the only (or main) entity subject to costs and traffic risk sharing mechanisms foreseen by the performance and charging regulation ((EU) 2019/317).

The net gain/loss calculated in the bottom line of box 11 results from the combination of three distinct items:

1. The outcome of the cost-sharing mechanism to be retained by the ANSP, including:
   - the difference between determined and actual costs to be retained/borne by the ANSP;
   - the impact of the inflation adjustment to be charged/reimbursed to airspace users;
   - the impact of the costs exempt from cost-sharing that are foreseen to be recovered from or reimbursed to users (as per the "NSA Report on the verification of cost-sharing for the calendar year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317).
2. The outcome of the traffic risk sharing mechanism. For this, the following elements are taken into account:

- The difference in total service units (actual vs. PP) in percentage terms.
- The determined costs subject to traffic risk-sharing of the main ATSP for the calendar year 2023.
- The features of traffic risk sharing mechanism (standard as applied by all Member States): if actual traffic is ±2% compared to the PP, the gain/loss in revenues is borne entirely by the ANSP; between 2% and 10% (higher or lower) than the PP, it is shared between the ANSP (30%) and airspace users (70%); and if the difference between actual and planned traffic exceeds ±10%, the gain/loss relating to traffic beyond ±10% is entirely borne by the airspace users and has therefore no impact on the ANSP gain/loss from traffic risk sharing.

3. The outcome of the financial incentive mechanism for capacity and environment performance targets, which is under review by the European Commission.

The computation of the net gain/loss is presented in nominal national currency. The total net gain/loss is also presented in nominal € on the basis of the 2023 average exchange rate.

12. Regulatory result (RR) for the main ANSP at charging zone level

Box 12 presents the computation of the regulatory result (RR) for the main ANSP for the calendar year 2023. It is important to emphasise that this analysis focuses on the ANSP results relating to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Indeed, the latter include revenues from other activities (e.g. consultancy services) which are not covered by the SES performance and charging scheme, as well as revenues and costs pertaining to other years of activity.

The RR combines two elements:

- The return on equity (RoE) in value embedded in the cost of capital; and
- The main ANSP net gain/loss on ANS activities (see box 11).

Box 12 is structured in two parts.

- A first table presents the computation of the ex-ante RR for the charging zone, consisting in the RoE in value included in the determined cost of capital for the main ANSP from the RP3 PP. For an ANSP which is 100% financed through debt, the ex-ante RR will be null, while for an ANSP which 100% financed through equity, the entire cost of capital will be considered as the ex-ante RR.
- The second table shows the computation of the ex-post RR, comprising the RoE in value included in the actual cost of capital for the main ANSP from the RP3 PP and the net gain/loss on ANS activity, as presented in box 11.
- In both tables, indicators are calculated:
  - The RR in percent of en route revenues;
  - And the resulting ex-ante (determined) or ex-post (actual) return on equity (in %).

The elements taken into account to calculate the RoE in value:

- The total asset base, as reported in the PP and the June 2024 Reporting Tables.
- The proportion of financing through equity (in %), as reported in the PP and the June 2024 Reporting Tables.
- The RoE (pre-tax) rate in %, as reported in the PP and in the June 2024 Reporting Tables (with the actual RoE % expected to match the determined RoE % from the PP).

The actual RoE in value is then calculated as the actual (=determined) RoE (pre-tax) rate multiplied by equity (total actual asset base x proportion of financing through equity). The elements taken into account to calculate the net gain/loss on ANS activities are presented in box 11.

For the ANSPs having no equity, the ex-ante and ex-post return on equity cannot be calculated and is indicated as N/A, not applicable.

It is important to note that the computation of the RR does not take into account the use that will be made of it in the sense that some ANSPs reimburse to airspace users all or part of their RR through commercial other revenues, or through the application of a lower unit rate as per Art. 29(6) of (EU) 2019/317. When such case has been identified, it is highlighted in a note in the table.

13. Focus on the main ANSP regulatory result on en route (or terminal) activity

Box 13 provides:

- On the left-hand side, a graphical summary of the ANSP net gain/loss for the calendar year 2023 arising from variations in costs, traffic, and incentives (see box 11).

- On the right-hand side, a bar chart comparing the ex-ante and ex-post RR, both in value (in national currency) and in % of the en route revenue (see box 12).

The notion of revenue used in boxes 12 to 14 corresponds to the revenue arising from the activity in the year, ex-ante it corresponds to the determined costs of the ANSP and ex-post to the sum of the actual costs and the net gain/loss for the ANSP. Box 13 also provides conclusions on the net gain/loss of the main ANSP for the calendar year 2023 and the overall regulatory result for the ANSP in the charging zone.

14. Other ANSP(s) / METSP(s) regulatory result on en route (or terminal) activity

Box 14 presents the ex-ante and ex-post regulatory results for the other ANSPs/METSPs providing services in the charging zone, if any. The computation of these results is made in accordance with the same methodology described for the main ANSP in boxes 10 to 13. Box 14 also provides conclusions on the net gain/loss of the other ANSPs/METSPs for the calendar year 2023 and the overall regulatory result for the other ANSPs/METSPs in the charging zone.

4.3 Gate-to-gate ANS analysis

1. Monitoring of gate-to-gate ANS costs

The monitoring at gate-to-gate level takes account of all the charging zones covered by the SES under the responsibility of the Member State. Box 1 presents the list of the charging zones concerned. Since, they have a common en route charging zone, Belgium and Luxembourg are presented together in this section.

Box 1 presents an aggregation of en route and terminal costs (in €2017) as well as the share of en route costs in total gate-to-gate costs. It also shows the difference between actual and planned data measured at gate-to-gate level (in €2017 and in %).

2. Share of en route and terminal in gate-to-gate actual costs (2023)

The left-hand side of box 2 shows a graphical presentation of the planned and actual split of gate-to-gate costs between en route and terminal. It helps identify possible changes in cost-allocation methodology. Comments and conclusions are provided on the right-hand side of box 2.

3. Gate-to-gate regulatory result (RR) 2023

Box 3 presents the gate-to-gate regulatory result (RR) covering all the charging zones covered by the SES under the responsibility of the Member States. The ex-ante and ex-post RRs in percentage of the revenues for the ANSPs/METSPS of the State are shown in the graph at the bottom on the right-hand side.

The RR is then shown separately for each ANSP/METSP, in nominal national currency, as well as in percentage of their revenues. Comments and conclusions are provided at the bottom on the left-hand side of box 3.

Annual Monitoring Report 2023

Union-wide view

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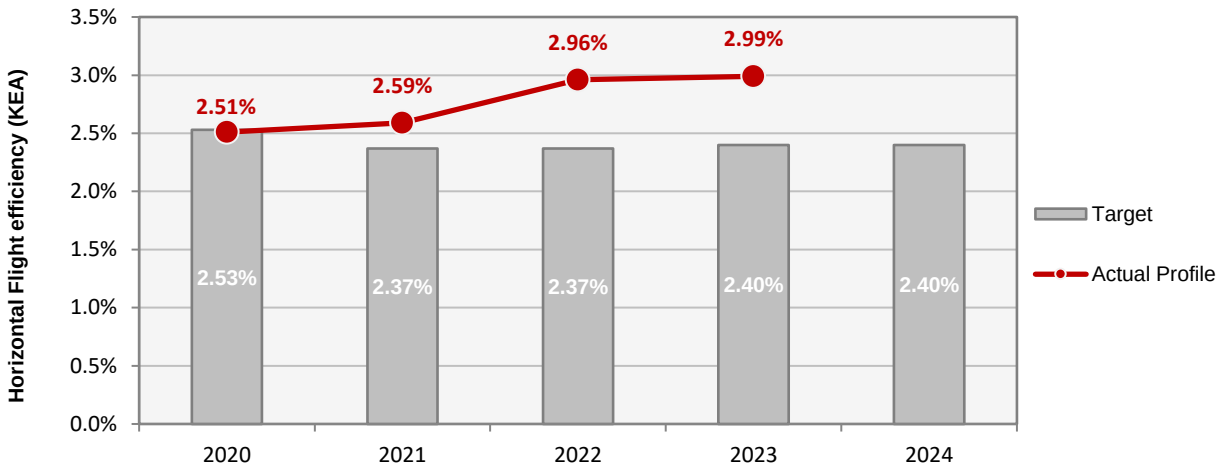
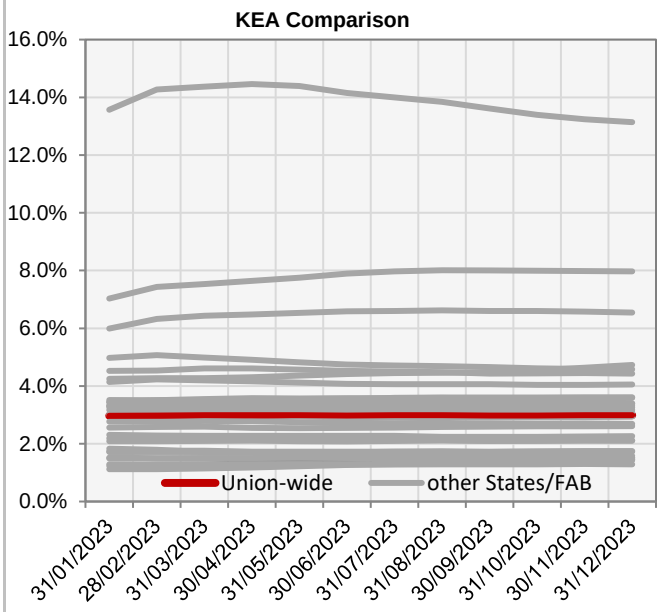
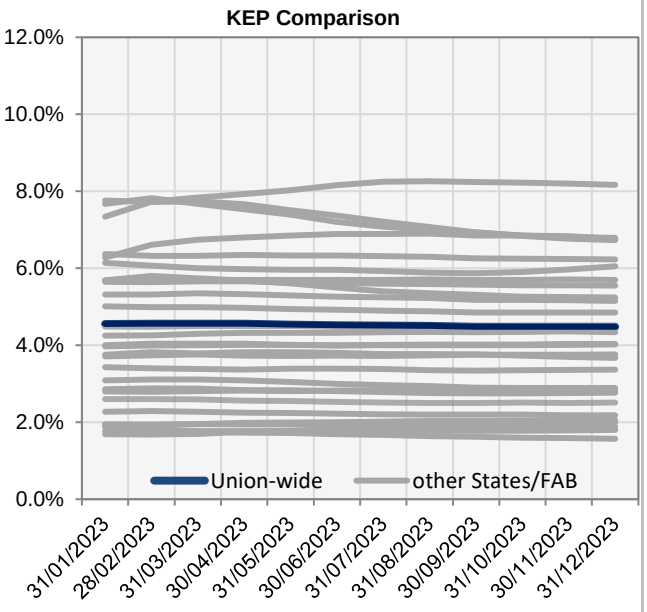
Union-wide **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	2.53%	2.37%	2.37%	2.40%	2.40%
Actual performance	2.51%	2.59%	2.96%	2.99%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	2.97%	2.98%	2.99%	2.99%	2.99%	2.98%	2.99%	2.99%	2.98%	2.98%	2.99%	2.99%
KEP	4.55%	4.56%	4.56%	4.56%	4.54%	4.52%	4.51%	4.50%	4.48%	4.48%	4.48%	4.48%
KES	4.36%	4.37%	4.38%	4.38%	4.36%	4.34%	4.33%	4.32%	4.30%	4.30%	4.29%	4.29%

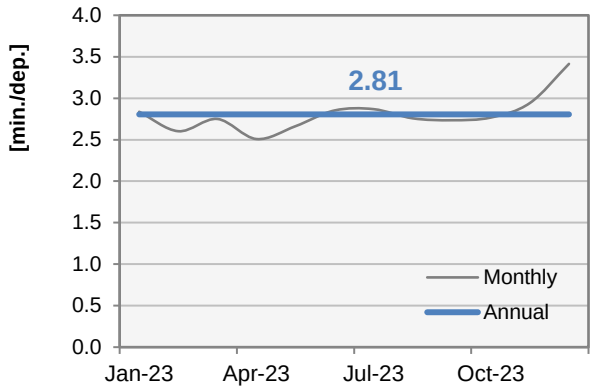


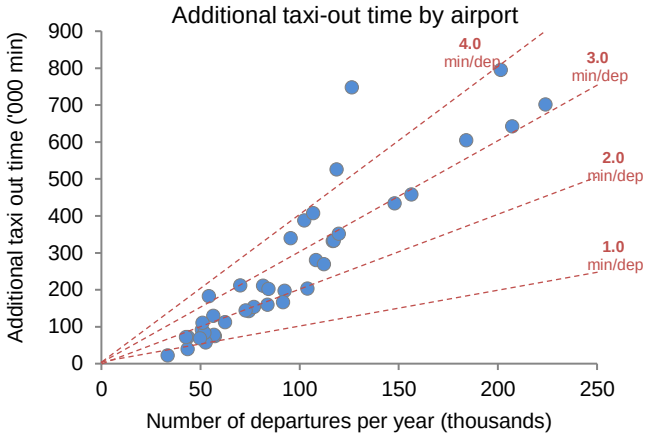


The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

Union-wide **ENVIRONMENT - Airports**

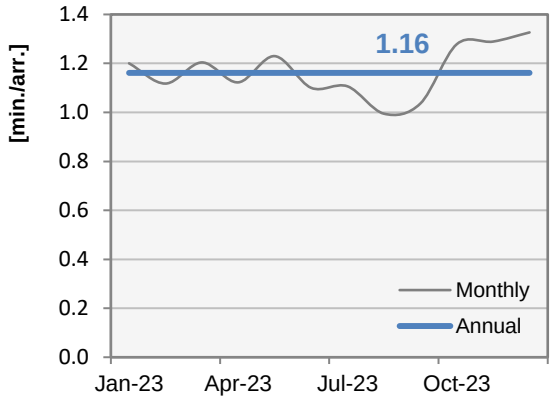
Additional Taxi-Out Time (SES RP3 airports >80k)

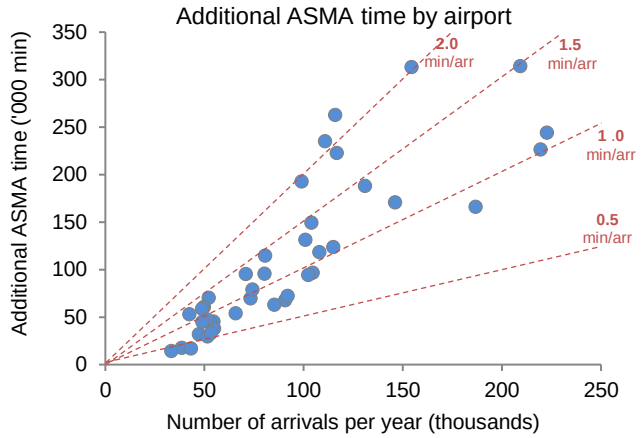




In 2023, the average additional taxi out time at the SES RP3 airports (>80k) was 2.81 minutes per departure. At airport level, average additional taxi-out time varied between 0.68 for Toulouse (LFBO) and 5.93 minutes for Rome (LIRF). No data was available for Bergen (ENBR) and Marseille (LFML) airport.

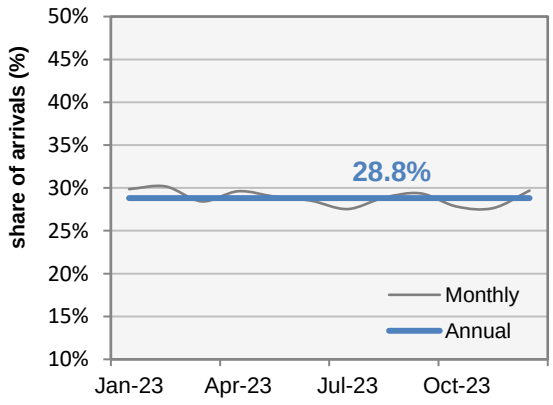
Additional ASMA Time (SES RP3 airports >80k)

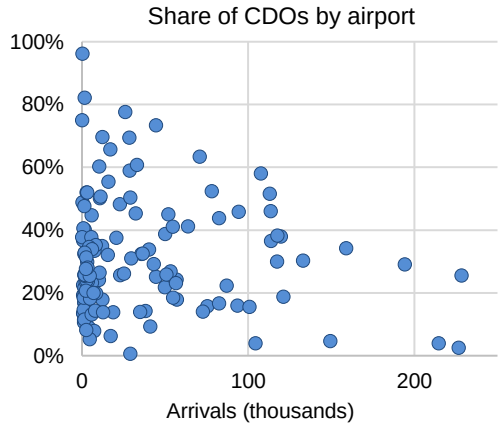




In 2023, the average additional ASMA time at the SES RP3 airports (>80k) was 1.16 minutes per arrival. At airport level, average additional ASMA varied between 0.4 for Lyon (LFLL) and 2.27 minutes for Zurich (LSZH). No data was available for Bergen (ENBR).

Share of arrivals applying CDO (SES RP3 airports)





In 2023, 28.8% of the arrivals at the SES RP3 airports applied Continuous Descent Operations (CDO).
The share of arrivals applying CDOs increased notably when traffic levels were substantially lower as a result of the pandemic but decreased again as of the second half of 2021 when traffic continued to recover.
At airport level, the share of arrivals applying CDO varied from close to zero to above 70% for Trondheim, Bergen, Ventstpils and two Portuguese airports, Horta and Santa Maria.

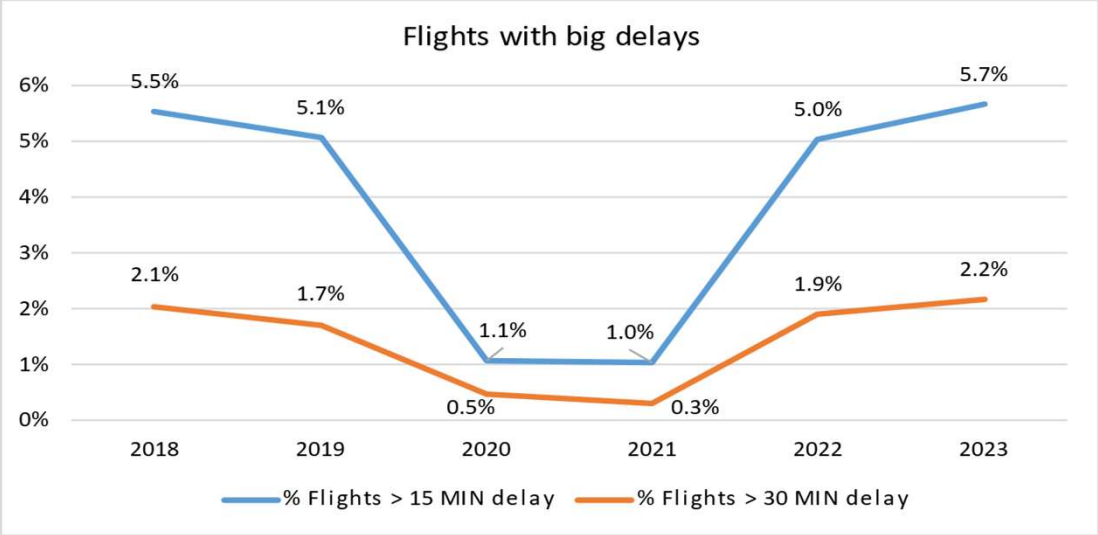
Union-wide **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
Union wide Target	0.90	0.35	0.50	0.50	0.50	
Actual performance	0.35	0.32	1.74	1.81		

Union wide Performance Indicator: Percentage of flights with ATFM delay greater than 15 minutes.

The number of flights with a delay bigger than 30 minutes increased in 2023, with levels close to the pre-pandemic years (roughly the levels of 2018 – slightly less in absolute numbers but slightly more as a proportion in total departures). This is not a coincidence, as both 2018 and 2023 had seen high ATC industrial activity, which leads to flights with high delays.

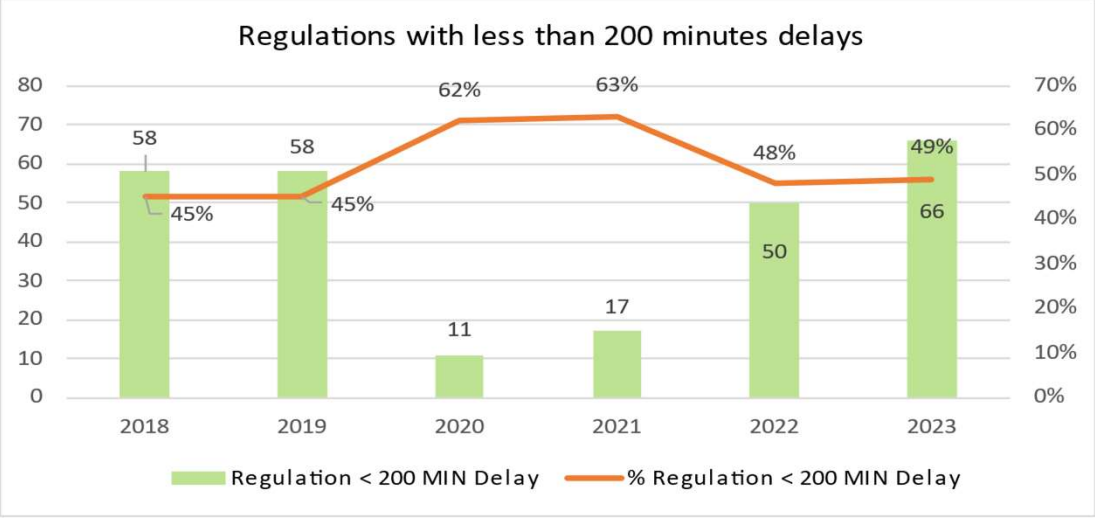
The same evolution for flights with a delay bigger than 15 minutes, 5% in 2022; 5.7% in 2023.



Union wide Performance Indicator: Regulations with less than 200 minutes of delay.

The proportion of such regulations in 2023 was very close to the one in 2022 (+1pp) but the number increase due mainly to the increase in the total number of regulations.

Average of 50 daily regulations <200 minutes of delay in 2022; 66 in 2023.

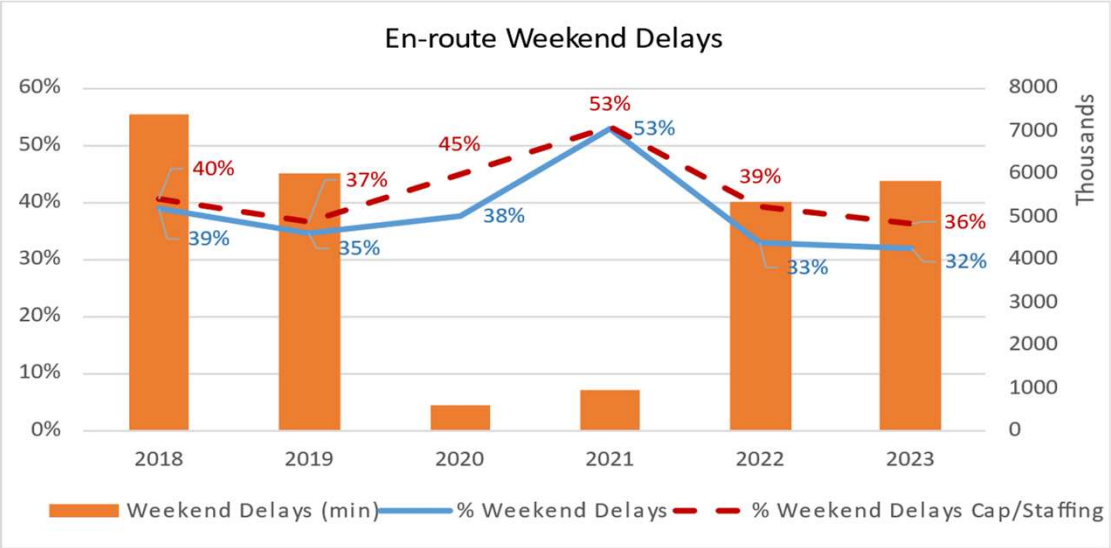


Union wide Performance Indicator: en route ATFM weekend delay expressed in minutes of delay per flight.

The proportion of 2023 ENR weekend delays in total delays decreased slightly over 2022 to 32%, maintaining the good level reached in 2022.

Weekend delay in 2023 was 2.1 min/flt, basically the same as in 2022 (2.12).

The proportion of en route ATFM delay related to ATC capacity and staffing on the weekend delays was 36%, very close to the one in 2019. There is still room for improvement, as the proportion of weekend delays remains high.



Union wide Performance Indicator: en route delay savings by NM.

In 2023, en-route delay savings amounted to 2,493,000 minutes from direct actions in NMOC (2,203,000 min) and re-routing proposals (RRPs) proposed and followed by airlines (289,000 min). Together these are equivalent to 0.25 min/flt. This equates to 11.9% of the annual network en-route delay, meeting the 10% target.

Capacity Planning for 2023

Preparation for summer 2023
With the support of the Network Manager (NM), operational stakeholders launched a large-scale activity at the end of 2022 to prepare for summer 2023, building on the lessons learnt from summer 2022. The prognosis was that there would be significant summer traffic growth of up to 15% compared with 2022, and that the network was set to face similar complexities to those experienced in 2022. These included operational volatility and the war in Ukraine, which reduced the available European airspace by about 20%.

With that level of saturation, only solid partnership and commitment would make summer 2023 manageable. To tackle the challenges facing European aviation, particularly the challenge posed by summer 2023, the NM and operational stakeholders agreed on the following common objectives at the Network Management Board (NMB):
•Strong and close cooperation between all partners in the network.
•High level of commitment.
•Common planning process.
•Disciplined execution of agreed plans.
•Network measures to keep performance under control.
•Optimised trajectories.

The eight-week Rolling Network Operations Plan (NOP) proved to be an exceptional tool in helping the operational stakeholders and NM prepare network operations. It gave unprecedented insight into expected traffic and capacity. Daily assessment of critical sectors enabled sound recommendations for actions to be issued, with rigorous follow-up. Some improvements to representation at the weekly meeting of the Enlarged NDOP Coordination Cell are needed.

Network measures, including ATFM delay attribution, related to Air Defender 2023 were agreed in May 2023. NM also communicated the summer campaign guide – “All together now 2023. Don’t think local think Network!” to operational stakeholders.

NM continued to support Ukraine and its ANSP UkSATSE with coordinated actions relating to training, the concept of operations for airspace re-opening, CNS infrastructure and EAD availability, cybersecurity and safety cases.

Capacity Planning for 2024

Preparations for summer 2024 are underway, which will take into consideration the four priorities agreed in 2023.

Cross-border weather management will be added to the list of top priorities, as will mechanisms for stronger collaboration with Member States.

NM has also started preparing the NOP 2024-2029 and a consolidated Transition Plan for Major Projects in Europe for Winter 2023/2024 has been approved. Both aim to understand ANSP capabilities and intentions, particularly for the summer, to coordinate network actions to ensure limited network impact, and to build on the positive experience gained so far.

Summary of capacity performance

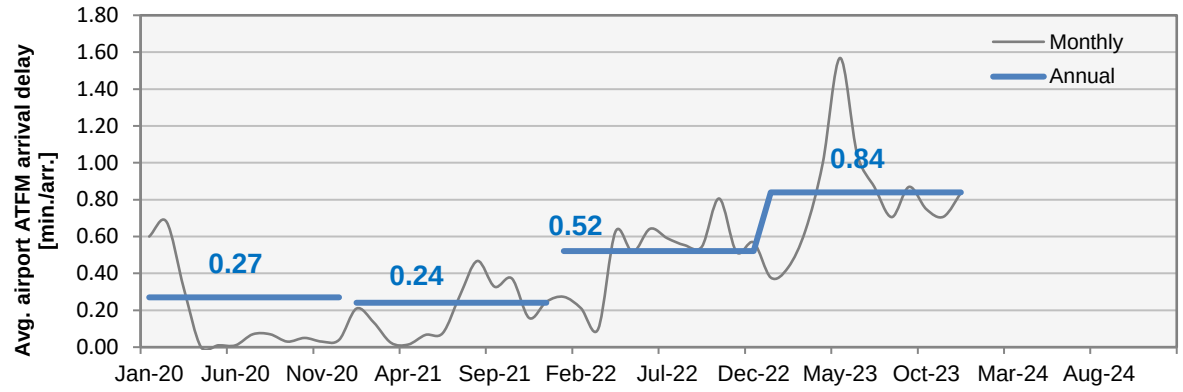
The Union-wide target for en route capacity was not achieved in 2023. The en route ATFM delay per flight was 1,81 minutes / flight compared to a target of 0,5 minute / flight.

SES area traffic levels of 9.1 million flights shows a significant increase over the 8,32 million flights in 2021 (+10%) although still remained below the pre-COVID level of 9,93 million in 2019.

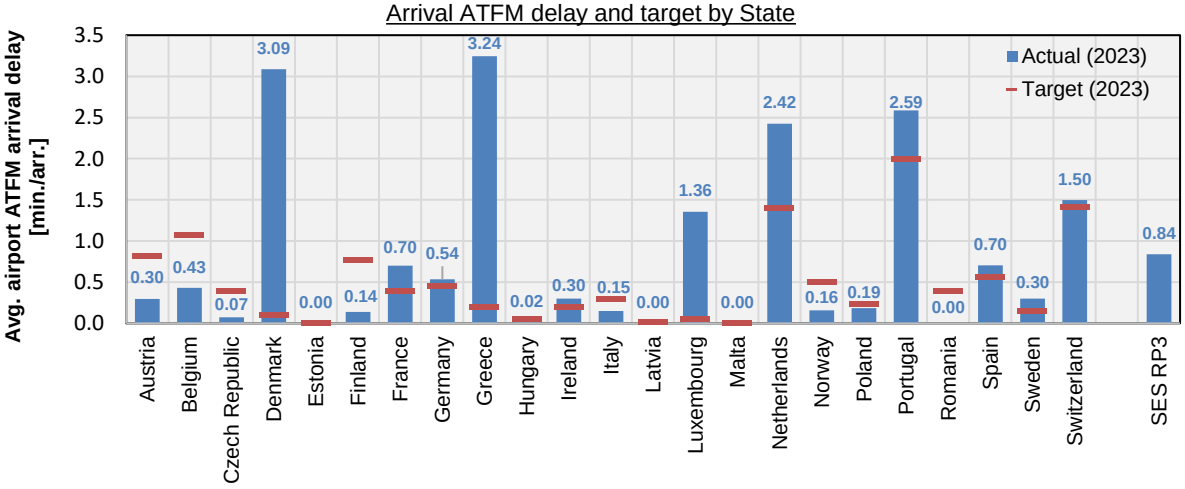
The main disruptions to network operations in the SES area were capacity shortfalls in the core area; industrial action in France and Italy; and adverse weather (4.6 million minutes; +86% on 2022 values).

Union-wide **CAPACITY - Airports**

Arrival ATFM Delay (SES RP3 airports)

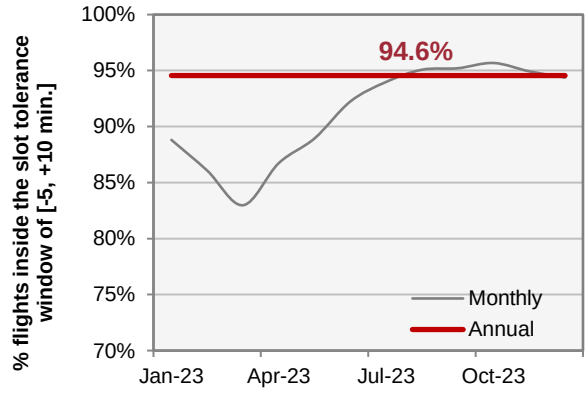


Arrival ATFM delay and target by State

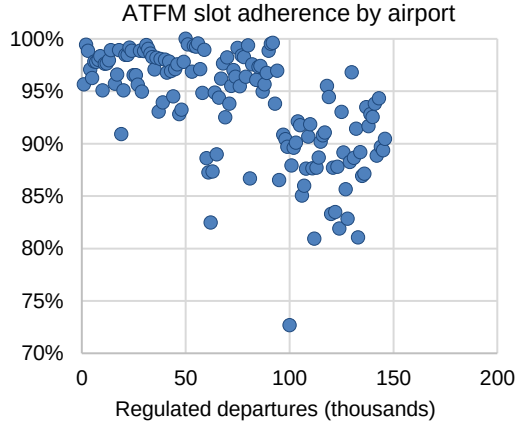


In 2023, the average arrival ATFM delay at the SES RP3 airports was 0.84 minutes per arrival. At state level, 11 states did not meet their national target.
Estonia, Latvia, Romania and Malta averaged zero delays per arrival, while Denmark, Greece, The Netherlands and Portugal observed averages above the 2 min/arr.

Adherence to ATFM slots (SES RP3 airports)



ATFM slot adherence by airport



In 2023, 94.6% of the ATFM regulated flights at the SES RP3 airports departed inside of the slot tolerance window. ATFM slot adherence also varied notably among airports.

All Causes and ATC Pre-departure Delay (SES RP3 airports >80k)

In 2023, total (all causes) delay compared to the scheduled departure time was 19.15 minutes at the SES RP3 airports (>80k). The ATC-pre departure delay at EU wide level is not available due to data quality issues at many airports.

Union-wide en route charging zones

Monitoring of en route COST-EFFICIENCY for 2023

1. Union-wide - list of en route charging zones

29 en route charging zones	Denmark	Ireland	Poland	Sweden
Austria	Estonia	Italy	Portugal Continental	Switzerland
Belgium-Luxembourg	Finland	Latvia	Romania	
Bulgaria	France	Lithuania	Slovakia	
Croatia	Germany	Malta	Slovenia	
Cyprus	Greece	Netherlands	Spain Canarias	
Czech Republic	Hungary	Norway	Spain Continental	

2. Monitoring of the en route determined unit cost (DUC) at Union-wide level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.
The monitoring of the DUC / AUC is carried out in € in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Assumptions as per EC Decision on revised Union-wide targets for RP3		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Real en route costs €2017				12 157 650 375	5 891 940 372	6 015 341 177	6 077 418 612
Total en route service units				109 968 026	86 656 273	101 925 348	116 358 421
Real en route DUC per service unit €2017				110.56	67.99	59.02	52.23
Union-wide cost-efficiency performance targets				**120.1%**	**-38.5%**	**-13.2%**	**-11.5%**
Data from RP3 Performance Plans		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Real en route costs €2017		5 984 444 804	6 048 713 482	12 033 158 286	6 238 237 994	6 358 034 727	6 394 075 390
Total en route service units		52 500 142	65 612 954	118 113 096	104 404 864	120 904 982	129 239 062
Real en route DUC per service unit €2017		**113.99**	**92.19**	**101.88**	**59.75**	**52.59**	**49.47**
Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Real en route costs €2017		6 006 177 610	5 751 393 594	11 757 571 204	5 996 421 605	6 140 087 872	
Total en route service units		52 500 142	66 892 686	119 392 827	108 379 886	122 379 461	
Real en route AUC per service unit €2017		**114.40**	**85.98**	**98.48**	**55.33**	**50.17**	
Difference between Actuals and EC Decision on Union-wide targets		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Real en route costs €2017	in value	-	-	-400 079 171	104 481 233	124 746 695	
	in %	-	-	-3.3%	+1.8%	+2.1%	
Total en route service units	in value	-	-	9 424 801	21 723 613	20 454 113	
	in %	-	-	+8.6%	+25.1%	+20.1%	
Real en route unit cost per service unit €2017	**in value**	**-**	**-**	**-12.08**	**-12.66**	**-8.84**	
	in %	**-**	**-**	**-10.9%**	**-18.6%**	**-15.0%**	
Difference between Actuals and Performance Plans		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Real en route costs €2017	in value	21 732 806	-297 319 888	-275 587 082	-241 816 389	-217 946 855	
	in %	+0.4%	-4.9%	-2.3%	-3.9%	-3.4%	
Total en route service units	in value	0	1 279 732	1 279 732	3 975 022	1 474 479	
	in %	-	+2.0%	+1.1%	+3.8%	+1.2%	
Real en route unit cost per service unit €2017	**in value**	**0.41**	**-6.21**	**-3.40**	**-4.42**	**-2.41**	
	in %	**+0.4%**	**-6.7%**	**-3.3%**	**-7.4%**	**-4.6%**	

4. Focus on en route DUC monitoring at Union-wide level

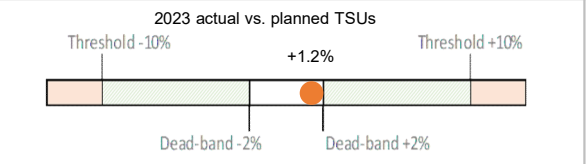
AUC vs. DUC from the EC Decision on Union-wide targets
Compared to the EC Decision on Union-wide targets, the en route AUC at Union-wide level was -15.0% (or -8.84€2017) lower than the DUC. This results from the combination of significantly higher TSUs (+20.1%) and higher costs in real terms (+2.1%, or +124.7M€2017) compared to the assumptions underpinning the Union-wide cost-efficiency target for the year 2023.

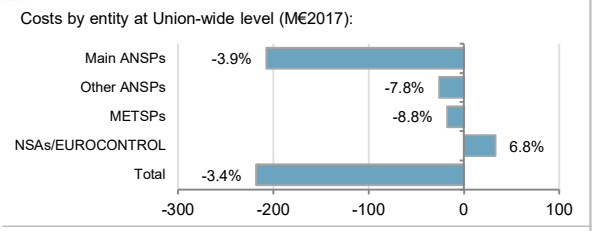
AUC vs. DUC from the aggregation of the Member States' performance plans
In 2023, the en route AUC at Union-wide level was -4.6% (or -2.41€2017) lower than the planned DUC. This results from the combination of higher than planned TSUs (+1.2%) and lower than planned en route costs in real terms (-3.4%, or -217.9M€2017).

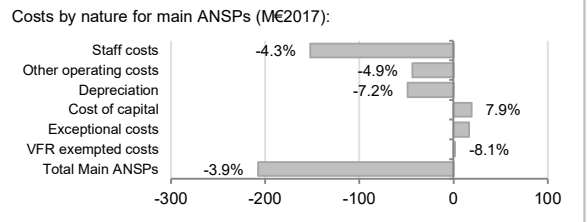
En route service units
At Union-wide level, the TSUs were higher than planned in the performance plans (by +1.2%). Traffic was higher than planned in 15 charging zones.

En route costs by entity
Actual real en route costs are -3.4% (-217.9M€2017) lower than planned in the performance plans. This is driven by the main ANSPs (-3.9%, or -207.4M€2017), the other ANSPs (-7.8%, or -26.1M€2017) and the METSPs (-8.8% or -17.4M€2017), while the NSA/EUROCONTROL costs are higher (+6.8%, or +32.9M€2017) than planned.

En route costs for the main ANSPs at Union-wide level
The lower than planned en route costs in real terms for the main ANSPs (-3.9%, or -207.4M€2017) result from:
- lower staff costs (-4.3%, or -152.1M€2017), affected by the high inflation index in 2023 since in nominal terms staff costs are higher than planned (+6.7%);
- lower other operating costs (-4.9%, or -43.7M€2017), affected by the high inflation index in 2023 since in nominal terms other operating costs are higher than planned (+5.8%);
- lower depreciation (-7.2%, or -48.7M€2017), for most (20) of the ANSPs.
- higher cost of capital (+7.9%, or +19.0M€2017), of which +10.8M€2017 for ENAV and +8.5M€2017 for ENAIRE;
- higher exceptional costs (+16.5M€2017). Note that determined exceptional costs were negative for 2023 (-13.2M€2017) mainly due to the reporting of negative amounts by Skyguide, HASP and to a lower extent NAVIAIR; and,
- lower deduction for VFR exempted flights (-8.1%, or -1.6M€2017).







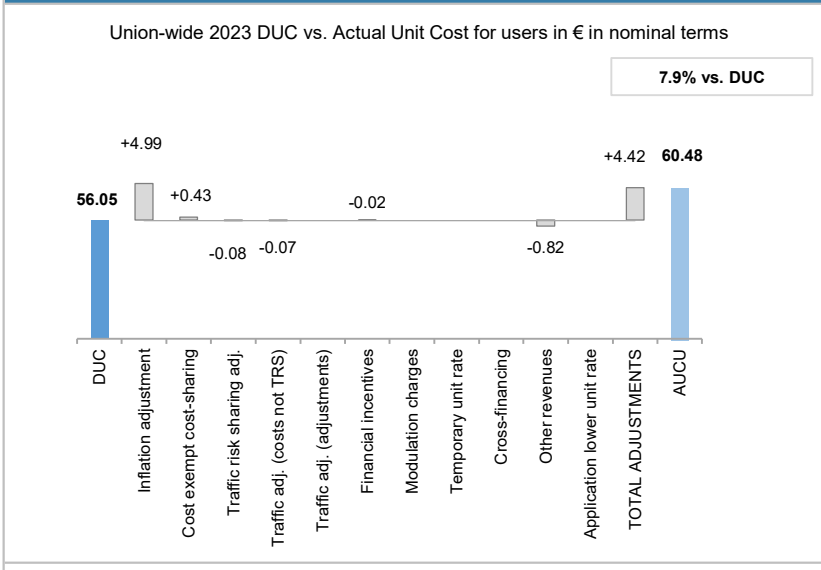
Union-wide en route charging zones — Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at Union-wide level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU at Union-wide level is carried out in € in nominal terms.

6. En route actual unit cost for users (AUCU) at Union-wide level



Components of the AUCU	€/SU
DUC	**56.05**
Inflation adjustment	4.99
Cost exempt from cost-sharing	0.43
Traffic risk sharing adjustment	-0.08
Traffic adj. (costs not TRS)	-0.07
Traffic adj. (adjustments)*	
Financial incentives	-0.02
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.82
Application of lower unit rate	0.00
Total adjustments	4.42
AUCU	**60.48**
AUCU vs. DUC	**7.9%**

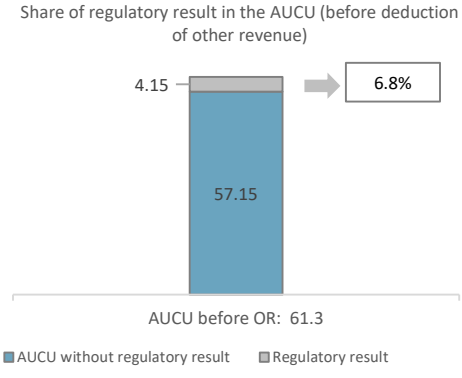
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-32 867	-0.27
	Competent authorities and qualified entities costs	4 938	0.04
	Eurocontrol costs	26 798	0.22
	Pension costs	40 020	0.33
	Interest on loans	12 818	0.10
	Changes in law	1 102	0.01
Total costs exempt from cost sharing		**52 808**	**0.43**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at Union-wide level



ANSP(S)	€ '000	€/SU
Main ANSPs	452 820	3.70
Other ANSPs	29 006	0.24
METSP(s)	**€ '000**	**€/SU**
Other METSPs	26 315	0.22
Total charging zone	508 140	4.15
Actual cost for users* **	7 501 320	61.30
Regulatory result (% AUCU)	6.8%	6.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at Union-wide level

At Union-wide level, the actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (60.48€) is +7.9% higher than the nominal DUC (56.05€). The difference between these two figures (+4.42€/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+4.99€/SU);
- the adjustments resulting from the costs exempted from cost-sharing mechanism (+0.43€/SU);
- the traffic risk sharing adjustment (-0.08€/SU);
- the traffic adjustment (-0.07€/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-0.02€/SU), which are under review by the European Commission;
- the deduction of the other revenues (-0.82€/SU); and,

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 6.8%.

Union-wide en route main ANSPs

Monitoring of en route COST-EFFICIENCY for 2023

Union-wide - list of main en route ANSPs				
29 en route main ANSPs	Denmark - NAVIAIR	Ireland - AirNav Ireland	Poland - PANSA	Sweden - LFV
Austria - Austro Control	Estonia - EANS	Italy - ENAV	Portugal Continental - NAV Portugal	Switzerland - Skyguide
Belgium-Luxembourg - skeyes	Finland - Fintraffic ANS	Latvia - LGS	Romania - ROMATSA	
Bulgaria - BULATSA	France - DSNA	Lithuania - Oro Navigacija	Slovakia - LPS	
Croatia - Croatia Control	Germany - DFS	Malta - MATS	Slovenia - Slovenia Control	
Cyprus - DCAC Cyprus	Greece - HASP	Netherlands - LVNL	Spain Canarias - ENAIRE	
Czech Republic - ANS CR	Hungary - HungaroControl	Norway - Avinor	Spain Continental - ENAIRE	

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account of any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in € in nominal terms.

Note: Croatia joined the euro area on 1 January 2023. On that date the euro replaced the Croatian kuna at the fixed exchange rate of €1 = HRK 7.53450. This may result in slight differences in determined and actual costs comparing to previous monitoring reports.

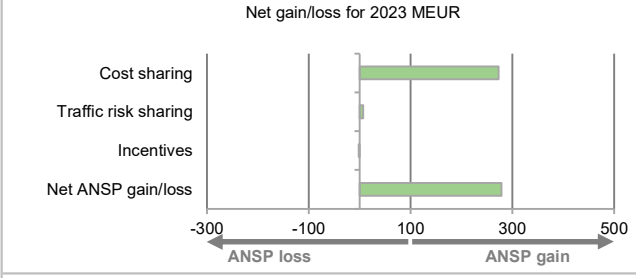
11. Net gain/loss for the main ANSP for the en route activity at Union-wide level

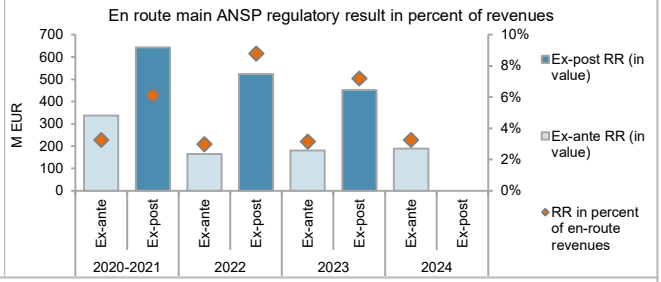
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSPs	195 261	-95 098	-305 556	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	47 551	336 726	559 759	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-33 144	56 096	19 060	
Gain (+)/Loss (-) to be retained by the ANSPs in respect of cost sharing	**209 668**	**297 724**	**273 263**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.1%	3.8%	1.2%	
Determined costs subject to traffic risk sharing for the ANSPs (PP)	10 324 019	5 467 402	5 665 169	
Gain (+)/Loss (-) to be retained by the ANSPs in respect of traffic risk sharing	**104 408**	**57 656**	**7 082**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSPs in respect of incentives (bonus/penalty)	**0**	**0**	**-2 036**	
Net ANSPs gain(+)/loss(-) on en route activity (€ '000)	**314 076**	**355 380**	**278 309**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Main ANSPs planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	7 091 455	8 228 011	15 319 467	8 644 891	8 399 787	8 085 420
RoE (in value)	167 348	170 286	337 635	164 301	179 554	188 971
Ex-ante regulatory result (+/-) for the en route charging zone	**167 348**	**170 286**	**337 635**	**164 301**	**179 554**	**188 971**
Revenue for the en route charging zone	**5 152 073**	**5 254 040**	**10 406 113**	**5 513 552**	**5 715 663**	**5 837 525**
Ex-ante regulatory result (+/-) in percent of revenues	**3.2%**	**3.2%**	**3.2%**	**3.0%**	**3.1%**	**3.2%**
Main ANSPs actual regulatory result (€'000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	7 089 954	7 638 503	14 728 457	8 350 451	8 608 046	
RoE (in value)	168 051	161 012	329 064	168 134	174 511	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	314 076	314 076	355 380	278 309	
Ex-post regulatory result (+/-) for the en route charging zone	**168 051**	**475 088**	**643 140**	**523 514**	**452 820**	
Revenue for the en route charging zone	**5 175 821**	**5 349 107**	**10 524 928**	**5 964 030**	**6 299 529**	
Ex-post regulatory result (+/-) in percent of revenues	**3.2%**	**8.9%**	**6.1%**	**8.8%**	**7.2%**	

13. Focus the main ANSP regulatory result on en route activity





Net gain on en route activity at Union-wide level in the year 2023
At Union-wide level, the net ANSPs gain on en route activity amounts to +278.3M€, resulting from a gain of +273.3M€ arising from the cost sharing mechanism, a gain of +7.1M€ arising from the traffic risk sharing mechanism and a loss of -2.0M€ arising from the financial incentives, which are under review by the European Commission.

Union-wide overall regulatory results (RR) for the en route activity
Ex-post, the overall RR corresponding to the net gain from the en route activity mentioned above (+278.3M€) and the RoE (+174.5M€) amounts to +452.8M€ and corresponds to 7.2% of the en route revenues, compared to 3.1% ex-ante.

Union-wide en route other ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity at Union-wide level						
Union-wide - list of other en route ANSPs						
14 en route other ANSPs	MUAC (Luxembourg)	Sweden - ACR				
Italy - ITAF	MUAC (Netherlands)	Sweden - ARV				
Lithuania - NINTA ADAXA	Norway - KJE	Sweden - SDATS				
Luxemburg - ANA LUX	Portugal Continental - SAR					
MUAC (Belgium)	Spain Canarias - EA					
MUAC (Germany)	Spain Continental - EA					
Other ANSPs planned regulatory result €'000		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone		**226**	**754**	**980**	**879**	**1 132**	**1 434**
Revenue for the en route charging zone		**301 748**	**309 749**	**611 497**	**364 833**	**370 193**	**370 773**
Ex-ante regulatory result (+/-) in percent of revenues		**0.1%**	**0.2%**	**0.2%**	**0.2%**	**0.3%**	**0.4%**
Other ANSPs actual regulatory result €'000		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone		**226**	**7 407**	**7 633**	**36 193**	**29 006**	
Revenue for the en route charging zone		**301 748**	**316 875**	**618 623**	**387 386**	**395 774**	
Ex-post regulatory result (+/-) in percent of revenues		**0.1%**	**2.3%**	**1.2%**	**9.3%**	**7.3%**	
Total other ANSP overall regulatory results (RR) for the en route activity Ex-post, the overall RR for the other ANSPs at Union-wide level corresponds to 7.3% of the en route revenues, compared to 0.3% ex-ante.							
Union-wide - list of en route METSPs						
25 en route METSPs	France - MET	Lithuania - MET	Poland - MET WIM	Sweden - MET		
Austria - MET	Germany - MET	Netherlands - MET	Portugal Continental - MET	Switzerland - MET		
Cyprus - MET	Greece - MET	Norway - MET	Slovakia - MET			
Czech Republic - MET	Hungary - MET	Poland - MET BYDGOSZCZ	Slovenia - MET			
Denmark - MET	Ireland - MET	Poland - MET IMWM	Spain Canarias - AEMET			
Finland - MET	Latvia - MET	Poland - MET Airport Meteo	Spain Continental - AEMET			
METSPs planned regulatory result €'000		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone		**2 695**	**2 805**	**5 501**	**2 857**	**2 996**	**3 013**
Revenue for the en route charging zone		**194 735**	**203 550**	**398 285**	**207 034**	**211 391**	**212 865**
Ex-ante regulatory result (+/-) in percent of revenues		**1.4%**	**1.4%**	**1.4%**	**1.4%**	**1.4%**	**1.4%**
METSPs actual regulatory result €'000		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone		**2 695**	**6 612**	**9 307**	**17 272**	**26 315**	
Revenue for the en route charging zone		**194 735**	**204 908**	**399 643**	**220 168**	**232 811**	
Ex-post regulatory result (+/-) in percent of revenues		**1.4%**	**3.2%**	**2.3%**	**7.8%**	**11.3%**	
Total METSPs overall regulatory results (RR) for the en route activity Ex-post, the overall RR for the METSPs at Union-wide level corresponds to 11.3% of the en route revenues, compared to 1.4% ex-ante.							

Union-wide terminal charging zones

Monitoring of terminal COST-EFFICIENCY for 2023

1. Union-wide - list of terminal charging zones

26 terminal charging zones	France zone 2	Luxembourg	Spain
Austria	Germany	Malta	Sweden
Belgium Brussels	Greece	Netherlands	Switzerland
Czech Republic	Hungary	Norway	
Denmark	Ireland	Poland zone 1	
Estonia	Italy zone 1	Poland zone 2	
Finland	Italy zone 2	Portugal	
France zone 1	Latvia	Romania	

2. Monitoring of the terminal determined unit cost (DUC) at Union-wide level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in € in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Data from RP3 Performance Plans		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Real terminal costs (€2017)		1 201 988 985	1 235 013 482	2 437 002 467	1 248 647 031	1 276 874 200	1 302 654 743
Total terminal service units		3 013 351	3 589 005	6 602 356	6 083 242	6 763 832	7 158 787
Real terminal DUC per service unit (€2017)		**398.89**	**344.11**	**369.11**	**205.26**	**188.78**	**181.97**
Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Real terminal costs (€2017)		1 202 417 708	1 181 805 590	2 384 223 298	1 212 492 130	1 238 723 390	
Total terminal service units		3 013 351	3 649 683	6 663 034	5 868 991	6 522 699	
Real terminal AUC per service unit (€2017)		**399.03**	**323.81**	**357.83**	**206.59**	**189.91**	
Difference between Actuals and Planned Performance Plans		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Real terminal costs (€ 2017)	in value	428 723	-53 207 892	-52 779 169	-36 154 901	-38 150 809	
	in %	+0.04%	-4.3%	-2.2%	-2.9%	-3.0%	
Total terminal service units	in value	0	60 678	60 678	-214 251	-241 133	
	in %	-	+1.7%	+0.9%	-3.5%	-3.6%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.14**	**-20.30**	**-11.28**	**1.33**	**1.13**	
	in %	**+0.04%**	**-5.9%**	**-3.1%**	**0.6%**	**0.6%**	

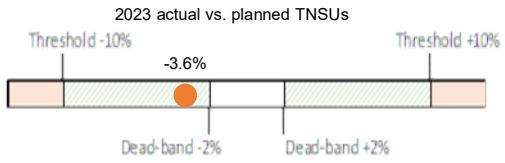
4. Focus on terminal DUC monitoring at Union-wide level

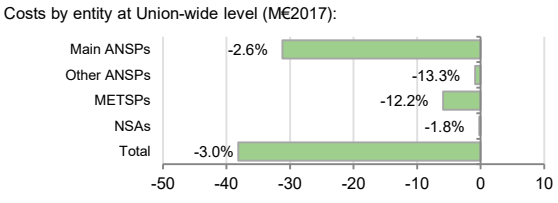
AUC vs. DUC from the aggregation of the Member States' performance plans
In 2023, the terminal AUC at Union-wide level was +0.6% (or +1.13€2017) higher than the planned DUC. This results from the combination of lower than planned TNSUs (-3.6%) and lower than planned terminal costs in real terms (-3.0%, or -38.2M€2017).

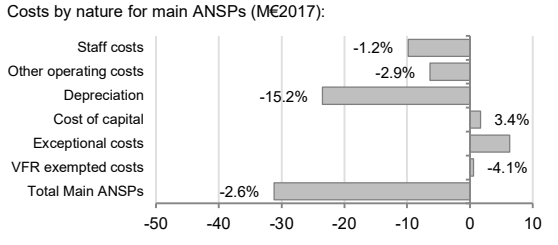
Terminal service units
At Union-wide level, the TNSUs were lower than planned in the performance plans (by -3.6%). Traffic was lower than planned in 16 charging zones.

Terminal costs by entity
Actual real terminal costs are -3.0% (-38.2M€2017) lower than planned in the performance plans. This is driven by the main ANSPs (-2.6%, or -31.2M€2017), the other ANSPs (-13.3%, or -0.9M€2017), the METSPs (-12.2% or -5.9M€2017) and the NSAs (-1.8%, or -0.2M€2017).

Terminal costs for the main ANSPs at Union-wide level
The lower than planned terminal costs in real terms for the main ANSPs (-2.6%, or -31.2M €2017) result from:
- lower staff costs (-1.2%, or -9.9M€2017) affected by the high inflation index in 2023 since in nominal terms staff costs are higher than planned (+9.6%);
- lower other operating costs (-2.9%, or -6.4M€2017) affected by the high inflation index in 2023 since in nominal terms other operating costs are higher than planned (+8.1%);
- lower depreciation (-15.2%, or -23.5M€2017) for all ANSPs except skeyes, EANS, PANSA and Avinor;
- higher cost of capital (+3.4%, or +1.7M€2017), of which -2.8M€2017 for DFS and +2.6M€2017 for LVNL;
- higher exceptional costs (+6.3M€2017). Note that determined exceptional costs were negative for 2023 (-5.1M€2017) mainly due to the reporting of negative amounts by Skyguide and to a lower extent HASP; and,
- lower deduction for VFR exempted flights (-4.1%, or -0.6M€2017).







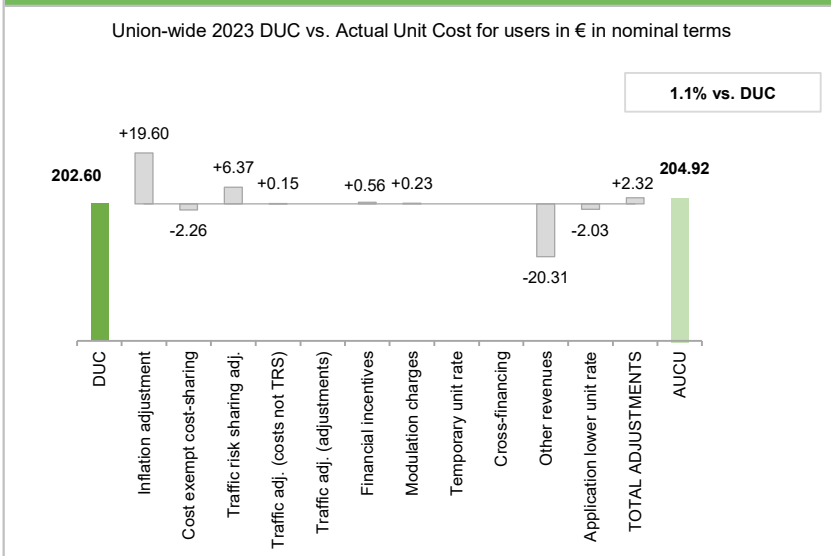
Union-wide Terminal charging zones

Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at Union-wide level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.
The monitoring of the AUCU is carried out in € in nominal terms.

6. Terminal actual unit cost for users (AUCU) at Union-wide level



Components of the AUCU	EUR/SU
DUC	**202.60**
Inflation adjustment	19.60
Cost exempt from cost-sharing	-2.26
Traffic risk sharing adjustment	6.37
Traffic adj. (costs not TRS)	0.15
Traffic adj. (adjustments)*	
Financial incentives	0.56
Modulation of charges	0.23
Temporary UR**	
Cross-financing	0.00
Other revenues	-20.31
Application of lower unit rate	-2.03
Total adjustments	2.32
AUCU	**204.92**
AUCU vs. DUC	**1.1%**

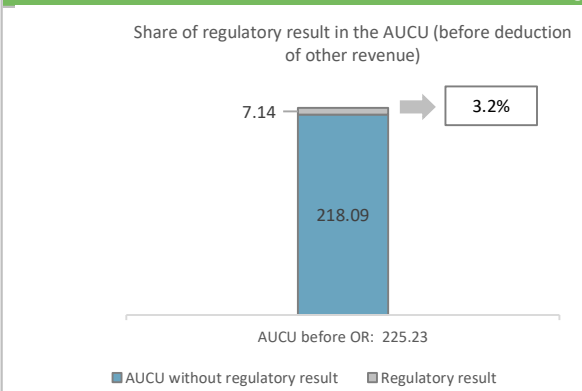
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€'000	€/SU
by item	New and existing investments	-24 023	-3.68
	Competent authorities and qualified entities costs	-227	-0.03
	Eurocontrol costs	0	0.00
	Pension costs	6 843	1.05
	Interest on loans	2 503	0.38
	Changes in law	86	0.01
Total costs exempt from cost sharing		**-14 755**	**-2.26**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at Union-wide level



ANSP(S)	€'000	€/SU
Main ANSPs	38 168	5.85
Other ANSPs	435	0.07
METSP(s)	**€'000**	**€/SU**
Other METSPs	7 953	1.22
Total charging zone	46 555	7.14
Actual cost for users* **	1 469 103	225.23
Regulatory result (% AUCU)	3.2%	3.2%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at Union-wide level

At Union-wide level, the actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (204.92€) is +1.1% higher than the nominal DUC (202.60€). The difference (+2.32€/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+19.60€/SU);
- the adjustments resulting from the costs exempted from cost-sharing mechanism (-2.26€/SU);
- the traffic risk sharing adjustment (+6.37€/SU);
- the traffic adjustment (+0.15€/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+0.56€/SU), which are under review by the European Commission;
- the modulation of charges (+0.23€/SU) by Belgium and Luxembourg;
- the deduction of significant other revenues (-20.31€/SU); and,
- the application of a lower unit rate by Latvia, Greece, Spain and the Czech Republic (-2.03€/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 3.2%.

Union Wide terminal main ANSPs

Monitoring of terminal COST-EFFICIENCY for 2023

Union-wide - list of main terminal ANSPs			
26 terminal main ANSPs	France zone 1 - DSNA	Italy zone 2 - ENAV	Poland zone 2 - PANSA
Austria - Austro Control	France zone 2 - DSNA	Latvia - LGS	Portugal - NAV Portugal
Belgium - skeyes	Germany - DFS	Luxembourg - ANA LUX	Romania - ROMATSA
Czech Republic - ANS CR	Greece - HASP	Malta - MATS	Spain - ENAIRE
Denmark - NAVIAIR	Hungary - HungaroControl	Netherlands - LVNL	Sweden - LFV
Estonia - EANS	Ireland - AirNav Ireland	Norway - Avinor	Switzerland - Skyguide
Finland - Fintraffic ANS	Italy zone 1 - ENAV	Poland zone 1 - PANSA	

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account of any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in € in nominal terms.

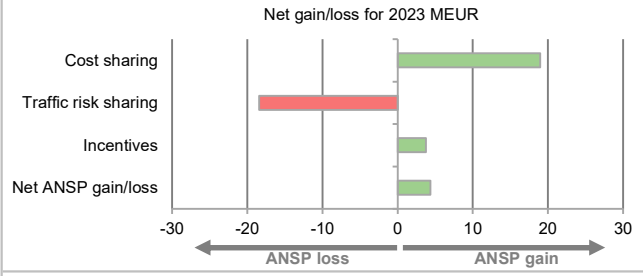
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

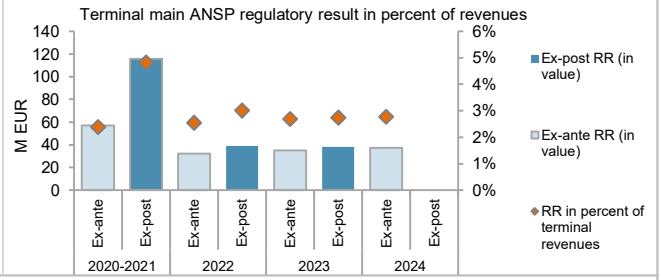
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	43 136	-39 709	-88 858	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	10 786	76 350	122 221	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-9 236	-11 551	-14 402	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**44 687**	**25 090**	**18 961**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.9%	-3.5%	-3.6%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	2 363 981	1 242 989	1 287 087	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**16 394**	**-17 945**	**-18 428**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**3 786**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**61 081**	**7 145**	**4 318**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Main ANSPs planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	1 553 780	1 833 476	3 387 256	2 128 617	2 084 064	1 997 109
RoE (in value)	28 517	28 390	56 907	31 991	35 019	37 308
Ex-ante regulatory result (+/-) for the terminal charging zone	**28 517**	**28 390**	**56 907**	**31 991**	**35 019**	**37 308**
Revenue for the terminal charging zone	**1 168 733**	**1 217 536**	**2 386 269**	**1 255 066**	**1 299 989**	**1 344 055**
Ex-ante regulatory result (+/-) in percent of revenues	**2.4%**	**2.3%**	**2.4%**	**2.5%**	**2.7%**	**2.8%**
Main ANSPs actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	1 553 929	1 788 568	3 342 497	2 039 603	2 117 463	
RoE (in value)	28 818	26 055	54 873	32 067	33 850	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	61 081	61 081	7 145	4 318	
Ex-post regulatory result (+/-) for the terminal charging zone	**28 818**	**87 136**	**115 954**	**39 212**	**38 168**	
Revenue for the terminal charging zone	**1 169 163**	**1 235 050**	**2 404 213**	**1 301 921**	**1 393 165**	
Ex-post regulatory result (+/-) in percent of revenues	**2.5%**	**7.1%**	**4.8%**	**3.0%**	**2.7%**	

13. Focus on main ANSP regulatory result on terminal activity





Net gain on terminal activity at Union-wide level in the year 2023
At Union-wide level, the net ANSPs gain on terminal activity amounts to +4.3M€, resulting from a gain of +19.0M€ arising from the cost sharing mechanism, a loss of -18.4 M€ arising from the traffic risk sharing mechanism and a gain of +3.8M€ arising from the financial incentives, which are under review by the European Commission.
Union-wide overall regulatory results (RR) for the terminal activity
Ex-post, the overall RR corresponding to the net gain from the terminal activity mentioned above (+4.3M€) and the RoE (+33.8M€) amounts to +38.2M€, corresponding to 2.7% of the terminal revenues, compared to 2.7% ex-ante.

Union Wide terminal other ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity							
Union-wide - list of terminal other ANSPs							
4 terminal other ANSPs	Malta - MIA		Poland zone 2 -Warmia-Mazury				
	Poland zone 2 - BYDGOSZCZ		Sweden-SWEDAVIA				
Other ANSPs planned regulatory result EUR'000		**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone		**239**	**277**	**516**	**325**	**348**	**419**
Revenue for the terminal charging zone		**5 915**	**6 031**	**11 945**	**6 320**	**6 318**	**6 609**
Ex-ante regulatory result (+/-) in percent of revenues		**4.0%**	**4.6%**	**4.3%**	**5.1%**	**5.5%**	**6.3%**
Other ANSPs actual regulatory result EUR'000)		**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone		**239**	**1 052**	**1 292**	**381**	**435**	
Revenue for the terminal charging zone		**5 915**	**6 443**	**12 357**	**6 590**	**6 089**	
Ex-post regulatory result (+/-) in percent of revenues		**4.0%**	**16.3%**	**10.5%**	**5.8%**	**7.1%**	

Total other ANSP overall regulatory results (RR) for the terminal activity
Ex-post, the overall RR for the other ANSPs at Union-wide level corresponds to 7.1% of the terminal revenues, compared to 5.5% ex-ante.

Union-wide - list of terminal METSPs			
22 terminal other METSPs	France zone 2 - MET	Netherlands - MET	Poland Zone 2 - Airport Meteo
Austria - MET	Germany - MET	Norway - MET	Portugal - MET
Czech Republic - MET	Greece - MET	Poland Zone 1 - MET IMWM	Spain - AEMET
Denmark - MET	Hungary - MET	Poland Zone 2 - MET IMWM	Sweden - Arlanda MET
Finland - MET	Ireland - MET	Poland Zone 2 - MET BYDGOSZCZ	Switzerland - MET
France zone 1 - MET	Latvia - MET	Poland Zone 2 - Warmia-Mazury	

METSPs planned regulatory result EUR'000	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**362**	**361**	**723**	**321**	**357**	**368**
Revenue for the terminal charging zone	**47 500**	**49 137**	**96 637**	**50 510**	**51 656**	**52 157**
Ex-ante regulatory result (+/-) in percent of revenues	**0.8%**	**0.7%**	**0.7%**	**0.6%**	**0.7%**	**0.7%**
METSPs actual regulatory result EUR'000	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**362**	**1 235**	**1 597**	**6 601**	**7 953**	
Revenue for the terminal charging zone	**47 500**	**49 164**	**96 664**	**53 268**	**57 084**	
Ex-post regulatory result (+/-) in percent of revenues	**0.8%**	**2.5%**	**1.7%**	**12.4%**	**13.9%**	

Total METSPs overall regulatory results (RR) for the terminal activity
Ex-post, the overall RR for the METSPs at Union-wide level corresponds to 13.9% of the terminal revenues, compared to 0.7% ex-ante.

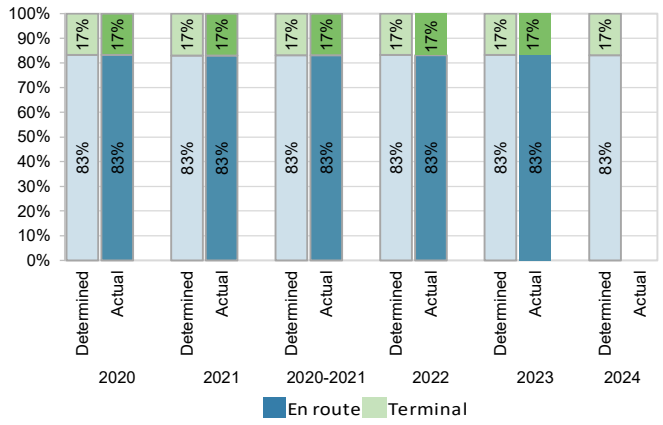
Union-wide gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	5 984 444 804	6 048 713 482	12 033 158 286	6 238 237 994	6 358 034 727	6 394 075 390
Real terminal costs (€2017)	1 201 988 985	1 235 013 482	2 437 002 467	1 248 647 031	1 276 874 200	1 302 654 743
Real gate-to-gate costs (€2017)	7 186 433 789	7 283 726 964	14 470 160 753	7 486 885 025	7 634 908 926	7 696 730 132
En route share (%)	83.3%	83.0%	83.2%	83.3%	83.3%	83.1%
Actual data from reporting tables	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Real en route costs (€2017)	6 006 177 610	5 751 393 594	11 757 571 204	5 996 421 605	6 140 087 872	
Real terminal costs (€2017)	1 202 417 708	1 181 805 590	2 384 223 298	1 212 492 130	1 238 723 390	
Real gate-to-gate costs (€2017)	7 208 595 318	6 933 199 184	14 141 794 502	7 208 913 735	7 378 811 262	
En route share (%)	83.3%	83.0%	83.1%	83.2%	83.2%	
Difference between actuals and planned (actuals vs. PP)	**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Real gate-to-gate costs (€2017) in value	22 161 529	-350 527 780	-328 366 251	-277 971 290	-256 097 664	
in %	0.3%	-4.8%	-2.3%	-3.7%	-3.4%	
En route share in p.p.	0.0 p.p.	-0.1 p.p.	-0.0 p.p.	-0.1 p.p.	-0.1 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In the 2023, actual gate-to-gate ANS costs are -3.4% (-256.1M€2017) lower than planned, as en route costs were lower than planned by -217.9M€2017 and terminal costs by -38.2M€2017.

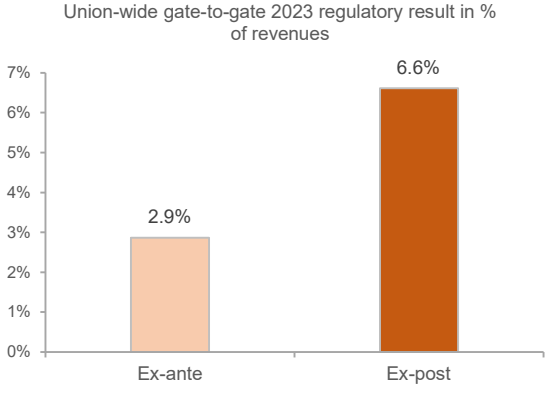
The actual share of en route in gate-to-gate ANS costs (83.2%) is in line with that planned in the PP for 2023 (83.3%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post		
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**
Main ANSPs	214 573	7 015 652	3.1%		490 988	7 692 694	6.4%
Other ANSPs	1 479	376 511	0.4%		29 441	401 863	7.3%
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**
METSPs	3 353	263 047	1.3%		34 267	289 895	11.8%
Total	**219 405**	**7 655 210**	**2.9%**		**554 695**	**8 384 452**	**6.6%**

For the ANSPs providing services in the en route and terminal charging zones covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +554.7M€ (+508.1M€ for en route; +46.6M€ for terminal (see boxes 10 to 14 for the detailed analysis at Union-wide level), corresponding to 6.6% of gate-to-gate ANS revenues.

This is higher than the return planned for the year included in the performance plans (2.9%). This difference between the ex-ante and ex-post RR (+335.3M€) is mainly due to +738.0M€ inflation adjustment, while difference in cost is -389.5M€.



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Annual Monitoring Report 2023

Local level view

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Annual Monitoring Report 2023

Local level view

AUSTRIA

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AUSTRIA **Monitoring of SAFETY for 2023**

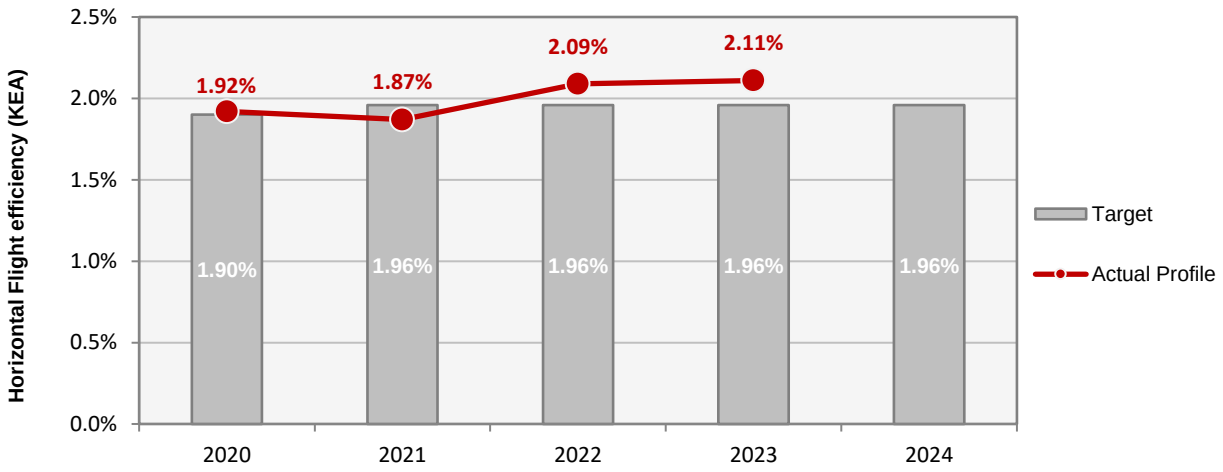
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
Austro Control	81	B	C	C	B	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

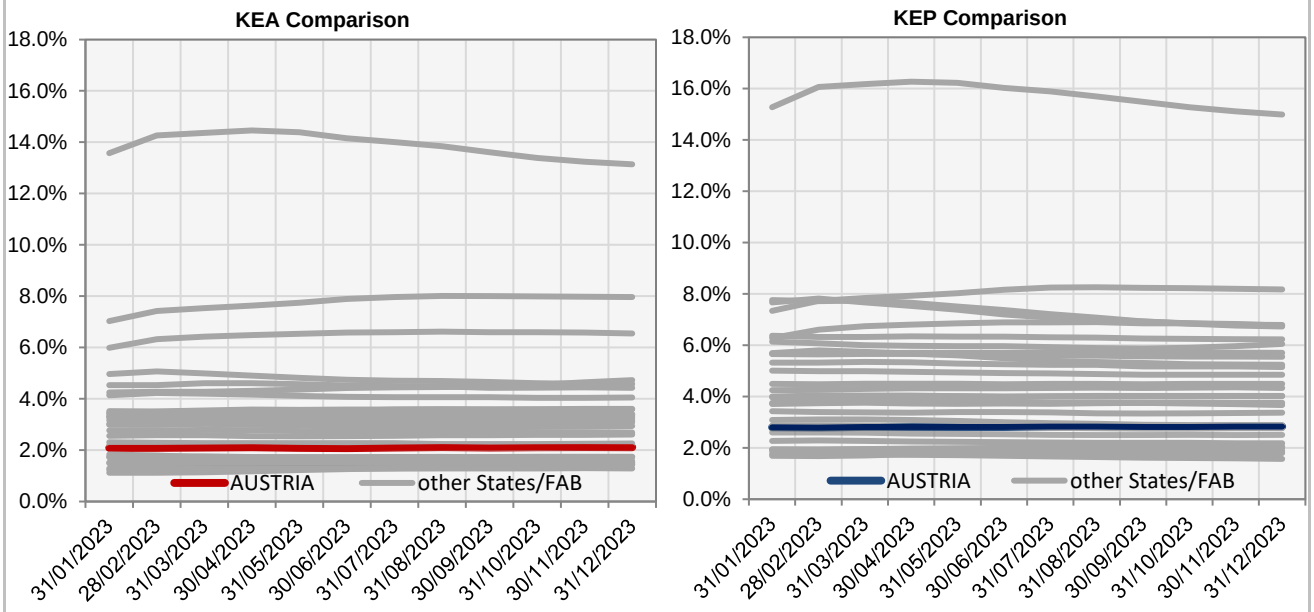
Three EoSM components are below 2024 EoSM target levels. Over 2023, improvements were observed in "Safety Policy and Objectives" and "Safety Promotion" allowing achievements of the target level. Four questions are still to be improved for the remaining components during RP3 to achieve the RP3 targets level.

AUSTRIA **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.90%	1.96%	1.96%	1.96%	1.96%
Actual performance	1.92%	1.87%	2.09%	2.11%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	2.09%	2.09%	2.10%	2.11%	2.09%	2.08%	2.10%	2.12%	2.10%	2.11%	2.12%	2.11%
KEP	2.80%	2.79%	2.81%	2.82%	2.81%	2.82%	2.83%	2.83%	2.82%	2.82%	2.83%	2.83%
KES	2.67%	2.67%	2.69%	2.70%	2.70%	2.71%	2.72%	2.72%	2.71%	2.71%	2.72%	2.72%



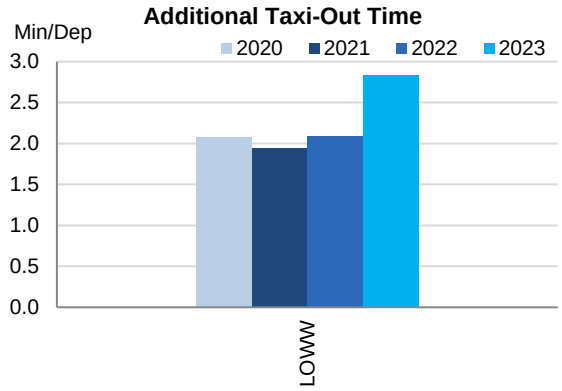
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

AUSTRIA **ENVIRONMENT - Airports**

1. Overview

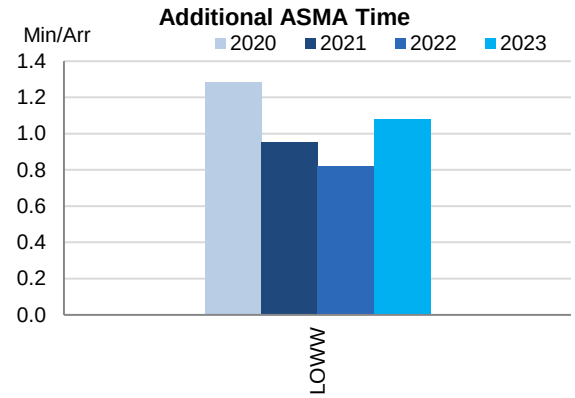
Austria identified six airports as subject to RP3 monitoring. According to the traffic figures at these 6 airports, only Vienna (LOWW) must be monitored for additional taxi-out and ASMA times.
The Airport Operator Data Flow, necessary for the monitoring of the additional times, is correctly established where required and the monitoring of all environment indicators can be performed.
Traffic at the ensemble of these airports increased by 12% in 2023 with respect to 2022 but it is still 17% below 2019 levels.
Observed additional times at Vienna have increased in 2023 although they are still below pre-COVID levels.
The share of CDO flights reduced from 27.9% to 27.3% in 2023.

2. Additional Taxi-Out Time



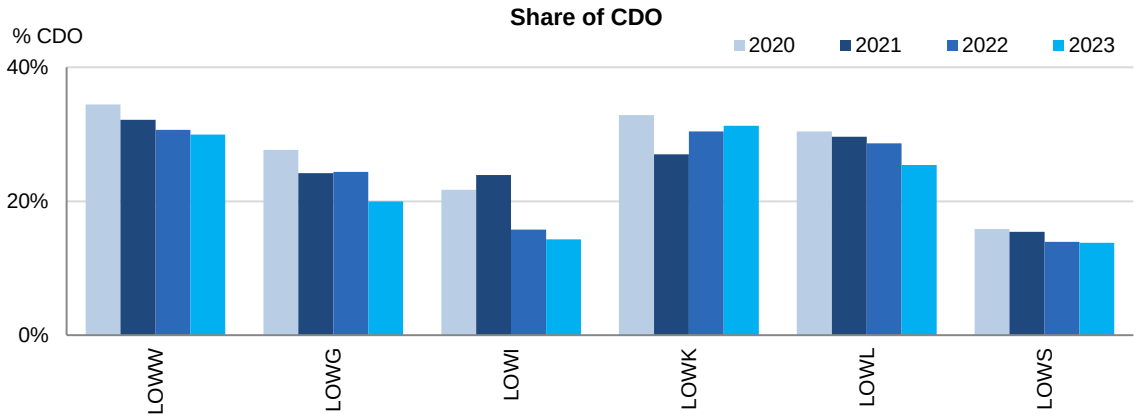
Additional taxi-out times at Vienna in 2023 increased by 36% with respect tp 2022 (LOWW; 2019: 3.1 min/dep.; 2020: 2.07 min/dep.; 2021: 1.94 min/dep.;2022: 2.09 min/dep.; 2023: 2.84 min/dep.)
According to the Austrian monitoring report:
Partial closure of gates and construction works were influencing ground movements. Initial AOP was finished by end of 2023.

3. Additional ASMA Time



Additional ASMA times at Vienna increased by 32% in 2022 but remain 49% lower than pre-COVID (LOWW; 2019: 2.13 min/arr.; 2020: 1.28 min/arr.; 2021: 0.95 min/arr.;2022: 0.82 min/arr.; 2023: 1.08 min/arr.)
According to the Austrian monitoring report: *Compared to the traffic volume before COVID, ASMA has continuously improved. Arrival Manager Wien is implemented and operationally successful.*

4. Share of arrivals applying CDO



Klagenfurt (LOWK) has the highest share of CDO flights in Austria: 31.3% which is slightly higher than the overall RP3 value in 2023 (28.8%).
The other airports have 20-30% of CDO flights, except for Innsbruck (LOWI): 14.3% and Salzburg (LOWS): 13.8%.
All airports have seen a (slight) reduction of the share of CDO flights, except for Klagenfurt (LOWK) which had an increase of 0.8 percentage points.

According to the Austrian monitoring report: *CDO awareness campaign was launched during 2023, allowing to maintain CDO percentage levels despite traffic increase.*

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Vienna-LOWW	2.07	1.94	2.09	2.84		1.28	0.95	0.82	1.08		34%	32%	31%	30%	
Graz-LOWG	-	-	-	-		-	-	-	-		28%	24%	24%	20%	
Innsbruck-LOWI	-	-	-	-		-	-	-	-		22%	24%	16%	14%	
Klagenfurt-LOWK	-	-	-	-		-	-	-	-		33%	27%	30%	31%	
Linz-LOWL	-	-	-	-		-	-	-	-		30%	30%	29%	25%	
Salzburg-LOWS	-	-	-	-		-	-	-	-		16%	15%	14%	14%	

AUSTRIA **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

FUA is fully implemented and in case of airspace reservations procedures are in place, that help to avoid circumnavigation of reserved areas. Military dimension has little to no impact on the enviromental KPA, due to a highly efficient and flexible use of airspace with close military coordination.
No impact on Capacity derived from MIL activities. The planning of airspace use at pre-tactical level is done via the civil/military joint unit Airspace Management Cell (AMC). Day-to-day coordination of Operational Air Traffic (OAT) and General Air Traffic (GAT) is handled at the tactical level between civil ATS Units and representatives of the Military Control Centre (MCC).

Military - related measures implemented or planned to improve capacity

n/a

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Austria	66%	69%	65%	61%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Vienna	66%	69%	65%	61%	

Initiatives implemented or planned to improve PI#6

LARA was implemented in December 2023.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Austria		n/a	n/a	n/a	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Vienna	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#7

"No CDRs applied in Austria. FUA in Austria allows original FPL filing through reserved airspace to a maximum extent possible."

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Austria			n/a	n/a	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Vienna			n/a	n/a	

Initiatives implemented or planned to improve PI#8

Not yet measured. LARA, implemented end of 2023 might enable this kind of statistics.

AUSTRIA **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	n/a	0.10	0.17	0.17	0.16	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.00	0.00	0.07	0.10		

NSA's assessment of capacity performance

Traffic in ACC was particularly high in summer, already partially exceeding 2019 level. Capacity targets were met despite the high traffic demand that significantly exceeded the forecasts and despite the shifted traffic flows due to the Russian war of agression against Ukraine.

Monitoring process for capacity performance

Regular monitoring of capacity and delays is executed and analysed on a daily, weekly, monthly and yearly basis.

Capacity Planning

Based on NM TFC predictions (STATFOR, NOP) capacity and performance is planned in terms of sector opening hours reflecting ATCO availability and TFC distribution.

ATCO in OPS (FTE)							
Vienna ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	135	138	140	140	
Actual	131	129	136	140	148		

Application of Corrective Measures for Capacity (if applicable)

Not applicable, since capacity performance was achieved.

Summary of capacity performance

Traffic increased again in Austria; from 1267k flights in 2022 to 1439k flights in 2023 (above the 2019 level of 1365k flights).

Austro Control had 146k minutes of en-route ATFM delay, up from 78k minutes in 2022 (1530k minutes in 2019).

There were an additional 11k minutes of delay originating in the Vienna ACC that were re-attributed to DFS via the NM post operations delay attribution process, according to the NMB agreement for eNM/S23 measures, to ameliorate capacity shortfalls in Karlsruhe UAC.

En route Capacity Incentive Scheme						
Austro Control	2020	2021	2022	2023	2024	Observations
National Capacity target	n/a	0.10	0.17	0.17	0.16	The incentive scheme is under review by the Euorpean Commission
Deadband +/-	-	-	-	[0.12-0.22]	[0.11-0.21]	
Actual performance	0.00	0.00	0.07	0.10		

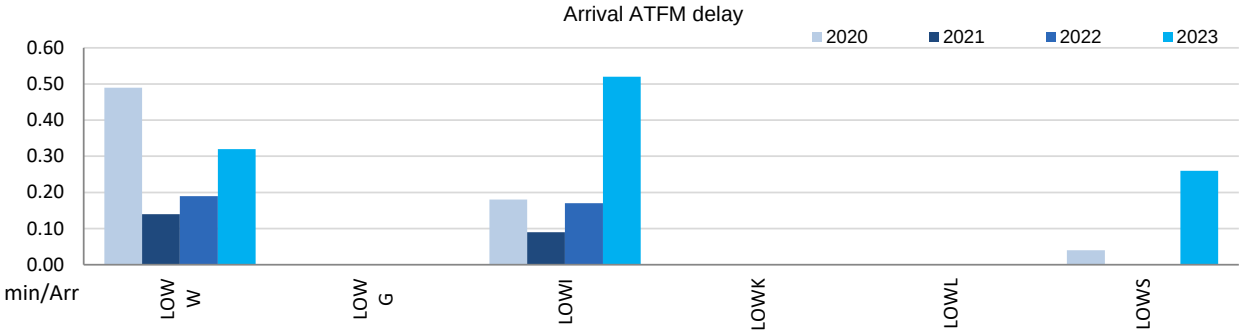
AUSTRIA **CAPACITY - Airports**

1. Overview

Austria identified six airports as subject to RP3 monitoring. According to the traffic figures at these 4 airports, only Vienna (LOWW) must be monitored for pre-departure delays.
The Airport Operator Data Flow, necessary for the monitoring of these pre-departure delays, is correctly established where required and the monitoring of all capacity indicators can be performed.
Traffic at the ensemble of these airports increased by 12% in 2023 with respect to 2022 but it is still 17% below 2019 levels.

In 2023, arrival ATFM delays in Austria doubled with respect to 2022, although values are still relatively low and the target is met. ATFM slot adherence remained at 98.8% with values above 95% for all airports.

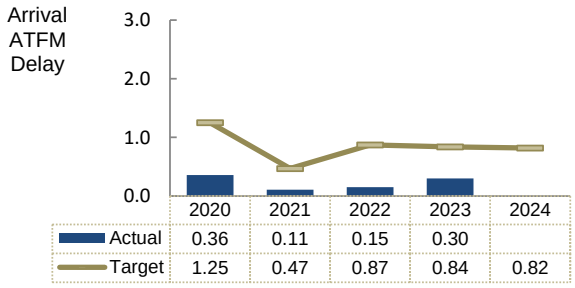
2. Arrival ATFM Delay



Average arrival ATFM delay in Austria in 2023 was 0.30 min/arr, compared to 0.15 min/arr in 2022.
Only Vienna, Innsbruck and Salzburg registered delays in 2023.
Vienna drives the national average (LOWW: 2019: 0.91 min/arr.; 2020: 0.49 min/arr.; 2021: 0.14 min/arr.; 2022: 0.19 min/arr.; 2023: 0.32 min/arr.). At Vienna 67% of these delays were attributed to weather, 16% to ATC capacity and 14% to ATC staffing issues.

According to the Austrian monitoring report: *Extreme TFC peaks and heavy snow falls early 2023 have caused high ATFM Delays in LOWI and LOWS.*
No influence on traffic patterns around airports due to the Russian war of aggression against Ukraine.

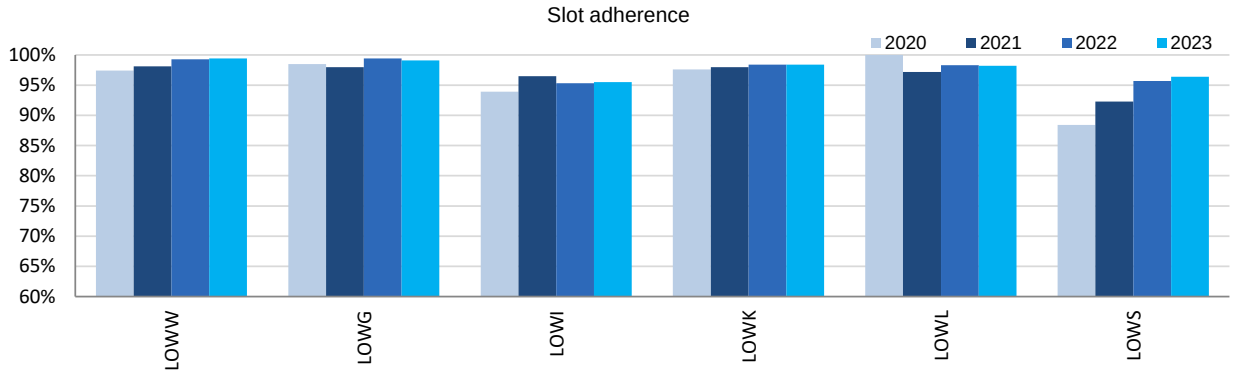
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.36	0.11	0.15	0.30	
Target	1.25	0.47	0.87	0.84	0.82

The Austrian performance plan sets a national target on arrival ATFM delay for 2023 of 0.84 min/arr. This target was met with an actual performance of 0.30 min/arr.
According to the Austrian monitoring report, this performance corresponds to the maximum bonus (0.50%), computed by the NSA as *€196154.*

4. ATFM Slot Adherence



All Austrian airports showed adherence above 95% and the national average was 98.8%, same as previous year. With regard to the 1.2% of flights that did not adhere, 1% was early and 0.2% was late.

According to the Austrian monitoring report: *ATFM slot adherence at all Austrian airports has reached an extremely high and stable value. Especially in LOWW, the CDM procedure - in place since 2022 - has enabled the very high and continuous adherence level.*

5. ATC Pre-departure Delay

Vienna is the only Austrian airport subject to the monitoring of this indicator. The performance has slightly deteriorated (LOWW; 2019: 1.56 min/dep.; 2020: 0.75 min/dep.; 2021: 0.63 min/dep.; 2022: 0.92 min/dep.; 2023: 0.97 min/dep.) but remained under 2019 values.

According to the Austrian monitoring report: *Performance is stable and has been improved even in comparison to traffic volumes of previous years, including 2019 and 2018. Main reason is full implementation of Airport CDM in April 2022.*

6. All Causes Pre-departure Delay

Vienna is the only Austrian airport subject to the monitoring of this indicator.
The total (all causes) delay in the actual off block time at Vienna in 2023 was 14.74 min/dep., slightly higher than the previous year (14.6 min/dep.)

According to the Austrian monitoring report: *Increasing traffic caused additional 'All cause departure delays per flight'. No ATC Departure Delays have been applied.*

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Vienna-LOWW	0.49	0.14	0.19	0.32		97.4%	98.1%	99.3%	99.4%		0.75	0.63	0.92	0.97		8.27	9.75	14.60	14.74	
Graz-LOWG	0	0	0	0		98.5%	98.0%	99.4%	99.1%		-	-	-	-		-	-	-	-	
Innsbruck-LOWI	0.18	0.09	0.17	0.52		93.9%	96.5%	95.3%	95.5%		-	-	-	-		-	-	-	-	
Klagenfurt-LOWK	0	0	0	0		97.6%	98.0%	98.4%	98.4%		-	-	-	-		-	-	-	-	
Linz-LOWL	0	0	0	0		100.0%	97.2%	98.3%	98.2%		-	-	-	-		-	-	-	-	
Salzburg-LOWS	0.04	0	0	0.26		88.4%	92.3%	95.7%	96.4%		-	-	-	-		-	-	-	-	

AUSTRIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Austria ECZ represents 3.0% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 17 November 2021 and found consistent as per Commission Decision (EU) 2022/774 of 13 April 2022

  The final version of the plan was adopted and published by Austria in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Austria: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	174 545 896	206 197 475	380 743 371	201 741 388	196 174 218	195 739 912
Inflation %	1.4%	2.5%		2.5%	2.0%	2.0%
Inflation index (100 in 2017)	105.1	107.7		110.3	112.5	114.8
Real en route costs (€2017)	167 914 396	194 360 427	362 274 823	186 498 664	178 662 064	175 470 975
Total en route service units	1 508 629	1 806 569	3 315 198	3 003 888	3 268 998	3 504 613
Real en route DUC per service unit (€2017)	**111.30**	**107.59**	**109.28**	**62.09**	**54.65**	**50.07**

Austria: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	174 545 896	188 909 523	363 455 419	210 923 002	221 255 138	
Inflation %	1.4%	2.8%		8.6%	7.7%	
Inflation index (100 in 2017)	105.1	108.0		117.3	126.3	
Real en route costs (€2017)	167 914 396	177 539 651	345 454 047	184 966 046	182 516 237	
Total en route service units	1 508 629	1 799 440	3 308 069	3 247 862	3 847 250	
Real en route AUC per service unit (€2017)	**111.30**	**98.66**	**104.43**	**56.95**	**47.44**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-17 287 952	-17 287 952	9 181 614	25 080 920	
	in %	-	-8.4%	-4.5%	+4.6%	+12.8%	
Inflation %	in p.p.	0.0 p.p.	0.4 p.p.		6.2 p.p.	5.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.4 p.p.		7.0 p.p.	13.8 p.p.	
Real en route costs (€2017)	in value	0	-16 820 776	-16 820 776	-1 532 618	3 854 173	
	in %	-	-8.7%	-4.6%	-0.8%	+2.2%	
Total en route service units	in value	0	-7 129	-7 129	243 974	578 252	
	in %	-	-0.4%	-0.2%	+8.1%	+17.7%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-8.92**	**-4.85**	**-5.14**	**-7.21**	
	in %	**-**	**-8.3%**	**-4.4%**	**-8.3%**	**-13.2%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -13.2% (or -7.21 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+17.7%) and higher than planned en route costs in real terms (+2.2%, or +3.9 M€2017). It should be noted that actual inflation index in 2023 was +13.8 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (+17.7%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

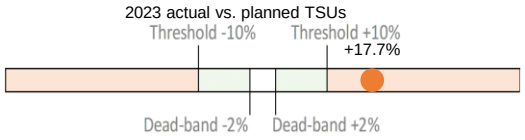
En route costs by entity

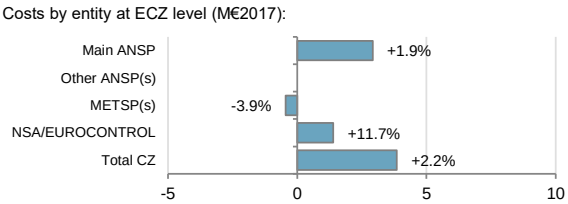
Actual real en route costs are +2.2% (+3.9 M€2017) higher than planned. This is the result of higher costs for the main ANSP, Austro Control (+1.9%, or +2.9 M€2017) and the NSA/EUROCONTROL (+14.7%, or +1.7 M€2017) and lower costs for the MET service provider (-3.9%, or -0.5 M€2017).

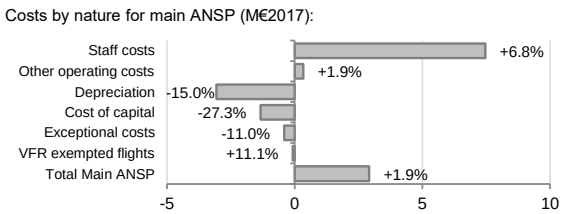
En route costs for the main ANSP (Austro Control) at charging zone level

Higher than planned en route costs in real terms for Austro Control in 2023 (+1.9%, or +2.9 M€2017) result from:

- Significantly higher staff costs (+6.8% or +20.0% in nominal terms), due to overtime hours to cope with the increased traffic, impact of the inflation and the higher pension costs than planned;
- Higher other operating costs (+1.9% or +14.4% in nominal terms). No other driver information has been provided apart of the inflation effect;
- Significantly lower depreciation (-15.0%), reflecting delays in investments due to the COVID-19;
- Significantly lower cost of capital (-27.3%), reflecting delayed investments and "short-term financing conditions of the Republic of Austria, due to which the average net working capital was subject to interest at 0% in 2023" ;
- Significantly lower exceptional costs (-11.0%), due to the inflation index (+13.8 p.p.) since in nominal terms the actual costs are equal to determined; and,
- Significantly higher deduction for VFR exempted flights (+11.1%).







AUSTRIA: En route charging zone

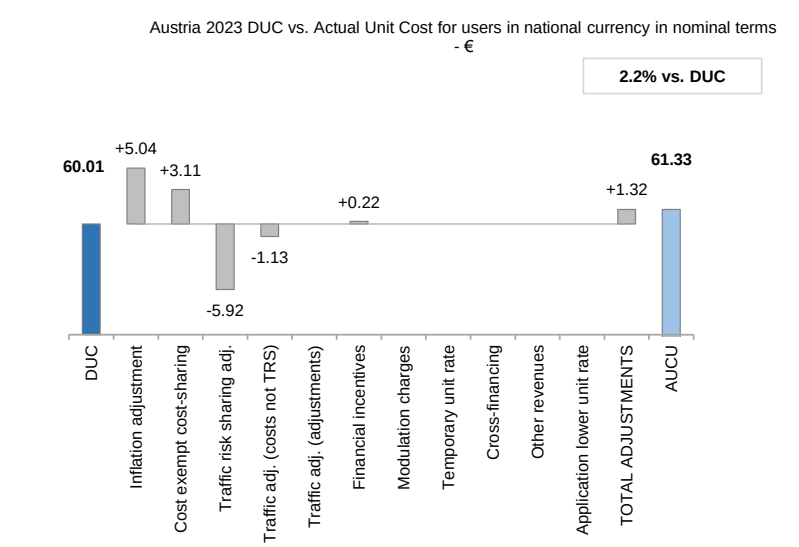
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	60.01
DUC to be charged retroactively	0.00
DUC	**60.01**
Inflation adjustment	5.04
Cost exempt from cost-sharing	3.11
Traffic risk sharing adjustment	-5.92
Traffic adj. (costs not TRS)	-1.13
Traffic adj. (adjustments)*	
Financial incentives	0.22
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	1.32
AUCU	**61.33**
AUCU vs. DUC	**+2.2%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

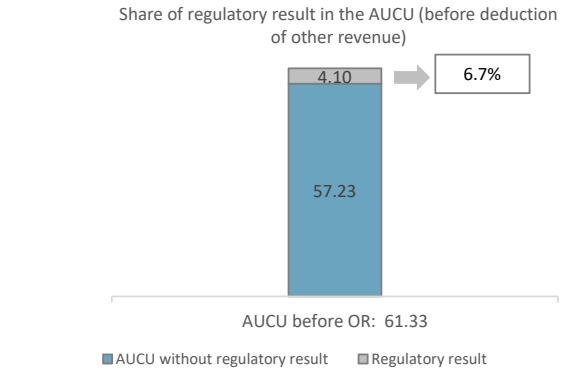
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-4 470	-1.16
	Competent authorities and qualified entities costs	-183	-0.05
	Eurocontrol costs	1 572	0.41
	Pension costs	15 054	3.91
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**11 974**	**3.11**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
Austro Control	13 682	3.56
METSP(s)	**€ '000**	**€/SU**
Austria MET	2 078	0.54
Total charging zone	15 760	4.10
Actual cost for users* **	235 953	61.33
Regulatory result (% AUCU)	6.7%	6.7%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (61.33 €) is +2.2% higher than the nominal DUC (60.01 €). The difference between these two figures (+1.32 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+5.04 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+3.11 €/SU);
- the deduction of the traffic risk sharing adjustments (-5.92 €/SU);
- the deduction of the traffic adjustment (-1.13 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (+0.22 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 6.7%.

AUSTRIA: En route main ANSP (Austro Control) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: Ex-ante and ex-post RoE are computed based on the notional gearing of 85% debt used in the Performance Plan for RP3. The actual gearing of Austro Control should be reported.
Note 2: The analysis presented in items 11 to 13 excludes MET services of Austro Control since MET data are disclosed separately in en route and terminal reporting tables. The regulatory result of Austro Control's MET services is shown in item 14.

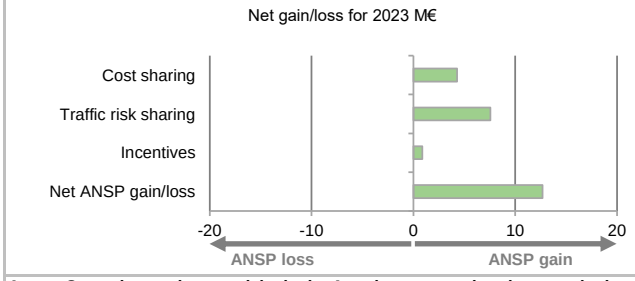
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

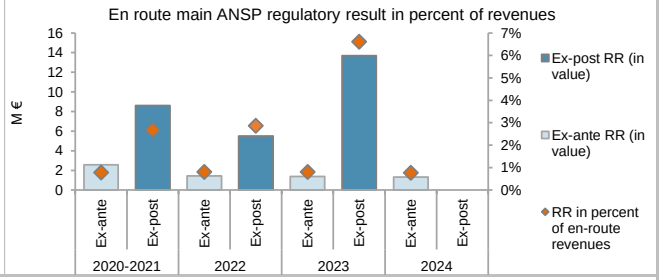
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	15 356	-10 433	-22 846	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	528	9 656	17 998	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-8 808	-1 582	9 124	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**7 076**	**-2 359**	**4 276**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-0.2%	8.1%	17.7%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	331 281	176 989	171 523	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-712**	**6 790**	**7 547**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**858**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**6 364**	**4 431**	**12 681**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Austro Control planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	103 930	124 683	228 613	126 650	122 398	117 143
Proportion of financing through equity (in %) **(see Note 1)**	15%	15%	15%	15%	15%	15%
RoE pre-tax rate (in %)	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%
RoE (in value)	1 168	1 402	2 570	1 424	1 376	1 317
Ex-ante regulatory result (+/-) for the en route charging zone (see Note 1)	**1 168**	**1 402**	**2 570**	**1 424**	**1 376**	**1 317**
Revenue for the en route charging zone	**151 348**	**179 933**	**331 281**	**176 989**	**171 523**	**170 951**
Ex-ante regulatory result (+/-) in percent of revenues	**0.8%**	**0.8%**	**0.8%**	**0.8%**	**0.8%**	**0.8%**
Ex-ante RoE pre-tax rate (in %)	**7.3%**	**7.3%**	**7.3%**	**7.3%**	**7.3%**	**7.3%**
Austro Control actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	103 930	96 839	200 768	94 225	89 006	
Proportion of financing through equity (in %) **(see Note 1)**	15%	15%	15%	15%	15%	
RoE pre-tax rate (in %)	7.3%	7.3%	7.3%	7.3%	7.3%	
RoE (in value)	1 168	1 089	2 257	1 059	1 001	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	6 364	6 364	4 431	12 681	
Ex-post regulatory result (+/-) for the en route charging zone (see Note 1)	**1 168**	**7 452**	**8 621**	**5 490**	**13 682**	
Revenue for the en route charging zone	**151 348**	**170 941**	**322 289**	**191 853**	**207 050**	
Ex-post regulatory result (+/-) in percent of revenues	**0.8%**	**4.4%**	**2.7%**	**2.9%**	**6.6%**	
Ex-post RoE pre-tax rate (in %)	**7.3%**	**50.0%**	**27.9%**	**37.8%**	**99.8%**	

13. Focus on the main ANSP regulatory result on en route activity





Austro Control net gain on activity in the Austria en route charging zone in the year 2023
Austro Control reported a net gain of +12.7 M€, as a combination of a gain of +4.3 M€ arising from the cost sharing mechanism, with a gain of +7.5 M€ arising from the traffic risk sharing mechanism and a gain of +0.9 M€ relating to financial incentives.
Austro Control overall regulatory results (RR) for the en route activity
Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+12.7 M€) and the actual RoE (+1.0 M€) amounts to +13.7 M€ (6.6% of the en route revenues). The resulting ex-post rate of return on equity is 99.8%, which is higher than the 7.3% planned in the PP.

AUSTRIA: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
Austria MET planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	60	76	135	74	75	75
Revenue for the en route charging zone	10 846	13 173	24 019	13 019	12 814	12 873
Ex-ante regulatory result (+/-) in percent of revenues	0.5%	0.6%	0.6%	0.6%	0.6%	0.6%
Ex-ante RoE pre-tax rate (in %)	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%
Austria MET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	60	777	836	2 642	2 078	
Revenue for the en route charging zone	10 846	13 119	23 966	14 413	15 676	
Ex-post regulatory result (+/-) in percent of revenues	0.5%	5.9%	3.5%	18.3%	13.3%	
Ex-post RoE pre-tax rate (in %)	7.3%	100.9%	52.8%	352.5%	244.8%	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Austria (Austria MET) corresponds to 13.3% of the en route revenues. The ex-post RoE 244.8% is higher than planned 7.3%.

AUSTRIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Austria TCZ represents 3.4% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 6 of which:
  - Airports with fewer than 80,000 IFR mvmts: 5
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Austria: Data from RP3 Performance Plan	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Terminal costs (nominal €)	36 466 224	41 691 065	78 157 289	44 823 694	43 225 405	43 083 154
Inflation %	1.4%	2.5%		2.5%	2.0%	2.0%
Inflation index (100 in 2017)	105.1	107.7		110.3	112.5	114.8
Real terminal costs (€2017)	35 061 142	39 298 049	74 359 191	41 398 122	39 302 081	38 540 503
Total terminal service units	83 866	96 929	180 795	185 206	201 458	215 289
Real terminal DUC per service unit (€2017)	**418.06**	**405.43**	**411.29**	**223.52**	**195.09**	**179.02**

Austria: Actual data from Reporting Tables	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Terminal costs (nominal €)	36 466 224	40 309 443	76 775 667	49 081 986	50 980 504	
Inflation %	1.4%	2.8%		8.6%	7.7%	
Inflation index (100 in 2017)	105.1	108.0		117.3	126.3	
Real terminal costs (€2017)	35 061 142	37 846 285	72 907 427	42 885 522	41 779 007	
Total terminal service units	83 866	94 952	178 818	160 366	186 067	
Real terminal AUC per service unit (€2017)	**418.06**	**398.58**	**407.72**	**267.42**	**224.54**	

Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Terminal costs (nominal €)	in value	0	-1 381 622	-1 381 622	4 258 292	7 755 099	
	in %	-	-3.3%	-1.8%	+9.5%	+17.9%	
Inflation %	in p.p.	0.0 p.p.	0.4 p.p.		6.2 p.p.	5.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.4 p.p.		7.0 p.p.	13.8 p.p.	
Real terminal costs (€2017)	in value	0	-1 451 764	-1 451 764	1 487 400	2 476 925	
	in %	-	-3.7%	-2.0%	+3.6%	+6.3%	
Total terminal service units	in value	0	-1 977	-1 977	-24 840	-15 391	
	in %	-	-2.0%	-1.1%	-13.4%	-7.6%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-6.85**	**-3.57**	**43.90**	**29.45**	
	in %	**-**	**-1.7%**	**-0.9%**	**+19.6%**	**+15.1%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +15.1% (or +29.45 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TNSUs (-7.6%) and significantly higher than planned terminal costs in real terms (+6.3%, or +2.5 M€2017). It should be noted that actual inflation index in 2023 was +13.8 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-7.6%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

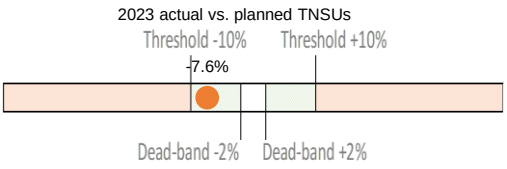
Terminal costs by entity

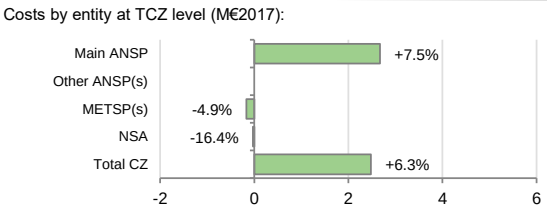
Actual real terminal costs are +6.3% (+2.5 M€2017) higher than planned. This is the result of higher costs for the main ANSP, Austro Control (+7.5%, or +2.7 M€2017) and lower costs for the NSA (-16.4%, or -0.03 M€2017) and the MET service provider (-4.9%, or -0.2 M€2017).

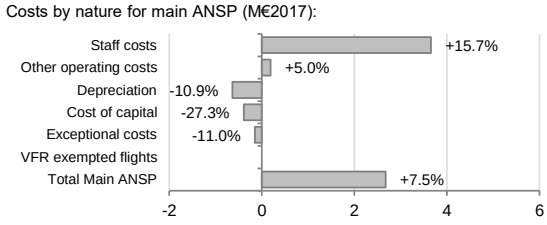
Terminal costs for the main ANSP (Austro Control) at charging zone level

Significantly higher than planned terminal costs in real terms for Austro Control in 2023 (+7.5%, or +2.7 M€2017) result from:

- Significantly higher staff costs (+15.7% or +30.0% in nominal terms), "impacted by inflation and pension costs which were much higher than determined. A cost cutting due account for lower traffic has been hampered by the opening-times of the airports and could not bring substantial savings under the assumption that staff shall be retained';
- Significantly higher other operating costs (+5.0% or +17.9% in nominal terms). No other driver information has been provided apart of the inflation effect;
- Significantly lower depreciation (-10.9%), reflecting delays in investments due to the COVID-19;
- Significantly lower cost of capital (-27.3%), reflecting delayed investments and "short-term financing conditions of the Republic of Austria, due to which the average net working capital was subject to interest at 0% in 2023" ; and,
- Significantly lower exceptional costs (-11.0%), due to the inflation index (+13.8 p.p.) since in nominal terms the actual costs are equal to determined.







AUSTRIA: Terminal charging zone

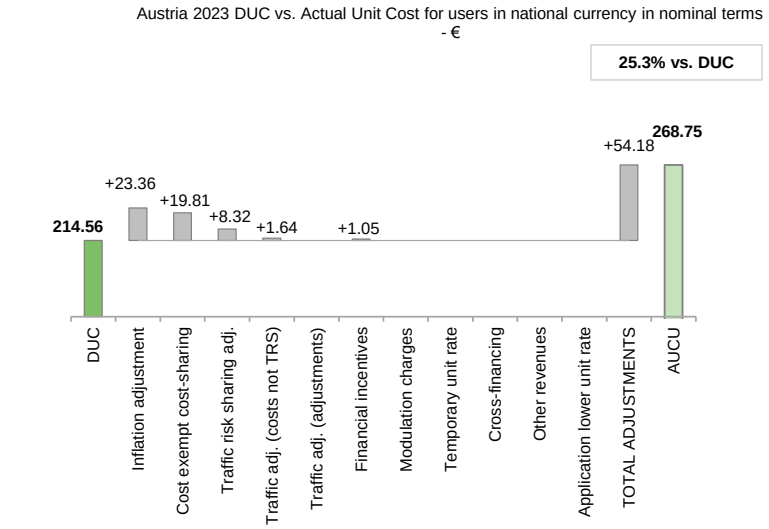
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	214.56
DUC to be charged retroactively	0.00
DUC	**214.56**
Inflation adjustment	23.36
Cost exempt from cost-sharing	19.81
Traffic risk sharing adjustment	8.32
Traffic adj. (costs not TRS)	1.64
Traffic adj. (adjustments)*	
Financial incentives	1.05
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	54.18
AUCU	**268.75**
AUCU vs. DUC	**25.3%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

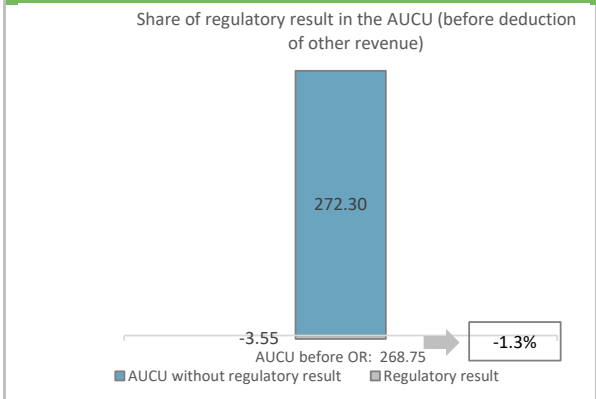
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-1 032	-5.54
	Competent authorities and qualified entities costs	-29	-0.15
	Eurocontrol costs	0	0.00
	Pension costs	4 746	25.50
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**3 685**	**19.81**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
Austro Control	-1 313	-7.06
METSP(s)	**€ '000**	**€/SU**
Austria-MET	652	3.50
Total charging zone	-661	-3.55
Actual cost for users* **	50 005	268.75
Regulatory result (% AUCU)	-1.3%	-1.3%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (268.75 €) is +25.3% higher than the nominal DUC (214.56 €). The difference between these two figures (+54.18 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+23.36 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+19.81 €/SU);
- the addition of the traffic risk sharing adjustments (+8.32 €/SU);
- the addition of the traffic adjustment (+1.64 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (+1.05 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is -1.3%.

AUSTRIA: Terminal main ANSP (Austro Control) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: Ex-ante and ex-post RoE are computed based on the notional gearing of 85% debt used in the Performance Plan for RP3. The actual gearing of Austro Control should be reported.
Note 2: The analysis presented in items 11 to 13 excludes MET services of Austro Control since MET data are disclosed separately in en route and terminal reporting tables. The regulatory result of Austro Control's MET services is shown in item 14.

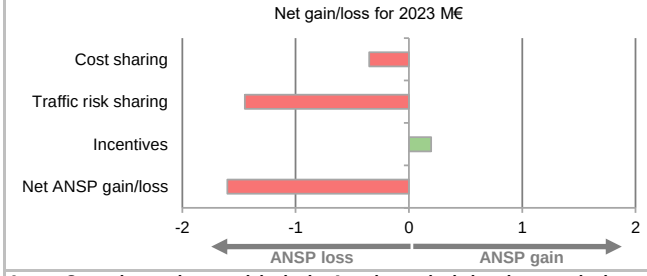
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

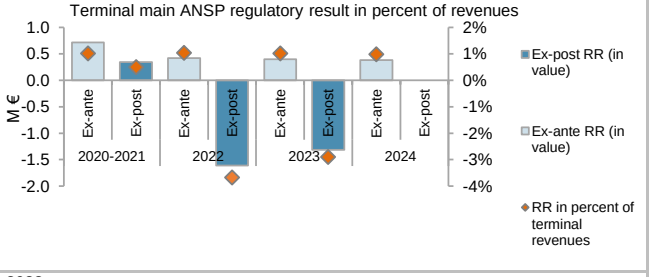
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	1 190	-4 862	-7 588	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	104	2 121	3 939	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-792	2 629	3 299	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**503**	**-112**	**-350**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-1.1%	-13.4%	-7.6%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	71 061	40 787	39 231	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-777**	**-1 795**	**-1 448**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**196**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**-274**	**-1 907**	**-1 603**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Austro Control planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	28 056	35 733	63 789	37 293	35 481	34 143
Proportion of financing through equity (in %) **(see Note 1)**	15%	15%	15%	15%	15%	15%
RoE pre-tax rate (in %)	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%
RoE (in value)	315	402	717	419	399	384
Ex-ante regulatory result (+/-) for the terminal charging zone (see Note 1)	**315**	**402**	**717**	**419**	**399**	**384**
Revenue for the terminal charging zone	**33 145**	**37 916**	**71 061**	**40 787**	**39 231**	**39 046**
Ex-ante regulatory result (+/-) in percent of revenues	**1.0%**	**1.1%**	**1.0%**	**1.0%**	**1.0%**	**1.0%**
Ex-ante RoE pre-tax rate (in %)	**7.3%**	**7.3%**	**7.3%**	**7.3%**	**7.3%**	**7.3%**
Austro Control actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	28 056	27 172	55 228	26 448	25 784	
Proportion of financing through equity (in %) **(see Note 1)**	15%	15%	15%	15%	15%	
RoE pre-tax rate (in %)	7.3%	7.3%	7.3%	7.3%	7.3%	
RoE (in value)	315	305	621	297	290	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	-274	-274	-1 907	-1 603	
Ex-post regulatory result (+/-) for the terminal charging zone (see Note 1)	**315**	**31**	**347**	**-1 610**	**-1 313**	
Revenue for the terminal charging zone	**33 145**	**36 451**	**69 596**	**43 743**	**45 216**	
Ex-post regulatory result (+/-) in percent of revenues	**1.0%**	**0.1%**	**0.5%**	**-3.7%**	**-2.9%**	
Ex-post RoE pre-tax rate (in %)	**7.3%**	**0.7%**	**4.1%**	**-39.5%**	**-33.1%**	

13. Focus on main ANSP regulatory result on terminal activity





Austro Control net gain on activity in the Austria terminal charging zone in the year 2023
Austro Control reported a net loss of -1.6 M€, as a combination of a loss of -0.4 M€ arising from the cost sharing mechanism, with a loss of -1.4 M€ arising from the traffic risk sharing mechanism and a gain of +0.2 M€ relating to financial incentives.
Austro Control overall regulatory results (RR) for the terminal activity
Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-1.6 M€) and the actual RoE (+0.3 M€) amounts to -1.3 M€ (-2.9% of the terminal revenues). The resulting ex-post rate of return on equity is -33.1%, which is lower than the 7.3% planned in the PP.

AUSTRIA: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Austria-MET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**23**	**26**	**48**	**26**	**26**	**26**
Revenue for the terminal charging zone	**3 165**	**3 615**	**6 780**	**3 871**	**3 820**	**3 857**
Ex-ante regulatory result (+/-) in percent of revenues	**0.7%**	**0.7%**	**0.7%**	**0.7%**	**0.7%**	**0.7%**
Ex-ante RoE pre-tax rate (in %)	**7.3%**	**7.3%**	**7.3%**	**7.3%**	**7.3%**	**7.3%**
Austria-MET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**23**	**149**	**172**	**938**	**652**	
Revenue for the terminal charging zone	**3 165**	**3 595**	**6 760**	**4 250**	**4 642**	
Ex-post regulatory result (+/-) in percent of revenues	**0.7%**	**4.2%**	**2.5%**	**22.1%**	**14.0%**	
Ex-post RoE pre-tax rate (in %)	**7.3%**	**51.2%**	**28.7%**	**333.9%**	**189.5%**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Austria (Austria-MET) corresponds to 14.0% of the terminal revenues. The ex-post RoE 189.5% is higher than planned 7.3%.

AUSTRIA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Austria

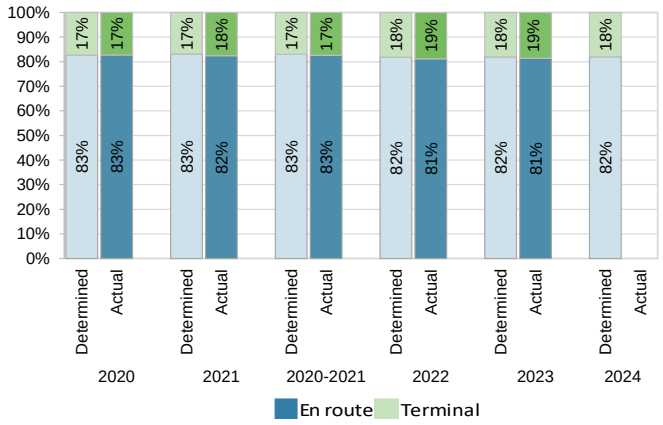
Terminal charging zone 1: Austria

Austria: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	167 914 396	194 360 427	362 274 823	186 498 664	178 662 064	175 470 975
Real terminal costs (€2017)	35 061 142	39 298 049	74 359 191	41 398 122	39 302 081	38 540 503
Real gate-to-gate costs (€2017)	202 975 538	233 658 476	436 634 014	227 896 786	217 964 145	214 011 478
En route share (%)	82.7%	83.2%	83.0%	81.8%	82.0%	82.0%

Austria: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	167 914 396	177 539 651	345 454 047	184 966 046	182 516 237	
Real terminal costs (€2017)	35 061 142	37 846 285	72 907 427	42 885 522	41 779 007	
Real gate-to-gate costs (€2017)	202 975 538	215 385 936	418 361 474	227 851 569	224 295 243	
En route share (%)	82.7%	82.4%	82.6%	81.2%	81.4%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-18 272 540	-18 272 540	-45 217	6 331 099	
	in %	0.0%	-7.8%	-4.2%	0.0%	2.9%	
En route share	in p.p.	0.0 p.p.	-0.8 p.p.	-0.4 p.p.	-0.7 p.p.	-0.6 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are +2.9% (+6.3 M€2017) higher than planned, as en route costs are higher than planned by +3.9 M€2017 and terminal costs are higher than planned by +2.5 M€2017.

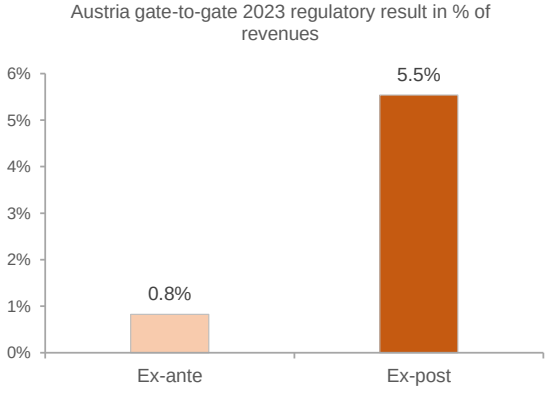
The actual share of en route in gate-to-gate ANS costs (81.4%) is slightly lower than planned in the PP for 2023 (82%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
Austro Control	1 775	210 754	0.8%		12 369	252 266	4.9%	
METSP(s)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
Austria MET	101	16 633	0.6%		2 730	20 318	13.4%	
Total	**1 876**	**227 388**	**0.8%**		**15 099**	**272 585**	**5.5%**	

For the ANSPs providing services in the en route and terminal charging zones of Austria covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +15.1 M€ (+15.8 M€ for en route and -0.7 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 5.5% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (0.8% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

BELGIUM

BELGIUM **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
Skeyes	86	C	C	C	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

Four out of five EoSM components of the ANSP meet the RP3 target level. Compared with 2022, in 2023 the “Safety Culture” component was improved and consequently achieved the RP3 target. A single remaining component “Safety Risk Assessment” is below the RP3 target for two questions that are to be improved during RP3.

MUAC **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
MUAC	95	C	C	D	C	C

Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.

MUAC oversight is exercised in a coordinated manner by the Four States' NSAs (Belgium, Germany, Luxembourg and the Netherlands) over which territories and airspaces MUAC provides air traffic services. Safety performance of MUAC is reported separately of these fours States as it has been assessed and agreed by the four NSAs.

Observations

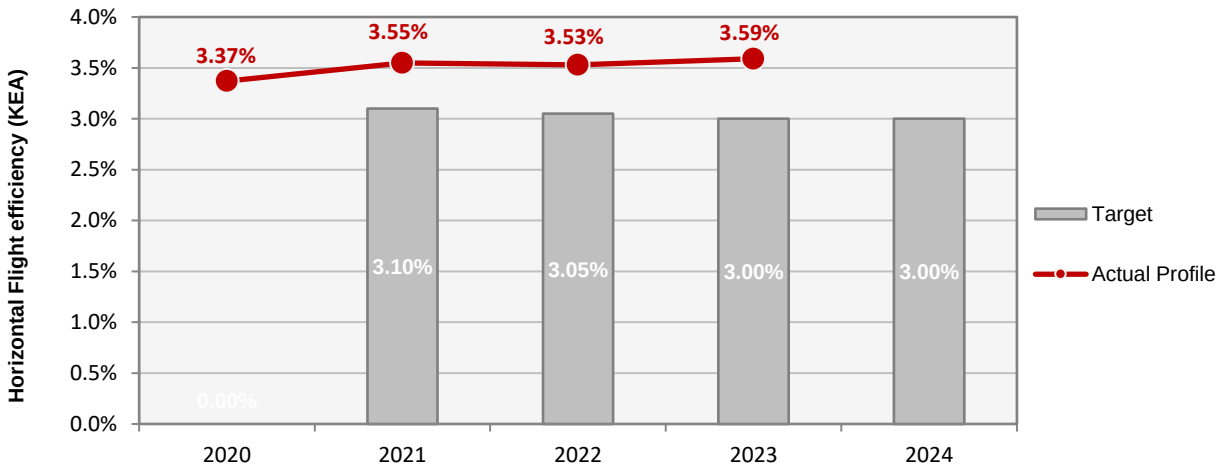
All five EoSM components of the ANSP meet the RP3 target levels. The level was maintained compared with 2022.

BELGIUM-LUXEMBOURG

ENVIRONMENT - Horizontal flight efficiency

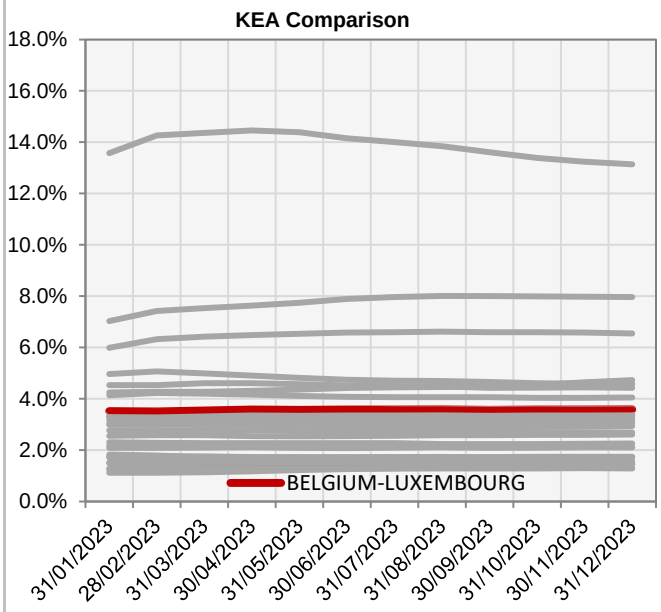
KEA

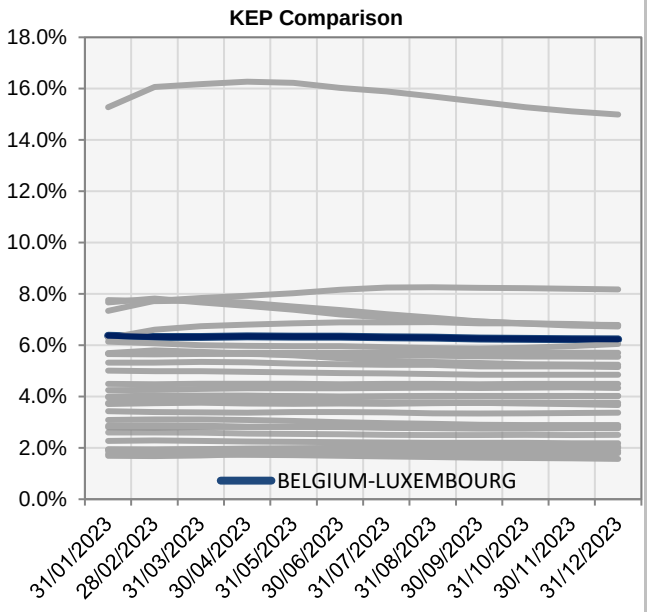
	2020	2021	2022	2023	2024
Target	n/a	3.10%	3.05%	3.00%	3.00%
Actual performance	3.37%	3.55%	3.53%	3.59%	



End of month indicators evolution in 2023

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	3.52%	3.51%	3.55%	3.58%	3.57%	3.58%	3.58%	3.59%	3.57%	3.58%	3.58%	3.59%
KEP	6.37%	6.32%	6.32%	6.35%	6.33%	6.33%	6.31%	6.30%	6.26%	6.25%	6.24%	6.23%
KES	6.08%	6.03%	6.03%	6.05%	6.01%	6.00%	5.98%	5.96%	5.91%	5.90%	5.88%	5.87%





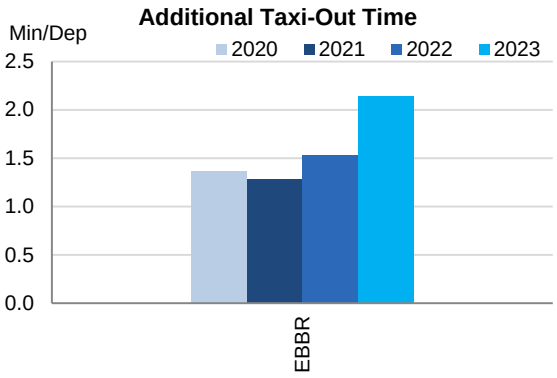
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

BELGIUM **ENVIRONMENT - Airports**

1. Overview

Belgium identifies only Brussels airport as subject to RP3 monitoring.
The Airport Operator Data Flow is fully established and the monitoring of all environmental indicators can be performed.
Traffic levels in 2023 were still 18% less than in 2019 at Brussels airport, regardless of the 8% increase with respect to 2022
Both additional times in 2023 are higher than in 2022 but still below 2019 levels.
The share of CDO flights decreased from 17.1% to 16.0% in 2023.

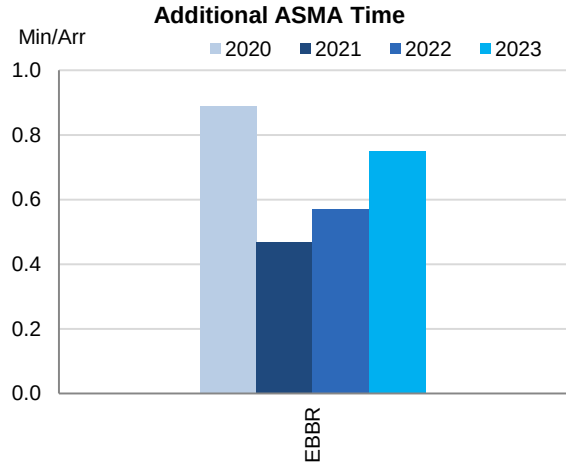
2. Additional Taxi-Out Time



Additional taxi-out times at Brussels (EBBR; 2019: 2.21 min/dep.; 2020: 1.36 min/dep.; 2021: 1.28 min/dep; 2022: 1.53 min/dep; 2023: 2.14 min/dep) increased in 2023 but remained well below the SES average in 2023 of 2.81 min/dep.
According to the Belgian monitoring report:
For Belgium, it is noted that some factors included in the Taxi-out time (for example: push-back time) influence this indicator but are beyond control of ANSP. A-CDM is implemented for many years, and continuously being improved. Latest improvements were focused on incorporating de-icing (and hence reducing taxi times) .

Improvement of A-CDM is also part of Stargate (EU Green Deal Project for more sustainable aviation). Within this framework, skeyes will provide support to Brussels Airport in developing e-learning modules to create awareness and better understanding of the concept for the airport stakeholders and the fellow airports. The Lighthouse will also enhance reporting and monitoring of KPIs within A-CDM towards more efficient and, thus, more sustainable operations.
The monitoring report also mentions: *The additional taxi-out time is computed by EUROCONTROL/PRU and can be retrieved on the SES e-dashboard (https://www.eurocontrol.int/prudata/dashboard/data/) but the indicator is not available for all airports. However, the methodology defined by PRU is still under discussion because it remains unclear what the time difference from year to year indicates, or the meaningfulness of an airport A versus airport B comparison, in particular when focussing on the ANSP influence on the performance.*

3. Additional ASMA Time

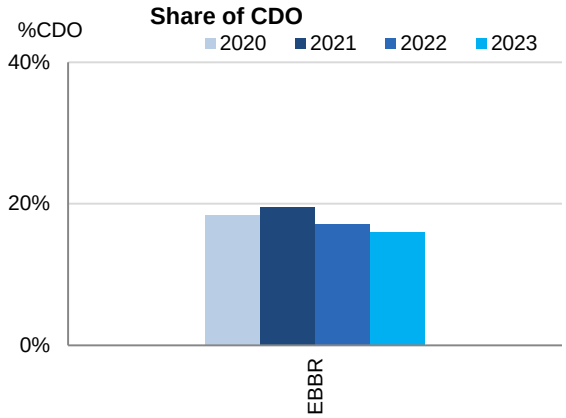


Additional ASMA times at Brussels increased in 2023 (EBBR; 2019: 1 min/arr.; 2020: 0.89 min/arr.; 2021: 0.47 min/arr.; 2022: 0.57 min/arr.; 2023: 0.75 min/arr.) but remain well below the SES average of 1.16 min/arr.

According to the Belgian monitoring report: *For Belgium, ASMA is considered to be intended primarily to capture terminal holdings. Within EBBR, stacking aircraft in holding to absorb delays (similar to EGLL) is seldomly applied. Within a radius of 30 NM around EBBR, radar vectoring is most often applied. Depending on the traffic demand, shorter or longer trajectories are being flown (-> sequencing). However radar vectoring has the advantage that shortest routes can be issued, hence leading to 'best possible' ASMA values, while of course taking into account applicable restrictions (e.g. noise abatement).*

Purely for the sake of ASMA, the current working methods (vectoring), probably leave very limited room for improvement. The real challenge is improving predictability in the arrival process (vectoring -> increased use of fixed routings), without deteriorating ASMA.
The monitoring report also mentions: *The additional time in terminal airspace (ASMA) is computed by EUROCONTROL/PRU and can be retrieved on the SES e-dashboard (https://www.eurocontrol.int/prudata/dashboard/data/). However, the methodology defined by PRU is still under discussion. FABEC trials showed that changes of the ambient air temperature alone can significantly infuence the measured performance.*

4. Share of arrivals applying CDO



The share of CDO flights for Brussels is 16.0% which is a decrease of 1.1 percentage points but still quite low compared to other airports with similar traffic numbers and the overall RP3 value in 2023 (28.8%).

According to the Belgian monitoring report: *skeyes has been running several initiatives/projects to improve the facilitation of CDOs at EBBR. This includes implementation of PBN procedures, promotion of RNP (Required Navigation Performance) procedures (in the framework of Stargate project – see 2.2.2.(d)) and operational demonstration of ISGS (Increased Second Glide Slope) at Brussels airport (in the framework of HERON project, currently in its planning phase; demonstrations are planned to take place in 2024). Besides, skeyes maintains a collaboration with main OPS stakeholders at EBBR (ATC/airport/airlines) through CEM (Collaborative Environmental Management) platform to further reduce the environmental impact of airport operations.*

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Brussels-EBBR	1.36	1.28	1.53	2.14		0.89	0.47	0.57	0.75		18%	20%	17%	16%	

BELGIUM **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

"For obvious flight safety reasons, military activities must be segregated from civil flows which has an impact on both horizontal (HFE) and vertical flight efficiency (VFE).
Because ASM manageable areas form an integral part of the nominal system, military airspace reservations shall be considered as part of the performance baseline rather than a key factor degrading environmental KPIs.
As a result of implementation of the FUA concept the impact of military activities using Restricted Airspace-RSA on civil performance is highly minored when associated with an efficient ASM process:

- At strategic level (HLAPB) by designing areas in accordance with A-FUA concept (MVPA/VGA structures), especially for congested airspaces.

- At pre-tactical level (AMC), by managing these areas in a dynamic way, with an associated level 2 CDM process, validated by HLAPB.

- At tactical level (ACC/Regional Military Control Centre) by activating/deactivating areas as close as possible to actual use and allowing crossing or direct routes when possible (in accordance with TRA status), with an associated level 3 CDM process validated by HLAPB.

- At each level, HLAPB, AMC or ACC/Regional Military Control Centre, a key factor of efficiency is a trust-driven civil-military cooperation. As a counterpart, AOs and CFSPs must be reactive and take efficiently into account available or released airspaces. At last, ANSP have also to adapt the route network to create more DCTs within military areas.

Finally, local circumstances (e.g. constrained airspace, proximity of international hubs, etc….) as well as a large number of military missions that differ from one State to another must be taken into account. Therefore, airspace needs (e.g. airspace requirements for the 5th generation fighters) and related ASM procedures of the States differ and standardized objectives cannot be defined."

Military - related measures implemented or planned to improve capacity

"FABEC States are working on mid-term improvements regarding implementation of ASM level 1, 2, and 3 procedures. Some local initiatives regarding ASM/ATFCM convergence, like the traffic Light Scheme concept in France are promoted at FABEC level, as well as at ECAC level in the EUROCONTROL OEP framework.

Another major improvement is the interconnection of the existing ASM tools (e.g. LARA, STANLY_ACOS) at FABEC Level, to enhance regional coordination among FABEC AMCs as well as with the NM."

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Belgium	98%	89%	92%	96%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Brussels					
Maastricht					

Initiatives implemented or planned to improve PI#6

Since Jan 23 BEL implemented fully (after trial period) the advanced FUA principles whereby only planned activity is published via AUP on D-1, while extra bookings remain possible up to H-3; this results in a more stable network for the airline users and ANSPs without impacting too much the flexibility of the military.
The BB-AUP was introduced in the Belgian Airspace

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Belgium					

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Brussels					
Maastricht					

Initiatives implemented or planned to improve PI#7

MIL is unable to provide this data

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Belgium					

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Brussels					
Maastricht					

Initiatives implemented or planned to improve PI#8

MIL is unable to provide this data as need for radar data.

BELGIUM - LUXEMBOURG **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	n/a	n/a	0.17	0.17	0.17	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	n/a	n/a	0.13	0.18		

NSA's assessment of capacity performance

En route capacity target was not achieved. All causes targets was not met due to two severe weather events in August 2023 and two big military exercises in the vicinity of MUAC in summer 2023 (air defender '23 and task force '23).

Monitoring process for capacity performance

For skeyes, capacity monitoring is executed via the process as described in the manual of the NSA. Relevant data are collected from skyes, FABEC and other entities (Eurocontrol dashboard). If occuring delays a justification can be requested from skeyes, with potential corrective action request afterwards.

MUAC reports its en-route capacity performance to the states through the MUAC Finance and Performance committee. The performance data is also monitored on a monthly basis through the FAO/PMG (FABEC ANSP Office / Performance Management Group) capacity report. This report is based on MUAC data and available PRU data, which is consolidated and analysed and the results compared to the reference and indicative values.
Even though the FABEC states now have national performance plans, the monitoring for en-route capacity performance is carried out under the auspices of the FABEC Financial and Performance Committee (FPC), counterpart of the European Commission at the States side, consulting and reporting to FABEC Council as appropriate.

On a monthly basis and through the FAO/PMG /FABEC ANSP OFFICE/ Performance Management Group) the ANSPs collectively submit a report to the FPC, based on PRU available data, consolidated and analysed, on their joint progress in achieving the FABEC target set and reference or indicative values and on the results and analysis of the en- route capacity achievement.

In case the target set and/or the annual/reference values are threatened not to be met, FAO/PMG is asked to propose to FPC possible corrective measures which the ANSPs determine fit to react to the weaker performance at FAB, national and/or ACC level, in order to remedy the situation.

The FPC analyses the reports, assesses the actions considered by the ANSPs together with the necessity of appropriate measures to be taken by the States or the NSAs and makes an advice to the proposals, made by the FAO/PMG, to the FABEC Council for such appropriate measures, after consultation with the FAO/PMG. The potential corrective measures take into account the seriousness of the risk of not meeting the targets set and/or the annual/reference values.

This monitoring process is described in the FABEC FPC States Performance Process description, which is regularly updated.

Capacity Planning

A weekly Rolling NOP, published every Friday has been introduced through which NM coordinates with all partners to ensure capacity is available at ACCs and in the airspace they manage, and on the ground at airports, to meet the expected traffic demand from the airlines on each day of the next six weeks enabling to coordinate all operational stakeholders throughout the pandemic to ensure that network actors can plan their recovery effectively based on predicted traffic levels.

ATCO in OPS (FTE)							
Brussels ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	85	85	88	91	
Actual	81	84	82	82	82		

Maastricht ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	288	293	300	302	
Actual	292	283	288	293	294		

skeyes: the difference in 2021 and 2022 was partially offset in 2023 by the arrival of new ATCOs who had completed their training and by the change in working arrangements for existing ATCOs.

MUAC: fewer ATCOs passed the course + more ATCOs extended their career.

Application of Corrective Measures for Capacity (if applicable)

None. As the weather situation was considered to be exceptional, at this moment no specific measures were needed to be considered.

Summary of capacity performance

Belgium & Luxembourg did not achieve the required en route capacity performance for 2023. There were 1 174k flights handled in the airspace of Belgium & Luxembourg (both Brussels ACC and the Brussels sectors in MUAC) with 206k minutes of en route ATFM delay. In 2022 there were 1 038k flights with 131k minutes of en route ATFM delay.

En route Capacity Incentive Scheme						
Skeyes	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
National Capacity target	-	-	-	-	-	No incentive scheme was applicable for Belgium in 2023 since the performance plan was only adopted in the same year.
Deadband +/-	-	-	-	-	-	
Actual performance	-	-	-	-		

MUAC	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
National Capacity target	-	-	-	-	-	No incentive scheme was applicable for Belgium in 2023 since the performance plan was only adopted in the same year.
Deadband +/-	-	-	-	-	-	
Actual performance	-	-	-	-		

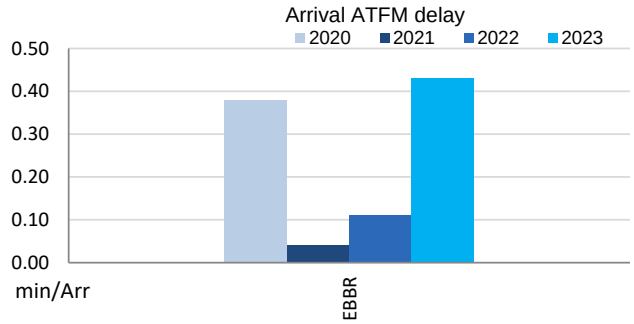
BELGIUM **CAPACITY - Airports**

1. Overview

Belgium identifies only Brussels airport as subject to RP3 monitoring.
The Airport Operator Data Flow is fully established and the monitoring of pre-departure delays can be performed. The data quality of the pre-departure delay reporting, which did not allow the calculation of the ATC pre-departure delay in 2020 and 2021, improved allowing the calculation of this indicator in 2022 and 2023.
Traffic levels in 2023 were still 18% less than in 2019 at Brussels airport, despite the 8% increase with respect to 2022.

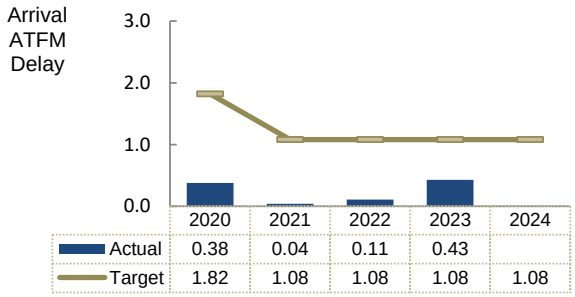
Average arrival ATFM delays in 2023 was 0.43 min/arr, compared to 0.11 min/arr in 2022. The national target was met.
ATFM slot adherence is very stable (2023: 95.6%; 2022: 95.5%)

2. Arrival ATFM Delay



ATFM arrival delays at Brussels have increased in 2023 (EBBR; 2019: 0.90 min/arr; 2020: 0.38 min/arr; 2021: 0.04 min/arr; 2022: 0.11 min/arr; 2023: 0.43 min/arr). Most of these delays were attributed to Aerodrome Capacity (47%) followed by weather (44%).

3. Arrival ATFM Delay – National Target and Incentive Scheme

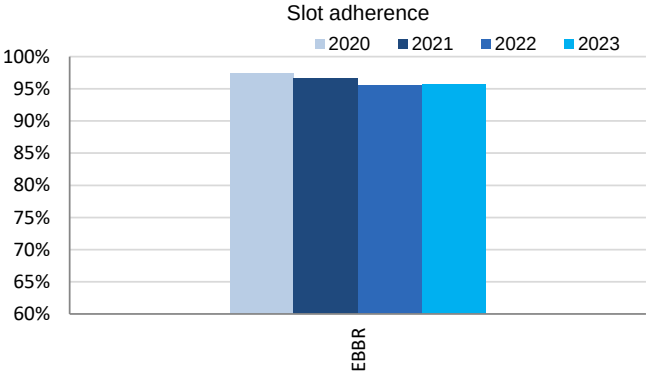


	2020	2021	2022	2023	2024
Actual	0.38	0.04	0.11	0.43	
Target	1.82	1.08	1.08	1.08	1.08

The Belgian performance plan sets a national target on arrival ATFM delay for 2023 of 1.08 min/arr. This target was met with an actual performance of 0.43 min/arr.

The incentive scheme uses modulated pivot values limited CRSTMP delay causes. This pivot value for CRSTMP is 0.12 min/arr in 2023. According to the attribution of the regulation reason, the actual CRSTMP value for 2023 is 0.036 min/arr. The NSA however mentions in the monitoring report that *As the Belgium PP was only adopted in 2023 this incentive scheme is not applicable.*

4. ATFM Slot Adherence



Brussels ATFM slot compliance in 2023 was 95.6%
With regard to the 4.4% of flights that did not adhere, 2.6% was early and 1.7% was late.

The Belgian monitoring report highlights that *national level and main national individual airports involved are above the 80% threshold of compliance.*

5. ATC Pre-departure Delay

ATC pre-departure delay at Brussels increased in 2023 (EBBR: 2022: 0.57 min/dep; 2023: 0.63 min/dep) but it is still below the pre-pandemic value (0.78 min/dep).

BELGIUM-LUXEMBOURG: En route charging zone — Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Belgium-Luxembourg ECZ represents 3.6% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 16 September 2023 and found consistent as per Commission Decisions (EU) 2024/343 and (EU) 2024/350 of 13 December 2023. The final version of the plan was adopted and published by Belgium-Luxembourg in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Belgium-Luxembourg: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	214 796 327	227 401 527	442 197 853	250 216 368	262 099 700	252 086 165
Inflation %	0.4%	1.7%		7.8%	4.7%	2.1%
Inflation index (100 in 2017)	103.9	105.7		115.6	123.9	126.5
Real en route costs (€2017)	207 900 840	216 999 041	424 899 880	220 164 809	217 182 536	205 455 739
Total en route service units	1 080 873	1 161 104	2 241 977	2 107 529	2 404 046	2 560 026
Real en route DUC per service unit (€2017)	**192.35**	**186.89**	**189.52**	**104.47**	**90.34**	**80.26**

Belgium-Luxembourg: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	214 796 327	216 987 149	431 783 476	240 464 564	254 545 926	
Inflation %	0.4%	3.2%		10.3%	2.3%	
Inflation index (100 in 2017)	103.9	107.3		118.3	121.0	
Real en route costs (€2017)	207 900 840	204 483 829	412 384 668	207 511 047	215 522 647	
Total en route service units	1 080 873	1 166 899	2 247 771	2 096 176	2 446 535	
Real en route AUC per service unit (€2017)	**192.35**	**175.24**	**183.46**	**99.00**	**88.09**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-10 414 378	-10 414 378	-9 751 804	-7 553 774	
	in %	-	-4.6%	-2.4%	-3.9%	-2.9%	
Inflation %	in p.p.	0.0 p.p.	1.5 p.p.		2.5 p.p.	-2.4 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.6 p.p.		2.7 p.p.	-2.8 p.p.	
Real en route costs (€2017)	in value	0	-12 515 212	-12 515 212	-12 653 762	-1 659 889	
	in %	-	-5.8%	-2.9%	-5.7%	-0.8%	
Total en route service units	in value	0	5 795	5 795	-11 353	42 489	
	in %	-	+0.5%	+0.3%	-0.5%	+1.8%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-11.65**	**-6.06**	**-5.47**	**-2.25**	
	in %	**-**	**-6.2%**	**-3.2%**	**-5.2%**	**-2.5%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -2.5% (or -2.25 €2017) lower than the planned DUC. This results from the combination of higher than planned TSUs (+1.8%) and slightly lower than planned en route costs in real terms (-0.8%, or -1.7 M€2017).

En route service units

The difference between actual and planned TSUs (+1.8%) falls inside the ±2% dead band. Hence gain of additional en route revenues is kept by the ANSPs (see items 10 to 14).

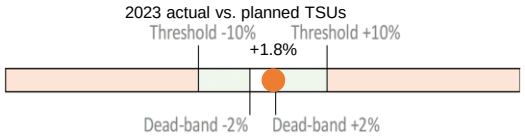
En route costs by entity

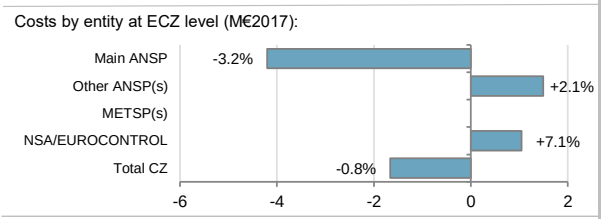
Actual real en route costs are -0.8% (-1.7 M€2017) lower than planned. This is the result of lower costs for the main ANSP, skeyes (-3.2%, or -4.2 M€2017) and higher costs for the NSA/EUROCONTROL (+7.1%, or +1.1 M€2017) and the other ANSPs (ANA and MUAC, +2.1%, or +1.5 M€2017).

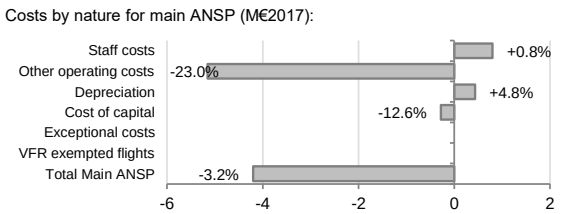
En route costs for the main ANSP (skeyes) at charging zone level

Lower than planned en route costs in real terms for skeyes in 2023 (-3.2%, or -4.2 M€2017) result from:

- Slightly higher staff costs (+0.8%) due to inflation index impact (-2.8 p.p.) since in nominal terms staff costs are lower than planned by -1.5%;
- Significantly lower other operating costs (-23.0%), primarily due to lower utility costs. Energy costs, which had risen sharply in 2022 due to the economic crisis and the war in Ukraine, decreased more quickly than expected in 2023. Additionally, some revenues were deducted from the 2023 actual cost base, including financial revenues, a SESAR subsidy, and a reversed provision for a legal dispute that was no longer necessary (these costs were not originally included in the plan);
- Higher depreciation (+4.8%), "mainly due to additional depreciation costs after decommissioning of equipment (ISAAC SR4, old WAN), which was not foreseen in the performance plan"; and,
- Significantly lower cost of capital (-12.6%), mainly due to a lower fixed asset base.







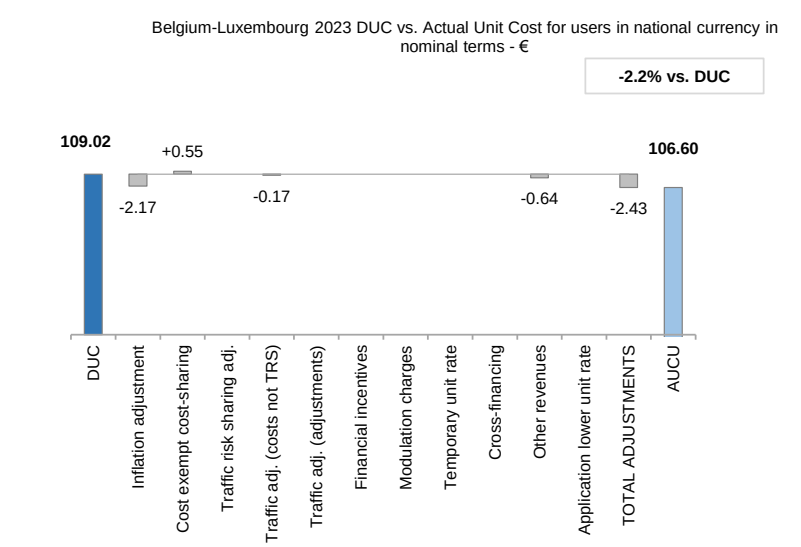
BELGIUM-LUXEMBOURG: En route charging zone — Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	110.23
DUC to be charged retroactively	-1.21
DUC	**109.02**
Inflation adjustment	-2.17
Cost exempt from cost-sharing	0.55
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	-0.17
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.64
Application of lower unit rate	0.00
Total adjustments	-2.43
AUCU	**106.60**
AUCU vs. DUC	**-2.2%**

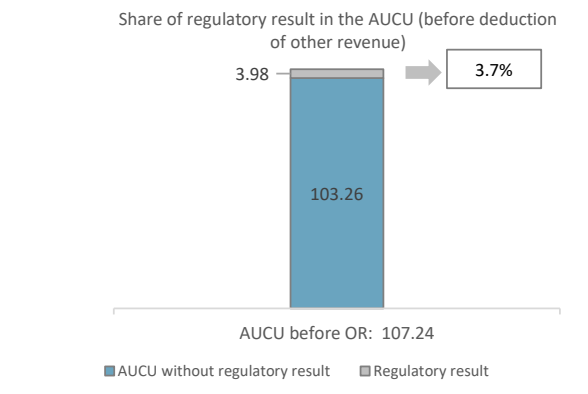
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	328	0.13
	Competent authorities and qualified entities costs	29	0.01
	Eurocontrol costs	1 017	0.42
	Pension costs	-25	-0.01
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**1 348**	**0.55**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
skeyes (Belgium-Lux)	10 077	4.12
ANA LUX	-887	-0.36
MUAC (Belgium)	526	0.21
MUAC (Luxembourg)	16	0.01
METSP(s)	**€ '000**	**€/SU**
Total charging zone	9 732	3.98
Actual cost for users* **	262 357	107.24
Regulatory result (% AUCU)	3.7%	3.7%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (106.60 €) is -2.2% lower than the nominal DUC (109.02 €). The difference between these two figures (-2.43 €/SU) is due to:
- the negative inflation adjustment resulting from lower than planned inflation (-2.17 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+0.55 €/SU);
- the deduction of the traffic adjustment (-0.17 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-0.64 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 3.7%.
It is to be noted that Belgian State did not charge a part of 2023 Eurocontrol costs (0.5 M€2017) to airspace users but covered it through "State intervention".

BELGIUM: En route main ANSP (skeyes) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

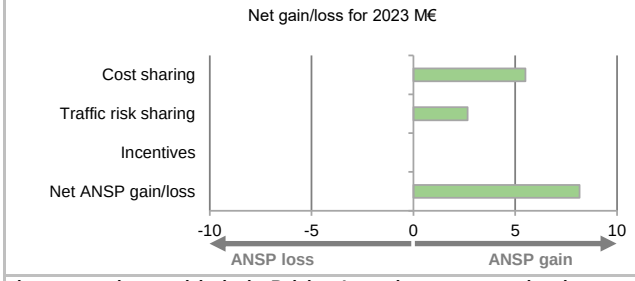
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

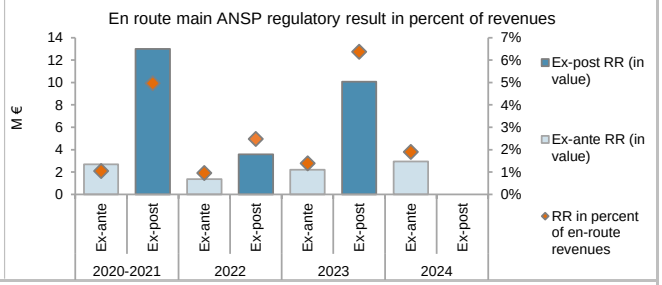
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	8 267	445	8 468	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	1 828	3 100	-3 351	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-338	-292	384	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**9 757**	**3 254**	**5 502**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.3%	-0.5%	1.8%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	246 514	136 433	150 216	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**637**	**-735**	**2 655**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**10 395**	**2 519**	**8 157**	

12. Regulatory result (RR) for the main ANSP at charging zone level

skeyes (Belgium-Lux) planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	77 960	70 127	148 088	80 148	77 718	92 902
Proportion of financing through equity (in %)	89%	72%	81%	68%	74%	83%
RoE pre-tax rate (in %)	2.2%	2.3%	2.2%	2.5%	3.8%	3.8%
RoE (in value)	1 532	1 157	2 689	1 368	2 197	2 941
Ex-ante regulatory result (+/-) for the en route charging zone	**1 532**	**1 157**	**2 689**	**1 368**	**2 197**	**2 941**
Revenue for the en route charging zone	**125 844**	**134 183**	**260 028**	**143 554**	**158 583**	**155 885**
Ex-ante regulatory result (+/-) in percent of revenues	**1.2%**	**0.9%**	**1.0%**	**1.0%**	**1.4%**	**1.9%**
Ex-ante RoE pre-tax rate (in %)	**2.2%**	**2.3%**	**2.2%**	**2.5%**	**3.8%**	**3.8%**
skeyes (Belgium-Lux) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	77 960	65 584	143 544	62 860	68 021	
Proportion of financing through equity (in %)	89%	72%	81%	68%	74%	
RoE pre-tax rate (in %)	2.2%	2.3%	2.2%	2.5%	3.8%	
RoE (in value)	1 532	1 082	2 614	1 073	1 920	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	10 395	10 395	2 519	8 157	
Ex-post regulatory result (+/-) for the en route charging zone	**1 532**	**11 477**	**13 009**	**3 591**	**10 077**	
Revenue for the en route charging zone	**125 844**	**136 311**	**262 155**	**145 627**	**158 272**	
Ex-post regulatory result (+/-) in percent of revenues	**1.2%**	**8.4%**	**5.0%**	**2.5%**	**6.4%**	
Ex-post RoE pre-tax rate (in %)	**2.2%**	**24.4%**	**11.1%**	**8.4%**	**19.9%**	

13. Focus on the main ANSP regulatory result on en route activity





skeyes net gain on activity in the Belgium-Luxembourg en route charging zone in the year 2023

skeyes reported a net gain of +8.2 M€, as a combination of a gain of +5.5 M€ arising from the cost sharing mechanism, with a gain of +2.7 M€ arising from the traffic risk sharing mechanism.

skeyes overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+8.2 M€) and the actual RoE (+1.9 M€) amounts to +10.1 M€ (6.4% of the en route revenues). The resulting ex-post rate of return on equity is 19.9%, which is higher than the 3.8% planned in the PP.

BELGIUM-LUXEMBOURG: Other en route ANSPs/METSPs — Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity

ANA LUX planned regulatory result (€ '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	74	198	272	0	0	0
Revenue for the en route charging zone	7 230	7 734	14 964	7 312	7 568	7 407
Ex-ante regulatory result (+/-) in percent of revenues	1.0%	2.6%	1.8%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	1.8%	1.8%	1.8%	0.0%	0.0%	0.0%
ANA LUX actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	74	601	675	-285	-887	
Revenue for the en route charging zone	7 230	7 822	15 052	7 237	7 278	
Ex-post regulatory result (+/-) in percent of revenues	1.0%	7.7%	4.5%	-3.9%	-12.2%	
Ex-post RoE pre-tax rate (in %)	1.8%	14.6%	8.2%	-4.5%	-14.0%	

MUAC (Belgium) planned regulatory result (€ '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	62 219	61 994	124 213	81 791	78 830	74 246
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
MUAC (Belgium) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	1 101	1 101	10 705	526	
Revenue for the en route charging zone	62 219	63 095	125 314	82 927	78 649	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	1.7%	0.9%	12.9%	0.7%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

MUAC (Luxembourg) planned regulatory result (€ '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	1 924	1 917	3 842	2 530	2 438	2 296
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
MUAC (Luxembourg) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	34	34	331	16	
Revenue for the en route charging zone	1 924	1 952	3 876	2 565	2 432	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	1.8%	0.9%	12.9%	0.7%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSPs planned regulatory result (€ '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	74	198	272	0	0	0
Revenue for the en route charging zone	71 374	71 645	143 019	91 633	88 835	83 949
Ex-ante regulatory result (+/-) in percent of revenues	0.1%	0.3%	0.2%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Total other ANSPs actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	74	1 736	1 811	10 751	-345	
Revenue for the en route charging zone	71 374	72 869	144 242	92 729	88 359	
Ex-post regulatory result (+/-) in percent of revenues	0.1%	2.4%	1.3%	11.6%	-0.4%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Belgium-Luxembourg (ANA, MUAC Belgium and MUAC Luxembourg) corresponds to -0.4% of the en route revenues. The RoE cannot be calculated for MUAC, as it has no equity.

BELGIUM BRUSSELS: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Belgium Brussels TCZ represents 2.7% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Belgium Brussels: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	33 736 743	35 784 167	69 520 910	38 337 098	42 394 614	43 636 875
Inflation %	0.4%	1.7%		7.8%	4.7%	2.1%
Inflation index (100 in 2017)	103.9	105.7		115.6	123.9	126.5
Real terminal costs (€2017)	32 616 947	34 053 447	66 670 395	33 645 140	35 060 372	35 608 100
Total terminal service units	72 921	94 454	167 375	133 421	146 249	160 954
Real terminal DUC per service unit (€2017)	**447.29**	**360.53**	**398.33**	**252.17**	**239.73**	**221.23**

Belgium Brussels: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	33 736 743	33 691 784	67 428 527	37 323 168	39 700 666	
Inflation %	0.4%	3.2%		10.3%	2.3%	
Inflation index (100 in 2017)	103.9	107.3		118.3	121.0	
Real terminal costs (€2017)	32 616 947	31 654 167	64 271 114	32 089 365	33 530 690	
Total terminal service units	72 921	93 631	166 553	131 969	142 858	
Real terminal AUC per service unit (€2017)	**447.29**	**338.07**	**385.89**	**243.16**	**234.71**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-2 092 383	-2 092 383	-1 013 931	-2 693 948	
	in %	-	-5.8%	-3.0%	-2.6%	-6.4%	
Inflation %	in p.p.	0.0 p.p.	1.5 p.p.		2.5 p.p.	-2.4 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.6 p.p.		2.7 p.p.	-2.8 p.p.	
Real terminal costs (€2017)	in value	0	-2 399 281	-2 399 281	-1 555 774	-1 529 683	
	in %	-	-7.0%	-3.6%	-4.6%	-4.4%	
Total terminal service units	in value	0	-823	-823	-1 452	-3 391	
	in %	-	-0.9%	-0.5%	-1.1%	-2.3%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-22.46**	**-12.44**	**-9.01**	**-5.02**	
	in %	**-**	**-6.2%**	**-3.1%**	**-3.6%**	**-2.1%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -2.1% (or -5.02 €2017) lower than the planned DUC. This results from the combination of lower than planned terminal costs in real terms (-4.4%, or -1.5 M€2017) and lower than planned TNSUs (-2.3%).

Terminal charging zone 1 service units

The difference between actual and planned TNSUs (-2.3%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

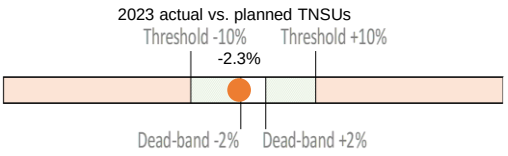
Terminal charging zone 1 costs by entity

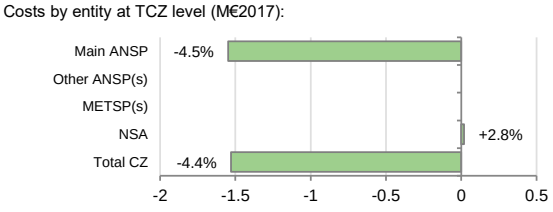
Actual real terminal costs are -4.4% (-1.5 M€2017) lower than planned. This is the result of lower costs for the main ANSP, skeyes (-4.5%, or -1.5 M€2017). Costs for the NSA are higher (+2.8%, or +0.02 M€2017) than planned.

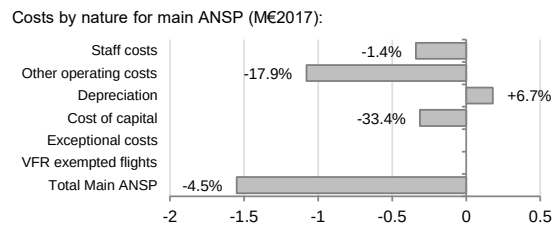
Terminal charging zone 1 costs for the main ANSP (skeyes) at charging zone level

Lower than planned terminal costs in real terms for skeyes in 2023 (-4.5%, or -1.5 M€2017) result from:

- Slightly lower staff costs (-1.4% or -4% in nominal terms). No additional driver information has been provided apart of the lower inflation than expected.
- Significantly lower other operating costs (-17.9%), primarily due to lower utility costs. Energy costs, which had risen sharply in 2022 due to the economic crisis and the war in Ukraine, decreased more quickly than expected in 2023;
- Significantly higher depreciation (+6.7%) *"mainly due to additional depreciation costs after decommissioning of equipment (a.o. multilateration EBBR airport radar), which was not foreseen in the performance plan"*; and
- Significantly lower cost of capital (-33.4%) mainly due to a lower fixed asset base.







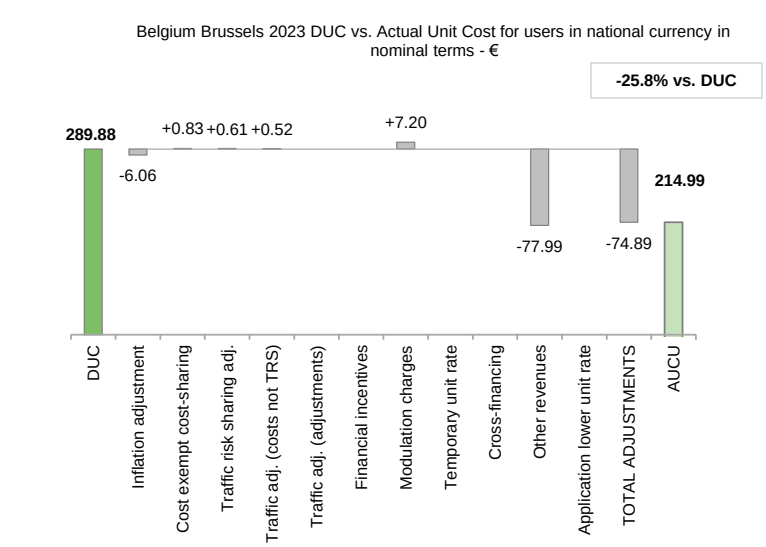
BELGIUM BRUSSELS: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	280.81
DUC to be charged retroactively	9.07
DUC	**289.88**
Inflation adjustment	-6.06
Cost exempt from cost-sharing	0.83
Traffic risk sharing adjustment	0.61
Traffic adj. (costs not TRS)	0.52
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	7.20
Temporary UR**	
Cross-financing	0.00
Other revenues	-77.99
Application of lower unit rate	0.00
Total adjustments	-74.89
AUCU	**214.99**
AUCU vs. DUC	**-25.8%**

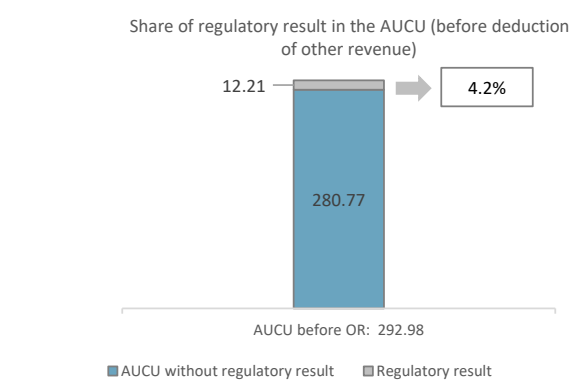
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	99	0.69
	Competent authorities and qualified entities costs	19	0.13
	Eurocontrol costs	0	0.00
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**118**	**0.83**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
skeyes	1 745	12.21

METSP(s)	€ '000	€/SU
Total charging zone	1 745	12.21
Actual cost for users* **	41 854	292.98
Regulatory result (% AUCU)	4.2%	4.2%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (214.99 €) is -25.8% lower than the nominal DUC (289.88 €). The difference between these two figures (-74.89 €/SU) is due to:
- the negative inflation adjustment resulting from lower than planned inflation (-6.06 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+0.83 €/SU);
- the addition of the traffic risk sharing adjustments (+0.61 €/SU);
- the addition of the traffic adjustment (+0.52 €/SU) for the costs not subject to traffic risk sharing;
- the modulation of charges (+7.20 €/SU); and
- the deduction of the other revenues (-77.99 €/SU).

The share of the regulatory result (see items 10 to 13) in the AUCU (before the deduction of other revenues) is 4.2%.

BELGIUM BRUSSELS: Terminal main ANSP (skeyes) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

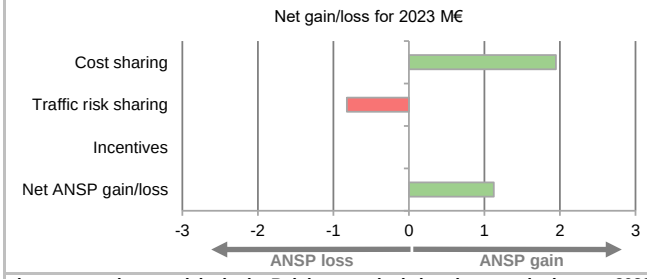
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

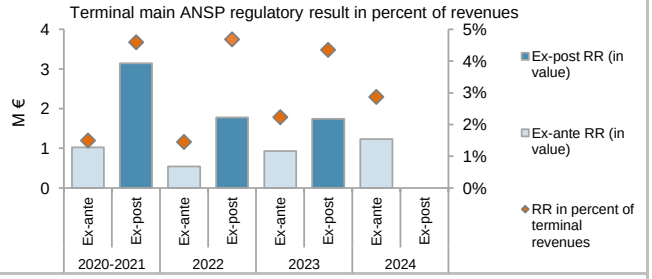
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	2 084	996	2 713	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	473	805	-866	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-66	-37	99	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**2 491**	**1 763**	**1 946**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-0.5%	-1.1%	-2.3%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	64 241	35 522	39 200	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-316**	**-387**	**-821**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**2 175**	**1 377**	**1 124**	

12. Regulatory result (RR) for the main ANSP at charging zone level

skeyes planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	28 427	28 182	56 609	32 001	32 906	38 960
Proportion of financing through equity (in %)	89%	72%	81%	68%	74%	83%
RoE pre-tax rate (in %)	2.2%	2.3%	2.2%	2.5%	3.8%	3.8%
RoE (in value)	559	465	1 024	546	930	1 233
Ex-ante regulatory result (+/-) for the terminal charging zone	**559**	**465**	**1 024**	**546**	**930**	**1 233**
Revenue for the terminal charging zone	**33 130**	**35 164**	**68 294**	**37 678**	**41 705**	**42 932**
Ex-ante regulatory result (+/-) in percent of revenues	**1.7%**	**1.3%**	**1.5%**	**1.4%**	**2.2%**	**2.9%**
Ex-ante RoE pre-tax rate (in %)	**2.2%**	**2.3%**	**2.2%**	**2.5%**	**3.8%**	**3.8%**
skeyes actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	28 427	24 680	53 106	23 712	21 969	
Proportion of financing through equity (in %)	89%	72%	81%	68%	74%	
RoE pre-tax rate (in %)	2.2%	2.3%	2.2%	2.5%	3.8%	
RoE (in value)	559	407	966	405	620	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	2 175	2 175	1 377	1 124	
Ex-post regulatory result (+/-) for the terminal charging zone	**559**	**2 582**	**3 141**	**1 781**	**1 745**	
Revenue for the terminal charging zone	**33 130**	**35 255**	**68 385**	**38 059**	**40 116**	
Ex-post regulatory result (+/-) in percent of revenues	**1.7%**	**7.3%**	**4.6%**	**4.7%**	**4.3%**	
Ex-post RoE pre-tax rate (in %)	**2.2%**	**14.6%**	**7.3%**	**11.0%**	**10.7%**	

13. Focus on main ANSP regulatory result on terminal activity





skeyes net gain on activity in the Belgium terminal charging zone in the year 2023

skeyes reported a net gain of +1.1 M€, as a combination of a gain of +1.9 M€ arising from the cost sharing mechanism, with a loss of -0.8 M€ arising from the traffic risk sharing mechanism.

skeyes overall regulatory results (RR) for the Belgium terminal charging zone activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+1.1 M€) and the actual RoE (+0.6 M€) amounts to +1.7 M€ (4.3% of the terminal revenues). The resulting ex-post rate of return on equity is 10.7%, which is higher than the 3.8% planned in the PP.

BELGIUM-LUXEMBOURG: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Belgium-Luxembourg

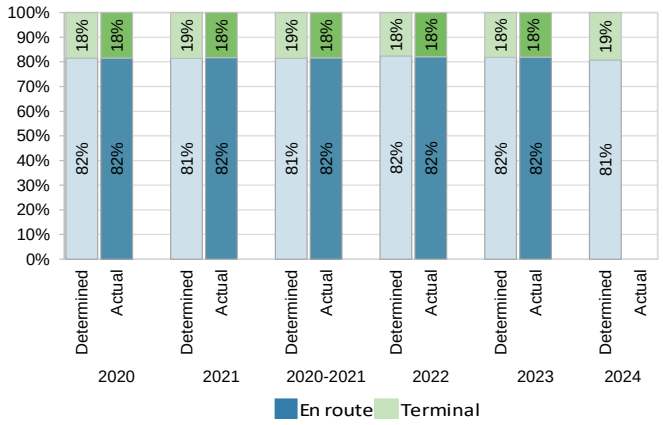
Terminal charging zone 1: Belgium Brussels Terminal charging zone 2: Luxembourg

Belgium-Luxembourg: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	207 900 840	216 999 041	424 899 880	220 164 809	217 182 536	205 455 739
Real terminal costs (€2017)	47 043 378	49 456 299	96 499 677	46 890 820	48 195 936	48 847 695
Real gate-to-gate costs (€2017)	254 944 217	266 455 340	521 399 557	267 055 629	265 378 472	254 303 434
En route share (%)	81.5%	81.4%	81.5%	82.4%	81.8%	80.8%

Belgium-Luxembourg: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	207 900 840	204 483 829	412 384 668	207 511 047	215 522 647	
Real terminal costs (€2017)	47 043 378	45 719 716	92 763 094	45 273 566	47 622 376	
Real gate-to-gate costs (€2017)	254 944 217	250 203 545	505 147 762	252 784 613	263 145 023	
En route share (%)	81.5%	81.7%	81.6%	82.1%	81.9%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-16 251 795	-16 251 795	-14 271 016	-2 233 449	
	in %	0.0%	-6.1%	-3.1%	-5.3%	-0.8%	
En route share	in p.p.	-0.0 p.p.	0.3 p.p.	0.1 p.p.	-0.4 p.p.	0.1 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -0.8% (-2.2 M€2017) lower than planned, as en route costs are lower than planned by -1.7 M€2017 and terminal costs are lower than planned by -0.6 M€2017.

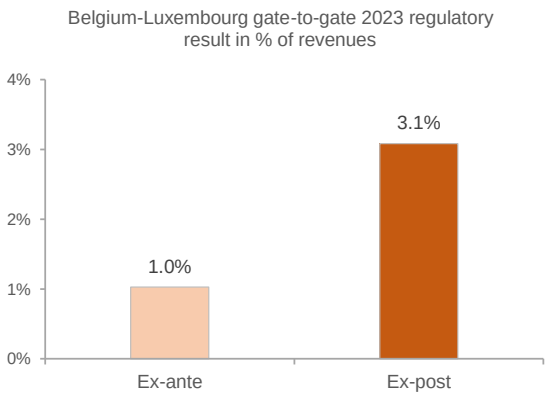
The actual share of en route in gate-to-gate ANS costs (81.9%) is in line with that planned in the PP for 2023 (81.8%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
skeyes (Belgium-Lux)	3 127	200 288	1.6%		11 822	198 388	6.0%	
ANA LUX	0	22 857	0.0%		-3 082	21 642	-14.2%	
MUAC (Belgium)	0	78 830	0.0%		526	78 649	0.7%	
MUAC (Luxembourg)	0	2 438	0.0%		16	2 432	0.7%	
METSP(s)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
Total	3 127	304 413	1.0%		9 282	301 111	3.1%	

For the ANSPs providing services in the en route and terminal charging zones of Belgium-Luxembourg covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +9.3 M€ (+9.7 M€ for en route and -0.5 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 3.1% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (1.0% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

BULGARIA

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BULGARIA **Monitoring of SAFETY for 2023**

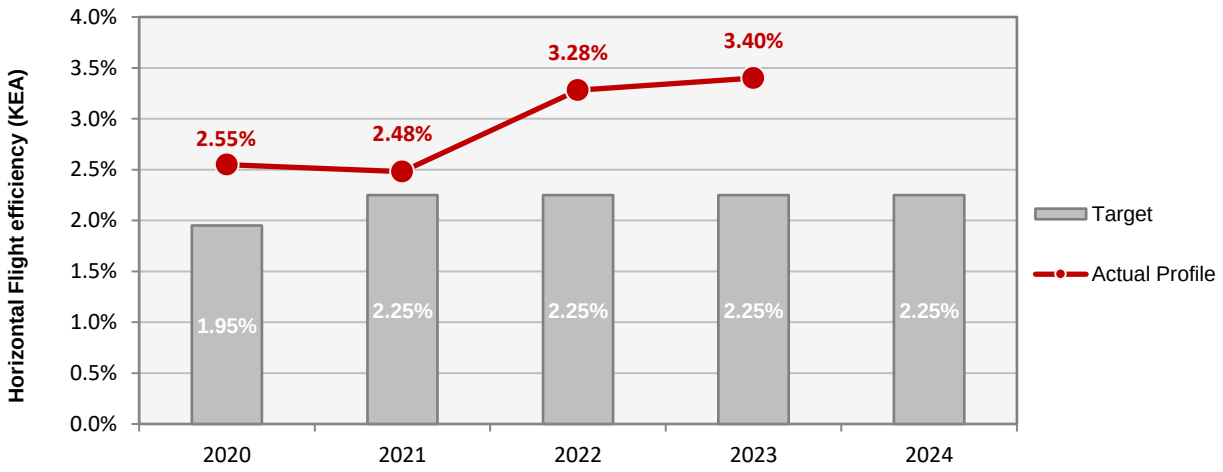
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
Bulatsa	98	C	D	D	D	D
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

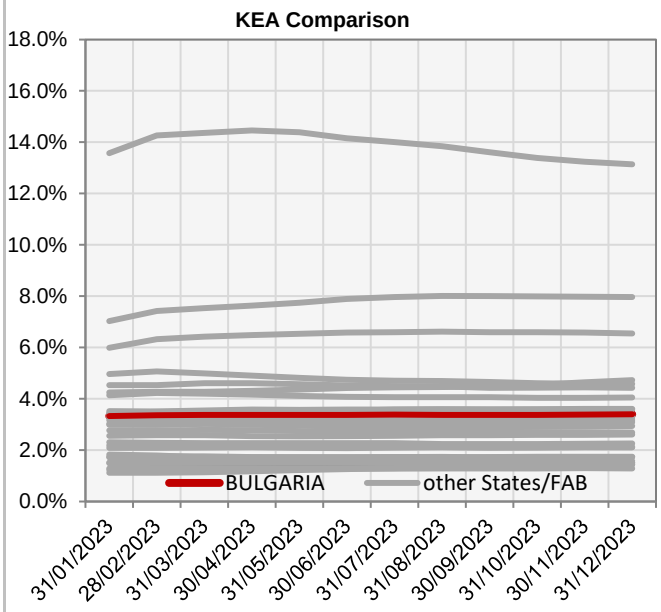
All five EoSM components of the ANSP meet, or exceed, already the RP3 target level, with only two questions below maximum maturity.

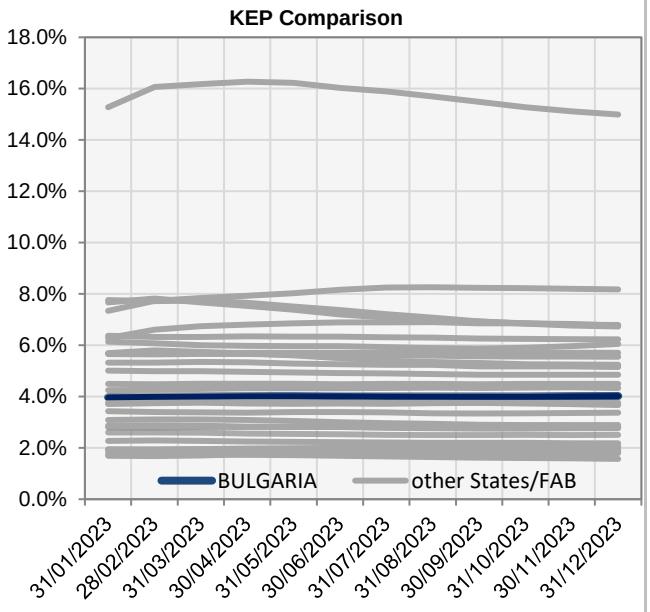
BULGARIA **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.95%	2.25%	2.25%	2.25%	2.25%
Actual performance	2.55%	2.48%	3.28%	3.40%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	3.33%	3.36%	3.37%	3.38%	3.38%	3.37%	3.39%	3.38%	3.37%	3.38%	3.39%	3.40%
KEP	3.97%	3.99%	4.00%	4.01%	4.01%	4.00%	4.00%	4.00%	4.00%	4.00%	4.01%	4.02%
KES	3.83%	3.86%	3.86%	3.87%	3.87%	3.86%	3.87%	3.86%	3.87%	3.86%	3.86%	3.87%





The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

BULGARIA **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

Military - related measures implemented or planned to improve capacity

National legislation was updated recently to improve coordination and reduce activation/deactivation time of military areas. According FUA some reserved/restricted areas have been replaced by prior coordination area (PCA) procedure to improve capacity and efficiency. Eurocontrol CIMACT and LARA tools were implemented. The vertical and horizontal boundaries of several TRAs are reduced or changed to allow civilian traffic especially from/to the LTFM and other Istanbul airports. A reduction in the applicable separation for interoperable military aircraft is planned to improve capacity while maintaining safety levels. Letters of agreement between civilian ATS units and military controlling units. Agreement for military operations outside segregated airspace. Agreement for information exchange and for usage of CIMACT and LARA tools/systems.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Bulgaria	n/a			n/a	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Sofia	n/a			n/a	

Initiatives implemented or planned to improve PI#6

n/a

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Bulgaria	n/a			n/a	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Sofia	n/a			n/a	

Initiatives implemented or planned to improve PI#7

n/a

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Bulgaria	n/a			n/a	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Sofia	n/a			n/a	

Initiatives implemented or planned to improve PI#8

n/a

BULGARIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Bulgaria ECZ represents 1.8% of the SES en route ANS actual costs in 2023
- National currency: BGN Exchange rates (1 EUR=) 2017: 1.95543 BGN 2023: 1.9551 BGN
- Performance Plan: RP3 draft performance plan dated 17 November 2021 and found consistent as per Commission Decision (EU) 2022/778 of 13 April 2022
  The final version of the plan was adopted and published by Bulgaria in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Bulgaria: Data from RP3 Performance Plan		2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal BGN)		194 468 706	206 093 314	400 562 021	224 347 422	247 033 089	252 002 257
Inflation %		1.2%	1.0%		2.0%	2.0%	2.0%
Inflation index (100 in 2017)		106.4	107.5		109.6	111.8	114.0
Real en route costs (BGN2017)		186 261 520	195 988 055	382 249 574	210 065 962	227 827 874	229 524 354
Total en route service units		1 766 031	2 232 254	3 998 285	3 109 171	3 709 112	4 126 500
Real en route DUC per service unit (BGN2017)		**105.47**	**87.80**	**95.60**	**67.56**	**61.42**	**55.62**
Real en route DUC per service unit (€2017)		**53.94**	**44.90**	**48.89**	**34.55**	**31.41**	**28.44**
Bulgaria: Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
En route costs (nominal BGN)		194 468 706	195 845 084	390 313 791	227 492 520	258 239 780	
Inflation %		1.2%	2.8%		13.0%	8.6%	
Inflation index (100 in 2017)		106.4	109.4		123.6	134.3	
Real en route costs (BGN2017)		186 261 520	184 211 984	370 473 503	195 876 858	208 470 715	
Total en route service units		1 766 031	2 269 765	4 035 796	3 870 654	4 670 925	
Real en route AUC per service unit (BGN2017)		**105.47**	**81.16**	**91.80**	**50.61**	**44.63**	
Real en route AUC per service unit (€2017)		**53.94**	**41.50**	**46.94**	**25.88**	**22.82**	
Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
En route costs (nominal BGN)	in value	0	-10 248 230	-10 248 230	3 145 098	11 206 691	
	in %	-	-5.0%	-2.6%	+1.4%	+4.5%	
Inflation %	in p.p.	0.0 p.p.	1.8 p.p.		11.0 p.p.	6.6 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.9 p.p.		14.1 p.p.	22.5 p.p.	
Real en route costs (BGN2017)	in value	0	-11 776 071	-11 776 071	-14 189 104	-19 357 159	
	in %	-	-6.0%	-3.1%	-6.8%	-8.5%	
Total en route service units	in value	0	37 511	37 511	761 483	961 813	
	in %	-	+1.7%	+0.9%	+24.5%	+25.9%	
Real en route unit cost per service unit (BGN2017)	**in value**	**0.00**	**-6.64**	**-3.81**	**-16.96**	**-16.79**	
	in %	**-**	**-7.6%**	**-4.0%**	**-25.1%**	**-27.3%**	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-3.40**	**-1.95**	**-8.67**	**-8.59**	
	in %	**-**	**-7.6%**	**-4.0%**	**-25.1%**	**-27.3%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -27.3% (-16.79 BGN2017 or -8.59 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+25.9%) and significantly lower than planned en route costs in real terms (-8.5%, -19.4 MBGN2017, or -9.9 M€2017). It should be noted that the actual inflation index in 2023 was +22.5 p.p. higher than planned. This high inflation significantly affects the results of analysis expressed in real terms below.

En route service units

The difference between the 2023 actual and planned TSUs (+25.9%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

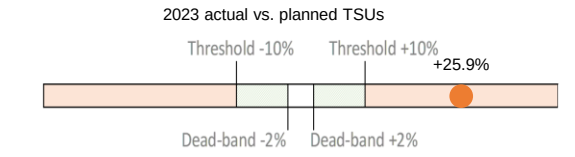
En route costs by entity

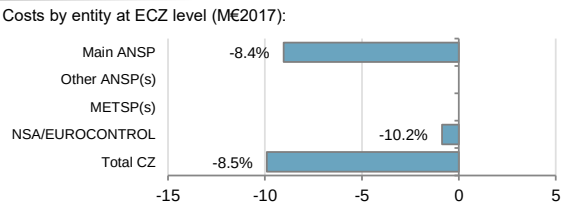
The 2023 actual real en route costs are -8.5% (-9.9 M€2017) lower than planned. This is the result of lower than planned costs for the main ANSP, BULATSA (-8.4%, or -9.0 M€2017) and the NSA/EUROCONTROL (-10.2%, or -0.9 M€2017).

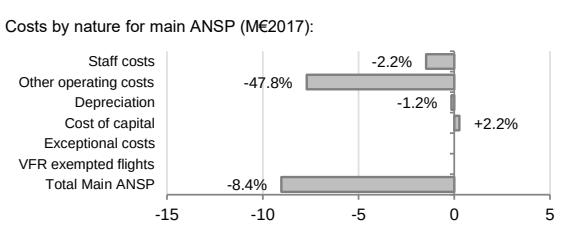
En route costs for the main ANSP (BULATSA) at charging zone level

The 2023 real en route actual costs for BULATSA are significantly lower than planned (-8.4%, or -9.0 M€2017), mainly due to a higher than planned inflation index (+22.5 p.p.) and resulting from:

- Lower than planned staff costs in real terms (-2.2%), but higher than planned in nominal terms (+17 5%), reported to be mainly due to "normalising levels of payment in line with traffic levels and in response to high inflation in Bulgaria (...)higher staff numbers as well as increase in social security costs (...)"
- Significantly lower than planned other operating costs in real terms (-47.8%), reported to be mainly due to "non-payment of an alliance entry fee of BGN 10 million (COOPANS or ITEC alliances) (....) the amount will be returned to users"
- Lower than planned depreciation costs (-1.2%)
- Higher than planned cost of capital (+2.2%).







BULGARIA: En route charging zone

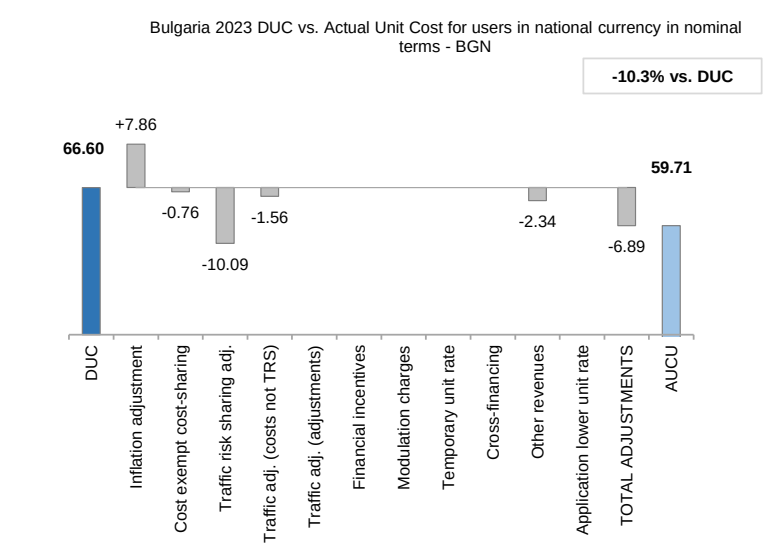
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in **national currency and in nominal terms**.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	BGN/SU	€/SU
Initial DUC charged	66.60	34.07
DUC to be charged retroactively	0.00	0.00
DUC	**66.60**	**34.07**
Inflation adjustment	7.86	4.02
Cost exempt from cost-sharing	-0.76	-0.39
Traffic risk sharing adjustment	-10.09	-5.16
Traffic adj. (costs not TRS)	-1.56	-0.80
Traffic adj. (adjustments)*		
Financial incentives	0.00	0.00
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-2.34	-1.19
Application of lower unit rate	0.00	0.00
Total adjustments	-6.89	-3.52
AUCU	**59.71**	**30.54**
AUCU vs. DUC	**-10.3%**	**-10.3%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

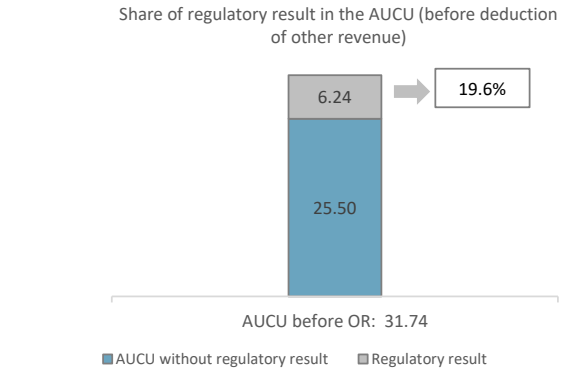
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		BGN '000	€ '000	BGN/SU	€/SU
by item	New and existing investments	-2 801	-1 433	-0.60	-0.31
	Competent authorities and qualified entities costs	-1 702	-870	-0.36	-0.19
	Eurocontrol costs	1	1	0.00	0.00
	Pension costs	964	493	0.21	0.11
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-3 538**	**-1 809**	**-0.76**	**-0.39**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	BGN '000	€ '000	BGN/SU	€/SU
BULATSA	56 947	29 127	12.19	6.24
METSP(s)	**BGN '000**	**€ '000**	**BGN/SU**	**€/SU**
Total charging zone	56 947	29 127	12.19	6.24
Actual cost for users* **	289 832	148 244	62.05	31.74
Regulatory result (% AUCU)	19.6%	19.6%	19.6%	19.6%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (59.71 BGN or 30.54 €) is -10.3% lower than the nominal DUC (66.60 BGN or 34.07 €). The difference between these two figures (-6.89 BGN/SU or -3.52 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+7.86 BGN/SU or +4.02 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-0.76 BGN/SU or -0.39 €/SU);
- the deduction of the traffic risk sharing adjustments (-10.09 BGN/SU or -5.16 €/SU);
- the deduction of the traffic adjustment (-1.56 BGN/SU or -0.80 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-2.34 BGN/SU or -1.19 €/SU).

The share of the regulatory result (see items 10 to 13) in the AUCU (before the deduction of other revenues) is 19.6%.

BULGARIA: En route main ANSP (BULATSA) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

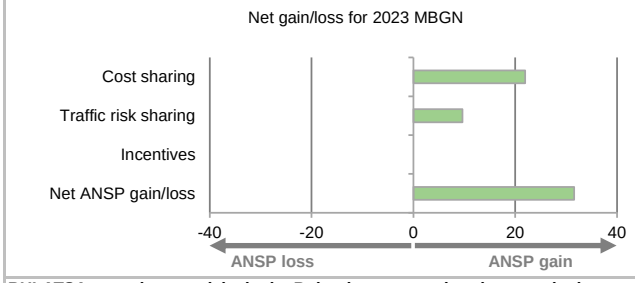
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

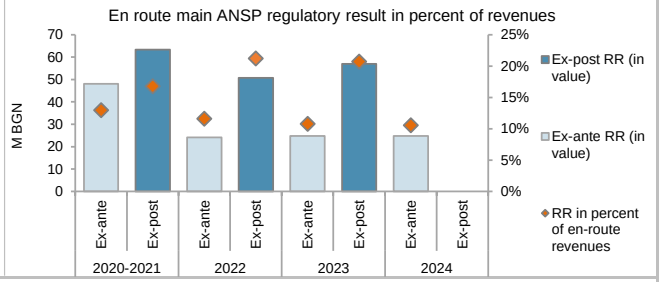
Cost sharing (BGN '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	8 862	-4 738	-12 907	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	2 608	20 954	36 705	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	383	1 444	-1 837	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**11 853**	**17 661**	**21 961**	
Traffic risk sharing (BGN '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.9%	24.5%	25.9%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	352 457	198 041	218 906	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**3 307**	**8 714**	**9 632**	
Incentives (BGN '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (BGN '000)	**15 159**	**26 375**	**31 592**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**7 753**	**13 489**	**16 159**	

12. Regulatory result (RR) for the main ANSP at charging zone level

BULATSA planned regulatory result (BGN '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	348 232	338 623	686 856	344 872	354 469	353 508
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	7.0%	7.0%	7.0%	7.0%	7.0%	7.0%
RoE (in value)	24 376	23 704	48 080	24 141	24 813	24 746
Ex-ante regulatory result (+/-) for the en route charging zone	**24 376**	**23 704**	**48 080**	**24 141**	**24 813**	**24 746**
Revenue for the en route charging zone	**180 948**	**190 389**	**371 337**	**208 458**	**230 421**	**234 663**
Ex-ante regulatory result (+/-) in percent of revenues	**13.5%**	**12.5%**	**12.9%**	**11.6%**	**10.8%**	**10.5%**
Ex-ante RoE pre-tax rate (in %)	**7.0%**	**7.0%**	**7.0%**	**7.0%**	**7.0%**	**7.0%**
BULATSA actual regulatory result (BGN '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	348 232	339 530	687 763	348 884	362 202	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	7.0%	7.0%	7.0%	7.0%	7.0%	
RoE (in value)	24 376	23 767	48 143	24 422	25 354	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	15 159	15 159	26 375	31 592	
Ex-post regulatory result (+/-) for the en route charging zone	**24 376**	**38 926**	**63 303**	**50 796**	**56 947**	
Revenue for the en route charging zone	**180 948**	**196 686**	**377 634**	**239 570**	**274 920**	
Ex-post regulatory result (+/-) in percent of revenues	**13.5%**	**19.8%**	**16.8%**	**21.2%**	**20.7%**	
Ex-post RoE pre-tax rate (in %)	**7.0%**	**11.5%**	**9.2%**	**14.6%**	**15.7%**	

13. Focus on the main ANSP regulatory result on en route activity





BULATSA net gain on activity in the Bulgaria en route charging zone in the year 2023

BULATSA reported a net gain of +31.6 MBGN, as a combination of a gain of +22.0 MBGN arising from the cost sharing mechanism with a gain of +9.6 MBGN arising from the traffic risk sharing mechanism.

BULATSA overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+31.6 MBGN) and the actual RoE (+25.4 MBGN) amounts to +56.9 MBGN (20.7% of the en route revenues). The resulting ex-post rate of return on equity is 15.7%, which is higher than the 7.0% planned in the PP.

Annual Monitoring Report 2023

Local level view

CROATIA

CROATIA **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
Croatia Control	87	C	C	C	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

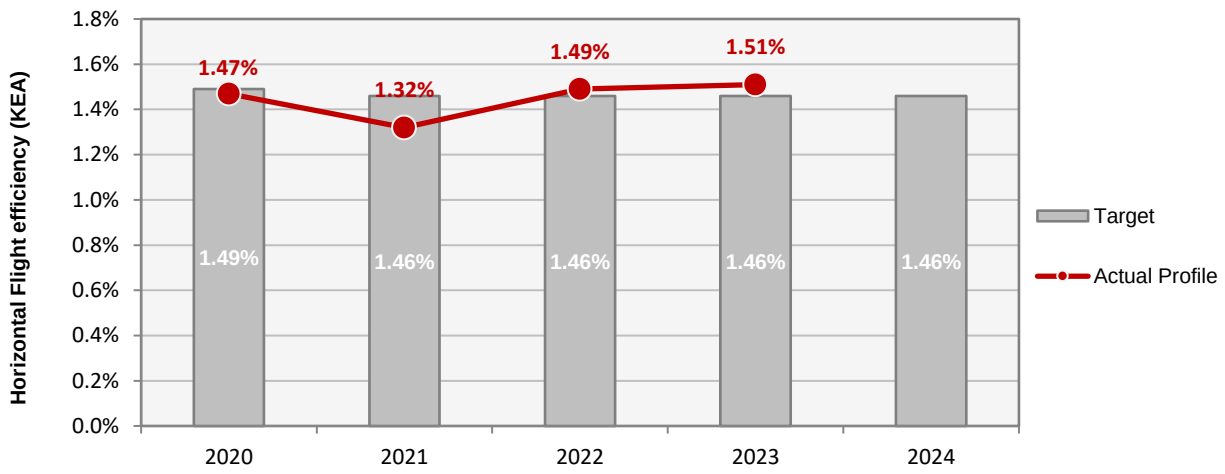
Observations

Four out of five EoSM components of the ANSP meet the RP3 EoSM target level. Only "Safety Risk Management" is below 2024 target level. Over 2023, one question was improved for this component, and only a single question remains still below the RP3 target.

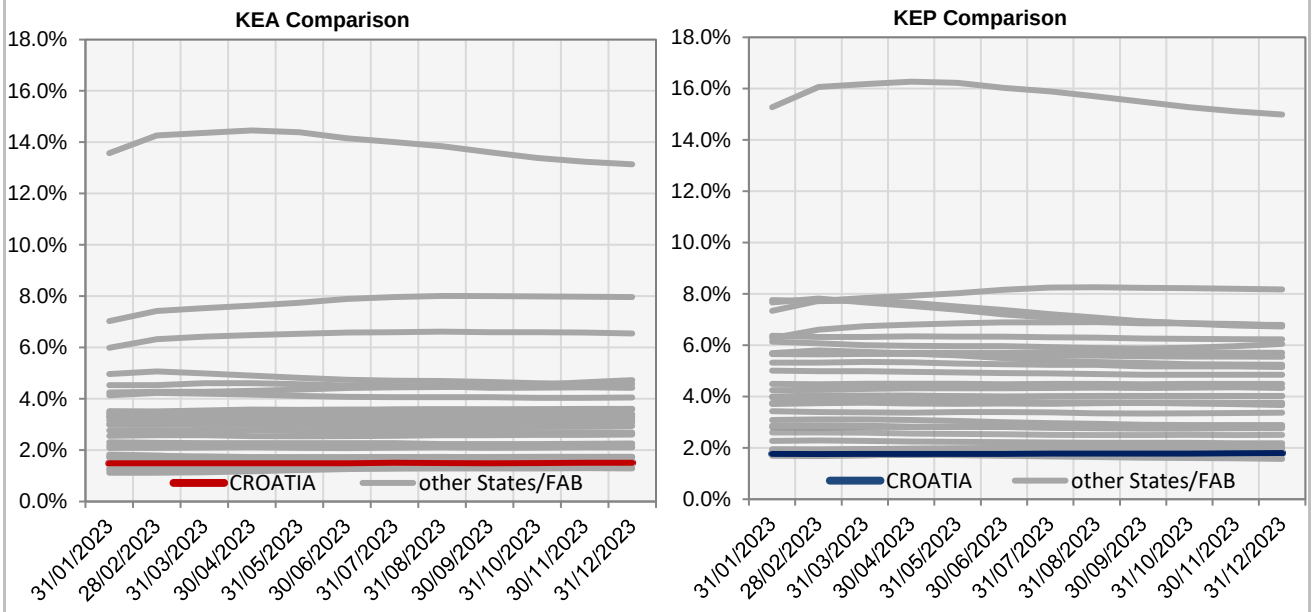
CROATIA

ENVIRONMENT - Horizontal flight efficiency

KEA	2020	2021	2022	2023	2024
Target	1.49%	1.46%	1.46%	1.46%	1.46%
Actual performance	1.47%	1.32%	1.49%	1.51%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	1.49%	1.49%	1.49%	1.49%	1.49%	1.49%	1.51%	1.50%	1.49%	1.50%	1.51%	1.51%
KEP	1.77%	1.76%	1.77%	1.77%	1.77%	1.77%	1.78%	1.78%	1.78%	1.78%	1.79%	1.80%
KES	1.64%	1.64%	1.64%	1.64%	1.64%	1.64%	1.65%	1.64%	1.64%	1.64%	1.65%	1.65%



The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

CROATIA **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

Military - related measures implemented or planned to improve capacity

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Croatia	88%	90%	97%	97%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Zagreb	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#6

"The Network Manager shall provide on a monthly basis the data required for the monitoring of this indicator for monitoring referred to Regulation (EU) 2019/317 point 6 of Annex VI.
Data regarding ratio has been received from NM upon request but the data regarding hours allocated and used have not been delivered by NM nor are available on the NM/PRU dashboards."

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Croatia	50%	50%	8%	30%	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Zagreb	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#7

"The Network Manager shall provide on a monthly basis the data required for the monitoring of this indicator for monitoring referred to Regulation (EU) 2019/317 point 6 of Annex VI.
Data regarding ratio has been received from NM upon request but the data regarding hours allocated and used have not been delivered by NM nor are available on the NM/PRU dashboards."

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Croatia	19%	19%	11%	41%	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Zagreb	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#8

CROATIA **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.43	0.09	0.16	0.17	0.17	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.00	0.07	0.57	0.43		

NSA's assessment of capacity performance

In the year 2023 there were significant challenges for LDZO ACC capacity KPI as the actual traffic was around 35% higher than planned in the RP3 Performance plan while summer season traffic was 10% above historical highest year (2022). As a consequence, limitations occurred during summer season due to unplanned high increase of traffic demand in peak hours.

Monitoring process for capacity performance

Monitoring of all available KPI's and PI's is done through the Single European Sky Data Portal which is considered as the main source of information.

Capacity Planning

Capacity planning is performed in line with the Network Cooperative Decision-Making processes through dedicated groups CAPLAN, NETOPS and NDOP. Capacity planning is done in line with NM's initiative for development of a rolling NOP document in which short-term capacity and demand on the Network level is described. The expected traffic outlook is given for eight weeks ahead and revised weekly, while capacity is adapted to traffic demand and reported to NM which assesses the efficiency for planned period. In the planning process on local level, several departments are involved in strategic and tactical development of the plan.

ATCO in OPS (FTE)							
Zagreb ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	92	107	115	121	
Actual	107	92	94	99	100		

During 2023 there was an increase in the ATCO in OPS FTE compared to 2022 due to increased ATCO in OPS utilisation following high traffic during summer season on Southeast Axis traffic flow.

Difference between planned and actual number of ATCO in OPS FTE is mainly due to higher then planned number of ATCOs in OPS who have stopped working in the OPS room and lower than planned ATCO training success rate.

Application of Corrective Measures for Capacity (if applicable)

The NSA has implemented a bi-annual meeting practice in order to continuously monitor the management of demand-capacity imbalances by CroControl. The first meeting was held ahead of the summer season on 31st March 2023 and the next one was held 17th of January 2024.

Croatia was projected to have 771,000 flights in 2023 under the base scenario, but the actual number reached 812,671. The average annual traffic increase from 2022 to 2023 was 14%, with the first few months of 2023 seeing increases over 35%. The number of flights in the air traffic control center in 2023 also rose by 14% compared to 2022 and was 17% higher than in 2019, with significantly reduced delays.

Operational data on traffic, sector hours, and generated delays show a significant improvement in capacity management efficiency by CroControl. Controller working hours in 2022 were 8% lower compared to 2019 but returned to 2019 levels in 2023. Efficiency in traffic and capacity management is evident from the comparison of generated delays: 614,160 minutes in 2019, 397,083 minutes in 2022, and 3% less in 2023, totaling 386,246 minutes. According to data presented by CroControl representatives, efficiency increased by 17% in 2023.

The primary cause of delays were adverse weather conditions, responsible for almost two-thirds of the delay minutes, while capacity issues and staff shortages accounted for 28.6%.

The NSA did not have any additional recommendations, considering the actions defined in the NOP as being adequate for dealing with recognised shortcomings. The measures that have been put in place are:

1. Increased number of ATCOs - CroControl is continuously trying to provide training for new ATCOs, through the course of 2023, 6 new ATCOs have been put in operations. This process is continuing.

2. CroFAST system implementation - the development and implementation of an FMP system which helps monitor sector opening times, rostering, implemented regulations and their effect. The system was implemented fully in 2023.

3. Cross border weather workshop - working on predictability and effectiveness of measures taken in case of bad weather - workshop was held in November 2023.

The NSA considers that significant risks remain which are liekly to lead to performance targets being missed in the future. Attracting new ATCOs is problematic (across the majority of Member States). The ever increasing traffic demand and the resulting large number of delay minutes gives a false impression and undermines the efforts that CroControl is making to improve its own capacities.

The NSA has no options to encourage people to apply for ATCO training.

Summary of capacity performance

Croatia experienced an increase in traffic, from 713k flights in 2022, to 814k flights in 2023 (a significant increase on 2019 traffic of 714k flights).

In 2023, Croatia had 347k minutes of delay, significantly lower than in 2022 (408k minutes of delay) despite the increase in traffic. (538k minutes of delay in 2019)

There were an additional 39k minutes of delay originating in Croatia that were re-attributed to DFS via the NM post operations delay attribution process, according to the NMB agreement for eNM/S23 measures, to ameliorate capacity shortfalls in Karlsruhe UAC.

En route Capacity Incentive Scheme

Croatia Control	2020	2021	2022	2023	2024	Observations
National Capacity target	0.43	0.09	0.16	0.17	0.17	Despite the improvement in capacity performance, the NSA reports that, CroControl is liable for a financial penalty of €959 519.16
Deadband +/-	-	-	-	[0.153-0.187]	[0.153-0.187]	
Actual performance	0.00	0.07	0.57	0.43		

CROATIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Croatia ECZ represents 1.3% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 23 December 2021 and found consistent as per Commission Decision (EU) 2022/764 of 13 April 2022
  The final version of the plan was adopted and published by Croatia in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Croatia: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	86 001 228	85 271 548	171 272 776	86 363 787	93 508 457	97 080 559
Inflation %	0.0%	0.7%		1.2%	1.9%	2.2%
Inflation index (100 in 2017)	102.4	103.1		104.3	106.3	108.7
Real en route costs (€2017)	84 501 227	83 294 979	167 796 205	83 587 419	89 201 582	91 116 717
Total en route service units	929 105	1 510 181	2 439 286	1 582 000	1 946 000	2 251 000
Real en route DUC per service unit (€2017)	**90.95**	**55.16**	**68.79**	**52.84**	**45.84**	**40.48**

Croatia: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	86 001 228	76 437 608	162 438 836	86 737 568	97 249 487	
Inflation %	0.0%	2.7%		10.7%	8.4%	
Inflation index (100 in 2017)	102.4	105.2		116.4	126.2	
Real en route costs (€2017)	84 501 227	73 608 052	158 109 278	77 175 218	81 110 561	
Total en route service units	929 105	1 518 678	2 447 782	2 228 835	2 562 913	
Real en route AUC per service unit (€2017)	**90.95**	**48.47**	**64.59**	**34.63**	**31.65**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-8 833 940	-8 833 940	373 781	3 741 029	
	in %	-	-10.4%	-5.2%	+0.4%	+4.0%	
Inflation %	in p.p.	0.0 p.p.	2.0 p.p.		9.6 p.p.	6.5 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	2.0 p.p.		12.1 p.p.	19.9 p.p.	
Real en route costs (€2017)	in value	0	-9 686 927	-9 686 927	-6 412 201	-8 091 021	
	in %	-	-11.6%	-5.8%	-7.7%	-9.1%	
Total en route service units	in value	0	8 497	8 497	646 835	616 913	
	in %	-	+0.6%	+0.3%	+40.9%	+31.7%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-6.69**	**-4.20**	**-18.21**	**-14.19**	
	in %	**-**	**-12.1%**	**-6.1%**	**-34.5%**	**-31.0%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -31.0% (or -14.19 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+31.7%) and significantly lower than planned en route costs in real terms (-9.1%, or -8.1 M€2017). It should be noted that actual inflation index in 2023 was +19.9 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (+31.7%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

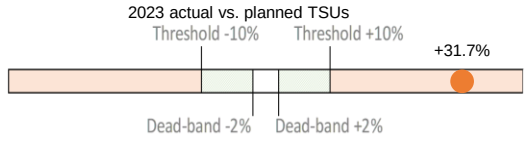
En route costs by entity

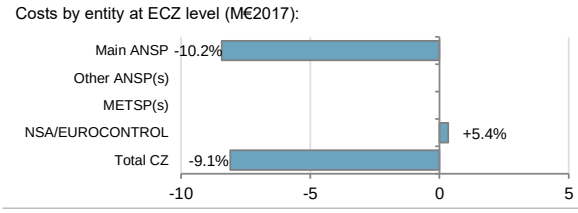
Actual real en route costs are -9.1% (-8.1 M€2017) lower than planned. This is the result of lower costs for the main ANSP, Croatia Control (-10.2%, or -8.4 M€2017) and higher costs for the NSA/EUROCONTROL (+5.4%, or +0.3 M€2017).

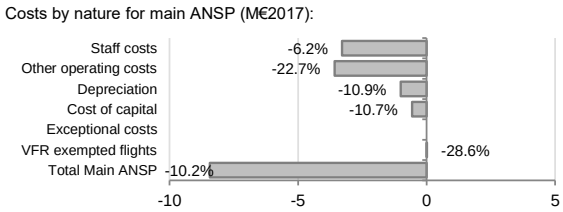
En route costs for the main ANSP (Croatia Control) at charging zone level

Significantly lower than planned en route costs in real terms for Croatia Control in 2023 (-10.2%, or -8.4 M€2017) result from:

- Significantly lower staff costs in real terms (-6.2%) but higher costs in nominal terms (+11.3%), "predominantly driven by a new CCL collective agreement and the adjustment of labour expenses to partially align with inflation trends";
- Significantly lower other operating costs (-22.7%), "due to the slowdown of CAPEX-driven operational costs as a result of the postponement of CAPEX projects and to lower-than-planned expenditures on licenses and leases of intangible assets (SaaS)";
- Significantly lower depreciation (-10.9%), influenced by the decommissioning of assets at the end of their useful life and delays in implementing new CAPEX projects;
- Significantly lower cost of capital (-10.7%), mainly due to the reduction of average value of fixed assets;
- Significantly lower deduction for VFR exempted flights (-28.6%).







CROATIA: En route charging zone

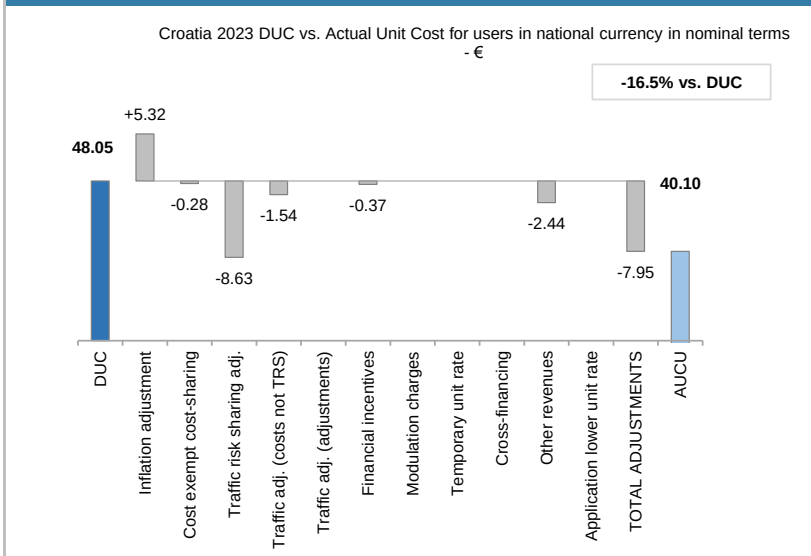
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	48.05
DUC to be charged retroactively	0.00
DUC	**48.05**
Inflation adjustment	5.32
Cost exempt from cost-sharing	-0.28
Traffic risk sharing adjustment	-8.63
Traffic adj. (costs not TRS)	-1.54
Traffic adj. (adjustments)*	
Financial incentives	-0.37
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-2.44
Application of lower unit rate	0.00
Total adjustments	-7.95
AUCU	**40.10**
AUCU vs. DUC	**-16.5%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

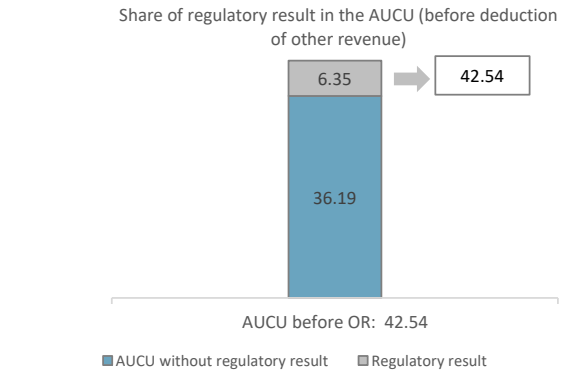
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-1 062	-0.41
	Competent authorities and qualified entities costs	109	0.04
	Eurocontrol costs	230	0.09
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-723**	**-0.28**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
Croatia Control	16 274	6.35
METSP(s)	**€ '000**	**€/SU**
Total charging zone	16 274	6.35
Actual cost for users* **	109 022	42.54
Regulatory result (% AUCU)	14.9%	14.9%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (40.10 €) is -16.5% lower than the nominal DUC (48.05 €). The difference between these two figures (-7.95 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+5.32 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-0.28 €/SU);
- the deduction of the traffic risk sharing adjustments (-8.63 €/SU);
- the deduction of the traffic adjustment (-1.54 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-0.37 €/SU); and
- the deduction of the other revenues (-2.44 €/SU).

The share of the regulatory result (see items 10 to 13) in the AUCU (before the deduction of other revenues) is 14.9%.

CROATIA: En route main ANSP (Croatia Control) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note: Croatia joined the euro area on 1 January 2023. On that date the euro replaced the Croatian kuna at the fixed exchange rate of €1 = HRK 7.53450. This may result in slight differences in determined and actual costs comparing to previous monitoring reports.

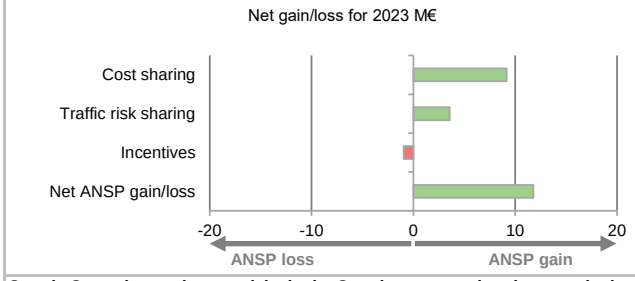
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

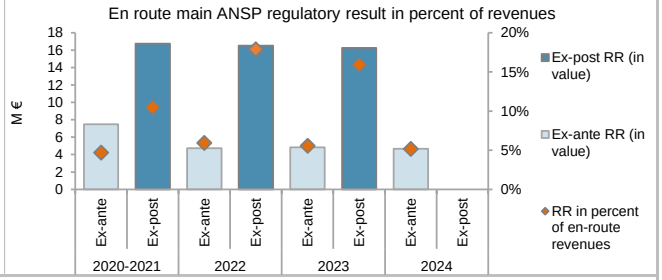
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	8 639	-255	-3 402	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	1 273	7 747	13 630	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 260	1 235	-1 062	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**8 652**	**8 726**	**9 166**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.3%	40.9%	31.7%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	148 936	74 549	81 044	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**519**	**3 280**	**3 566**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-960**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**9 171**	**12 006**	**11 772**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Croatia Control planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	62 370	81 900	144 270	98 165	103 628	102 825
Proportion of financing through equity (in %)	85%	84%	85%	76%	66%	61%
RoE pre-tax rate (in %)	6.5%	5.9%	6.1%	6.3%	7.0%	7.5%
RoE (in value)	3 428	4 057	7 485	4 733	4 831	4 656
Ex-ante regulatory result (+/-) for the en route charging zone	**3 428**	**4 057**	**7 485**	**4 733**	**4 831**	**4 656**
Revenue for the en route charging zone	**80 604**	**79 234**	**159 838**	**80 197**	**87 229**	**90 678**
Ex-ante regulatory result (+/-) in percent of revenues	**4.3%**	**5.1%**	**4.7%**	**5.9%**	**5.5%**	**5.1%**
Ex-ante RoE pre-tax rate (in %)	**6.5%**	**5.9%**	**6.1%**	**6.3%**	**7.0%**	**7.5%**
Croatia Control actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	62 370	79 740	142 110	84 479	78 162	
Proportion of financing through equity (in %)	85%	89%	87%	84%	82%	
RoE pre-tax rate (in %)	6.5%	5.9%	6.1%	6.3%	7.0%	
RoE (in value)	3 428	4 153	7 580	4 514	4 502	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	9 171	9 171	12 006	11 772	
Ex-post regulatory result (+/-) for the en route charging zone	**3 428**	**13 323**	**16 751**	**16 520**	**16 274**	
Revenue for the en route charging zone	**80 604**	**79 765**	**160 370**	**92 458**	**102 404**	
Ex-post regulatory result (+/-) in percent of revenues	**4.3%**	**16.7%**	**10.4%**	**17.9%**	**15.9%**	
Ex-post RoE pre-tax rate (in %)	**6.5%**	**18.8%**	**13.5%**	**23.2%**	**25.5%**	

13. Focus on the main ANSP regulatory result on en route activity





Croatia Control net gain on activity in the Croatia en route charging zone in the year 2023

Croatia Control reported a net gain of +11.8 M€, as a combination of a gain of +9.2 M€ arising from the cost sharing mechanism, with a gain of +3.6 M€ arising from the traffic risk sharing mechanism and a loss of -1.0 M€ relating to financial incentives.

Croatia Control overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+11.8 M€) and the actual RoE (+4.5 M€) amounts to +16.3 M€ (15.9% of the en route revenues). The resulting ex-post rate of return on equity is 25.5%, which is higher than the 7.0% planned in the PP.

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Annual Monitoring Report 2023

Local level view

CYPRUS

CYPRUS **Monitoring of SAFETY for 2023**

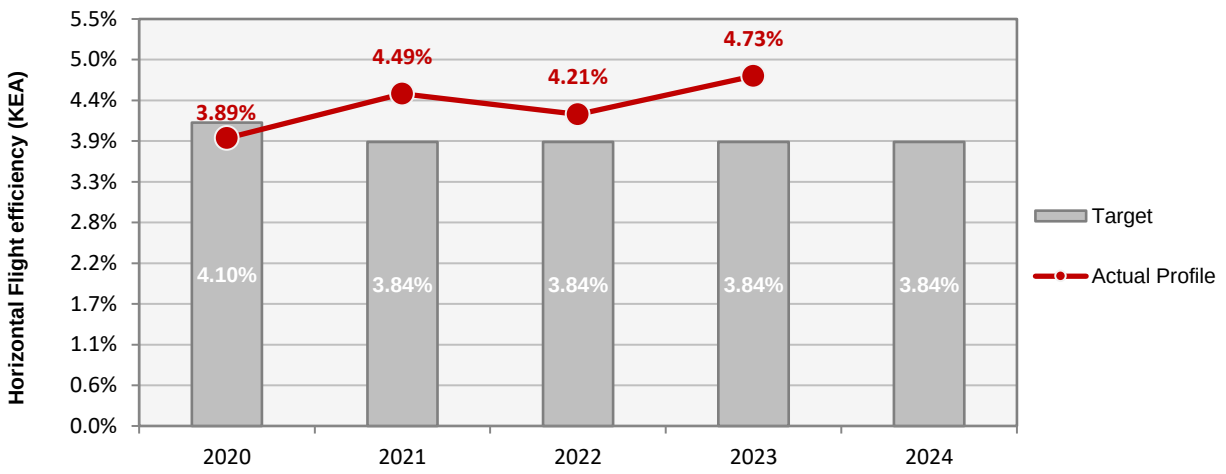
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
CYATS	83	C	B	D	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations
Only "Safety Policy and Objectives" component is still below RP3 EoSM target level with four questions to be improved. Over 2023, "Safety Risk Management " and "Safety Promotion" were improved and reached the target levels.

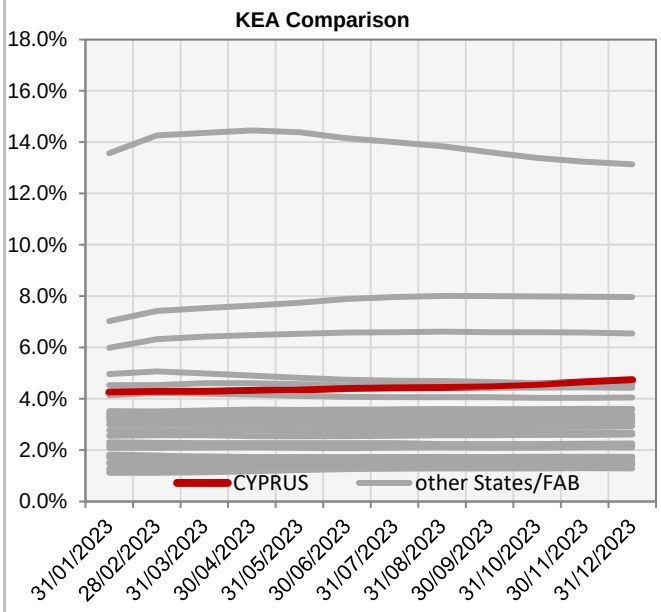
CYPRUS

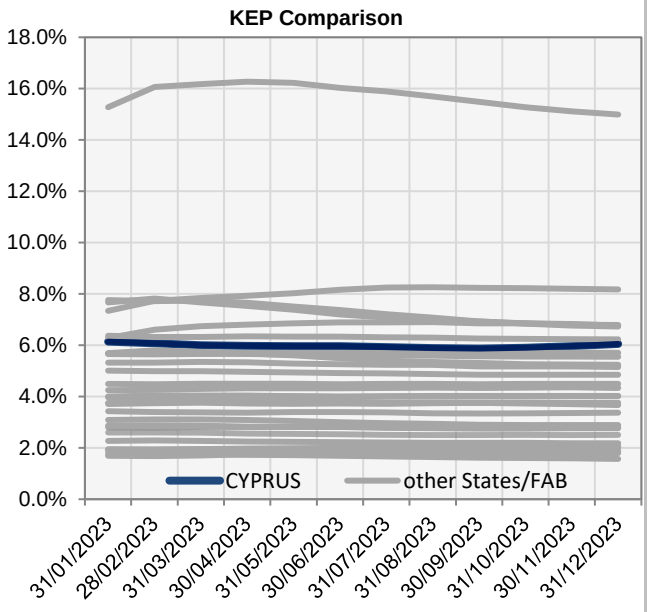
ENVIRONMENT - Horizontal flight efficiency

KEA	2020	2021	2022	2023	2024
Target	4.10%	3.84%	3.84%	3.84%	3.84%
Actual performance	3.89%	4.49%	4.21%	4.73%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	4.25%	4.27%	4.27%	4.31%	4.36%	4.42%	4.45%	4.46%	4.48%	4.55%	4.64%	4.73%
KEP	6.14%	6.07%	6.00%	5.98%	5.96%	5.96%	5.93%	5.89%	5.87%	5.90%	5.97%	6.05%
KES	5.84%	5.78%	5.74%	5.73%	5.71%	5.72%	5.68%	5.64%	5.63%	5.65%	5.70%	5.77%





The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

CYPRUS **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

"The air navigation services in Nicosia FIR are provided with reference to the arrangements which have been established through the implementation of regulation (EC) 2150/2005 “laying down common rules for the flexible use of airspace”. (see section 5, Application of FUA)

The implementation of the said Regulation has been achieved through the adoption of the “National Plan for the Implementation of FUA”, signed on the 2nd of July 2009. The implementation of the National FUA plan ensures to the maximum possible extent, the most efficient use of airspace, both by civil and military users.

The activities of the National Military Authorities are predominately executed over the National airspace. The cooperation between the national Civil and Military Authorities is excellent and the effect on civil aviation is minimal.

Over the high seas however, which constitute the majority of the Nicosia FIR, a number of foreign Military authorities, most commonly the Russian Navy, USA Navy, French Navy, Israeli Air Force, British Air Force and Turkish military forces, regularly performed operational flights and exercises throughout 2023. Additionally, air carrier operations in Nicosia FIR combined with the different military authorities made it necessary to implement and upgrade the coordination among the willing authorities.

The activities of the British and Israeli forces were coordinated fairly well with the national authorities (AMC) keeping the adverse effect on ATS to minimal effect.

The most significant impact on ATS is caused by the refusal of the Turkish authorities to coordinate or cooperate with Cyprus on the conduct of any military activities in Nicosia FIR. Turkish activity NOTAMS are issued by non-authorised entities relevant to these activities thus imposing a significant level of uncertainty on ATM management in Nicosia FIR adversely affecting capacity. A regular phenomenon is the penetration of Nicosia FIR or Cyprus National airspace in violation to ICAO procedures thus increasing the workload on ATC staff and hence having a detrimental effect on airspace capacity.

The political unrest in the South East Mediterranean region gave rise to the number of USA and Russian operational flights (OAT). These flights were rarely coordinated with the ATS authorities thus causing additional workload to ACC staff. Nevertheless, the situation in 2023 was better than previous years, as a consequence of the COVID-19 pandemic, better coordination with British and Israeli military authorities, enhanced cooperation among AMC/ATC units and aircraft carriers operating in the area and fewer operations of aircraft carriers south of Cyprus.

The designation, by EASA, of the Syrian airspace as ""conflict zone"" has significantly affected the traffic flows in the north east part of Nicosia FIR. "

Military - related measures implemented or planned to improve capacity

The recent Israel - Hamas conflict has significantly affected traffic flows and volumes. It was the main reason why air traffic demand did not yet reach 2019 levels. The trend continues in 2024 with traffic levels remaining lower than forecast. The situation is ongoing so it is not possible to accurately evaluate the scale of the impact of military dimension on the capacity KPA.
At the moment, no measures are foreseen since the military and geopolitical developments are not under the control of the ANSP.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Cyprus	100%	100%	100%	99%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Nicosia	100%	100%	100%	100%	

Initiatives implemented or planned to improve PI#6

The NSA verifies, through audits and inspections, that the entity responsible for the tactical management of the airspace (AMC), monitors the planned Vs the actual times of airspace reservations so as to promote the most effective use of reserved or segregated airspace. In the context of its oversight inspections, it has raised findings in order to drive positive change and to optimise the application of FUA and, as a result, improvements have been noted. For example, real time activation / de-actication of reserved areas is now implemented through the establishment of real time communications between the ATC Units and Military authorities.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Cyprus			98%	98%	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Nicosia			95%	96%	

Initiatives implemented or planned to improve PI#7

PRISMIL CURA has been implemented by Cyprus AMC in early 2023. All the data provided are according to the data available on PRISMIL.

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Cyprus			98%	98%	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Nicosia			80%	79%	

Initiatives implemented or planned to improve PI#8

PRISMIL CURA has been implemented by Cyprus AMC in early 2023. All the data provided are according to the data available on PRISMIL.

CYPRUS **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	1.00	0.10	0.16	0.15	0.15	
Actual performance	0.20	0.00	0.00	0.04		

NSA's assessment of capacity performance

Cyprus is in a turbulant region of the world, where geopolitical changes are frequent and, often, dramatic. For this reason, air traffic volatility is very high and traffic demand estimates (hence, ATM performance) can vary as a result of external factors. These factors are beyond the control of the ANSP and the State in general. Furthermore, geopolitical changes can significantly alter the air traffic flows, creating new hotspots and signigificant capacity constraints. As an example, the continuation of the Russia - Ukraine conflict has removed a significant traffic flow (and associated revenue) to and from Cyprus. Furthermore, the conflict between Israel and Hamas has also negatively affected the traffic demand towards the end of 2023. Finally, the categorisation, by EASA, of the Syrian airspace as "conflict zone" has eliminated traffic flows in the north-eastern part of Nicosia FIR. These flows were diverted to the south, saturating the west and south sectors of Nicosia ACC.

Capactity performance in 2023 was very good and the relevant targets were acheived. However, air traffic demand in 2023 was still lower than the 2019 levels. In this respect, the 2023 results cannot be considered as an accurate indication of future trends.

Monitoring process for capacity performance

The NSA has in place the "NSA procedure for the monitoring of ANS Performance". According to this procedure, the NSA monitors at quarterly intervals the average minutes of enroute ATFM (Air Traffic Flow Management) delay per flight. Based on this, the NSA analyzes the trends and takes the necessary measures, if needed.

Capacity Planning

Capacity planning is done in consultation with the Network Manager. The results are consistent with the required performance.

ATCO in OPS (FTE)							
Nicosia ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	78	87	94	100	
Actual	78	73	78	89	94		

The ATCO numbers are exactly as foreseen in the PP.
94 ATCOs, are as follows: 18 SUPS + 76 ATCOs = 94

Additional Comments about Capacity

During the period of the transfer to the new ACC, which is delayed and planned in late 2024 to mid 2025, traffic delays are expected, which however will be of temporary nature. As the tranfer will be done during a low traffic period, the effect on the European Network is not expected to be significant. Efforts will be made so that any operation related to the transfer i.e. shadowing operations, will be kept to the absolute minimum level so as not to absorb HR from the actual ops at the new ACC.

The ATSp has implemented (in mid 2022) a new ATC sector at Larnaca Airport (an extension of the ACC main ATM system) for providing Approach Control Service with surveillance (APS). This new ATC sector is operating with ATCOs working on an overtime basis. In RP4, the ATSp shall proceed with new ATCOs recruitments.

An effort to modify the ATCO employment contract (the, so called, "scheme of services") is ongoing. The aim of the modification will be to significantly reduce the period between recruitment and assuming operational duties. In any case, the recruitment plan for new ATCOs will continue to be implemented so that the en-route service will continue to be provided without significant capacity constraints.

In conclusion, some air traffic delays may be attributed to these restructuring developments and the operation of the new ATC sector. The precise impact cannot be estimated at the moment since the service has just began. Nevertheless, the NM has confirmed that this new service will have significant net capacity benefits in the longer term.

Additional Information Related to Russia's War of Aggression Against Ukraine

The Russia - Ukraine as well as the Israel - Hamas conflicts have removed a significant traffic flow (and associated revenue) to and from Cyprus.

The categorisation, by EASA, of the Syrian airspace as "conflict zone" has eliminated traffic flows in the north-eastern part of Nicosia FIR. These flows were diverted to the south, saturating the west and south sectors of Nicosia ACC and causing delays.

Cyprus has no control of this situation. However, it maintains a constant cooperation with the NM to mitigate its impacts.

Summary of capacity performance

Cyprus experienced an increase in traffic from 344k flights in 2922, with practically zero ATFM delays, to 402k flights in 2023 with 15k minutes of en- route ATFM delay.

For reference, in 2019, Cyprus handled 411k flights but had 485k minutes of en-route ATFM delays.

En route Capacity Incentive Scheme

	2020	2021	2022	2023	2024	Observations
National Capacity target	1.00	0.10	0.16	0.15	0.15	According to the incentive scheme defined in the monitoring report, the ANSP is due a bonus of €471 380.
Deadband +/-	-	-	-	0.02	-	
Actual performance	n/a	n/a	n/a	0.04		

CYPRUS: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Cyprus ECZ represents 0.9% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 13 July 2022 and found consistent as per Commission Decision (EU) 2022/2422 of 5 December 2022

  The final version of the plan was adopted and published by Cyprus in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Cyprus: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	50 193 829	54 658 604	104 852 432	60 180 628	67 188 233	70 838 487
Inflation %	0.0%	0.5%		5.3%	2.3%	2.0%
Inflation index (100 in 2017)	101.3	101.8		109.1	111.6	113.9
Real en route costs (€2017)	49 782 212	54 033 965	103 816 177	56 802 749	62 482 520	65 059 225
Total en route service units	852 579	1 229 858	2 082 437	1 837 000	2 129 000	2 235 000
Real en route DUC per service unit (€2017)	**58.39**	**43.94**	**49.85**	**30.92**	**29.35**	**29.11**

Cyprus: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	49 274 508	52 158 821	101 433 328	57 777 753	62 371 030	
Inflation %	0.0%	2.3%		8.1%	3.9%	
Inflation index (100 in 2017)	101.3	103.6		112.0	116.4	
Real en route costs (€2017)	48 862 891	50 930 635	99 793 526	53 624 856	56 680 314	
Total en route service units	852 579	1 266 300	2 118 878	1 788 097	2 066 476	
Real en route AUC per service unit (€2017)	**57.31**	**40.22**	**47.10**	**29.99**	**27.43**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	-919 321	-2 499 783	-3 419 104	-2 402 875	-4 817 203	
	in %	-1.8%	-4.6%	-3.3%	-4.0%	-7.2%	
Inflation %	in p.p.	0.0 p.p.	1.8 p.p.		2.8 p.p.	1.6 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.8 p.p.		2.9 p.p.	4.8 p.p.	
Real en route costs (€2017)	in value	-919 321	-3 103 329	-4 022 651	-3 177 893	-5 802 206	
	in %	-1.8%	-5.7%	-3.9%	-5.6%	-9.3%	
Total en route service units	in value	0	36 442	36 442	-48 903	-62 524	
	in %	-	+3.0%	+1.7%	-2.7%	-2.9%	
Real en route unit cost per service unit (€2017)	**in value**	**-1.08**	**-3.72**	**-2.76**	**-0.93**	**-1.92**	
	in %	**-1.8%**	**-8.5%**	**-5.5%**	**-3.0%**	**-6.5%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -6.5% (or -1.92 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned en route costs in real terms (-9.3%, or -5.8 M€2017) and lower than planned TSUs (-2.9%). It should be noted that the actual inflation index in 2023 was +4.8 p.p. higher than planned.

En route service units

In 2023, difference between actual and planned TSUs (-2.9%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

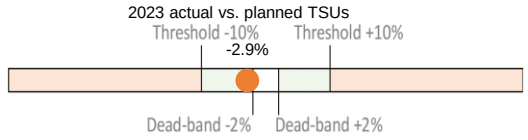
En route costs by entity

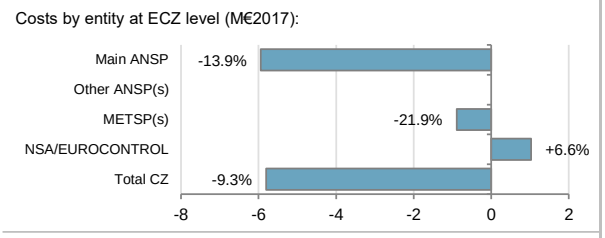
The 2023 actual real en route costs are -9.3% (-5.8 M€2017) lower than planned. This is the result of lower than planned costs for the main ANSP, DCAC Cyprus (-13.9%, or -5.9 M€2017) and the MET service provider (-21.9%, or -0.9 M€2017), while costs for the NSA/EUROCONTROL are higher (+6.6%, or +1.0 M€2017) than planned.

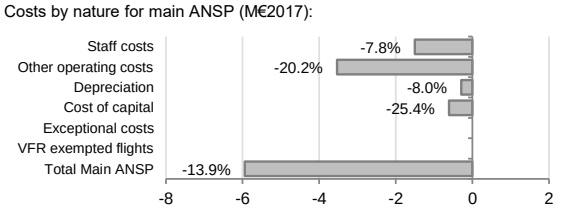
En route costs for the main ANSP (DCAC Cyprus) at charging zone level

Significantly lower than planned en route costs in real terms for DCAC Cyprus in 2023 (-13.9%, or -5.9 M€2017) result from:

- Significantly lower staff costs (-7.8%) reported to be mainly due to "an unforeseen change in the national pension law which affected public sector employees hired after 2011",
- Significantly lower other operating costs (-20.2%), reported to be "mainly due to a delay in the operation of the new ACC building in Kokkinotrimithia (for which additional operating costs had been forecast)",
- Significantly lower depreciation (-8.0%) reported to be mainly "due to a postponement or the partial implementation of two investments: one is regarding the implementation of an IP compatible voice-communication system at the ACC and other is regarding the partial implementation of surveillance equipment upgrades,
- Significantly lower cost of capital (-25.4%), reported to be "mainly due to the postponement or the partial implementation of the above mentioned two investments".







CYPRUS: En route charging zone

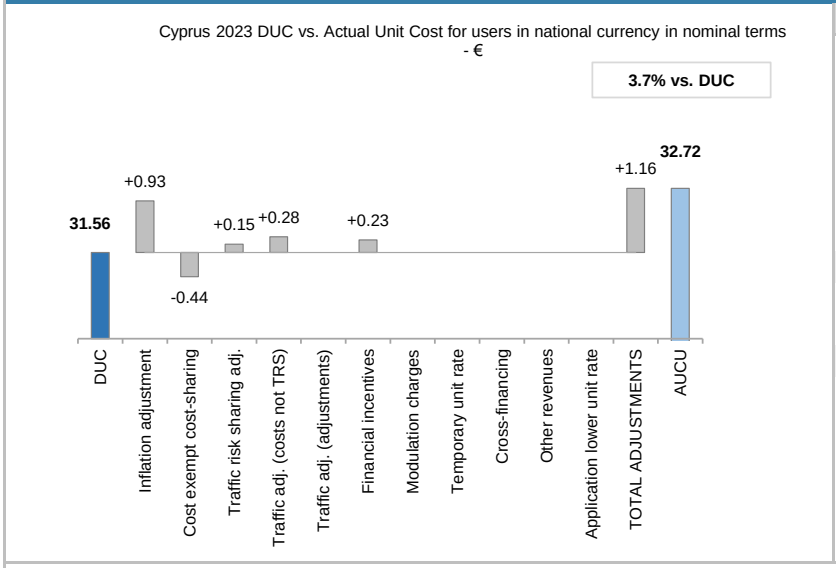
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	31.56
DUC to be charged retroactively	0.00
DUC	**31.56**
Inflation adjustment	0.93
Cost exempt from cost-sharing	-0.44
Traffic risk sharing adjustment	0.15
Traffic adj. (costs not TRS)	0.28
Traffic adj. (adjustments)*	
Financial incentives	0.23
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	1.16
AUCU	**32.72**
AUCU vs. DUC	**+3.7%**

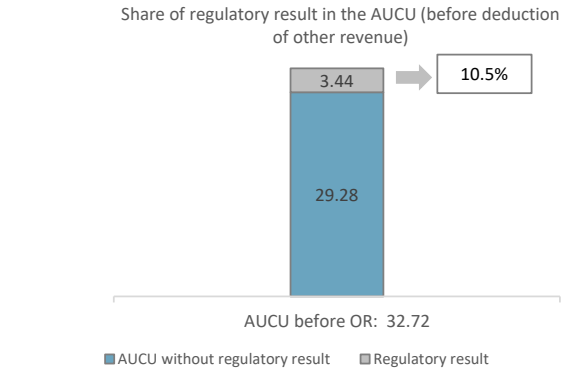
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-1 049	-0.51
	Competent authorities and qualified entities costs	706	0.34
	Eurocontrol costs	320	0.15
	Pension costs	-877	-0.42
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-900**	**-0.44**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
DCAC Cyprus	6 307	3.05
METSP(s)	**€ '000**	**€/SU**
Cyprus MET	796	0.39
Total charging zone	7 103	3.44
Actual cost for users* **	67 609	32.72
Regulatory result (% AUCU)	10.5%	10.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of the activities performed in 2023 (32.72 €) is +3.7% higher than the nominal DUC (31.56 €). The difference between these two figures (+1.16 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+0.93 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-0.44 €/SU);
- the addition of the traffic risk sharing adjustments (+0.15 €/SU);
- the addition of the traffic adjustment (+0.28 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (+0.23 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 10.5%.

CYPRUS: En route main ANSP (DCAC Cyprus) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out **in national currency and in nominal terms**.

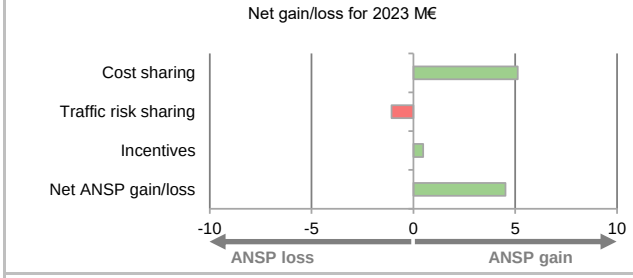
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

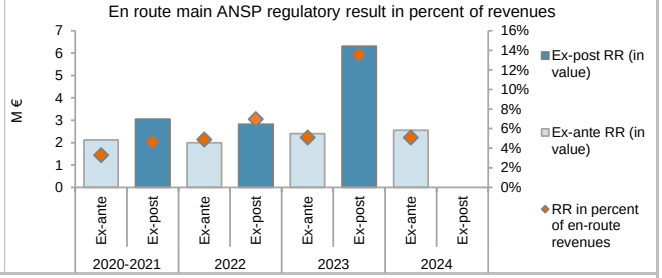
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-594	1 728	5 015	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	556	972	1 752	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	-514	-1 643	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-37**	**2 186**	**5 124**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.7%	-2.7%	-2.9%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	64 796	41 042	47 138	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**1 134**	**-902**	**-1 075**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**471**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**1 096**	**1 283**	**4 520**	

12. Regulatory result (RR) for the main ANSP at charging zone level

DCAC Cyprus planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	15 785	28 643	44 428	39 970	45 195	44 713
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	4.7%	4.8%	4.8%	5.0%	5.3%	5.7%
RoE (in value)	742	1 375	2 117	1 999	2 395	2 549
Ex-ante regulatory result (+/-) for the en route charging zone	**742**	**1 375**	**2 117**	**1 999**	**2 395**	**2 549**
Revenue for the en route charging zone	**31 208**	**33 588**	**64 796**	**41 042**	**47 138**	**50 245**
Ex-ante regulatory result (+/-) in percent of revenues	**2.4%**	**4.1%**	**3.3%**	**4.9%**	**5.1%**	**5.1%**
Ex-ante RoE pre-tax rate (in %)	**4.7%**	**4.8%**	**4.8%**	**5.0%**	**5.3%**	**5.7%**
DCAC Cyprus actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	15 785	25 362	41 148	30 719	33 715	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	4.7%	4.8%	4.8%	5.0%	5.3%	
RoE (in value)	742	1 217	1 959	1 536	1 787	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	1 096	1 096	1 283	4 520	
Ex-post regulatory result (+/-) for the en route charging zone	**742**	**2 314**	**3 056**	**2 819**	**6 307**	
Revenue for the en route charging zone	**31 208**	**35 278**	**66 486**	**40 597**	**46 643**	
Ex-post regulatory result (+/-) in percent of revenues	**2.4%**	**6.6%**	**4.6%**	**6.9%**	**13.5%**	
Ex-post RoE pre-tax rate (in %)	**4.7%**	**9.1%**	**7.4%**	**9.2%**	**18.7%**	

13. Focus on the main ANSP regulatory result on en route activity





DCAC Cyprus net gain on activity in the Cyprus en route charging zone in the year 2023

DCAC Cyprus reported a net gain of +4.5 M€, as a combination of a gain of +5.1 M€ arising from the cost sharing mechanism, with a loss of -1.1 M€ arising from the traffic risk sharing mechanism and a gain of +0.5 M€ relating to financial incentives.

DCAC Cyprus overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity above mentioned (+4.5 M€) and the actual RoE (+1.8 M€) amounts to +6.3 M€ (13.5% of the en route revenues). The resulting ex-post rate of return on equity is 18.7%, which is higher than the 5.3% planned in the PP.

CYPRUS: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
Cyprus MET planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	**39**	**112**	**151**	**121**	**181**	**183**
Revenue for the en route charging zone	**3 512**	**4 609**	**8 121**	**4 120**	**4 484**	**4 383**
Ex-ante regulatory result (+/-) in percent of revenues	**1.1%**	**2.4%**	**1.9%**	**2.9%**	**4.0%**	**4.2%**
Ex-ante RoE pre-tax rate (in %)	**4.7%**	**4.8%**	**4.8%**	**5.0%**	**5.3%**	**5.7%**
Cyprus MET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	**39**	**1 195**	**1 233**	**690**	**796**	
Revenue for the en route charging zone	**3 512**	**4 688**	**8 200**	**4 181**	**4 374**	
Ex-post regulatory result (+/-) in percent of revenues	**1.1%**	**25.5%**	**15.0%**	**16.5%**	**18.2%**	
Ex-post RoE pre-tax rate (in %)	**4.7%**	**88.5%**	**56.7%**	**45.4%**	**54.4%**	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Cyprus (Cyprus MET) corresponds to 18.2% of the en route revenues. The ex-post RoE 54.4% is higher than planned 5.3%.

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Annual Monitoring Report 2023

Local level view

CZECH REPUBLIC

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CZECH REPUBLIC **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
ANS CR	99	D	C	D	D	D
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

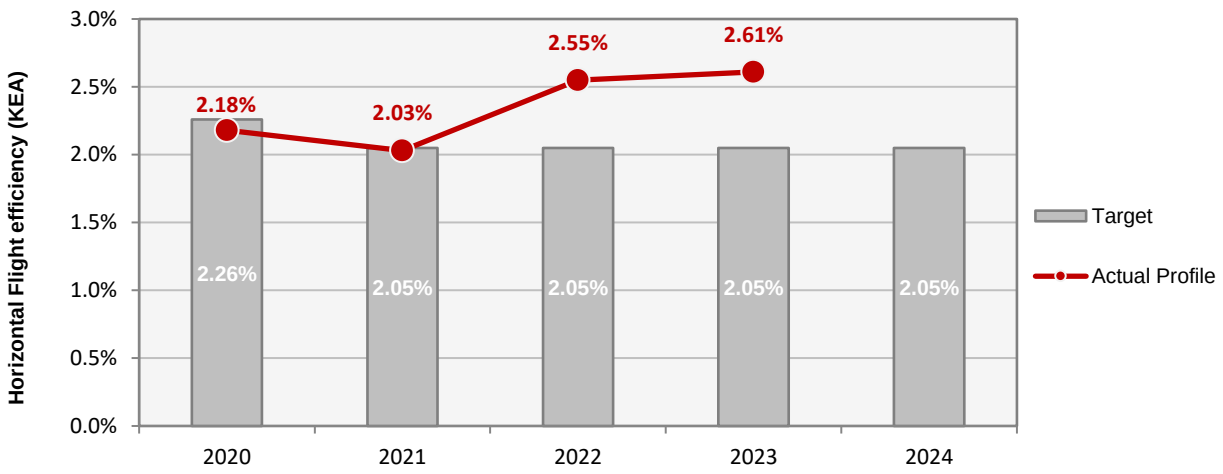
Observations

All five EoSM components of the ANSP meet, or exceed, already the RP3 target level, with only one question below maximum maturity.

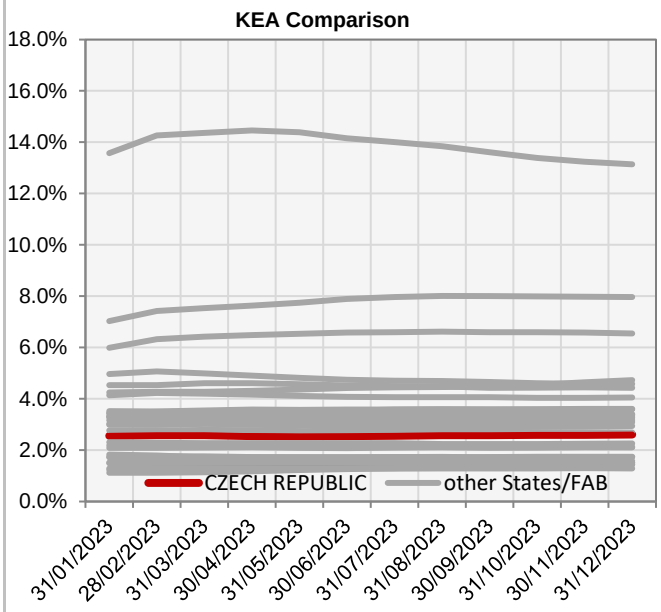
CZECH REPUBLIC

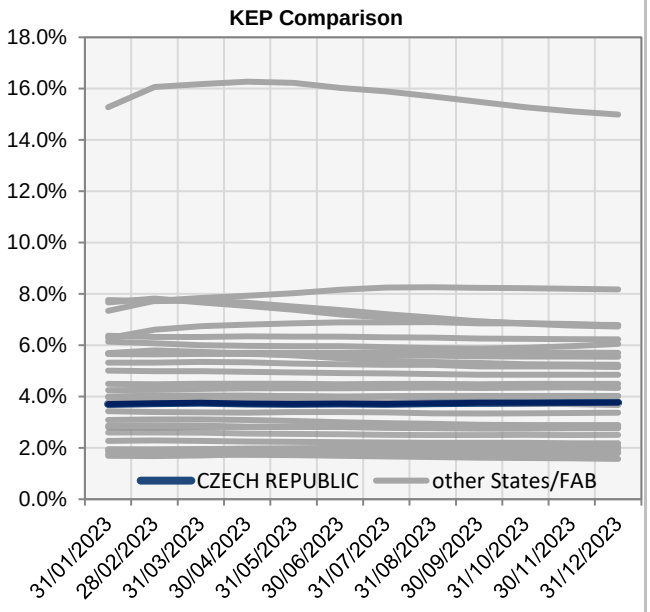
ENVIRONMENT - Horizontal flight efficiency

KEA	2020	2021	2022	2023	2024
Target	2.26%	2.05%	2.05%	2.05%	2.05%
Actual performance	2.18%	2.03%	2.55%	2.61%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	2.56%	2.58%	2.59%	2.55%	2.54%	2.55%	2.56%	2.58%	2.59%	2.60%	2.60%	2.61%
KEP	3.71%	3.74%	3.76%	3.73%	3.72%	3.73%	3.72%	3.74%	3.75%	3.75%	3.75%	3.76%
KES	3.58%	3.61%	3.62%	3.60%	3.61%	3.62%	3.63%	3.65%	3.67%	3.68%	3.68%	3.69%





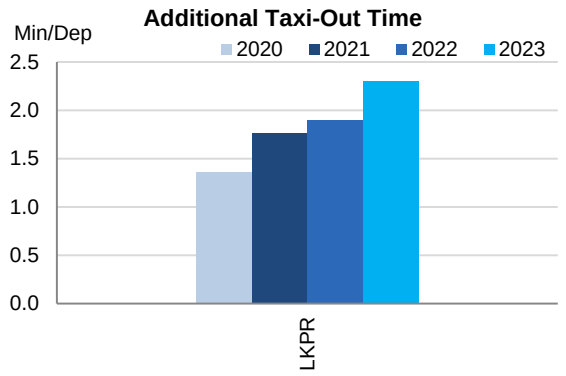
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

CZECH REPUBLIC **ENVIRONMENT - Airports**

1. Overview

Czech Republic has included only Prague in their last Performance Plan for RP3 monitoring.
The Airport Operator Data Flow, necessary for the monitoring of the additional times, is correctly established at Prague and the monitoring of all environment indicators can be performed.
Traffic this airport in 2023 was still 25% lower than in 2019, but 18% higher than in 2022.
Additional taxi-out times increased with respect to 2022, but are still below pre-COVID levels.
The share of CDO flights increased at Prague from 22.9% to 23.1%.

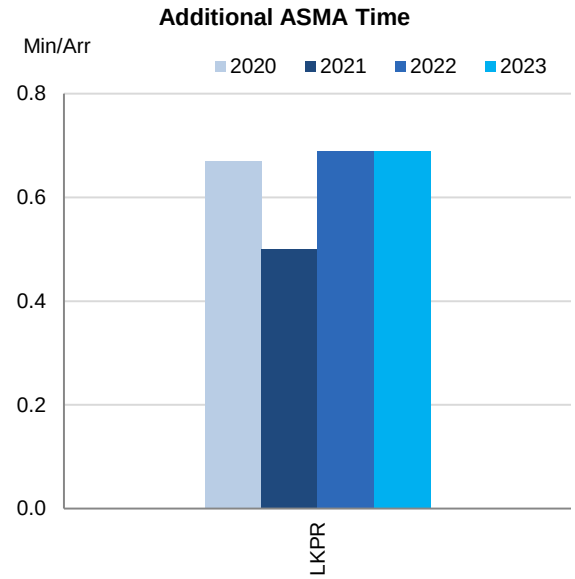
2. Additional Taxi-Out Time



Additional taxi-out times at Prague increased in 2023 (LKPR; 2019: 2.8 min/dep.LKPR; 2020: 1.36 min/dep.; 2021: 1.76 min/dep.; 2022: 1.9 min/dep.; 2023: 2.3 min/dep.), but they were still 18% lower than in 2019.

According to the Czech Republic's monitoring report:
No formal initiatives were implemented. The development of PI #3 is mainly influenced by the volume of traffic (gradual return of traffic after the COVID-19 pandemic).

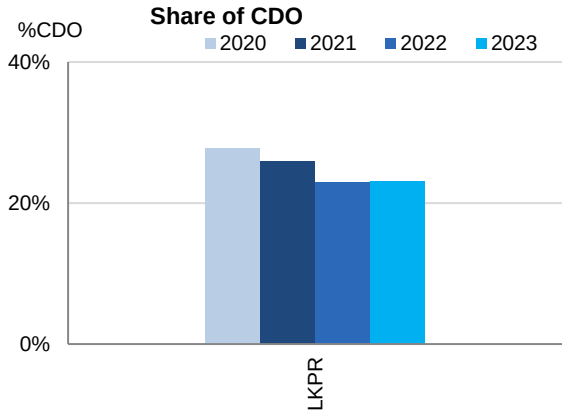
3. Additional ASMA Time



The yearly average of the additional times in the terminal airspace remained at the same level as the previous year (LKPR; 2019: 1.47 min/arr.; 2020: 0.67 min/arr.; 2021: 0.5 min/arr.; 2022: 0.69 min/arr.; 2023: 0.69 min/arr.), and it was still 53% lower than in 2019.

According to the Czech Republic's monitoring report: *No formal initiatives were implemented, but if traffic permits the aircrafts are allowed for direct routing.*
The PI monitoring is part of annual monitoring of the ANSP performance (on quarterly basis) to the CAA.

4. Share of arrivals applying CDO



The share of CDO flights increased at Prague to 23.1% which is lower than the overall RP3 value in 2023 (28.8%).

According to the Czech Republic's monitoring report: *There is no CDO officialy published procedure in FIR Prague, but if traffic permits clearence are issued in order to allow CDO. The PI monitoring is part of annual monitoring of the ANSP performance (on quaterly basis), which is provided to the CAA.*

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Prague/Ruzyne-LKPR	1.36	1.76	1.9	2.3		0.67	0.5	0.69	0.69		28%	26%	23%	23%	

CZECH REPUBLIC **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

"There is a significant impact of MIL activities on the ENV indicators. The military has the lead role in the AMC, the ANSPs has no power to evaluate the airspace reservation by the military. In any case, the implementation of FUA is regularly evaluated through monitoring organized by the CAA. The administrators of the individual TRA / TSA (mostly represented by MAA) submit the evaluation of the plans and the activation of these airspaces on a monthly basis to CAA, and any deficiencies are addressed within the ASMCG meetings or individually with specific administrators, if needed.
Airspace Charter of the Czech Republic describes the competent authorities (CIV and MIL), their responsibilities and principles by which a joint civilian-military body (ASM Committee - ASMC) carries out strategic planning for the use of the Czech Republic airspace. The Charter incorporates as annexes the descriptions of processes used to provide high quality services to airspace users and ATS providers through safe, accurate and timely planning, approval and promulgation of national airspace management measures and international cooperation. The Airspace Charter was udated at the end of 2021.
The airspace of the Czech Republic is open to flights and it is divided in accordance with the rules contained in Sections 44 - 44c) of Act No. 49/1997. Pursuant to Section 44(2) of the Act, the CAA issues, in agreement with the Ministry of Defence and after consulting the Person authorized to exercise state administration in the matters related to sport flying devices, measures of general nature under the Administrative Procedure Code on division of the airspace of the Czech Republic to ensure safe conduct of flights and efficient provision of air services. In fulfilment of that mandate, the CAA takes into account, where possible, the FUA specifications described in “EUROCONTROL Specifications for the Application of the Flexible Use of Airspace (FUA)”. Consultation with airspace users, service providers and other relevant bodies is conducted with the aim of obtaining consensus, wherever possible, before making changes in the planning or design of airspace management. The consultations are performed in a transparent way following a predefined procedure. The ASMC ensures effective cooperation at all levels through the ASM Consultation Group (ASMCG). In application of Regulation (EC) No 2150/2005, the ASMC cooperates very closely with CAA and takes into account the findings and relevant corrective measures resulting from control activities (e.g. CAA, MAA, EASA). In accordance with ICAO requirements, the CAA publishes the airspace management policy and implementation of new airspace structures and follow-up procedures or their changes so that all airspace users and ATS providers have sufficient time to comply with the new requirements.
Dynamic Airspace Management is realized at ASM Level 2 and/or ASM Level 3. Areas published in AIP CR / MIL AIP or other pre-arranged areas can be used under FUA rules as AUP manageble with UUP function updates.
The ATM systems of the Czech Airforces are directly connected to the ANS CR systems in order to present current status of reserved areas to the ATCOs. The AIM/AIS provider promulgates the planning status of the airspaces concerned in AISVIEW web tool, which serves for airspace users as an information source.
On the local level the FUA is addressed within the AMC activities, on the FAB CE level the DAM/STAM projects are in progress.The AMC is newly certificated under the EU 2017/373. The regulation 2150/2005 is fully implemented within the Czech Republic.
With aim to improve FUA within the FAB CE member states an initiative concerning TSA/TRA harmonisation was conducted at FAB CE regional level with the very first deliverebles. These FAB CE TSA/TRA Harmonisation deliverables consolidate findings and recommendations from various EUROCONTROL ASM related guidance materials, ICAO Doc 10088 ‘Manual on Civil-Military Coordination’, and previous FAB CE ASM related activities to a consolidated Concept of Operations (CONOPS) for FAB CE and makes recommendations to achieve this CONOPS. It was noted that a coordinated and cohesive ASM implementation is an enabler for improved network performance on national, sub-regional and regional level and each participating Member State and their ANSPs are encouraged to undertake activities to achieve the state-of-play described in the CONOPS. The deliverebles contain some recommendations regarding Level 1 functions, as well as Level 2 and Level 3.
It was recognised that the overall ASM is State dependent and the purpose of this activity is not to attempt to override this State prerogative. However, as the topics contained in the activity and the resulting deliverables have been unanimously accepted by the participating States (via FAB CE Council and via FAB CE Joint Civil-Military Airspace Coordination Committee) and NSA (via NSA Coordination Committee) and ANSPs (via OPS SubC) the recommendations made should be considered for application by all States and ANSPs involved.
In a response of the War in Ukraine NATO corridors were created to ensure smoth operational MIL traffic from the West to the East and opposite in 2022. NATO corridors that were created within the framework of the ASM strategic level in the airspace of class ""C"" above FL 095 were at the beginning AMC manageable and later on they were handled as non AMC manageable, and their activation and deactivation is carried out at the tactical level. The corridors continued to be used in 2023."

Military - related measures implemented or planned to improve capacity

"The traffic complexity manager (a tool developed with the SESAR support) was put into full operational use in 2020. The tool is predicting traffic load in particular sectors (including military activities) and thus allowing for better ATCOs usage and improvement in capacity area.
The establishment of Airspace designer function was preparing during the year 2021 to be ready at the begining of 2022 and serves as a goverment service for professional preparation of requests and supporting documentation for all changes in the airspace structures in future."

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Czech Republic	40%	35%	36%	57%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Prague	40%	35%	36%		

Initiatives implemented or planned to improve PI#6

"Airspace Charter of the Czech Republic describes the competent authorities (CIV and MIL), their responsibilities and principles by which a joint civilian-military body (ASM Committee - ASMC) carries out strategic planning for the use of the Czech Republic airspace. The Charter incorporates as annexes the descriptions of processes used to provide high quality services to airspace users and ATS providers through safe, accurate and timely planning, approval and promulgation of national airspace management measures and international cooperation. The Airspace Charter was udated at the end of 2021.
The airspace of the Czech Republic is open to flights and it is divided in accordance with the rules contained in Sections 44 - 44c) of Act No. 49/1997. Pursuant to Section 44(2) of the Act, the CAA issues, in agreement with the Ministry of Defence and after consulting the Person authorized to exercise state administration in the matters related to sport flying devices, measures of general nature under the Administrative Procedure Code on division of the airspace of the Czech Republic to ensure safe conduct of flights and efficient provision of air services. In fulfilment of that mandate, the CAA takes into account, where possible, the FUA specifications described in “EUROCONTROL Specifications for the Application of the Flexible Use of Airspace (FUA)”. Consultation with airspace users, service providers and other relevant bodies is conducted with the aim of obtaining consensus, wherever possible, before making changes in the planning or design of airspace management. The consultations are performed in a transparent way following a predefined procedure. The ASMC ensures effective cooperation at all levels through the ASM Consultation Group (ASMCG). In application of Regulation (EC) No 2150/2005, the ASMC cooperates very closely with NSA and takes into account the findings and relevant corrective measures resulting from control activities (e.g. CAA, MAA, EASA). In accordance with ICAO requirements, the CAA publishes the airspace management policy and implementation of new airspace structures and follow-up procedures or their changes so that all airspace users and ATS providers have sufficient time to comply with the new requirements. Within its competencies, the ASMC supports the implementation of performance schemes. The conclusions adopted by the ASMC contributes to meeting the relevant performance targets and complying with EU-wide performance targets. The performance monitoring and the assessment and review of FUA operational performance are organised by CAA and MAA.
Dynamic Airspace Management is realized at ASM Level 2 and/or ASM Level 3. Areas published in AIP CR / MIL AIP or other pre-arranged areas can be used under FUA rules as AUP manageble with UUP function updates. FUA evaluation is performed monthly by individual TRA / TSA administrators and reported to the CAA. Deficiencies are addressed both within the ASMCG meetings and individually with individual administrators, if needed.
With aim to improve FUA within the FAB CE member states an initiative concerning TSA/TRA harmonisation was conducted at FAB CE regional level with the very first deliverebles. These FAB CE TSA/TRA Harmonisation deliverables consolidate findings and recommendations from various EUROCONTROL ASM related guidance materials, ICAO Doc 10088 ‘Manual on Civil-Military Coordination’, and previous FAB CE ASM related activities to a consolidated Concept of Operations (CONOPS) for FAB CE and makes recommendations to achieve this CONOPS. It was noted that a coordinated and cohesive ASM implementation is an enabler for improved network performance on national, sub-regional and regional level and each participating Member State and their ANSPs are encouraged to undertake activities to achieve the state-of-play described in the CONOPS. The deliverables contain some recommendations regarding Level 1 functions, as well as Level 2 and Level 3.
NATO corridors that were created within the framework of the ASM strategic level in the airspace of class ""C"" above FL 095 were at the beginning AMC manageable and later on they were handled as non AMC manageable, and their activation and deactivation is carried out at the tactical level. The corridors continued to be used in 2023.
It was recognised that the overall ASM is State dependent and the purpose of this activity is not to attempt to override this Sate prerogative. However, as the topics contained in the activity and the resulting deliverables have been unanimously accepted by the participating States (via FAB CE Council and via FAB CE Joint Civil-Military Airspace Coordination Committee) and NSA (via NSA Coordination Committee) and ANSPs (via OPS SubC) the recommendations made should be considered for application by all States and ANSPs involved."

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Czech Republic			n/a	n/a	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Prague			n/a	n/a	

Initiatives implemented or planned to improve PI#7

There are no data available in the Czech Republic.

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Czech Republic			n/a	n/a	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Prague			n/a	n/a	

Initiatives implemented or planned to improve PI#8

There are no data available in the Czech Republic.

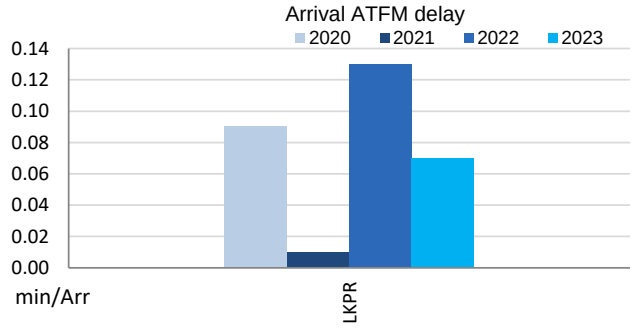
CZECH REPUBLIC **CAPACITY - Airports**

1. Overview

Czech Republic has included only Prague in their last Performance Plan for RP3 monitoring.
The Airport Operator Data Flow, necessary for the monitoring of the additional times, is correctly established at Prague and the monitoring of all environment indicators can be performed.
Traffic this airport in 2023 was still 25% lower than in 2019, but 18% higher than in 2022.

Average arrival ATFM delays in 2023 was 0.07 min/arr, compared to 0.13 min/arr in 2022. The target was met.
ATFM slot adherence has improved (2023: 97%; 2022: 96.1%).

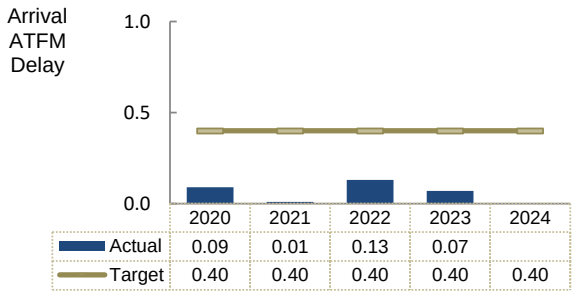
2. Arrival ATFM Delay



Delays at Prague (LKPR: 2019: 0.18 min/arr.; 2020: 0.09 min/arr.; 2021: 0.01 min/arr.; 2022: 0.13 min/arr.; 2023: 0.07 min/arr.) decreased in 2023. 95% of the delays were attributed to weather, and 5% attributed to ATC Capacity.

According to the Czech monitoring report: I*n line with long-term trend in the terminal capacity and with contribution of the low traffic the target was met.*
There were no significant ATFM delay at Prague/Ruzyne airport.
Russia's aggression against Ukraine has major impact on LKPR OPS. Because of ban on flights to/from Russia and Belarus and no flight zone in Ukraine LKPR suffers from significant traffic reduction.

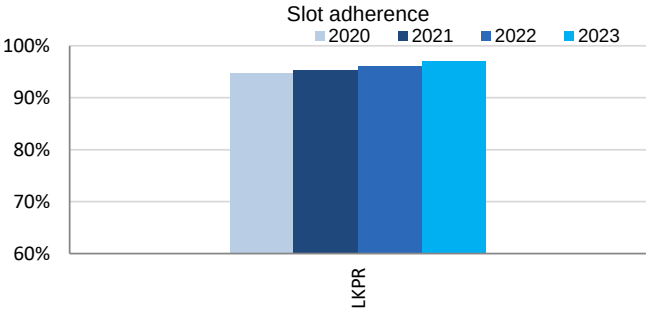
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.09	0.01	0.13	0.07	
Target	0.40	0.40	0.40	0.40	0.40

The Czech performance plan sets a national target on arrival ATFM delay for all RP3 of 0.4 min/arr. This target was met in 2023 with an actual performance of 0.07 min/arr.
According to the Czech monitoring report, this performance corresponds to the maximum bonus (0.50%), computed by the NSA as CZK*2717741,44* .

4. ATFM Slot Adherence



The slot adherence in 2023 was 97%, a slight improvement with respect to 2022 (96.1%). With regard to the 3% of flights that did not adhere, 1.1% was early and 1.9% was late.
According to the Czech monitoring report: *The ATFM slot adherence was within the required range and was even better than in the previous year. In order to keep these levels, ANS CR monitors the value on a monthly basis and continuously educates ATCOs.*
The ATFM slot adherence is part of the regular reporting on the implementation of the ANSP, which is sent quarterly to NSA.

5. ATC Pre-departure Delay

The quality of the airport data reported by Prague (the only Czech airport subject to monitoring of this indicator) is too low, preventing the calculation of this indicator.

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Prague.
However, there are several quality checks before EUROCONTROL can produce the final value which is established as the average minutes of pre-departure delay (delay in the actual off block time) associated to the IATA delay code 89 (through the APDF, for each delayed flight, the reasons for that delay have to be transmitted and coded according to IATA delay codes.
However, sometimes the airport operator has no information concerning the reasons for the delay in the off block, or they cannot convert the reasons to the IATA delay codes. In those cases, the airport operator might:
- Not report any information about the reasons for the delay for that flight (unreported delay)
- Report a special code to indicate they do not have the information (code ZZZ)
- Report a special code to indicate they do not have the means to collect and/or translate the information (code 999)
To be able to calculate with a minimum of accuracy the PI for a given month, the minutes of delay that are not attributed to any IATA code reason should not exceed 40% of the total minutes of pre-departure delay observed at the airport.
Finally, to be able to produce the annual figure, at least 10 months of valid data is requested by EUROCONTROL.

The share of unidentified delay reported by Prague was above 40% for 10 months in 2022, preventing the calculation of this indicator.

6. All Causes Pre-departure Delay

Prague is the only Czech airport subject to the monitoring of this indicator.
The total (all causes) delay in the actual off block time at Prague in 2023 improved with respect to 2022 (LKPR: 2020: 8.30 min/dep.; 2021: 8.32 min/dep.; 2022: 17.92 min/dep.; 2023: 16.12 min/dep.).

According to the Czech monitoring report:
The main causes of the delay are: En-route delay - 19,55%; Airline delay - 15, 42%; Airport delay - 5,75%; Weather - 5,4%; Security & Immigration - 1,39% and Other - 52,41%. The variety of the measures has been made by the airport operator during the 2023 for increasing the capacity in the operational and safety areas. There is list of the main operational measures:
- Regular operational coordination meetings,
- Automation of TOBT time entry for General and Business Aviation flights ,
- Storm scenario - synchronized MET information sharing and automated sending of storm activity alerts via email to all stakeholders,
- in PAXMAN - prediction of passenger arrival curves for terminal hubs and sharing with LP and ICP operations
- Throughput simulation on T1 pass filters,
- Verification of airport fixed resource capacity through a model scenario,
- Adjustment of check-in counter charging as an incentive to use resources more efficiently,
- Plan to reinforce GAV control room staffing during special events (e.g. EU Summit),
- Increase of 9 FTEs of boarding bridge driver-operators compared to S22,
- Reinforcement of the PCL team by using 10 drivers to maintain the airfields in winter,
- Ongoing recruitment of FTE/DPP drivers with the aim of scheduling these primarily to cover operational peaks,
- Shifting some aircraft/carriers previously using remote stands to contact stands during peak periods (FR 10%, W6 30%),
- Inspection of specific parts and systems of Cobus buses beyond regular maintenance.
The following measures were taken in the area of Safety:
- Accurate and effective strategic, pre-tactical planning of operational needs and operational management of BEK staff. Automated planning of BEK staffing needs according to accurate operational forecasts. Pre-tactical verification of the provision of operational needs.
- Rapid extension of the Digital Employee project for fast and secure communication with BEK staff (HPP and FTE). Creation of a free shift exchange.

- Verification of BEK's technology resource capacity, contingency plan for technology use in case of failure/shortage to minimize impact on capacity and passenger satisfaction.
- Managed cutting of operational peaks, increasing the probability of breaching waiting time as per SLA.
- Verification of BEK staffing capacity against model flight schedule.
- Plan to staff VIP lounges and T3 in case of increased traffic/excursions.
- Increasing BEK's HPP staffing levels to 100%, part-time and FTE staff. Active recruitment and training of staff is ongoing.
- Expansion of use of FTE staff, up-skilling.
- Revision of BEK's operational procedures.
- Individual approach to new staff - reducing turnover and increasing satisfaction.
- Revision of control system, support for system solutions, fair treatment of workers.
- Planned upgrade of dispatch phones.
- Ensuring all necessary.
- Providing all necessary training during the winter season, cancelling planned training and skills development activities during the summer season.
- Individual interviews with all BEK staff - motivation to cope with the summer season.
- Design of performance and stabilization bonuses for BEK staff.
- Coordination meeting with OLE - taking over BEK workplaces.
And many other operational measures such as:
- Change in allocation of standing flights (remote vs. boarding bridges) in favor of boarding bridges.
- adjusting the composition of operations teams and their shifts evaluating the model week forecast demand for airport resources
- inclusion of the PRM team in the model week evaluation

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Prague/Ruzyne-LKPR	0.09	0.01	0.13	0.07		94.7%	95.3%	96.1%	97.0%		n/a	n/a	n/a	n/a		8.30	8.32	17.92	16.12	

CZECH REPUBLIC: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Czech Republic ECZ represents 1.7% of the SES en route ANS actual costs in 2023
- National currency: CZK Exchange rates (1 EUR=) 2017: 26.3115 CZK 2023: 23.9676 CZK
- Performance Plan: RP3 draft performance plan dated 04 February 2022 and found consistent as per Commission Decision (EU) 2022/772 of 13 April 2022
  The final version of the plan was adopted and published by Czech Republic in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Czech Republic: Data from RP3 Performance Plan		2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal CZK)		2 801 150 791	2 540 127 380	5 341 278 171	3 093 207 552	3 313 232 021	3 375 276 257
Inflation %		3.3%	2.3%		2.0%	2.0%	2.0%
Inflation index (100 in 2017)		108.1	110.6		112.8	115.0	117.3
Real en route costs (CZK2017)		2 663 873 711	2 392 525 450	5 056 399 161	2 866 536 564	3 033 769 012	3 047 424 812
Total en route service units		1 138 417	1 280 175	2 418 592	1 840 802	2 195 628	2 514 308
Real en route DUC per service unit (CZK2017)		**2 339.98**	**1 868.90**	**2 090.64**	**1 557.22**	**1 381.73**	**1 212.03**
Real en route DUC per service unit (€2017)		**88.93**	**71.03**	**79.46**	**59.18**	**52.51**	**46.06**
Czech Republic: Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
En route costs (nominal CZK)		2 801 150 791	2 360 900 756	5 162 051 547	2 874 751 251	3 366 327 307	
Inflation %		3.3%	3.3%		14.8%	12.0%	
Inflation index (100 in 2017)		108.1	111.7		128.2	143.6	
Real en route costs (CZK2017)		2 663 873 711	2 213 371 381	4 877 245 092	2 474 660 501	2 669 466 936	
Total en route service units		1 138 417	1 280 175	2 418 592	1 814 184	2 004 226	
Real en route AUC per service unit (CZK2017)		**2 339.98**	**1 728.96**	**2 016.56**	**1 364.06**	**1 331.92**	
Real en route AUC per service unit (€2017)		**88.93**	**65.71**	**76.64**	**51.84**	**50.62**	
Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
En route costs (nominal CZK)	in value	0	-179 226 624	-179 226 624	-218 456 301	53 095 286	
	in %	-	-7.1%	-3.4%	-7.1%	+1.6%	
Inflation %	in p.p.	0.0 p.p.	1.0 p.p.		12.8 p.p.	10.0 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.1 p.p.		15.4 p.p.	28.6 p.p.	
Real en route costs (CZK2017)	in value	0	-179 154 069	-179 154 069	-391 876 063	-364 302 076	
	in %	-	-7.5%	-3.5%	-13.7%	-12.0%	
Total en route service units	in value	0	0	0	-26 618	-191 402	
	in %	-	-	-	-1.4%	-8.7%	
Real en route unit cost per service unit (CZK2017)	**in value**	**0.00**	**-139.94**	**-74.07**	**-193.16**	**-49.81**	
	in %	**-**	**-7.5%**	**-3.5%**	**-12.4%**	**-3.6%**	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-5.32**	**-2.82**	**-7.34**	**-1.89**	
	in %	**-**	**-7.5%**	**-3.5%**	**-12.4%**	**-3.6%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -3.6% (or -49.81 CZK2017, -1.89 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned en route costs in real terms (-12.0%, or -364.3 MCZK2017, -13.8 M€2017) and significantly lower than planned TSUs (-8.7%). It should be noted that actual inflation index in 2023 was +28.6 p.p. higher than planned.

En route service units

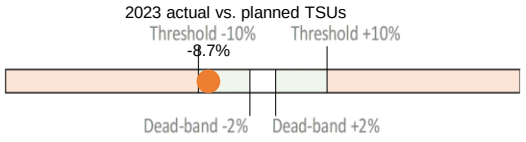
The difference between actual and planned TSUs (-8.7%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

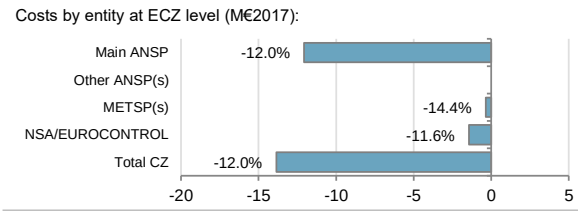
En route costs by entity

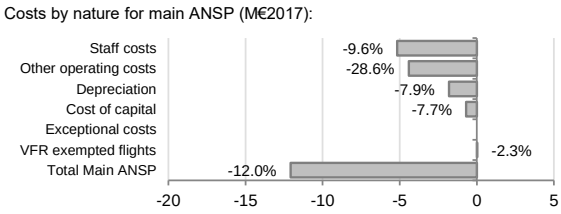
Actual real en route costs are -12.0% (-13.8 M€2017) lower than planned. This is the result of lower costs for the main ANSP, ANS CR (-12.0%, or -12.1 M€2017), the NSA/EUROCONTROL (-11.6%, or -1.4 M€2017) and the MET service provider (-14.4%, or -0.4 M€2017).

En route costs for the main ANSP (ANS CR) at charging zone level

Significantly lower than planned en route costs in real terms for ANS CR in 2023 (-12.0%, or -12.1 M€2017) result from:
- Significantly lower staff costs in real terms (-9.6%), but higher costs in nominal terms (+12.9%), impacted by much higher-than-expected inflation rate;
- Significantly lower other operating costs (-28.6%), thanks to cost containment measures in the areas of repairs, travel expenses and software support;
- Significantly lower depreciation costs (-7.9%), reflecting deferred system upgrades and supplier delays in the DPS area, but also cash flow issues due to lower traffic levels leading to a reprioritisation of investment;
- Significantly lower cost of capital (-7.7%), as a result of "a gap in some investments and consequently lower asset base";
- Lower deduction for VFR exempted flights (-2.3%).







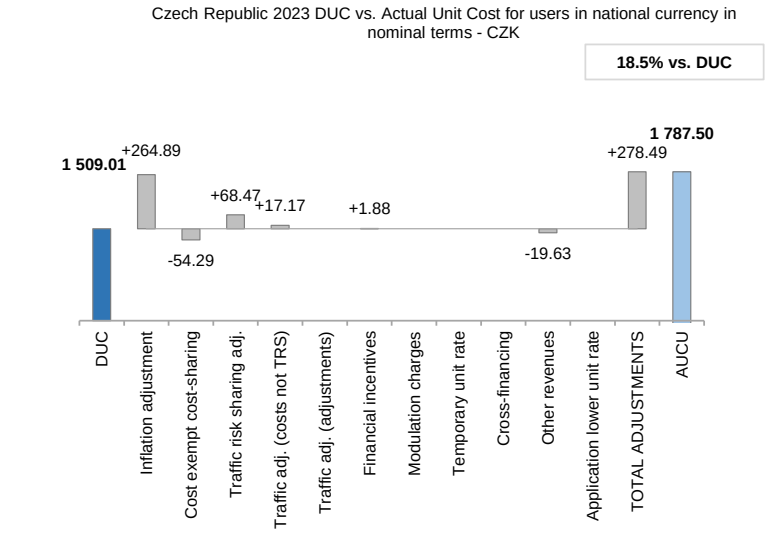
CZECH REPUBLIC: En route charging zone — Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	CZK/SU	€/SU
Initial DUC charged	1 509.01	62.96
DUC to be charged retroactively	0.00	0.00
DUC	**1 509.01**	**62.96**
Inflation adjustment	264.89	11.05
Cost exempt from cost-sharing	-54.29	-2.27
Traffic risk sharing adjustment	68.47	2.86
Traffic adj. (costs not TRS)	17.17	0.72
Traffic adj. (adjustments)*		
Financial incentives	1.88	0.08
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-19.63	-0.82
Application of lower unit rate	0.00	0.00
Total adjustments	278.49	11.62
AUCU	**1 787.50**	**74.58**
AUCU vs. DUC	**+18.5%**	**+18.5%**

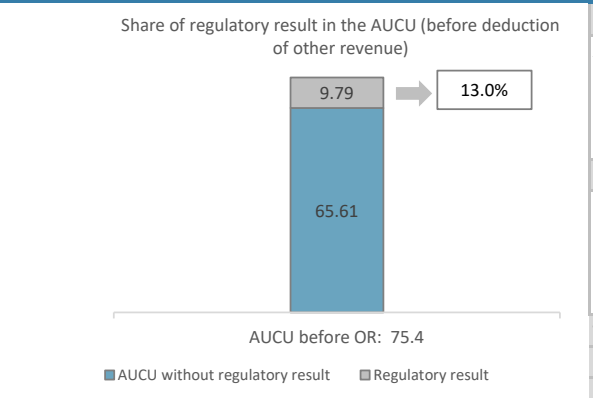
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		CZK '000	€ '000	CZK/SU	€/SU
by item	New and existing investments	-70 471	-2 940	-35.16	-1.47
	Competent authorities and qualified entities costs	4 558	190	2.27	0.09
	Eurocontrol costs	-42 129	-1 758	-21.02	-0.88
	Pension costs	-768	-32	-0.38	-0.02
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-108 810**	**-4 540**	**-54.29**	**-2.27**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	CZK '000	€ '000	CZK/SU	€/SU
ANS CR	456 167	19 033	227.60	9.50
METSP(s)	**CZK '000**	**€ '000**	**CZK/SU**	**€/SU**
Czech Republic MET	14 024	585	7.00	0.29
Total charging zone	470 191	19 618	234.60	9.79
Actual cost for users* **	3 621 898	151 116	1 807.13	75.40
Regulatory result (% AUCU)	13.0%	13.0%	13.0%	13.0%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (1 787.50 CZK or 74.58 €) is +18.5% higher than the nominal DUC (1 509.01 CZK or 62.96 €). The difference between these two figures (+278.49 CZK/SU or +11.62 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+264.89 CZK/SU or +11.05 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-54.29 CZK/SU or -2.27 €/SU);
- the addition of the traffic risk sharing adjustments (+68.47 CZK/SU or +2.86 €/SU);
- the addition of the traffic adjustment (+17.17 CZK/SU or +0.72 €/SU) for the costs not subject to traffic risk sharing;
- the financial incentives (+1.88 CZK/SU or +0.08 €/SU); and
- the deduction of the other revenues (-19.63 CZK/SU or -0.82 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 13.0%.

CZECH REPUBLIC: En route main ANSP (ANS CR) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

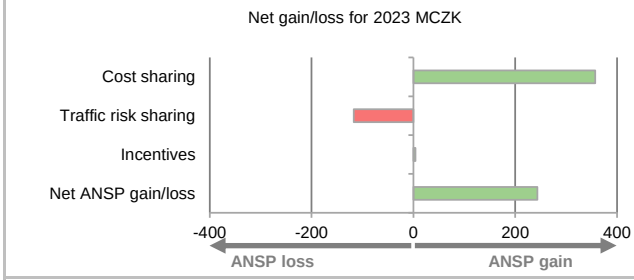
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

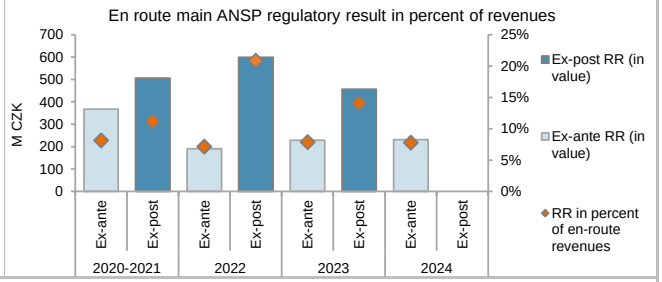
Cost sharing (CZK '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	152 492	203 017	-88 317	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	14 933	265 516	515 559	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-15 369	-25 508	-70 124	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**152 057**	**443 026**	**357 117**	
Traffic risk sharing (CZK '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.0%	-1.4%	-8.7%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	4 525 536	2 678 129	2 918 540	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**0**	**-38 726**	**-117 186**	
Incentives (CZK '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**3 759**	
Net ANSP gain(+)/loss(-) on en route activity (CZK '000)	**152 057**	**404 300**	**243 690**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**5 935**	**16 482**	**10 167**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ANS CR planned regulatory result (CZK '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	3 865 827	3 861 480	7 727 308	4 022 141	4 549 321	4 405 165
Proportion of financing through equity (in %)	82%	54%	68%	47%	56%	62%
RoE pre-tax rate (in %)	5.6%	9.2%	7.0%	10.0%	9.0%	8.4%
RoE (in value)	175 793	191 853	367 646	190 620	229 041	230 983
Ex-ante regulatory result (+/-) for the en route charging zone	**175 793**	**191 853**	**367 646**	**190 620**	**229 041**	**230 983**
Revenue for the en route charging zone	**2 392 069**	**2 133 467**	**4 525 536**	**2 678 129**	**2 918 540**	**2 976 320**
Ex-ante regulatory result (+/-) in percent of revenues	**7.3%**	**9.0%**	**8.1%**	**7.1%**	**7.8%**	**7.8%**
Ex-ante RoE pre-tax rate (in %)	**5.6%**	**9.2%**	**7.0%**	**10.0%**	**9.0%**	**8.4%**
ANS CR actual regulatory result (CZK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	3 865 827	3 904 165	7 769 992	3 914 076	3 988 607	
Proportion of financing through equity (in %)	82%	50%	66%	50%	59%	
RoE pre-tax rate (in %)	5.6%	9.2%	6.9%	10.0%	9.0%	
RoE (in value)	175 793	177 917	353 709	195 015	212 477	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	152 057	152 057	404 300	243 690	
Ex-post regulatory result (+/-) for the en route charging zone	**175 793**	**329 973**	**505 766**	**599 315**	**456 167**	
Revenue for the en route charging zone	**2 392 069**	**2 133 032**	**4 525 101**	**2 879 412**	**3 250 547**	
Ex-post regulatory result (+/-) in percent of revenues	**7.3%**	**15.5%**	**11.2%**	**20.8%**	**14.0%**	
Ex-post RoE pre-tax rate (in %)	**5.6%**	**17.0%**	**9.9%**	**30.7%**	**19.2%**	

13. Focus on the main ANSP regulatory result on en route activity





ANS CR net gain on activity in the Czech Republic en route charging zone in the year 2023

ANS CR reported a net gain of +243.7 MCZK, as a combination of a gain of +357.1 MCZK arising from the cost sharing mechanism, with a loss of -117.2 MCZK arising from the traffic risk sharing mechanism and a gain of +3.7 MCZK relating to financial incentives.

ANS CR overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+243.7 MCZK) and the actual RoE (+212.5 MCZK) amounts to +456.2 MCZK (14.0% of the en route revenues). The resulting ex-post rate of return on equity is 19.2%, which is higher than the 9.0% planned in the PP.

CZECH REPUBLIC: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
Czech Republic MET planned regulatory result (CZK '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	**2 865**	**2 327**	**5 192**	**2 267**	**2 101**	**1 935**
Revenue for the en route charging zone	**67 258**	**65 132**	**132 390**	**70 149**	**71 836**	**73 594**
Ex-ante regulatory result (+/-) in percent of revenues	**4.3%**	**3.6%**	**3.9%**	**3.2%**	**2.9%**	**2.6%**
Ex-ante RoE pre-tax rate (in %)	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**
Czech Republic MET actual regulatory result (CZK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	**2 865**	**658**	**3 523**	**11 508**	**14 024**	
Revenue for the en route charging zone	**67 258**	**66 896**	**134 155**	**79 024**	**86 066**	
Ex-post regulatory result (+/-) in percent of revenues	**4.3%**	**1.0%**	**2.6%**	**14.6%**	**16.3%**	
Ex-post RoE pre-tax rate (in %)	**5.0%**	**1.4%**	**3.4%**	**24.7%**	**32.7%**	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Czech Republic (Czech Republic MET) corresponds to 16.3% of the en route revenues. The ex-post RoE 32.7% is higher than planned 5.0%.

CZECH REPUBLIC: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Czech Republic TCZ represents 1.3% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: CZK Exchange rates (1 EUR=) 2017: 26.3115 CZK 2023: 23.9676 CZK
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Czech Republic: Data from RP3 Performance Plan		2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal CZK)		491 381 600	358 521 360	849 902 960	452 412 380	535 350 786	543 432 271
Inflation %		3.3%	2.3%		2.0%	2.0%	2.0%
Inflation index (100 in 2017)		108.1	110.6		112.8	115.0	117.3
Real terminal costs (CZK2017)		462 397 169	332 186 162	794 583 331	416 392 320	485 619 488	485 843 805
Total terminal service units		28 247	31 963	60 210	60 440	77 210	91 320
Real terminal DUC per service unit (CZK2017)		**16 369.96**	**10 392.83**	**13 196.93**	**6 889.35**	**6 289.59**	**5 320.23**
Real terminal DUC per service unit (€2017)		**622.16**	**394.99**	**501.57**	**261.84**	**239.04**	**202.20**
Czech Republic: Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Terminal costs (nominal CZK)		491 381 600	330 035 000	821 416 600	436 513 252	543 548 288	
Inflation %		3.3%	3.3%		14.8%	12.0%	
Inflation index (100 in 2017)		108.1	111.7		128.2	143.6	
Real terminal costs (CZK2017)		462 397 169	303 994 471	766 391 640	366 427 387	415 668 254	
Total terminal service units		28 247	31 773	60 020	57 039	69 735	
Real terminal AUC per service unit (CZK2017)		**16 369.96**	**9 567.72**	**12 769.02**	**6 424.16**	**5 960.68**	
Real terminal AUC per service unit (€2017)		**622.16**	**363.63**	**485.30**	**244.16**	**226.54**	
Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Terminal costs (nominal CZK)	in value	0	-28 486 360	-28 486 360	-15 899 128	8 197 502	
	in %	-	-7.9%	-3.4%	-3.5%	+1.5%	
Inflation %	in p.p.	0.0 p.p.	1.0 p.p.		12.8 p.p.	10.0 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.1 p.p.		15.4 p.p.	28.6 p.p.	
Real terminal costs (CZK2017)	in value	0	-28 191 691	-28 191 691	-49 964 934	-69 951 234	
	in %	-	-8.5%	-3.5%	-12.0%	-14.4%	
Total terminal service units	in value	0	-190	-190	-3 401	-7 475	
	in %	-	-0.6%	-0.3%	-5.6%	-9.7%	
Real terminal unit cost per service unit (CZK2017)	**in value**	**0.00**	**-825.11**	**-427.91**	**-465.19**	**-328.91**	
	in %	**-**	**-7.9%**	**-3.2%**	**-6.8%**	**-5.2%**	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-31.36**	**-16.26**	**-17.68**	**-12.50**	
	in %	**-**	**-7.9%**	**-3.2%**	**-6.8%**	**-5.2%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -5.2% (or -328.91 CZK2017, -12.5 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned terminal costs in real terms (-14.4%, or -70.0 MCZK2017, -2.7 M€2017) and significantly lower than planned TNSUs (-9.7%). It should be noted that actual inflation index in 2023 was +28.6 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-9.7%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

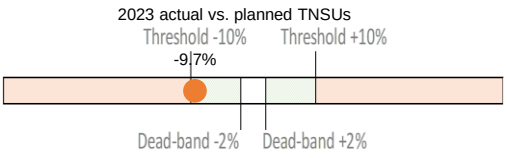
Terminal costs by entity

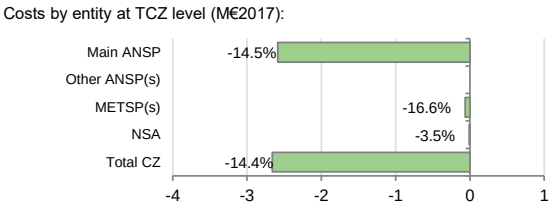
Actual real terminal costs are -14.4% (-2.7 M€2017) lower than planned. This is the result of lower costs for the main ANSP, ANS CR (-14.5%, or -2.6 M€2017), the MET service provider (-16.6%, or -0.1 M€2017) and the NSA (-3.5%, or 0.01 M€2017).

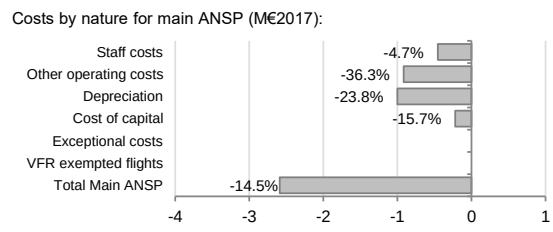
Terminal costs for the main ANSP (ANS CR) at charging zone level

Significantly lower than planned terminal costs in real terms for ANS CR in 2023 (-14.5%, or -2.6 M€2017) result from:

- Lower staff costs (-4.7%), but higher costs in nominal terms (+19.0%), impacted by much higher-than-expected inflation rate;
- Significantly lower other operating costs (-36.3%), thanks to cost containment measures in the areas of repairs, travel expenses and software support;
- Significantly lower depreciation (-23.8%), reflecting deferred system upgrades and supplier delays in the DPS area, but also cash flow issues due to lower traffic levels leading to a reprioritisation of investment;
- Significantly lower cost of capital (-15.7%), as a result of "a gap in some investments and consequently lower asset base".







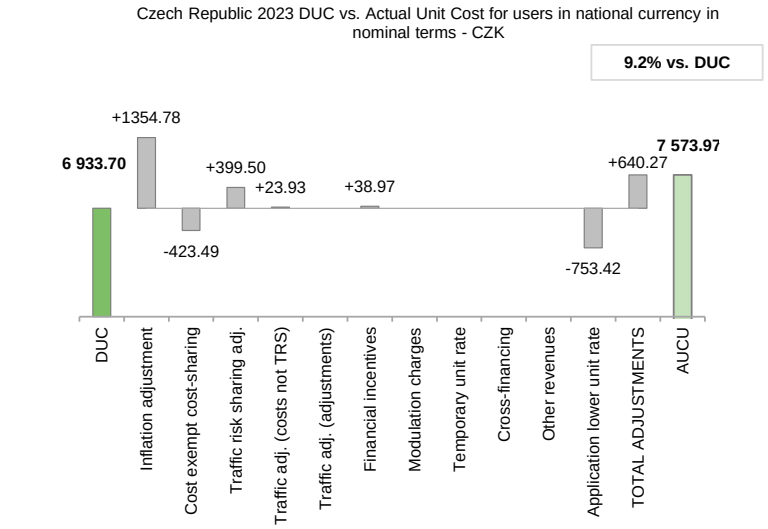
CZECH REPUBLIC: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	CZK/SU	€/SU
Initial DUC charged	6 933.70	289.29
DUC to be charged retroactively	0.00	0.00
DUC	**6 933.70**	**289.29**
Inflation adjustment	1 354.78	56.53
Cost exempt from cost-sharing	-423.49	-17.67
Traffic risk sharing adjustment	399.50	16.67
Traffic adj. (costs not TRS)	23.93	1.00
Traffic adj. (adjustments)*		
Financial incentives	38.97	1.63
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	0.00	0.00
Application of lower unit rate	-753.42	-31.43
Total adjustments	640.27	26.71
AUCU	**7 573.97**	**316.01**
AUCU vs. DUC	**9.2%**	**9.2%**

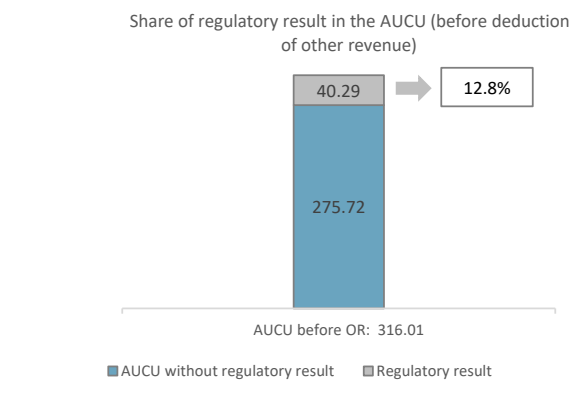
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		CZK '000	€ '000	CZK/SU	€/SU
by item	New and existing investments	-31 724	-1 324	-454.93	-18.98
	Competent authorities and qualified entities costs	-213	-9	-3.06	-0.13
	Eurocontrol costs	0	0	0.00	0.00
	Pension costs	2 406	100	34.50	1.44
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-29 532**	**-1 232**	**-423.49**	**-17.67**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	CZK '000	€ '000	CZK/SU	€/SU
ANS CR	65 114	2 717	933.73	38.96
METSP(s)	**CZK '000**	**€ '000**	**CZK/SU**	**€/SU**
Czech Republic-MET	2 233	93	32.03	1.34
Total charging zone	67 347	2 810	965.76	40.29
Actual cost for users* **	528 171	22 037	7 573.97	316.01
Regulatory result (% AUCU)	12.8%	12.8%	12.8%	12.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (7 573.97 CZK or 316.01 €) is +9.2% higher than the nominal DUC (6 933.70 CZK or 289.29 €). The difference between these two figures (+640.27 CZK/SU or +26.71 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+1 354.78 CZK/SU or +56.53 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-423.49 CZK/SU or -17.67 €/SU);
- the addition of the traffic risk sharing adjustments (+399.50 CZK/SU or +16.67 €/SU);
- the addition of the traffic adjustment (+23.93 CZK/SU or +1.00 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+38.97 CZK/SU or +1.63 €/SU); and
- application of a lower unit rate as foreseen in Art. 29(6) in year 2023 (-753.42 CZK/SU or -31.43 €/SU); and

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 12.8%.

CZECH REPUBLIC: Terminal main ANSP (ANS CR) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: It should be noted that, since the Czech Republic caps the terminal UR, the ex-post RR is partially offset by the loss of revenues due to the application of the lower unit rate as per Art. 29.6 (loss of revenue as per Art. 29.6 in 2023 corresponds to -52.5 MCZK).

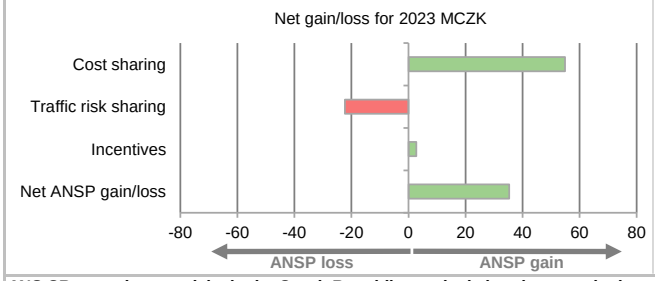
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

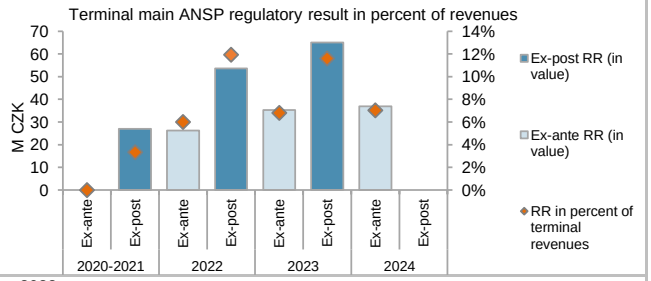
Cost sharing (CZK '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	28 254	12 917	-8 335	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	2 677	42 247	92 139	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 348	-14 642	-28 960	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**29 583**	**40 522**	**54 844**	
Traffic risk sharing (CZK '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-0.3%	-5.6%	-9.7%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	813 948	435 527	518 114	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-2 570**	**-13 450**	**-22 302**	
Incentives (CZK '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**2 718**	
Net ANSP gain(+)/loss(-) on terminal activity (CZK '000)	**27 013**	**27 072**	**35 260**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**1 054**	**1 104**	**1 471**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ANS CR planned regulatory result (CZK '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	543 103	568 160	1 111 263	552 181	699 504	704 616
Proportion of financing through equity (in %)	82%	54%	68%	47%	56%	62%
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	10.0%	9.0%	8.4%
RoE (in value)	0	0	0	26 169	35 217	36 946
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**26 169**	**35 217**	**36 946**
Revenue for the terminal charging zone	**471 938**	**342 010**	**813 948**	**435 527**	**518 114**	**525 833**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**6.0%**	**6.8%**	**7.0%**
Ex-ante RoE pre-tax rate (in %)	**0.0%**	**0.0%**	**0.0%**	**10.0%**	**9.0%**	**8.4%**
ANS CR actual regulatory result (CZK '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	543 103	550 660	1 093 764	532 566	558 859	
Proportion of financing through equity (in %)	82%	50%	66%	50%	60%	
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	10.0%	9.0%	
RoE (in value)	0	0	0	26 535	29 854	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	27 013	27 013	27 072	35 260	
Ex-post regulatory result (+/-) for the terminal charging zone (see Note 1)	**0**	**27 013**	**27 013**	**53 607**	**65 114**	
Revenue for the terminal charging zone	**471 938**	**340 769**	**812 707**	**449 682**	**561 709**	
Ex-post regulatory result (+/-) in percent of revenues (see Note 1)	**0.0%**	**7.9%**	**3.3%**	**11.9%**	**11.6%**	
Ex-post RoE pre-tax rate (in %)	**0.0%**	**9.9%**	**3.8%**	**20.2%**	**19.5%**	

13. Focus on main ANSP regulatory result on terminal activity





ANS CR net gain on activity in the Czech Republic terminal charging zone in the year 2023

ANS CR reported a net gain of +35.3 MCZK, as a combination of a gain of +54.8 MCZK arising from the cost sharing mechanism, with a loss of -22.3 MCZK arising from the traffic risk sharing mechanism and a gain of +2.7 MCZK relating to financial incentives.

ANS CR overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+35.3 MCZK) and the actual RoE (+29.9 MCZK) amounts to +65.1 MCZK (11.6% of the terminal revenues). The resulting ex-post rate of return on equity is 19.5%, which is higher than the 9.0% planned in the PP.

CZECH REPUBLIC: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Czech Republic-MET planned regulatory result (CZK '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**653**	**334**	**987**	**345**	**320**	**295**
Revenue for the terminal charging zone	**11 060**	**10 607**	**21 667**	**10 884**	**11 137**	**11 399**
Ex-ante regulatory result (+/-) in percent of revenues	**5.9%**	**3.1%**	**4.6%**	**3.2%**	**2.9%**	**2.6%**
Ex-ante RoE pre-tax rate (in %)	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**
Czech Republic-MET actual regulatory result (CZK '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**653**	**163**	**816**	**3 932**	**2 233**	
Revenue for the terminal charging zone	**11 060**	**10 411**	**21 471**	**11 701**	**13 115**	
Ex-post regulatory result (+/-) in percent of revenues	**5.9%**	**1.6%**	**3.8%**	**33.6%**	**17.0%**	
Ex-post RoE pre-tax rate (in %)	**5.0%**	**2.4%**	**4.1%**	**57.3%**	**33.7%**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Czech Republic (Czech Republic-MET) corresponds to 17.0% of the terminal revenues. The ex-post RoE 33.7% is higher than planned 5.0%.

CZECH REPUBLIC: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Czech Republic

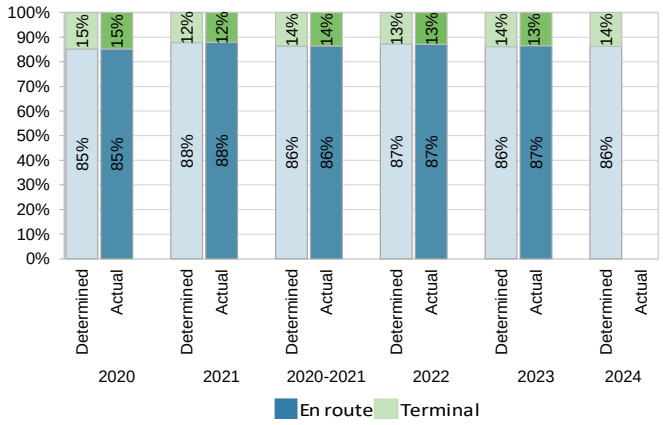
Terminal charging zone 1: Czech Republic

Czech Republic: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	101 243 704	90 930 789	192 174 493	108 946 148	115 302 017	115 821 022
Real terminal costs (€2017)	17 573 957	12 625 132	30 199 089	15 825 488	18 456 549	18 465 074
Real gate-to-gate costs (€2017)	118 817 661	103 555 921	222 373 582	124 771 635	133 758 566	134 286 096
En route share (%)	85.2%	87.8%	86.4%	87.3%	86.2%	86.2%

Czech Republic: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	101 243 704	84 121 824	185 365 528	94 052 430	101 456 281	
Real terminal costs (€2017)	17 573 957	11 553 673	29 127 630	13 926 511	15 797 969	
Real gate-to-gate costs (€2017)	118 817 661	95 675 497	214 493 158	107 978 940	117 254 250	
En route share (%)	85.2%	87.9%	86.4%	87.1%	86.5%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-7 880 423	-7 880 423	-16 792 695	-16 504 316	
	in %	0.0%	-7.6%	-3.5%	-13.5%	-12.3%	
En route share	in p.p.	0.0 p.p.	0.1 p.p.	0.0 p.p.	-0.2 p.p.	0.3 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -12.3% (-16.5 M€2017) lower than planned, as en route costs are lower than planned by -13.8 M€2017 and terminal costs are lower than planned by -2.7 M€2017.

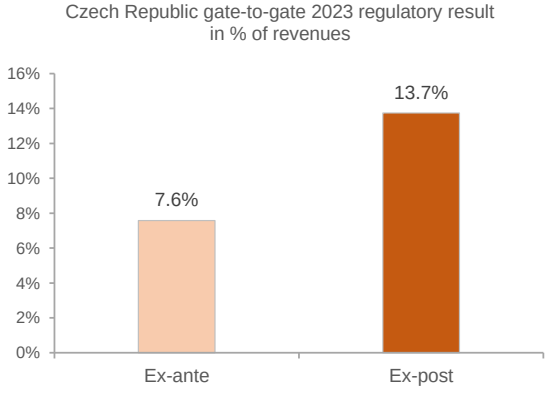
The actual share of en route in gate-to-gate ANS costs (86.5%) is slightly higher than planned in the PP for 2023 (86.2%).

3. Gate-to-gate regulatory result (RR) 2023

In CZK '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
ANS CR	264 259	3 436 654	7.7%		521 281	3 812 256	13.7%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Czech Republic MET	2 421	82 973	2.9%		16 257	99 181	16.4%	
Total	**266 680**	**3 519 627**	**7.6%**		**537 538**	**3 911 437**	**13.7%**	

For the ANSPs providing services in the en route and terminal charging zones of Czech Republic covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +537.5 MCZK (+470.2 MCZK for en route and +67.3 MCZK for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 13.7% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (7.6% of gate-to-gate revenues).



Annual Monitoring Report 2023

Local level view

DENMARK

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DENMARK **Monitoring of SAFETY for 2023**

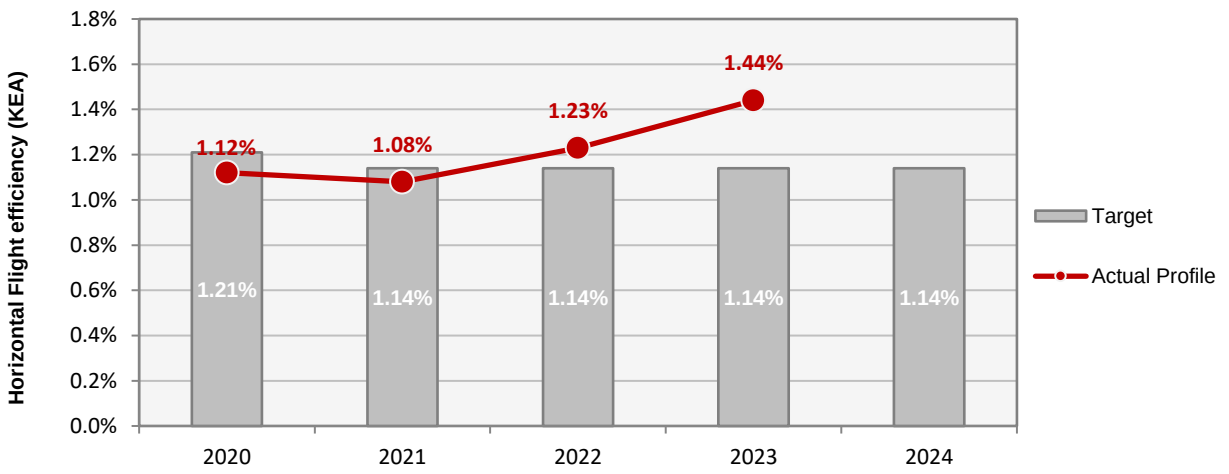
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
NAVIAIR	79	C	C	C	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

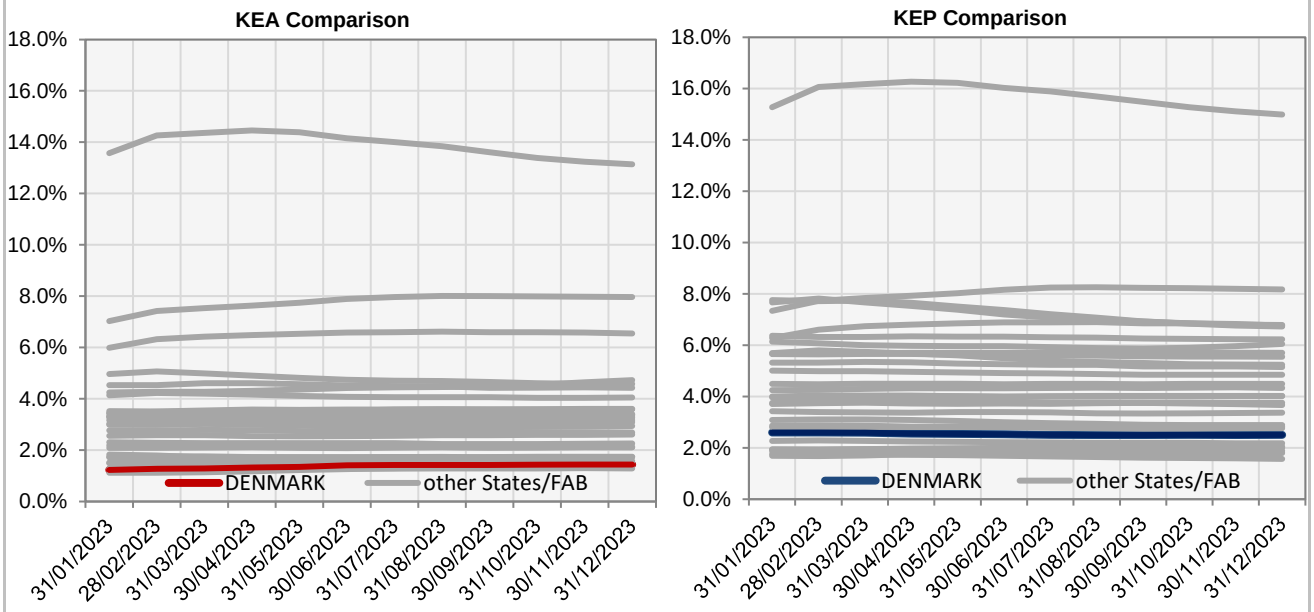
Four out of five EoSM components of the ANSP meet the RP3 EoSM target level. Only "Safety Risk Management" is below 2024 target level. Over 2023, "Safety Assurance" and "Safety Promotion" were improved and reached the RP3 targets level.

DENMARK **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.21%	1.14%	1.14%	1.14%	1.14%
Actual performance	1.12%	1.08%	1.23%	1.44%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	1.23%	1.28%	1.29%	1.32%	1.35%	1.41%	1.42%	1.42%	1.42%	1.43%	1.44%	1.44%
KEP	2.60%	2.60%	2.59%	2.56%	2.55%	2.53%	2.51%	2.50%	2.50%	2.51%	2.50%	2.51%
KES	2.45%	2.45%	2.45%	2.42%	2.40%	2.38%	2.35%	2.33%	2.31%	2.31%	2.29%	2.29%



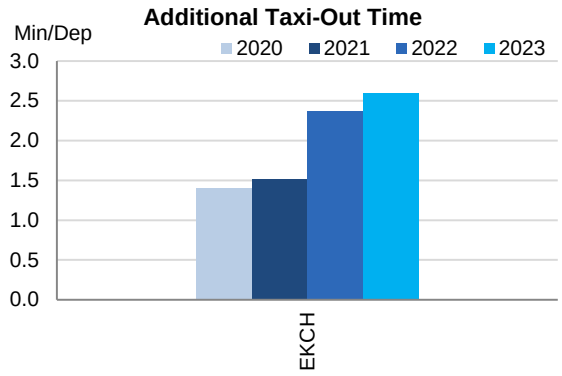
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

DENMARK **ENVIRONMENT - Airports**

1. Overview

Denmark only has Copenhagen/Kastrup (EKCH) airport subject to RP3 monitoring for which the APDF is successfully established and the monitoring of the environmental indicators can be performed. Traffic at this airport in 2023 was still 14% lower than in 2019, but 12% higher than in 2022.
Both additional times in 2023 increased with respect to 2022, reaching pre-COVID levels.
The share of CDO flights is 46.1% which is in the higher range of all observed values in 2023.

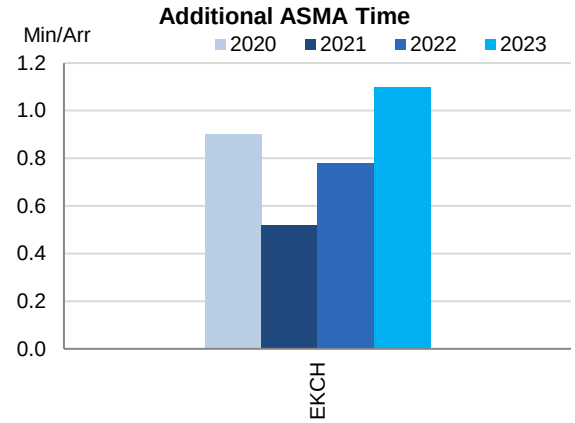
2. Additional Taxi-Out Time



Additional taxi-out times at Copenhagen in 2023 were 9% higher than in 2022 (EKCH; 2019: 2.59 min/dep.; 2020: 1.4 min/dep.; 2021: 1.52 min/dep.; 2022: 2.37 min/dep.; 2023: 2.59 min/dep.) but still below the SES average of 2.81 min/dep.

According to the Danish monitoring report:
During the summer of 2023 there was WIP at main RWY 22L.

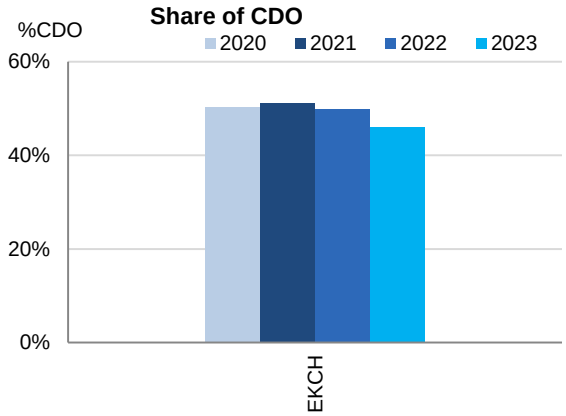
3. Additional ASMA Time



Additional ASMA times at Copenhagen in 2023 increased by 41% and were higher than in 2019 (EKCH; 2019: 1.07 min/arr.; 2020: 0.9 min/arr.; 2021: 0.52 min/arr.; 2022: 0.78 min/arr.; 2023: 1.1 min/arr.), and just below the SES average of 1.16 min/arr.

According to the Danish monitoring report:
During the summer of 2023 Naviair experienced ATCO shortages at EKCH and WIP RWY 22L which resulted in higher regulations and delays, which also had an impact in the ASMA.

4. Share of arrivals applying CDO



The share of CDO flights is 46.1% which is well above the overall RP3 value in 2023 (28.8%) and in the higher range of all observed values in 2023. It is however a decrease of 3.9 percentage points with respect to 2022.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Copenhagen/Kastrup-EKCH	1.4	1.52	2.37	2.59		0.9	0.52	0.78	1.1		50%	51%	50%	46%	

DENMARK **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

The airspace design and procedures used are created in order to minimise the negative effects on the environmental performance.
FUA is fully implemented in Denmark. NSA, ANSP and Military cooperates with the scope of further reduction of the impact of the military dimension.

Military - related measures implemented or planned to improve capacity

FUA is fully implemented in Denmark, thus it is very hard to increase capacity any further. An ongoing project of reconfiguration of airspace for the new F35 fighters, is seeking to minimise the potential negative effects from the enlarged airspace reservations.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Denmark	30%	22%	34%	25%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Copenhagen	30%	22%	34%	25%	

Initiatives implemented or planned to improve PI#6

None, NSA monitors the performance via regularly reporting as well as FUA Level 1 where the NSA and the Military evaluates the performance with the scope of further improvement if possible.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Denmark					

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Copenhagen					

Initiatives implemented or planned to improve PI#7

"Neither Naviair or the NSA have this data available and have no plans to monitor this at local level but is using Eurocontrol numbers when available.
Free route airspace is implemented which is expected to decrease the use of CDR's."

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Denmark					

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Copenhagen					

Initiatives implemented or planned to improve PI#8

"Neither Naviair or the NSA have this data available and have no plans to monitor this at local level but is using Eurocontrol numbers when available.
Free route airspace is implemented which is expected to decrease the use of CDR's."

DENMARK **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.07	0.03	0.06	0.06	0.05	
Actual performance	0.00	0.00	0.00	0.10		

NSA's assessment of capacity performance

Traffic in Danish Airspace is affected by the closure of Russian Airspace leading to rerouting of international flights.
The capacity targets have not been met. This is due to the staffing challenges at the TWR and APP units serving Copenhagen Airport and TMA during spring and summer 2023.

Monitoring process for capacity performance

Monitoring process are in place and coordinated with the NM

Capacity Planning

Capacity planning process are in place and coordinated with the NM

ATCO in OPS (FTE)							
Copenhagen ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	100	104	104	99	Table has been altered from previous versions - explanation below.
Actual	113	113	94	100	104		

Naviair has changed the submission in the reporting of actual data due to a review on the data for reporting.
AMR 2021 Number of ATCOs in OPS (FTEs) who have stopped working in the OPS room (from -17 to -23): Our previous reporting was partially based on a forecast due lack of data at the time of the reporting.
AMR 2022 Number of additional ATCOs in OPS (FTEs) who have started working in the OPS room (from +10 to +8): Some of the additional FTE's in the previous reporting was based on a difference to earlier anticipations rather than actual changes in FTE's. That has now been revised.

Additional Information Related to Russia's War of Agression Against Ukraine

Traffic in Danish Airspace is affected by the closure of Russian Airspace leading to rerouting of international flights, noticeably a change in flows to/from Asia via Denmark. We notice higher growth in western sectors than anticipated.

Application of Corrective Measures for Capacity (if applicable)

The capacity constraints at the ANSP due to lack of ATCO resources in relation to Copenhagen airport and the approach area led to lower capacity. Naviair is following their plan to provide more ATCO resources and thus increase capacity.

Summary of capacity performance

Denmark experienced an increase in traffic from 505k flights in 2022 to 559k flights in 2023. ATFM delays increased from <1k minutes in 2022 to 56k minutes in 2023. There were still 16% fewer flights than in 2019 (669k).

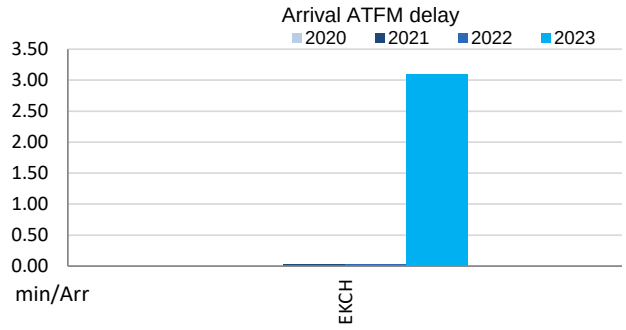
En route Capacity Incentive Scheme						
NAVIAIR	2020	2021	2022	2023	2024	Observations
National Capacity target	0.07	0.03	0.06	0.06	0.05	
Deadband +/-	-	-	-	[0.01-0.11]	[0-0.1]	Actual performance is within deadband so neither bonus nor malus is due.
Actual performance	0.00	0.00	0.00	0.10		

DENMARK **CAPACITY - Airports**

1. Overview

Denmark only has Copenhagen/Kastrup (EKCH) airport subject to RP3 monitoring for which the APDF is successfully established and the monitoring of the capacity indicators can be performed.
Traffic at this airport in 2023 was still 14% lower than in 2019, but 12% higher than in 2022.
Average arrival ATFM delay in 2023 was 3.09 min/arr, a very high increase with respect to 2022. The national target was not met.
ATFM slot adherence remained very high (2023: 98.8%; 2022: 98.9%).

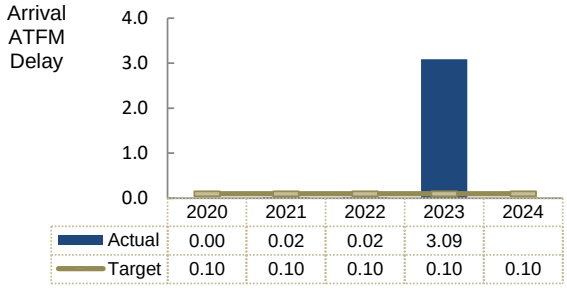
2. Arrival ATFM Delay



Copenhagen, that in the last years had registered nearly zero delays, observed significant arrival ATFM delays in 2023 (EKCH; 2019: 0.07 min/arr.; 2020: 0 min/arr; 2021: 0.02 min/arr.; 2022: 0.02 min/arr.; 2023: 3.09 min/arr.)
64% of these delays were attributed to ATC Staffing, followed by 20% of ATC Capacity, 12% of Aerodrome Capacity and 4% of Weather.

According to the Danish monitoring report:
There were capacity constraints at the TWR/APP unit in EKCH due to lack of ATCO resources, which meant that the targets for 2023 were not met. NSA is following up on the measures taken by the ANSP to ensure higher capacity in the years to come. The ANSP has moved ATCO resources from another unit to EKCH and the NSA is looking into different possibilities to facilitate higher mobility of ATCO's e.g. in relation to language barriers.
Also WIP RWY 22L meant regulations for aerodrome and also weather affected the years result.
Achievement of this year's objectives depends on whether Naviairs plan will be fulfilled.
In 2023, Naviair implemented several measures to increase capacity that involved NSA approval and follow-up.

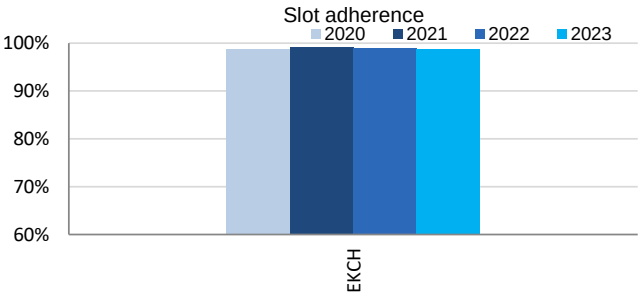
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.00	0.02	0.02	3.09	
Target	0.10	0.10	0.10	0.10	0.10

The Danish performance plan sets a national target on arrival ATFM delay for all RP3 of 0.1 min/arr. This target was not met in 2023 with an actual performance of 3.09 min/arr.
According to the Danish monitoring report, this performance corresponds to the maximum penalty (0.50%), automatically computed as DKK *913586* .

4. ATFM Slot Adherence



Copenhagen's ATFM slot compliance in 2022 was 98.8%, showing a consistent good performance. With regard to the 1.2% of flights that did not adhere, 0.94% was early and 0.21% was late.

According to the Danish monitoring report: *Performance is stable. NSA monitors the performance via monthly reports from the ANSP, and yearly evaluation.*

5. ATC Pre-departure Delay

ATC pre-departure delay at Copenhagen (EKCH: 2021: 0.13 min/dep; 2022: 0.04 min/dep; 2023: 0.62 min/dep) has increased significantly in 2023 and it was considerably above the pre-pandemic value (0.09 min/dep)

6. All Causes Pre-departure Delay

Influenced by the same issues observed above, the total (all causes) delay in the actual off block time at Copenhagen increased in 2023 (EKCH: 2020: 6.79 min/dep.; 2021: 9.63 min/dep.; 2022: 14.9 min/dep.; 2023: 15.79 min/dep.)

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Copenhagen/Kastrup-EKCH	0	0.02	0.02	3.09		98.7%	99.2%	98.9%	98.8%		n/a	0.13	0.04	0.62		6.79	9.63	14.90	15.79	

DENMARK: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Denmark ECZ represents 1.6% of the SES en route ANS actual costs in 2023
- National currency: DKK Exchange rates (1 EUR=) 2017: 7.43692 DKK 2023: 7.44877 DKK
- Performance Plan: RP3 draft performance plan dated 17 November 2021 and found consistent as per Commission Decision (EU) 2022/770 of 13 April 2022
  The final version of the plan was adopted and published by Denmark in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Denmark: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal DKK)	702 105 967	707 830 585	1 409 936 552	717 666 270	730 355 628	738 450 305
Inflation %	0.3%	1.1%		1.4%	1.5%	1.6%
Inflation index (100 in 2017)	101.7	102.8		104.2	105.7	107.4
Real en route costs (DKK2017)	693 889 076	694 247 776	1 388 136 852	697 646 794	702 906 009	702 788 808
Total en route service units	716 778	767 182	1 483 960	1 455 159	1 660 614	1 784 164
Real en route DUC per service unit (DKK2017)	**968.07**	**904.93**	**935.43**	**479.43**	**423.28**	**393.90**
Real en route DUC per service unit (€2017)	**130.17**	**121.68**	**125.78**	**64.47**	**56.92**	**52.97**
Denmark: Actual data from Reporting Tables	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
En route costs (nominal DKK)	702 105 967	709 225 021	1 411 330 988	746 142 029	822 458 023	
Inflation %	0.3%	1.9%		8.5%	3.4%	
Inflation index (100 in 2017)	101.7	103.6		112.5	116.3	
Real en route costs (DKK2017)	693 889 076	691 649 606	1 385 538 681	687 434 664	739 234 831	
Total en route service units	716 778	784 993	1 501 771	1 282 410	1 458 515	
Real en route AUC per service unit (DKK2017)	**968.07**	**881.09**	**922.60**	**536.05**	**506.84**	
Real en route AUC per service unit (€2017)	**130.17**	**118.48**	**124.06**	**72.08**	**68.15**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal DKK)	in value	0	1 394 436	1 394 436	28 475 759	92 102 395	
	in %	-	+0.2%	+0.1%	+4.0%	+12.6%	
Inflation %	in p.p.	0.0 p.p.	0.8 p.p.		7.2 p.p.	2.0 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.8 p.p.		8.2 p.p.	10.5 p.p.	
Real en route costs (DKK2017)	in value	0	-2 598 170	-2 598 170	-10 212 130	36 328 822	
	in %	-	-0.4%	-0.2%	-1.5%	+5.2%	
Total en route service units	in value	0	17 811	17 811	-172 749	-202 099	
	in %	-	+2.3%	+1.2%	-11.9%	-12.2%	
Real en route unit cost per service unit (DKK2017)	**in value**	**0.00**	**-23.84**	**-12.82**	**56.62**	**83.56**	
	in %	**-**	**-2.6%**	**-1.4%**	**+11.8%**	**+19.7%**	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-3.21**	**-1.72**	**7.61**	**11.24**	
	in %	**-**	**-2.6%**	**-1.4%**	**+11.8%**	**+19.7%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was +19.7% (or +83.56 DKK2017, +11.24 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TSUs (-12.2%) and significantly higher than planned en route costs in real terms (+5.2%, or +36.3 MDKK2017, +4.9 M€2017). It should be noted that actual inflation index in 2023 was +10.5 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (-12.2%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

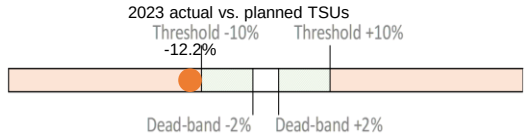
En route costs by entity

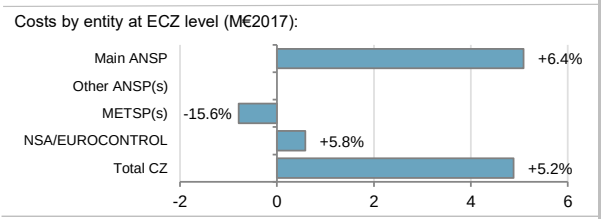
Actual real en route costs are +5.2% (+4.9 M€2017) higher than planned. This is the result of higher costs for the main ANSP, NAVIAIR (+6.4%, or +5.1 M€2017) and the NSA/EUROCONTROL (+5.8%, or +0.6 M€2017) and lower costs for the MET service provider (-15.6%, or -0.8 M€2017).

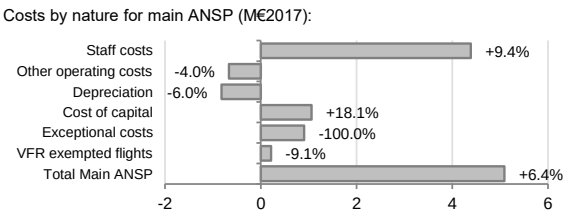
En route costs for the main ANSP (NAVIAIR) at charging zone level

Significantly higher than planned en route costs in real terms for NAVIAIR in 2023 (+6.4%, or +5.1 M€2017) result from:

- Significantly higher staff costs (+9.4%), reflecting "*high level of extra shifts, and not realised effects from the implementation of the Strategy*".
- Lower other operating costs (-4.0%) in real terms due to the inflation index impact (+10.5 p.p.). In nominal terms other operating costs are above the plan (+5.6%), which result from higher energy and training costs.
- Significantly lower depreciation (-6.0%), reflecting "*fewer and delayed investments and later deployment*";
- Significantly higher cost of capital (+18.1%), resulting from "*higher interest rate on loan and increased asset base*";
- No deduction through exceptional costs which was included in the PP to reduce the level of en-route cost-base.







DENMARK: En route charging zone

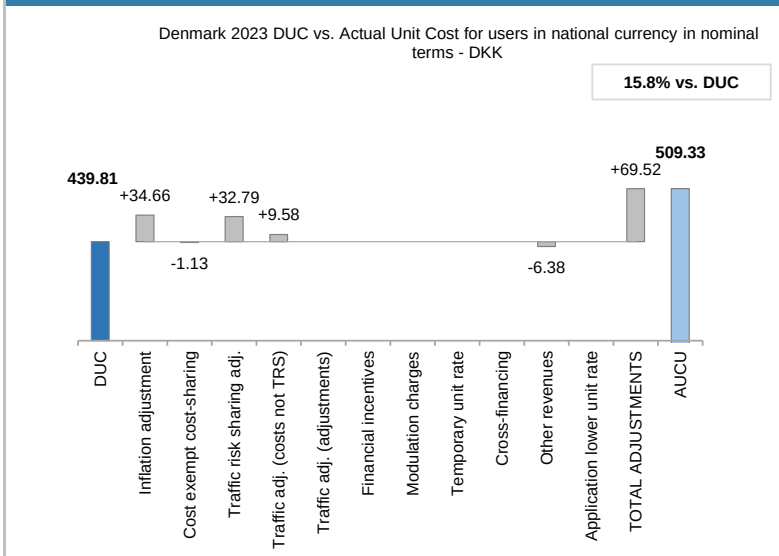
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	DKK/SU	€/SU
Initial DUC charged	439.81	59.04
DUC to be charged retroactively	0.00	0.00
DUC	**439.81**	**59.04**
Inflation adjustment	34.66	4.65
Cost exempt from cost-sharing	-1.13	-0.15
Traffic risk sharing adjustment	32.79	4.40
Traffic adj. (costs not TRS)	9.58	1.29
Traffic adj. (adjustments)*		
Financial incentives	0.00	0.00
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-6.38	-0.86
Application of lower unit rate	0.00	0.00
Total adjustments	69.52	9.33
AUCU	**509.33**	**68.38**
AUCU vs. DUC	**+15.8%**	**+15.8%**

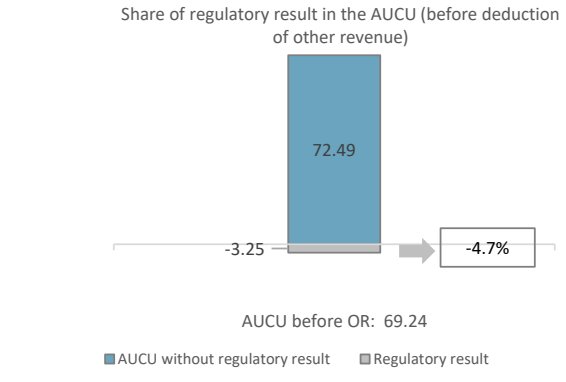
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		DKK '000	€ '000	DKK/SU	€/SU
by item	New and existing investments	-6 010	-807	-4.12	-0.55
	Competent authorities and qualified entities costs	-1 787	-240	-1.23	-0.16
	Eurocontrol costs	6 154	826	4.22	0.57
	Pension costs	0	0	0.00	0.00
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-1 643**	**-221**	**-1.13**	**-0.15**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	DKK '000	€ '000	DKK/SU	€/SU
NAVIAIR	-39 870	-5 353	-27.34	-3.67
METSP(s)	**DKK '000**	**€ '000**	**DKK/SU**	**€/SU**
Denmark MET	4 602	618	3.16	0.42
Total charging zone	-35 268	-4 735	-24.18	-3.25
Actual cost for users* **	752 181	100 981	515.72	69.24
Regulatory result (% AUCU)	-4.7%	-4.7%	-4.7%	-4.7%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (509.33 DKK or 68.38 €) is +15.8% higher than the nominal DUC (439.81 DKK or 59.04 €). The difference between these two figures (+69.52 DKK/SU or +9.33 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+34.66 DKK/SU or +4.65 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-1.13 DKK/SU or -0.15 €/SU);
- the addition of the traffic risk sharing adjustments (+32.79 DKK/SU or +4.40 €/SU);
- the addition of the traffic adjustment (+9.58 DKK/SU or +1.29 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-6.38 DKK/SU or -0.86 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is -4.7%.

DENMARK: En route main ANSP (NAVIAIR) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

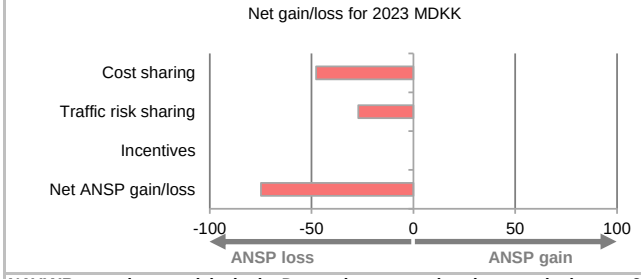
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

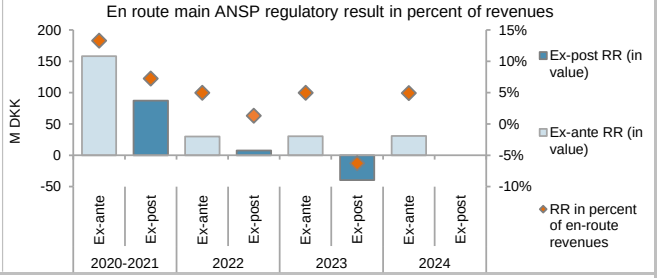
Cost sharing (DKK '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-4 637	-32 334	-90 723	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	3 652	36 333	47 000	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-3 916	-4 926	-4 072	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-4 901**	**-927**	**-47 796**	
Traffic risk sharing (DKK '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.2%	-11.9%	-12.2%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	1 191 512	600 793	615 516	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**14 301**	**-26 435**	**-27 083**	
Incentives (DKK '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (DKK '000)	**9 400**	**-27 362**	**-74 878**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**1 264**	**-3 679**	**-10 052**	

12. Regulatory result (RR) for the main ANSP at charging zone level

NAVIAIR planned regulatory result (DKK '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	930 724	1 003 896	1 934 620	1 286 800	1 331 989	1 270 368
Proportion of financing through equity (in %)	95%	227%	164%	46%	46%	48%
RoE pre-tax rate (in %)	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
RoE (in value)	44 276	113 907	158 183	29 783	30 397	30 587
Ex-ante regulatory result (+/-) for the en route charging zone	**44 276**	**113 907**	**158 183**	**29 783**	**30 397**	**30 587**
Revenue for the en route charging zone	**593 250**	**598 262**	**1 191 512**	**600 793**	**615 516**	**623 714**
Ex-ante regulatory result (+/-) in percent of revenues	**7.5%**	**19.0%**	**13.3%**	**5.0%**	**4.9%**	**4.9%**
Ex-ante RoE pre-tax rate (in %)	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**
NAVIAIR actual regulatory result (DKK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	930 724	1 003 896	1 934 620	1 283 809	1 383 171	
Proportion of financing through equity (in %)	95%	66%	80%	55%	51%	
RoE pre-tax rate (in %)	5.0%	5.0%	5.0%	5.0%	5.0%	
RoE (in value)	44 276	33 314	77 590	35 180	35 009	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	9 400	9 400	-27 362	-74 878	
Ex-post regulatory result (+/-) for the en route charging zone	**44 276**	**42 714**	**86 990**	**7 819**	**-39 870**	
Revenue for the en route charging zone	**593 250**	**612 299**	**1 205 549**	**605 765**	**631 361**	
Ex-post regulatory result (+/-) in percent of revenues	**7.5%**	**7.0%**	**7.2%**	**1.3%**	**-6.3%**	
Ex-post RoE pre-tax rate (in %)	**5.0%**	**6.4%**	**5.6%**	**1.1%**	**-5.7%**	

13. Focus on the main ANSP regulatory result on en route activity





NAVIAIR net gain on activity in the Denmark en route charging zone in the year 2023

NAVIAIR reported a net loss of -74.9 MDKK, as a combination of a loss of -47.8 MDKK arising from the cost sharing mechanism, with a loss of -27.1 MDKK arising from the traffic risk sharing mechanism.

NAVIAIR overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net loss from the en route activity mentioned above (-74.9 MDKK) and the actual RoE (+35.0 MDKK) amounts to -39.9 MDKK (-6.3% of the en route revenues). The resulting ex-post rate of return on equity is -5.7%.

DENMARK: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
Denmark MET planned regulatory result (DKK '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the en route charging zone	**34 408**	**35 115**	**69 523**	**39 220**	**39 843**	**40 447**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Denmark MET actual regulatory result (DKK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	**0**	**3 306**	**3 306**	**2 641**	**4 602**	
Revenue for the en route charging zone	**34 408**	**35 127**	**69 535**	**41 028**	**41 457**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**9.4%**	**4.8%**	**6.4%**	**11.1%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Denmark (Denmark MET) corresponds to 11.1% of the en route revenues. The RoE cannot be calculated for Denmark MET service provider, as its assets are entirely financed through debt.

DENMARK: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Denmark TCZ represents 1.9% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: DKK Exchange rates (1 EUR=) 2017: 7.43692 DKK 2023: 7.44877 DKK
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Denmark: Data from RP3 Performance Plan		2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal DKK)		178 500 910	180 151 180	358 652 091	178 997 731	184 217 288	187 621 588
Inflation %		0.3%	1.1%		1.4%	1.5%	1.6%
Inflation index (100 in 2017)		101.7	102.8		104.2	105.7	107.4
Real terminal costs (DKK2017)		175 999 174	176 004 712	352 003 886	172 957 837	175 845 968	176 726 394
Total terminal service units		63 465	69 806	133 271	142 617	159 502	170 803
Real terminal DUC per service unit (DKK2017)		**2 773.16**	**2 521.34**	**2 641.26**	**1 212.74**	**1 102.47**	**1 034.68**
Real terminal DUC per service unit (€2017)		**372.89**	**339.03**	**355.16**	**163.07**	**148.24**	**139.13**
Denmark: Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Terminal costs (nominal DKK)		178 500 910	180 475 630	358 976 540	181 991 481	193 937 620	
Inflation %		0.3%	1.9%		8.5%	3.4%	
Inflation index (100 in 2017)		101.7	103.6		112.5	116.3	
Real terminal costs (DKK2017)		175 999 174	175 112 794	351 111 968	165 040 589	171 000 030	
Total terminal service units		63 465	72 703	136 168	130 953	148 955	
Real terminal AUC per service unit (DKK2017)		**2 773.16**	**2 408.61**	**2 578.52**	**1 260.31**	**1 148.00**	
Real terminal AUC per service unit (€2017)		**372.89**	**323.87**	**346.72**	**169.47**	**154.36**	
Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Terminal costs (nominal DKK)	in value	0	324 450	324 450	2 993 750	9 720 332	
	in %	-	+0.2%	+0.1%	+1.7%	+5.3%	
Inflation %	in p.p.	0.0 p.p.	0.8 p.p.		7.2 p.p.	2.0 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.8 p.p.		8.2 p.p.	10.5 p.p.	
Real terminal costs (DKK2017)	in value	0	-891 918	-891 918	-7 917 247	-4 845 938	
	in %	-	-0.5%	-0.3%	-4.6%	-2.8%	
Total terminal service units	in value	0	2 897	2 897	-11 665	-10 547	
	in %	-0.0%	+4.2%	+2.2%	-8.2%	-6.6%	
Real terminal unit cost per service unit (DKK2017)	**in value**	**0.00**	**-112.74**	**-62.74**	**47.57**	**45.53**	
	in %	**+0.0%**	**-4.5%**	**-2.4%**	**+3.9%**	**+4.1%**	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-15.16**	**-8.44**	**6.40**	**6.12**	
	in %	**+0.0%**	**-4.5%**	**-2.4%**	**+3.9%**	**+4.1%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +4.1% (or +45.53 DKK2017, +6.12 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TNSUs (-6.6%) and lower than planned terminal costs in real terms (-2.8%, or -4.8 MDKK2017, -0.7 M€2017). Actual inflation index in 2023 was +10.5 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-6.6%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

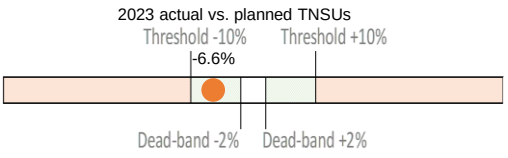
Terminal costs by entity

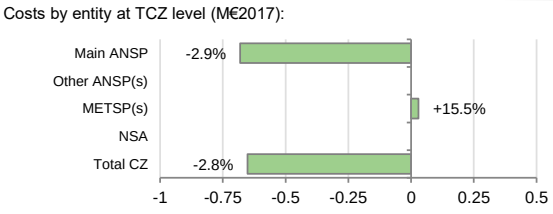
Actual real terminal costs are -2.8% (-0.7 M€2017) lower than planned. This is the result of lower costs for the main ANSP, NAVIAIR (-2.9%, or -0.7 M€2017) and higher costs for the MET service provider (+15.5%, or +0.03 M€2017).

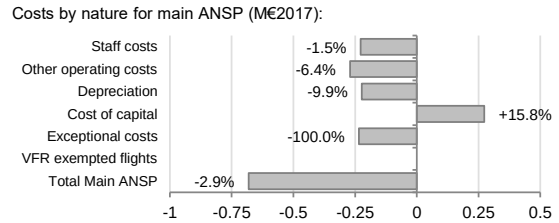
Terminal costs for the main ANSP (NAVIAIR) at charging zone level

Lower than planned terminal costs in real terms for NAVIAIR in 2023 (-2.9%, or -0.7 M€2017) result from:

- Slightly lower staff costs (-1.5%), in real terms due to the inflation index impact (+10.5 p.p.). In nominal terms staff costs are above the plan (+8.3%), explained by "*high level of extra shifts, and not realised effects from the implementation of the Strategy*".
- Significantly lower other operating costs (-6.4%) in real terms due to the impact of inflation index. In nominal terms other operating costs are above the plan (+2.9%), which result from higher energy and training costs.
- Significantly lower depreciation (-9.9%), reflecting "*fewer and delayed investments and later deployment*";
- Significantly higher cost of capital (+15.8%), reflecting "*higher interest rate on loan and increased asset base*";
- No deduction through exceptional costs which was included in the PP to reduce the level of terminal cost-base.







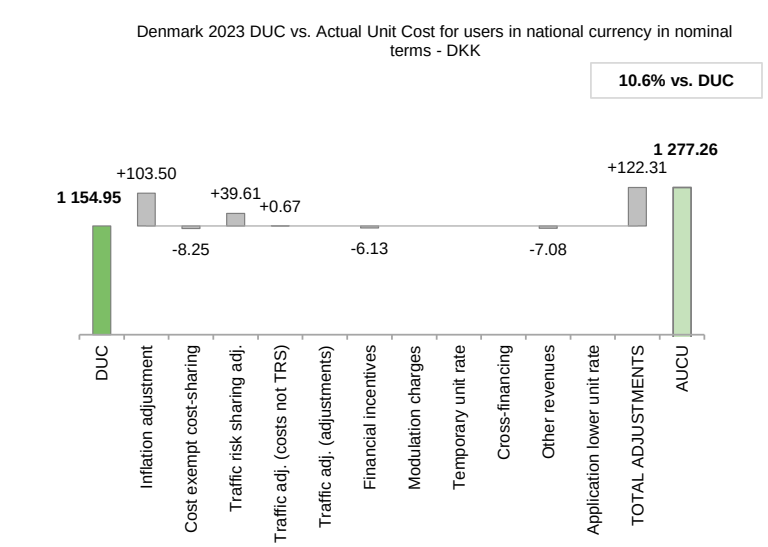
DENMARK: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	DKK/SU	€/SU
Initial DUC charged	1 154.95	155.05
DUC to be charged retroactively	0.00	0.00
DUC	**1 154.95**	**155.05**
Inflation adjustment	103.50	13.89
Cost exempt from cost-sharing	-8.25	-1.11
Traffic risk sharing adjustment	39.61	5.32
Traffic adj. (costs not TRS)	0.67	0.09
Traffic adj. (adjustments)*		
Financial incentives	-6.13	-0.82
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-7.08	-0.95
Application of lower unit rate	0.00	0.00
Total adjustments	122.31	16.42
AUCU	**1 277.26**	**171.47**
AUCU vs. DUC	**10.6%**	**10.6%**

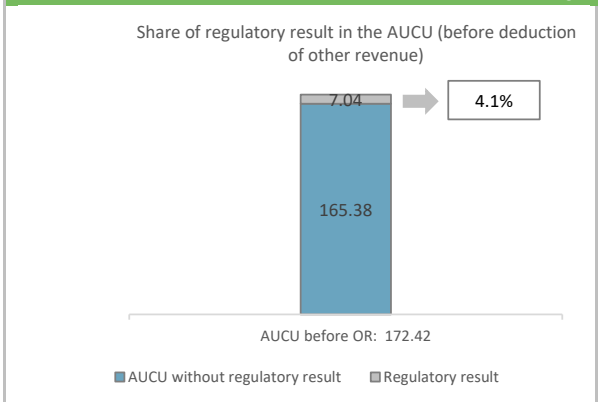
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		DKK '000	€ '000	DKK/SU	€/SU
by item	New and existing investments	-1 229	-165	-8.25	-1.11
	Competent authorities and qualified entities costs	0	0	0.00	0.00
	Eurocontrol costs	0	0	0.00	0.00
	Pension costs	0	0	0.00	0.00
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-1 229**	**-165**	**-8.25**	**-1.11**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	DKK '000	€ '000	DKK/SU	€/SU
NAVIAIR	8 072	1 084	54.19	7.28
METSP(s)	**DKK '000**	**€ '000**	**DKK/SU**	**€/SU**
Denmark-MET	-256	-34	-1.72	-0.23
Total charging zone	7 816	1 049	52.47	7.04
Actual cost for users* **	191 308	25 683	1 284.34	172.42
Regulatory result (% AUCU)	4.1%	4.1%	4.1%	4.1%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (1277.26 DKK or 171.47 €) is +10.6% higher than the nominal DUC (1154.95 DKK or 155.05 €). The difference between these two figures (+122.31 DKK/SU or +16.42 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+103.50 DKK/SU or +13.89 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-8.25 DKK/SU or -1.11 €/SU);
- the addition of the traffic risk sharing adjustments (+39.61 DKK/SU or +5.32 €/SU);
- the addition of the traffic adjustment (+0.67 DKK/SU or +0.09 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-6.13 DKK/SU or -0.82 €/SU); and
- the deduction of the other revenues (-7.08 DKK/SU or -0.95 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 4.1%.

DENMARK: Terminal main ANSP (NAVIAIR) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

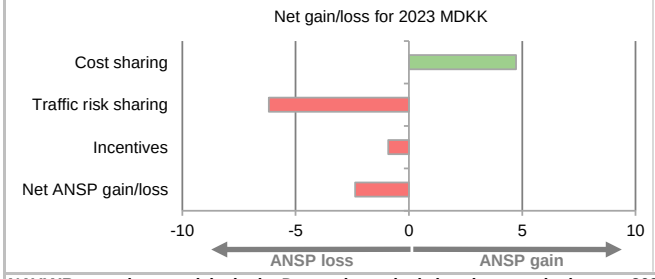
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

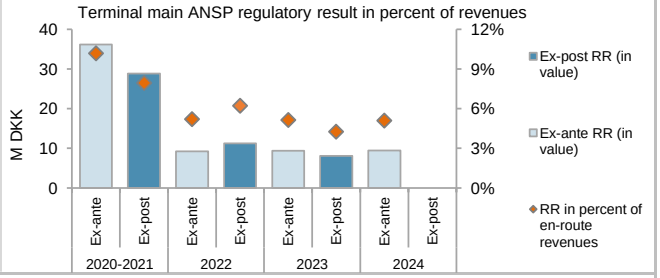
Cost sharing (DKK '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-456	-2 581	-9 314	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	1 181	11 681	15 267	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 218	-1 268	-1 229	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-493**	**7 831**	**4 723**	
Traffic risk sharing (DKK '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	2.2%	-8.2%	-6.6%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	355 567	177 522	182 717	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**7 297**	**-6 841**	**-6 183**	
Incentives (DKK '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-914**	
Net ANSP gain(+)/loss(-) on terminal activity (DKK '000)	**6 804**	**990**	**-2 373**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**915**	**133**	**-319**	

12. Regulatory result (RR) for the main ANSP at charging zone level

NAVIAIR planned regulatory result (DKK '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	265 921	286 827	552 748	367 657	380 568	362 962
Proportion of financing through equity (in %)	91%	168%	131%	50%	49%	52%
RoE pre-tax rate (in %)	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
RoE (in value)	12 096	24 110	36 206	9 229	9 393	9 473
Ex-ante regulatory result (+/-) for the terminal charging zone	**12 096**	**24 110**	**36 206**	**9 229**	**9 393**	**9 473**
Revenue for the terminal charging zone	**176 970**	**178 597**	**355 567**	**177 522**	**182 717**	**186 100**
Ex-ante regulatory result (+/-) in percent of revenues	**6.8%**	**13.5%**	**10.2%**	**5.2%**	**5.1%**	**5.1%**
Ex-ante RoE pre-tax rate (in %)	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**
NAVIAIR actual regulatory result (DKK '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	265 921	286 827	552 748	366 802	395 192	
Proportion of financing through equity (in %)	91%	69%	80%	56%	53%	
RoE pre-tax rate (in %)	5.0%	5.0%	5.0%	5.0%	5.0%	
RoE (in value)	12 096	9 933	22 029	10 269	10 445	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	6 804	6 804	990	-2 373	
Ex-post regulatory result (+/-) for the terminal charging zone	**12 096**	**16 737**	**28 833**	**11 259**	**8 072**	
Revenue for the terminal charging zone	**176 970**	**185 857**	**362 827**	**181 093**	**189 658**	
Ex-post regulatory result (+/-) in percent of revenues	**6.8%**	**9.0%**	**7.9%**	**6.2%**	**4.3%**	
Ex-post RoE pre-tax rate (in %)	**5.0%**	**8.4%**	**6.5%**	**5.5%**	**3.9%**	

13. Focus on main ANSP regulatory result on terminal activity





NAVIAIR net gain on activity in the Denmark terminal charging zone in the year 2023

NAVIAIR reported a net loss of -2.4 MDKK, as a combination of a gain of +4.7 MDKK arising from the cost sharing mechanism, with a loss of -6.2 MDKK arising from the traffic risk sharing mechanism and a loss of -0.9 MDKK relating to financial incentives.

NAVIAIR overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-2.4 MDKK) and the actual RoE (+10.4 MDKK) amounts to +8.1 MDKK (4.3% of the terminal revenues). The resulting ex-post rate of return on equity is 3.9%, which is lower than the 5.0% planned in the PP.

DENMARK: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Denmark-MET planned regulatory result (DKK '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**1 531**	**1 554**	**3 085**	**1 476**	**1 500**	**1 522**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Denmark-MET actual regulatory result (DKK '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**135**	**135**	**-296**	**-256**	
Revenue for the terminal charging zone	**1 531**	**1 558**	**3 089**	**1 593**	**1 650**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**8.7%**	**4.4%**	**-18.6%**	**-15.5%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Denmark (Denmark MET) corresponds to -15.5% of the terminal revenues. It should be noted that Denmark MET does not charge the cost of capital.

DENMARK: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Denmark

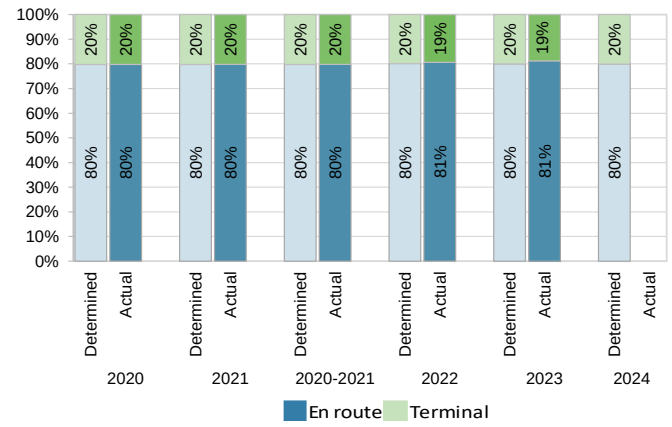
Terminal charging zone 1: Denmark

Denmark: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	93 303 286	93 351 519	186 654 805	93 808 565	94 515 742	94 499 982
Real terminal costs (€2017)	23 665 600	23 666 345	47 331 945	23 256 649	23 644 999	23 763 385
Real gate-to-gate costs (€2017)	116 968 886	117 017 863	233 986 750	117 065 214	118 160 741	118 263 367
En route share (%)	79.8%	79.8%	79.8%	80.1%	80.0%	79.9%

Denmark: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	93 303 286	93 002 158	186 305 444	92 435 399	99 400 670	
Real terminal costs (€2017)	23 665 600	23 546 414	47 212 014	22 192 062	22 993 394	
Real gate-to-gate costs (€2017)	116 968 886	116 548 571	233 517 457	114 627 460	122 394 064	
En route share (%)	79.8%	79.8%	79.8%	80.6%	81.2%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-469 292	-469 292	-2 437 753	4 233 323	
	in %	0.0%	-0.4%	-0.2%	-2.1%	3.6%	
En route share	in p.p.	0.0 p.p.	0.0 p.p.	0.0 p.p.	0.5 p.p.	1.2 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



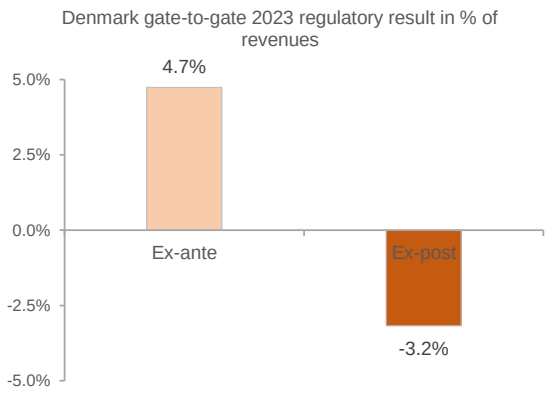
In 2023, actual gate-to-gate ANS costs are +3.6% (+4.2 M€2017) higher than planned, as en route costs are higher than planned by +4.9 M€2017 and terminal costs are lower than planned by -0.7 M€2017.

The actual share of en route in gate-to-gate ANS costs (81.2%) is higher than planned in the PP for 2023 (80%).

3. Gate-to-gate regulatory result (RR) 2023

In DKK '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
NAVIAIR	39 790	798 234	5.0%		-31 797	821 019	-3.9%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Denmark MET	0	41 343	0.0%		4 345	43 106	10.1%	
Total	**39 790**	**839 576**	**4.7%**		**-27 452**	**864 126**	**-3.2%**	

For the ANSPs providing services in the en route and terminal charging zones of Denmark covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to -27.5 MDKK (-35.3 MDKK for en route and +7.8 MDKK for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to -3.2% of gate-to-gate ANS revenues.



Annual Monitoring Report 2023

Local level view

ESTONIA

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ESTONIA **Monitoring of SAFETY for 2023**

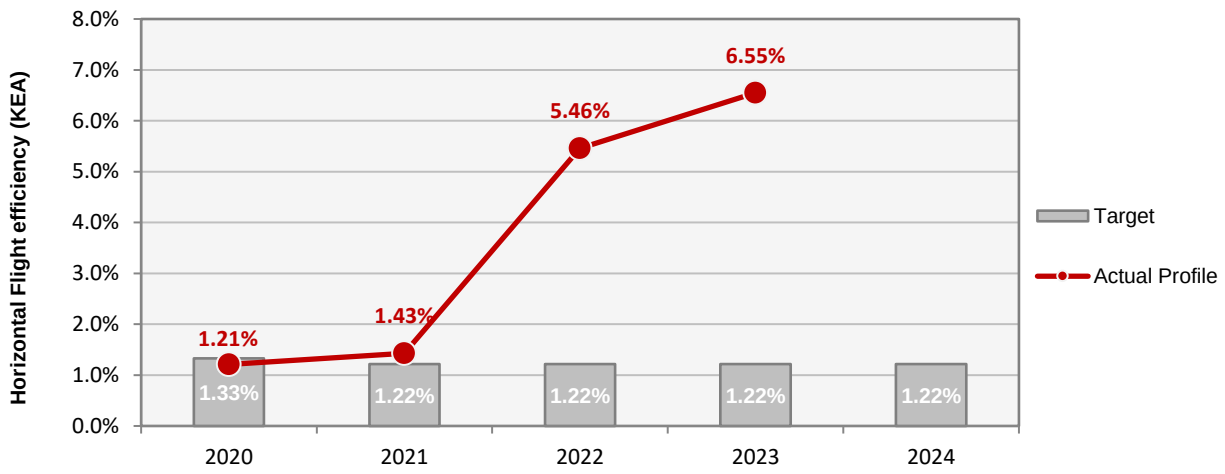
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
EANS	100	D	D	D	D	D
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

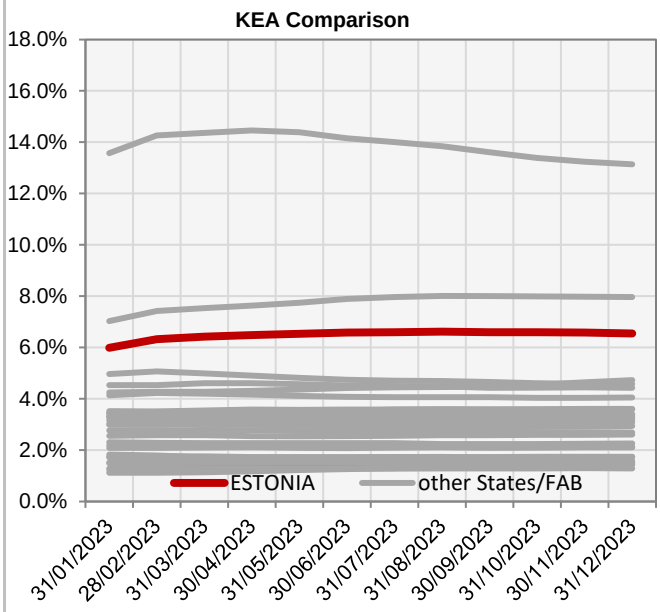
All five EoSM components of the ANSP meet, or exceed, already the RP3 target level. Maximum maturity level was maintained compared with 2022.

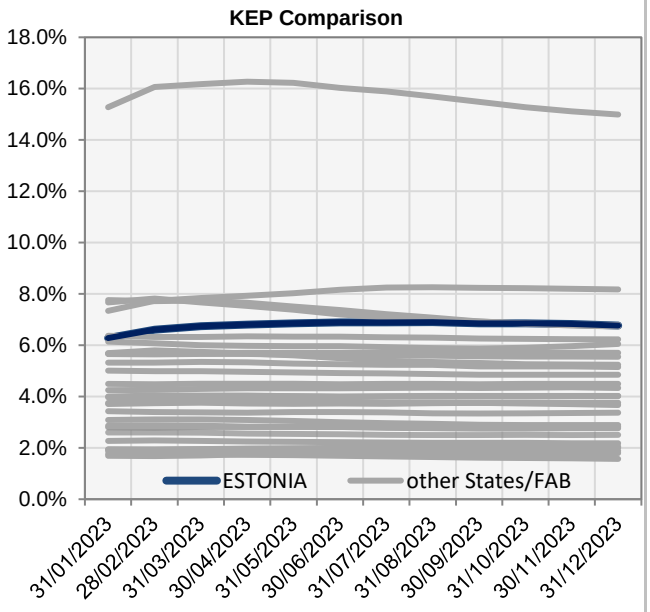
ESTONIA **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.33%	1.22%	1.22%	1.22%	1.22%
Actual performance	1.21%	1.43%	5.46%	6.55%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	5.99%	6.32%	6.43%	6.48%	6.53%	6.59%	6.60%	6.62%	6.60%	6.60%	6.58%	6.55%
KEP	6.28%	6.61%	6.74%	6.80%	6.85%	6.89%	6.89%	6.90%	6.85%	6.85%	6.83%	6.77%
KES	6.26%	6.57%	6.68%	6.72%	6.75%	6.80%	6.79%	6.79%	6.75%	6.74%	6.71%	6.65%





The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

ESTONIA **ENVIRONMENT - Airports**

1. Overview

Estonia identified two airports, Tallinn and Tartu, as subject to RP3 monitoring. In accordance with IR (EU) 2019/317 and the traffic figures at these 2 airports, additional taxi-out and ASMA times are not monitored and the environmental performance focuses only on the share of arrivals applying CDO.
Traffic at these Estonian airports in 2023 was still 23% lower than in 2019.
The share of CDO flights is in the higher range of all observed values in 2023. Estonia has the highest share of CDO flights when calculated by State (65.5%).

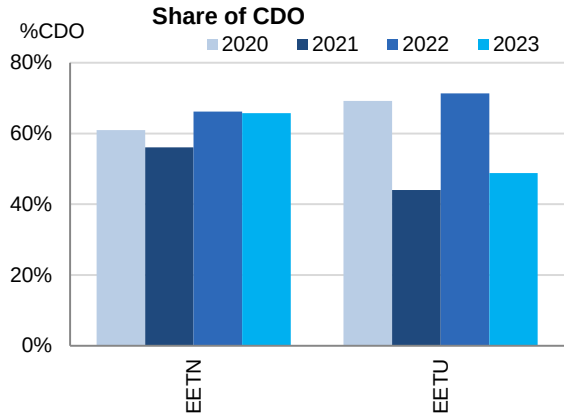
2. Additional Taxi-Out Time

This indicator is not monitored for airports below 80 000 IFR movements average during the 2016-2018 period, so it is not monitored for any airport in this state.

3. Additional ASMA Time

This indicator is not monitored for airports below 80 000 IFR movements average during the 2016-2018 period, so it is not monitored for any airport in this state.

4. Share of arrivals applying CDO



The share of CDO flights has stayed stable for Tallin (EETN) but has significantly decreased again for Tartu (EETU): -22.5 percentage points with respect to 2022. They are still well above the overall RP3 value in 2023 (28.8%). Tallin (EETN) is in the top 10 of all observed values in 2023.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Tallin-EETN	-	-	-	-		-	-	-	-		61%	56%	66%	66%	
Tartu-EETU	-	-	-	-		-	-	-	-		69%	44%	71%	49%	

ESTONIA **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

Military - related measures implemented or planned to improve capacity

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Estonia					

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Tallinn					

Initiatives implemented or planned to improve PI#6

No data available

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Estonia				n/a	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Tallinn				n/a	

Initiatives implemented or planned to improve PI#7

FRA has been implemented

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Estonia				n/a	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Tallinn				n/a	

Initiatives implemented or planned to improve PI#8

ESTONIA **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.05	0.01	0.03	0.03	0.03	
Actual performance	0.00	0.00	0.00	0.00		

NSA's assessment of capacity performance

In operational context, in 2023 we faced significant challenges and modest recovery across different quarters. The year was largely impacted by the ongoing Russian aggression against Ukraine, comparable in its effects to the COVID-19 pandemic. The Estonian airspace continues to be impacted by sanctions and the resulting decrease in air traffic between Europe and Asia.
In 2023, Estonia experienced a slight increase in flights compared to the previous year but still faced significant decrease compared to 2019.

The en route capacity targets of Estonia, measured in minutes of ATFM delay per flight for 2023, was set at 0.03 minutes. The actual ATFM delay per flight for 2023 was recorded at 0.0 minutes. No capacity issues have been identified. Air traffic flows have remained significantly below 2019 levels due to the sanctions on Russia and airspace closures caused by Russia's war against Ukraine.

Monitoring process for capacity performance

Review of the actual values from the NM dashboard.

Capacity Planning

Due to the limited traffic volumes capacity planning remains standard. ATFM delays are anticipated to remain at zero, as capacity continues to align with user demand

ATCO in OPS (FTE)							
Tallinn ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	25	27	27	27	
Actual	30	23	23	23	21		

Additional Information Related to Russia's War of Aggression Against Ukraine

Estonian airspace continues to be impacted by sanctions and the resulting decrease in air traffic between Europe and Asia. The ANSP has had to scale down and streamline operations while maintaining readiness for when traffic picks up again.

Summary of capacity performance

Estonia experienced an increase in traffic from 142k flights in 2022, to 148k flights in 2023 with zero ATFM delay. Traffic levels remain significantly below the 227k flights handled in 2019.

En route Capacity Incentive Scheme						
EANS	2020	2021	2022	2023	2024	Observations
National Capacity target	0.05	0.01	0.03	0.03	0.03	Actual performance falls inside the deadband range; therefore no bonus is due.
Deadband +/-	-	-	-	[0-0.06]	[0-0.06]	
Actual performance	0.00	0.00	0.00	0.00		

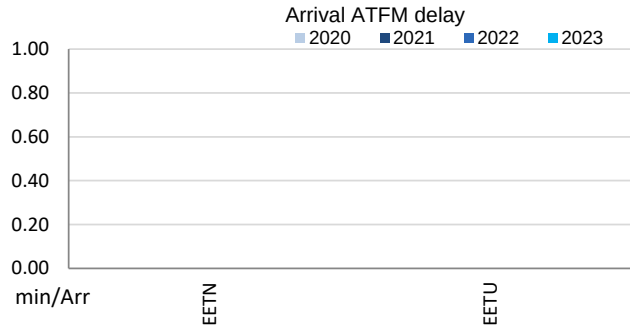
ESTONIA **CAPACITY - Airports**

1. Overview

Estonia identified two airports, Tallinn and Tartu, as subject to RP3 monitoring. In accordance with IR (EU) 2019/317 and the traffic figures at these 2 airports, pre-departure delays are not monitored and the capacity performance focuses on arrival ATFM delays and slot adherence.
Traffic at these Estonian airports in 2023 was still 23% lower than in 2019.

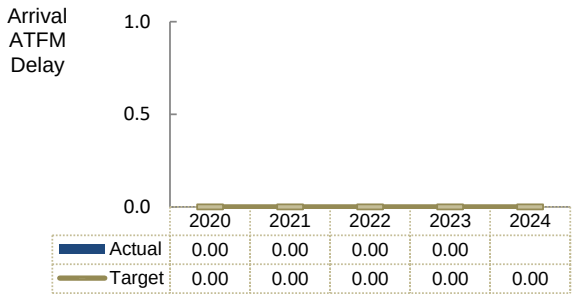
Like in the rest of RP3, no arrival ATFM delays were observed in the entire 2023 at these two airports and slot adherence remained very high (2023: 98.9%; 2022: 98.3%).

2. Arrival ATFM Delay



Like in previous years, no arrival ATFM delay was observed at the Estonian airports (Tallinn and Tartu) in 2023.
According to the Estonian monitoring report, this is due to *low traffic volumes and well functioning systems*

3. Arrival ATFM Delay – National Target and Incentive Scheme

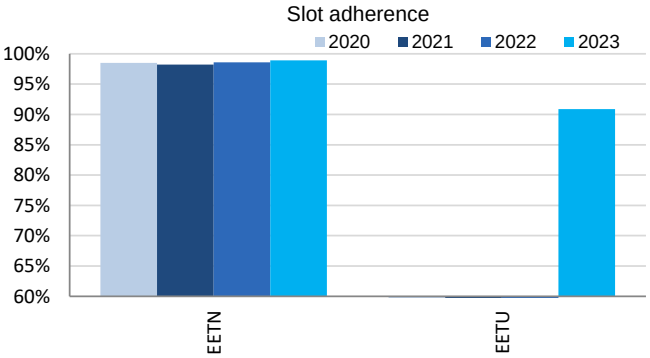


	2020	2021	2022	2023	2024
Actual	0.00	0.00	0.00	0.00	
Target	0.00	0.00	0.00	0.00	0.00

The Estonian performance plan sets a national target on arrival ATFM delay for all RP3 of 0.0 min/arr. This target, like in the rest of RP3, was met in 2023 with an actual performance of 0.0 min/arr.
The Estonian performance plan does not establish any bonus.

According to the Estonian monitoring report: *Since the number of flights remains low and the number of delays attributable to EANS is zero, there is no point in establishing a bonus, as a bonus should motivate change, but it is impossible to improve non-existent delays.*

4. ATFM Slot Adherence



Tallin showed very high slot adherence (98.9%) and at Tartu there only 11 regulated departures in 2023, from which only 1 departed outside of the STW.
The national average was 98.9%. With regard to the 1.1% of flights that did not adhere, 0.3% was early and 0.8% was late.

According to the Estonian monitoring report: *Performance remained on the same high level.*

5. ATC Pre-departure Delay

This indicator is not monitored for airports below 80 000 IFR movements annual average during the 2016-2018 period, so it is not monitored for any airport in Estonia.

6. All Causes Pre-departure Delay

This indicator is not monitored for airports below 80 000 IFR movements annual average during the 2016-2018 period, so it is not monitored for any airport in Estonia.

ESTONIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Estonia ECZ represents 0.4% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 10 February 2022 and found consistent as per Commission Decision (EU) 2022/771 of 13 April 2022

  The final version of the plan was adopted and published by Estonia in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Estonia: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	26 963 328	26 899 545	53 862 873	26 786 115	28 336 431	29 613 617
Inflation %	0.0%	1.8%		2.5%	2.1%	1.9%
Inflation index (100 in 2017)	105.8	107.7		110.4	112.7	114.8
Real en route costs (€2017)	26 132 098	25 829 816	51 961 914	25 297 780	26 447 397	27 337 166
Total en route service units	418 749	444 561	863 310	726 854	865 151	912 301
Real en route DUC per service unit (€2017)	**62.41**	**58.10**	**60.19**	**34.80**	**30.57**	**29.97**

Estonia: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	26 963 329	26 509 273	53 472 602	26 102 327	26 710 715	
Inflation %	0.0%	4.5%		19.4%	9.1%	
Inflation index (100 in 2017)	105.8	110.5		132.0	144.0	
Real en route costs (€2017)	26 132 099	25 148 805	51 280 904	22 396 739	21 725 843	
Total en route service units	418 749	466 942	885 691	428 511	446 250	
Real en route AUC per service unit (€2017)	**62.41**	**53.86**	**57.90**	**52.27**	**48.69**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	1	-390 272	-390 271	-683 788	-1 625 716	
	in %	+0.0%	-1.5%	-0.7%	-2.6%	-5.7%	
Inflation %	in p.p.	0.0 p.p.	2.7 p.p.		16.9 p.p.	7.0 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	2.9 p.p.		21.6 p.p.	31.3 p.p.	
Real en route costs (€2017)	in value	1	-681 011	-681 010	-2 901 041	-4 721 554	
	in %	+0.0%	-2.6%	-1.3%	-11.5%	-17.9%	
Total en route service units	in value	0	22 381	22 381	-298 343	-418 901	
	in %	-	+5.0%	+2.6%	-41.0%	-48.4%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-4.24**	**-2.29**	**17.46**	**18.12**	
	in %	**+0.0%**	**-7.3%**	**-3.8%**	**+50.2%**	**+59.3%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was +59.3% (or +18.12 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TSUs (-48.4%) and significantly lower than planned en route costs in real terms (-17.9%, or -4.7 M€2017). It should be noted that actual inflation index in 2023 was +31.3 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (-48.4%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

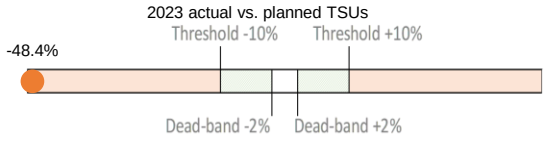
En route costs by entity

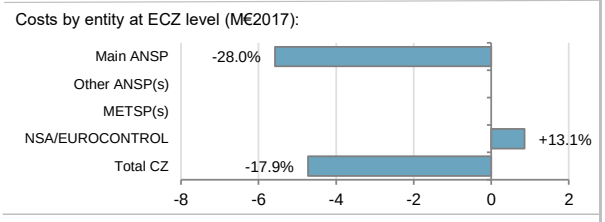
Actual real en route costs are -17.9% (-4.7 M€2017) lower than planned. This is the result of lower costs for the main ANSP, EANS (-28.0%, or -5.6 M€2017) and higher costs for the NSA/EUROCONTROL (+13.1%, or +0.9 M€2017).

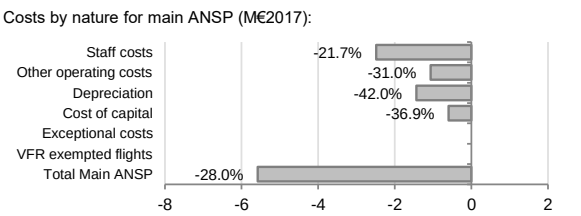
En route costs for the main ANSP (EANS) at charging zone level

Significantly lower than planned en route costs in real terms for EANS in 2023 (-28.0%, or -5.6 M€2017) result from:

- Significantly lower staff costs (-21.7%) in real terms due to the inflation index impact (+31.3 p.p.) since, in nominal terms, staff costs are in line with the plan (+0.03%).
- Significantly lower other operating costs (-31.0%) reflecting the impact of inflation index but also "*extensive cost-cutting measures to reduce losses. Travelling expenses, equipment maintenance costs and training expenses were the main items for savings* ",
- Significantly lower depreciation (-42.0%), reflecting "*changes in actual investment costs of new investments due to a delayed/postponed implementation* ",
- Significantly lower cost of capital (-36.9%) reflecting the use of lower than planned share of financing through equity.







ESTONIA: En route charging zone

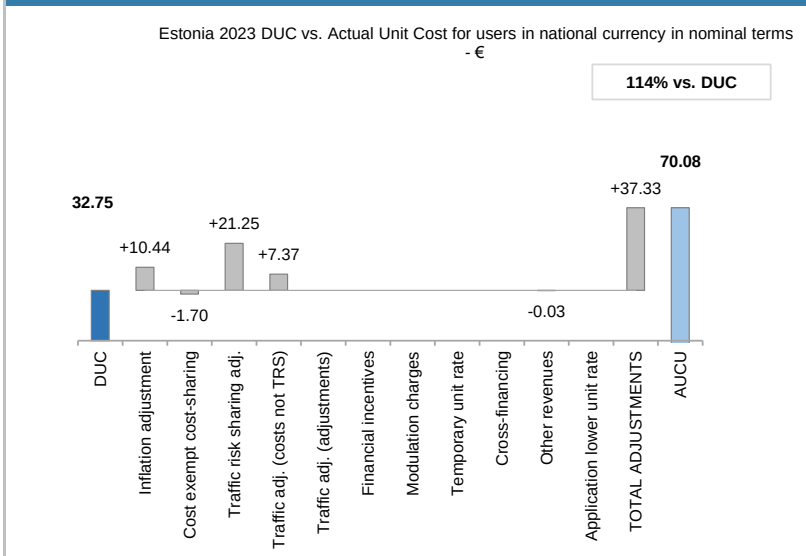
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	32.75
DUC to be charged retroactively	0.00
DUC	**32.75**
Inflation adjustment	10.44
Cost exempt from cost-sharing	-1.70
Traffic risk sharing adjustment	21.25
Traffic adj. (costs not TRS)	7.37
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.03
Application of lower unit rate	0.00
Total adjustments	37.33
AUCU	**70.08**
AUCU vs. DUC	**+114.0%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

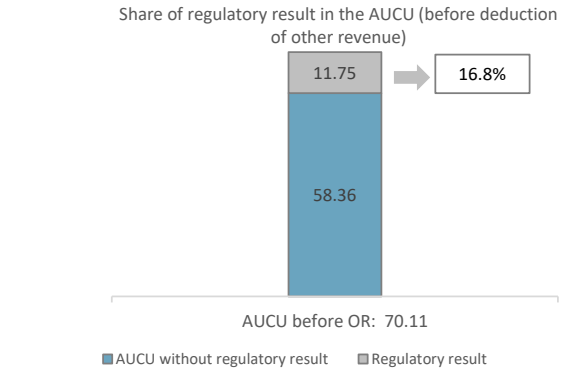
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-1 689	-3.78
	Competent authorities and qualified entities costs	839	1.88
	Eurocontrol costs	19	0.04
	Pension costs	72	0.16
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-760**	**-1.70**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
EANS	5 241	11.75

METSP(s)	€ '000	€/SU

Total charging zone	5 241	11.75
Actual cost for users* **	31 288	70.11
Regulatory result (% AUCU)	16.8%	16.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (70.08 €) is +114.0% higher than the nominal DUC (32.75 €). The difference between these two figures (+37.33 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+10.44 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-1.70 €/SU);
- the addition of the traffic risk sharing adjustments (+21.25 €/SU);
- the addition of the traffic adjustment (+7.37 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-0.03 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 16.8%.

ESTONIA: En route main ANSP (EANS) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

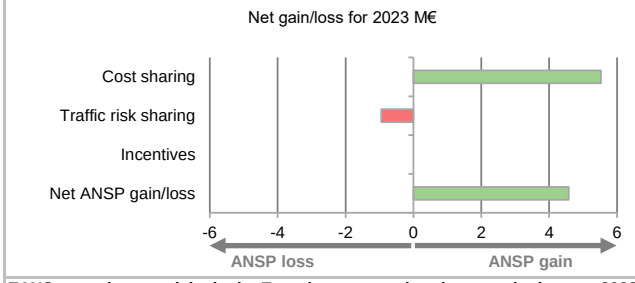
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

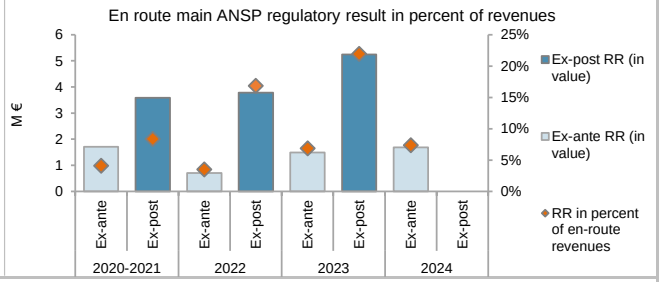
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-29	651	2 483	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	398	3 100	4 659	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-36	-100	-1 617	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**333**	**3 651**	**5 525**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	2.6%	-41.0%	-48.4%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	41 272	20 124	21 544	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**899**	**-885**	**-948**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**1 231**	**2 766**	**4 577**	

12. Regulatory result (RR) for the main ANSP at charging zone level

EANS planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	28 085	27 018	55 103	26 775	28 649	30 168
Proportion of financing through equity (in %)	61%	23%	42%	36%	71%	77%
RoE pre-tax rate (in %)	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%
RoE (in value)	1 257	452	1 708	708	1 491	1 687
Ex-ante regulatory result (+/-) for the en route charging zone	**1 257**	**452**	**1 708**	**708**	**1 491**	**1 687**
Revenue for the en route charging zone	**21 284**	**20 433**	**41 716**	**20 360**	**21 792**	**22 944**
Ex-ante regulatory result (+/-) in percent of revenues	**5.9%**	**2.2%**	**4.1%**	**3.5%**	**6.8%**	**7.4%**
Ex-ante RoE pre-tax rate (in %)	**7.3%**	**7.3%**	**7.3%**	**7.3%**	**7.3%**	**7.3%**
EANS actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	28 085	28 876	56 961	22 928	24 872	
Proportion of financing through equity (in %)	61%	52%	57%	61%	37%	
RoE pre-tax rate (in %)	7.3%	7.3%	7.3%	7.3%	7.3%	
RoE (in value)	1 257	1 096	2 353	1 018	665	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	1 231	1 231	2 766	4 577	
Ex-post regulatory result (+/-) for the en route charging zone	**1 257**	**2 328**	**3 584**	**3 783**	**5 241**	
Revenue for the en route charging zone	**21 284**	**21 694**	**42 977**	**22 474**	**23 885**	
Ex-post regulatory result (+/-) in percent of revenues	**5.9%**	**10.7%**	**8.3%**	**16.8%**	**21.9%**	
Ex-post RoE pre-tax rate (in %)	**7.3%**	**15.5%**	**11.1%**	**27.1%**	**57.6%**	

13. Focus on the main ANSP regulatory result on en route activity





EANS net gain on activity in the Estonia en route charging zone in the year 2023

EANS reported a net gain of +4.6 M€, as a combination of a gain of +5.5 M€ arising from the cost sharing mechanism, with a loss of -0.9 M€ arising from the traffic risk sharing mechanism.

EANS overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+4.6 M€) and the actual RoE (+0.7 M€) amounts to +5.2 M€ (21.9% of the en route revenues). The resulting ex-post rate of return on equity is 57.6%, which is higher than the 7.3% planned in the PP.

ESTONIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Estonia TCZ represents 0.2% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 2 of which:
  - Airports with fewer than 80,000 IFR mvmts: 2
  - Airports with more than 80,000 IFR mvmts: 0
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Estonia: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	2 572 617	2 526 192	5 098 809	2 393 127	2 528 987	2 646 202
Inflation %	0.0%	1.8%		2.5%	2.1%	1.9%
Inflation index (100 in 2017)	105.8	107.7		110.4	112.7	114.8
Real terminal costs (€2017)	2 496 661	2 422 118	4 918 779	2 254 405	2 355 293	2 438 319
Total terminal service units	8 201	9 972	18 173	17 372	18 786	19 870
Real terminal DUC per service unit (€2017)	**304.43**	**242.90**	**270.66**	**129.77**	**125.37**	**122.71**

Estonia: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	2 572 617	2 446 840	5 019 457	2 809 249	3 320 847	
Inflation %	0.0%	4.5%		19.4%	9.1%	
Inflation index (100 in 2017)	105.8	110.5		132.0	144.0	
Real terminal costs (€2017)	2 496 661	2 323 789	4 820 450	2 393 352	2 697 694	
Total terminal service units	8 201	10 986	19 188	17 403	17 305	
Real terminal AUC per service unit (€2017)	**304.43**	**211.52**	**251.23**	**137.53**	**155.89**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-79 352	-79 352	416 122	791 860	
	in %	-	-3.1%	-1.6%	+17.4%	+31.3%	
Inflation %	in p.p.	0.0 p.p.	2.7 p.p.		16.9 p.p.	7.0 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	2.9 p.p.		21.6 p.p.	31.3 p.p.	
Real terminal costs (€2017)	in value	0	-98 329	-98 329	138 948	342 401	
	in %	-	-4.1%	-2.0%	+6.2%	+14.5%	
Total terminal service units	in value	0	1 015	1 015	30	-1 481	
	in %	-	+10.2%	+5.6%	+0.2%	-7.9%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-31.38**	**-19.44**	**7.76**	**30.52**	
	in %	**-**	**-12.9%**	**-7.2%**	**+6.0%**	**+24.3%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +24.3% (or +30.52 €2017) higher than the planned DUC. This results from the combination of significantly higher than planned terminal costs in real terms (+14.5%, or +0.3 M€2017) and significantly lower than planned TNSUs (-7.9%). It should be noted that actual inflation index in 2023 was +31.3 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-7.9%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

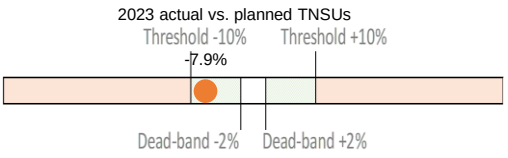
Terminal costs by entity

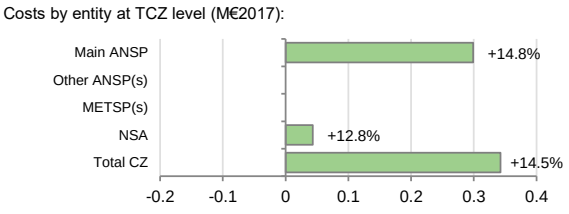
Actual real terminal costs are +14.5% (+0.3 M€2017) higher than planned. This is the result of higher costs for the main ANSP, EANS (+14.8%, or +0.3 M€2017) and the NSA (+12.8%, or +0.04 M€2017).

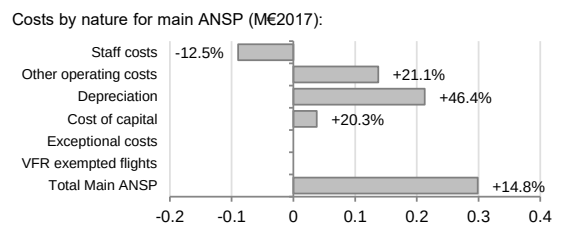
Terminal costs for the main ANSP (EANS) at charging zone level

Significantly higher than planned terminal costs in real terms for EANS in 2023 (+14.8%, or +0.3 M€2017) result from:

- Significantly lower staff costs (-12.5%) in real terms due to the inflation index impact (+31.3 p.p.). In nominal terms, staff costs are above the plan (+11.8%), which, based on the information provided by Estonia, is due to the fact that "*higher proportion of actual costs were allocated to terminal costs*" due to a significantly lower en route traffic.
- Significantly higher other operating costs (+21.1%), which, as already detailed above, is also explained by the changes in the allocation of actual costs.
- Significantly higher depreciation (+46.4%), reflecting continuation of the investment programme, including projects which had been postponed in previous years.
- Significantly higher cost of capital (+20.3%) reflecting a combination of higher than planned interest rate on debt and higher proportion of financing through equity.







ESTONIA: Terminal charging zone

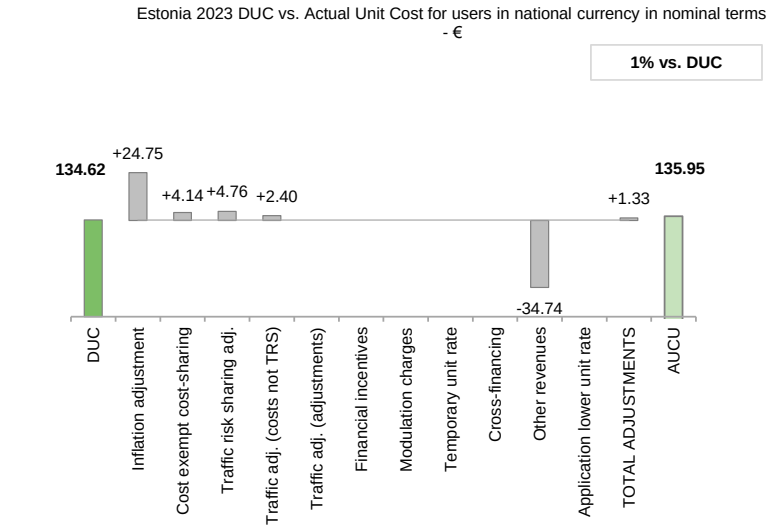
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	134.62
DUC to be charged retroactively	0.00
DUC	**134.62**
Inflation adjustment	24.75
Cost exempt from cost-sharing	4.14
Traffic risk sharing adjustment	4.76
Traffic adj. (costs not TRS)	2.40
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-34.74
Application of lower unit rate	0.00
Total adjustments	1.33
AUCU	**135.95**
AUCU vs. DUC	**1.0%**

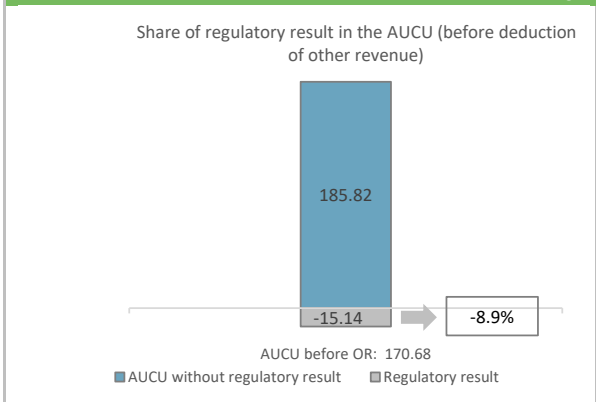
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	29	1.70
	Competent authorities and qualified entities costs	43	2.51
	Eurocontrol costs	0	0.00
	Pension costs	-1	-0.07
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**72**	**4.14**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
EANS	-262	-15.14

METSP(s)	€ '000	€/SU
Total charging zone	-262	-15.14
Actual cost for users* **	2 954	170.68
Regulatory result (% AUCU)	-8.9%	-8.9%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (135.95 €) is +1.0% higher than the nominal DUC (134.62 €). The difference between these two figures (+1.33 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+24.75 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+4.14 €/SU);
- the addition of the traffic risk sharing adjustments (+4.76 €/SU);
- the addition of the traffic adjustment (+2.40 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-34.74 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is -8.9%.

ESTONIA: Terminal main ANSP (EANS) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

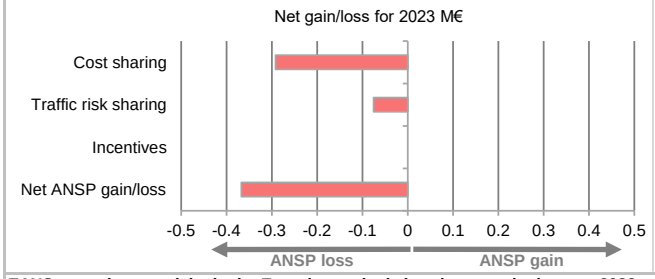
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

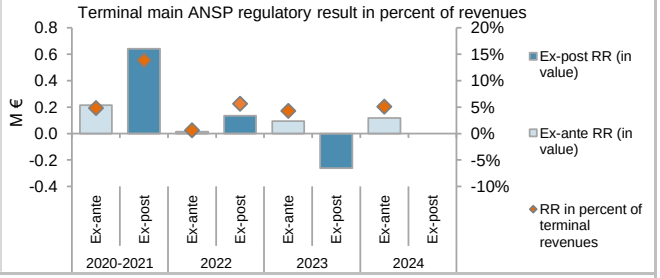
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	65	-378	-748	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	39	289	428	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-14	43	28	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**89**	**-46**	**-292**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	5.6%	0.2%	-7.9%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	4 128	1 883	2 002	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**127**	**3**	**-75**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**216**	**-43**	**-367**	

12. Regulatory result (RR) for the main ANSP at charging zone level

EANS planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	7 835	7 538	15 373	6 499	7 992	8 416
Proportion of financing through equity (in %)	35%	2%	19%	3%	16%	19%
RoE pre-tax rate (in %)	7.3%	7.3%	7.3%	7.3%	7.3%	7.3%
RoE (in value)	202	13	215	13	94	117
Ex-ante regulatory result (+/-) for the terminal charging zone	**202**	**13**	**215**	**13**	**94**	**117**
Revenue for the terminal charging zone	**2 263**	**2 200**	**4 463**	**2 061**	**2 188**	**2 297**
Ex-ante regulatory result (+/-) in percent of revenues	**8.9%**	**0.6%**	**4.8%**	**0.6%**	**4.3%**	**5.1%**
Ex-ante RoE pre-tax rate (in %)	**7.3%**	**7.3%**	**7.3%**	**7.3%**	**7.3%**	**7.3%**
EANS actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	7 835	8 055	15 890	6 396	6 888	
Proportion of financing through equity (in %)	35%	38%	37%	38%	21%	
RoE pre-tax rate (in %)	7.3%	7.3%	7.3%	7.3%	7.3%	
RoE (in value)	202	222	424	177	105	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	216	216	-43	-367	
Ex-post regulatory result (+/-) for the terminal charging zone	**202**	**438**	**641**	**134**	**-262**	
Revenue for the terminal charging zone	**2 263**	**2 352**	**4 615**	**2 396**	**2 570**	
Ex-post regulatory result (+/-) in percent of revenues	**8.9%**	**18.6%**	**13.9%**	**5.6%**	**-10.2%**	
Ex-post RoE pre-tax rate (in %)	**7.3%**	**14.4%**	**11.0%**	**5.5%**	**-18.2%**	

13. Focus on main ANSP regulatory result on terminal activity





EANS net gain on activity in the Estonia terminal charging zone in the year 2023

EANS reported a net loss of -0.4 M€, as a combination of a loss of -0.3 M€ arising from the cost sharing mechanism, with a loss of -0.1 M€ arising from the traffic risk sharing mechanism.

EANS overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-0.4 M€) and the actual RoE (+0.1 M€) amounts to -0.3 M€ (-10.2% of the terminal revenues).

ESTONIA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Estonia

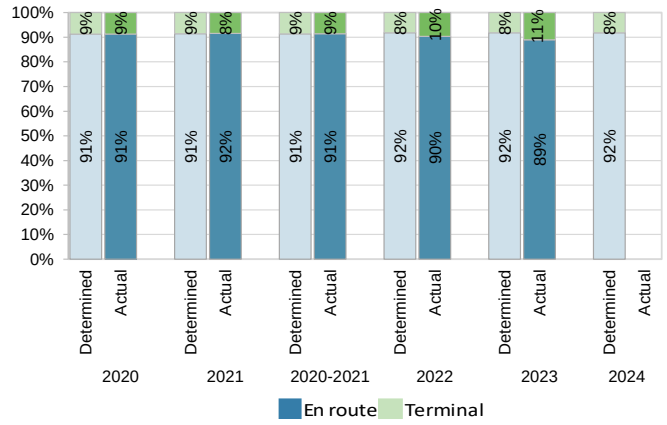
Terminal charging zone 1: Estonia

Estonia: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	26 132 098	25 829 816	51 961 914	25 297 780	26 447 397	27 337 166
Real terminal costs (€2017)	2 496 661	2 422 118	4 918 779	2 254 405	2 355 293	2 438 319
Real gate-to-gate costs (€2017)	28 628 758	28 251 934	56 880 693	27 552 184	28 802 690	29 775 486
En route share (%)	91.3%	91.4%	91.4%	91.8%	91.8%	91.8%

Estonia: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	26 132 099	25 148 805	51 280 904	22 396 739	21 725 843	
Real terminal costs (€2017)	2 496 661	2 323 789	4 820 450	2 393 352	2 697 694	
Real gate-to-gate costs (€2017)	28 628 760	27 472 594	56 101 354	24 790 091	24 423 537	
En route share (%)	91.3%	91.5%	91.4%	90.3%	89.0%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	1	-779 340	-779 339	-2 762 093	-4 379 153	
	in %	0.0%	-2.8%	-1.4%	-10.0%	-15.2%	
En route share	in p.p.	0.0 p.p.	0.1 p.p.	0.1 p.p.	-1.5 p.p.	-2.9 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -15.2% (-4.4 M€2017) lower than planned, as en route costs are lower than planned by -4.7 M€2017 and terminal costs are higher than planned by +0.3 M€2017.

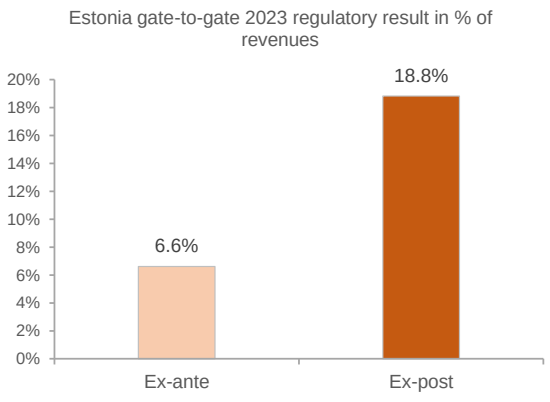
The actual share of en route in gate-to-gate ANS costs (89%) is lower than planned in the PP for 2023 (91.8%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
EANS	1 585	23 980	6.6%		4 979	26 455	18.8%	
METSP(s)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
Total	**1 585**	**23 980**	**6.6%**		**4 979**	**26 455**	**18.8%**	

For the ANSPs providing services in the en route and terminal charging zones of Estonia covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +5.0 M€ (+5.2 M€ for en route and -0.3 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 18.8% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (6.6% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

FINLAND

FINLAND **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
ANS	86	C	C	C	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

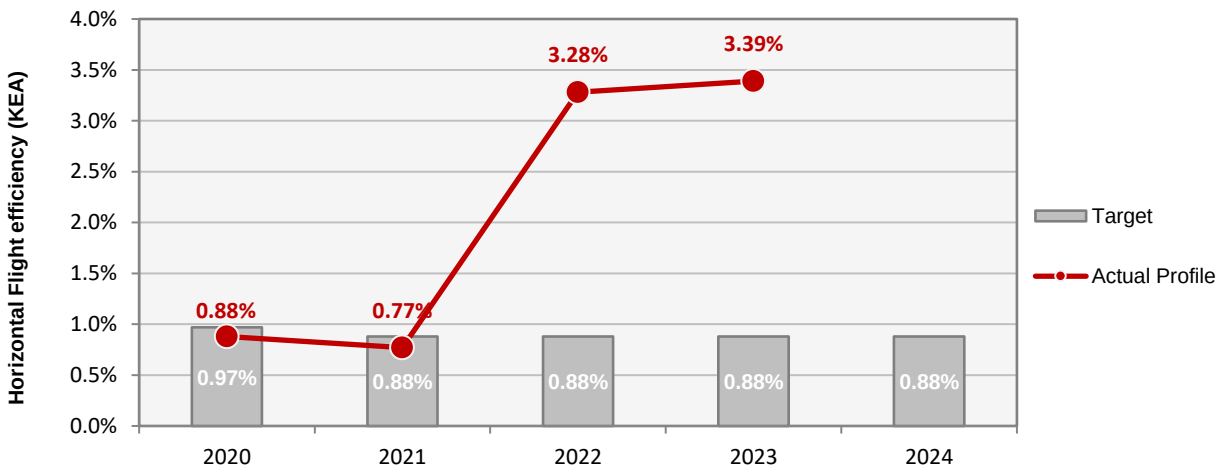
Observations

Four out of five EoSM components of the ANSP meet the RP3 target level. No improvements were observed over 2023, but only "Safety Risk Management" component is below RP3 target level with three questions to improve during RP3 to achieve RP3 target.

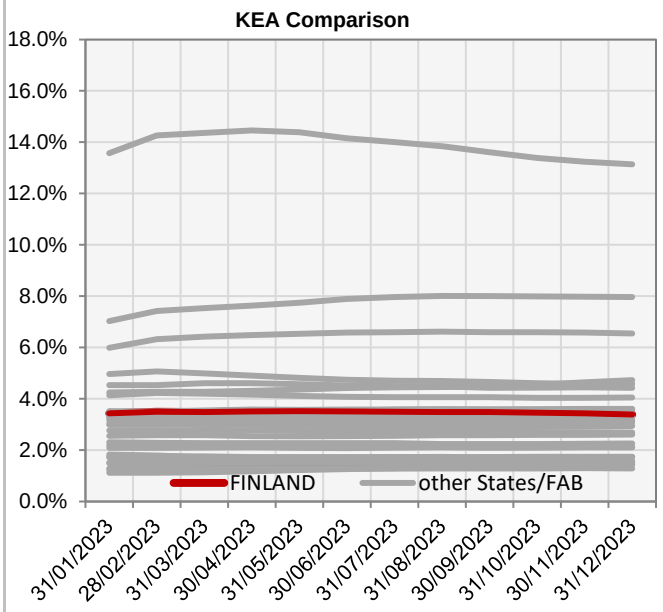
IMPORTANT: EASA/European Commission did not receive the verified questionnaire from the NSA on time. This is an important step to receive confirmation that the self-evaluated questionnaire by the ANSP has been actually verified. It should be sent in due time to allow proper and timely drafting of the Monitoring Report.

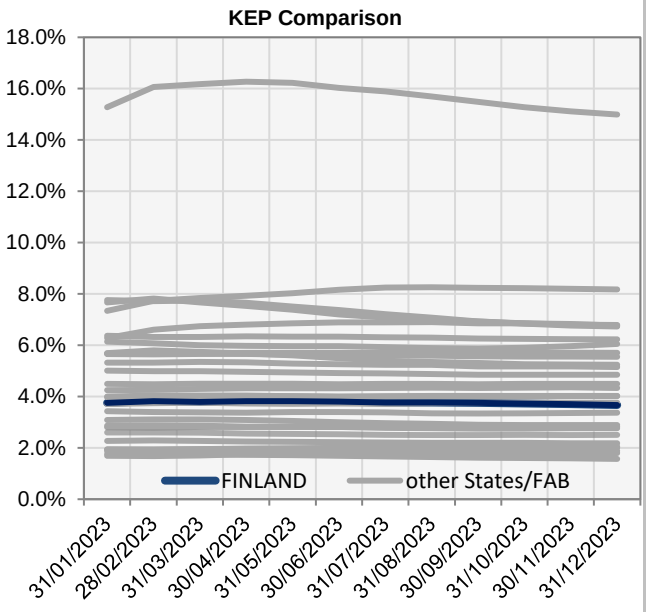
FINLAND **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	0.97%	0.88%	0.88%	0.88%	0.88%
Actual performance	0.88%	0.77%	3.28%	3.39%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	3.44%	3.50%	3.49%	3.51%	3.52%	3.51%	3.50%	3.49%	3.49%	3.46%	3.44%	3.39%
KEP	3.75%	3.82%	3.79%	3.82%	3.82%	3.80%	3.77%	3.77%	3.76%	3.73%	3.70%	3.67%
KES	3.85%	3.92%	3.91%	3.94%	3.95%	3.93%	3.90%	3.89%	3.89%	3.85%	3.82%	3.78%





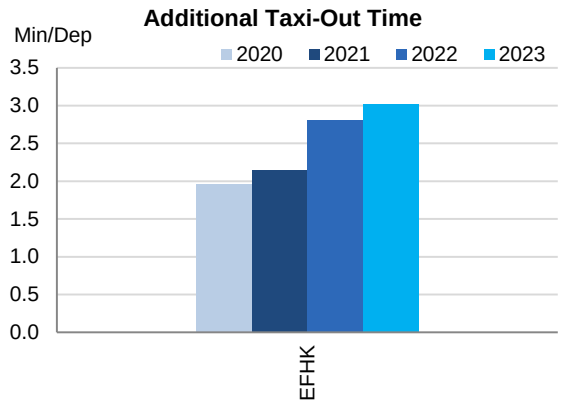
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

FINLAND **ENVIRONMENT - Airports**

1. Overview

Finland identifies only Helsinki airport as subject to RP3 monitoring.
The Airport Operator Data Flow is fully established and the monitoring of all environmental indicators can be performed.
Traffic at this airport in 2023 was still 27% lower with respect to 2019,and 7% above 2022 levels. Both additional time indicators have increased in 2023.
The share of CDO flights is in the higher range of all observed values in 2023.

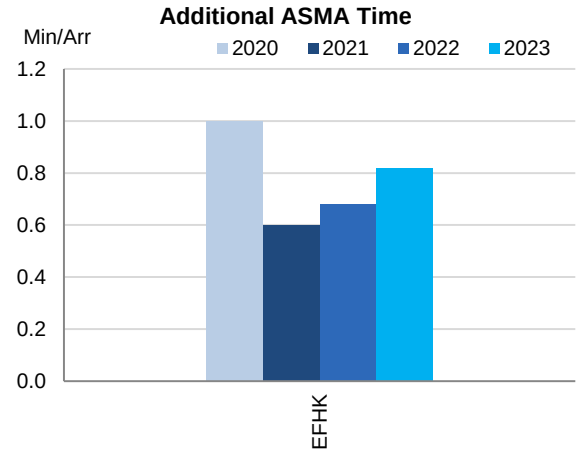
2. Additional Taxi-Out Time



Additional taxi-out times at Helsinki (EFHK; 2019: 3.04 min/dep.; 2020: 1.96 min/dep.; 2021: 2.15 min/dep.; 2022: 2.81 min/dep.; 2023: 3.02 min/dep.) exceeded in 2023 the SES average of 2.81 min/dep. These additional times are very influenced by the winter operations (winter maintenance and de-icing procedures), surpassing 8 min/dep in December 2023. Additional taxi out times between April and September average 1.14 min/dep.

According to Finland's monitoring report:
No new initiatives or planned initiatives for additional taxi-out time PI. Additional taxi-out time is following the same pattern as in previous years. Additional taxi-out time is rather low from April to October and higher in the winter months due to winter maintenance and de-icing procedures.

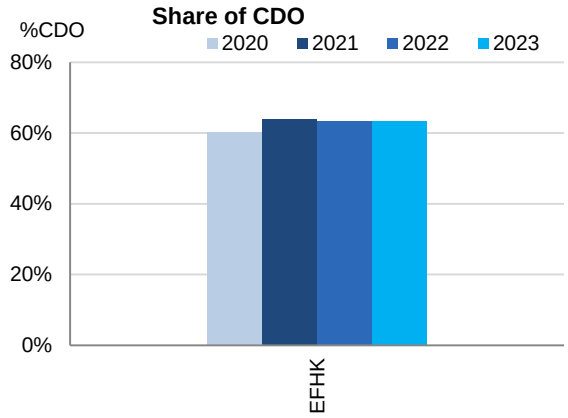
3. Additional ASMA Time



The additional times in the terminal airspace increased in 2023 but remained below the SES average of 1.16 min/arr (EFHK; 2019: 1.19 min/arr.; 2020: 1 min/arr.; 2021: 0.6 min/arr; 2022: 0.68 min/arr; 2023: 0.82 min/arr).

According to Finland's monitoring report:
No implemented or planned initiatives for additional time in terminal airspace PI.

4. Share of arrivals applying CDO



The share of CDO flights at Helsinki (EFHK) has remained stable at 63.3% which is well above the overall RP3 value in 2023 (28.8%) and in the higher range of all observed values in 2023.
The highest monthly value was observed in May when the share of CDO flights was 71.6%.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Helsinki-Vantaa-EFHK	1.96	2.15	2.81	3.02		1	0.6	0.68	0.82		60%	64%	63%	63%	

FINLAND **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

Military - related measures implemented or planned to improve capacity

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Finland	41%	44%	85%	86%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Helsinki	41%	44%	85%	86%	

Initiatives implemented or planned to improve PI#6

"LARA/PRISMIL implemented, automated reporting, that differs from manual calculation that was used earlier in 2020, 2021 and RP2.
The figures for 2020 and 2021 should be as follows:
2020 number of hours allocated & notified: 38340; used: 34296 (ratio 89,45%)
2021 number of hours allocated & notified: 37346; used: 33978 (ratio 90,98%)"

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Finland			99%	99%	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Helsinki			99%	99%	

Initiatives implemented or planned to improve PI#7

"LARA/PRISMIL implemented, automated reporting, that differs from manual calculation that was used earlier in 2020, 2021 and RP2.
Figures for 2020 and 2021 should be as follows:
2020 number of aircraft filing via reserved or segregated airspace and CDRs: 1676883; could have planned: 1779163 (ratio 94,25%)
2021 number of aircraft filing via reserved or segregated airspace and CDRs: 1908679; could have planned: 1982855 (ratio 96,26%)"

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Finland			89%	90%	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Helsinki			89%	90%	

Initiatives implemented or planned to improve PI#8

"LARA/PRISMIL implemented, automated reporting, that differs from manual calculation that was used earlier in 2020, 2021 and RP2.
Figures for 2020 and 2021 should be as follows:
2020 number of aircraft flying via reserved or segregated airspace and CDRs: 1512596; could have planned: 1779163 (ratio 85,02%)
2021 number of aircraft flying via reserved or segregated airspace and CDRs: 1721982; could have planned: 1982855 (ratio 86,84%)"

FINLAND **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.09	0.03	0.05	0.05	0.05	
Actual performance	0.00	0.00	0.00	0.00		

NSA's assessment of capacity performance

The war in Ukraine and the closure of Russian airspace and banning Russian airlines from flying in Finnish airspace continued having a huge impact in traffic in 2023.

As a result of the sanctions, all European airlines stopped flying to Asia completely over Finland. Overflying traffic resulted around 70 % compared to the level of 2019. These traffic volumes are expected to continue and this situation remain as a new normal.
Fintraffic ANS continued adapting its operations but not as strongly as in 2022. Layoffs continued but only until June.

Finland reached the capacity targets in both KPIs, en-route and terminal. En-route delays have been zero for many years, and the capacity provided for this is due to user demand for as few delays as possible. For terminal, the delays were 0,14 (-0,18 below the target), mostly caused by weather in the winter months.

Monitoring process for capacity performance

Review of the actual values from the NM dashboard.

Capacity Planning

En-route ATFM delay will remain low as the capacity is delivered according to user demand.

ATCO in OPS (FTE)							
Helsinki ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	40	52	54	55	
Actual	51	43	31	40	43		

Additional Information Related to Russia's War of Aggression Against Ukraine

There are changes in traffic flows/patterns.
The airspace closures have shifted the traffic flows from Russia to Kaliningrad, and these flights have to use the narrow international airspace corridor between Finland and Estonia, and can not use the direct routing that has been used before the war. There is an average of 350 flights per week.
Also the flights from Europe to Asia are not overflying Finnish airspace anymore because of the airspace closure.
Other change is in the flights between Finland (Helsinki) and Japan, where our main operator Finnair flies daily. These flights can't fly the most direct route anymore because of the airspace closure, and have to fly via northern route above the North Pole.
These changes do not affect the en route capacity performance, but still need to be taken into account when assessing the overall performance of the ANSP.

Summary of capacity performance

Finland experienced an increase in traffic from 205k flights in 2022, to 224k flights in 2023, yet again, with zero ATFM delay. Traffic levels remain substantially below the 2019 level of 285k flights, mainly due to ramifications from Russia's war against Ukraine.

En route Capacity Incentive Scheme						
Fintraffic ANS	2020	2021	2022	2023	2024	Observations
National Capacity target	0.09	0.03	0.05	0.05	0.05	Even though there was zero delays, the actual performance falls within the deadband, so no bonus is due.
Deadband +/-	-	-	-	[0-0.06]	[0-0.06]	
Actual performance	0.00	0.00	0.00	0.00		

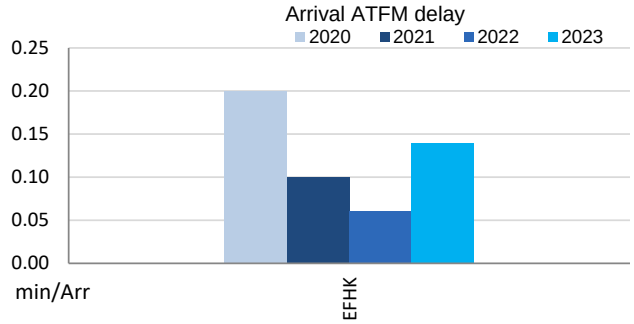
FINLAND **CAPACITY - Airports**

1. Overview

Finland identifies only Helsinki airport as subject to RP3 monitoring.
The Airport Operator Data Flow is fully established and the monitoring of all capacity indicators can be performed.
Traffic at this airport in 2023 was still 27% lower with respect to 2019, and 7% above 2022 levels.

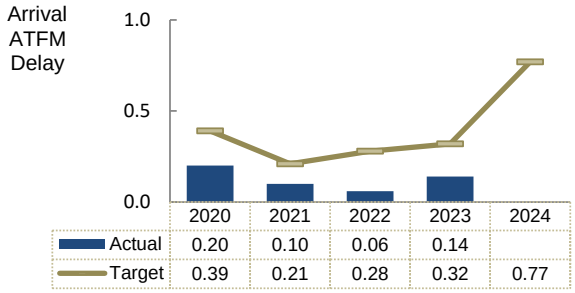
Average arrival ATFM delays in 2023 were 0.14 min/arr, compared to 0.06 min/arr in 2022. The national target was met.
ATFM slot adherence has slightly decreased (2023: 95.1%; 2022: 95.6%).

2. Arrival ATFM Delay



Arrival ATFM delays at Helsinki in 2023 averaged 0.14 min/arr, an increase with respect to 2022 (0.06 min/arr).97% of these delays were attributed to weather, followed by 3% of Special Event.
Finland reports: *For terminal, the delays were 0,14 (-0,18 below the target), and the only delays were caused by weather, mostly in the winter months.*
No airport ATFM delays due to the war.

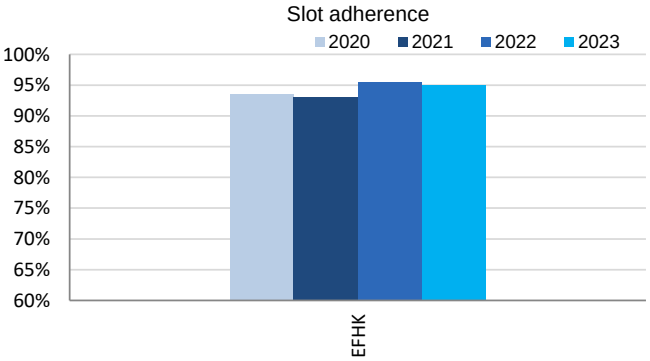
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.20	0.10	0.06	0.14	
Target	0.39	0.21	0.28	0.32	0.77

The Finnish performance plan sets a national target on arrival ATFM delay for 2023 of 0.32 min/arr. This target was met in 2023 with an actual performance of 0.14 min/arr.
The incentive scheme uses modulated pivot values limited CRSTMP delay causes. This pivot value for CRSTMP is 0.02 min/arr during all RP3. According to the attribution of the regulation reason, the actual CRSTMP value for 2023 is 0.005 min/arr. The incentive scheme in the Performance Plan however does not contemplate any bonus.

4. ATFM Slot Adherence



Helsinki's ATFM slot compliance was 95.1 %. With regard to the 4.9% of flights that did not adhere, 1% was early and 3.9% was late.

5. ATC Pre-departure Delay

ATC pre-departure delay at Helsinki (EFHK: 2023: 0.12 min/dep) decreased with respect to 2022 is still below the pre-pandemic value (0.39 min/dep)

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time at Helsinki decreased in 2023 (EFHK: 2020: 7.76 min/dep.; 2021: 11.07 min/dep.; 2022: 11.46 min/dep.; 2023: 10.61 min/dep.)

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Helsinki-Vantaa-EFHK	0.2	0.1	0.06	0.14		93.6%	93.1%	95.6%	95.1%		n/a	n/a	0.21	0.12		7.76	11.07	11.46	10.61	

FINLAND: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Finland ECZ represents 0.6% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 17 November 2021 and found consistent as per Commission Decision (EU) 2022/765 of 13 April 2022
  The final version of the plan was adopted and published by Finland in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Finland: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	38 213 956	40 643 337	78 857 293	45 493 220	47 725 316	50 403 722
Inflation %	0.4%	1.4%		1.5%	1.6%	1.8%
Inflation index (100 in 2017)	102.7	104.2		105.7	107.4	109.3
Real en route costs (€2017)	37 408 395	39 370 777	76 779 172	43 474 245	45 038 050	46 941 389
Total en route service units	462 058	481 000	943 058	894 000	1 087 000	1 167 000
Real en route DUC per service unit (€2017)	**80.96**	**81.85**	**81.42**	**48.63**	**41.43**	**40.22**

Finland: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	38 213 956	36 959 359	75 173 315	39 980 615	41 933 584	
Inflation %	0.4%	2.1%		7.2%	4.3%	
Inflation index (100 in 2017)	102.7	104.9		112.4	117.3	
Real en route costs (€2017)	37 408 395	35 618 896	73 027 291	36 342 687	36 805 418	
Total en route service units	462 058	494 854	956 912	597 862	659 114	
Real en route AUC per service unit (€2017)	**80.96**	**71.98**	**76.32**	**60.79**	**55.84**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-3 683 979	-3 683 979	-5 512 605	-5 791 732	
	in %	-	-9.1%	-4.7%	-12.1%	-12.1%	
Inflation %	in p.p.	0.0 p.p.	0.7 p.p.		5.7 p.p.	2.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.7 p.p.		6.7 p.p.	9.8 p.p.	
Real en route costs (€2017)	in value	0	-3 751 882	-3 751 882	-7 131 559	-8 232 632	
	in %	-	-9.5%	-4.9%	-16.4%	-18.3%	
Total en route service units	in value	0	13 854	13 854	-296 138	-427 886	
	in %	-	+2.9%	+1.5%	-33.1%	-39.4%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-9.87**	**-5.10**	**12.16**	**14.41**	
	in %	**-**	**-12.1%**	**-6.3%**	**+25.0%**	**+34.8%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was +34.8% (or +14.41 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TSUs (-39.4%) and significantly lower than planned en route costs in real terms (-18.3%, or -8.2 M€2017). It should be noted that actual inflation index in 2023 was +9.8 p.p. higher than planned.

En route service units

The difference between the 2023 actual and planned TSUs (-39.4%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. It is reported that "the sanctions due to the war in Ukraine, (....) had a significant impact on traffic". The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

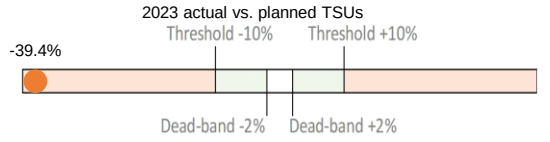
En route costs by entity

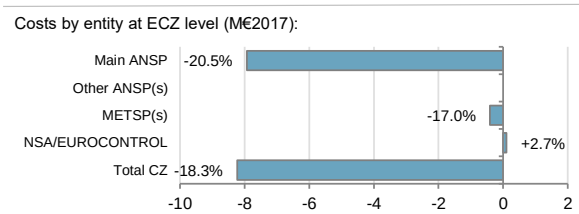
The 2023 actual real en route costs are -18.3% (-8.2 M€2017) lower than planned. This is the result of lower than planned costs for the main ANSP, Fintraffic ANS (-20.5%, or -7.9 M€2017) and the MET service provider (-17.0%, or -0.4 M€2017), while for the NSA/EUROCONTROL costs are higher (+2.7%, or +0.1 M€2017) than planned.

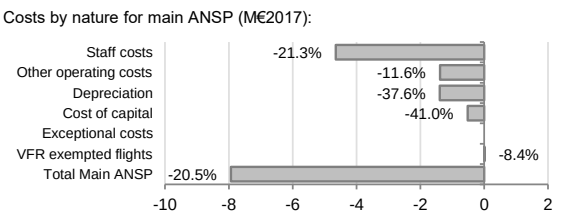
En route costs for the main ANSP (Fintraffic ANS) at charging zone level

The 2023 actual real en route costs for Fintraffic ANS are significantly lower than planned (-20.5%, or -7.9 M€2017), partially due to a higher than planned inflation index and resulting from:

- Significantly lower than planned staff costs in real terms (-21.3%), reported to be mainly due to "ANSP temporary lay-offs, lowered head count, abandoned bonuses, lowered pension costs, postponed recruiting and other savings in staff costs.",
- Significantly lower than planned other operating costs in real terms (-11.6%), reported to be mainly driven by "lower service fees (HR, Accounting ICT), remote work with less travel costs, less payments to airport operator (Finavia), lower telecom costs, less equipment and spare parts, purchases from military (ATCO) and LFV (ATCO service for Kvarken flights)",
- Significantly lower than planned depreciation costs (-37.6%) and cost of capital (-41.0%), reported to be mainly "due to postponing investments".
- Significantly lower than planned deduction for VFR exempted flights (-8.4%).







FINLAND: En route charging zone

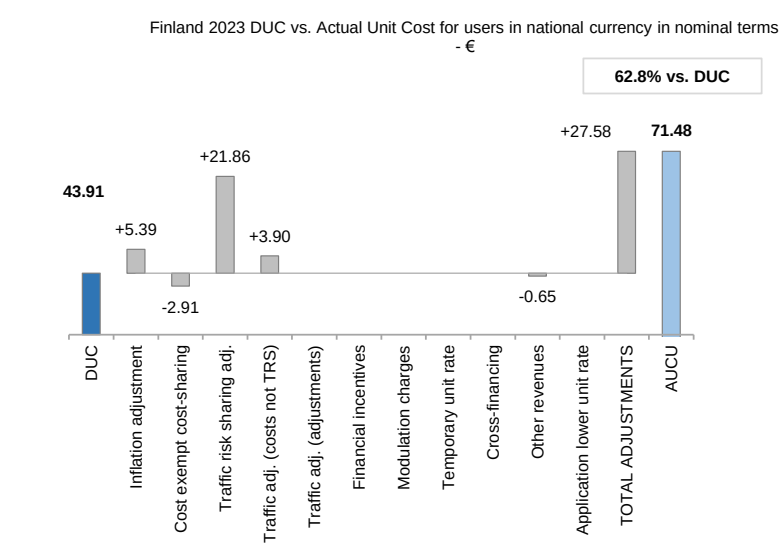
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year 2023. It corresponds to the sum of the DUC for the year 2023 and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out **in national currency in nominal terms**.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	43.91
DUC to be charged retroactively	0.00
DUC	**43.91**
Inflation adjustment	5.39
Cost exempt from cost-sharing	-2.91
Traffic risk sharing adjustment	21.86
Traffic adj. (costs not TRS)	3.90
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.65
Application of lower unit rate	0.00
Total adjustments	27.58
AUCU	**71.48**
AUCU vs. DUC	**+62.8%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

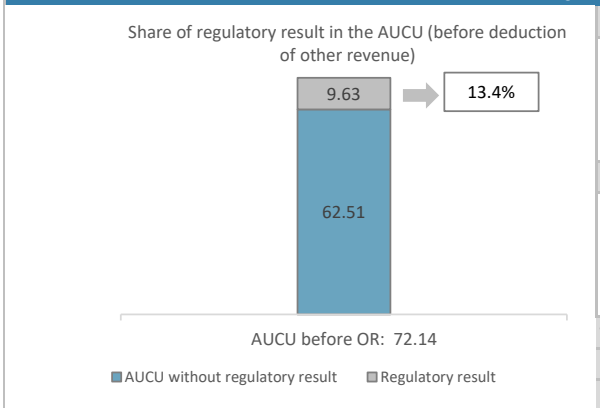
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-1 851	-2.81
	Competent authorities and qualified entities costs	0	0.00
	Eurocontrol costs	107	0.16
	Pension costs	-175	-0.27
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-1 919**	**-2.91**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
Fintraffic ANS	5 874	8.91

METSP(s)	€ '000	€/SU
Finland MET	476	0.72
Total charging zone	6 350	9.63
Actual cost for users* **	47 546	72.14
Regulatory result (% AUCU)	13.4%	13.4%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of the activities performed in 2023 (71.48 €) is +62.8% higher than the 2023 nominal DUC (43.91 €).
The difference between these two figures (+27.58 €/SU) is due to:
- the inflation adjustment resulting from higher than planned inflation (+5.39 €/SU);
- the impact of the adjustments resulting from the costs exempted from cost-sharing mechanism (-2.91 €/SU);
- the addition of the traffic risk sharing adjustments (+21.86 €/SU);
- the addition of the traffic adjustment (+3.90 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-0.65 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 13.4%.

FINLAND: En route main ANSP (Fintraffic ANS) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year 2023, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.

The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year 2023, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the **cost**-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the **traffic** risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.

The monitoring of the RR is carried out in national currency (here EUR) and in nominal terms.

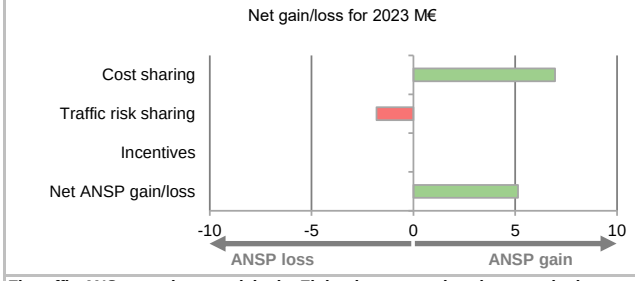
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

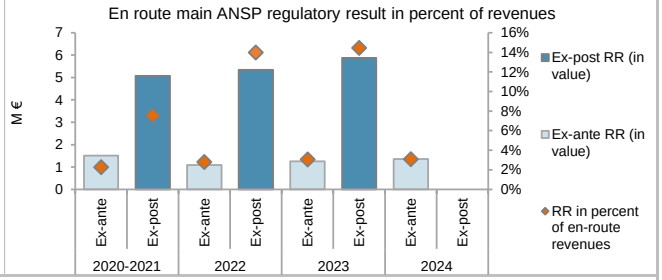
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	3 132	5 416	5 656	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	197	2 188	3 317	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-525	-1 181	-2 024	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**2 804**	**6 424**	**6 949**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.5%	-33.1%	-39.4%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	66 586	38 991	41 200	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**978**	**-1 716**	**-1 813**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**3 782**	**4 708**	**5 136**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Fintraffic ANS planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	16 618	18 562	35 180	25 311	29 112	31 499
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%
RoE (in value)	715	798	1 513	1 088	1 252	1 354
Ex-ante regulatory result (+/-) for the en route charging zone	**715**	**798**	**1 513**	**1 088**	**1 252**	**1 354**
Revenue for the en route charging zone	**32 289**	**34 298**	**66 586**	**38 991**	**41 200**	**43 913**
Ex-ante regulatory result (+/-) in percent of revenues	**2.2%**	**2.3%**	**2.3%**	**2.8%**	**3.0%**	**3.1%**
Ex-ante RoE pre-tax rate (in %)	**4.3%**	**4.3%**	**4.3%**	**4.3%**	**4.3%**	**4.3%**
Fintraffic ANS actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	16 618	13 314	29 932	14 904	17 163	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	4.3%	4.3%	4.3%	4.3%	4.3%	
RoE (in value)	715	573	1 288	641	738	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	3 782	3 782	4 708	5 136	
Ex-post regulatory result (+/-) for the en route charging zone	**715**	**4 355**	**5 070**	**5 349**	**5 874**	
Revenue for the en route charging zone	**32 289**	**34 947**	**67 236**	**38 283**	**40 680**	
Ex-post regulatory result (+/-) in percent of revenues	**2.2%**	**12.5%**	**7.5%**	**14.0%**	**14.4%**	
Ex-post RoE pre-tax rate (in %)	**4.3%**	**32.7%**	**16.9%**	**35.9%**	**34.2%**	

13. Focus on the main ANSP regulatory result on en route activity





Fintraffic ANS net gain on activity in Finland en route charging zone in the year 2023

Fintraffic ANS reported a net gain of +5.1 M€, as a combination of a gain of +6.9 M€ arising from the cost sharing mechanism, with a loss of -1.8 M€ arising from the traffic risk sharing mechanism.

Fintraffic ANS overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity above mentioned (+5.1 M€) and the actual RoE (+0.7 M€) amounts to +5.9 M€ (14.4% of the en route revenues). The resulting ex-post rate of return on equity is 34.2%, which is higher than the 4.3% planned in the PP.

FINLAND: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity

Finland MET planned regulatory result (€ '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	2 201	2 358	4 559	2 569	2 572	2 528
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Finland MET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	215	215	257	476	
Revenue for the en route charging zone	2 201	2 386	4 587	2 740	2 806	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	9.0%	4.7%	9.4%	17.0%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Finland (Finnish Meteorological Institute) corresponds to 17.0% of the en route revenues. It should be noted that Finnish Meteorological Institute does not charge any cost of capital.

FINLAND: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Finland TCZ represents 1.2% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Finland: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	15 238 356	15 496 155	30 734 511	17 905 260	18 937 693	20 132 958
Inflation %	0.4%	1.4%		1.5%	1.6%	1.8%
Inflation index (100 in 2017)	102.7	104.2		105.7	107.4	109.3
Real terminal costs (€2017)	14 857 949	14 908 564	29 766 514	16 960 141	17 656 105	18 451 042
Total terminal service units	44 088	37 000	81 088	108 000	121 000	129 000
Real terminal DUC per service unit (€2017)	**337.01**	**402.93**	**367.09**	**157.04**	**145.92**	**143.03**

Finland: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	15 238 356	14 468 174	29 706 530	16 610 562	17 291 217	
Inflation %	0.4%	2.1%		7.2%	4.3%	
Inflation index (100 in 2017)	102.7	104.9		112.4	117.3	
Real terminal costs (€2017)	14 857 949	13 835 328	28 693 277	14 829 021	14 803 843	
Total terminal service units	44 088	40 831	84 919	81 305	89 953	
Real terminal AUC per service unit (€2017)	**337.01**	**338.85**	**337.89**	**182.39**	**164.57**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-1 027 980	-1 027 980	-1 294 698	-1 646 476	
	in %	-	-6.6%	-3.3%	-7.2%	-8.7%	
Inflation %	in p.p.	0.0 p.p.	0.7 p.p.		5.7 p.p.	2.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.7 p.p.		6.7 p.p.	9.8 p.p.	
Real terminal costs (€2017)	in value	0	-1 073 237	-1 073 237	-2 131 120	-2 852 262	
	in %	-	-7.2%	-3.6%	-12.6%	-16.2%	
Total terminal service units	in value	0	3 831	3 831	-26 695	-31 047	
	in %	-	+10.4%	+4.7%	-24.7%	-25.7%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-64.09**	**-29.20**	**25.35**	**18.66**	
	in %	**-**	**-15.9%**	**-8.0%**	**+16.1%**	**+12.8%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +12.8% (or +18.66 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TNSUs (-25.7%) and significantly lower than planned terminal costs in real terms (-16.2%, or -2.9 M€2017). It should be noted that actual inflation index in 2023 was +9.8 p.p. higher than planned.

Terminal service units

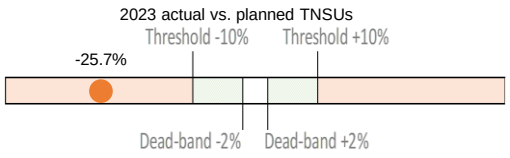
The difference between the 2023 actual and planned TNSUs (-25.7%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

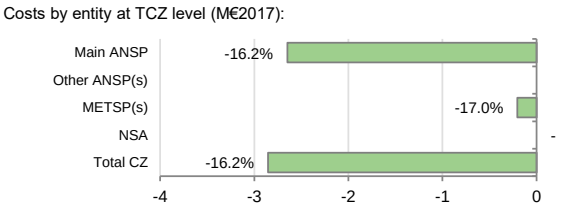
Terminal costs by entity

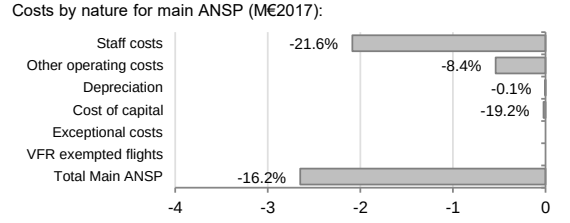
The 2023 actual real terminal ANS costs are -16.2% (-2.9 M€2017) lower than planned. This is the result of lower than planned costs for the main ANSP, Fintraffic ANS (-16.2%, or -2.6 M€2017) and the MET service provider (-17.0%, or -0.2 M€2017).

Terminal costs for the main ANSP (Fintraffic ANS) at charging zone level

The 2023 real actual terminal ANS costs for Fintraffic ANS are significantly lower than planned (-16.2%, or -2.6 M€2017) , partially due to a higher than planned inflation index and resulting from:
- Significantly lower than planned staff costs (-21.6%) reported to be mainly due to "*lower head count (postponed recruitment), staff cost savings included temporary lay-offs, abandoning bonuses, lower pension costs and other savings in staff costs* .",
- Significantly lower than planned other operating costs (-8.4%), reported to be mainly dur to the impact of the inflation index,
- Depreciation costs in line with the plan in real terms (-0.1%),
- Significantly lower than planned cost of capital (-19.2%), reported to be mainly "*due to lower fixed assets. Most of the cost of capital is included in the leasing costs (included in other operating costs).Finavia owns the ANS assets and Fintraffic ANS pays for their use.*







FINLAND: Terminal charging zone

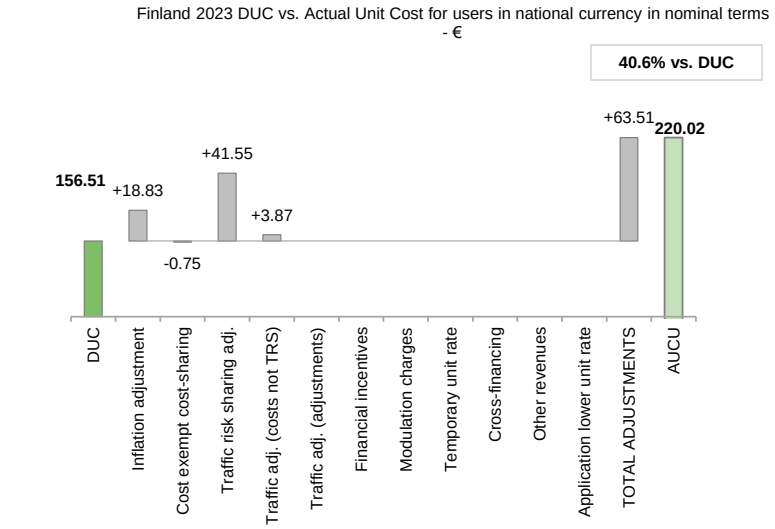
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year 2023. It corresponds to the sum of the DUC for the year 2023 and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in **national currency in nominal terms**.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	156.51
DUC to be charged retroactively	0.00
DUC	**156.51**
Inflation adjustment	18.83
Cost exempt from cost-sharing	-0.75
Traffic risk sharing adjustment	41.55
Traffic adj. (costs not TRS)	3.87
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	63.51
AUCU	**220.02**
AUCU vs. DUC	**40.6%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

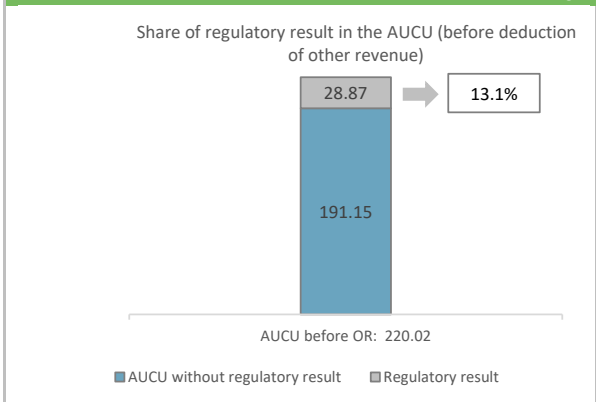
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	10	0.11
	Competent authorities and qualified entities costs	0	0.00
	Eurocontrol costs	0	0.00
	Pension costs	-77	-0.86
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-67**	**-0.75**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
Fintraffic ANS	2 359	26.23

METSP(s)	€ '000	€/SU
Finland-MET	238	2.65
Total charging zone	2 597	28.87
Actual cost for users* **	19 791	220.02
Regulatory result (% AUCU)	13.1%	13.1%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of the activities performed in 2023 (220.02 €) is +40.6% higher than the 2023 nominal DUC (156.51 €). The difference between these two figures (+63.51 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+18.83 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-0.75 €/SU);
- the addition of the traffic risk sharing adjustments (+41.55 €/SU); and
- the addition of the traffic adjustment (+3.87 €/SU) for the costs not subject to traffic risk sharing.

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 13.1%.

FINLAND: Terminal main ANSP (Fintraffic ANS) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year 2023, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year 2023. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.

The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.

The monitoring of the RR is carried out in national currency (here EUR) and in nominal terms.

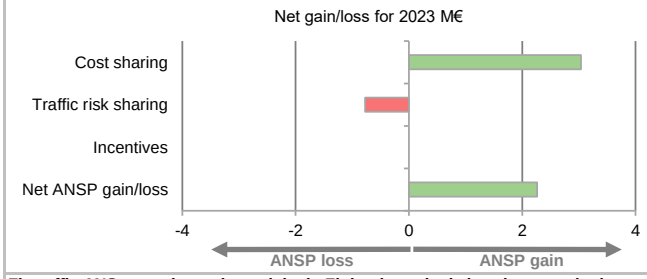
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

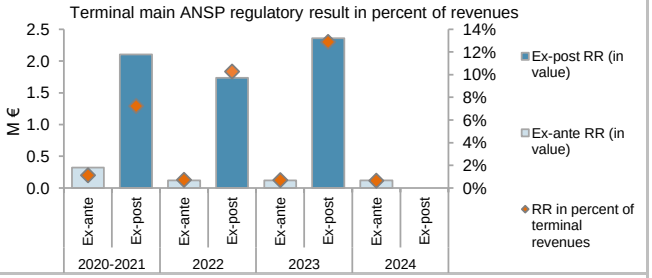
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	934	1 251	1 525	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	90	1 019	1 577	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-33	74	-66	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**991**	**2 344**	**3 036**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	4.7%	-24.7%	-25.7%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	28 311	16 549	17 580	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**798**	**-728**	**-774**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**1 789**	**1 616**	**2 262**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Fintraffic ANS planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	4 419	3 050	7 469	2 811	2 800	2 812
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	4.3%	4.3%	4.3%	4.3%	4.3%	4.3%
RoE (in value)	190	131	321	121	120	121
Ex-ante regulatory result (+/-) for the terminal charging zone	**190**	**131**	**321**	**121**	**120**	**121**
Revenue for the terminal charging zone	**14 066**	**14 245**	**28 311**	**16 549**	**17 580**	**18 798**
Ex-ante regulatory result (+/-) in percent of revenues	**1.4%**	**0.9%**	**1.1%**	**0.7%**	**0.7%**	**0.6%**
Ex-ante RoE pre-tax rate (in %)	**4.3%**	**4.3%**	**4.3%**	**4.3%**	**4.3%**	**4.3%**
Fintraffic ANS actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	4 419	2 952	7 370	2 805	2 263	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	4.3%	4.3%	4.3%	4.3%	4.3%	
RoE (in value)	190	127	317	121	97	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	1 789	1 789	1 616	2 262	
Ex-post regulatory result (+/-) for the terminal charging zone	**190**	**1 916**	**2 106**	**1 737**	**2 359**	
Revenue for the terminal charging zone	**14 066**	**15 100**	**29 166**	**16 914**	**18 316**	
Ex-post regulatory result (+/-) in percent of revenues	**1.4%**	**12.7%**	**7.2%**	**10.3%**	**12.9%**	
Ex-post RoE pre-tax rate (in %)	**4.3%**	**64.9%**	**28.6%**	**61.9%**	**104.3%**	

13. Focus on main ANSP regulatory result on terminal activity





Fintraffic ANS net gain on the activity in Finland terminal charging zone in the year 2023

Fintraffic ANS reported a net gain of +2.3 M€, as a combination of a gain of +3.0 M€ arising from the cost sharing mechanism, with a loss of -0.8 M€ arising from the traffic risk sharing mechanism.

Fintraffic ANS overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+2.3 M€) and the actual RoE (+0.1 M€) amounts to +2.4 M€ (or 12.9% of the terminal revenues). The resulting ex-post rate of return on equity is 104.3%, which is higher than the 4.3% planned in the PP.

FINLAND: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Finland-MET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**1 100**	**1 179**	**2 279**	**1 285**	**1 286**	**1 263**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Finland-MET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**108**	**108**	**130**	**238**	
Revenue for the terminal charging zone	**1 100**	**1 193**	**2 293**	**1 371**	**1 403**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**9.0%**	**4.7%**	**9.5%**	**17.0%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Finland (Finnish Meteorological Institute) corresponds to 17.0% of the terminal revenues. It should be noted that Finnish Meteorological Institute does not charge any cost of capital.

FINLAND: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Finland

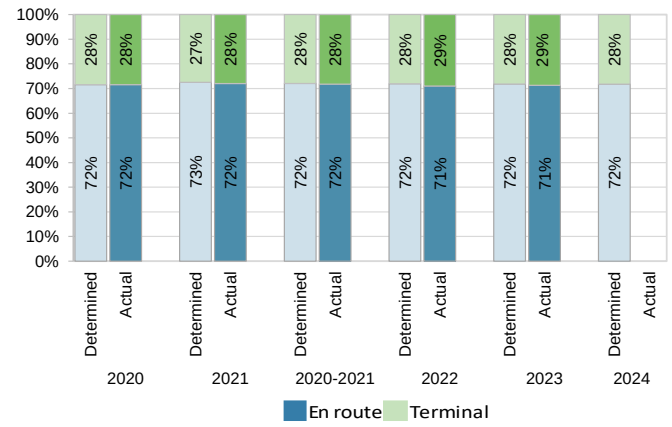
Terminal charging zone 1: Finland

Finland: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	37 408 395	39 370 777	76 779 172	43 474 245	45 038 050	46 941 389
Real terminal costs (€2017)	14 857 949	14 908 564	29 766 514	16 960 141	17 656 105	18 451 042
Real gate-to-gate costs (€2017)	52 266 344	54 279 342	106 545 686	60 434 386	62 694 155	65 392 431
En route share (%)	71.6%	72.5%	72.1%	71.9%	71.8%	71.8%

Finland: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	37 408 395	35 618 896	73 027 291	36 342 687	36 805 418	
Real terminal costs (€2017)	14 857 949	13 835 328	28 693 277	14 829 021	14 803 843	
Real gate-to-gate costs (€2017)	52 266 344	49 454 223	101 720 568	51 171 708	51 609 260	
En route share (%)	71.6%	72.0%	71.8%	71.0%	71.3%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-4 825 118	-4 825 118	-9 262 678	-11 084 895	
	in %	0.0%	-8.9%	-4.5%	-15.3%	-17.7%	
En route share	in p.p.	0.0 p.p.	-0.5 p.p.	-0.3 p.p.	-0.9 p.p.	-0.5 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -17.7% (or -11.1 M€2017) lower than planned, as en route costs are -8.2 M€2017 lower than planned and terminal ANS costs are -2.9 M€2017 lower than planned.

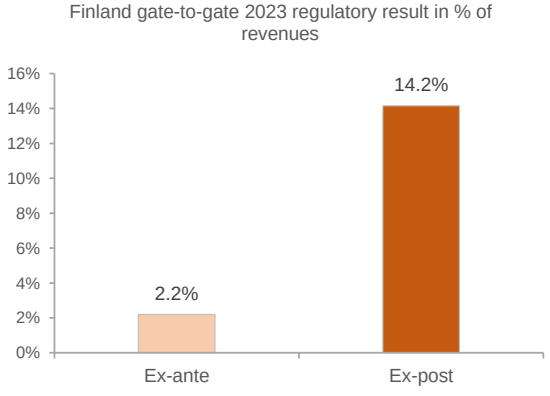
The actual share of en route in gate-to-gate ANS costs (71.3%) is very close to the PP for 2023 (71.8%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Fintraffic ANS	1 372	58 780	2.3%		8 234	58 996	14.0%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Finland MET	0	3 858	0.0%		714	4 209	17.0%	
Total	**1 372**	**62 638**	**2.2%**		**8 948**	**63 205**	**14.2%**	

For the ANSPs providing services in the en route and terminal charging zones of Finland covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +8.9 M€ (+6.4 M€ for en route and +2.6 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 14.2% of gate-to-gate ANS revenues.

This is higher than the return planned for the year 2023 (2.2% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

FRANCE

FRANCE **Monitoring of SAFETY for 2023**

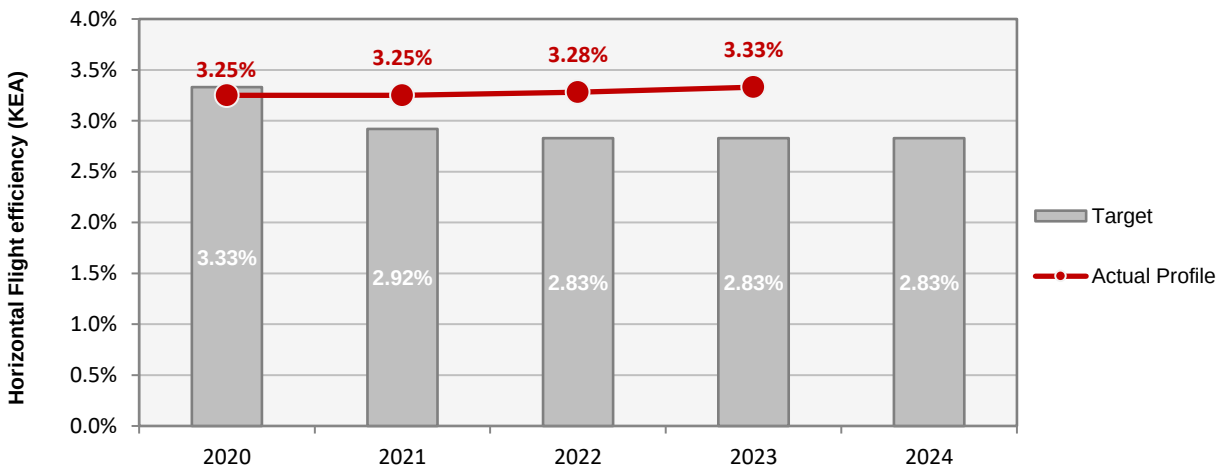
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
DSNA	79	B	B	C	C	B
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

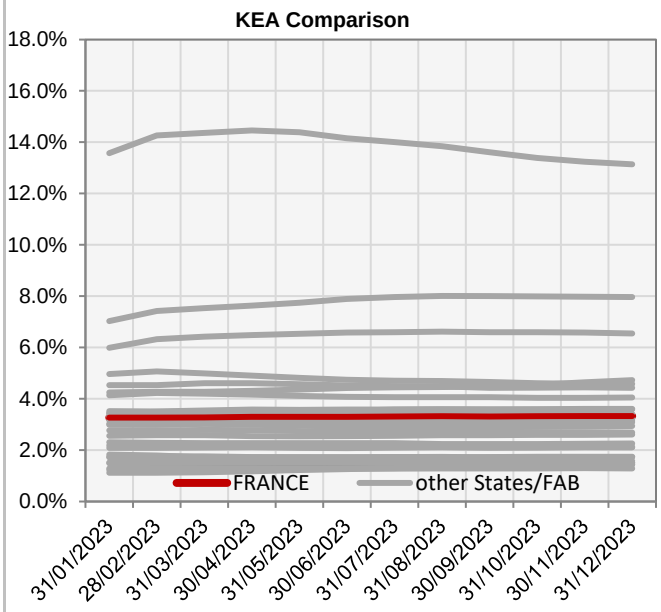
Over 2023, the ANSP has degraded in four out of five EoSM components and achieved the target only for "Safety Assurance". The ANSP is expected to improve seven questions to achieve RP3 targets during RP3.

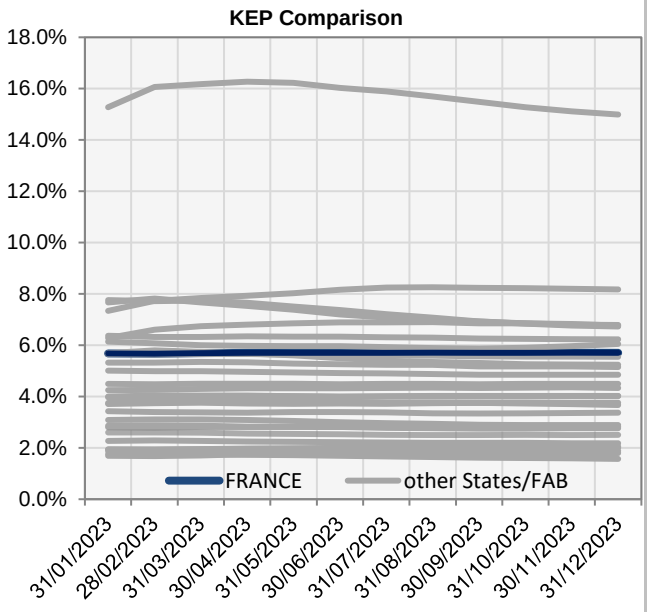
FRANCE **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	3.33%	2.92%	2.83%	2.83%	2.83%
Actual performance	3.25%	3.25%	3.28%	3.33%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	3.27%	3.27%	3.28%	3.30%	3.30%	3.30%	3.31%	3.32%	3.31%	3.32%	3.33%	3.33%
KEP	5.68%	5.67%	5.69%	5.70%	5.70%	5.70%	5.70%	5.71%	5.70%	5.70%	5.71%	5.70%
KES	5.52%	5.51%	5.53%	5.54%	5.54%	5.54%	5.54%	5.55%	5.54%	5.55%	5.55%	5.54%





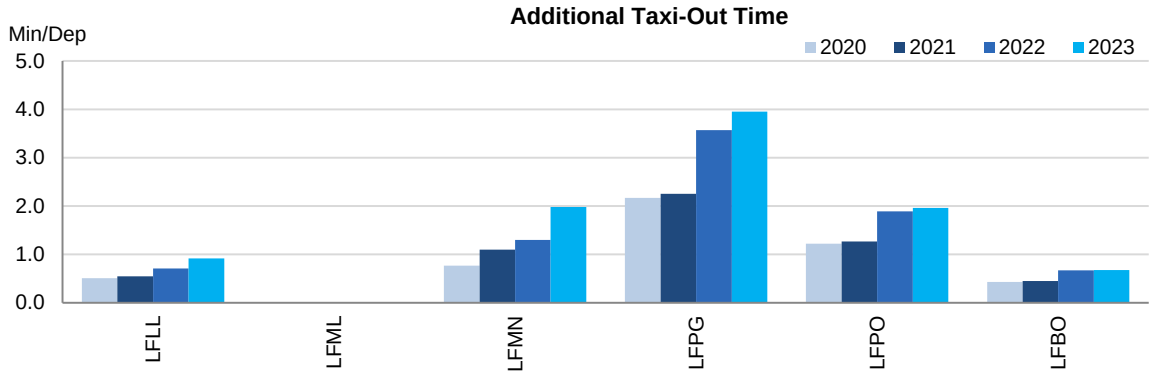
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

FRANCE **ENVIRONMENT - Airports**

1. Overview

For France, the scope of the RP3 monitoring comprises a total of 58 airports. However, in accordance with IR (EU) 2019/317 and the traffic figures, only 6 of those airports must be monitored for additional taxi-out and ASMA times. 52 of these 58 airports are grouped into a basket ("LFXX") for monitoring and target setting purposes.
The Airport Operator Data Flow, necessary for the monitoring of the additional times, is established for the 6 airports required. Nevertheless, the data quality in the case for Marseille (LFML) does not allow for the calculation of taxi-out times.
The traffic at the ensemble of these 58 airports in 2023 is still 11% below the 2019 levels, with a 5% increase with respect to 2022.
All additional times observed an increase in 2023, in line with the traffic increase.
The share of CDO flights increased slightly in 2023. In the top 10 airports with the lowest share of CDO, 8 airports are located in France.

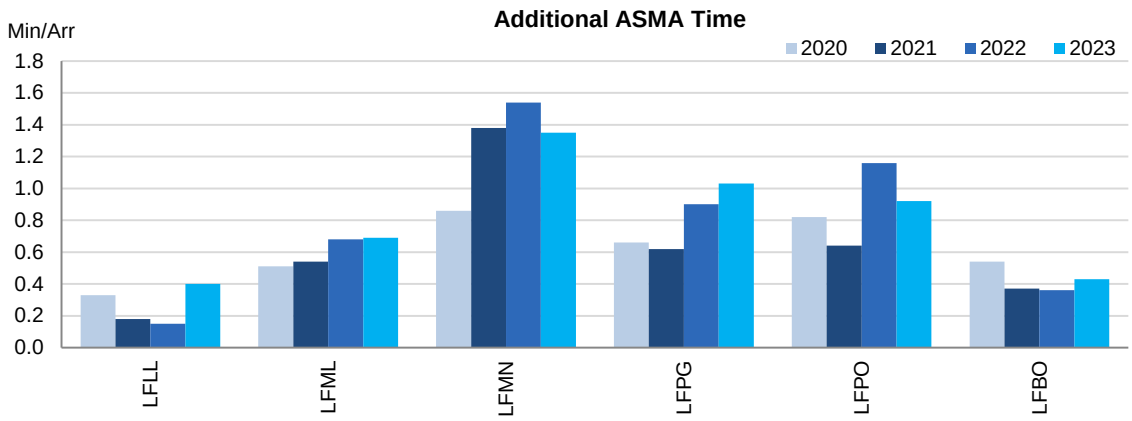
2. Additional Taxi-Out Time



The additional taxi-out times in 2023 remained at 5 of the 6 French monitored airports below the SES average of 2.81 min/dep. On the other hand, Paris Charles de Gaulle showed in 2023 higher additional taxi-out times than in 2019 (LFPG: 2019: 3.77 min/dep.; 2020: 2.17 min/dep.; 2021: 2.25 min/dep; 2022: 3.57 min/dep; 2023: 3.95 min/dep) and the 3rd highest value among SES monitored airports in 2023.

According to the French monitoring report:
Performance evolution is linked with the traffic increase since 2020 (2020&2021 traffic levels where very low due to the traffic collapse related to covid-19 travel bans) and general 2022/2023 ATC performance impacted by the traffic recovery ; however 2022 achievements were better than in 2019 and 2023 remain in line with RP2 previous values showing a general stability on the taxi-out time phase at French airports despite the increased volatility of traffic.
The Airport data flow (APDF) has been implemented at Marseille airport in 2019 with some technical issues regarding block data.
Beginning 2020, when within the framework of a project on implementing A-CDM concept at Marseille airport additional exchanges took place regarding lacking information (AOBT/AIBT) and how to provide it through the airport data flow but it could not be implemented during the covid 19 phase.
Eurocontrol has contacted Marseille airport authorities to tackle the issue in 2022 and beginning 2023. The French NSA will support Eurocontrol and Marseille airport in order to identify remaining issues and implement the on block data provision as soon as possible.

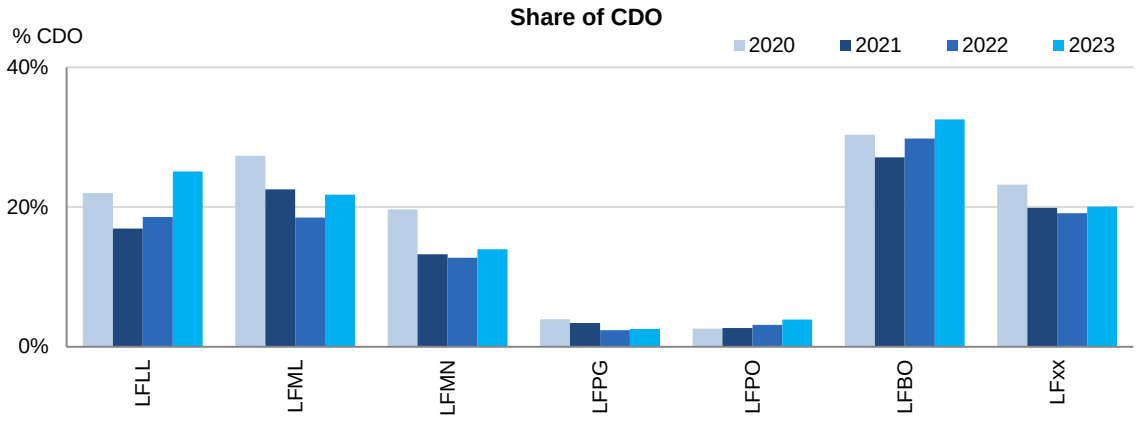
3. Additional ASMA Time



The additional ASMA in 2023 has increased at Lyon (LFLL) and Charles de Gaulle (LFPG) and decreased at Nice(LFMN) and Paris Orly (LFPO). Except for Nice, the performance of these airports is better than the average 2023 SES performance of 1.16 min/arr.

According to the French monitoring report:
Performance evolution is linked with the traffic increase till 2020 (2020&2021 traffic levels where very low due to the traffic collapse related to covid-19 travel bans) and general 2022 and 2023 ATC performance impacted by the high traffic recovery and volatility ; however 2022 achievements were equivalent or better than 2019 figures and generally equivalent or better than during the whole RP2 with equivalent traffics, showing general progress on the additional time in terminal airspace phase at some French airports except at CDG airport.
This also is closely linked to working methods and the sequencing of approaches, some actions are undertaken by DSNA to achieve "quick wins" where possible.

4. Share of arrivals applying CDO



For 12 out of the 58 airports, the share of CDO flights was above the RP3 overall value in 2023 (28.8%). In 2023, 13.6% of the arrivals performed a CDO compared to 12.6% in 2022.
The Paris airports have a remarkably low share of CDO flights. The 3 airports with the lowest share of CDO flights in 2023 are French, followed by Frankfurt and Munich. As in 2020, 2021 and 2022, Paris-Le Bourget (LFPB) has the lowest share of CDO flights of all airports monitored during 2023 (0.6%).

According to the French monitoring report: *DSNA has an objective to drastically increase the CDO rate (from FL75) to reduce noise on all major airports, and remove as much level-offs as possible.*

Launch of PBN to ILS projects in LFPG, LFPO, LFLL, LFMN, with significant CDO rate improvement targeted.

TF Green operations led to some vertical improvements with Green descent projects : improvements on certain legs from top of descent (CDO fuel).

DSNA is also currently implementing progressively a 25 % time reduction in level flight from top of descent TOD and a 20% reduction for CDO 75 on airports above 75000 IFR mouvments per year compared to 2019.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Lyon/Saint-Exupéry-LFLL	0.51	0.55	0.71	0.92		0.33	0.18	0.15	0.4		22%	17%	19%	25%	
Marseille/Provence-LFML	n/a	n/a	n/a	n/a		0.51	0.54	0.68	0.69		27%	23%	18%	22%	
Nice/Côte d'Azur-LFMN	0.77	1.1	1.3	1.98		0.86	1.38	1.54	1.35		20%	13%	13%	14%	
Paris/Charles-De-Gaulle-LFPG	2.17	2.25	3.57	3.95		0.66	0.62	0.9	1.03		4%	3%	2%	3%	
Paris/Orly-LFPO	1.22	1.27	1.89	1.96		0.82	0.64	1.16	0.92		3%	3%	3%	4%	
Toulouse/Blagnac-LFBO	0.43	0.45	0.67	0.68		0.54	0.37	0.36	0.43		30%	27%	30%	33%	
Agen/La-Garenne-LFBA	-	-	-	-		-	-	-	-		20%	13%	12%	13%	
Ajaccio/Napoléon-Bonaparte-LFKJ	-	-	-	-		-	-	-	-		39%	32%	34%	35%	
Albert/Bray-LFAQ	-	-	-	-		-	-	-	-		29%	31%	21%	19%	
Annecy/Meythet-LFLP	-	-	-	-		-	-	-	-		16%	13%	11%	13%	
Avignon/Caumont-LFMV	-	-	-	-		-	-	-	-		14%	12%	11%	14%	
Bale/Mulhouse-LFSB	-	-	-	-		-	-	-	-		18%	13%	14%	14%	
Bastia/Poretta-LFKB	-	-	-	-		-	-	-	-		40%	33%	33%	35%	
Beauvais/Tillé-LFOB	-	-	-	-		-	-	-	-		8%	7%	5%	6%	
Bergerac/Roumanière-LFBE	-	-	-	-		-	-	-	-		15%	13%	19%	20%	
Béziers/Vias-LFMU	-	-	-	-		-	-	-	-		27%	25%	27%	24%	
Biarritz/Bayonne-Anglet-LFBZ	-	-	-	-		-	-	-	-		26%	21%	22%	23%	
Bordeaux/Merignac-LFBD	-	-	-	-		-	-	-	-		32%	27%	26%	31%	
Brest/Bretagne-LFRB	-	-	-	-		-	-	-	-		33%	33%	32%	34%	
Brive/Souillac-LFSL	-	-	-	-		-	-	-	-		15%	20%	21%	26%	
Caen/Carpiquet-LFRK	-	-	-	-		-	-	-	-		11%	10%	10%	8%	
Calvi/Sainte-Catherine-LFKC	-	-	-	-		-	-	-	-		37%	34%	32%	30%	
Cannes/Mandelieu-LFMD	-	-	-	-		-	-	-	-		13%	9%	10%	8%	
Carcassonne/Salvaza-LFMK	-	-	-	-		-	-	-	-		19%	19%	21%	24%	
Châlons/Vatry-LFOK	-	-	-	-		-	-	-	-		27%	28%	26%	20%	
Chambéry/Aix-les-Bains-LFLB	-	-	-	-		-	-	-	-		9%	14%	8%	8%	
Châteauroux/Déols-LFLX	-	-	-	-		-	-	-	-		12%	10%	12%	11%	
Clermont-Ferrand/Auvergne-LFLC	-	-	-	-		-	-	-	-		22%	16%	21%	24%	
Deauville/Normandie-LFRG	-	-	-	-		-	-	-	-		11%	11%	12%	12%	
Dinard/Pleurtuit-Saint-Malo-LFRD	-	-	-	-		-	-	-	-		19%	13%	16%	15%	
Dole/Tavaux-LFGJ	-	-	-	-		-	-	-	-		13%	12%	9%	11%	
Figari/Sud-Corse-LFKF	-	-	-	-		-	-	-	-		35%	32%	34%	38%	
Grenoble/Isère-LFLS	-	-	-	-		-	-	-	-		18%	20%	20%	18%	
Hyères/Le-Palyvestre-LFTH	-	-	-	-		-	-	-	-		30%	22%	18%	18%	
Istres/Le-Tubé-LFMI	-	-	-	-		-	-	-	-		31%	24%	22%	22%	
La-Rochelle/Ile de Ré-LFBH	-	-	-	-		-	-	-	-		26%	22%	20%	22%	
Lille/Lesquin-LFQQ	-	-	-	-		-	-	-	-		29%	24%	14%	20%	
Limoges/Bellegarde-LFBL	-	-	-	-		-	-	-	-		30%	31%	32%	33%	
Lorient/Lann-Bihoué-LFRH	-	-	-	-		-	-	-	-		30%	28%	28%	33%	
Lyon/Bron-LFLY	-	-	-	-		-	-	-	-		10%	7%	8%	9%	
Metz-Nancy/Lorraine-LFJL	-	-	-	-		-	-	-	-		9%	8%	14%	11%	
Montpellier/Méditerranée-LFMT	-	-	-	-		-	-	-	-		33%	30%	29%	26%	
Nantes/Atlantique-LFRS	-	-	-	-		-	-	-	-		27%	23%	24%	26%	
Nîmes/Garons-LFTW	-	-	-	-		-	-	-	-		18%	20%	18%	21%	
Paris/Le Bourget-LFPB	-	-	-	-		-	-	-	-		1%	1%	1%	1%	
Pau/Pyrénées-LFBP	-	-	-	-		-	-	-	-		22%	16%	24%	22%	
Perpignan/Rivesaltes-LFMP	-	-	-	-		-	-	-	-		43%	39%	34%	35%	
Poitiers/Biard-LFBI	-	-	-	-		-	-	-	-		16%	12%	18%	16%	
Quimper/Pluguffan-LFRQ	-	-	-	-		-	-	-	-		29%	25%	38%	18%	
Rennes/St-Jacques-LFRN	-	-	-	-		-	-	-	-		53%	49%	45%	45%	

Rodez/Marcillac-LFCR	-	-	-	-		-	-	-	-		17%	16%	19%	17%	
Rouen/Vallée-de-Seine-LFOP	-	-	-	-		-	-	-	-		29%	28%	30%	25%	
Saint-Etienne/Bouthéon-LFMH	-	-	-	-		-	-	-	-		11%	12%	13%	14%	
Saint-Nazaire/Montoir-LFRZ	-	-	-	-		-	-	-	-		20%	22%	24%	26%	
Strasbourg/Entzheim-LFST	-	-	-	-		-	-	-	-		17%	14%	14%	13%	
Tarbes-Lourdes/Pyrénées-LFBT	-	-	-	-		-	-	-	-		63%	64%	53%	52%	
Tours/Val-de-Loire-LFOT	-	-	-	-		-	-	-	-		48%	46%	32%	26%	
Toussus/Le-Noble-LFPN	-	-	-	-		-	-	-	-		5%	5%	5%	5%	

FRANCE **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

According to the FR NSA report:

"For obvious flight safety reasons, military activities must be segregated from civil flows which has an impact on both horizontal (HFE) and vertical flight efficiency (VFE).
Because ASM manageable areas form an integral part of the nominal system, military airspace reservations shall be considered as part of the performance baseline rather than a key factor degrading environmental KPIs.
As a result of implementation of the FUA concept the impact of military activities using Restricted Airspace -RSA on civil performance is highly minored when associated with an efficient ASM process:

- At strategic level (HLAPB) by designing areas in accordance with A-FUA concept (MVPA/VGA structures), especially for congested airspaces.

- At pre-tactical level (AMC), by managing these areas in a dynamic way, with an associated level 2 CDM process, validated by HLAPB.

- At tactical level (ACC/Regional Military Control Centre) by activating/deactivating areas as close as possible to actual use and allowing crossing or direct routes when possible (in accordance with TRA status), with an associated level 3 CDM process validated by HLAPB.

- At each level, HLAPB, AMC or ACC/Regional Military Control Centre, a key factor of efficiency is a trust-driven civil-military cooperation. As a counterpart, AOs and CFSPs must be reactive and take efficiently into account available or released airspaces. At last, ANSP have also to adapt the route network to create more DCTs within military areas.

Finally, local circumstances (e.g. constrained airspace, proximity of international hubs, etc.…) as well as a large number of military missions that differ from one State to another must be taken into account. Therefore, airspace needs (e.g. airspace requirements for the 5th generation fighters) and related ASM procedures of the States differ and standardized objectives cannot be defined."

Military - related measures implemented or planned to improve capacity

"FABEC States are working on mid-term improvements regarding implementation of ASM level 1, 2, and 3 procedures. Some local initiatives regarding ASM/ATFCM convergence, like the traffic Light Scheme concept in France are promoted at FABEC level, as well as at ECAC level in the EUROCONTROL OEP framework.

Another major improvement is the interconnection of the existing ASM tools (e.g. LARA, STANLY_ACOS) at FABEC Level, to enhance regional coordination among FABEC AMCs as well as with the NM. "

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
France	71%	72%	72%	79%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Bordeaux					
Brest					
Marseille					
Paris					
Reims					

Initiatives implemented or planned to improve PI#6

France provides 2 KPIs, NEGO and ENV. KPI NEGO, which is roughly around 93% for years and higher than 96% since the COVID crisis period, reflects the robustness of the French national civil-military CDM process regarding ASM. KPI NEGO is mostly driven by 2 blocks of areas in the eastern part of France. KPIs ENV, which were roughly for years around 65 % (ratio between the real use and AUP planning at D-1) and 75 % (ratio between the real use and AUP/UUP processes at H-3), reach now respectively 79% & 89%, thereby bringing about a significant improvement. Thus they are considered as very efficient, taking into account that they have to cope with several mission cancellation causes (Weather, Technical or Operational reasons). To further improve flight efficiency with this virtuous approach, civil and military AMC staff continue to work together and 15 indicators regarding 3 domains (NEGO, RELIABILITY, and CURA) are currently experimented since March 2021, in coordination with PRISMIL Team. Data management has been updated in 2023 to finetune these indicators. Trial is still in progress. Despite these efforts and improvements, a glass ceiling will still exist, as some military mission cancellation causes remain unpredictable.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
France	62%	66%			

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Bordeaux	97%	86%			
Brest	90%	81%			
Marseille	88%	84%			
Paris	54%	51%			
Reims		71%			

Initiatives implemented or planned to improve PI#7

"No validated data available from 2022 … the data on previous cycles were kindly provided by Eurocontrol and processed by the FR NSA without further assessment by interested parties including MIL FR.
In the course of the 2022 monitoring exercise, a similar request has been issued in parallel to Eurocontrol and involved parties within FR to compute data with the help of PRISMIL tool. An active coordination between FR experts, Eurocontrol PRISMIL Team and NMIR support highlighted some biaises in the information that could be retrieved.

A better understanding of the issue was expected to put FR in a position to compute and provide the data from 2023 onward making use of existing tools and involving additional experts from DSNA.

Unfortunately, the additional expertise is in the new DATA Office unit still understaffed in order to perform required post Ops activities to compute PI #7 figures for 2023."

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
France	66%	67%			

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Bordeaux	116%	86%			
Brest	101%	83%			
Marseille	90%	96%			
Paris	99%	100%			
Reims		127%			

Initiatives implemented or planned to improve PI#8

"No validated data available from 2022 … the data on previous cycles were kindly provided by Eurocontrol and processed by the FR NSA without further assessment by interested parties including MIL FR.
In the course of the 2022 monitoring exercise, a similar request has been issued in parallel to Eurocontrol and involved parties within FR to compute data with the help of PRISMIL tool. An active coordination between FR experts, Eurocontrol PRISMIL Team and NMIR support highlighted some biaises in the information that could be retrieved.

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FRANCE **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	**2021**	**2022**	**2023**	**2024**	**Observations**
National Target	3.12	0.18	0.25	0.25	0.25	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.61	0.46	1.49	2.13		

NSA's assessment of capacity performance

The capacity target for en route has not been met (2,13 min/flight, including NM post-ops process implementation, vs 0,25 min/flight) mainly due to the remaining impact of new ATM systems (Coflight & 4-FLIGHT) implementations in two ACCs (Reims and Marseille) in 2022 for which transition plans were implemented by DSNA in coordination with the NM and neighbouring ANSPs and lasted longer than expected due to technical issues and the expected higher capacity delivery was not yet delivered in 2023, but also due to the impact of major industrial action in Spring due to the new pension scheme bill to be implemented in France.

In addition, some ACCs are still experiencing some staff shortages (Paris, Reims, Marseille) while locally traffic has reached 105 % of the 2019 traffic (Reims for example) and it is also the case for some airports experiencing staff shortages (Orly, Basel, Toulouse or Bordeaux for example) or high Summer traffic peaks (South East of France and Corsica). Priority given to ATCO assignment at ACCs and some delays due to non CRSTMP reasons (weather & industrial action) had also an impact on the 2023 performance for airports.

Corrective actions have been identified and discussed with DSNA and will be implemented in order to mitigate the main delay causes (implementation of NOP corrective measures, addressing ATCO shortages, defining and implementing densified rostering schemes and additional flexibility, reduction of ATCO training time, negociation of a new social agreement, implementing lessons learnt from 4-FLIGHT implementations in Reims and Marseille ACCs, new law on industrial action management for ATC in France etc.

Monitoring process for capacity performance

In a nutshell, the French NSA monitoring process is twofold: on the top of the FABEC general monitoring process described in the French performance plan and in the previous 2020 and 2021 RP3 FABEC performance monitoring reports (cf. these documents), a national process has been established based on the following:

- The French NSA is regularly provided with various reports, analysis and data such as FABEC monthly capacity reports (including DSNA data), weekly/monthly/yearly capacity DSNA-OPS directorate reports, PRU monthly dashboards which enable to closely monitor the performance evolution and cross-check data;

- The French NSA is invited and participates to the capacity planning meetings organized during winter by the NM with DSNA to prepare NOP updates (including discussion on remedial measures, traffic and delays forecast for DSNA ACC, Summer DSNA sector opening schemes etc.);

- The French NSA is invited and participates to the two yearly Strategic airspace user meetings held by DSNA (beginning of Summer & Winter) where strategic evolutions, OPS projects, ongoing performance, investment plan and HR updates are presented by DSNA to the airspace users which can react and express their views and concerns if any;

- The French NSA has included in its yearly surveillance programme an OPS performance review : regarding capacity, on top of previous meeting participation and data & reports analysis, a dedicated meeting is organized in April/May with DSNA/OPS directorate in order to analyse the previous year performance, define and validate ongoing or new remedial and corrective measures to be taken by DSNA to address issues and underperformance, have a view on ongoing year capacity provision, prepare the yearly FR performance monitoring report to be submitted 1st June ; a follow-up meeting is organized by the French NSA in October/November to follow-up remedial measure implementation, analyse Summer performance, discuss future performance.

- Various airspace users or unions consultation meetings are run during the year (either by the French NSA or in which the French NSA is invited to provide inputs and updates regarding operational performance monitoring).

Note: Regarding ATCO planning, the plans are and will always be subject to change; in addition, the details of the planned evolution of ATCO numbers within an ANSP with several ACCs are socially sensitive.*

However, ATCO hiring and assignment is one of the major driver for current capacity and staffing issues solving. ACE figures are provided and can be referred to. Nevertheless, the French NSA considers that they cannot be considered as a commitment where planning figures are requested, due to the high level of uncertainties related to such ATCO recruitement plans management. These figures, even when provided on annual basis, can only be regarded as snapshot information, i.e. a situation at one point in time which does not guarantee a realistic view throughout the entire duration of RP3.

There are many factors with a high level of uncertainty that have an impact on the ATCO planning: first of all, the social agreements in place in an ANSP play a major role in the availability of ATCOs to fulfill the OPS needs (a new social agreement is currently under discussion and should be signed before end 2023 ; certain provisions - recruitment levels, flexibility and rostering, staff retention incentives - could have an impact on futures values).

Then, there are classical uncertainty factors of general staff planning like the actual rate of retirement, the absence rate of employees, as well as maternity and parent leave. Moreover, ATCOs mobility has become a severe issue recently, moreover when understaffed ACC are concerned.

Capacity Planning

Since [COVID-19] a weekly Rolling NOP, published every Friday has been introduced through which NM coordinates with all partners to ensure capacity is available at ACCs and in the airspace they manage, and on the ground at airports, to meet the expected traffic demand from the airlines on each day of the next six weeks enabling to coordinate all operational stakeholders throughout the pandemic to ensure that network actors can plan their recovery effectively based on predicted traffic levels.

A draft version of the new 2024-2029 NOP has been released in March. It includes the capacity planning for DSNA ACCs and is still to be updated and finalized in June 2024 with the latest available capacity information and remedial measures for all DSNA ACCs concerned by capacity issues.

DSNA is of course part of this process and contributes to the provision for a consolidated European network view of the evolution of the air traffic, enabling the planning of the service delivered in the recovery phase to match the expected air traffic demand in a safe, efficient and coordinated manner.

It should be also noted that the French NSA, upon its request, has been associated to this process and attends since RP2 the NM - DSNA capacity planning meetings in order to be informed of the outcome of previous NOP remedial measures, French ACCS capacity issued and NM delays forecast for French ACCs, any new measures proposed either by DSNA or the NM to mitigate capacity issues.

ATCO in OPS (FTE)

Bordeaux ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	238	244	246	249	
Actual	218	229	247	234	228		

Brest ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	254	252	257	255	
Actual	249	248	256	258	245		

Marseille ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	310	319	321	322	
Actual	283	291	308	323	327		

Paris ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	254	262	256	265	
Actual	257	248	249	230	254		

Reims ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	188	182	191	198	
Actual	195	186	190	197	209		

Regarding ATCO planning, the plans are and will always be subject to change; in addition, the details of the planned evolution of ATCO numbers within an ANSP with several ACCs are socially sensitive.

However, ATCO hiring and assignment is one of the major driver for current capacity and staffing issues solving. ACE figures are provided and can be referred to. Nevertheless, the French NSA considers that they cannot be considered as a commitment where planning figures are requested, due to the high level of uncertainties related to such ATCO recruitement plans management. These figures, even when provided on annual basis, can only be regarded as snapshot information, i.e. a situation at one point in time which does not guarantee a realistic view throughout the entire duration of RP3.

There are many factors with a high level of uncertainty that have an impact on the ATCO planning: first of all, the social agreements in place in an ANSP play a major role in the availability of ATCOs to fulfill the OPS needs (a new social agreement is currently under discussion and should be signed before end 2023 ; certain provisions - recruitment levels, flexibility and rostering, staff retention incentives - could have an impact on futures values).

Then, there are classical uncertainty factors of general staff planning like the actual rate of retirement, the absence rate of employees, as well as maternity and parent leave. Moreover, ATCOs mobility has become a severe issue recently, moreover when understaffed ACC are concerned.

Application of Corrective Measures for Capacity (if applicable)

The 2023 target of 0.25 min/flight was not achieved for en route. 2023 actual achievement is 2,13 min/flight, including the post-ops process of the NM, with 0,81 min/flight on the CRSTMP perimeter falling under the sole action of the French air navigation service provider, DSNA.

The dominant factor for the quality of service in 2023 was of course the significant industrial action movement in Spring 2023 relating to the new national pensions law introduced by the French government which had a strong impact on DSNA capacity provision and was the main cause of 2023 ATFM delays. Indeed, the resulting delays represented 40% of total all causes delays (nearly 1 min/flight on average). Remaining staff resource and capacity issues at some French ACCs also accounted for nearly 20% of 2023 delays, as did the consequences of bad weather conditions also around 20%.

On the CRSTMP perimeter, the Reims and Marseille ACCs were the main generators of delays in 2023, with staff resources dominating for Marseille and staff resources and capacity problems for Reims. This is explained by a combination of lack of staff and significant growth in traffic: Reims having experienced higher traffic (105%) than 2019 traffic and Marseille having a 2023 traffic equivalent to 2019 traffic. Paris ACC (although knowing resource problems, traffic there is only 85% of that of 2019), Brest and Bordeaux have not experienced major delay problems (apart from the strike impact for Brest) in 2023.

The slower than expected capacity recovery and additional capacity provision after 2022 4-FLIGHT implementation in Reims and Marseille had an impact in the capacity levels for these ACCs in 2023 but is progressively mitigated and a new version of the software will be implemented in March / April 2024 to fix the remaining identified technical issues and foster additional capacity provision.

Corrective measures were taken, presented and discussed with the French NSA are detailed in following sections of the report.

A dedicated meeting was organized with DSNA in order to gather both explanations and information about remedial measures already launched; and identify potential additional measures that could be implemented by DSNA in 2023 and beyond to tackle non temporary capacity issues.

The following recommendations / course of actions have been discussed and agreed with DSNA:

- General remedial measures already identified, coordinated with the Network Manager and to be published in the NOP 2024-2029 for the 5 French ACCs should be implemented as soon as possible;

- A set of specific remedial measures put in place by DSNA or already planned in 2023 to mitigate identified non temporary issues at the French ACCs have been presented to the French NSA listed below: the French NSA will be kept informed by DSNA of their timely implementation, of the expected benefit and of any issue in the implementation plan, and a follow-up meeting will be organized before the end of 2024;

a. Implementation of remedial measures for DSNA ACC as listed in NOP 2024-2029;
b. Implementation of new rostering schemes to introduce more flexibility;
c. 4-FLIGHT implementation in Paris ACC (and update in Marseille & Reims ACC);
d. Implementation of changes in initial and continuatio training to reduce duration of qualification training;
e. Transfer of sectors FL115-FL195 from ACC to APP units;
f. Implementation of loyalty scheme for ATCOs at Paris & Reims ACC to reduce turnover of ATCOs;
g. Implementation of new social agreement adressing staffing levels; recruitment; flexibility of rostering schemes and working arrangements and methods;
h. Pre-tactical processes to address adverse meteorological conditions and reduce MET delays;
i. New law on industrial action in France, requiring minimum notice periods and minimum levels of service to be provided.

- An analysis of potential risks on 2024 and beyond underperformance has been carried over and required potential remedial measures to address such a situation have been discussed; they are also addressed in the final chapter of the en route capacity tab of the monitoring together with the actions taken by the NSA to monitor future performance through its surveillance program.

Follow - up of Corrective Measures for Capacity from Previous Years

As explained above, the French NSA is kept informed of any development related to the implementation of capacity and environment remedial and corrective measures. In particular:
- A follow-up meeting has been organized by the French NSA with DSNA operational directorate in November 2023 to check the implementation of these measures;
- The French NSA has been invited to the two yearly DSNA strategic users' consultation meetings held in 2023 which include an update on all strategic and operational measures taken by DSNA to improve capacity and environment performances, prepare Summer season and on the investment program;
- The French NSA is also involved in the capacity planning process run by the Network Manager together with DSNA during Winter 2023/2024 in order to prepare the updated 2024-2029 European Network Operations Plan;
- The French NSA is also kept updated of the 4-FLIGHT implementation impact through dedicated meetings regularly organized by DSNA to inform and get feedback from airspace users on the upcoming implementation at Paris ACC and related transition plan in 2024 & 2025 ;

- During this process the French NSA has checked that all measures listed in the previsous monitoring report have been implemented effectively and in a timely manner by DSNA ; concerning the 4-FLIGHT implementation in Reims and Marseille and resulting slower than expected increase in capacity in some sectors (due to an FDPS tech problem identified, currently being resolved via corrections made by the manufacturer to successive versions of the software, but also changes in ATCO working methods), the situation has been monitored and if nominal sector capacities are still not reached in particular for sectors below flight level 345, it should be noted that sector capacities observed beginning 2023 onwards on certain sectors in Reims and Marseille ACCs above level 345, are 10 to 20% higher than the capacities before 4-FLIGHT, which is a good signal and the situation has been progressing during 2024 ; the updated 4-FLIGHT system version to be implemented in these ACCs in March / April 20024 should fix main technical issues.

In addition, the French NSA has been invited to the dedicated information meetings held by DSNA with the airspace users in order to monitor the 4-FLIGHT implementation at Paris ACC and its impact on Paris area capacity provision.

Identification of Significant Risks to Capacity Performance for Remainder of RP3

The NSA has identified several risks which are likely to lead to performance targets not being achieved in 2024. See comments and remedial measures listed above, which, for most of them address the whole RP3 timeframe including risks which are likely to lead to performance targets not being achieved in 2024.

It should also be noted that during year 2024 a new social agreement for the 2023 - 2027 period will be finalized and discussed between DGAC, the French ministries of Finance, Public administration and Transport and the Unions, with the aim to sign it and implement it before the Summer period.

This could lead to industrial actions and social unrest having an impact on DSNA performance. In this case all possible collaborative decision management processes shall be used with the airspace users, the network manager and neighboring ANSPs in order to mitigate as much as possible the impact on the users. However, the new industrial action law implemented end 2023 in France should enable additional mitigation measures and lower the impact of, industrial action as from 2024.

In addition an updated transition plan for 4-FLIGHT implementation in Paris ACC will be discussed with the airspace users in order to take into account their concern on the impact of such an implementation in the Paris area, combined with the Olympic games and the specific traffic patterns of the Paris area and related major airports.

Furthermore, ***the French NSA*** *will closery monitor the implementation of the above listed remedial measures by DSNA and assess their impact on the en route capacity performance through its suveillance program ; should any additional measures be necessary, it will be studied and discussed accordingly with DSNA in order to asses their feasibility, their potential impact on other performance area KPIs, their benefits and the related implementation timeline.*

The French NSA will be involved in the discussions regarding the social agreement dicsussions and their implementation.

Summary of capacity performance

France experienced an increase in traffic from 2 971k flights in 2022, with 4 343k minutes of en route ATFM delay, to 3 234k flights with 6 795k minutes of en route ATFM delay in 2023.

There were an additional 26k minutes of en route ATFM delay originating in the French ACCs that were re-attributed to the DFS via the NM post operations delay attribution process, as part of the eNM/S23 measures to mitigate the capacity shortfall in Karlsruhe UAC.

The total of en route ATFM delays includes 77k minutes of en route ATFM delay that were re-attributed to DSNA according to the eNM/S23 measures, but which originated elsewhere: 71k in Spain; 3k in UK, <2k in Portigal and <1k in MUAC..

En route Capacity Incentive Scheme

DSNA	2020	2021	2022	2023	2024	Observations
CRSTMP Capacity target	-	-	-	0.16	-	France uses an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The new target was set at 0.16 minutes per flight and the actual performance is reported as 0.81 minutes per flight (CRSTMP only). This results in a reported malus of € 6 141 975.00
Deadband +/-	-	-	-	[0.111-0.206]	[0.111-0.206]	
Actual performance	-	-	-	0.81		

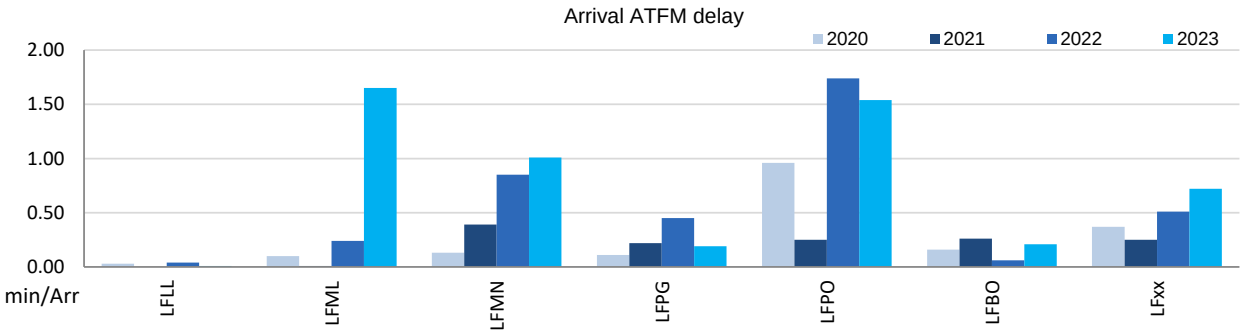
FRANCE **CAPACITY - Airports**

1. Overview

For France, the scope of the RP3 monitoring comprises a total of 58 airports. However, in accordance with IR (EU) 2019/317 and the traffic figures, only 6 of those airports must be monitored for pre-departure delays. 52 of these 58 airports are grouped into a basket ("LFXX") for monitoring and target setting purposes.
The Airport Operator Data Flow, necessary for the monitoring of the pre-departure delays, is established for the 6 airports required. Nevertheless, the quality of the reporting does not allow for the calculation of the ATC pre-departure delay at Paris Charles de Gaulle, with more than 40% of the reported delay not allocated to any cause.
The traffic at the ensemble of these 58 airports in 2023 is still 11% below the 2019 levels, with a 5% increase with respect to 2022.

Average arrival ATFM delay in 2023 was 0.70 min/arr, compared to 0.62 min/arr in 2022. The national target was not met.
ATFM slot adherence has improved (2023: 90.4%; 2022: 89.2%).

2. Arrival ATFM Delay

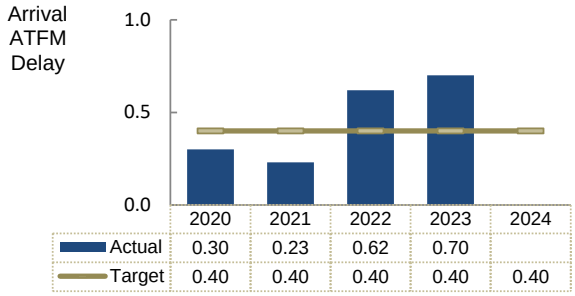


The national average arrival ATFM delays in 2023 increased on average at French airports. This evolution at national level is driven mainly driven by the increase observed at Marseille (LFML: 2022: 0.24 min/arr; 2023: 1.65 min/arr). Paris airports (LFPG and LFPO) registered lower delays than in 2022. The delays at national level were attributed mainly to Industrial Action (27% of all delays) and ATC staffing (27%), followed by weather (14%) and Aerodrome Capacity (13%)

Analysis of the NSA on the reasons having led to the performance target not being met:
Concerning terminal capacity, the 2023 target of 0.4 min/flight was not achieved. The actual 2023 achievement is 0.70 min/flight including the post-ops process of the NM, with 0.31 min/flight on the CRSTMP perimeter falling under the sole action of the air navigation service provider.
As for the en route capacity in 2023, the dominant factor for the quality of service in 2023 was of course the significant industrial action movement in Spring 2023 relating to the new national pensions law introduced by the French government which had a strong impact on DSNA capacity provision and was the main cause of 2023 ATFM delays.
Bad weather condition impact played also a role in the actual 2023 terminal capacity results, but also, in the CRSTMP perimeter, the combination of locally significant traffic (Orly, Nice, Marseille have for example exceeded the traffic levels of 2019 during 2023 summer when CDG remains at 90% of 2019 traffic level) and understaffing (Orly, Basel, Toulouse, Bordeaux, etc.); indeed, during the previous years, in order to address the en route staffing and capacity issues due to ATCO shortages in some DSNA ACCs, priority has been given to recruiting, training and assigning staff to the 5 French ACCs. In that context, some DSNA approaches and towers are now progressively also experiencing locally staff shortages. Furthermore, the consolidation of approaches to Nice from Toulon- Hyères also produced delays at Nice airport.
Corrective measures were taken, presented and discussed with the French NSA and are detailed in the following section of this report. With regard to this underachievement, a penalty will be applied to DSNA an deducted from the 2025 cost base in order to reduce the 2025 terminal unit rates.

Recommendations to the ANSP to rectify the situation:
A dedicated meeting has been organized with DSNA in order to gather both explanations and information about remedial measures already launched and identify potential additional measures that could be implemented by DSNA in 2023 and beyond to tackle non temporary capacity issues.
The following recommendations / course of actions have been discussed and agreed with DSNA:
- A set of specific remedial measures put in place by DSNA or already planned in 2023 to mitigate identified non temporary issues at the airports have been presented to the French NSA and are listed in the table below: the French NSA will be kept informed by DSNA of their timely implementation, of the expected benefit and of any issue in the implementation plan, and a follow-up meeting will be organized before the end of 2024; x
- An analysis of potential risks on 2024 and beyond underperformance has been carried over and required potential remedial measures to address such a situation have been discussed; they are also addressed in the final chapter of the terminal capacity tab of the monitoring together with the actions taken by the NSA to monitor future performance through its surveillance program.

3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.30	0.23	0.62	0.70	
Target	0.40	0.40	0.40	0.40	0.40

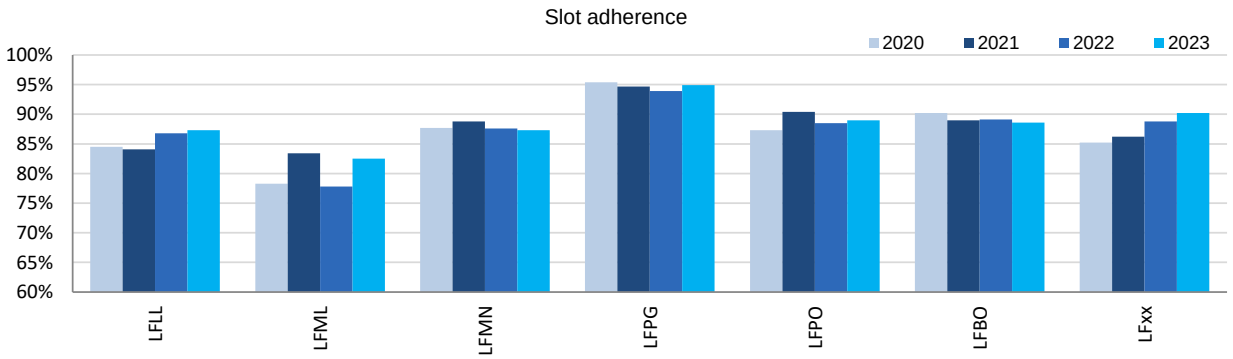
The French performance plan sets a national target on arrival ATFM delay for 2023 of 0.40 min/arr. This target was not met, with an actual performance of 0.70 min/arr. The incentive scheme uses modulated pivot values limited to CRSTMP delay causes.
According to the French monitoring report, this pivot value for CRSTMP is 0.16 min/arr in 2023 and based on the attribution of the regulation reason, the actual CRSTMP value for 2023 was 0.31 min/arr.
The NSA calculates a penalty of € 1 154 335.4.

According to the French monitoring report: *The actual value has been computed based on the data provided by the Network Manager, including the implementation of the post-ops process.*

In addition, the non CRSTMP share has also been checked according to the methodology already used in RP2 within FABEC Member States : for the actual en-route and terminal capacity delay data, a review to proof non-CRSTMP regulations was conducted by the NSAs via a data validation process within FABEC Finance and Performance Committee (FPC). Therefore, a number of non-CRSTMP regulations were subject to an analysis under the direction of the FPC. The relevant number of regulations to be verified consisted of 2,5% of the non-CRSTMP regulations causing the highest delay as well as non-CRSTMP regulations of five sample days.

Anyway, as far as 2023 is concerned, this had no impact on the final result as the CRSTMP value is above the threshold and the maximum penalty will be applied

4. ATFM Slot Adherence



National level and main national individual airports involved are above the 80% threshold of compliance.
The national average was 90.4%, slightly better than in 2022 when the adherence was 89.2%. With regard to the 9.6% of flights that did not adhere, 5.2% was early and 4.5% was late.
The French monitoring report explains: *All reported airports are in line with the requirements. The PI is progressing in 2023, mainly due to the fact that the action plan implemented at Marseille airport in 2023 and described in AMR 2022.*

5. ATC Pre-departure Delay

The share of unidentified delay reported by Charles de Gaulle (LFPG) was above 40% for more than 2 months in the year during the entire RP3, preventing the calculation of this indicator for this airport.
Average observed performance at the rest of airports in 2023 showed a slight increase compared to the previous year, and Paris Orly shows the fourth highest value among the SES monitored airports.

According to the French monitoring report:
Performance evolution is linked with the traffic increase evolution till 2020 and general ATC performance ;
In 2023 we can see that despite the increase in traffic, unfortunately, again the quality threshold for unidentified delays has never not reached the 50% threshold to validate the 2023 data flow, the 1st condition for publication. CDG currently mainly uses the code [ZZZ], which indicates that they have no information about the origin of the various delays. This situation will be examined in detailed with the ad-hoc CDG airport and DSNA experts in order to find a solution to fix this recurrent issue.

6. All Causes Pre-departure Delay

The average (all causes) delay in the actual off block time at the French airports monitored for this indicator in 2023 was 15.42 min/dep, a significant decrease compared to the previous year (21.03 min/dep). The delays observed at Charles de Gaulle however were the 5th highest among the RP3 monitored airports.
According to the French monitoring report:
Regarding ATC part of the delays and related corrective measures, please do refer to the section above for ATC Pre-departure delay.
Staff shortages where also experienced at airports (either in France or abroad) which had a strong impact on this performance indicator.

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Lyon/Saint-Exupéry-LFLL	0.03	0	0.04	0.01		84.5%	84.1%	86.8%	87.3%		n/a	0.22	0.32	0.35		11.98	11.88	19.99	20.67	
Marseille/Provence-LFML	0.1	0.01	0.24	1.65		78.3%	83.4%	77.8%	82.5%		n/a	n/a	0.15	0.19		9.57	9.94	17.97	20.83	
Nice/Côte d'Azur-LFMN	0.13	0.39	0.85	1.01		87.7%	88.8%	87.6%	87.3%		0.21	0.38	0.52	0.57		7.46	10.52	18.42	20.78	
Paris/Charles-De-Gaulle-LFPG	0.11	0.22	0.45	0.19		95.4%	94.7%	93.9%	94.9%		n/a	n/a	n/a	n/a		12.85	17.09	21.34	22.45	
Paris/Orly-LFPO	0.96	0.25	1.74	1.54		87.3%	90.4%	88.5%	89.0%		n/a	0.54	1.25	1.17		13.41	12.46	17.26	19.76	
Toulouse/Blagnac-LFBO	0.16	0.26	0.06	0.21		90.2%	89.0%	89.1%	88.6%		n/a	n/a	0.30	0.34		8.89	8.28	13.08	16.66	
Agen-La Garenne-LFBA	0	0	0	0		79.2%	85.7%	n/a	50.0%		-	-	-	-		-	-	-	-	
Ajaccio-Napoléon-Bonaparte-LFKJ	0	0.05	0.05	0.01		76.4%	71.3%	74.3%	87.6%		-	-	-	-		-	-	-	-	
Albert-Bray-LFAQ	0	0	0	0		44.0%	72.7%	89.2%	86.5%		-	-	-	-		-	-	-	-	
Annecy-Meythet-LFLP	0.16	0.06	0.36	0.23		74.9%	82.3%	88.8%	88.7%		-	-	-	-		-	-	-	-	
Avignon-Caumont-LFMV	0.23	0.02	0.28	0.2		78.7%	84.8%	87.5%	93.0%		-	-	-	-		-	-	-	-	
Bâle-Mulhouse-LFSB	0.41	0.05	0.21	0.55		87.4%	89.2%	89.5%	88.9%		-	-	-	-		-	-	-	-	
Bastia-Poretta-LFKB	0	0.06	0.12	0.02		80.7%	87.0%	88.4%	87.6%		-	-	-	-		-	-	-	-	
Beauvais-Tillé-LFOB	0.05	0.01	0.01	0.1		72.6%	89.3%	89.6%	89.1%		-	-	-	-		-	-	-	-	
Bergerac-Roumanière-LFBE	0	0.14	0	0		81.8%	89.4%	92.1%	90.4%		-	-	-	-		-	-	-	-	
Béziers-Vias-LFMU	0	0	0	0.38		68.5%	70.7%	70.8%	81.9%		-	-	-	-		-	-	-	-	
Biarritz-Bayonne-Anglet-LFBZ	0.05	0.15	0.2	0		88.8%	93.0%	92.1%	92.1%		-	-	-	-		-	-	-	-	
Bordeaux-Mérignac-LFBD	0.77	0.07	0.17	1.87		91.5%	89.7%	89.4%	90.8%		-	-	-	-		-	-	-	-	
Brest-Bretagne-LFRB	0	0.05	0	0		97.0%	83.8%	80.2%	81.0%		-	-	-	-		-	-	-	-	
Brive-Souillac-LFSL	0	0	0	0		95.7%	85.6%	90.0%	94.3%		-	-	-	-		-	-	-	-	
Caen-Carpiquet-LFRK	0	0	0	0		94.2%	92.3%	92.7%	93.5%		-	-	-	-		-	-	-	-	
Calvi-Sainte-Catherine-LFKC	0.07	0.28	0.28	0		82.1%	87.3%	91.2%	90.7%		-	-	-	-		-	-	-	-	
Cannes-Mandelieu-LFMD	2.97	3	2.86	1.09		93.4%	90.2%	94.9%	95.5%		-	-	-	-		-	-	-	-	
Carcassonne-Salvaza-LFMK	0	0	0	0		81.8%	84.3%	86.4%	87.7%		-	-	-	-		-	-	-	-	
Châlons-Vatry-LFOK	0.5	0.78	0.8	0.24		78.0%	86.1%	90.0%	85.7%		-	-	-	-		-	-	-	-	
Chambéry-Aix-les-Bains-LFLB	1.67	0.08	0.94	4.23		89.3%	82.5%	82.0%	80.9%		-	-	-	-		-	-	-	-	
Châteauroux-Déols-LFLX	0	0	0	0		86.7%	84.9%	85.9%	90.8%		-	-	-	-		-	-	-	-	
Clermont-Ferrand-Auvergne-LFLC	0	0.01	0	0		81.5%	86.9%	83.7%	87.7%		-	-	-	-		-	-	-	-	
Deauville-Normandie-LFRG	0	0	0.15	0.53		90.0%	88.6%	86.7%	86.9%		-	-	-	-		-	-	-	-	
Dinard-Pleurtuit-Saint-Malo-LFRD	0	0	0	0		61.3%	93.2%	92.7%	89.2%		-	-	-	-		-	-	-	-	
Dôle-Tavaux-LFGJ	0	0	0	0		59.4%	77.5%	84.4%	85.0%		-	-	-	-		-	-	-	-	
Figari-Sud Corse-LFKF	0.18	1.24	0.34	0.23		80.3%	76.8%	86.4%	91.8%		-	-	-	-		-	-	-	-	
Grenoble-Isère-LFLS	0.5	0.02	0.58	0.42		93.6%	85.2%	90.4%	90.2%		-	-	-	-		-	-	-	-	
Hyères-Le Palyvestre-LFTH	0.06	0.04	1.28	4.05		81.1%	88.3%	88.9%	89.4%		-	-	-	-		-	-	-	-	
Istres-Le Tubé-LFMI	0	0	0	0		66.7%	68.4%	82.3%	83.3%		-	-	-	-		-	-	-	-	
La Rochelle-Ile de Ré-LFBH	0	0	0	0.03		81.3%	89.2%	84.4%	89.7%		-	-	-	-		-	-	-	-	
Lille-Lesquin-LFQQ	0.33	0.01	0.05	0.14		86.1%	87.7%	90.7%	91.4%		-	-	-	-		-	-	-	-	
Limoges-Bellegarde-LFBL	0.19	0.11	1.3	0.7		93.4%	92.4%	87.9%	87.9%		-	-	-	-		-	-	-	-	
Lorient-Lann Bihoué-LFRH	0	0	0	0		88.8%	88.3%	87.1%	87.1%		-	-	-	-		-	-	-	-	
Lyon-Bron-LFLY	0.01	0	0	0.02		89.5%	83.8%	87.4%	91.0%		-	-	-	-		-	-	-	-	
Metz-Nancy-Lorraine-LFJL	0	0	0	0		82.5%	84.6%	91.4%	86.0%		-	-	-	-		-	-	-	-	
Montpellier-Méditerranée-LFMT	0.01	0	0	0.01		75.1%	84.6%	84.9%	87.8%		-	-	-	-		-	-	-	-	
Nantes-Atlantique-LFRS	0.24	0.08	0.05	0.18		91.6%	91.3%	91.9%	92.5%		-	-	-	-		-	-	-	-	
Nîmes-Garons-LFTW	0	0.02	0.07	0		83.4%	82.5%	88.3%	90.5%		-	-	-	-		-	-	-	-	
Paris-Le Bourget-LFPB	0.6	0.53	1.84	1.52		94.2%	95.3%	95.1%	96.8%		-	-	-	-		-	-	-	-	
Pau-Pyrénées-LFBP	1.45	0	0	0		85.9%	87.6%	88.1%	89.6%		-	-	-	-		-	-	-	-	

Perpignan-Rivesaltes-LFMP	0.07	0.03	0.01	0.09		77.4%	77.0%	83.7%	83.5%		-	-	-	-		-	-	-	-	
Poitiers-Biard-LFBI	0	0	0	0.03		87.8%	72.5%	71.0%	72.7%		-	-	-	-		-	-	-	-	
Quimper-Pluguffan-LFRQ	0	0	0	0		84.7%	90.6%	90.0%	92.8%		-	-	-	-		-	-	-	-	
Rennes-Saint-Jacques-LFRN	0	0	0	0		78.7%	86.7%	89.2%	91.6%		-	-	-	-		-	-	-	-	
Rodez-Marcillac-LFCR	0	0	0	0		88.5%	82.5%	85.2%	91.7%		-	-	-	-		-	-	-	-	
Rouen-LFOP	0.13	0.27	0.04	1.38		74.2%	83.9%	79.2%	82.8%		-	-	-	-		-	-	-	-	
Saint-Etienne-Bouthéon-LFMH	0	0	0	0		79.6%	86.8%	90.1%	94.4%		-	-	-	-		-	-	-	-	
Saint-Nazaire-Montoir-LFRZ	0	0	0	0		97.2%	94.7%	94.7%	93.8%		-	-	-	-		-	-	-	-	
Strasbourg-Entzheim-LFST	0.03	0.01	0	0.04		79.6%	88.9%	90.1%	89.7%		-	-	-	-		-	-	-	-	
Tarbes-Lourdes Pyrénées-LFBT	0	0.02	0.04	0.03		90.5%	91.3%	89.7%	90.1%		-	-	-	-		-	-	-	-	
Tours-Val de Loire-LFOT	0	0.11	9.32	3.08		50.0%	0.0%	66.7%	88.2%		-	-	-	-		-	-	-	-	
Toussus-le-Noble-LFPN	0.97	0.89	2.94	4.87		77.7%	88.3%	89.3%	88.6%		-	-	-	-		-	-	-	-	

FRANCE: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- France ECZ represents 20.6% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 28 October 2022 and found consistent as per Commission Decision (EU) 2023/176 of 14 December 2022

  The final version of the plan was adopted and published by France in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

France: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	1 331 065 667	1 337 151 151	2 668 216 818	1 356 571 126	1 382 095 349	1 407 430 933
Inflation %	0.5%	1.1%		1.2%	1.3%	1.4%
Inflation index (100 in 2017)	103.9	105.1		106.3	107.7	109.3
Real en route costs (€2017)	1 290 838 451	1 286 494 015	2 577 332 466	1 293 612 485	1 305 142 346	1 315 459 035
Total en route service units	8 547 246	10 969 138	19 516 384	16 989 960	21 020 185	22 464 259
Real en route DUC per service unit (€2017)	**151.02**	**117.28**	**132.06**	**76.14**	**62.09**	**58.56**

France: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	1 331 065 667	1 319 090 332	2 650 155 999	1 355 276 445	1 428 768 047	
Inflation %	0.5%	2.1%		5.9%	5.7%	
Inflation index (100 in 2017)	103.9	106.1		112.4	118.8	
Real en route costs (€2017)	1 290 838 451	1 258 437 805	2 549 276 256	1 236 146 054	1 250 449 723	
Total en route service units	8 547 246	11 180 520	19 727 767	18 897 985	21 088 292	
Real en route AUC per service unit (€2017)	**151.02**	**112.56**	**129.22**	**65.41**	**59.30**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-18 060 819	-18 060 819	-1 294 681	46 672 698	
	in %	-	-1.4%	-0.7%	-0.1%	+3.4%	
Inflation %	in p.p.	0.0 p.p.	1.0 p.p.		4.7 p.p.	4.4 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.1 p.p.		6.1 p.p.	11.1 p.p.	
Real en route costs (€2017)	in value	0	-28 056 210	-28 056 210	-57 466 431	-54 692 623	
	in %	-	-2.2%	-1.1%	-4.4%	-4.2%	
Total en route service units	in value	0	211 382	211 382	1 908 025	68 107	
	in %	-	+1.9%	+1.1%	+11.2%	+0.3%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-4.73**	**-2.84**	**-10.73**	**-2.79**	
	in %	**-**	**-4.0%**	**-2.1%**	**-14.1%**	**-4.5%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -4.5% (or -2.79 €2017) lower than the planned DUC. This results from the combination of lower than planned en route costs in real terms (-4.2%, or -54.7 M€2017) and slightly higher than planned TSUs (+0.3%). It should be noted that actual inflation index in 2023 was +11.1 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (+0.3%) falls inside the ±2% dead band. Hence gain of additional en route revenues is kept by the ANSPs (see items 10 to 14).

En route costs by entity

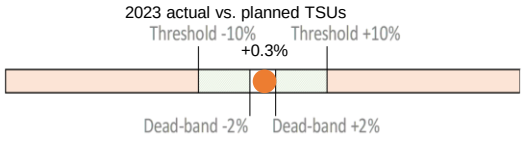
Actual real en route costs are -4.2% (-54.7 M€2017) lower than planned. This is the result of lower costs for the main ANSP, DSNA (-4.8%, or -56.0 M€2017) and the MET service provider (-8.1%, or -5.3 M€2017), while NSA/EUROCONTROL costs are higher (+7.8%, or +6.6 M€2017) than planned.

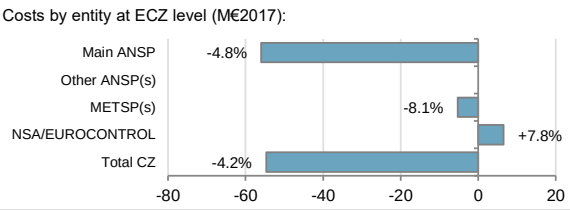
En route costs for the main ANSP (DSNA) at charging zone level

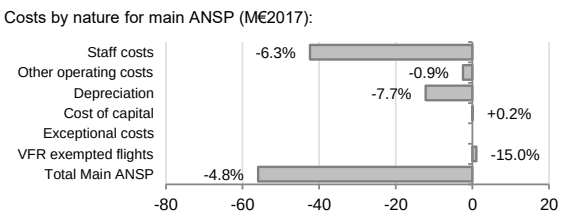
Lower than planned en route costs in real terms for DSNA in 2023 (-4.8%, or -56.0 M€2017) result from:

- Significantly lower staff costs (-6.3%), mainly due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +3.4%, "due to the payment of measures implemented after covid crisis in 2022";
- Slightly lower other operating costs (-0.9%), mainly due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +9.3%, due to the increase of energy prices and an increase of project related OPEX costs (see below);
- Significantly lower depreciation (-7.7%), mainly in relation with the postponement of a major project's commissioning, projects delays in previous years, and the transfer of some investment costs to project-related OPEX costs;
- Slightly higher cost of capital (+0.2%); and,
- Significantly lower deduction for VFR exempted flights (-15.0%).

Note: It is understood that DSNA operating costs include costs of investments that are not capitalised (T3 TECH).







FRANCE: En route charging zone

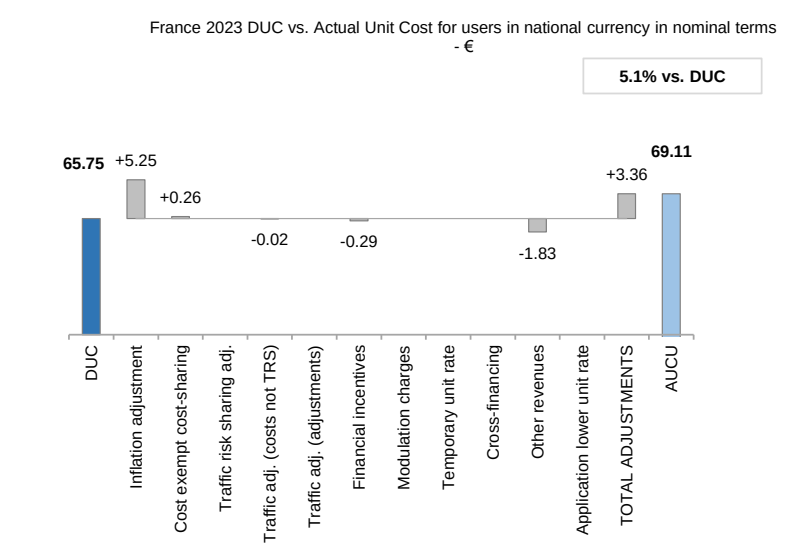
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	65.75
DUC to be charged retroactively	0.00
DUC	**65.75**
Inflation adjustment	5.25
Cost exempt from cost-sharing	0.26
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	-0.02
Traffic adj. (adjustments)*	
Financial incentives	-0.29
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-1.83
Application of lower unit rate	0.00
Total adjustments	3.36
AUCU	**69.11**
AUCU vs. DUC	**+5.1%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

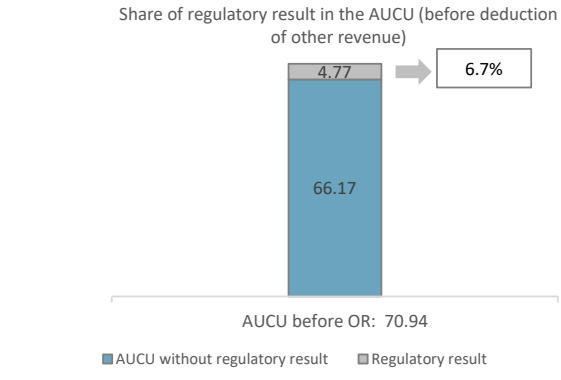
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-4 713	-0.22
	Competent authorities and qualified entities costs	-1 104	-0.05
	Eurocontrol costs	7 679	0.36
	Pension costs	0	0.00
	Interest on loans	3 548	0.17
	Changes in law	0	0.00
Total costs exempt from cost sharing		**5 409**	**0.26**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
DSNA	92 801	4.40
METSP(s)	**€ '000**	**€/SU**
France MET	7 768	0.37
Total charging zone	100 569	4.77
Actual cost for users* **	1 496 083	70.94
Regulatory result (% AUCU)	6.7%	6.7%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (69.11 €) is +5.1% higher than the nominal DUC (65.75 €). The difference between these two figures (+3.36 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+5.25 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+0.26 €/SU);
- the deduction of the traffic adjustment (-0.02 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-0.29 €/SU); and
- the deduction of the other revenues (-1.83 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 6.7%.

FRANCE: En route main ANSP (DSNA) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

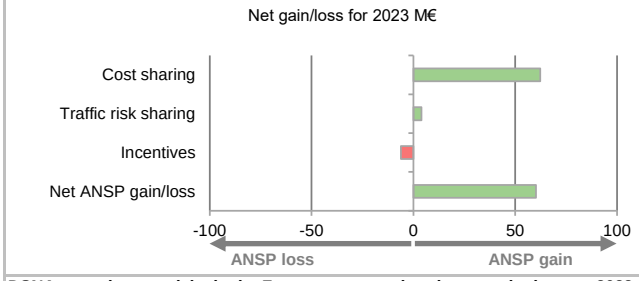
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

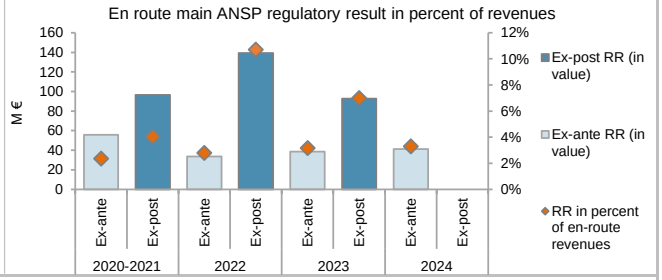
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	12 493	5 603	-40 854	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	10 038	57 843	105 060	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-12 464	-12 262	-1 907	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**10 067**	**51 183**	**62 298**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.1%	11.2%	0.3%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	2 367 281	1 204 247	1 228 395	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**25 640**	**52 987**	**3 980**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-6 142**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**35 707**	**104 170**	**60 136**	

12. Regulatory result (RR) for the main ANSP at charging zone level

DSNA planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	1 589 985	2 353 579	3 943 563	2 557 204	2 301 959	2 005 386
Proportion of financing through equity (in %)	13%	5%	8%	8%	12%	17%
RoE pre-tax rate (in %)	14.9%	21.1%	17.1%	16.2%	13.7%	11.9%
RoE (in value)	31 213	24 500	55 713	33 669	38 654	41 207
Ex-ante regulatory result (+/-) for the en route charging zone	**31 213**	**24 500**	**55 713**	**33 669**	**38 654**	**41 207**
Revenue for the en route charging zone	**1 181 681**	**1 185 600**	**2 367 281**	**1 204 247**	**1 228 395**	**1 253 531**
Ex-ante regulatory result (+/-) in percent of revenues	**2.6%**	**2.1%**	**2.4%**	**2.8%**	**3.1%**	**3.3%**
Ex-ante RoE pre-tax rate (in %)	**14.9%**	**21.1%**	**17.1%**	**16.2%**	**13.7%**	**11.9%**
DSNA actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	1 589 985	2 262 020	3 852 005	2 466 470	2 300 037	
Proportion of financing through equity (in %)	13%	7%	9%	9%	10%	
RoE pre-tax rate (in %)	14.9%	19.7%	16.9%	16.2%	13.7%	
RoE (in value)	31 213	29 636	60 849	35 097	32 665	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	35 707	35 707	104 170	60 136	
Ex-post regulatory result (+/-) for the en route charging zone	**31 213**	**65 344**	**96 557**	**139 267**	**92 801**	
Revenue for the en route charging zone	**1 181 681**	**1 208 814**	**2 390 495**	**1 302 814**	**1 329 385**	
Ex-post regulatory result (+/-) in percent of revenues	**2.6%**	**5.4%**	**4.0%**	**10.7%**	**7.0%**	
Ex-post RoE pre-tax rate (in %)	**14.9%**	**43.3%**	**26.8%**	**64.4%**	**39.0%**	

13. Focus on the main ANSP regulatory result on en route activity





DSNA net gain on activity in the France en route charging zone in the year 2023

DSNA reported a net gain of +60.1 M€, as a combination of a gain of +62.3 M€ arising from the cost sharing mechanism, with a gain of +4.0 M€ arising from the traffic risk sharing mechanism and a loss of -6.1 M€ relating to financial incentives.

DSNA overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+60.1 M€) and the actual RoE (+32.7 M€) amounts to +92.8 M€ (7.0% of the en route revenues). The resulting ex-post rate of return on equity is 39.0%, which is higher than the 13.7% planned in the PP.

FRANCE: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
France MET planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	**45**	**45**	**90**	**45**	**46**	**46**
Revenue for the en route charging zone	**67 575**	**68 442**	**136 017**	**68 410**	**69 385**	**69 379**
Ex-ante regulatory result (+/-) in percent of revenues	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**
Ex-ante RoE pre-tax rate (in %)	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**
France MET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	**45**	**419**	**464**	**2 955**	**7 768**	
Revenue for the en route charging zone	**67 575**	**68 862**	**136 437**	**72 241**	**75 807**	
Ex-post regulatory result (+/-) in percent of revenues	**0.1%**	**0.6%**	**0.3%**	**4.1%**	**10.2%**	
Ex-post RoE pre-tax rate (in %)	**0.1%**	**1.1%**	**0.6%**	**7.5%**	**21.7%**	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for France (Météo France) corresponds to 10.2% of the en route revenues. The ex-post RoE 21.7% is higher than planned 0.1%.

FRANCE ZONE 1: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- France zone 1 TCZ represents 4.0% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 2 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 2
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

France zone 1: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	56 623 602	57 425 761	114 049 362	58 939 208	60 366 031	61 594 406
Inflation %	0.5%	1.1%		1.2%	1.3%	1.4%
Inflation index (100 in 2017)	103.9	105.1		106.3	107.7	109.3
Real terminal costs (€2017)	54 964 503	55 348 158	110 312 661	56 375 904	57 265 874	57 925 436
Total terminal service units	267 166	313 933	581 099	492 532	560 294	592 207
Real terminal DUC per service unit (€2017)	**205.73**	**176.31**	**189.83**	**114.46**	**102.21**	**97.81**

France zone 1: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	56 623 602	52 910 714	109 534 315	53 106 117	57 044 839	
Inflation %	0.5%	2.1%		5.9%	5.7%	
Inflation index (100 in 2017)	103.9	106.1		112.4	118.8	
Real terminal costs (€2017)	54 964 503	50 542 382	105 506 885	48 455 738	49 798 354	
Total terminal service units	267 166	324 427	591 593	517 517	566 283	
Real terminal AUC per service unit (€2017)	**205.73**	**155.79**	**178.34**	**93.63**	**87.94**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-4 515 047	-4 515 047	-5 833 091	-3 321 192	
	in %	-	-7.9%	-4.0%	-9.9%	-5.5%	
Inflation %	in p.p.	0.0 p.p.	1.0 p.p.		4.7 p.p.	4.4 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.1 p.p.		6.1 p.p.	11.1 p.p.	
Real terminal costs (€2017)	in value	0	-4 805 776	-4 805 776	-7 920 166	-7 467 519	
	in %	-	-8.7%	-4.4%	-14.0%	-13.0%	
Total terminal service units	in value	0	10 494	10 494	24 985	5 989	
	in %	-	+3.3%	+1.8%	+5.1%	+1.1%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-20.52**	**-11.49**	**-20.83**	**-14.27**	
	in %	**-**	**-11.6%**	**-6.1%**	**-18.2%**	**-14.0%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -14.0% (or -14.27 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned terminal costs in real terms (-13.0%, or -7.5 M€2017) and higher than planned TNSUs (+1.1%). It should be noted that actual inflation index in 2023 was +11.1 p.p. higher than planned.

Terminal charging zone 1 service units

The difference between actual and planned TNSUs (+1.1%) falls inside the ±2% dead band. Hence gain of additional terminal revenues is kept by the ANSPs (see items 10 to 14).

Terminal charging zone 1 costs by entity

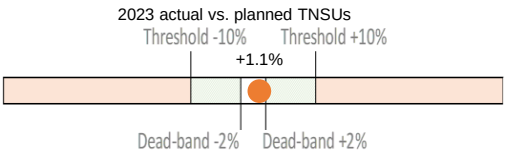
Actual real terminal costs are -13.0% (-7.5 M€2017) lower than planned. This is the result of lower costs for the main ANSP, DSNA (-13.5%, or -7.3 M€2017), the MET service provider (-3.8%, or -0.1 M€2017) and the NSA (-24.1%, or -0.1 M€2017).

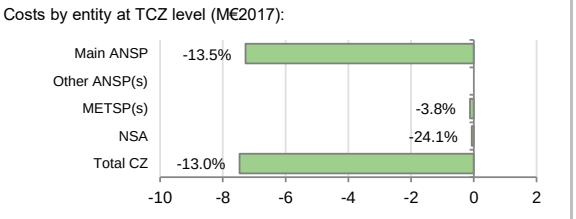
Terminal charging zone 1 costs for the main ANSP (DSNA) at charging zone level

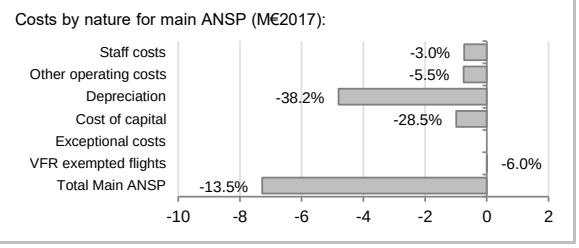
Significantly lower than planned terminal costs in real terms for DSNA in 2023 (-13.5%, or -7.3 M€2017) result from:

- Lower staff costs (-3.0%), mainly due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +6.9%, "due to the payment of measures implemented after covid crisis in 2022";
- Significantly lower other operating costs (-5.5%), mainly due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +4.3%, due to the increase of energy prices and an increase of project related OPEX costs (see below);
- Significantly lower depreciation (-38.2%), "mainly in relation with the delay of the new Towers and Approach projects for Paris-CDG and Pairs-Orly (SYSAT) and the transfer of part of the investment costs to project-related OPEX costs";
- Significantly lower cost of capital (-28.5%), mainly due to a lower asset base; and,
- Significantly lower deduction for VFR exempted flights (-6.0%).

Note: It is understood that DSNA operating costs include costs of investments that are not capitalised (T3 TECH).







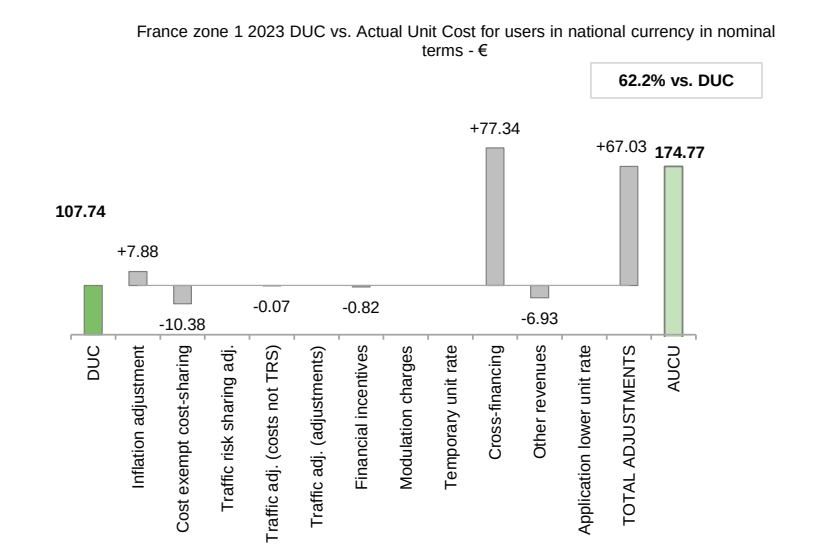
FRANCE ZONE 1: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	107.74
DUC to be charged retroactively	0.00
DUC	**107.74**
Inflation adjustment	7.88
Cost exempt from cost-sharing	-10.38
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	-0.07
Traffic adj. (adjustments)*	
Financial incentives	-0.82
Modulation of charges	0.00
Temporary UR**	
Cross-financing	77.34
Other revenues	-6.93
Application of lower unit rate	0.00
Total adjustments	67.03
AUCU	**174.77**
AUCU vs. DUC	**62.2%**

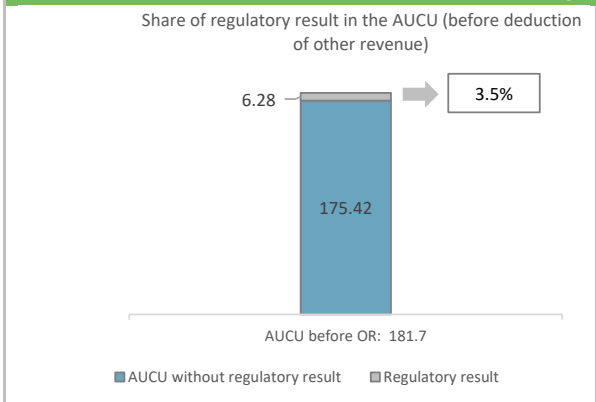
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-6 149	-10.86
	Competent authorities and qualified entities costs	-69	-0.12
	Eurocontrol costs	0	0.00
	Pension costs	0	0.00
	Interest on loans	280	0.49
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-5 875**	**-10.38**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
DSNA	3 297	5.82
METSP(s)	**€ '000**	**€/SU**
France zone 1-MET	259	0.46
Total charging zone	3 556	6.28
Actual cost for users* **	102 893	181.70
Regulatory result (% AUCU)	3.5%	3.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (174.77 €) is +62.2% higher than the nominal DUC (107.74 €). The difference between these two figures (+67.03 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+7.88 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-10.38 €/SU);
- the deduction of the traffic adjustment (-0.07 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-0.82 €/SU);
- cross-financing (+77.34 €/SU); and
- the deduction of the other revenues (-6.93 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 3.5%.

FRANCE ZONE 1: Terminal main ANSP (DSNA) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

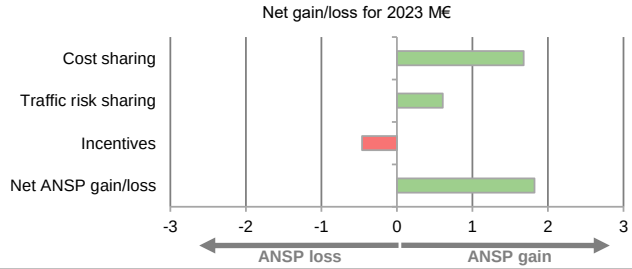
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

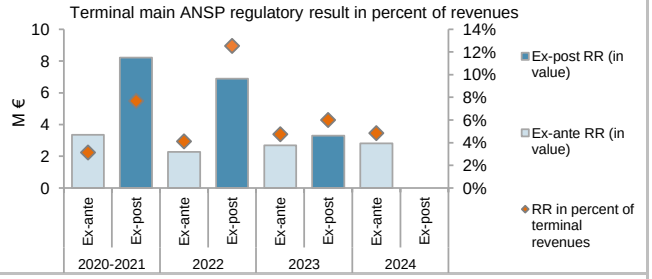
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	4 506	5 679	3 371	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	407	2 330	4 184	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-2 060	-4 217	-5 877	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**2 853**	**3 792**	**1 679**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.8%	5.1%	1.1%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	106 793	55 312	56 692	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**1 929**	**1 616**	**606**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-462**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**4 781**	**5 408**	**1 823**	

12. Regulatory result (RR) for the main ANSP at charging zone level

DSNA planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	118 981	158 658	277 639	176 689	167 138	152 019
Proportion of financing through equity (in %)	11%	4%	7%	8%	12%	16%
RoE pre-tax rate (in %)	14.9%	21.1%	17.1%	16.2%	13.7%	11.9%
RoE (in value)	1 872	1 479	3 351	2 279	2 683	2 808
Ex-ante regulatory result (+/-) for the terminal charging zone	**1 872**	**1 479**	**3 351**	**2 279**	**2 683**	**2 808**
Revenue for the terminal charging zone	**52 996**	**53 797**	**106 793**	**55 312**	**56 692**	**57 920**
Ex-ante regulatory result (+/-) in percent of revenues	**3.5%**	**2.7%**	**3.1%**	**4.1%**	**4.7%**	**4.8%**
Ex-ante RoE pre-tax rate (in %)	**14.9%**	**21.1%**	**17.1%**	**16.2%**	**13.7%**	**11.9%**
DSNA actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	118 981	141 716	260 697	142 262	133 705	
Proportion of financing through equity (in %)	11%	5%	8%	6%	8%	
RoE pre-tax rate (in %)	14.9%	21.1%	17.2%	16.2%	13.7%	
RoE (in value)	1 872	1 561	3 433	1 479	1 474	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	4 781	4 781	5 408	1 823	
Ex-post regulatory result (+/-) for the terminal charging zone	**1 872**	**6 342**	**8 214**	**6 887**	**3 297**	
Revenue for the terminal charging zone	**52 996**	**54 073**	**107 069**	**55 041**	**55 143**	
Ex-post regulatory result (+/-) in percent of revenues	**3.5%**	**11.7%**	**7.7%**	**12.5%**	**6.0%**	
Ex-post RoE pre-tax rate (in %)	**14.9%**	**85.8%**	**41.1%**	**75.6%**	**30.7%**	

13. Focus on main ANSP regulatory result on terminal activity





DSNA net gain on activity in the France terminal charging zone 1 in the year 2023

DSNA reported a net gain of +1.8 M€, as a combination of a gain of +1.7 M€ arising from the cost sharing mechanism, with a gain of +0.6 M€ arising from the traffic risk sharing mechanism and a loss of -0.5 M€ relating to financial incentives.

DSNA overall regulatory results (RR) for the terminal charging zone 1 activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+1.8 M€) and the actual RoE (+1.5 M€) amounts to +3.3 M€ (6.0% of the terminal revenues). The resulting ex-post rate of return on equity is 30.7%, which is higher than the 13.7% planned in the PP.

FRANCE ZONE 1: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
France zone 1-MET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**2**	**2**	**4**	**2**	**2**	**2**
Revenue for the terminal charging zone	**3 300**	**3 342**	**6 642**	**3 341**	**3 388**	**3 388**
Ex-ante regulatory result (+/-) in percent of revenues	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**
Ex-ante RoE pre-tax rate (in %)	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**
France zone 1-MET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**2**	**16**	**18**	**248**	**259**	
Revenue for the terminal charging zone	**3 300**	**3 363**	**6 663**	**3 500**	**3 736**	
Ex-post regulatory result (+/-) in percent of revenues	**0.1%**	**0.5%**	**0.3%**	**7.1%**	**6.9%**	
Ex-post RoE pre-tax rate (in %)	**0.1%**	**0.1%**	**0.1%**	**13.5%**	**14.2%**	

Total other ANSP overall regulatory results (RR) for the terminal charging zone 1 activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for France (Météo France) corresponds to 6.9% of the terminal revenues. The ex-post RoE 14.2% is higher than planned 0.1%.

FRANCE ZONE 2: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- France zone 2 TCZ represents 13.8% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 56 of which:
  - Airports with fewer than 80,000 IFR mvmts: 52
  - Airports with more than 80,000 IFR mvmts: 4
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

France zone 2: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	192 084 499	190 365 182	382 449 681	190 383 772	191 305 181	192 111 965
Inflation %	0.5%	1.1%		1.2%	1.3%	1.4%
Inflation index (100 in 2017)	103.9	105.1		106.3	107.7	109.3
Real terminal costs (€2017)	185 717 482	182 368 576	368 086 058	180 553 386	179 399 599	178 028 515
Total terminal service units	244 439	314 005	558 444	508 702	529 498	557 181
Real terminal DUC per service unit (€2017)	**759.77**	**580.78**	**659.13**	**354.93**	**338.81**	**319.52**

France zone 2: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	192 084 499	200 248 171	392 332 669	194 501 686	198 061 114	
Inflation %	0.5%	2.1%		5.9%	5.7%	
Inflation index (100 in 2017)	103.9	106.1		112.4	118.8	
Real terminal costs (€2017)	185 717 482	190 128 162	375 845 644	175 723 094	170 649 414	
Total terminal service units	244 439	316 501	560 940	459 449	489 478	
Real terminal AUC per service unit (€2017)	**759.77**	**600.72**	**670.03**	**382.46**	**348.64**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	9 882 989	9 882 989	4 117 914	6 755 933	
	in %	-	+5.2%	+2.6%	+2.2%	+3.5%	
Inflation %	in p.p.	0.0 p.p.	1.0 p.p.		4.7 p.p.	4.4 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.1 p.p.		6.1 p.p.	11.1 p.p.	
Real terminal costs (€2017)	in value	0	7 759 586	7 759 586	-4 830 292	-8 750 185	
	in %	-	+4.3%	+2.1%	-2.7%	-4.9%	
Total terminal service units	in value	0	2 496	2 496	-49 253	-40 021	
	in %	-	+0.8%	+0.4%	-9.7%	-7.6%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**19.94**	**10.90**	**27.54**	**9.83**	
	in %	**-**	**+3.4%**	**+1.7%**	**+7.8%**	**+2.9%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +2.9% (or +9.83 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TNSUs (-7.6%) and lower than planned terminal costs in real terms (-4.9%, or -8.8 M€2017). It should be noted that actual inflation index in 2023 was +11.1 p.p. higher than planned.

Terminal charging zone 2 service units

The difference between actual and planned TNSUs (-7.6%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

Terminal charging zone 2 costs by entity

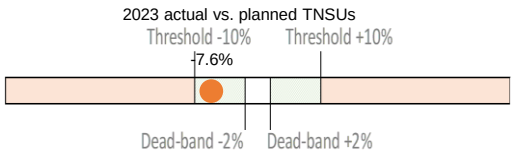
Actual real terminal costs are -4.9% (-8.8 M€2017) lower than planned. This is the result of lower costs for the main ANSP, DSNA (-4.2%, or -6.8 M€2017), the MET service provider (-12.8%, or -1.9 M€2017) and the NSA (-3.0%, or 0.03 M€2017).

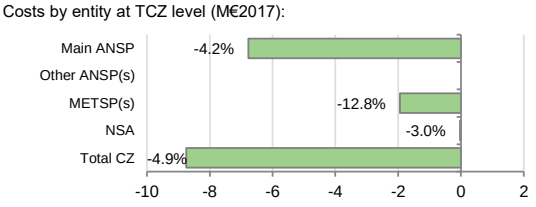
Terminal charging zone 2 costs for the main ANSP (DSNA) at charging zone level

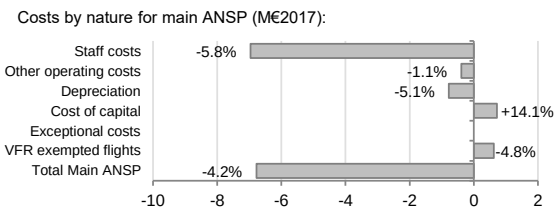
Lower than planned terminal costs in real terms for DSNA in 2023 (-4.2%, or -6.8 M€2017) result from:

- Significantly lower staff costs (-5.8%), mainly due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +3.9%, "due to the payment of measures implemented after covid crisis in 2022";
- Slightly lower other operating costs (-1.1%), due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +9.1%, due to the increase of energy prices and an increase of project-related OPEX costs (see below);
- Significantly lower depreciation (-5.1%),"mainly in relation with the delay of new Towers projects and the transfer of part of the investment costs to project-related OPEX costs";
- Significantly higher cost of capital (+14.1%), mainly due to higher asset base and higher interest on debt; and,
- Lower deduction for VFR exempted flights (-4.8%).

Note: It is understood that DSNA operating costs include costs of investments that are not capitalised (T3 TECH).







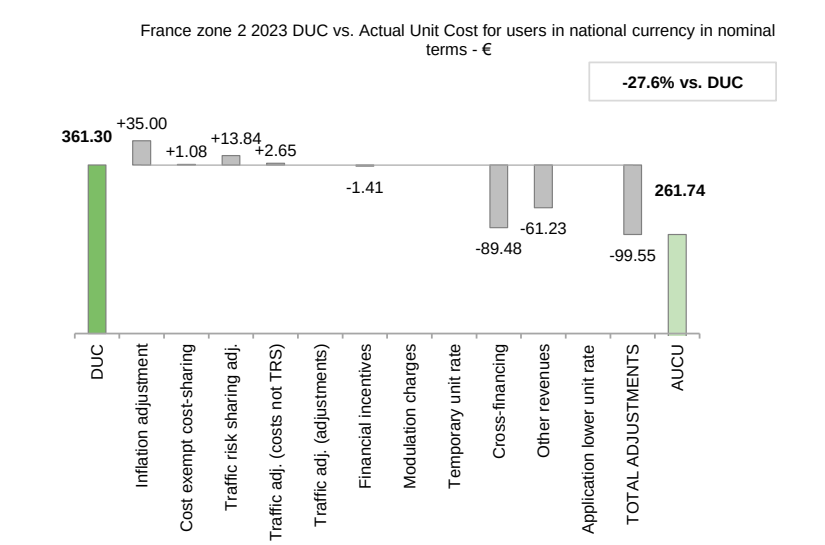
FRANCE ZONE 2: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	361.30
DUC to be charged retroactively	0.00
DUC	**361.30**
Inflation adjustment	35.00
Cost exempt from cost-sharing	1.08
Traffic risk sharing adjustment	13.84
Traffic adj. (costs not TRS)	2.65
Traffic adj. (adjustments)*	
Financial incentives	-1.41
Modulation of charges	0.00
Temporary UR**	
Cross-financing	-89.48
Other revenues	-61.23
Application of lower unit rate	0.00
Total adjustments	-99.55
AUCU	**261.74**
AUCU vs. DUC	**-27.6%**

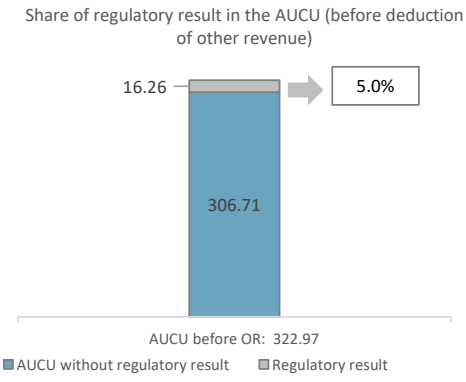
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	201	0.41
	Competent authorities and qualified entities costs	-32	-0.07
	Eurocontrol costs	0	0.00
	Pension costs	0	0.00
	Interest on loans	358	0.73
	Changes in law	0	0.00
Total costs exempt from cost sharing		**527**	**1.08**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
DSNA	5 528	11.29
METSP(s)	**€ '000**	**€/SU**
France zone 2-MET	2 429	4.96
Total charging zone	7 957	16.26
Actual cost for users* **	158 088	322.97
Regulatory result (% AUCU)	5.0%	5.0%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (261.74 €) is -27.6% lower than the nominal DUC (361.30 €). The difference between these two figures (-99.55 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+35.00 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+1.08 €/SU);
- the addition of the traffic risk sharing adjustments (+13.84 €/SU);
- the addition of the traffic adjustment (+2.65 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-1.41 €/SU);
- cross-financing (-89.48 €/SU); and
- the deduction of the other revenues (-61.23 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 5.0%.

FRANCE ZONE 2: Terminal main ANSP (DSNA) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

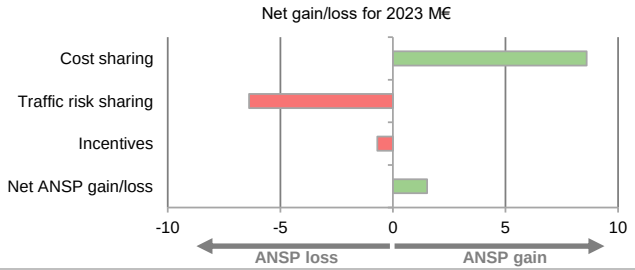
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

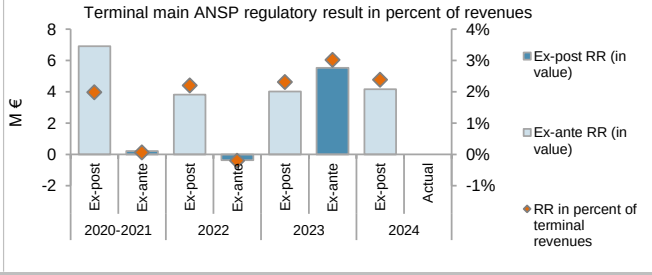
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-9 945	-5 670	-7 781	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	1 544	8 797	15 819	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-458	154	565	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-8 858**	**3 281**	**8 604**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.4%	-9.7%	-7.6%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	348 678	173 479	174 176	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**1 559**	**-7 468**	**-6 388**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-693**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**-7 299**	**-4 186**	**1 523**	

12. Regulatory result (RR) for the main ANSP at charging zone level

DSNA planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	170 577	239 315	409 892	255 632	234 858	213 821
Proportion of financing through equity (in %)	15%	6%	10%	9%	13%	16%
RoE pre-tax rate (in %)	14.9%	21.1%	17.1%	16.2%	13.7%	11.9%
RoE (in value)	3 843	3 068	6 911	3 812	4 025	4 166
Ex-ante regulatory result (+/-) for the terminal charging zone	**3 843**	**3 068**	**6 911**	**3 812**	**4 025**	**4 166**
Revenue for the terminal charging zone	**175 226**	**173 452**	**348 678**	**173 479**	**174 176**	**174 984**
Ex-ante regulatory result (+/-) in percent of revenues	**2.2%**	**1.8%**	**2.0%**	**2.2%**	**2.3%**	**2.4%**
Ex-ante RoE pre-tax rate (in %)	**14.9%**	**21.1%**	**17.1%**	**16.2%**	**13.7%**	**11.9%**
DSNA actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	170 576	248 540	419 116	261 285	254 291	
Proportion of financing through equity (in %)	15%	7%	10%	9%	11%	
RoE pre-tax rate (in %)	14.9%	21.1%	17.4%	16.2%	13.7%	
RoE (in value)	3 843	3 673	7 516	3 825	4 005	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	-7 299	-7 299	-4 186	1 523	
Ex-post regulatory result (+/-) for the terminal charging zone	**3 843**	**-3 627**	**217**	**-362**	**5 528**	
Revenue for the terminal charging zone	**175 226**	**176 098**	**351 324**	**174 963**	**183 480**	
Ex-post regulatory result (+/-) in percent of revenues	**2.2%**	**-2.1%**	**0.1%**	**-0.2%**	**3.0%**	
Ex-post RoE pre-tax rate (in %)	**14.9%**	**-20.9%**	**0.5%**	**-1.5%**	**18.9%**	

13. Focus on main ANSP regulatory result on terminal activity





DSNA net gain on activity in the France terminal charging zone 2 in the year 2023

DSNA reported a net gain of +1.5 M€, as a combination of a gain of +8.6 M€ arising from the cost sharing mechanism, with a loss of -6.4 M€ arising from the traffic risk sharing mechanism and a loss of -0.7 M€ relating to financial incentives.

DSNA overall regulatory results (RR) for the terminal charging zone 2 activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+1.5 M€) and the actual RoE (+4.0 M€) amounts to +5.5 M€ (3.0% of the terminal revenues). The resulting ex-post rate of return on equity is 18.9%, which is higher than the 13.7% planned in the PP.

FRANCE ZONE 2: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
France zone 2-MET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**10**	**10**	**21**	**10**	**11**	**11**
Revenue for the terminal charging zone	**15 629**	**15 830**	**31 459**	**15 822**	**16 048**	**16 046**
Ex-ante regulatory result (+/-) in percent of revenues	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**
Ex-ante RoE pre-tax rate (in %)	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**
France zone 2-MET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**10**	**794**	**804**	**2 311**	**2 429**	
Revenue for the terminal charging zone	**15 629**	**15 749**	**31 378**	**16 269**	**17 355**	
Ex-post regulatory result (+/-) in percent of revenues	**0.1%**	**5.0%**	**2.6%**	**14.2%**	**14.0%**	
Ex-post RoE pre-tax rate (in %)	**0.1%**	**8.8%**	**4.5%**	**29.3%**	**31.0%**	

Total other ANSP overall regulatory results (RR) for the terminal charging zone 2 activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for France (Météo France) corresponds to 14.0% of the terminal revenues. The ex-post RoE 31.0% is higher than planned 0.1%.

FRANCE: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: France

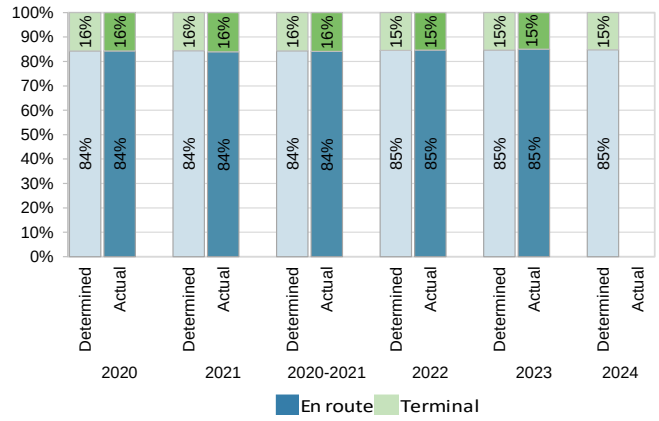
Terminal charging zone 1: France zone 1 Terminal charging zone 2: France zone 2

France: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	1 290 838 451	1 286 494 015	2 577 332 466	1 293 612 485	1 305 142 346	1 315 459 035
Real terminal costs (€2017)	240 681 985	237 716 734	478 398 719	236 929 290	236 665 473	235 953 951
Real gate-to-gate costs (€2017)	1 531 520 436	1 524 210 749	3 055 731 185	1 530 541 774	1 541 807 818	1 551 412 986
En route share (%)	84.3%	84.4%	84.3%	84.5%	84.7%	84.8%

France: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	1 290 838 451	1 258 437 805	2 549 276 256	1 236 146 054	1 250 449 723	
Real terminal costs (€2017)	240 681 985	240 670 544	481 352 529	224 178 832	220 447 769	
Real gate-to-gate costs (€2017)	1 531 520 436	1 499 108 349	3 030 628 785	1 460 324 885	1 470 897 492	
En route share (%)	84.3%	83.9%	84.1%	84.6%	85.0%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-25 102 400	-25 102 400	-70 216 889	-70 910 327	
	in %	0.0%	-1.6%	-0.8%	-4.6%	-4.6%	
En route share	in p.p.	0.0 p.p.	-0.5 p.p.	-0.2 p.p.	0.1 p.p.	0.4 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -4.6% (-70.9 M€2017) lower than planned, as en route costs are lower than planned by -54.7 M€2017 and terminal costs are lower than planned by -16.2 M€2017.

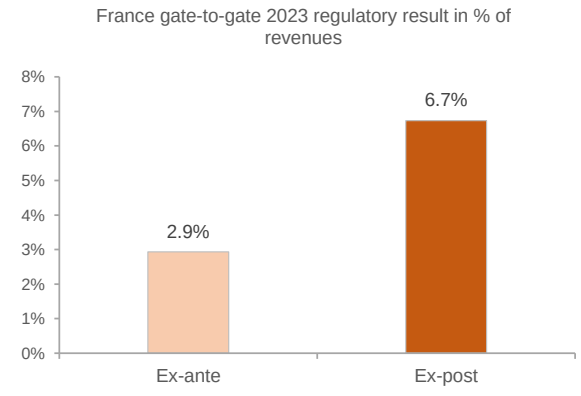
The actual share of en route in gate-to-gate ANS costs (85%) is slightly higher than planned in the PP for 2023 (84.7%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
DSNA	45 362	1 459 262	3.1%		101 626	1 568 008	6.5%	
METSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
France MET	59	88 821	0.1%		10 456	96 898	10.8%	
Total	**45 420**	**1 548 083**	**2.9%**		**112 082**	**1 664 906**	**6.7%**	

For the ANSPs providing services in the en route and terminal charging zones of France covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +112.1 M€ (+100.6 M€ for en route and +11.5 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 6.7% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (2.9% of gate-to-gate revenues).



Annual Monitoring Report 2023

Local level view

GERMANY

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GERMANY **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
DFS	93	C	C	D	C	D
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

All five EoSM components of the ANSP meet the RP3 target level. The level was improved compared with 2022 for "Safety Promotion", achieving maximum level D.

MUAC **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
MUAC	95	C	C	D	C	C

Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.

MUAC oversight is exercised in a coordinated manner by the Four States' NSAs (Belgium, Germany, Luxembourg and the Netherlands) over which territories and airspaces MUAC provides air traffic services. Safety performance of MUAC is reported separately of these fours States as it has been assessed and agreed by the four NSAs.

Observations

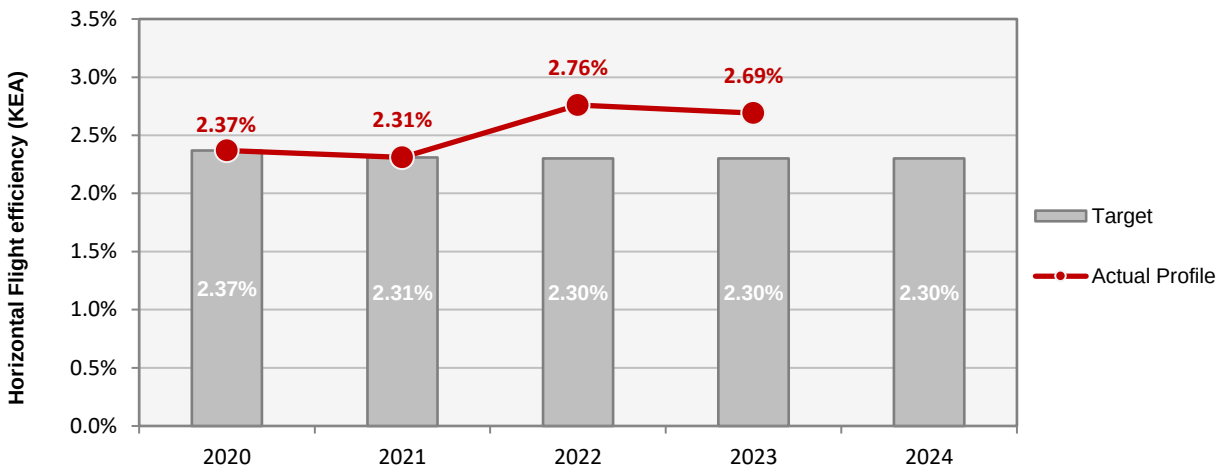
All five EoSM components of the ANSP meet the RP3 target levels. The level was maintained compared with 2022.

GERMANY

ENVIRONMENT - Horizontal flight efficiency

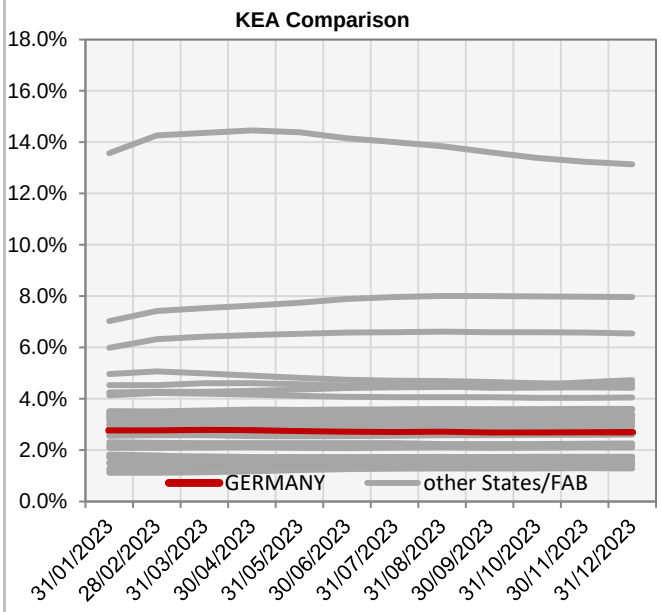
KEA

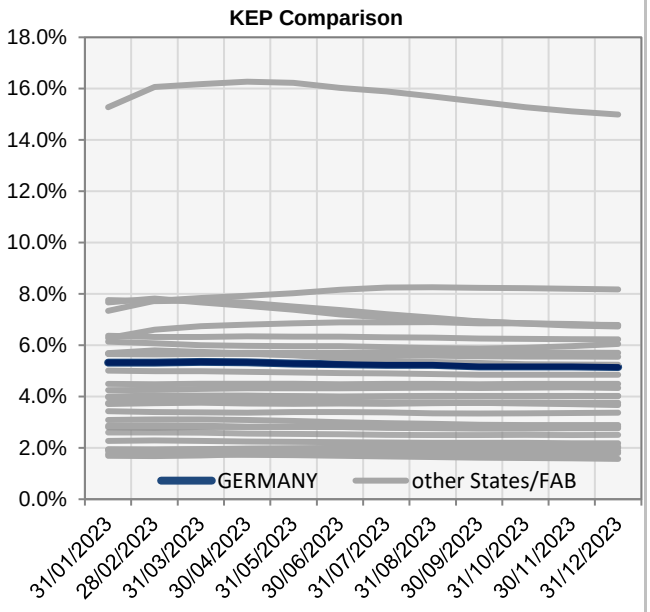
	2020	2021	2022	2023	2024
Target	2.37%	2.31%	2.30%	2.30%	2.30%
Actual performance	2.37%	2.31%	2.76%	2.69%	



End of month indicators evolution in 2023

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	2.77%	2.77%	2.79%	2.78%	2.75%	2.72%	2.71%	2.72%	2.69%	2.69%	2.70%	2.69%
KEP	5.32%	5.32%	5.35%	5.33%	5.29%	5.26%	5.24%	5.23%	5.18%	5.18%	5.17%	5.15%
KES	5.05%	5.05%	5.08%	5.06%	5.02%	4.99%	4.97%	4.95%	4.91%	4.90%	4.89%	4.87%





The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

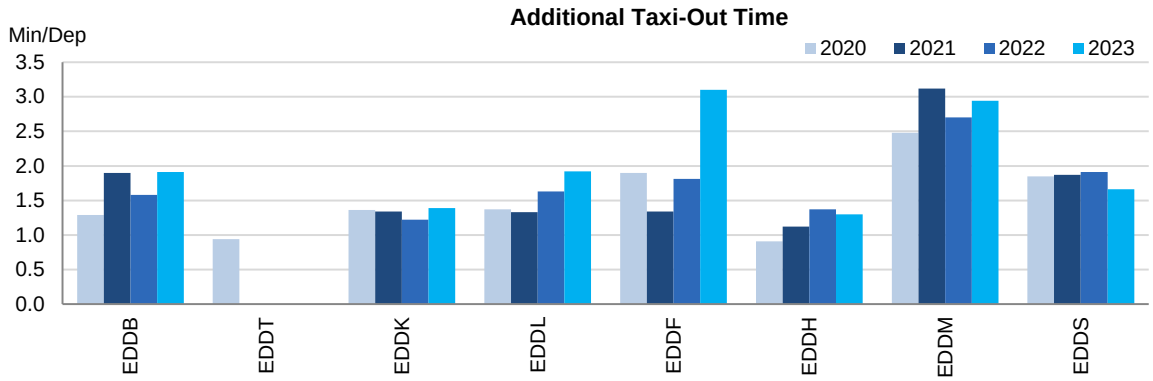
GERMANY **ENVIRONMENT - Airports**

1. Overview

Germany identifies a total of 16 airports as subject to RP3 monitoring (15 since the closure of Berlin Tegel)
However, in accordance with IR (EU) 2019/317 and the traffic figures, only 8 of those airports must be monitored for additional taxi-out and ASMA times (7 since the closure of Berlin Tegel)
The Airport Operator Data Flow, necessary for the monitoring of the additional times, is established for the 8 airports required and the monitoring of all environment indicators can be performed.
In 2023, traffic at the ensemble of German airports under monitoringwas still 25% lower with respect to 2019, even if 8% higher than in 2022. The traffic recovery at Munich (EDDM), Hamburg (EDDH), Dusseldorf (EDDL) and Stuttgart (EDDS) is worse than at most European airports, with traffic still at 64 to 77% of 2019 levels.
Additional times at the ensemble of the 8 German airports, have increased in 2023 with respect to 2022.
The share of CDO flights stayed rather low and decreased even further to 12.0% in 2023.

Flight Operation at Berlin-Tegel were suspended on 08/11/2020 and the airport was finally decommisioned on 05/05/2021.

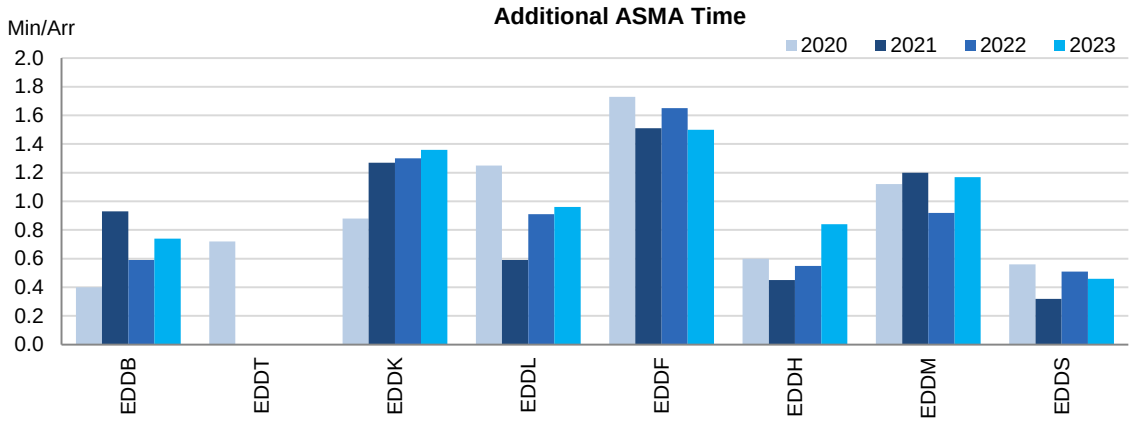
2. Additional Taxi-Out Time



In global, the additional taxi-out times in 2023 at German airports was 21% higher than in 2022. Evolution at each airport is different without any drastic changes, except for Frankfurt, where there was a 71% increase (EDDF; 2019: 3.85 min/dep; 2020: 1.90 min/dep; 2021: 1.34 min/dep.; 2022: 1.81 min/dep.; 2023: 3.10 min/dep.) getting closer to 2019 values. Both Frankfurt and Munich exceed the SES average for additional taxi-out time in 2023 of 2.81 min/dep.
According to the German monitoring report: *This data is not collected by DFS. The development of improved Airport-CDM in cooperation with the airports continues.*
The NSA is monitoring the KPA Environment by regularly checking the current performance by using the existing dashboards.

The German monitoring report takes the values from the SES DB:
(https://www.eurocontrol.int/prudata/dashboard/vis/2023/)

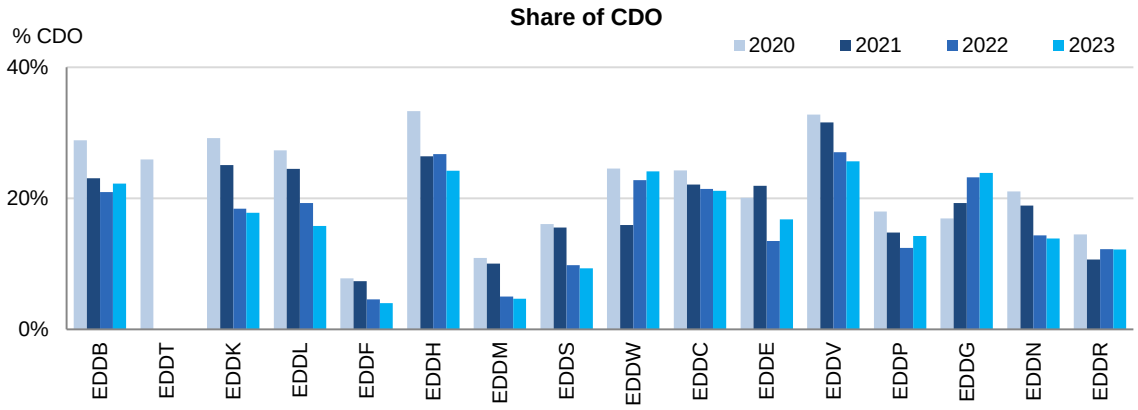
3. Additional ASMA Time



The additional ASMA times in 2023 at German airports was 25% higher than in 2022. Berlin Brandenburg and Munich observed an increase of 25% and 27% respectively. The highest increase was observed at Hamburg (EDDH; 2019: 1,22 min/arr.; 2020: 0,60 min/arr.; 2021: 0,45 min/arr.; 2022: 0,55 min/arr.; 2023: 0.84 min/arr.)
In comparison with the 2023 SES average of 1.16 min/arr: Franfurt (EDDF; 2019: 2.17 min/arr.; 2020: 1.73 min/arr.; 2021: 1.51 min/arr.; 2022: 1.65 min/arr.; 2023: 1.50 min/arr.), Cologne (EDDK; 2019: 1.15 min/arr.; 2020: 0.88 min/arr.; 2021: 1.27 min/arr.; 2022: 1.3 min/arr.; 2023: 1.36 min/arr.) and Munich (EDDM; 2019: 2,07 min/arr.; 2020: 1,12 min/arr.; 2021: 1,20 min/arr.; 2022: 0,92 min/arr.; 2023: 1.17 min/arr.) exceed that value.

According to German monitoring report: *DFS is constantly optimising its approach system in order to improve capacity (open STARS) and to reduce detours (adjustments in IAPs during PBN transition).*
The NSA is monitoring the KPA Environment by regularly checking the current performance by using the existing dashboards.
Source of above shown values for 2023: SES DB (https://www.eurocontrol.int/prudata/dashboard/vis/2023/)
DFS does not collect the data for the formation of this PI.

4. Share of arrivals applying CDO



All German airports had shares of CDO flights below the RP3 overall value in 2023 (28.8%). Only Berlin Brandenburg (EDDB), Bremen (EDDW), Erfurt (EDDE), Leipzig (EDDP) and Münster-Osnabrück (EDDG) saw an improvement in the share of CDOs. Overall, the share of CDO decreased from 12.7% in 2022 to 12.0% in 2023.
The two airports with the highest traffic numbers, Frankfurt (EDDF) and Munich (EDDM), still have a very low share of CDO flights.

According to the German monitoring report: *No additional procedures are currently planned or being considered. Continuous Descent Operations (CDO) are applied within the framework of published procedures whenever traffic conditions allow.*

The NSA is monitoring the KPA Environment by regularly checking the current performance by using the existing dashboards.
Source of above shown values is unknown. The SES Dashboard shows the following values for 2023: EDDB 0,19; EDDE 0,15; EDDG 0,21; EDDK 0,19; EDDL 0,18; EDDN 0,13; EDDP 0,13; EDDV 0,25; EDDW 0,21

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Berlin Brandenburg-EDDB	1.29	1.9	1.58	1.91		0.4	0.93	0.59	0.74		29%	23%	21%	22%	
Berlin-Tegel-EDDT	0.94	-	-	n/a		0.72	-	-	n/a		26%	n/a	n/a	n/a	
Cologne/Bonn-EDDK	1.36	1.34	1.22	1.39		0.88	1.27	1.3	1.36		29%	25%	18%	18%	
Dusseldorf-EDDL	1.37	1.33	1.63	1.92		1.25	0.59	0.91	0.96		27%	24%	19%	16%	
Frankfurt-EDDF	1.9	1.34	1.81	3.1		1.73	1.51	1.65	1.5		8%	7%	5%	4%	
Hamburg-EDDH	0.91	1.12	1.37	1.3		0.6	0.45	0.55	0.84		33%	26%	27%	24%	
Munich-EDDM	2.48	3.12	2.7	2.94		1.12	1.2	0.92	1.17		11%	10%	5%	5%	
Stuttgart-EDDS	1.85	1.87	1.91	1.66		0.56	0.32	0.51	0.46		16%	16%	10%	9%	
Bremen-EDDW	-	-	-	-		-	-	-	-		25%	16%	23%	24%	
Dresden-EDDC	-	-	-	-		-	-	-	-		24%	22%	21%	21%	
Erfurt-EDDE	-	-	-	-		-	-	-	-		20%	22%	13%	17%	
Hannover-EDDV	-	-	-	-		-	-	-	-		33%	32%	27%	26%	
Leipzig-EDDP	-	-	-	-		-	-	-	-		18%	15%	12%	14%	
Münster-Osnabrück-EDDG	-	-	-	-		-	-	-	-		17%	19%	23%	24%	
Nürnberg-EDDN	-	-	-	-		-	-	-	-		21%	19%	14%	14%	
Saarbrücken-EDDR	-	-	-	-		-	-	-	-		14%	11%	12%	12%	

GERMANY **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

"For obvious flight safety reasons, military activities must be segregated from civil flows which has an impact on both horizontal (HFE) and vertical flight efficiency (VFE).
Because ASM manageable areas form an integral part of the nominal system, military airspace reservations shall be considered as part of the performance baseline rather than a key factor degrading environmental KPIs.
As a result of implementation of the FUA concept the impact of military activities using Restricted Airspace -RSA on civil performance is highly minored when associated with an efficient ASM process:

- At strategic level (HLAPB) by designing areas in accordance with A-FUA concept (MVPA/VGA structures), especially for congested airspaces.

- At pre-tactical level (AMC), by managing these areas in a dynamic way, with an associated level 2 CDM process, validated by HLAPB.

- At tactical level (ACC/Regional Military Control Centre) by activating/deactivating areas as close as possible to actual use and allowing crossing or direct routes when possible (in accordance with TRA status), with an associated level 3 CDM process validated by HLAPB.

- At each level, HLAPB, AMC or ACC/Regional Military Control Centre, a key factor of efficiency is a trust-driven civil-military cooperation. As a counterpart, AOs and CFSPs must be reactive and take efficiently into account available or released airspaces. At last, ANSP have also to adapt the route network to create more DCTs within military areas.

Finally, local circumstances (e.g. constrained airspace, proximity of international hubs, etc….) as well as a large number of military missions that differ from one State to another must be taken into account. Therefore, airspace needs (e.g. airspace requirements for the 5th generation fighters) and related ASM procedures of the States differ and standardized objectives cannot be defined."

Military - related measures implemented or planned to improve capacity

"FABEC States are working on mid-term improvements regarding implementation of ASM level 1, 2, and 3 procedures. Some local initiatives regarding ASM/ATFCM convergence, like the traffic Light Scheme concept in France are promoted at FABEC level, as well as at ECAC level in the EUROCONTROL OEP framework.

Another major improvement is the interconnection of the existing ASM tools (e.g. LARA, STANLY_ACOS) at FABEC Level, to enhance regional coordination among FABEC AMCs as well as with the NM. "

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Germany	51%	42%	43%	46%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Bremen					
Karlsruhe					
Langen					
Munich					
Maastricht					

Initiatives implemented or planned to improve PI#6

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Germany					

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Bremen					
Karlsruhe					
Langen					
Munich					
Maastricht					

Initiatives implemented or planned to improve PI#7

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Germany					

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Bremen					
Karlsruhe					
Langen					
Munich					
Maastricht					

Initiatives implemented or planned to improve PI#8

GERMANY **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	n/a	0.22	0.27	0.27	0.27	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	n/a	n/a	2.20	1.93		

NSA's assessment of capacity performance

The GER 2023 en route capacity target of 0,27 min/flight was not met. The actual value for 2023 was 1,93 min/flight which is 1,66 min/flight above the target. This already shown in these current unstable times with catch ups still resulting from the pandemic, that there is an improvement in en route delay in comparison to the value of the previous year.

As stated in the national PP, the targets remain challenging / unachievable for DFS. It is rather difficult to react on the strong traffic increase from April 2022 onwards, significantly higher airspace complexity with increased military presence because of the war in the Ukraine. [At] the same time staffing measures having been slowed down during COVID with a negative effect on the staff situation (especially in Karlsruhe UAC Sector family South).

In addition, there were some events or framework conditions that led to further bottlenecks such as: Air Defender 2023 (this event forced DFS to make use of additional staff, which contributed significantly to the staff shortages until the end of the year); iCAS system implementation in Munich (the implementation did encounter some unforeseen issues and this led to a capacity reduction) and as ever, high traffic volatility and poor predictability (intensive work is being done with all system partners and with NM to improve flight plan adherence).

MUAC delays in 2023 were heavily influenced by the delay incurred from military exercise "Air Defender 2023" and two severe weather events in August 2023. Nonetheless, delays over 2023 remained within the performance targets.

Monitoring process for capacity performance

Data received from DFS was checked, consolidated and in terms of unclarities further information was requested. Besides this, there is a well established monitoring process where the NSA requested regularly information on the Capacity performance, remedial actions and their progress as well as on outlooks.

MUAC reports its en-route capacity performance to the states through the MUAC Finance and Performance committee. The performance data is also monitored on a monthly basis through the PMWG capacity report. This report is based on MUAC data and available PRU data, which is consolidated and analysed and the results compared to the reference and indicative values.

Value shown above for 2023 is in line with the SES Dashboard (https://www.eurocontrol.int/prudata/dashboard/vis/2023/). It has to be considered that the ansperformance Dashboard (https://ansperformance.eu/data/) shows a value of 1,79 for 2023 and 2,04 for 2022.

Capacity Planning

As stated in the national PP, the targets remain challenging / unachievable for DFS. It is rather difficult to react on the strong traffic increase from April 2022 onwards, significantly higher airspace complexity with increased military presence because of the war in the Ukraine, while at the same time there are e.g. staffing measures having been slowed down during COVID with a negative effect on the staff situation (especially in Karlsruhe UAC Sector family South). In addition, there were some events or framework conditions that led to further bottlenecks such as: Air Defender 2023 (this event forced DFS to make use of additional staff, which contributed significantly to the staff shortages until the end of the year); iCAS system implementation in Munich (the implementation did not proceed as planned and this led to a capacity reduction) and as ever, high traffic volatility and poor predictability (intensive work is being done with all system partners and with NM to improve flight plan adherence).

MUAC sector capacities are regularly reviewed and updated if technological or other developments allow to do so, leading to increased sector productivity. Staff planning is performed using STATFOR forecasts for traffic growth and taking into account an extrapolated increase of sector productivity for the planning horizon. MUAC has not experienced any structural staffing issues during 2023.

ATCO in OPS (FTE)							
Bremen ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	235	233	248	268	
Actual	250	235	223	223	196		
Karlsruhe ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	404	446	473	485	
Actual	396	380	386	388	414		
Langen ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	440	424	441	447	Significant reduction in ATCOs between 2022 - 2023
Actual	445	438	429	457	363		
Munich ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	279	272	281	286	Significant reduction in ATCOs between 2022 - 2023
Actual	288	278	274	302	239		
Maastricht ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	290	309	315	317	
Actual	292	286	288	293	294		

A differentiated view of the number of additional ATCOs in OPS planned to start working in the OPS room vs. the number of ATCOs in OPS planned to stop working in the OPS room is not possible. Only netted values can be displayed here.

The German NSA and ANSPs question if this detailed level of ATCO planning figures in addition to the provision of annual total numers is legally required by the performance regulation to be included in the Performance Monitoring for RP3, as it is not a prescribed indicator. Furthermore, we question whether this level of detail should be monitored by the EC, as these planning figures are subject to multible changes, creating unnecessary burdens within the SES performance scheme reporting without providing reliable figures for a reasonable time-frame. Additionally, the planned evolution of that detailed level of ATCO numbers within an ANSP with multiple ACCs is socially sensitive.

Despite being a major driver for resolving current capacity and staffing issues, ATCO hiring and assignment cannot be considered a commitment due to the uncertainties associated with managing recruitment plans. The provided figures, even when reported annually, only offer a snapshot and do not guarantee a realistic view throughout the entire duration of RP3. Several factors contribute to the uncertainty of ATCO planning, including retirement rates, employee absences, maternity and parental leave, ATCO mobility issues, availability of suitable applicants, training success rates, and social agreements that impact ATCO availability per person and the total available Full-Time Equivalent (FTE) per ANSP. The demographic situation of ANSPs may also require hiring beyond traffic demand. Standardizing assumptions and disclosing information about ATCOs partially working in projects are necessary before reporting ATCO FTE.

For ANSPs with multiple national ACCs, ATCO hiring plans are managed at the ANSP level, but changes in traffic volumes, flows, and local human resources factors can influence assignments to different ACCs. It should be noted that social agreements, involving ANSPs, Unions, Ministries of Finance, and Public Administration, will affect the figures related to the numbers of additional ATCOs to be recruited during RP3 and working conditions such as salaries, extra hours, and rostering.

Application of Corrective Measures for Capacity (if applicable)

Strong traffic increase in 2023 with traffic peaks far above the pre-crisis level (esp. in Karlsruhe UAC Sector family South); Tense staffing situation in some sector families (especially in Karlsruhe UAC Sector family South); Higher airspace complexity with increased military activities, especially the Air Defender exercise in June 2023; Implementation of new ATS system iCAS II in Munich ACC, Some issues with the software quality required an extension of the transition phase; High traffic volatility and poor predictability.

As the given reasons for the capacity situation are various, the NSA was, and will still be, in regular contact with the ANSPs to evaluate the situation in the course of the year, the outcome of the previous years remedial actions and the implementation of further remedial actions.

The mesaures put in place by the ANSP (DFS) are:

Cooperation with NM - eNM/S23 measures to relieve Karlsruhe UAC by re-routing traffic into adjacent ANSPs (implemented);

Increasing ATCO training capacity: increase training capacity in short term and examine if upper area control training to be provided by external academy to strengthen internal training (ongoing);

More extensive use of extra shifts - labour agreement provides flexibility for incentivised extra ATCO shifts (ongoing);

Flight plan adherence - improve the traffic predictability and avoid regulation measures below standard capacity values, which lead to wasted capacity (ongoing);

Implementation of ATFM tool iFMP in Karlsruhe UAC - more granular planning / use of sector capacities focussing on sector occupancy (implemented).

Identification of Significant Risks to Capacity Performance for Remainder of RP3

Risks are described above, as are the remedial measures planned and implemented.

The German NSA will monitor the actual capacity in general. The NSA is therefore planning to keep on receiving regular updates on the situation and accordingly have discussions with the ANSP on the evolution of the situation, measures in place and potential further measures.

Additional Information Related to Russia's War of Aggression Against Ukraine

There was an concentration of traffic due to the war in Ukraine on the European south-east axis. This exacerbated the capacity bottlenecks. Furthermore, there are increased airspace requirements from the military, which leads to more airspace complexity.

For the Hannover sectors of MUAC, shifting traffic patterns as a result of the continuing Russian war against Ukraine lead to increase of traffic in the Ruhr and Solling sectors.

The concentration of traffic on the south/east axis and thereby in the saturated family south of Karlsruhe UAC can at the time of submission of this monitoring report not be quantified.

War in Ukraine with increased military traffic leads to significantly higher airspace complexity. These extraordinary circumstances led to a significant increase in workload in numerous sector families, which had the effect of reducing capacity for civil traffic. The military traffic volume remains above average. DFS is in cooperation with the German Armed Forces to minimise the military impact on civil aviation.

Summary of capacity performance

Germany experienced an increase in traffic from 2 517k flights in 2022, with 5.5 million minutes of en route ATFM delay, to 2 710k flights with 5.2 million minutes of en route ATFM delay in 2023 - handled by DFS & EUROCONTROL MUAC.

The total of en route ATFM delays includes 556k minutes of en route ATFM delay that were re-attributed to DFS according to the eNM/S23 measures, but which originated elsewhere. The eNM/S23 measures were developed to mitigate the capacity shortfall in Karlsruhe UAC by re-routing traffic to adjacent ANSPs.

En route Capacity Incentive Scheme						
DFS	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
CRSTMP Capacity target	-	-	-	0,168	-	Germany uses an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The new target for DFS was set at 0.168 minutes per flight and the actual performance is reported as 1.24 minutes per flight (CRSTMP only). This results in a reported malus of € 4 140 480.67
Deadband +/-	-	-	-	[0.118-0.219]	-	
Actual performance	-	-	-	1.24		
MUAC	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
CRSTMP Capacity target	-	-	-	0,092	-	Germany uses an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The new target for MUAC was set at 0.092 minutes per flight and the actual performance is reported as 0.08 minutes per flight (CRSTMP only), which falls within the deadband. Neither bonus nor malus is due.
Deadband +/-	-	-	-	[0.052-0.132]	-	
Actual performance	-	-	-	0.08	-	

5. ATC Pre-departure Delay

The share of unidentified delay reported by Cologne (EDDK) during the entire RP3 has been above 40% for more than 2 months in the year, preventing the calculation of this indicator.

The German monitoring report adds:
This data is not collected by DFS.
No initiatives are planned by DFS.
The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF), which is implemented at all the airports above 80 000 movements.

However, there are several quality checks before EUROCONTROL can produce the final value which is established as the average minutes of pre-departure delay (delay in the actual off block time) associated to the IATA delay code 89 (through the APDF, for each delayed flight, the reasons for that delay have to be transmitted and coded according to IATA delay codes.
However, sometimes the airport operator has no information concerning the reasons for the delay in the off block, or they cannot convert the reasons to the IATA delay codes. In those cases, the airport operator might:
- Not report any information about the reasons for the delay for that flight (unreported delay)
- Report a special code to indicate they do not have the information (code ZZZ)
- Report a special code to indicate they do not have the means to collect or translate the information (code 999)

To be able to calculate with a minimum of accuracy the PI for a given month, the minutes of delay that are not attributed to any IATA code reason should not exceed 40% of the total minutes of pre-departure delay observed at the airport. In 2023, out of those airports above 80 000 movements, only EDDK still has a very high share of unexplained delay.

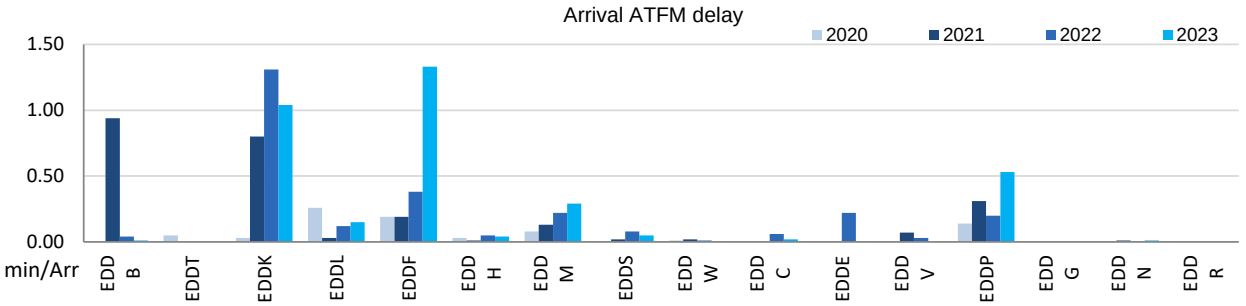
Finally, to be able to produce the annual figure, at least 10 months of valid data is requested by EUROCONTROL which has been the case for EDDF, EDDB, EDDL, EDDH, EDDM, EDDS. In order to provide information for remaining German airports, data provided by the airlines through the Aircraft Operator Data Flow (AODF) published by PRU has been used by the NSA for other airports for this reporting even if it covers only about 70% of the flights, while the airport operator data flow covers all flights at the airport. In order to improve the situation EUROCONTROL contacts regularly the airports to check on the status of the reporting and provide support in the final correct implementation of the APDF. EUROCONTROL is also part of an ACI sub-group (APN) that includes several airports and informs them regularly on data provision issues.
It should be noted that in 2023 one more airport (EDDF) was able to provide enough data quality for the calculation of the indicator.

GERMANY **CAPACITY - Airports**

1. Overview

Germany identifies a total of 15 airports as subject to RP3 monitoring (Flight Operation at Berlin-Tegel were suspended on 08/11/2020 and the airport was finally decommissioned on 05/05/2021.)
However, in accordance with IR (EU) 2019/317 and the traffic figures, only 7 of those airports must be monitored for pre-departure delays. The Airport Operator Data Flow, necessary for the monitoring of these pre-departure delays, is established for the 8 airports required. Nevertheless, the quality of the reporting does not allow for the calculation of the ATC pre-departure delay at Cologne (EDDK) , with more than 60% of the reported delay not allocated to any cause.
In 2023, traffic at the ensemble of German airports under monitoring was still 25% lower with respect to 2019, even if 8% higher than in 2022. The traffic recovery at Munich (EDDM), Hamburg (EDDH), Dusseldorf (EDDL) and Stuttgart (EDDS) is worse than at most European airports, with traffic still at 64% to 77% of 2019 levels.
Average arrival ATFM delays in 2023 was 0.54 min/arr, compared to 0.28 min/arr in 2022. The national target was not met.
ATFM slot adherence has slightly deteriorated but remains high (2023: 97.1%; 2022: 97.6%).

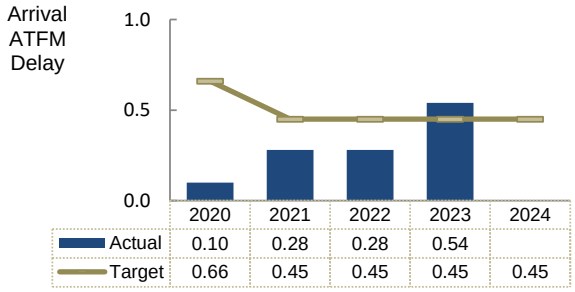
2. Arrival ATFM Delay



Average arrival ATFM delays in 2023 at German airports was 0.54 min/arr.
The most important delays were observed at Frankfurt (EDDF: 2019: 0.69 min/arr.; 2020: 0.19 min/arr.; 2021: 0.19 min/arr.; 2022: 0.38 min/arr.; 2023: 1.33 min/arr.) and Cologne (EDDK: 2020: 0.03 min/arr.; 2021: 0.80 min/arr.; 2022: 1.31 min/arr.; 2023: 1.04 min/arr.).
50% of the delays at these airports were attributed to weather, followed by 46% attributed to Aerodrome Capacity.

According to the German monitoring report:
There were very high weather delays in 2023. The ATC-related and therefore incentive-scheme relevant delay was extremely low.
The NSA recommends to improve the handling of weather delays, which, as shown in row 139, is already in progress.
Processes are in place to organise the handling of weather situations at airports as efficiently as possible. As the increase in weather delays in 2023 was exceptional, no additional measures have been implemented.

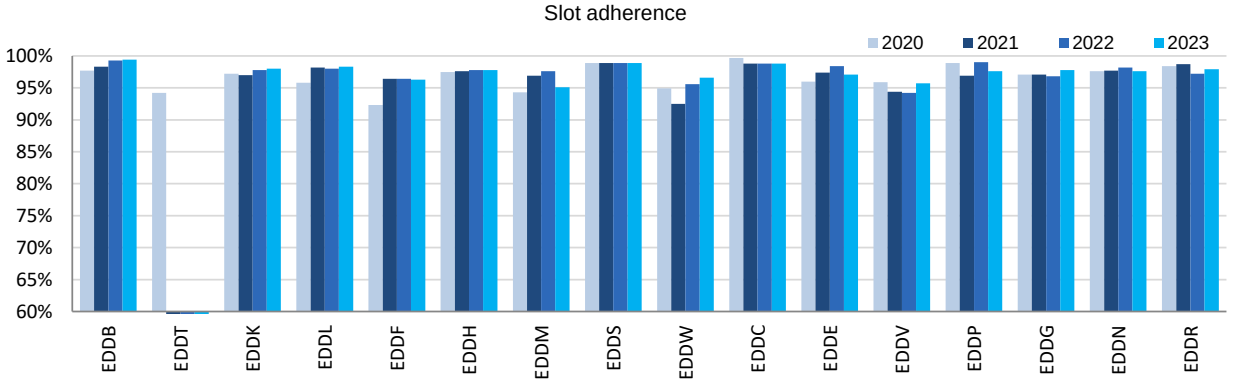
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.10	0.28	0.28	0.54	
Target	0.66	0.45	0.45	0.45	0.45

The German performance plan sets a national target on arrival ATFM delay for 2023 of 0.45 min/arr. This target was not met, with an actual performance of 0.54 min/arr. The incentive scheme uses modulated pivot values limited to CRSTMP delay causes.
According to the German monitoring report, this pivot value for CRSTMP is 0.026 min/arr in 2023 and based on the attribution of the regulation reason, the actual CRSTMP value for 2023 was 0.006 min/arr.
The NSA calculates a bonus of € 2 984 329.37.

4. ATFM Slot Adherence



All German airports showed adherence above 95% and the national average was 97.1%, a slight decrease with respect to 2022 (97.6%).
With regard to the 2.9% of flights that did not adhere, 2.1% was early and 0.8% was late.

According to the German monitoring report: *The performance slightly decreased, but stayed at a good level at all airports.*

5. ATC Pre-departure Delay

The share of unidentified delay reported by Cologne (EDDK) during the entire RP3 has been above 40% for more than 2 months in the year, preventing the calculation of this indicator.

The German monitoring report adds:
This data is not collected by DFS.
No initiatives are planned by DFS.
The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF), which is implemented at all the airports above 80 000 movements.

However, there are several quality checks before EUROCONTROL can produce the final value which is established as the average minutes of pre-departure delay (delay in the actual off block time) associated to the IATA delay code 89 (through the APDF, for each delayed flight, the reasons for that delay have to be transmitted and coded according to IATA delay codes.
However, sometimes the airport operator has no information concerning the reasons for the delay in the off block, or they cannot convert the reasons to the IATA delay codes. In those cases, the airport operator might:
- Not report any information about the reasons for the delay for that flight (unreported delay)
- Report a special code to indicate they do not have the information (code ZZZ)
- Report a special code to indicate they do not have the means to collect or translate the information (code 999)

To be able to calculate with a minimum of accuracy the PI for a given month, the minutes of delay that are not attributed to any IATA code reason should not exceed 40% of the total minutes of pre-departure delay observed at the airport. In 2023, out of those airports above 80 000 movements, only EDDK still has a very high share of unexplained delay.

Finally, to be able to produce the annual figure, at least 10 months of valid data is requested by EUROCONTROL which has been the case for EDDF, EDDB, EDDL, EDDH, EDDM, EDDS. In order to provide information for remaining German airports, data provided by the airlines through the Aircraft Operator Data Flow (AODF) published by PRU has been used by the NSA for other airports for this reporting even if it covers only about 70% of the flights, while the airport operator data flow covers all flights at the airport. In order to improve the situation EUROCONTROL contacts regularly the airports to check on the status of the reporting and provide support in the final correct implementation of the APDF. EUROCONTROL is also part of an ACI sub-group (APN) that includes several airports and informs them regularly on data provision issues.
It should be noted that in 2023 one more airport (EDDF) was able to provide enough data quality for the calculation of the indicator.

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time at German airports in 2023 decreased on average at the monitored airports. The highest pre-departure delays were observed at Frankfurt (EDDF: 2023: 25.75 min/dep; 2022: 27.93 min/dep) that even with the reduction compared to 2022, results in the second highest pre-departure delay in the SES area.

According to the German monitoring report there are no initiatives planned by DFS in this area. The German monitoring report also mentions:
All cause departure delay is very generic and ATFM delay is only a small contributor. Departure delay can be generated by ATFM en-route delay (not only local airport, but the complete Network) but also reactionary and turnaround delay, technical issues with the aircraft, airport operations, problems with passengers and or luggage, etc. In other words, it is not always possible to address a specific reason as this delay is quite generic.

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Berlin Brandenburg-EDDB	0	0.94	0.04	0.01		97.7%	98.3%	99.3%	99.4%		n/a	0.32	0.27	0.45		8.17	12.32	20.13	19.86	
Berlin-Tegel-EDDT	0.05	-	-	-		94.2%	-	-	-		n/a	-	-	-		6.71	-	-	-	
Cologne/Bonn-EDDK	0.03	0.8	1.31	1.04		97.2%	97.0%	97.8%	98.0%		n/a	n/a	n/a	n/a		10.77	16.68	25.75	20.42	
Dusseldorf-EDDL	0.26	0.03	0.12	0.15		95.8%	98.2%	98.0%	98.3%		n/a	0.03	0.10	0.16		8.19	11.57	20.60	18.08	
Frankfurt-EDDF	0.19	0.19	0.38	1.33		92.3%	96.4%	96.4%	96.3%		n/a	n/a	n/a	0.33		16.49	20.38	27.93	25.75	
Hamburg-EDDH	0.03	0.01	0.05	0.04		97.5%	97.6%	97.8%	97.8%		n/a	n/a	0.37	0.50		7.38	10.24	19.05	19.98	
Munich-EDDM	0.08	0.13	0.22	0.29		94.3%	96.9%	97.6%	95.1%		n/a	n/a	0.02	0.00		7.34	9.04	16.72	18.42	
Stuttgart-EDDS	0	0.02	0.08	0.05		98.9%	98.9%	98.9%	98.9%		n/a	n/a	0.05	0.06		6.90	9.05	13.74	14.37	
Bremen-EDDW	0.01	0.02	0.01	0		94.9%	92.5%	95.6%	96.6%		-	-	-	-		-	-	-	-	
Dresden-EDDC	0	0	0.06	0.02		99.7%	98.8%	98.8%	98.8%		-	-	-	-		-	-	-	-	
Erfurt-EDDE	0	0	0.22	0		96.0%	97.4%	98.4%	97.1%		-	-	-	-		-	-	-	-	
Hannover-EDDV	0	0.07	0.03	0		95.9%	94.4%	94.2%	95.7%		-	-	-	-		-	-	-	-	
Leipzig-EDDP	0.14	0.31	0.2	0.53		98.9%	96.9%	99.0%	97.6%		-	-	-	-		-	-	-	-	
Münster-Osnabrück-EDDG	0	0	0	0		97.1%	97.1%	96.8%	97.8%		-	-	-	-		-	-	-	-	
Nürnberg-EDDN	0	0.01	0	0.01		97.6%	97.7%	98.2%	97.6%		-	-	-	-		-	-	-	-	
Saarbrücken-EDDR	0	0	0	0		98.4%	98.7%	97.2%	97.9%		-	-	-	-		-	-	-	-	

GERMANY: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Germany ECZ represents 14.1% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 03 November 2022 and found consistent as per Commission Decision (EU) 2023/177 of 14 December 2022
  The final version of the plan was adopted and published by Germany in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Germany: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	956 694 163	978 664 247	1 935 358 410	977 377 632	1 010 116 017	1 033 552 160
Inflation %	0.4%	2.2%		1.1%	1.5%	1.7%
Inflation index (100 in 2017)	103.7	106.1		107.2	108.8	110.6
Real en route costs (€2017)	927 391 842	930 626 558	1 858 018 400	921 276 788	940 629 654	949 671 536
Total en route service units	6 792 043	7 562 500	14 354 543	13 643 500	14 862 500	15 857 500
Real en route DUC per service unit (€2017)	**136.54**	**123.06**	**129.44**	**67.52**	**63.29**	**59.89**

Germany: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	956 694 163	920 125 077	1 876 819 240	1 000 299 078	1 024 297 495	
Inflation %	0.4%	3.2%		8.7%	6.0%	
Inflation index (100 in 2017)	103.7	107.1		116.4	123.4	
Real en route costs (€2017)	927 391 842	866 631 640	1 794 023 483	885 538 137	857 455 653	
Total en route service units	6 792 043	7 678 785	14 470 828	12 518 746	13 619 197	
Real en route AUC per service unit (€2017)	**136.54**	**112.86**	**123.98**	**70.74**	**62.96**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-58 539 170	-58 539 170	22 921 446	14 181 478	
	in %	-	-6.0%	-3.0%	+2.3%	+1.4%	
Inflation %	in p.p.	0.0 p.p.	1.0 p.p.		7.6 p.p.	4.5 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.0 p.p.		9.1 p.p.	14.5 p.p.	
Real en route costs (€2017)	in value	0	-63 994 918	-63 994 918	-35 738 650	-83 174 002	
	in %	-	-6.9%	-3.4%	-3.9%	-8.8%	
Total en route service units	in value	0	116 285	116 285	-1 124 754	-1 243 303	
	in %	-	+1.5%	+0.8%	-8.2%	-8.4%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-10.20**	**-5.46**	**3.21**	**-0.33**	
	in %	**-**	**-8.3%**	**-4.2%**	**+4.8%**	**-0.5%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -0.5% (or -0.33 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned en route costs in real terms (-8.8%, or -83.2 M€2017) and significantly lower than planned TSUs (-8.4%). It should be noted that actual inflation index in 2023 was +14.5 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (-8.4%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

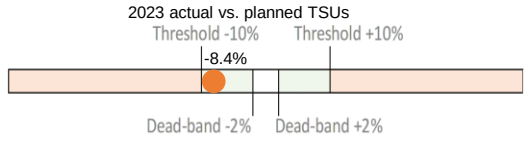
En route costs by entity

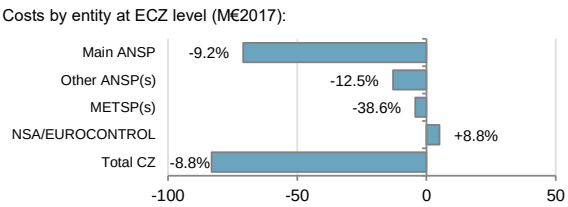
Actual real en route costs are -8.8% (-83.2 M€2017) lower than planned. This is the result of lower costs for the main ANSP, DFS (-9.2%, or -70.9 M€2017), the other ANSP (MUAC (Germany), -12.5%, or -12.9 M€2017) and the MET service provider (-38.6%, or -4.4 M€2017) and higher costs for the NSA/EUROCONTROL (+8.8%, or +5.0 M€2017).

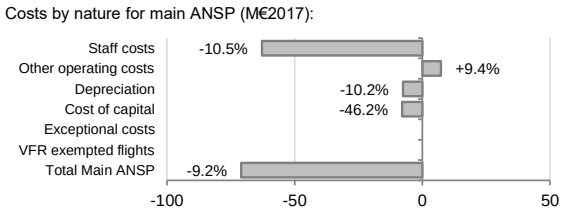
En route costs for the main ANSP (DFS) at charging zone level

Significantly lower than planned en route costs for DFS (-9.2%, or -70.9 M€2017) result from:

- Significantly lower staff costs (-10.5%), mainly due to inflation index impact as in nominal terms staff costs are higher than planned by +1.5%, due to new wage collective agreement, compensation for the inflation and extraordinary payments for additional shifts and overtime.
- Significantly higher other operating costs (+9.4%), as a result of inflation, higher prices of gas, more external staff employed than expected and intensification of the recruiting and training activities related to operational staff.
- Significantly lower depreciation (-10.2%), mainly due to "the decision not to implement iCAS in Langen, including the dedicated projects. Additionally, some maintenance actions such as iCAS product management, transmission paths and LAN for ATS Components lead to the reduction".
- Significantly lower cost of capital (-46.2%), mainly due to the coverage gap for interest on pensions, which is recalculated annually based on differences between planned and actual interest rates. The 2023 cost of capital exclude the income of commercial papers, which had previously been included in the actual costs of 2021 and 2022.







GERMANY: En route charging zone

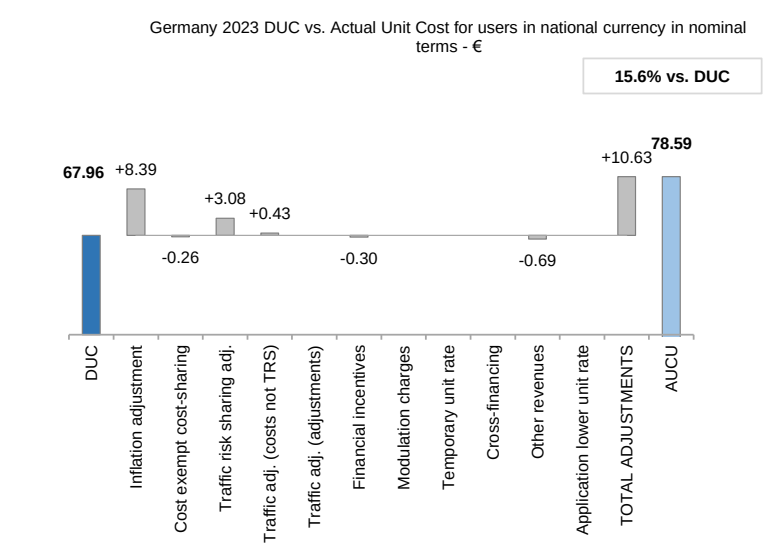
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	67.96
DUC to be charged retroactively	0.00
DUC	**67.96**
Inflation adjustment	8.39
Cost exempt from cost-sharing	-0.26
Traffic risk sharing adjustment	3.08
Traffic adj. (costs not TRS)	0.43
Traffic adj. (adjustments)*	
Financial incentives	-0.30
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.69
Application of lower unit rate	0.00
Total adjustments	10.63
AUCU	**78.59**
AUCU vs. DUC	**+15.6%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

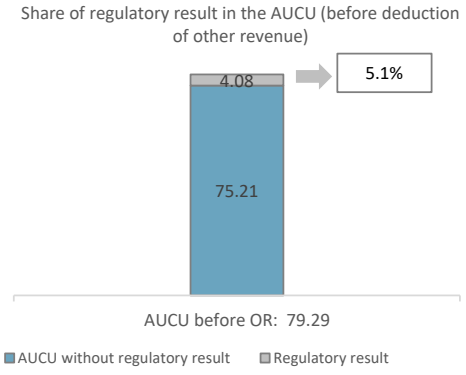
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-8 031	-0.59
	Competent authorities and qualified entities costs	-1 612	-0.12
	Eurocontrol costs	6 651	0.49
	Pension costs	-1 595	-0.12
	Interest on loans	0	0.00
	Changes in law	1 016	0.07
Total costs exempt from cost sharing		**-3 572**	**-0.26**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
DFS	39 203	2.88
MUAC (Germany)	11 001	0.81
METSP(s)	**€ '000**	**€/SU**
Germany MET	5 345	0.39
Total charging zone	55 549	4.08
Actual cost for users* **	1 079 847	79.29
Regulatory result (% AUCU)	5.1%	5.1%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (78.59 €) is +15.6% higher than the nominal DUC (67.96 €). The difference between these two figures (+10.63 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+8.39 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-0.26 €/SU);
- the addition of the traffic risk sharing adjustments (+3.08 €/SU);
- the addition of the traffic adjustment (+0.43 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-0.30 €/SU); and
- the deduction of the other revenues (-0.69 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 5.1%.

GERMANY: En route main ANSP (DFS) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: The proportion of financing through equity for 2022A should be corrected to reflect the actual share, in spite of the specific composition of the asset base and the significantly higher than planned cost of capital reported to be due to "*the negative development of the commercial papers*". For the purpose of the analysis, it has been set at the level of the 2022D presented in the revised draft performance plan.

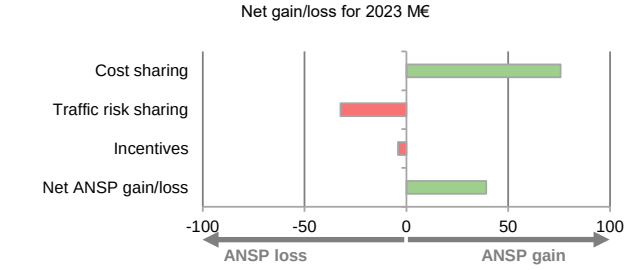
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

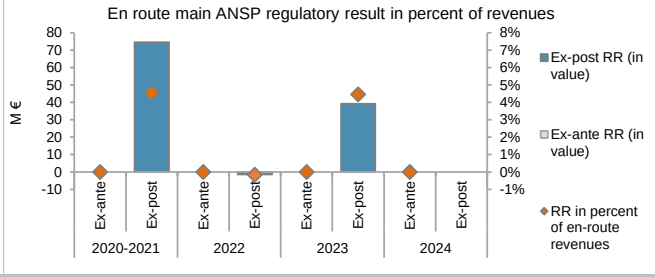
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	56 204	-28 994	-14 430	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	6 928	61 081	98 317	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 775	-2 355	-8 168	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**61 357**	**29 732**	**75 719**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.8%	-8.2%	-8.4%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	1 631 964	802 206	828 096	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**13 220**	**-31 071**	**-32 375**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-4 140**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**74 577**	**-1 339**	**39 203**	

12. Regulatory result (RR) for the main ANSP at charging zone level

DFS planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	1 917 579	1 894 676	3 812 255	2 091 544	1 980 301	1 847 188
Proportion of financing through equity (in %)	32%	27%	30%	39%	41%	51%
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoE (in value)	0	0	0	0	0	0
Ex-ante regulatory result (+/-) for the en route charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the en route charging zone	**807 298**	**824 666**	**1 631 964**	**802 206**	**828 096**	**847 075**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
DFS actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	1 917 579	1 643 107	3 560 686	1 999 425	2 361 699	
Proportion of financing through equity (in %) **(see Note 1)**	32%	27%	30%	39%	48%	
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	
RoE (in value)	0	0	0	0	0	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	74 577	74 577	-1 339	39 203	
Ex-post regulatory result (+/-) for the en route charging zone	**0**	**74 577**	**74 577**	**-1 339**	**39 203**	
Revenue for the en route charging zone	**807 298**	**843 039**	**1 650 337**	**829 862**	**881 729**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**8.8%**	**4.5%**	**-0.2%**	**4.4%**	
Ex-post RoE pre-tax rate (in %)	**0.0%**	**16.6%**	**7.0%**	**-0.2%**	**3.4%**	

13. Focus on the main ANSP regulatory result on en route activity





DFS net gain on activity in the Germany en route charging zone in the year 2023

DFS reported a net gain of +39.2 M€, as a combination of a gain of +75.7 M€ arising from the cost sharing mechanism, with a loss of -32.4 M€ arising from the traffic risk sharing mechanism and a loss of -4.1 M€ relating to financial incentives.

DFS overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+39.2 M€) amounts to +39.2 M€ (4.4% of the en route revenues), as the RoE for DFS has been set to zero. The resulting ex-post rate of return on equity is 3.4%.

GERMANY: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
MUAC (Germany) planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	83 201	87 695	170 896	106 543	112 535	116 251
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
MUAC (Germany) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	2 028	2 028	10 063	11 001	
Revenue for the en route charging zone	83 201	89 724	172 925	110 860	122 220	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	2.3%	1.2%	9.1%	9.0%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	
Germany MET planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	12 493	13 112	25 605	12 750	12 115	12 209
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Germany MET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	-697	-697	3 618	5 345	
Revenue for the en route charging zone	12 493	13 218	25 711	13 682	13 490	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	-5.3%	-2.7%	26.4%	39.6%	
Ex-post RoE pre-tax rate (in %)	0.0%	-8.7%	-4.5%	57.0%	69.8%	
Total other ANSPs planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	95 694	100 808	196 502	119 292	124 650	128 460
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Total other ANSPs actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	1 331	1 331	13 681	16 346	
Revenue for the en route charging zone	95 694	102 942	198 635	124 542	135 709	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	1.3%	0.7%	11.0%	12.0%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Germany (MUAC (Germany), Germany MET) corresponds to 12.0% of the en route revenues. The RoE cannot be calculated for MUAC (Germany), as it has no equity.

GERMANY: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Germany TCZ represents 21.5% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 15 of which:
  - Airports with fewer than 80,000 IFR mvmts: 8
  - Airports with more than 80,000 IFR mvmts: 7
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Germany: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	286 347 609	297 289 961	583 637 570	294 376 034	304 847 292	326 799 431
Inflation %	0.4%	2.2%		1.1%	1.5%	1.7%
Inflation index (100 in 2017)	103.7	106.1		107.2	108.8	110.6
Real terminal costs (€2017)	277 117 296	282 222 850	559 340 146	276 938 178	283 248 502	299 291 923
Total terminal service units	630 014	693 000	1 323 014	1 280 000	1 426 000	1 498 000
Real terminal DUC per service unit (€2017)	**439.86**	**407.25**	**422.78**	**216.36**	**198.63**	**199.79**

Germany: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	286 347 609	289 397 481	575 745 090	313 270 924	321 197 191	
Inflation %	0.4%	3.2%		8.7%	6.0%	
Inflation index (100 in 2017)	103.7	107.1		116.4	123.4	
Real terminal costs (€2017)	277 117 296	271 812 850	548 930 146	275 486 343	265 980 587	
Total terminal service units	630 014	704 005	1 334 018	1 067 026	1 166 920	
Real terminal AUC per service unit (€2017)	**439.86**	**386.10**	**411.49**	**258.18**	**227.93**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-7 892 480	-7 892 480	18 894 890	16 349 899	
	in %	-	-2.7%	-1.4%	+6.4%	+5.4%	
Inflation %	in p.p.	0.0 p.p.	1.0 p.p.		7.6 p.p.	4.5 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.0 p.p.		9.1 p.p.	14.5 p.p.	
Real terminal costs (€2017)	in value	0	-10 410 000	-10 410 000	-1 451 835	-17 267 914	
	in %	-	-3.7%	-1.9%	-0.5%	-6.1%	
Total terminal service units	in value	0	11 005	11 005	-212 974	-259 080	
	in %	-	+1.6%	+0.8%	-16.6%	-18.2%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-21.15**	**-11.29**	**41.82**	**29.30**	
	in %	**-**	**-5.2%**	**-2.7%**	**+19.3%**	**+14.8%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +14.8% (or +29.3 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TNSUs (-18.2%) and significantly lower than planned terminal costs in real terms (-6.1%, or -17.3 M€2017). It should be noted that actual inflation index in 2023 was +14.5 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-18.2%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

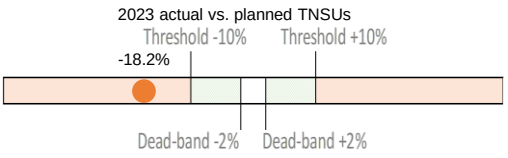
Terminal costs by entity

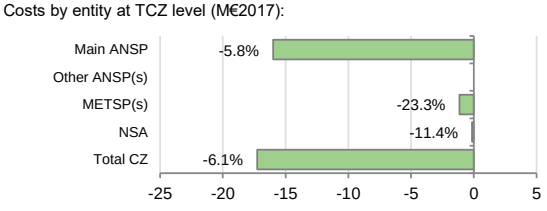
Actual real terminal costs are -6.1% (-17.3 M€2017) lower than planned. This is the result of lower costs for the main ANSP, DFS (-5.8%, or -16.0 M€2017), the MET service provider (-23.3%, or -1.1 M€2017) and the NSA (-11.4%, or -0.1 M€2017).

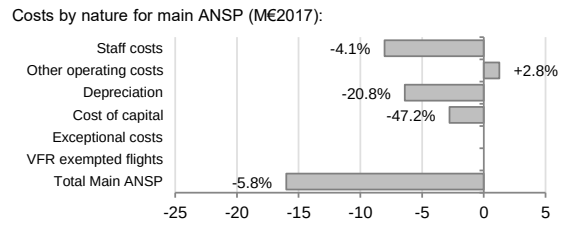
Terminal costs for the main ANSP (DFS) at charging zone level

Significantly lower than planned terminal costs in real terms for DFS in 2023 (-5.8%, or -16.0 M€2017) result from:

- Lower staff costs (-4.1%),mainly due to inflation index impact since in nominal terms staff costs are higher than planned by +8.7%, due to new wage collective agreement, compensation for the inflation and extraordinary payments for additional shifts and overtime due to staff shortages.
- Higher other operating costs (+2.8%), as a result of inflation, higher prices of gas, more external staff employed than expected and intensification of the activities of recruiting staff.
- Significantly lower depreciation (-20.8%), is mainly due to "the project Tower ATS next Generation, which is part of the Program ZAAS. Additionally, the maintenance activity ILS and the project Remote Tower Control as well as some projects and maintenance actions led to the reduction in 2023".
- Significantly lower cost of capital (-47.2%), mainly due to the coverage gap for interest on pensions, which is recalculated annually based on differences between planned and actual interest rates. The 2023 cost of capital the exclude the income of commercial papers, which had previously been included in the actual costs of 2021 and 2022.







GERMANY: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

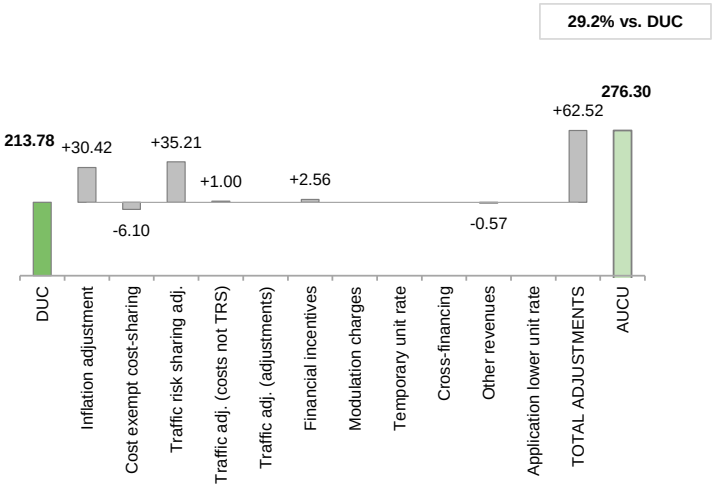
5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level

Germany 2023 DUC vs. Actual Unit Cost for users in national currency in nominal terms - €



Components of the AUCU	€/SU
Initial DUC charged	213.78
DUC to be charged retroactively	0.00
DUC	**213.78**
Inflation adjustment	30.42
Cost exempt from cost-sharing	-6.10
Traffic risk sharing adjustment	35.21
Traffic adj. (costs not TRS)	1.00
Traffic adj. (adjustments)*	
Financial incentives	2.56
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.57
Application of lower unit rate	0.00
Total adjustments	62.52
AUCU	**276.30**
AUCU vs. DUC	**29.2%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

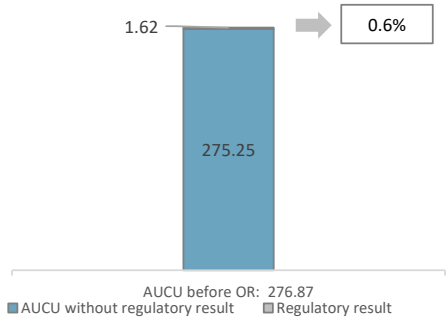
7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-6 410	-5.49
	Competent authorities and qualified entities costs	-136	-0.12
	Eurocontrol costs	0	0.00
	Pension costs	-575	-0.49
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-7 120**	**-6.10**

Source: These data are taken from the June 2024 Terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level

Share of regulatory result in the AUCU (before deduction of other revenue)



ANSP(S)	€ '000	€/SU
DFS	454	0.39

METSP(s)	€ '000	€/SU
Germany-MET	1 432	1.23

Total charging zone	1 886	1.62
Actual cost for users* **	323 083	276.87
Regulatory result (% AUCU)	0.6%	0.6%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (276.30 €) is +29.2% higher than the nominal DUC (213.78 €). The difference between these two figures (+62.52 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+30.42 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-6.10 €/SU);
- the addition of the traffic risk sharing adjustments (+35.21 €/SU);
- the addition of the traffic adjustment (+1.00 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+2.56 €/SU); and
- the deduction of the other revenues (-0.57 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 0.6%.

GERMANY: Terminal main ANSP (DFS) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.
Note 1: The proportion of financing through equity for 2022A should be corrected to reflect the actual share, in spite of the specific composition of the asset base and the significantly higher than planned cost of capital reported to be due to "the negative development of the commercial papers". For the purpose of the analysis, it has been set at the level of the 2022D presented in the revised draft performance plan.
Note 2: Ex-post RR does not take into account the application of lower unit rates as per Art. 29.6 in 2020-2021 (loss in revenues for DFS corresponds to -2.8 M€).

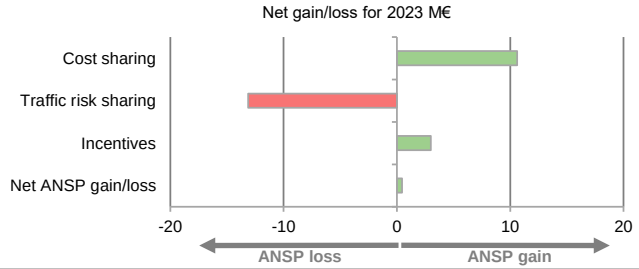
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

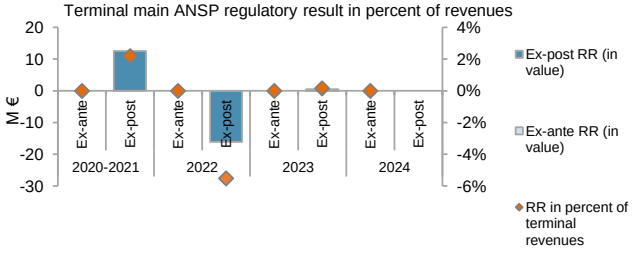
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	8 057	-19 689	-17 325	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	2 410	21 624	34 910	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-2 697	-5 384	-6 984	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**7 770**	**-3 448**	**10 601**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.8%	-16.6%	-18.2%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	571 068	287 917	298 433	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**4 750**	**-12 668**	**-13 131**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**2 984**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**12 520**	**-16 117**	**454**	

12. Regulatory result (RR) for the main ANSP at charging zone level

DFS planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	548 894	637 510	1 186 404	823 605	786 495	704 148
Proportion of financing through equity (in %)	20%	1%	10%	24%	32%	30%
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoE (in value)	0	0	0	0	0	0
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**280 236**	**290 831**	**571 068**	**287 917**	**298 433**	**320 312**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
DFS actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	548 894	674 656	1 223 550	798 046	873 785	
Proportion of financing through equity (in %) **(see Note 1)**	20%	1%	10%	24%	48%	
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	
RoE (in value)	0	0	0	0	0	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	12 520	12 520	-16 117	454	
Ex-post regulatory result (+/-) for the terminal charging zone (see Note 2)	**0**	**12 520**	**12 520**	**-16 117**	**454**	
Revenue for the terminal charging zone	**280 236**	**295 294**	**575 530**	**291 489**	**316 212**	
Ex-post regulatory result (+/-) in percent of revenues (see Note 2)	**0.0%**	**4.2%**	**2.2%**	**-5.5%**	**0.1%**	
Ex-post RoE pre-tax rate (in %)	**0.0%**	**232.0%**	**10.8%**	**-8.6%**	**0.1%**	

13. Focus on main ANSP regulatory result on terminal activity





DFS net gain on activity in the Germany terminal charging zone in the year 2023

DFS reported a net gain of +0.5 M€, as a combination of a gain of +10.6 M€ arising from the cost sharing mechanism, with a loss of -13.1 M€ arising from the traffic risk sharing mechanism and a gain of +3.0 M€ relating to financial incentives.

DFS overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+0.5 M€) amounts to +0.5 M€ (0.1% of the terminal revenues), as the RoE for DFS has been set to zero. The resulting ex-post rate of return on equity is 0.1%.

GERMANY: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Germany-MET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**5 321**	**5 456**	**10 777**	**5 374**	**5 226**	**5 260**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Germany-MET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**-208**	**-208**	**977**	**1 432**	
Revenue for the terminal charging zone	**5 321**	**5 500**	**10 821**	**5 767**	**5 820**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**-3.8%**	**-1.9%**	**16.9%**	**24.6%**	
Ex-post RoE pre-tax rate (in %)	**0.0%**	**-6.3%**	**-3.2%**	**32.4%**	**34.7%**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Germany (DWD) corresponds to 24.6% of the terminal revenues. The ex-post RoE 34.7% is higher than planned 0.0%.

GERMANY: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Germany

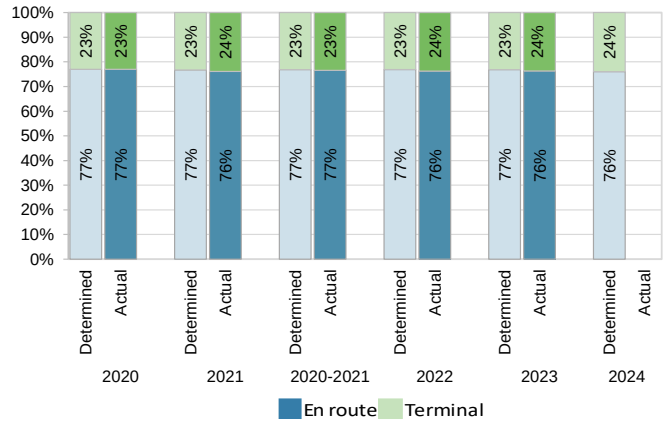
Terminal charging zone 1: Germany

Germany: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	927 391 842	930 626 558	1 858 018 400	921 276 788	940 629 654	949 671 536
Real terminal costs (€2017)	277 117 296	282 222 850	559 340 146	276 938 178	283 248 502	299 291 923
Real gate-to-gate costs (€2017)	1 204 509 138	1 212 849 408	2 417 358 546	1 198 214 966	1 223 878 156	1 248 963 459
En route share (%)	77.0%	76.7%	76.9%	76.9%	76.9%	76.0%

Germany: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	927 391 842	866 631 640	1 794 023 483	885 538 137	857 455 653	
Real terminal costs (€2017)	277 117 296	271 812 850	548 930 146	275 486 343	265 980 587	
Real gate-to-gate costs (€2017)	1 204 509 138	1 138 444 490	2 342 953 629	1 161 024 481	1 123 436 240	
En route share (%)	77.0%	76.1%	76.6%	76.3%	76.3%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-74 404 917	-74 404 917	-37 190 485	-100 441 916	
	in %	0.0%	-6.1%	-3.1%	-3.1%	-8.2%	
En route share	in p.p.	0.0 p.p.	-0.6 p.p.	-0.3 p.p.	-0.6 p.p.	-0.5 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -8.2% (-100.4 M€2017) lower than planned, as en route costs are lower than planned by -83.2 M€2017 and terminal costs are lower than planned by -17.3 M€2017.

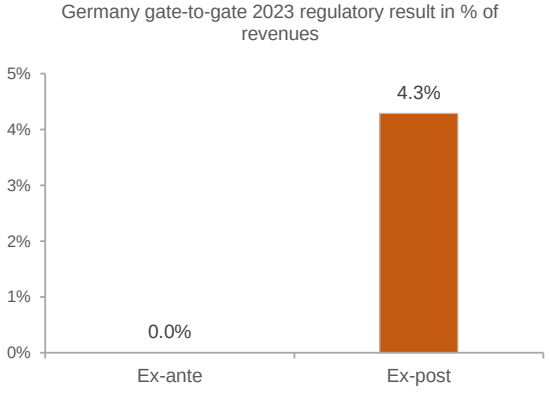
The actual share of en route in gate-to-gate ANS costs (76.3%) is slightly lower than planned in the PP for 2023 (76.9%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
DFS	0	1 126 529	0.0%		39 657	1 197 941	3.3%	
MUAC (Germany)	0	112 535	0.0%		11 001	122 220	9.0%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Germany MET	0	17 341	0.0%		6 777	19 309	35.1%	
Total	**0**	**1 256 405**	**0.0%**		**57 436**	**1 339 470**	**4.3%**	

For the ANSPs providing services in the en route and terminal charging zones of Germany covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +57.4 M€ (+55.5 M€ for en route and +1.9 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 4.3% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (0.0% of gate-to-gate revenues).



Annual Monitoring Report 2023

Local level view

GREECE

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GREECE **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
HANSP	80	C	C	C	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

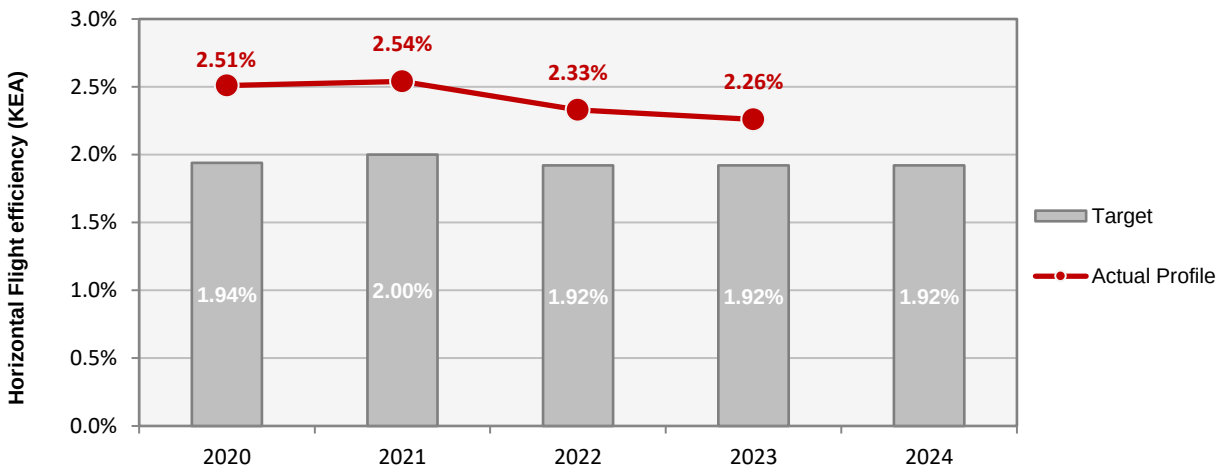
Observations

Four out of five EoSM components of the ANSP meet already the RP3 target level. No improvements were observed over 2023, but only "Safety Risk Management" component is below 2024 target level. Three questions are to be improved to reach the RP3 target level.

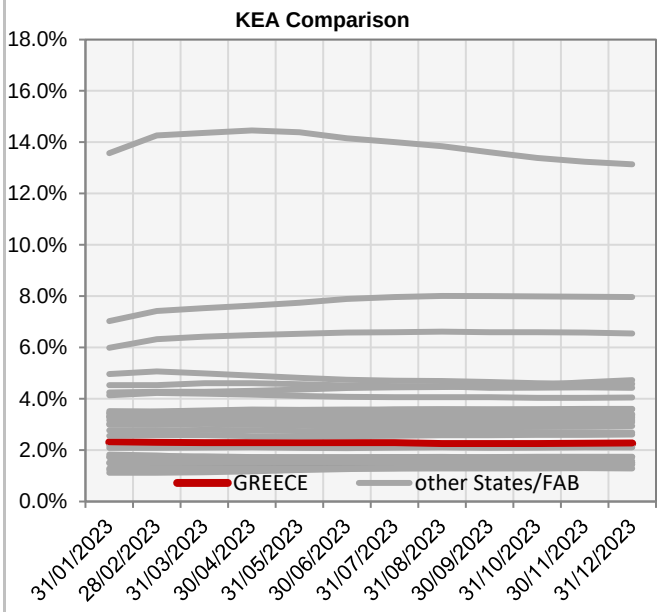
GREECE

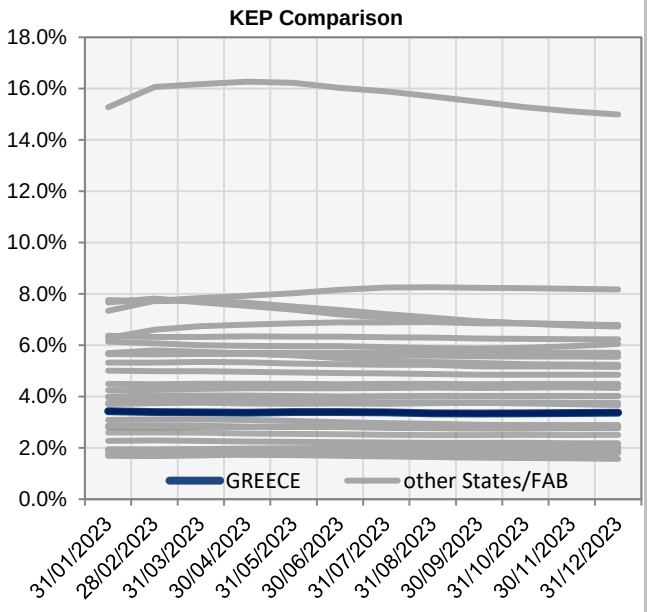
ENVIRONMENT - Horizontal flight efficiency

KEA	2020	2021	2022	2023	2024
Target	1.94%	2.00%	1.92%	1.92%	1.92%
Actual performance	2.51%	2.54%	2.33%	2.26%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	2.31%	2.29%	2.27%	2.27%	2.27%	2.28%	2.27%	2.24%	2.24%	2.24%	2.25%	2.26%
KEP	3.43%	3.40%	3.38%	3.37%	3.39%	3.39%	3.38%	3.35%	3.34%	3.35%	3.36%	3.37%
KES	3.02%	2.99%	2.97%	2.96%	2.97%	2.96%	2.95%	2.93%	2.92%	2.93%	2.94%	2.95%





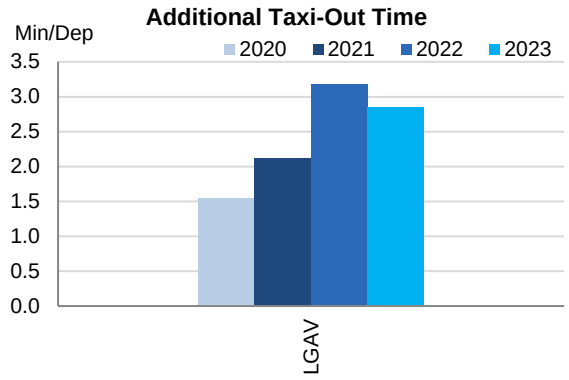
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

GREECE **ENVIRONMENT - Airports**

1. Overview

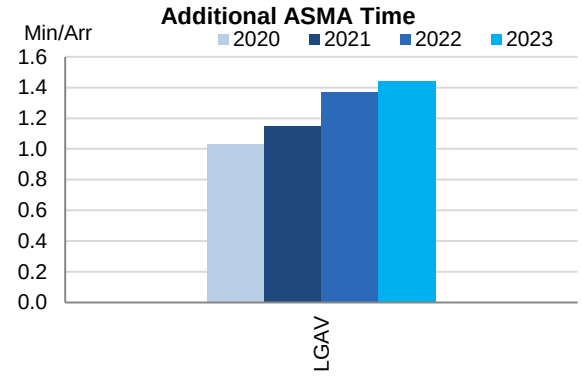
Operational ANS performance at airports is monitored for one airport in Greece (i.e. Athens (LGAV)), the only airport subject to RP3 monitoring. The Airport Operator Data Flow is fully established and the monitoring of all environmental indicators can be performed.
Traffic at Athens in 2023 increased by 14% with respect to 2022 and it was not only recovered but even 7% higher than in 2019.
Additional times in 2023 were higher than in 2019, even if the traffic has not fully recovered.
The share of CDO flights stayed relatively high compared to other airports monitored in RP3.

2. Additional Taxi-Out Time



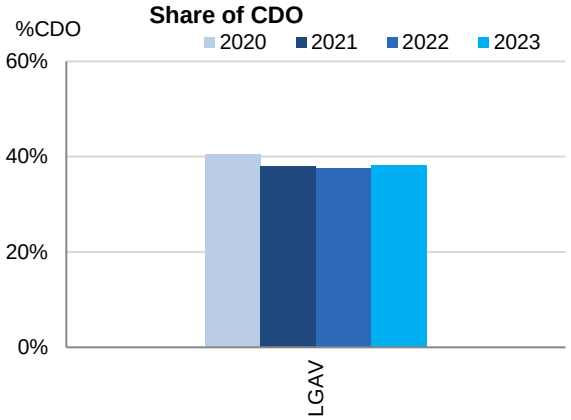
Additional taxi-out times at Athens (LGAV: 2019: 2.61 min/dep.; 2020: 1.54 min/dep.; 2021: 2.12 min/dep.; 2022: 3.18 min/dep.; 2023: 2.85 min/dep.) decreased in 2023 after significant increases in the previous 3 years, and sit above the SES average of 2.81 min/dep.

3. Additional ASMA Time



The additional times in the terminal airspace (LGAV; 2019: 1.30 min/arr.; 2020: 1.03 min/arr.; 2021: 1.15 min/arr.; 2022: 1.37 min/arr.; 2023: 1.44 min/arr.) observed a gradual increase during RP3, and in 2023 was higher than in 2019 and than the SES average for 2023 (1.16 min/arr)

4. Share of arrivals applying CDO



The share of CDO flights at Athens (LGAV) has stayed stable in 2023 at 38% which is above the overall RP3 value in 2023 (28.8%).
The monthly values ranged from 36.5% in November to 41.5% in December.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Athens-LGAV	1.54	2.12	3.18	2.85		1.03	1.15	1.37	1.44		41%	38%	38%	38%	

GREECE **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

The activation of military areas oubviously degrade performace indicators. Airspace design could minimize the impact on GAT flights by modifing appropriately the limits of requested military areas as much as possible so as major flows of traffic not to be affected.

Military - related measures implemented or planned to improve capacity

Use of designing tools could improve the situation in assessing the impact. Transformation of military areas in AMA areas activated by EAUP/EUUP could also minimize the impact , and subsequently it's a method used for improvement.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Greece				94%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Athinai				97%	
Makedonia				88%	

Initiatives implemented or planned to improve PI#6

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Greece					

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Athinai					
Makedonia					

Initiatives implemented or planned to improve PI#7

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Greece					

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Athinai					
Makedonia					

Initiatives implemented or planned to improve PI#8

GREECE **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.34	0.32	0.14	0.15	0.15	
Actual performance	0.02	0.43	0.15	0.83		

NSA's assessment of capacity performance

In the operational level, traffic in Greece showed increase in 2023 both in IFR movments and SU compared to the actual IFR movements and SU of 2022 and the planned in 2023 as presented in the Performance Plan.
The actual average en route ATFM delay per flight in 2023 was 0.83 minutes per flight, 0.68 minutes per flight above the target (0.15).

Capacity showed delays in both en route and terminal. En route capacity target was not met primarily due to ATC staffing and Weather and secondarily by ATC disruprions and ATC capacity. Airport and terminal capacity was not met primarily due to by ATC disruptions, capacity and staffing and secondarily by Weather.

Monitoring process for capacity performance

HCAA took into consideration the regulatory requirements and the evolution of the targets as contained in the approved performance plan , in order to monitor the performance of the ANSPs by means of audits, questionnaires and collection of data

Continuous consultation with relevant division of HASP and exploitation of relevant Eurocontrol data through appropriate tools such as NMIR, NOP, MIRROR ect.

Capacity Planning

Capacity values are greater than the required performance target. About 70% of total en-route ATFM delays are due to ATCO in OPS shortage (ATC Staffing). Recruitment plan is in progress.

ATCO in OPS (FTE)							
Athens ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	190	230	275	285	
Actual	214	194	190	188	189		

Makedonia ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	0	0	0	0	
Actual	0	0	0	0	0		

The ACCs are physically co-located in terms of system and personnel, however the ATC procedures, staff and corresponding infrastructure throughout Greece concern two distinct ACCs.

Application of Corrective Measures for Capacity (if applicable)

Recruitment planning of adequate personnel, proper rostering to meet anticipated capapcity and modernisation of infrastructure.

Planned recruitement targets have not been met so far, modernisation of infrastructure still pending.

Summary of capacity performance

Greece experienced an increase in traffic from 896k flights in 2022 to 1001k flights in 2023.For reference, traffic in 2019 was 884k flights).

En route ATFM delays increased significantly from 138k minutes in 2022 to 827k minutes in 2023. (For comparison, 2019 saw delays of 375k minutes)

En route Capacity Incentive Scheme						
HASP	2020	2021	2022	2023	2024	Observations
National Capacity target	0.34	0.32	0.14	0.15	0.15	According to incentive scheme defined in monitoring report a penalty of €3 187 131.38 is due.
Deadband +/-	-	-	-	[0.13-0.17]	[0.13-0.17]	
Actual performance	0.02	0.43	0.15	0.83		

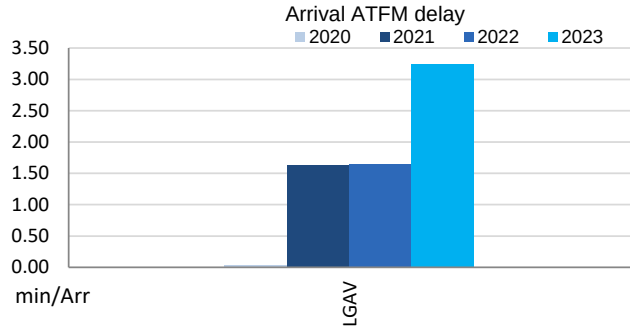
GREECE **CAPACITY - Airports**

1. Overview

Operational ANS performance at airports is monitored for one airport in Greece (i.e. Athens (LGAV)), the only airport subject to RP3 monitoring. The Airport Operator Data Flow is fully established and the monitoring of all capacity indicators can be performed. Nevertheless, the quality of the reporting does not allow for the calculation of the ATC pre-departure delay.
Traffic at Athens in 2023 increased by 14% with respect to 2022 and it was not only recovered but even 7% higher than in 2019.

Average arrival ATFM delays in 2023 was 3.24 min/arr, compared to 1.64 min/arr in 2022. The national target was not met.
ATFM slot adherence remains close to 95% (2023: 94.4%; 2022: 94.7%).

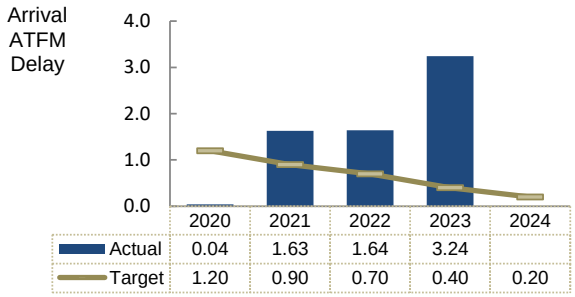
2. Arrival ATFM Delay



Average arrival ATFM delays at Athens increased significantly (LGAV: 2019: 3.57 min/arr.; 2020: 0.04 min/arr.; 2021: 1.63 min/arr.; 2022: 1.67 min/arr.; 2023: 3.24 min/arr.), resulting in one of the highest across the SES monitored airports. These delays were attributed mainly to ATC Equipment (66%, caused by RADAR failures according to the Greek monitoring report) and ATC Capacity (29%) followed by Aerodrome Capacity (3%).

Greece reports: *About 65% of total ATFM arrival delay per flight occurred from April until June, due to radar malfunction (ATC Equipment). The rest of the delays were attributed to ATC Capacity.*

3. Arrival ATFM Delay – National Target and Incentive Scheme



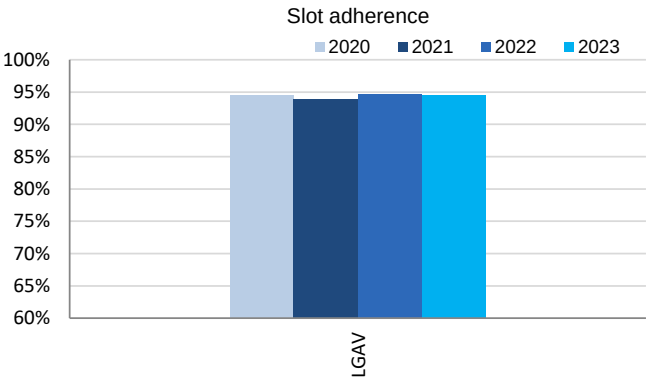
	2020	2021	2022	2023	2024
Actual	0.04	1.63	1.64	3.24	
Target	1.20	0.90	0.70	0.40	0.20

The Greek performance plan sets a national target on arrival ATFM delay for 2023 of 0.4 min/arr. This target was not met in 2023 with an actual performance of 3.24 min/arr.

According to the Greek monitoring report, this performance corresponds to the maximum penalty (1%), computed by the NSA as *€ 465 521.02* .

Greece reports: *The 2023 target was not met primarily due to by ATC disruptions. Capacity and staffing and Weather also affected capacity.*
The Greek monitoring report also mentions the following recommendation to the ANSP to rectify the situation: *Expedition of procurement and implementation of ANS infrastructure and recruitment of appropriate and sufficient personnel.*

4. ATFM Slot Adherence



Athens's ATFM slot compliance was 94.4%, similar to 2022 (94.7%). With regard to the 5.6% of flights that did not adhere, 3.5% was early and 2.1% was late.

5. ATC Pre-departure Delay

The quality of the airport data reported by Athens airport is too low, which prevents the calculation of this indicator.

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Athens.
However, there are several quality checks before EUROCONTROL can produce the final value which is established as the average minutes of pre-departure delay (delay in the actual off block time) associated to the IATA delay code 89 (through the APDF, for each delayed flight, the reasons for that delay have to be transmitted and coded according to IATA delay codes.
However, sometimes the airport operator has no information concerning the reasons for the delay in the off block, or they cannot convert the reasons to the IATA delay codes. In those cases, the airport operator might:
- Not report any information about the reasons for the delay for that flight (unreported delay)
- Report a special code to indicate they do not have the information (code ZZZ)
- Report a special code to indicate they do not have the means to collect and/or translate the information (code 999)
To be able to calculate with a minimum of accuracy the PI for a given month, the minutes of delay that are not attributed to any IATA code reason should not exceed 40% of the total minutes of pre-departure delay observed at the airport.
Finally, to be able to produce the annual figure, at least 10 months of valid data is requested by EUROCONTROL.

The reporting by Athens improved in 2023 but the share of unidentified delay was still above 40% for many months in the year, so this indicator cannot be calculated.

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time at Athens increased again in 2023 (LGAV: 2020: 8 min/dep.; 2021: 12.90 min/dep.; 2022: 17.44 min/dep.; 2023: 18.63 min/dep.)

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Athens-LGAV	0.04	1.63	1.64	3.24		94.5%	93.9%	94.7%	94.4%		n/a	n/a	n/a	n/a		8.00	12.90	17.44	18.63	

GREECE: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Greece ECZ represents 2.6% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 13 July 2022 and found consistent as per Commission Decision (EU) 2022/2421 of 5 December 2022

  The final version of the plan was adopted and published by Greece in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Greece: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	122 534 049	154 588 521	277 122 571	172 346 612	189 163 549	204 267 726
Inflation %	0.0%	0.2%		4.5%	1.3%	1.6%
Inflation index (100 in 2017)	101.3	101.5		106.5	107.9	109.7
Real en route costs (€2017)	121 238 035	152 694 948	273 932 983	163 297 590	177 513 878	189 760 728
Total en route service units	2 755 521	3 973 099	6 728 620	5 861 000	6 584 000	6 781 000
Real en route DUC per service unit (€2017)	**44.00**	**38.43**	**40.71**	**27.86**	**26.96**	**27.98**

Greece: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	122 534 049	134 557 887	257 091 936	164 529 493	176 782 486	
Inflation %	0.0%	0.6%		9.3%	4.2%	
Inflation index (100 in 2017)	101.3	101.9		111.4	116.1	
Real en route costs (€2017)	121 238 035	132 409 771	253 647 806	150 092 815	155 342 661	
Total en route service units	2 755 521	4 048 217	6 803 737	6 416 384	7 310 661	
Real en route AUC per service unit (€2017)	**44.00**	**32.71**	**37.28**	**23.39**	**21.25**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-20 030 634	-20 030 634	-7 817 119	-12 381 063	
	in %	-	-13.0%	-7.2%	-4.5%	-6.5%	
Inflation %	in p.p.	0.0 p.p.	0.4 p.p.		4.8 p.p.	2.9 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.4 p.p.		4.9 p.p.	8.2 p.p.	
Real en route costs (€2017)	in value	0	-20 285 177	-20 285 177	-13 204 775	-22 171 217	
	in %	-	-13.3%	-7.4%	-8.1%	-12.5%	
Total en route service units	in value	0	75 118	75 118	555 384	726 661	
	in %	-	+1.9%	+1.1%	+9.5%	+11.0%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-5.72**	**-3.43**	**-4.47**	**-5.71**	
	in %	**-**	**-14.9%**	**-8.4%**	**-16.0%**	**-21.2%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -21.2% (or -5.71 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned en route costs in real terms (-12.5%, or -22.2 M€2017) and significantly higher than planned TSUs (+11.0%). It should be noted that actual inflation index in 2023 was +8.2 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (+11.0%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

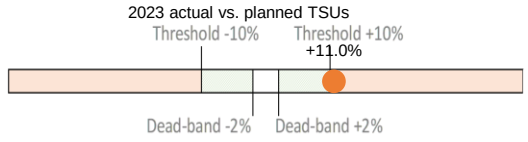
En route costs by entity

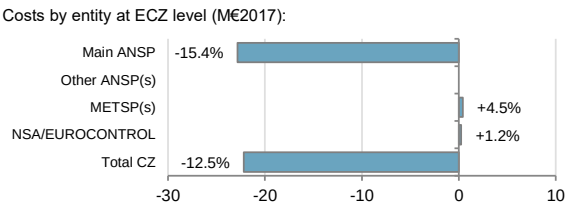
Actual real en route costs are -12.5% (-22.2 M€2017) lower than planned. This is the result of lower costs for the main ANSP, HASP (-15.4%, or -22.8 M€2017) and higher costs for the NSA/EUROCONTROL (+1.2%, or +0.2 M€2017), the MET service provider (+4.5%, or +0.4 M€2017).

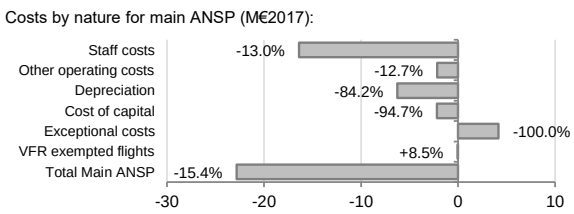
En route costs for the main ANSP (HASP) at charging zone level

Significantly lower than planned en route costs in real terms for HASP in 2023 (-15.4%, or -22.8 M€2017) result from:

- Significantly lower staff (-13.0% in real terms) and other operating costs (-12.7%). According to information provided by Greece "*The operating costs reflect payments of HASP that were incurred in 2023 on a cash basis*".
- Significantly lower depreciation (-84.2%), due to the delays in the implementation of the investment projects.
- Significantly lower cost of capital (-94.7%), due to lower than expected level of fixed assets resulted from the delays in the implementation of the investment projects.
- No actual exceptional costs reported (-100% decrease), while determined exceptional costs present the negative amount of "the reimbursement of the difference between determined and actual costs of year 2021". Without the effect of artificial negative exceptional costs (in determined costs), the difference between actual and determined costs in 2023 would be -17.7%, or -27.0 M€2017.
- Significantly higher deduction for VFR exempted flights (+8.5%).







GREECE: En route charging zone

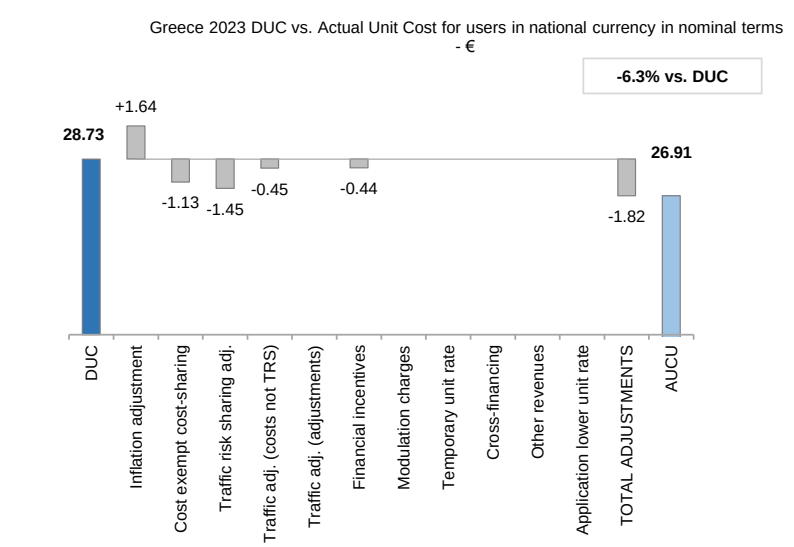
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	28.73
DUC to be charged retroactively	0.00
DUC	**28.73**
Inflation adjustment	1.64
Cost exempt from cost-sharing	-1.13
Traffic risk sharing adjustment	-1.45
Traffic adj. (costs not TRS)	-0.45
Traffic adj. (adjustments)*	
Financial incentives	-0.44
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	-1.82
AUCU	**26.91**
AUCU vs. DUC	**-6.3%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

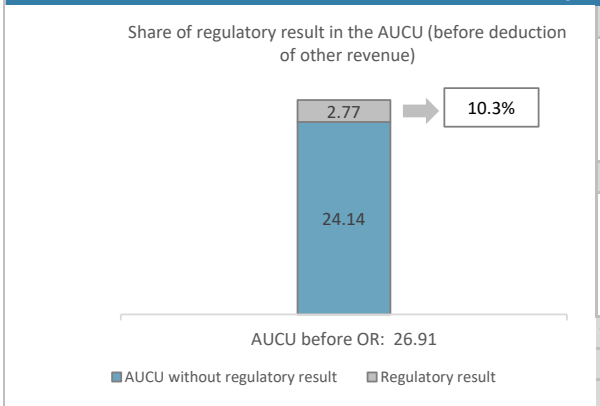
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-8 546	-1.17
	Competent authorities and qualified entities costs	-196	-0.03
	Eurocontrol costs	446	0.06
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-8 296**	**-1.13**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
HASP	20 652	2.82
METSP(s)	**€ '000**	**€/SU**
Greece MET	-385	-0.05
Total charging zone	20 267	2.77
Actual cost for users* **	196 712	26.91
Regulatory result (% AUCU)	10.3%	10.3%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (26.91 €) is -6.3% lower than the nominal DUC (28.73 €). The difference between these two figures (-1.82 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+1.64 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-1.13 €/SU);
- the deduction of the traffic risk sharing adjustments (-1.45 €/SU);
- the deduction of the traffic adjustment (-0.45 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (-0.44 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 10.3%.

GREECE: En route main ANSP (HASP) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note1: Ex-post RoE cannot be correctly calculated due to a very low total asset base, due to:1) the exclusion of net current assets from the calculation of the total asset base starting from 2021, 2) a very low net book value of fixed assets (as these are nearly fully depreciated).

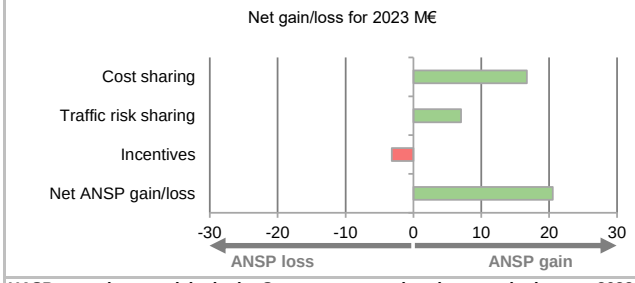
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

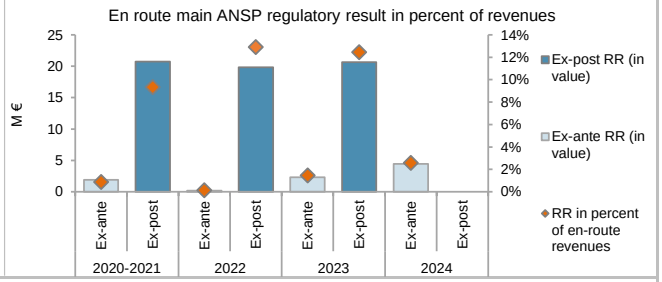
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	15 870	7 265	13 824	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	544	6 401	11 314	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	-8 433	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**16 414**	**13 666**	**16 705**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.1%	9.5%	11.0%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	219 549	141 481	159 357	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**2 451**	**6 003**	**7 012**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-3 187**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**18 865**	**19 669**	**20 530**	

12. Regulatory result (RR) for the main ANSP at charging zone level

HASP planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	29 195	5 072	34 267	3 788	49 711	96 151
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	5.6%	4.6%	5.5%	4.6%	4.6%	4.6%
RoE (in value)	1 644	235	1 879	175	2 302	4 452
Ex-ante regulatory result (+/-) for the en route charging zone	**1 644**	**235**	**1 879**	**175**	**2 302**	**4 452**
Revenue for the en route charging zone	**95 244**	**124 304**	**219 549**	**141 481**	**159 357**	**174 398**
Ex-ante regulatory result (+/-) in percent of revenues	**1.7%**	**0.2%**	**0.9%**	**0.1%**	**1.4%**	**2.6%**
Ex-ante RoE pre-tax rate (in %)	**5.6%**	**4.6%**	**5.5%**	**4.6%**	**4.6%**	**4.6%**
HASP actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	29 195	5 072	34 267	3 788	2 634	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	5.6%	4.6%	5.5%	4.6%	4.6%	
RoE (in value)	1 644	235	1 879	175	122	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	18 865	18 865	19 669	20 530	
Ex-post regulatory result (+/-) for the en route charging zone	**1 644**	**19 100**	**20 744**	**19 845**	**20 652**	
Revenue for the en route charging zone	**95 244**	**127 300**	**222 544**	**153 885**	**166 063**	
Ex-post regulatory result (+/-) in percent of revenues	**1.7%**	**15.0%**	**9.3%**	**12.9%**	**12.4%**	
Ex-post RoE pre-tax rate (in %) (see Note 1)	**5.6%**	**N/A**	**N/A**	**N/A**	**N/A**	

13. Focus on the main ANSP regulatory result on en route activity





HASP net gain on activity in the Greece en route charging zone in the year 2023

HASP reported a net gain of +20.5 M€, as a combination of a gain of +16.7 M€ arising from the cost sharing mechanism, with a gain of +7.0 M€ arising from the traffic risk sharing mechanism and a loss of -3.2 M€ relating to financial incentives.

HASP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+20.5 M€) and the actual RoE (+0.1 M€) amounts to +20.7 M€ (12.4% of the en route revenues).

GREECE: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
Greece MET planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	**192**	**195**	**387**	**195**	**196**	**192**
Revenue for the en route charging zone	**8 611**	**8 825**	**17 435**	**8 356**	**9 662**	**9 625**
Ex-ante regulatory result (+/-) in percent of revenues	**2.2%**	**2.2%**	**2.2%**	**2.3%**	**2.0%**	**2.0%**
Ex-ante RoE pre-tax rate (in %)	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**	**2.0%**
Greece MET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	**192**	**1 243**	**1 435**	**71**	**-385**	
Revenue for the en route charging zone	**8 611**	**8 841**	**17 451**	**8 674**	**10 255**	
Ex-post regulatory result (+/-) in percent of revenues	**2.2%**	**14.1%**	**8.2%**	**0.8%**	**-3.8%**	
Ex-post RoE pre-tax rate (in %)	**2.0%**	**14.4%**	**7.9%**	**0.7%**	**-3.6%**	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Greece (Greece MET) corresponds to -3.8% of the en route revenues.

GREECE: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Greece TCZ represents 1.7% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Greece: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	15 654 397	19 092 162	34 746 559	20 693 722	25 207 051	28 639 822
Inflation %	0.0%	0.2%		4.5%	1.3%	1.6%
Inflation index (100 in 2017)	101.3	101.5		106.5	107.9	109.7
Real terminal costs (€2017)	15 457 426	18 818 671	34 276 097	19 462 644	23 501 099	26 460 501
Total terminal service units	59 000	87 720	146 720	125 000	129 000	133 000
Real terminal DUC per service unit (€2017)	**261.99**	**214.53**	**233.62**	**155.70**	**182.18**	**198.95**

Greece: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	15 654 397	14 605 437	30 259 834	20 557 648	24 272 317	
Inflation %	0.0%	0.6%		9.3%	4.2%	
Inflation index (100 in 2017)	101.3	101.9		111.4	116.1	
Real terminal costs (€2017)	15 457 426	14 333 997	29 791 423	18 534 509	21 035 157	
Total terminal service units	59 000	87 915	146 915	123 266	141 934	
Real terminal AUC per service unit (€2017)	**261.99**	**163.04**	**202.78**	**150.36**	**148.20**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-4 486 725	-4 486 725	-136 074	-934 734	
	in %	-	-23.5%	-12.9%	-0.7%	-3.7%	
Inflation %	in p.p.	0.0 p.p.	0.4 p.p.		4.8 p.p.	2.9 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.4 p.p.		4.9 p.p.	8.2 p.p.	
Real terminal costs (€2017)	in value	0	-4 484 674	-4 484 674	-928 136	-2 465 942	
	in %	-	-23.8%	-13.1%	-4.8%	-10.5%	
Total terminal service units	in value	0	195	195	-1 734	12 934	
	in %	-	+0.2%	+0.1%	-1.4%	+10.0%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-51.49**	**-30.84**	**-5.34**	**-33.97**	
	in %	**-**	**-24.0%**	**-13.2%**	**-3.4%**	**-18.6%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -18.6% (or -33.97 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned terminal costs in real terms (-10.5%, or -2.5 M€2017) and significantly higher than planned TNSUs (+10.0%). It should be noted that actual inflation index in 2023 was +8.2 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (+10.0%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

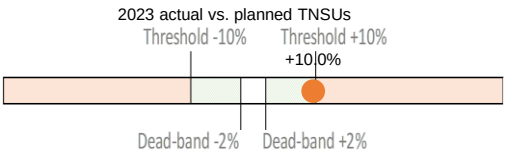
Terminal costs by entity

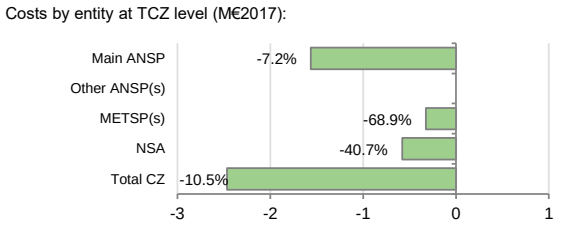
Actual real terminal costs are -10.5% (-2.5 M€2017) lower than planned. This is the result of lower costs for the main ANSP, HASP (-7.2%, or -1.6 M€2017), the NSA (-40.7%, or -0.6 M€2017) and the MET service provider (-68.9%, or -0.3 M€2017).

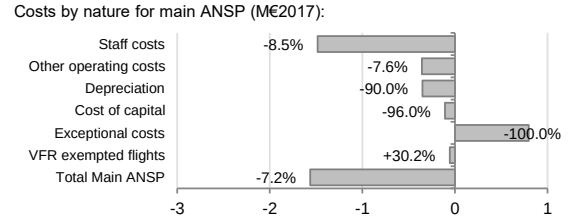
Terminal costs for the main ANSP (HASP) at charging zone level

Significantly lower than planned terminal costs in real terms for HASP in 2023 (-7.2%, or -1.6 M€2017) result from:

- Significantly lower staff (-8.5% in real terms) and other operating costs (-7.6%). According to information provided by Greece "The operating costs reflect payments of HASP that were incurred in 2023 on a cash basis".
- Significantly lower depreciation (-90.0%), due to the delays in the implementation of the investment projects, including SMR/A-SMGCS/MLT project for LGAV.
- Significantly lower cost of capital (-96.0%), due to the delays in the implementation of the investment projects, including SMR/A-SMGCS/MLT project for LGAV.
- Significantly lower exceptional costs (-100.0%), without the effect of artificial negative exceptional costs (in determined costs), the difference between actual and determined costs in 2023 would be -10.5%, or -2.4 M€2017 (see en route analysis in Box 4. for more information.
- Significantly higher deduction for VFR exempted flights (+30.2%).







GREECE: Terminal charging zone

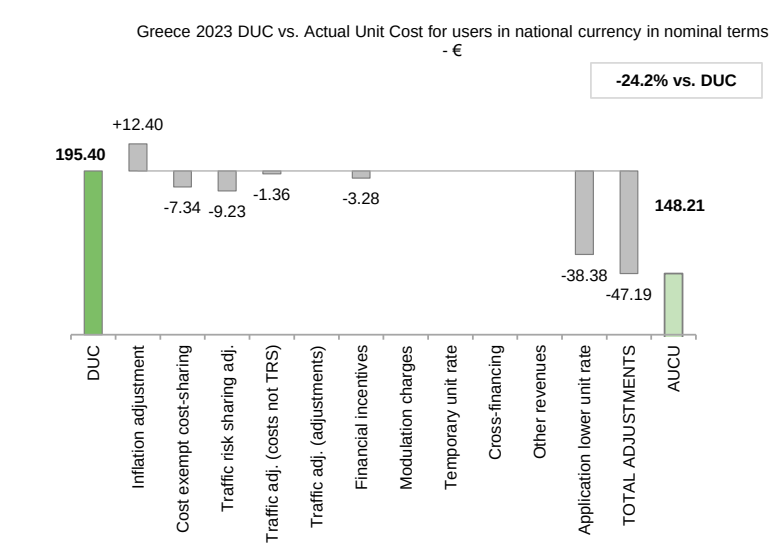
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	195.40
DUC to be charged retroactively	0.00
DUC	**195.40**
Inflation adjustment	12.40
Cost exempt from cost-sharing	-7.34
Traffic risk sharing adjustment	-9.23
Traffic adj. (costs not TRS)	-1.36
Traffic adj. (adjustments)*	
Financial incentives	-3.28
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	-38.38
Total adjustments	-47.19
AUCU	**148.21**
AUCU vs. DUC	**-24.2%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

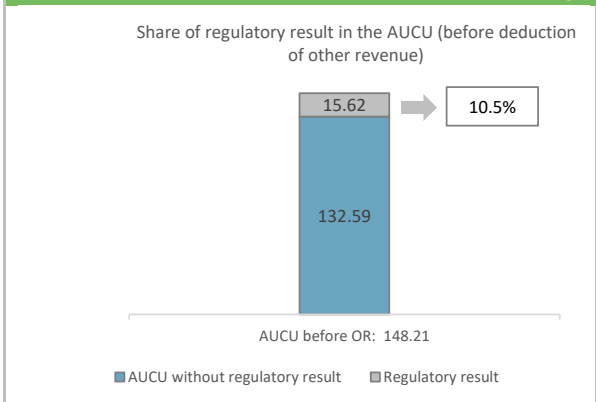
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-461	-3.25
	Competent authorities and qualified entities costs	-580	-4.09
	Eurocontrol costs	0	0.00
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-1 041**	**-7.34**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
HASP	1 842	12.97
METSP(s)	**€ '000**	**€/SU**
Greece-MET	375	2.64
Total charging zone	2 217	15.62
Actual cost for users* **	21 036	148.21
Regulatory result (% AUCU)	10.5%	10.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (148.21 €) is -24.2% lower than the nominal DUC (195.40 €). The difference between these two figures (-47.19 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+12.40 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-7.34 €/SU);
- the deduction of the traffic risk sharing adjustments (-9.23 €/SU);
- the deduction of the traffic adjustment (-1.36 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-3.28 €/SU); and
- the application of a lower unit rate as foreseen in Art. 29(6) in year 2023 (-38.38 €/SU); and

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 10.5%.

GREECE: Terminal main ANSP (HASP)

Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: Ex-post RR does not take into account the application of the lower unit rate as per Art. 29.6 (loss in revenues corresponds to -5.5 M€ for 2023).
Note 2: Ex-post RoE cannot be correctly calculated due to a very low total asset base, due to:1) the exclusion of net current assets from the calculation of the total asset base starting from 2021, 2) a very low net book value of fixed assets (as these are nearly fully depreciated).

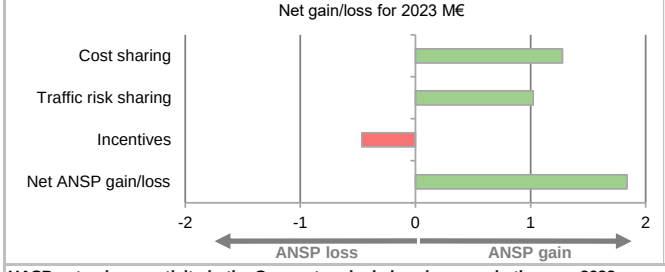
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

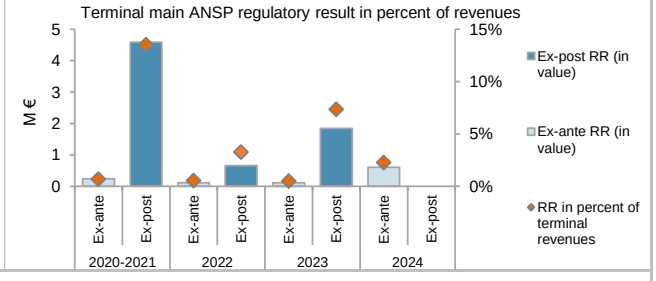
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	4 224	434	18	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	82	898	1 722	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	-400	-461	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**4 306**	**933**	**1 278**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.1%	-1.4%	10.0%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	33 411	20 069	23 276	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**44**	**-278**	**1 024**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-466**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**4 351**	**654**	**1 837**	

12. Regulatory result (RR) for the main ANSP at charging zone level

HASP planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	4 006	177	4 183	2 362	2 444	13 050
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	5.6%	4.6%	5.6%	4.6%	4.6%	4.6%
RoE (in value)	226	8	234	109	113	604
Ex-ante regulatory result (+/-) for the terminal charging zone	**226**	**8**	**234**	**109**	**113**	**604**
Revenue for the terminal charging zone	**15 295**	**18 521**	**33 816**	**20 069**	**23 276**	**26 709**
Ex-ante regulatory result (+/-) in percent of revenues	**1.5%**	**0.0%**	**0.7%**	**0.5%**	**0.5%**	**2.3%**
Ex-ante RoE pre-tax rate (in %)	**5.6%**	**4.6%**	**5.6%**	**4.6%**	**4.6%**	**4.6%**
HASP actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	4 006	177	4 183	137	98	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	5.6%	4.6%	5.6%	4.6%	4.6%	
RoE (in value)	226	8	234	6	5	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	4 351	4 351	654	1 837	
Ex-post regulatory result (+/-) for the terminal charging zone (see Note 1)	**226**	**4 359**	**4 584**	**661**	**1 842**	
Revenue for the terminal charging zone	**15 295**	**18 648**	**33 942**	**20 289**	**25 096**	
Ex-post regulatory result (+/-) in percent of revenues (see Note 1)	**1.5%**	**23.4%**	**13.5%**	**3.3%**	**7.3%**	
Ex-post RoE pre-tax rate (in %) (see Note 2)	**5.6%**	**N/A**	**N/A**	**N/A**	**N/A**	

13. Focus on main ANSP regulatory result on terminal activity





HASP net gain on activity in the Greece terminal charging zone in the year 2023

HASP reported a net gain of +1.8 M€, as a combination of a gain of +1.3 M€ arising from the cost sharing mechanism, with a gain of +1.0 M€ arising from the traffic risk sharing mechanism and a loss of -0.5 M€ relating to financial incentives.

HASP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+1.8 M€) and the actual RoE (+0.005 M€) amounts to +1.8 M€ (7.3% of the terminal revenues).

GREECE: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Greece-MET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**272**	**506**	**778**	**506**	**506**	**506**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Greece-MET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**288**	**288**	**332**	**375**	
Revenue for the terminal charging zone	**272**	**508**	**780**	**529**	**544**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**56.7%**	**36.9%**	**62.8%**	**68.9%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Greece (Greece-MET) corresponds to 68.9% of the terminal revenues. It should be noted that Greece-MET does not charge cost of capital.

GREECE: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Greece

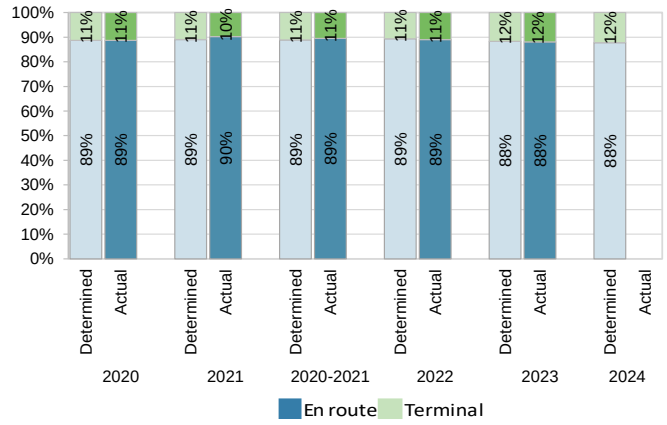
Terminal charging zone 1: Greece

Greece: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	121 238 035	152 694 948	273 932 983	163 297 590	177 513 878	189 760 728
Real terminal costs (€2017)	15 457 426	18 818 671	34 276 097	19 462 644	23 501 099	26 460 501
Real gate-to-gate costs (€2017)	136 695 461	171 513 619	308 209 080	182 760 234	201 014 977	216 221 229
En route share (%)	88.7%	89.0%	88.9%	89.4%	88.3%	87.8%

Greece: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	121 238 035	132 409 771	253 647 806	150 092 815	155 342 661	
Real terminal costs (€2017)	15 457 426	14 333 997	29 791 423	18 534 509	21 035 157	
Real gate-to-gate costs (€2017)	136 695 461	146 743 768	283 439 229	168 627 323	176 377 817	
En route share (%)	88.7%	90.2%	89.5%	89.0%	88.1%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-24 769 851	-24 769 851	-14 132 910	-24 637 159	
	in %	0.0%	-14.4%	-8.0%	-7.7%	-12.3%	
En route share	in p.p.	0.0 p.p.	1.2 p.p.	0.6 p.p.	-0.3 p.p.	-0.2 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -12.3% (-24.6 M€2017) lower than planned, as en route costs are lower than planned by -22.2 M€2017 and terminal costs are lower than planned by -2.5 M€2017.

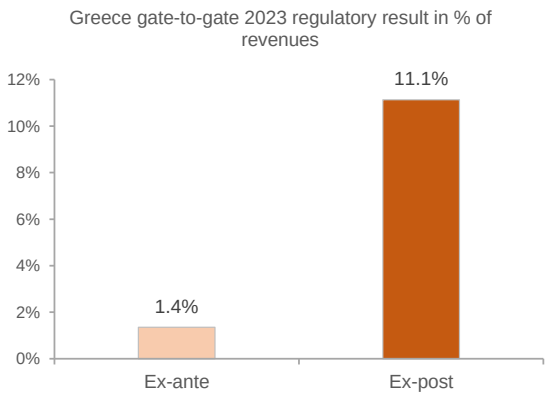
The actual share of en route in gate-to-gate ANS costs (88.1%) is slightly lower than planned in the PP for 2023 (88.3%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
HASP	2 415	182 633	1.3%		22 493	191 158	11.8%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Greece MET	196	10 168	1.9%		-10	10 799	-0.1%	
Total	**2 610**	**192 801**	**1.4%**		**22 484**	**201 957**	**11.1%**	

For the ANSPs providing services in the en route and terminal charging zones of Greece covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +22.5 M€ (+20.3 M€ for en route and +2.2 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 11.1% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (1.4% of gate-to-gate revenues).



Annual Monitoring Report 2023

Local level view

HUNGARY

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HUNGARY **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
Hungarocontrol	100	D	D	D	D	D
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

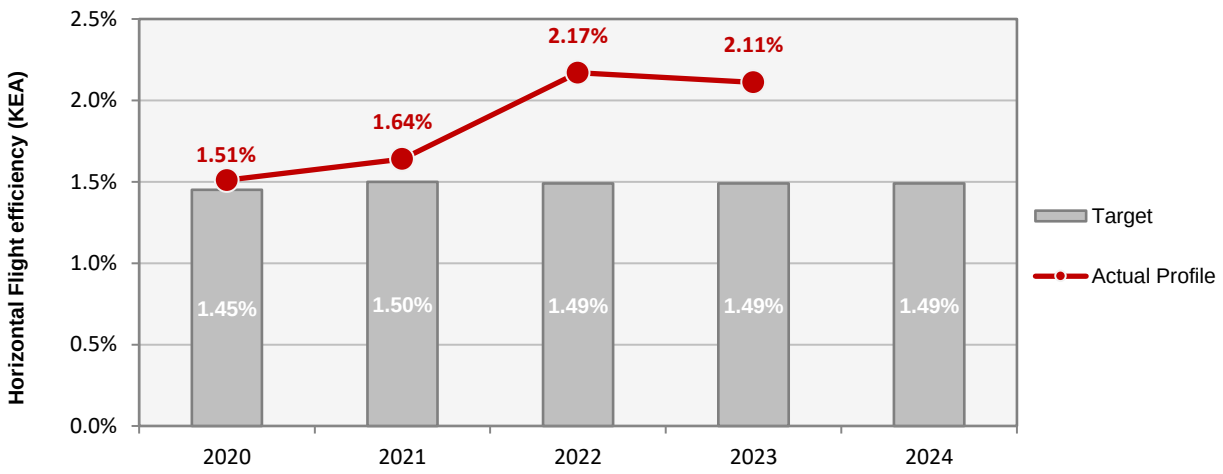
Observations

All five EoSM components of the ANSP meet, or exceed, the RP3 target level. The ANSP has maintained the maximum level for all components.

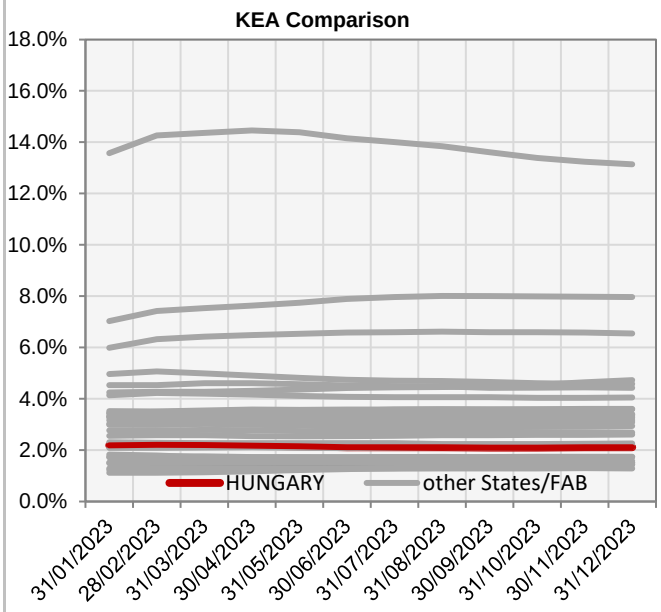
HUNGARY

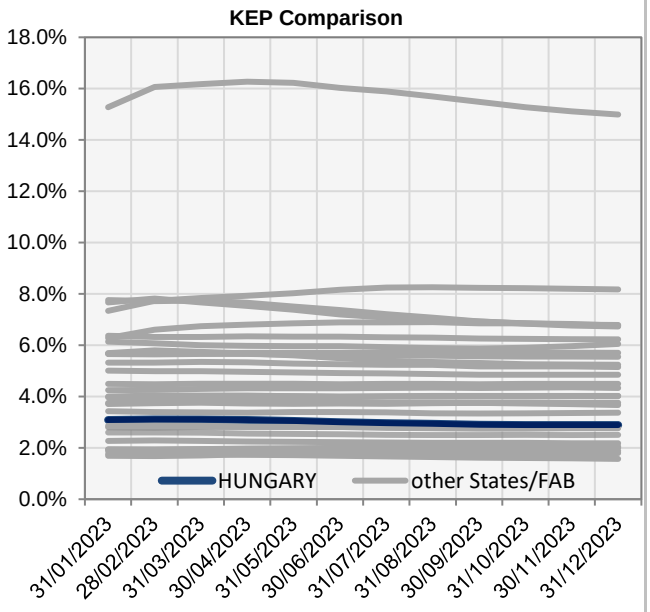
ENVIRONMENT - Horizontal flight efficiency

KEA	2020	2021	2022	2023	2024
Target	1.45%	1.50%	1.49%	1.49%	1.49%
Actual performance	1.51%	1.64%	2.17%	2.11%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	2.19%	2.21%	2.20%	2.18%	2.15%	2.12%	2.12%	2.12%	2.10%	2.10%	2.11%	2.11%
KEP	3.09%	3.11%	3.11%	3.09%	3.05%	3.00%	2.96%	2.94%	2.90%	2.89%	2.89%	2.89%
KES	3.09%	3.12%	3.11%	3.10%	3.06%	3.01%	2.98%	2.95%	2.92%	2.90%	2.90%	2.89%





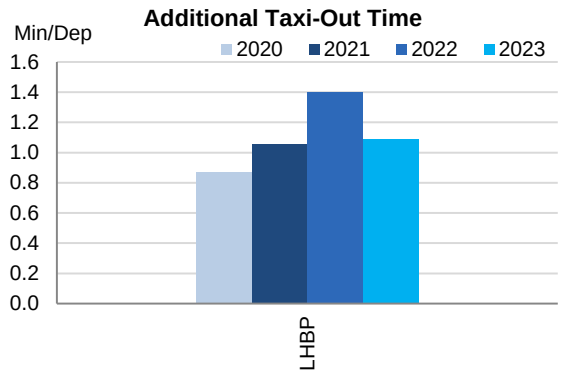
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

HUNGARY **ENVIRONMENT - Airports**

1. Overview

Hungary identified only its main airport Budapest as subject to RP3 monitoring. The Airport Operator Data Flow is correctly established and all environmental indicators can be monitored.
Traffic at Budapest airport in 2023 was still 12% lower compared to 2019 but 10% higher than in 2022.
Both additional time indicators remained in 2023 lower than the 2019 values.
The share of CDO flights for Budapest has increased to 26.8% which is below the overall RP3 value in 2023.

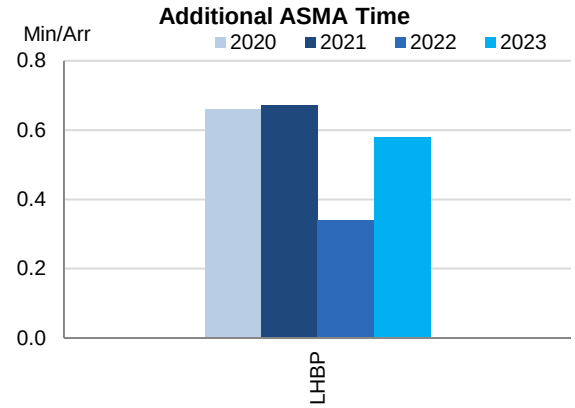
2. Additional Taxi-Out Time



Additional taxi-out times at Budapest (LHBP; 2019: 1.63 min/dep.; 2020: 0.87 min/dep.; 2021: 1.06 min/dep.; 2022: 1.4 min/dep.; 2023: 1.09 min/dep.) decreased in 2023 and are considerably lower than the SES average of 2.81 min/dep.

According to the Hungarian monitoring report:
Since the value of this Performance Indicator shows improvement in 2023, no additional initiatives are needed.

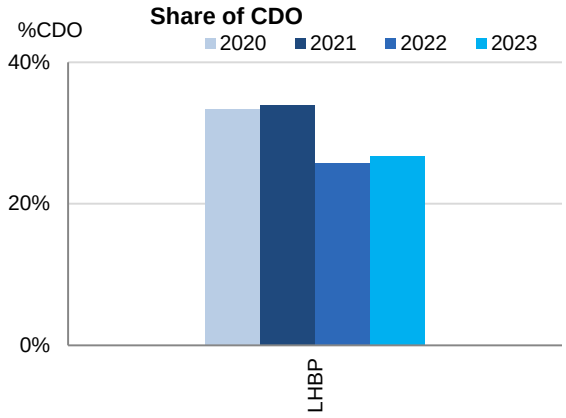
3. Additional ASMA Time



The additional times in the terminal airspace at Budapest increased in 2023 (LHBP; 2019: 0.85 min/arr.; 2020: 0.66 min/arr.; 2021: 0.67 min/arr.; 2022: 0.34 min/arr.; 2023: 0.58 min/arr.) but remained one of the lowest additional ASMA times amongst the SES monitored airports.

According to the Hungarian monitoring report:
Since the actual value of this PI is still acceptable, no additional initiatives are needed.

4. Share of arrivals applying CDO



The share of CDO flights for Budapest (LHBP) has increased from 25.8% in 2022 to 26.8% in 2023. This value is below the overall RP3 value in 2023 (28.8%).
From May to October, the monthly values were below 26%.

According to the Hungarian monitoring report: *As the value of this performance indicator in 2023 is practically the same as in the previous year, no further initiatives are identified.*

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Budapest/Ferihegy-LHBP	0.87	1.06	1.4	1.09		0.66	0.67	0.34	0.58		33%	34%	26%	27%	

HUNGARY **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

The impact of military operations on civil traffic was very high in 2023. The war in Ukraine forced the Hungarian air defence and air force to create special training areas which were activated on an ad-hoc basis. Apart from those special air corridors were also established in order to allow the crossing of the allied forces UAVs.

Military - related measures implemented or planned to improve capacity

During the implementation of the new ad-hoc activation areas, HungaroControl representatives tried to negotiate the vertical dimension of these areas in a way that makes fewer problems for overflight traffic.
Thanks to the good cooperation between the military and civil sides, these areas were active only when they were really needed and only for so long time which these special tasks in such a war environment required.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Hungary	55%	59%	55%	50%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Budapest	55%	59%	55%	50%	

Initiatives implemented or planned to improve PI#6

The ongoing war in neighbouring Ukraine continues to have a very negative impact on the effectiveness of the use of military airspace, as special military airspaces, created to better respond to threats, have been activated on an ad hoc basis.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Hungary	n/a	n/a	n/a		

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Budapest	n/a	n/a	n/a		

Initiatives implemented or planned to improve PI#7

"With the implementation of free route airspace in Hungary in 2015 all the ATS routes have been eliminated.
Since that the entire CDR route concept has no meaning anymore in Hungary."

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Hungary	n/a	n/a	n/a		

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Budapest	n/a	n/a	n/a		

Initiatives implemented or planned to improve PI#8

"With the implementation of free route airspace in Hungary in 2015 all the ATS routes have been eliminated.
Since that the entire CDR route concept has no meaning anymore in Hungary."

HUNGARY **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.90	0.06	0.11	0.11	0.11	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.00	0.01	0.54	0.81		

NSA's assessment of capacity performance

The Ukrainian war has had a significant impact, in both operational and economic context of the service provision of ANS in Hungary. Operational: due to the closure of the Ukrainian airspace and the war-related sanctions, there have been reroutings in the Hungarian airspace, having a net positive and ever growing impact on the number of overflights. Traffic to and from Russia and Ukraine is missing, on the other hand, reroutings to and from North Europe, and the Far East (and other parts of Asia), as well as new routes between Russia and non-EU states have brought a significatnt amount of additional traffic. The size of this impact has further increased in 2023, as the traffic between Europe and Asia (mainly China) started to gain momentum. The Hungarian ANSP experienced a very strong recovery (with overflights passing the 2019-level by +17% on avg in 2023), and this was only in part a consequence of the reroutings, there was also a very strong increase of the organic traffic on the South-East axis. Especially in the summer, when leisure traffic from Western Europe to Greece and Türkiye created an unexpected high demand on our flow.
In addition to the already high demand, ANS provision was impacted by the war in one more way: there were military airspaces to decrease capacity and to increase complexity in the Hungarian airspace.

The war has caused a significant increase in traffic in Budapest ACC, resulting in traffic reaching +17% on avg vs2019 levels in 2023. Budapest ACC was able to manage the unexpected traffic growth but with significant delays. Although, Hungary was one of the delay hotspots in 2023, it should be noted that air traffic on the Eastern border of the Network was operated without any particular problems.
Our view is that a very significant part of the excess delay BUDAPEST ACC struggeled with in 2023 was due to the war.
We flagged this issue to the PRB and EC and also to the Network Management Board in 2023, before the Annual Monitoring Report of 2022. We understand that in 317/2019 the definition of "exceptional event" does not by word apply to our situation, we still belive that by the legislative intent a regular war in the neighbouring country, causing significant disruptions does qualify as an "exceptional event". With that said, throughout 2023 we reported our delay minutes associated with the war (based on some method agreed with the NM) under the "O" other delay category. We hope that in the 2023 Annual Monitoring Report a certain distinction would be made based on this categorization.

The continuous war in the neighbouring country has caused a significant increase in traffic in Budapest ACC, resulting in traffic well above the pre-COVID 2019 levels (+17%). Budapest ACC was able to manage the extreme traffic growth with 30% fewer delays than in 2019, which was not enough to meet the target, but allowed air traffic on the Eastern border of the Network to operate without any particular problems.

Monitoring process for capacity performance

NSA has monitored the roster planning for the summer season and also the evaluation of ATCO utilisation during the daily shift rostering.
Delay trend was also monitored but no need for intervention was identified.

Capacity Planning

The capacity planning for 2023 with NM was completed in January and it was already anticipated that capacity problems can occur during the summer.
The main reason for the capacity problem was that there were not enough ACC ATCOs available.
The working schedule for the summer period has been designed to allow 7 sectors to open during the busiest periods of the day.
In addition, all office staff with valid ACC licences have been assigned to work as much as possible in the ACC sectors in Budapest.

As there are no indications that the war in Ukraine will end in the near future and the demand for overflight traffic in the Budapest ACC remains very high, further adjustments are needed in terms of sector capacity and in the availability (rostering) of ATCOs.
Despite the fact that the first wave of newly recruited ATCO students will complete their training in autumn 2024, the NSA proposes to launch additional ACC training courses with a large number of new recruits, considering the expected retirement rate and the recommencement of the Hungarian ATCOs employment abroad.

The NSA is aware of the unfortunate trend of ATCOs leaving HungaroControl for other ANSPs in Europe.

ATCO in OPS (FTE)

Budapest ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	111	119	116	119	
Actual	106	101	109	115	114		

Application of Corrective Measures for Capacity (if applicable)

In 2023, ATCO training was ramped up (number of trainees was increased to maximum training capacity) to react to the explosion of traffic demand. However, the first ATCOs from this course will start work only in 2025. Therefore in the short run (i.e. through 2023-2024) capacity problems will deteriorate. Even the increased number of trainees will not be enough to serve this traffic we are currently serving. HungaroControl has started to explore further options to provide the necessary number of ATCOs, as the originally planned number of ATCOs is not (and will not be) enough to manage the traffic without disruptions (regulations, delays and re-routings of the re-routings).

Three main measures have been enacted to improve capacity performance:
1. Increase in sector capacity values - ACC en-route sector capacity values were reviewed and modified - ongoing and due by Q2/2024;
2. Fine tuning of ATCO roster - with fine-tuning of ATCO rostering, more ATCOs will be available for peaks - ongoing and due by Q2/2024;
3. Implementation (test operations) of Complexity tool - with the implementation of Complexity tool, more balanced workload is expected in the ACC sectors - ongoing and due by Q2/2024

In response to measures introduced in previous calendar years the NSA also monitors the implementation of the training plan as part of the annual monitoring process.

Additional Information Related to Russia's War of Aggression Against Ukraine

The Ukraine war has continued a significant impact in traffic in Budapest ACC, resulting in traffic well above pre-COVID 2019 levels already in 2022.

Our view is that had the war not broken out, Budapest ACC would have been able to handle the 2023 traffic within its capacity target.
We believe that a very significant part of the excess delay was due to the war.

Due to the significant increase in traffic caused by the war, we made an adjustments to the capacity of HIGH/TOP sectors, and also made some fine tuning of ATCO rostering. In addition to that a Complexity tool will be implemented during Q2 2024

Summary of capacity performance
Hungary experienced an increase in traffic from 897k flights in 2022 to 1034k flights in 2023; during the same period en route ATFM delays increased from 481k minutes to 832k minutes. For reference in 2019, HungaroControl handled 892k flights with 1.4 million minutes of en route ATFM delay.) There was an additional 187k minutes of ATFM delay originating in the Budapest ACC that were re-attributed to the DFS via the NM post operations delay attribution process, according to the NMB agreement for eNM/S23 measures, to ameliorate the capacity shortfall in Karlsruhe UAC.

En route Capacity Incentive Scheme						
HungaroControl	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
National Capacity target	0.90	0.06	0.11	0.11	0.11	According to incentive scheme defined in monitoring report a penalty of HUF 196 195 160 is due.
Deadband +/-	-	-	-	[0.083-0.138]	[0.083-0.138]	
Actual performance	0.00	0.01	0.54	0.81		

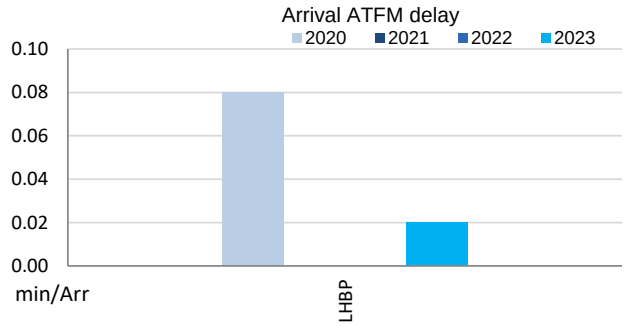
HUNGARY **CAPACITY - Airports**

1. Overview

Hungary identified only its main airport Budapest as subject to RP3 monitoring. The Airport Operator Data Flow is correctly established and all capacity indicators can be monitored.
Traffic at Budapest airport in 2023 was still 12% lower compared to 2019 but 10% higher than in 2022.

Low arrival ATFM delays were observed in 2023 at Budapest (0.02 min/arr) while ATFM slot adherence has slightly deteriorated (2023: 96.2%; 2022: 95.4%).

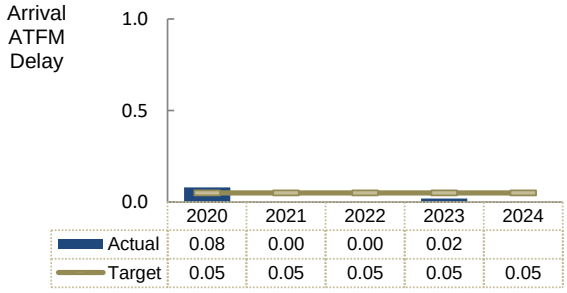
2. Arrival ATFM Delay



Arrival ATFM delays at Budapest (LHBP: 2019: 0.03 min/arr.; 2020: 0.08 min/arr.; 2021: 0 min/arr.; 2022: 0 min/arr.; 2023: 0.02 min/arr.) increased slightly in 2023 but remain very low. All these regulations were attributed to ATC capacity.

The Hungarian monitoring report mentions: *The traffic demand at Budapest Ferihegy airport was around 90% of the 2019's traffic.*
Since the Russian's war of aggression has continued against Ukraine all flights to/and from Russia and Ukraine were cancelled also in 2023 which represented less than 10% of LHBP traffic.
There was no war related delay at LHBP in 2023.
There was no need for any remedial action as a consequence of the Russian's war of aggression against Ukraine.

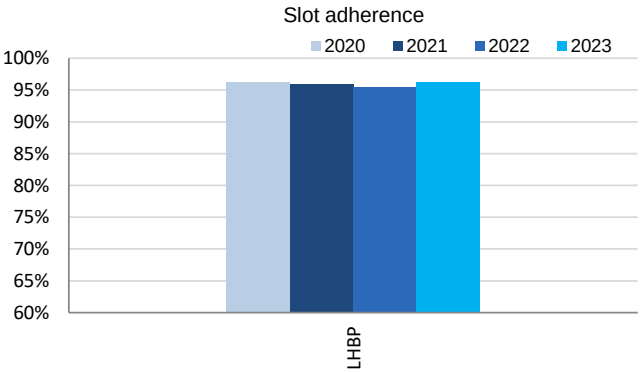
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.08	0.00	0.00	0.02	
Target	0.05	0.05	0.05	0.05	0.05

The Hungarian performance plan sets a national target on arrival ATFM delay for 2023 of 0.05 min/arr. This target was met with an actual performance of 0.02 min/arr.
According to the Hungarian monitoring report, this performance corresponds to the maximum bonus (0.50%), computed by the NSA as HUF 43 923 353

4. ATFM Slot Adherence



Budapest's ATFM slot compliance was 96.2%, a slight improvement with respect to 2022 (95.4%). With regard to the 3.8% of flights that did not adhere, 1.7% was early and 2.1% was late
The Hungarian monitoring report remarks that *ATFM compliance has been at roughly the same level and in line with expectations for years.*

5. ATC Pre-departure Delay

The performance in terms of ATC pre-departure delay at Budapest has further improved with respect to the previous years (LHBP; 2019: 0.30 min/dep.; 2020: 0.16 min/dep.; 2021: 0.14 min/dep.; 2022: 0.10 min/dep.; 2023: 0.05 min/dep.)
According to the Hungarian monitoring report: *The actual performance in the field of pre-departures delay shows continuous improvement since 2020, and this is in line with the expectation.*

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time at Budapest in 2023 decreased but remained high and slightly above the SES average of 19.15 min/dep (LHBP: 2020: 12.58 min/dep.; 2021: 15.61 min/dep.; 2022: 21.12 min/dep.; 2023: 19.76 min/dep.).

According to the Hungarian monitoring report: *The actual performance in this respect was a bit better than in the previous year, which could be explained with the improvement of the overall staffing issues at the LHBP.*

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Budapest/Ferihegy-LHBP	0.08	0	0	0.02		96.2%	96.0%	95.4%	96.2%		0.16	0.14	0.10	0.05		12.58	15.61	21.12	19.76	

HUNGARY: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Hungary ECZ represents 1.7% of the SES en route ANS actual costs in 2023
- National currency: HUF Exchange rates (1 EUR=) 2017: 308.993 HUF 2023: 381.193 HUF
- Performance Plan: RP3 draft performance plan dated 21 February 2022 and found consistent as per Commission Decision (EU) 2022/775 of 13 April 2022
  The final version of the plan was adopted and published by Hungary in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Hungary: Data from RP3 Performance Plan		2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal HUF)		29 197 333 644	31 014 608 143	60 211 941 787	38 458 992 221	39 239 032 047	40 877 334 912
Inflation %		3.4%	3.6%		3.5%	3.3%	3.0%
Inflation index (100 in 2017)		110.0	114.0		118.0	121.9	125.5
Real en route costs (HUF2017)		27 211 963 371	28 310 064 723	55 522 028 094	34 177 552 178	34 118 483 949	34 826 054 863
Total en route service units		1 423 059	1 726 646	3 149 705	2 419 349	2 881 187	3 181 615
Real en route DUC per service unit (HUF2017)		**19 122.17**	**16 395.99**	**17 627.69**	**14 126.76**	**11 841.82**	**10 946.03**
Real en route DUC per service unit (€2017)		**61.89**	**53.06**	**57.05**	**45.72**	**38.32**	**35.42**
Hungary: Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
En route costs (nominal HUF)		29 197 333 644	29 890 098 035	59 087 431 679	36 282 908 633	42 245 808 490	
Inflation %		3.40%	5.20%		15.30%	17.00%	
Inflation index (100 in 2017)		110.0	115.7		133.4	156.1	
Real en route costs (HUF2017)		27 211 963 371	27 022 897 051	54 234 860 422	29 784 569 934	31 002 784 394	
Total en route service units		1 423 059	1 726 646	3 149 705	3 184 085	3 725 594	
Real en route AUC per service unit (HUF2017)		**19 122.17**	**15 650.51**	**17 219.03**	**9 354.20**	**8 321.57**	
Real en route AUC per service unit (€2017)		**61.89**	**50.65**	**55.73**	**30.27**	**26.93**	
Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
En route costs (nominal HUF)	in value	0	-1 124 510 108	-1 124 510 108	-2 176 083 588	3 006 776 443	
	in %	-	-3.6%	-1.9%	-5.7%	+7.7%	
Inflation %	in p.p.	0.0 p.p.	1.6 p.p.		11.8 p.p.	13.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.7 p.p.		15.4 p.p.	34.3 p.p.	
Real en route costs (HUF2017)	in value	0	-1 287 167 672	-1 287 167 672	-4 392 982 244	-3 115 699 555	
	in %	-	-4.5%	-2.3%	-12.9%	-9.1%	
Total en route service units	in value	0	0	0	764 736	844 407	
	in %	-	-0.0%	-	+31.6%	+29.3%	
Real en route unit cost per service unit (HUF2017)	**in value**	**0.00**	**-745.47**	**-408.66**	**-4 772.56**	**-3 520.25**	
	in %	**-**	**-4.5%**	**-2.3%**	**-33.8%**	**-29.7%**	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-2.41**	**-1.32**	**-15.45**	**-11.39**	
	in %	**-**	**-4.5%**	**-2.3%**	**-33.8%**	**-29.7%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -29.7% (or -3 520.25 HUF2017, -11.39 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+29.3%) and significantly lower than planned en route costs in real terms (-9.1%, or -3 115.7 MHUF2017, -10.1 M€2017). It should be noted that actual inflation index in 2023 was +34.3 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (+29.3%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

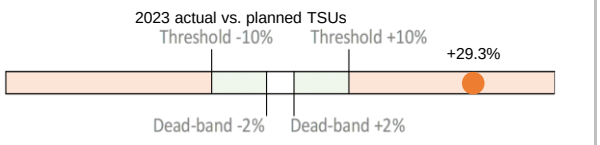
En route costs by entity

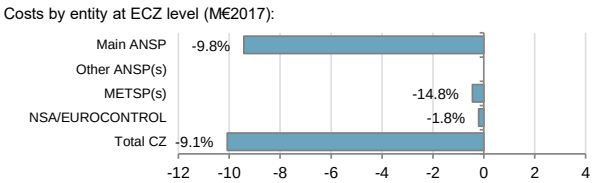
Actual real en route costs are -9.1% (-10.1 M€2017) lower than planned. This is the result of lower costs for the main ANSP, HungaroControl (-9.8%, or -9.4 M€2017), the MET service provider (-14.8%, or -0.5 M€2017) and the NSA/EUROCONTROL (-1.8%, or -0.2 M€2017).

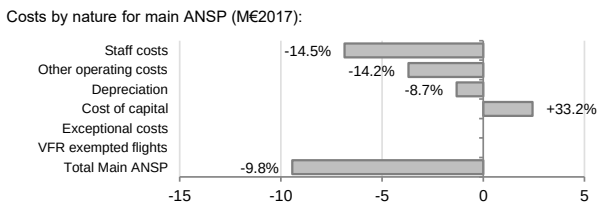
En route costs for the main ANSP (HungaroControl) at charging zone level

Significantly lower than planned en route costs in real terms for HungaroControl in 2023 (-9.8%, or -9.4 M€2017) result from:

- Significantly lower staff costs in real terms (-14.5%), but higher in nominal terms (+9.6%), due to a higher than expected inflation which led to an increase in ATCO and non-ATCO salaries above the performance plan, albeit partially offset by lower-than-expected headcount;
- Significantly lower other operating costs in real terms (-14.2%), but higher in nominal terms (+10.0%), due to higher energy prices, external service charges, local business taxes and liability insurance premiums;
- Significantly lower depreciation (-8.7%), due to the postponement or delay in the implementation of investments;
- Significantly higher cost of capital (+33.2%), mainly due to the recognition of the pension related obligations towards the ATCO's in the employed capital.







HUNGARY: En route charging zone

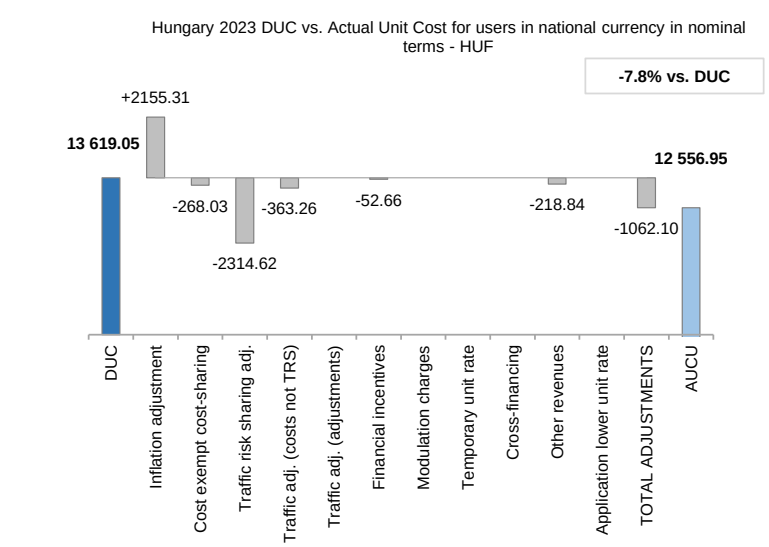
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	HUF/SU	€/SU
Initial DUC charged	13 619.05	35.73
DUC to be charged retroactively	0.00	0.00
DUC	**13 619.05**	**35.73**
Inflation adjustment	2 155.31	5.65
Cost exempt from cost-sharing	-268.03	-0.70
Traffic risk sharing adjustment	-2 314.62	-6.07
Traffic adj. (costs not TRS)	-363.26	-0.95
Traffic adj. (adjustments)*		
Financial incentives	-52.66	-0.14
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-218.84	-0.57
Application of lower unit rate	0.00	0.00
Total adjustments	-1 062.10	-2.79
AUCU	**12 556.95**	**32.94**
AUCU vs. DUC	**-7.8%**	**-7.8%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

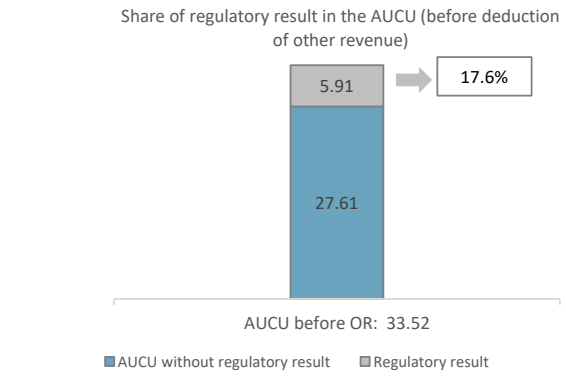
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		HUF '000	€ '000	HUF/SU	€/SU
by item	New and existing investments	-936 006	-2 455	-251.24	-0.66
	Competent authorities and qualified entities costs	-177 623	-466	-47.68	-0.13
	Eurocontrol costs	115 075	302	30.89	0.08
	Pension costs	0	0	0.00	0.00
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-998 554**	**-2 620**	**-268.03**	**-0.70**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	HUF '000	€ '000	HUF/SU	€/SU
HungaroControl	8 153 068	21 388	2 188.39	5.74
METSP(s)	**HUF '000**	**€ '000**	**HUF/SU**	**€/SU**
Hungary MET	238 340	625	63.97	0.17
Total charging zone	8 391 409	22 014	2 252.37	5.91
Actual cost for users* **	47 597 431	124 864	12 775.80	33.52
Regulatory result (% AUCU)	17.6%	17.6%	17.6%	17.6%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (12 556.95 HUF or 32.94 €) is -7.8% lower than the nominal DUC (13 619.05 HUF or 35.73 €). The difference between these two figures (-1 062.10 HUF/SU or -2.79 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+2 155.31 HUF/SU or +5.65 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-268.03 HUF/SU or -0.70 €/SU);
- the deduction of the traffic risk sharing adjustments (-2 314.62 HUF/SU or -6.07 €/SU);
- the deduction of the traffic adjustment (-363.26 HUF/SU or -0.95 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-52.66 HUF/SU or -0.14 €/SU); and
- the deduction of the other revenues (-218.84 HUF/SU or -0.57 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 17.6%.

HUNGARY: En route main ANSP (HungaroControl) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

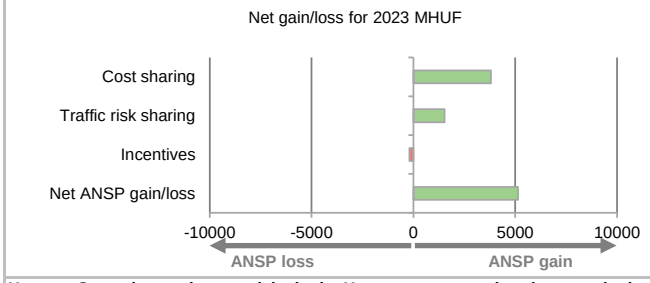
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

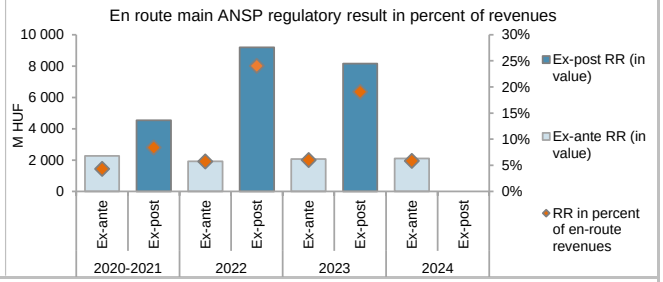
Cost sharing (HUF '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	944 288	1 821 274	-3 042 317	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	324 966	3 544 770	7 786 159	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	938 160	-570 946	-934 582	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**2 207 414**	**4 795 098**	**3 809 261**	
Traffic risk sharing (HUF '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.0%	31.6%	29.3%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	52 066 684	33 832 901	34 621 310	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**0**	**1 488 648**	**1 523 338**	
Incentives (HUF '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-196 195**	
Net ANSP gain(+)/loss(-) on en route activity (HUF '000)	**2 207 414**	**6 283 745**	**5 136 403**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**6 164**	**16 095**	**13 475**	

12. Regulatory result (RR) for the main ANSP at charging zone level

HungaroControl planned regulatory result (HUF '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	20 202 859	25 568 696	45 771 555	29 670 934	31 664 881	31 338 280
Proportion of financing through equity (in %)	100%	95%	97%	81%	82%	87%
RoE pre-tax rate (in %)	4.4%	5.8%	5.1%	8.0%	8.0%	7.7%
RoE (in value)	878 824	1 395 676	2 274 500	1 922 484	2 070 034	2 099 551
Ex-ante regulatory result (+/-) for the en route charging zone	**878 824**	**1 395 676**	**2 274 500**	**1 922 484**	**2 070 034**	**2 099 551**
Revenue for the en route charging zone	**25 754 350**	**27 127 082**	**52 881 433**	**33 832 901**	**34 621 310**	**36 094 907**
Ex-ante regulatory result (+/-) in percent of revenues	**3.4%**	**5.1%**	**4.3%**	**5.7%**	**6.0%**	**5.8%**
Ex-ante RoE pre-tax rate (in %)	**4.4%**	**5.8%**	**5.1%**	**8.0%**	**8.0%**	**7.7%**
HungaroControl actual regulatory result (HUF '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	20 202 859	25 851 125	46 053 985	40 776 526	42 191 122	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	4.4%	5.6%	5.1%	7.2%	7.2%	
RoE (in value)	878 824	1 458 003	2 336 828	2 915 522	3 016 665	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	2 207 414	2 207 414	6 283 745	5 136 403	
Ex-post regulatory result (+/-) for the en route charging zone	**878 824**	**3 665 418**	**4 544 242**	**9 199 267**	**8 153 068**	
Revenue for the en route charging zone	**25 754 350**	**28 390 208**	**54 144 559**	**38 295 373**	**42 800 030**	
Ex-post regulatory result (+/-) in percent of revenues	**3.4%**	**12.9%**	**8.4%**	**24.0%**	**19.0%**	
Ex-post RoE pre-tax rate (in %)	**4.4%**	**14.2%**	**9.9%**	**22.6%**	**19.3%**	

13. Focus on the main ANSP regulatory result on en route activity





HungaroControl net gain on activity in the Hungary en route charging zone in the year 2023

HungaroControl reported a net gain of +5 136.4 MHUF, as a combination of a gain of +3 809.3 MHUF arising from the cost sharing mechanism, with a gain of +1 523.3 MHUF arising from the traffic risk sharing mechanism and a loss of -196.2 MHUF relating to financial incentives.

HungaroControl overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+5 136.4 MHUF) and the actual RoE (+3 016.7 MHUF) amounts to +8 153.1 MHUF (19.0% of the en route revenues). The resulting ex-post rate of return on equity is 19.3%, which is higher than the 8.0% planned in the PP.

HUNGARY: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
Hungary MET planned regulatory result (HUF '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	**20 007**	**21 730**	**41 737**	**32 878**	**33 804**	**34 758**
Revenue for the en route charging zone	**654 689**	**739 348**	**1 394 037**	**1 182 849**	**1 096 686**	**1 163 815**
Ex-ante regulatory result (+/-) in percent of revenues	**3.1%**	**2.9%**	**3.0%**	**2.8%**	**3.1%**	**3.0%**
Ex-ante RoE pre-tax rate (in %)	**3.5%**	**3.3%**	**3.4%**	**3.5%**	**3.5%**	**3.5%**
Hungary MET actual regulatory result (HUF '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	**20 007**	**42 859**	**62 865**	**110 102**	**238 340**	
Revenue for the en route charging zone	**654 689**	**730 297**	**1 384 986**	**1 266 862**	**1 338 912**	
Ex-post regulatory result (+/-) in percent of revenues	**3.1%**	**5.9%**	**4.5%**	**8.7%**	**17.8%**	
Ex-post RoE pre-tax rate (in %)	**3.5%**	**7.3%**	**5.4%**	**18.3%**	**36.1%**	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Hungary (Hungary MET) corresponds to 17.8% of the en route revenues. The ex-post RoE 36.1% is higher than planned 3.5%.

HUNGARY: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Hungary TCZ represents 1.6% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: HUF Exchange rates (1 EUR=) 2017: 308.993 HUF 2023: 381.193 HUF
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Hungary: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal HUF)	5 238 902 555	5 740 183 012	10 979 085 566	7 574 897 694	8 784 670 551	9 722 701 447
Inflation %	3.4%	3.6%		3.5%	3.3%	3.0%
Inflation index (100 in 2017)	110.0	114.0		118.0	121.9	125.5
Real terminal costs (HUF2017)	4 859 542 224	5 199 436 229	10 058 978 452	6 691 445 503	7 741 099 280	8 469 413 653
Total terminal service units	31 092	34 804	65 896	57 181	69 033	81 748
Real terminal DUC per service unit (HUF2017)	**156 297.88**	**149 391.66**	**152 650.22**	**117 022.91**	**112 135.67**	**103 603.43**
Real terminal DUC per service unit (€2017)	**505.83**	**483.48**	**494.02**	**378.72**	**362.91**	**335.29**

Hungary: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal HUF)	5 238 902 555	5 455 319 252	10 694 221 806	7 483 324 405	8 277 436 432	
Inflation %	3.4%	5.2%		15.3%	17.0%	
Inflation index (100 in 2017)	110.0	115.7		133.4	156.1	
Real terminal costs (HUF2017)	4 859 542 224	4 897 850 677	9 757 392 901	6 106 733 860	6 090 591 443	
Total terminal service units	31 092	34 804	65 896	64 463	71 692	
Real terminal AUC per service unit (HUF2017)	**156 297.88**	**140 726.42**	**148 073.51**	**94 732.61**	**84 954.62**	
Real terminal AUC per service unit (€2017)	**505.83**	**455.44**	**479.21**	**306.58**	**274.94**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal HUF)	in value	0	-284 863 760	-284 863 760	-91 573 289	-507 234 119	
	in %	-	-5.0%	-2.6%	-1.2%	-5.8%	
Inflation %	in p.p.	0.0 p.p.	1.6 p.p.		11.8 p.p.	13.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.7 p.p.		15.4 p.p.	34.3 p.p.	
Real terminal costs (HUF2017)	in value	0	-301 585 552	-301 585 552	-584 711 643	-1 650 507 837	
	in %	-	-5.8%	-3.0%	-8.7%	-21.3%	
Total terminal service units	in value	0	0	0	7 282	2 659	
	in %	-	-0.0%	-	+12.7%	+3.9%	
Real terminal unit cost per service unit (HUF2017)	**in value**	**0.00**	**-8 665.24**	**-4 576.72**	**-22 290.30**	**-27 181.05**	
	in %	**-**	**-5.8%**	**-3.0%**	**-19.0%**	**-24.2%**	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-28.04**	**-14.81**	**-72.14**	**-87.97**	
	in %	**-**	**-5.8%**	**-3.0%**	**-19.0%**	**-24.2%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -24.2% (or -27 181.05 HUF2017, -87.97 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned terminal costs in real terms (-21.3%, or -1 650.5 MHUF2017, -5.3 M€2017) and higher than planned TNSUs (+3.9%). It should be noted that actual inflation index in 2023 was +34.3 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (+3.9%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

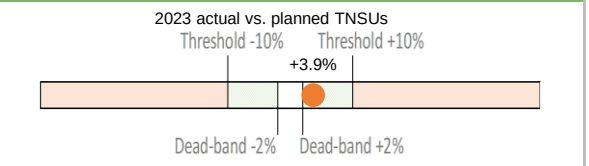
Terminal costs by entity

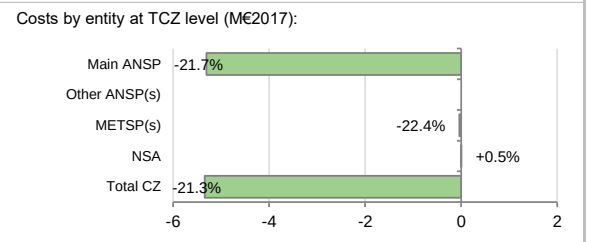
Actual real terminal costs are -21.3% (-5.3 M€2017) lower than planned. This is the result of lower costs for the main ANSP, HungaroControl (-21.7%, or -5.3 M€2017) and the MET service provider (-22.4%, or 0.04 M€2017) and higher costs for the NSA (+0.5%, or +0.002 M€2017).

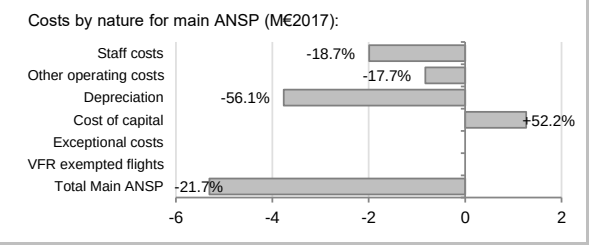
Terminal costs for the main ANSP (HungaroControl) at charging zone level

Significantly lower than planned terminal costs in real terms for HungaroControl in 2023 (-21.7%, or -5.3 M€2017) result from:

- Significantly lower staff costs in real terms (-18.7%), but higher in nominal terms (+4.2%), due to a higher than expected inflation which led to an increase in ATCO and non-ATCO salaries above the plan, albeit partially offset by lower-than-expected headcount;
- Significantly lower other operating costs in real terms (-17.7%), but higher in nominal terms (+5.4%), due to higher energy prices, external service charges, local business taxes and liability insurance premiums;
-Significantly lower depreciation costs (-56.1%), due to the postponement or late implementation of investments such as the mirTWR project;
- Significantly higher cost of capital (+52.2%) mainly due to the recognition of the pension related obligations towards the ATCO's in the employed capital.







HUNGARY: Terminal charging zone

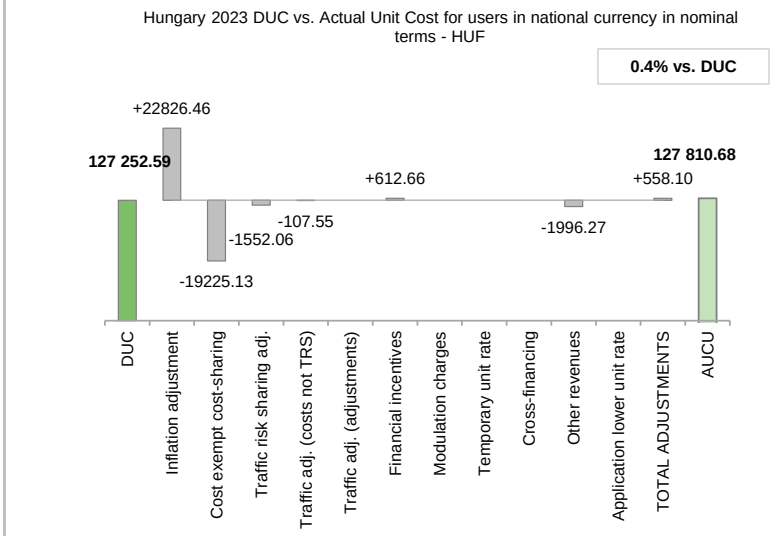
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	HUF/SU	€/SU
Initial DUC charged	127 252.59	333.83
DUC to be charged retroactively	0.00	0.00
DUC	**127 252.59**	**333.83**
Inflation adjustment	22 826.46	59.88
Cost exempt from cost-sharing	-19 225.13	-50.43
Traffic risk sharing adjustment	-1 552.06	-4.07
Traffic adj. (costs not TRS)	-107.55	-0.28
Traffic adj. (adjustments)*		
Financial incentives	612.66	1.61
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-1 996.27	-5.24
Application of lower unit rate	0.00	0.00
Total adjustments	558.10	1.46
AUCU	**127 810.68**	**335.29**
AUCU vs. DUC	**0.4%**	**0.4%**

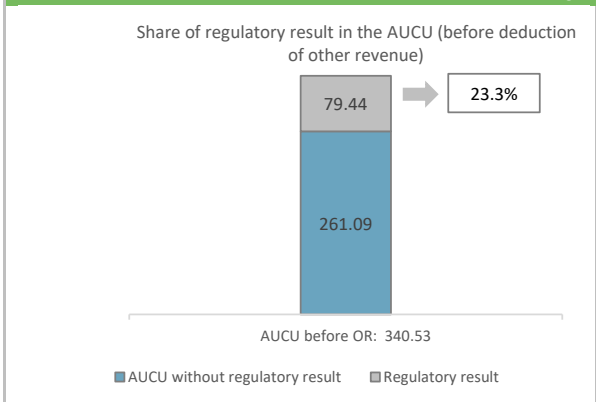
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		HUF '000	€ '000	HUF/SU	€/SU
by item	New and existing investments	-1 378 986	-3 618	-19 234.79	-50.46
	Competent authorities and qualified entities costs	692	2	9.65	0.03
	Eurocontrol costs	0	0	0.00	0.00
	Pension costs	0	0	0.00	0.00
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-1 378 294**	**-3 616**	**-19 225.13**	**-50.43**

Source: These data are taken from the June 2024 Terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	HUF '000	€ '000	HUF/SU	€/SU
HungaroControl	2 154 785	5 653	30 056.02	78.85
METSP(s)	**HUF '000**	**€ '000**	**HUF/SU**	**€/SU**
Hungary-MET	16 134	42	225.05	0.59
Total charging zone	2 170 919	5 695	30 281.07	79.44
Actual cost for users* **	9 306 158	24 413	129 806.96	340.53
Regulatory result (% AUCU)	23.3%	23.3%	23.3%	23.3%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (127 810.68 HUF or 335.29 €) is +0.4% higher than the nominal DUC (127 252.59 HUF or 333.83 €). The difference between these two figures (+558.10 HUF/SU or +1.46 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+22 826.46 HUF/SU or +59.88 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-19 225.13 HUF/SU or -50.43 €/SU);
- the deduction of the traffic risk sharing adjustments (-1 552.06 HUF/SU or -4.07 €/SU);
- the deduction of the traffic adjustment (-107.55 HUF/SU or -0.28 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+612.66 HUF/SU or +1.61 €/SU); and
- the deduction of the other revenues (-1 996.27 HUF/SU or -5.24 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 23.3%.

HUNGARY: Terminal main ANSP (HungaroControl) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

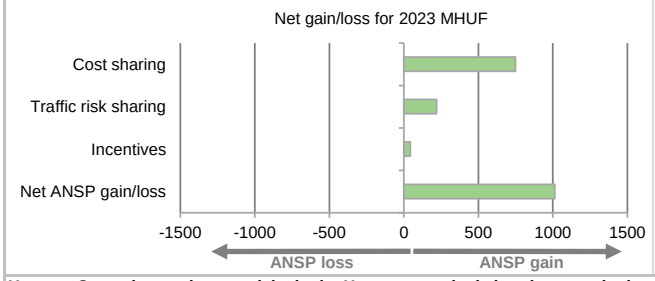
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

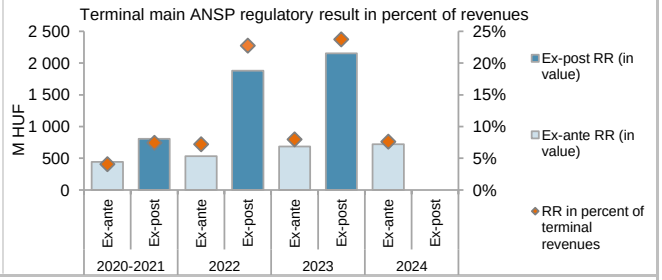
Cost sharing (HUF '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	284 849	95 070	506 396	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	66 668	747 735	1 620 353	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-45 464	-157 690	-1 377 462	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**306 054**	**685 115**	**749 287**	
Traffic risk sharing (HUF '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.0%	12.7%	3.9%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	10 682 167	7 369 440	8 584 481	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**0**	**324 255**	**219 377**	
Incentives (HUF '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**43 923**	
Net ANSP gain(+)/loss(-) on terminal activity (HUF '000)	**306 054**	**1 009 370**	**1 012 587**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**855**	**2 585**	**2 656**	

12. Regulatory result (RR) for the main ANSP at charging zone level

HungaroControl planned regulatory result (HUF '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	3 944 962	4 958 200	8 903 163	8 214 232	10 493 694	10 778 204
Proportion of financing through equity (in %)	100%	95%	97%	81%	82%	87%
RoE pre-tax rate (in %)	4.4%	5.8%	5.1%	8.0%	8.0%	7.7%
RoE (in value)	171 606	270 645	442 251	532 229	686 006	722 101
Ex-ante regulatory result (+/-) for the terminal charging zone	**171 606**	**270 645**	**442 251**	**532 229**	**686 006**	**722 101**
Revenue for the terminal charging zone	**5 168 516**	**5 635 745**	**10 804 261**	**7 369 440**	**8 584 481**	**9 507 231**
Ex-ante regulatory result (+/-) in percent of revenues	**3.3%**	**4.8%**	**4.1%**	**7.2%**	**8.0%**	**7.6%**
Ex-ante RoE pre-tax rate (in %)	**4.4%**	**5.8%**	**5.1%**	**8.0%**	**8.0%**	**7.7%**
HungaroControl actual regulatory result (HUF '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	3 944 962	5 819 143	9 764 105	12 184 142	15 974 793	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	4.4%	5.6%	5.1%	7.2%	7.2%	
RoE (in value)	171 606	328 200	499 806	871 166	1 142 198	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	306 054	306 054	1 009 370	1 012 587	
Ex-post regulatory result (+/-) for the terminal charging zone	**171 606**	**634 254**	**805 860**	**1 880 536**	**2 154 785**	
Revenue for the terminal charging zone	**5 168 516**	**5 656 950**	**10 825 466**	**8 283 741**	**9 090 673**	
Ex-post regulatory result (+/-) in percent of revenues	**3.3%**	**11.2%**	**7.4%**	**22.7%**	**23.7%**	
Ex-post RoE pre-tax rate (in %)	**4.4%**	**10.9%**	**8.3%**	**15.4%**	**13.5%**	

13. Focus on main ANSP regulatory result on terminal activity





HungaroControl net gain on activity in the Hungary terminal charging zone in the year 2023

HungaroControl reported a net gain of +1 012.6 MHUF, as a combination of a gain of +749.3 MHUF arising from the cost sharing mechanism, with a gain of +219.4 MHUF arising from the traffic risk sharing mechanism and a gain of +43.9 MHUF relating to financial incentives.

HungaroControl overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+1 012.6 MHUF) and the actual RoE (+1 142.2 MHUF) amounts to +2 154.8 MHUF (23.7% of the terminal revenues). The resulting ex-post rate of return on equity is 13.5%, which is higher than the 8.0% planned in the PP.

HUNGARY: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Hungary-MET planned regulatory result (HUF '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**0**	**0**	**0**	**78 917**	**63 104**	**67 841**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Hungary-MET actual regulatory result (HUF '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**7 687**	**16 134**	
Revenue for the terminal charging zone	**0**	**0**	**0**	**88 487**	**77 708**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**8.7%**	**20.8%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**21.1%**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Hungary (Hungary-MET) corresponds to 20.8% of the terminal revenues. The RoE cannot be calculated for Hungary-MET, as it has no equity.

HUNGARY: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Hungary

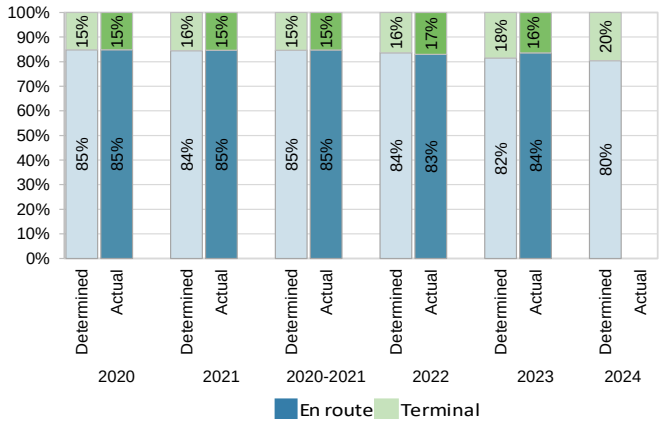
Terminal charging zone 1: Hungary

Hungary: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	88 066 601	91 620 408	179 687 009	110 609 471	110 418 307	112 708 232
Real terminal costs (€2017)	15 727 030	16 827 036	32 554 066	21 655 654	25 052 669	27 409 727
Real gate-to-gate costs (€2017)	103 793 632	108 447 444	212 241 075	132 265 125	135 470 976	140 117 959
En route share (%)	84.8%	84.5%	84.7%	83.6%	81.5%	80.4%

Hungary: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	88 066 601	87 454 722	175 521 324	96 392 378	100 334 909	
Real terminal costs (€2017)	15 727 030	15 851 009	31 578 039	19 763 340	19 711 098	
Real gate-to-gate costs (€2017)	103 793 632	103 305 731	207 099 363	116 155 718	120 046 007	
En route share (%)	84.8%	84.7%	84.8%	83.0%	83.6%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-5 141 713	-5 141 713	-16 109 407	-15 424 969	
	in %	0.0%	-4.7%	-2.4%	-12.2%	-11.4%	
En route share	in p.p.	0.0 p.p.	0.2 p.p.	0.1 p.p.	-0.6 p.p.	2.1 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -11.4% (-15.4 M€2017) lower than planned, as en route costs are lower than planned by -10.1 M€2017 and terminal costs are lower than planned by -5.3 M€2017.

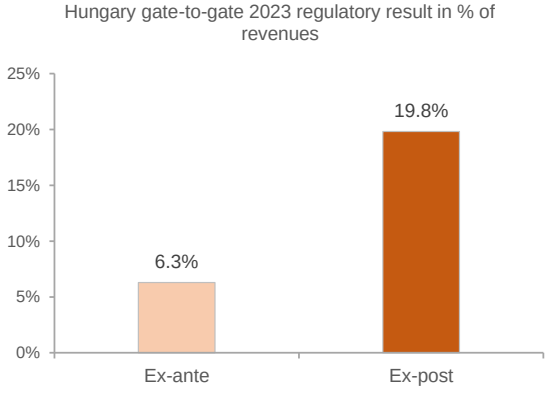
The actual share of en route in gate-to-gate ANS costs (83.6%) is higher than planned in the PP for 2023 (81.5%).

3. Gate-to-gate regulatory result (RR) 2023

In HUF '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
HungaroControl	2 756 040	43 205 792	6.4%		10 307 853	51 890 703	19.9%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Hungary MET	33 804	1 159 790	2.9%		254 475	1 416 620	18.0%	
Total	**2 789 844**	**44 365 582**	**6.3%**		**10 562 328**	**53 307 323**	**19.8%**	

For the ANSPs providing services in the en route and terminal charging zones of Hungary covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +10 562.3 MHUF (+8 391.4 MHUF for en route and +2 170.9 MHUF for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 19.8% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (6.3% of gate-to-gate revenues).



Annual Monitoring Report 2023

Local level view

IRELAND

IRELAND **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
AirNav	94	D	C	C	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

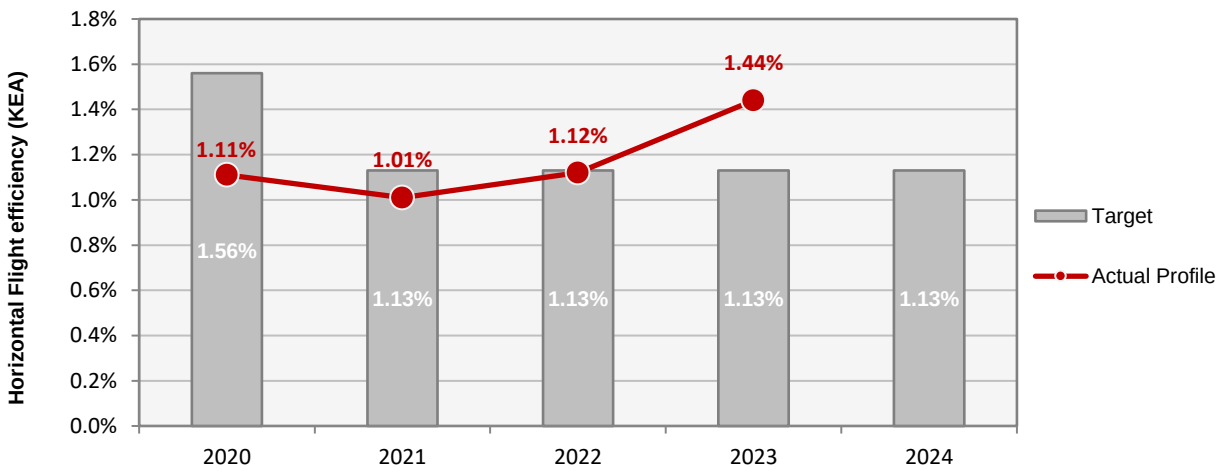
Four out of five EoSM components of the ANSP meet the RP3 target level. Only "Safety Risk Management" is below RP3 target level, but the ANSP only need to improve in a single question to achieve RP3 targets. Over 2023, "Safety Culture" component was improved from level C to D.

IRELAND

ENVIRONMENT - Horizontal flight efficiency

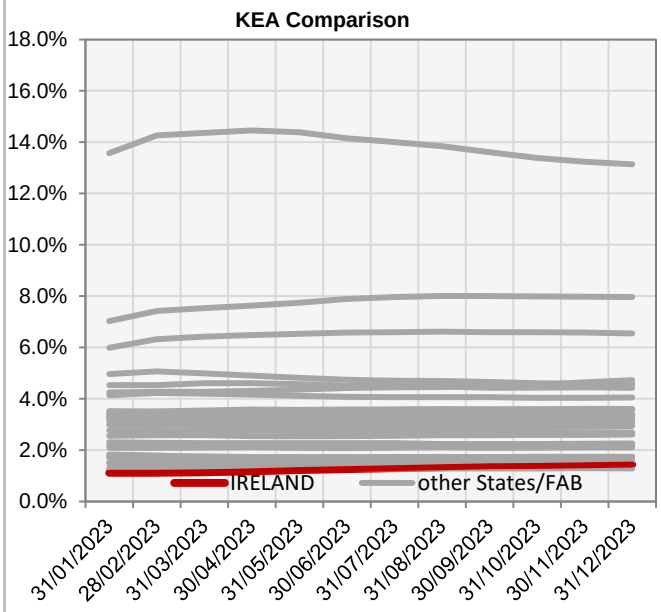
KEA

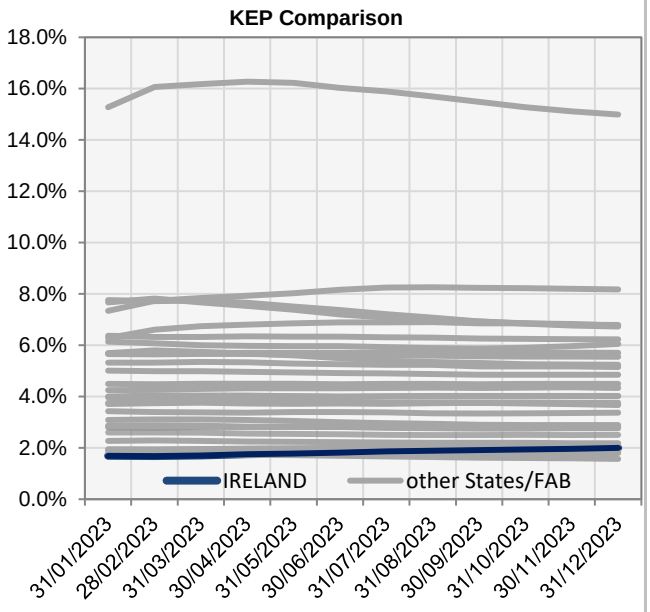
	2020	2021	2022	2023	2024
Target	1.56%	1.13%	1.13%	1.13%	1.13%
Actual performance	1.11%	1.01%	1.12%	1.44%	



End of month indicators evolution in 2023

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	1.12%	1.12%	1.14%	1.18%	1.22%	1.26%	1.30%	1.34%	1.37%	1.39%	1.41%	1.44%
KEP	1.69%	1.68%	1.70%	1.75%	1.78%	1.81%	1.86%	1.89%	1.92%	1.94%	1.96%	2.00%
KES	1.77%	1.75%	1.77%	1.83%	1.83%	1.84%	1.87%	1.89%	1.90%	1.90%	1.91%	1.93%





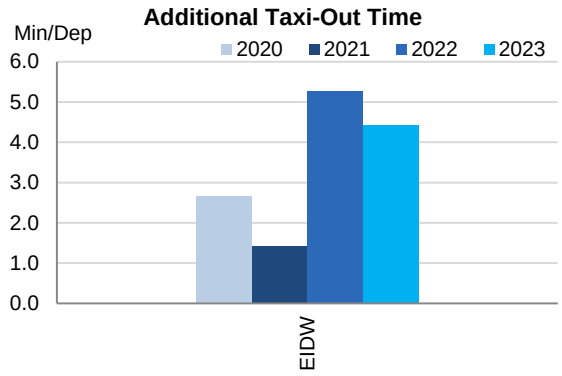
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

IRELAND **ENVIRONMENT - Airports**

1. Overview

Ireland includes 3 airports under RP3 monitoring. However, in accordance with IR (EU) 2019/317 and the traffic figures, only Dublin must be monitored for additional taxi-out and ASMA times.
Traffic at these Irish airports in 2023, with a 14% increase compared to 2022, showed full recovery with the same traffic levels as in 2019.
Both additional times at Dublin observed a decrease with respect to 2022.
The shares of CDO flights remained stable and are still in the higher range of all observed values in 2023.

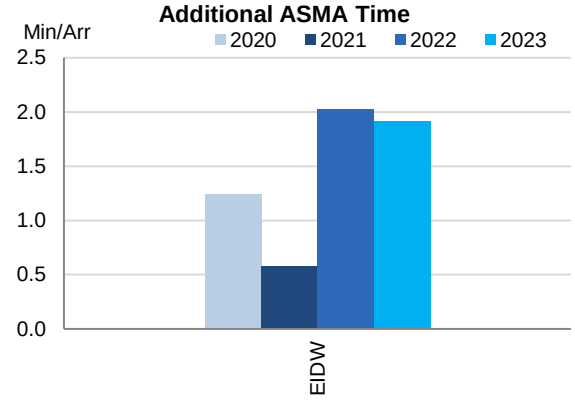
2. Additional Taxi-Out Time



Additional taxi-out times at Dublin decreased in 2023 (after the drastic increase in 2022) (EIDW; 2019: 7.1 min/dep.; 2020: 2.67 min/dep.; 2021: 1.43 min/dep.; 2022: 5.27 min/dep.; 2023: 4.43 min/dep.) and remained lower than in 2019, even if traffic has fully recovered.
However, it is still the second highest additional taxi-out value observed in 2023 amongst the SES monitored airports.

According to the Irish monitoring report:
Dublin Airport's new runway 28R/10L with associated taxiway infrastructure became operational in August 2022, with a phased increase to the operational hours until mid-2023, from when it has been operating to the full currently permitted hours. This has contributed to improving this PI, notwithstanding a significant year-on-year increase in traffic levels.

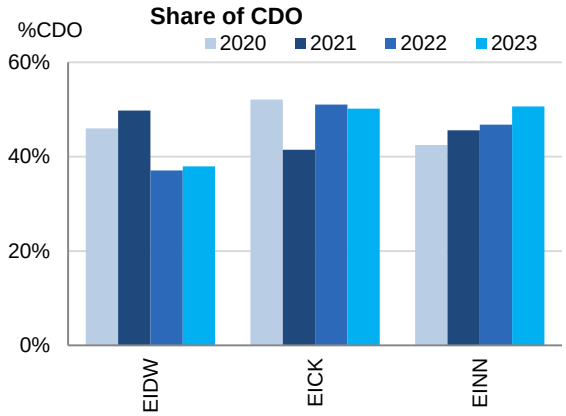
3. Additional ASMA Time



Additional ASMA times at Dublin, slighlty decreased in 2023 (EIDW; 2019: 3.29 min/arr.; 2020: 1.24 min/arr. 2021: 0.58 min/arr.; 2022: 2.02 min/arr.; 2023: 1.91 min/arr.). This performance, althoug better than in 2019, resulted in the 5th highest additonal ASMA value observed in 2023 in the SES monitored airports and well above the SES average of 1.16 min/arr.

According to the Irish monitoring report:
Dublin Airspace review is due to be completed in 2023. The ANSP and NSA meet regularly to discuss performance. The ANSP was actively involved in the PRC, ASMA and Additional Taxi Time Working Group, the ANSP is currently reviewing the revised results.

4. Share of arrivals applying CDO



The share of CDO flights increased at Dublin (EIDW) by 0.8 percentage points to 37.9% and at Shannon (EINN) by 3.8 percentage points to 50.6%. Cork (EICK) had a decrease of 0.9 percentage points to 50.2%. Nevertheless, the share of CDO flights at all airports is well above the overall RP3 value in 2023 (28.8%).
The monthly values are generally lower during the summer months, especially for Dublin and Cork.

According to the Irish monitoring report:
Low level airspace review to incorporate EICK (Cork) and EINN (Shannon) now due in 2024. Dublin Airspace review is due to be completed in the latter part of 2024 (CDO for Dublin operations restricted by neighbouring airspace structures).

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Dublin-EIDW	2.67	1.43	5.27	4.43		1.24	0.58	2.02	1.91		46%	50%	37%	38%	
Cork-EICK	-	-	-	-		-	-	-	-		52%	41%	51%	50%	
Shannon-EINN	-	-	-	-		-	-	-	-		42%	46%	47%	51%	

IRELAND **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

"All military airspace is flight plannable and direct routes are given through activated military airspace as routine.
The implementation of Point Merge at Dublin Airport was effected in a manner to ensure there was no impact on capacity at Dublin resulting from the military activity. Likewise the FRA project in 2009 also required no filing differences for military activity. "

Military - related measures implemented or planned to improve capacity

"As noted above, all military airspace is flight plannable and direct routes are given through activated military airspace as routine.
In addition the Military airspace even though proximate to Dublin Airport has no impact on the capacity of Dublin airport and this was confirmed in 2008 when differential flow rates were no longer required for military airspace activity."

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Ireland	n/a	n/a	n/a	n/a	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Dublin	n/a	n/a	n/a	n/a	
Shannon	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#6

"All military airspace is flight plannable and direct routes are given through activated military airspace as routine.
The implementation of Point Merge at Dublin Airport was effected in a manner to ensure there was no impact on Environment at Dublin airport resulting from the military activity. Likewise the FRA project in 2009 also required no filing differences for military activity.
In addition the Military airspace even though proximate to Dublin Airport has no impact on the capacity of Dublin airport and this was confirmed in 2008 when differential flow rates were no longer required for military airspace activity.
Full ASM management is reliant upon the rollout of LARA. Ireland reports c.75% complete pending full LARA application.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Ireland	n/a	n/a	n/a	n/a	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Dublin	n/a	n/a	n/a	n/a	
Shannon	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#7

"All military airspace is flight plannable and direct routes are given through activated military airspace as routine. The implementation of FRA in 2009 required no filing differences for military activity.
A full record is available via NM."

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Ireland	n/a	n/a	n/a	n/a	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Dublin	n/a	n/a	n/a	n/a	
Shannon	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#8

"All military airspace is flight plannable and direct routes are given through activated military airspace as routine.
The implementation of Point Merge at Dublin Airport was effected in a manner to ensure there was no impact on Environment at Dublin airport resulting from the military activity. Likewise the FRA project in 2009 also required no filing differences for military activity
In addition the Military airspace even though proximate to Dublin Airport has no impact on the capacity of Dublin airport and this was confirmed in 2008 when differential flow rates were no longer required for military airspace activity.
Full ASM management is reliant upon the rollout of LARA. Ireland is carrying out operational evaluation of LARA via NATS web-based client."

IRELAND **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.07	0.01	0.03	0.03	0.03	
Actual performance	0.00	0.00	0.00	0.02		

NSA's assessment of capacity performance

En route traffic also grew strongly year-on-year, although was slightly below the stronger growth which had been forecast in the Performance Plan.

En route ATFM delay increased year-on-year. The En Route target was still met.

Monitoring process for capacity performance

The ANSP monitors on a daily basis any ATFM delay ensuring causes are identified, the results of which are reported weekly to Senior Management. The ANSP and NSA meet regularly to discuss the peformance indicators.

Capacity Planning

The ANSP provides input to the Network Operations Report. The ANSP sends the capacity plan to NM for the outlook period on a weekly basis. The Network Manager in conjunction with the ANSP provides a traffic expectation at network and ACC level for the outlook period. The NM assesses the capacity plans which are then published on the Weekly NOP. The plan is as follows:

October 2024: 2024 Capacity baselines confirmed. November 2024: Capacity requirements and reference values. November to January: Preparation of Capacity Plans for 2025-2029, this will also involve teleconferences with NM. January 2025: NM Assessment forecast of expected operational performance for the period 2025-2029. January 2025: preparation of migration measures if required. Q1 2025: plan complete.

ATCO in OPS (FTE)							
Dublin ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	57	57	58	59	
Actual	59	58	55	51	54		

Shannon ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	191	191	197	199	
Actual	199	195	187	191	194		

Application of Corrective Measures for Capacity (if applicable)

Not applicable since targets were met.

Summary of capacity performance

Ireland experienced an increase in traffic, from 582k flights in 2022, to 664k flights in 2023. Delays increased to almost 11k minutes. For reference there were 647k flights in 2019 and 4k minutes of ATFM delay.

En route Capacity Incentive Scheme						
Airnav Ireland	2020	2021	2022	2023	2024	Observations
National Capacity target	0.07	0.01	0.03	0.03	0.03	Since actual performance falls within the deadband range neither bonus nor malus is due.
Deadband +/-	-	-	-	[0-0.03]	[0-0.03]	
Actual performance	0.00	0.00	0.00	0.02		

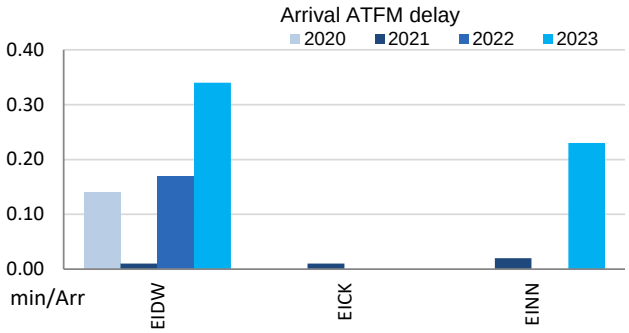
IRELAND **CAPACITY - Airports**

1. Overview

Ireland includes 3 airports under RP3 monitoring. However, in accordance with IR (EU) 2019/317 and the traffic figures, only Dublin must be monitored for pre-departure delays.
The Airport Operator Data Flow is fully established at Dublin and the monitoring of pre-departure delays can be performed. Nevertheless, the quality of the reporting does not allow for the calculation of the ATC pre-departure delay.
Traffic at these Irish airports in 2023, with a 14% increase compared to 2022, showed full recovery with the same traffic levels as in 2019.

Average arrival ATFM delays in 2023 was 0.30 min/arr, compared to 0.15 min/arr in 2022. National target on arrival ATFM delay was not met.
ATFM slot adherence at national level slightly improved (2023: 96.5%; 2022: 96.2%; 2021: 97.6%).

2. Arrival ATFM Delay



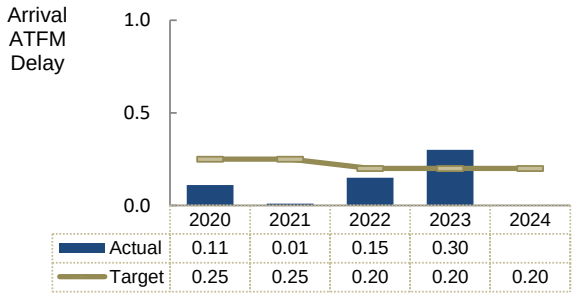
The national average arrival ATFM delay at Irish airports in 2023 was 0.30 min/arr.
No delays were observed in 2023 at Cork (EICK). At Dublin (EIDW: 2019: 0.17 min/arr.; 2020: 0.14 min/arr.; 2021: 0.01 min/arr.; 2022: 0.17 min/arr.; 2023: 0.34 min/arr.) the delays were attributed mainly to weather (50%) followed by Aerodrome Capacity (38%) and ATC staffing (5%).

According to the Irish monitoring report:
For Terminal Operations in Ireland, there was a total of 150,195 arrivals with ATFM delay of 43,164, giving average ATFM arrival delay of 0.29, at all Irish Airports. At airports within the scope of the Performance Plan, average ATFM arrival delay per flight was 0.3 minutes, which was 0.1 minutes above the target.
This can be categorised for Dublin Airport as 1,099 Equipment (Non-ATC), 15,295 Aerodrome Capacity, 56 minutes other; 1,728 Special Event - State visit of US President Biden; 1956 ATC Staffing, and 20,433 Weather. Shannon had 2,597 minutes, due to ground infrastructure works (Taxiway A). Cork had zero minutes.
The NSA notes that ATFM delay minutes were largely caused by weather and aerodrome related issues. Consistent with historic patterns, only a small proportion of ATFM arrival delay was ANSP attributable, with 0.01 minutes per flight relating to ATC staffing. This delay was likely linked to staffing levels being lower than forecast by the NSA, in circumstances where the traffic was considerably ahead of the forecast.

The NSA recommends the ANSP to: *Aim to increase ATCO staffing levels at least in line with the Performance Plan forecast as soon as possible, to enable ANSP attributable delay to be improved/maintained.*

The monitoring report adds: *The main risk to the achievement of the target in 2024 appears to be weather or other non-ANSP attributable delay.*

3. Arrival ATFM Delay – National Target and Incentive Scheme

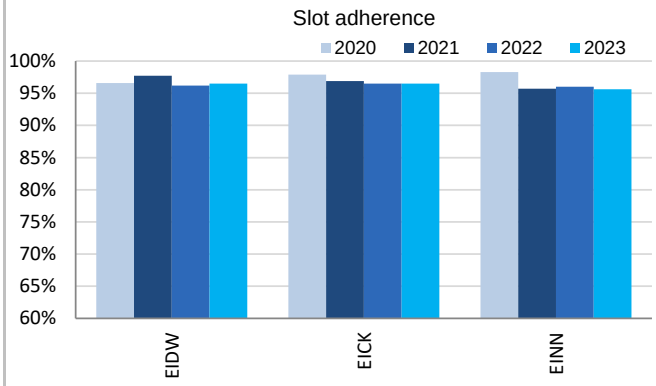


	2020	2021	2022	2023	2024
Actual	0.11	0.01	0.15	0.30	
Target	0.25	0.25	0.20	0.20	0.20

The Irish performance plan sets a national target on arrival ATFM delay for 2023 of 0.20 min/arr. This target was not met with an actual performance of 0.30 min/arr.
According to the Irish monitoring report, this performance falls within the deadband, and therefore no penalty applies.

The monitoring report mentions: *We note that the formulae in this tab include the precise actual value achieved (0.30 mins) both within the deadband range, and also the penalty range. The NSA has reviewed Regulation 2019/317 and notes that Article 11(3)(f) provides that the financial disadvantage is to be applied only 'beyond' the deadbange range, meaning that the deadband is inclusive of the top of the range (i.e. it encompasses values up to and including 0.30 mins). On that basis, the correct financial incentive is zero, as opposed to the negative incentive automatically computed below.*

4. ATFM Slot Adherence



All three airports showed adherence above 95% and the national average was 96.5%. With regard to the 3.5% of flights that did not adhere, 2.2% was early and 1.3% was late.
According to the Irish monitoring report:
ATFM slot adherence is continuously monitored, and the ANSP reports to unit management on a weekly basis. ATFM Compliance is discussed regularly with the NSA, all units above 90%.

5. ATC Pre-departure Delay

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Dublin (the only Irish airport subject to monitoring of this indicator).
However, there are several quality checks before EUROCONTROL can produce the final value which is established as the average minutes of pre-departure delay (delay in the actual off block time) associated to the IATA delay code 89 (through the APDF, for each delayed flight, the reasons for that delay have to be transmitted and coded according to IATA delay codes.
However, sometimes the airport operator has no information concerning the reasons for the delay in the off block, or they cannot convert the reasons to the IATA delay codes. In those cases, the airport operator might:
- Not report any information about the reasons for the delay for that flight (unreported delay)
- Report a special code to indicate they do not have the information (code ZZZ)
- Report a special code to indicate they do not have the means to collect and/or translate the information (code 999)
To be able to calculate with a minimum of accuracy the PI for a given month, the minutes of delay that are not attributed to any IATA code reason should not exceed 40% of the total minutes of pre-departure delay observed at the airport.
Finally, to be able to produce the annual figure, at least 10 months of valid data is requested by EUROCONTROL.

The share of unidentified delay reported by Dublin was above 40% for most months since April 2020, preventing the calculation of this indicator since then. Dublin had proper reporting before April 2020. In 2022 the reporting slightly improved, but since summer 2023 has deteriorated again and the calculation of the indicator was not possible as of May.

The Irish monitoring report mentions: *Dublin Airport's new runway 28R/10L with associated taxiway became operational in August 2022, it continues to show benefits. There appears to be inconsistency in the application of IATA Code 89.*

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time at Dublin slightly decreased in 2023 (EIDW: 2020: 7.08 min/dep.; 2021: 6.88 min/dep.; 2022: 23.07 min/dep.; 2023: 20.54 min/dep.)

According to the Irish monitoring report: *Dublin Airport's new runway 28R/10L became operational in August 2022, it continues to show benefits, as noted above. Additionally, On Time Performance significantly improved year-on-year from 2022 to 2023, with the largest contributor to delay being aircraft rotational delay.*

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Dublin-EIDW	0.14	0.01	0.17	0.34		96.6%	97.7%	96.2%	96.5%		n/a	n/a	n/a	n/a		7.08	6.88	23.07	20.54	
Cork-EICK	0	0.01	0	0		97.9%	96.9%	96.5%	96.5%		-	-	-	-		-	-	-	-	
Shannon-EINN	0	0.02	0	0.23		98.3%	95.7%	96.0%	95.6%		-	-	-	-		-	-	-	-	

IRELAND: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Ireland ECZ represents 1.9% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 17 November 2021 and found consistent as per Commission Decision (EU) 2022/766 of 13 April 2022
  The final version of the plan was adopted and published by Ireland in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Ireland: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	102 132 685	104 907 809	207 040 494	123 929 012	129 002 488	129 584 192
Inflation %	0.0%	1.6%		1.9%	2.0%	2.0%
Inflation index (100 in 2017)	101.6	103.2		105.2	107.3	109.4
Real en route costs (€2017)	100 825 323	102 364 058	203 189 381	119 095 882	122 100 394	120 687 045
Total en route service units	1 988 290	2 312 329	4 300 619	3 990 958	4 882 829	4 893 147
Real en route DUC per service unit (€2017)	**50.71**	**44.27**	**47.25**	**29.84**	**25.01**	**24.66**

Ireland: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	104 062 483	100 758 077	204 820 559	118 963 372	142 950 816	
Inflation %	0.0%	2.4%		8.1%	5.2%	
Inflation index (100 in 2017)	101.6	104.0		112.5	118.3	
Real en route costs (€2017)	102 739 905	97 722 984	200 462 890	108 404 141	125 939 888	
Total en route service units	1 988 290	2 419 194	4 407 484	4 233 452	4 811 843	
Real en route AUC per service unit (€2017)	**51.67**	**40.39**	**45.48**	**25.61**	**26.17**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	1 929 797	-4 149 732	-2 219 935	-4 965 640	13 948 328	
	in %	+1.9%	-4.0%	-1.1%	-4.0%	+10.8%	
Inflation %	in p.p.	0.0 p.p.	0.8 p.p.		6.2 p.p.	3.2 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.8 p.p.		7.3 p.p.	11.0 p.p.	
Real en route costs (€2017)	in value	1 914 583	-4 641 074	-2 726 491	-10 691 742	3 839 493	
	in %	+1.9%	-4.5%	-1.3%	-9.0%	+3.1%	
Total en route service units	in value	0	106 865	106 865	242 494	-70 986	
	in %	-	+4.6%	+2.5%	+6.1%	-1.5%	
Real en route unit cost per service unit (€2017)	**in value**	**0.96**	**-3.87**	**-1.76**	**-4.23**	**1.17**	
	in %	**+1.9%**	**-8.8%**	**-3.7%**	**-14.2%**	**+4.7%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was +4.7% (or +1.17 €2017) higher than the planned DUC. This results from the combination of higher than planned en route costs in real terms (+3.1%, or +3.8 M€2017) and lower than planned TSUs (-1.5%). It should be noted that actual inflation index in 2023 was +11.0 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (-1.5%) falls inside the ±2% dead band. Hence loss of en route revenues is borne by the ANSPs (see items 10 to 14).

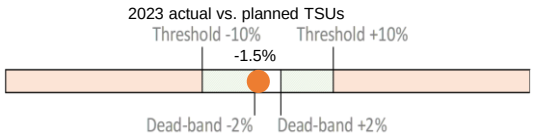
En route costs by entity

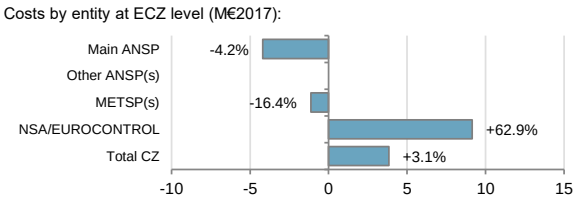
Actual real en route costs are +3.1% (+3.8 M€2017) higher than planned. This is the result of higher costs for the NSA/EUROCONTROL (+62.9%, or +9.1 M€2017) and lower costs for the MET service provider (-16.4%, or -1.1 M€2017) and the main ANSP, AirNav Ireland (-4.2%, or -4.2 M€2017).

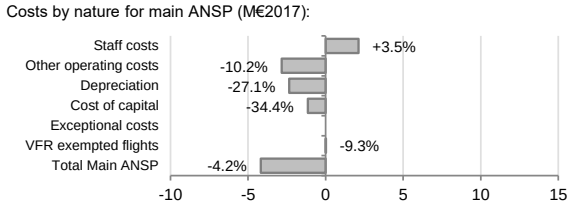
En route costs for the main ANSP (AirNav Ireland) at charging zone level

Lower than planned en route costs in real terms for AirNav Ireland in 2023 (-4.2%, or -4.2 M€2017) resulting mainly from inflation index impact (+11.0 p.p.) since in nominal terms en route costs are higher than planned by +5.1%. Other drivers are:

- Higher staff costs (+3.5%), mainly due to "one-off payment to employees who were the subject of a pay reduction, implemented as a cost containment measure in 2021 during the COVID pandemic and 2% discretionary pension increase applied to pensions in payment and deferred pensions. There were also higher costs of overtime and higher general pay increases compared to the revised RP3 forecasts, which was partially offset by planned headcount being delayed by several months";
- Significantly lower other operating costs (-10.2%), as mentioned above, due to inflation index impact since in nominal terms operational costs are lower than planned by -1.0%;
- Significantly lower depreciation (-27.1%), reflecting delays in the implementation of the investment programme due to shortages in resource availability in engineering and operations departments, as in 2022;
- Significantly lower cost of capital (-34.4%), resulting from the delays in investments; and
- Significantly lower deduction for VFR exempted flights (-9.3%).







IRELAND: En route charging zone

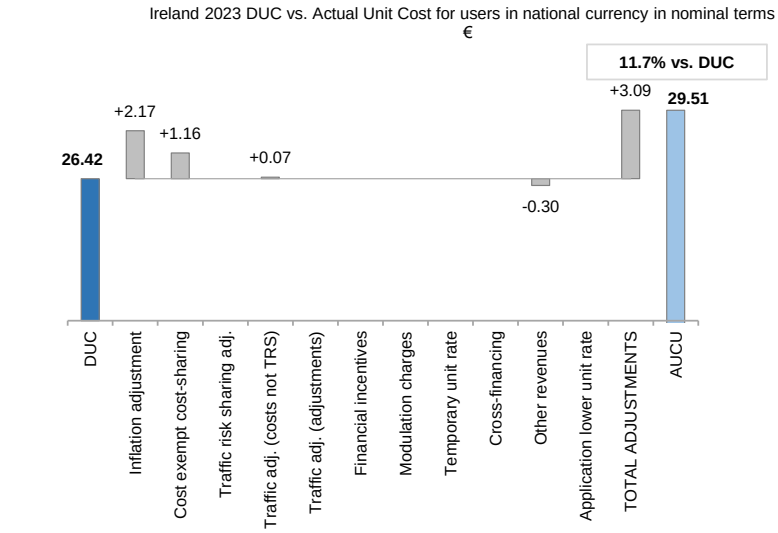
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	26.42
DUC to be charged retroactively	0.00
DUC	**26.42**
Inflation adjustment	2.17
Cost exempt from cost-sharing	1.16
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	0.07
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.30
Application of lower unit rate	0.00
Total adjustments	3.09
AUCU	**29.51**
AUCU vs. DUC	**+11.7%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

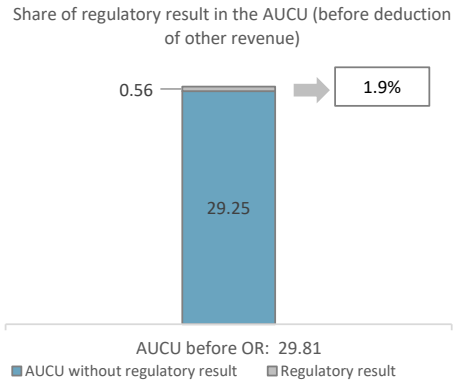
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-3 574	-0.74
	Competent authorities and qualified entities costs	8 660	1.80
	Eurocontrol costs	489	0.10
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**5 575**	**1.16**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
AirNav Ireland	1 452	0.30
METSP(s)	**€ '000**	**€/SU**
Ireland MET	1 233	0.26
Total charging zone	2 685	0.56
Actual cost for users* **	143 446	29.81
Regulatory result (% AUCU)	1.9%	1.9%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (29.51 €) is +11.7% higher than the nominal DUC (26.42 €). The difference between these two figures (+3.09 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+2.17 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+1.16 €/SU);
- the addition of the traffic adjustment (+0.07 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-0.30 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 1.9%.

IRELAND: En route main ANSP (AirNav Ireland) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

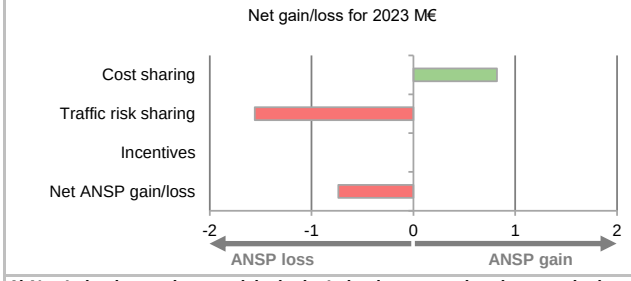
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

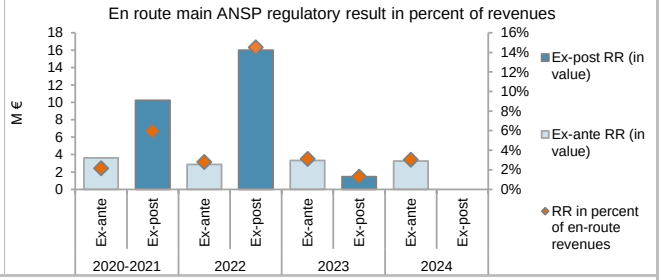
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	2 258	6 353	-5 465	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	592	6 349	9 779	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-443	-2 293	-3 493	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**2 407**	**10 408**	**821**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	2.5%	6.1%	-1.5%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	169 192	102 981	107 187	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**3 630**	**3 319**	**-1 558**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**6 037**	**13 727**	**-738**	

12. Regulatory result (RR) for the main ANSP at charging zone level

AirNav Ireland planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	38 426	47 273	85 699	52 039	59 175	57 777
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	3.0%	5.2%	4.2%	5.5%	5.6%	5.6%
RoE (in value)	1 143	2 464	3 607	2 878	3 336	3 257
Ex-ante regulatory result (+/-) for the en route charging zone	**1 143**	**2 464**	**3 607**	**2 878**	**3 336**	**3 257**
Revenue for the en route charging zone	**83 983**	**85 208**	**169 192**	**102 981**	**107 187**	**107 919**
Ex-ante regulatory result (+/-) in percent of revenues	**1.4%**	**2.9%**	**2.1%**	**2.8%**	**3.1%**	**3.0%**
Ex-ante RoE pre-tax rate (in %)	**3.0%**	**5.2%**	**4.2%**	**5.5%**	**5.6%**	**5.6%**
AirNav Ireland actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	36 925	45 111	82 036	41 087	38 842	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	5.0%	5.2%	5.1%	5.5%	5.6%	
RoE (in value)	1 846	2 350	4 197	2 273	2 190	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	6 037	6 037	13 727	-738	
Ex-post regulatory result (+/-) for the en route charging zone	**1 846**	**8 387**	**10 233**	**16 000**	**1 452**	
Revenue for the en route charging zone	**85 913**	**87 057**	**172 970**	**110 355**	**111 914**	
Ex-post regulatory result (+/-) in percent of revenues	**2.1%**	**9.6%**	**5.9%**	**14.5%**	**1.3%**	
Ex-post RoE pre-tax rate (in %)	**5.0%**	**18.6%**	**12.5%**	**38.9%**	**3.7%**	

13. Focus on the main ANSP regulatory result on en route activity





AirNav Ireland net gain on activity in the Ireland en route charging zone in the year 2023

AirNav Ireland reported a net loss of -0.7 M€, as a combination of a gain of +0.8 M€ arising from the cost sharing mechanism, with a loss of -1.6 M€ arising from the traffic risk sharing mechanism.

AirNav Ireland overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net loss from the en route activity mentioned above (-0.7 M€) and the actual RoE (+2.2 M€) amounts to +1.5 M€ (1.3% of the en route revenues). The resulting ex-post rate of return on equity is 3.7%, which is lower than the 5.6% planned in the PP.

IRELAND: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity

Ireland MET planned regulatory result (€ '000)		2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone		0	0	0	0	0	0
Revenue for the en route charging zone		6 627	6 534	13 161	6 826	7 278	6 937
Ex-ante regulatory result (+/-) in percent of revenues		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A		N/A	N/A	N/A	N/A	N/A
Ireland MET actual regulatory result (€ '000)		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone		0	-519	-519	-958	1 233	
Revenue for the en route charging zone		6 627	6 582	13 209	7 251	7 845	
Ex-post regulatory result (+/-) in percent of revenues		0.0%	-7.9%	-3.9%	-13.2%	15.7%	
Ex-post RoE pre-tax rate (in %)	N/A		N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Ireland (Ireland MET) corresponds to 15.7% of the en route revenues. It should be noted that Ireland-MET does not charge cost of capital.

IRELAND: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Ireland TCZ represents 2.2% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 3 of which:
  - Airports with fewer than 80,000 IFR mvmts: 2
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Ireland: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	19 367 029	21 303 170	40 670 199	28 118 820	30 828 178	31 736 044
Inflation %	0.0%	1.6%		1.9%	2.0%	2.0%
Inflation index (100 in 2017)	101.6	103.2		105.2	107.3	109.4
Real terminal costs (€2017)	19 120 035	20 837 647	39 957 683	27 217 382	29 483 198	29 962 049
Total terminal service units	70 511	69 963	140 475	166 175	175 383	183 265
Real terminal DUC per service unit (€2017)	**271.16**	**297.84**	**284.45**	**163.79**	**168.11**	**163.49**

Ireland: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	19 797 207	19 856 281	39 653 488	31 294 352	30 518 802	
Inflation %	0.0%	2.4%		8.1%	5.2%	
Inflation index (100 in 2017)	101.6	104.0		112.5	118.3	
Real terminal costs (€2017)	19 548 758	19 274 571	38 823 329	28 779 375	27 211 818	
Total terminal service units	70 511	74 696	145 208	169 966	192 910	
Real terminal AUC per service unit (€2017)	**277.24**	**258.04**	**267.36**	**169.32**	**141.06**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	430 178	-1 446 889	-1 016 711	3 175 532	-309 376	
	in %	+2.2%	-6.8%	-2.5%	+11.3%	-1.0%	
Inflation %	in p.p.	0.0 p.p.	0.8 p.p.		6.2 p.p.	3.2 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.8 p.p.		7.3 p.p.	11.0 p.p.	
Real terminal costs (€2017)	in value	428 723	-1 563 077	-1 134 354	1 561 993	-2 271 380	
	in %	+2.2%	-7.5%	-2.8%	+5.7%	-7.7%	
Total terminal service units	in value	0	4 733	4 733	3 791	17 527	
	in %	-	+6.8%	+3.4%	+2.3%	+10.0%	
Real terminal unit cost per service unit (€2017)	**in value**	**6.08**	**-39.80**	**-17.08**	**5.54**	**-27.05**	
	in %	**+2.2%**	**-13.4%**	**-6.0%**	**+3.4%**	**-16.1%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -16.1% (or -27.05 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TNSUs (+10.0%) and significantly lower than planned terminal costs in real terms (-7.7%, or -2.3 M€2017). It should be noted that actual inflation index in 2023 was +11.0 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (+10.0%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

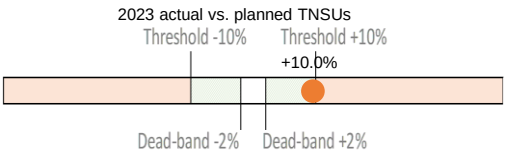
Terminal costs by entity

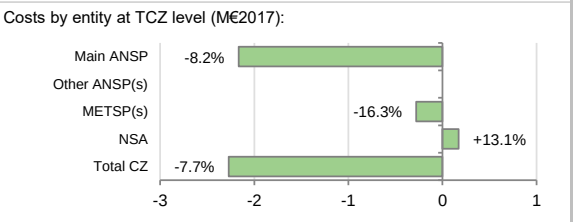
Actual real terminal costs are -7.7% (-2.3 M€2017) lower than planned. This is the result of lower costs for the main ANSP, AirNav Ireland (-8.2%, or -2.2 M€2017) and the MET service provider (-16.3%, or -0.3 M€2017), while the NSA costs are higher (+13.1%, or +0.2 M€2017) than planned.

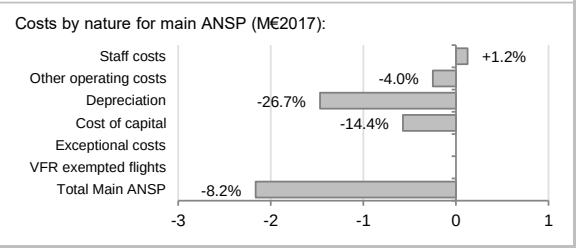
Terminal costs for the main ANSP (AirNav Ireland) at charging zone level

Significantly lower than planned terminal costs in real terms for AirNav Ireland in 2023 (-8.2%, or -2.2 M€2017) resulting mainly from inflation index impact (+11.0 p.p.) since in nominal terms terminal costs are lower than planned by -1.1%. Other drivers are:

- Slightly higher staff costs (+1.2%) or +11.6% in nominal terms, due to the same drivers described in the en route staff cots;
- Lower other operating costs (-4.0%) or +5.9% in nominal terms, due to higher costs than planned costs of training, systems and equipment maintenances;
- Significantly lower depreciation (-26.7%), reflecting delays in the implementation of the investment programme due to staff shortages as well as knock on impacts from COVID-19 and challenges with sourcing contractors; and
- Significantly lower cost of capital (-14.4%) mainly due to delays in project completions as outlined above.







IRELAND: Terminal charging zone

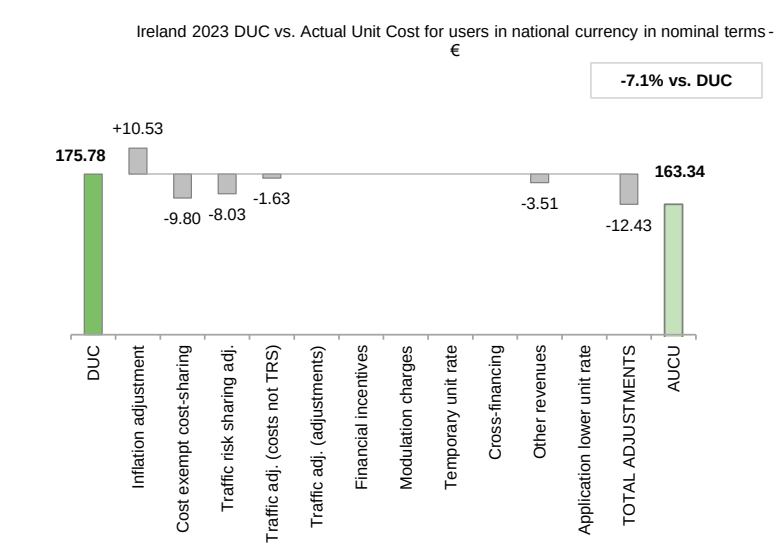
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	175.78
DUC to be charged retroactively	0.00
DUC	**175.78**
Inflation adjustment	10.53
Cost exempt from cost-sharing	-9.80
Traffic risk sharing adjustment	-8.03
Traffic adj. (costs not TRS)	-1.63
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-3.51
Application of lower unit rate	0.00
Total adjustments	-12.43
AUCU	**163.34**
AUCU vs. DUC	**-7.1%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

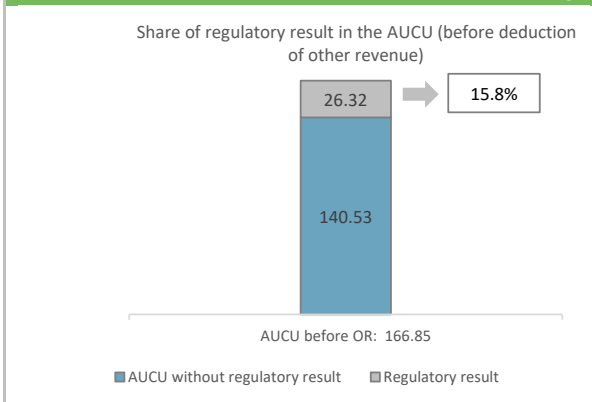
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-2 063	-10.70
	Competent authorities and qualified entities costs	173	0.89
	Eurocontrol costs	0	0.00
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-1 891**	**-9.80**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
AirNav Ireland	4 772	24.74
METSP(s)	**€ '000**	**€/SU**
Ireland-MET	306	1.58
Total charging zone	5 077	26.32
Actual cost for users* **	32 187	166.85
Regulatory result (% AUCU)	15.8%	15.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (163.34 €) is -7.1% lower than the nominal DUC (175.78 €). The difference between these two figures (-12.43 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+10.53 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-9.80 €/SU);
- the deduction of the traffic risk sharing adjustments (-8.03 €/SU);
- the deduction of the traffic adjustment (-1.63 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-3.51 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 15.8%.

IRELAND: Terminal main ANSP (AirNav Ireland) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

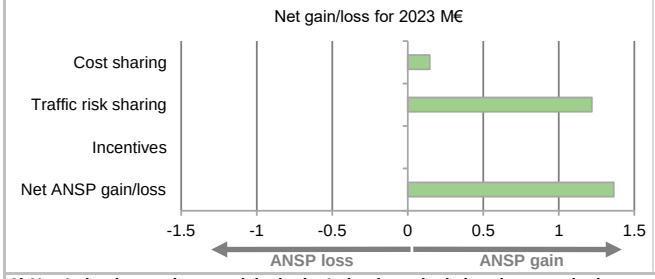
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

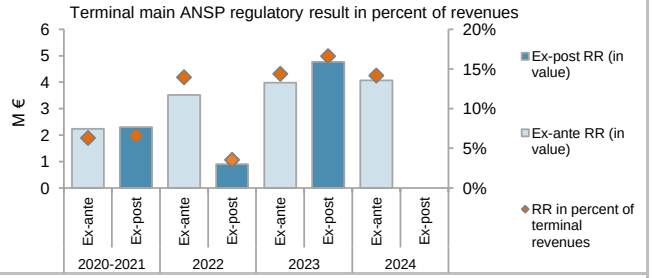
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	1 200	-2 824	317	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	105	1 157	1 870	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 582	-1 251	-2 042	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-277**	**-2 917**	**145**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	3.4%	2.3%	10.0%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	35 548	25 169	27 690	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**857**	**525**	**1 218**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**580**	**-2 393**	**1 363**	

12. Regulatory result (RR) for the main ANSP at charging zone level

AirNav Ireland planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	14 490	34 692	49 182	63 580	70 627	72 083
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	3.0%	5.2%	4.6%	5.5%	5.6%	5.6%
RoE (in value)	431	1 808	2 239	3 517	3 982	4 064
Ex-ante regulatory result (+/-) for the terminal charging zone	**431**	**1 808**	**2 239**	**3 517**	**3 982**	**4 064**
Revenue for the terminal charging zone	**16 945**	**18 603**	**35 548**	**25 169**	**27 690**	**28 649**
Ex-ante regulatory result (+/-) in percent of revenues	**2.5%**	**9.7%**	**6.3%**	**14.0%**	**14.4%**	**14.2%**
Ex-ante RoE pre-tax rate (in %)	**3.0%**	**5.2%**	**4.6%**	**5.5%**	**5.6%**	**5.6%**
AirNav Ireland actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	14 640	19 033	33 673	59 656	60 468	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	5.0%	5.2%	5.1%	5.5%	5.6%	
RoE (in value)	732	992	1 724	3 300	3 409	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	580	580	-2 393	1 363	
Ex-post regulatory result (+/-) for the terminal charging zone	**732**	**1 572**	**2 304**	**907**	**4 772**	
Revenue for the terminal charging zone	**17 375**	**17 553**	**34 928**	**25 601**	**28 736**	
Ex-post regulatory result (+/-) in percent of revenues	**4.2%**	**9.0%**	**6.6%**	**3.5%**	**16.6%**	
Ex-post RoE pre-tax rate (in %)	**5.0%**	**8.3%**	**6.8%**	**1.5%**	**7.9%**	

13. Focus on main ANSP regulatory result on terminal activity





AirNav Ireland net gain on activity in the Ireland terminal charging zone in the year 2023

AirNav Ireland reported a net gain of +1.4 M€, as a combination of a gain of +0.1 M€ arising from the cost sharing mechanism, with a gain of +1.2 M€ arising from the traffic risk sharing mechanism.

AirNav Ireland overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+1.4 M€) and the actual RoE (+3.4 M€) amounts to +4.8 M€ (16.6% of the terminal revenues). The resulting ex-post rate of return on equity is 7.9%, which is higher than the 5.6% planned in the PP.

IRELAND: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Ireland-MET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**1 657**	**1 633**	**3 290**	**1 707**	**1 820**	**1 734**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Ireland-MET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**-130**	**-130**	**-239**	**306**	
Revenue for the terminal charging zone	**1 657**	**1 645**	**3 302**	**1 813**	**1 961**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**-7.9%**	**-3.9%**	**-13.2%**	**15.6%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Ireland (Ireland-MET) corresponds to 15.6% of the terminal revenues. It should be noted that Ireland-MET does not charge cost of capital.

IRELAND: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Ireland

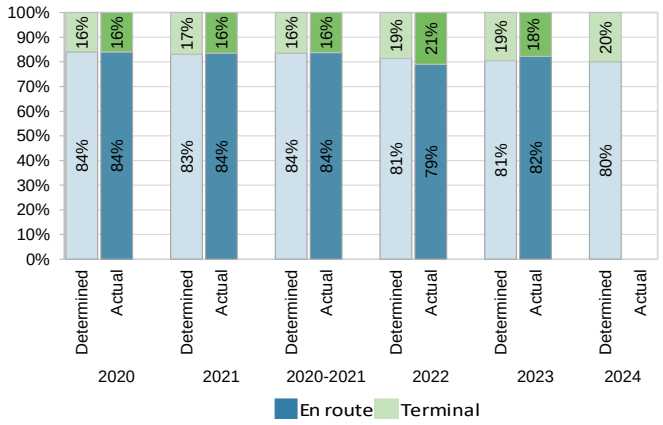
Terminal charging zone 1: Ireland

Ireland: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	100 825 323	102 364 058	203 189 381	119 095 882	122 100 394	120 687 045
Real terminal costs (€2017)	19 120 035	20 837 647	39 957 683	27 217 382	29 483 198	29 962 049
Real gate-to-gate costs (€2017)	119 945 358	123 201 705	243 147 064	146 313 264	151 583 592	150 649 095
En route share (%)	84.1%	83.1%	83.6%	81.4%	80.5%	80.1%

Ireland: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	102 739 905	97 722 984	200 462 890	108 404 141	125 939 888	
Real terminal costs (€2017)	19 548 758	19 274 571	38 823 329	28 779 375	27 211 818	
Real gate-to-gate costs (€2017)	122 288 664	116 997 555	239 286 219	137 183 515	153 151 706	
En route share (%)	84.0%	83.5%	83.8%	79.0%	82.2%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	2 343 305	-6 204 150	-3 860 845	-9 129 749	1 568 114	
	in %	2.0%	-5.0%	-1.6%	-6.2%	1.0%	
En route share	in p.p.	-0.0 p.p.	0.4 p.p.	0.2 p.p.	-2.4 p.p.	1.7 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are +1.0% (+1.6 M€2017) higher than planned, as en route costs are higher than planned by +3.8 M€2017 and terminal costs are lower than planned by -2.3 M€2017.

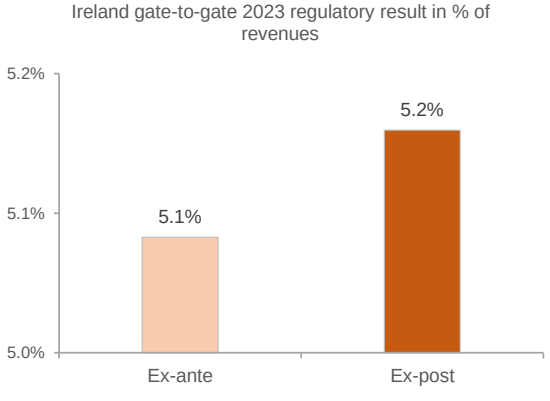
The actual share of en route in gate-to-gate ANS costs (82.2%) is higher than planned in the PP for 2023 (80.5%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
AirNav Ireland	7 318	134 877	5.4%		6 224	140 650	4.4%	
METSP(s)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
Ireland MET	0	9 098	0.0%		1 539	9 806	15.7%	
Total	**7 318**	**143 975**	**5.1%**		**7 763**	**150 456**	**5.2%**	

For the ANSPs providing services in the en route and terminal charging zones of Ireland covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +7.8 M€ (+2.7 M€ for en route and +5.1 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 5.2% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (5.1% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

ITALY

ITALY **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
ENAV	97	C	C	D	D	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

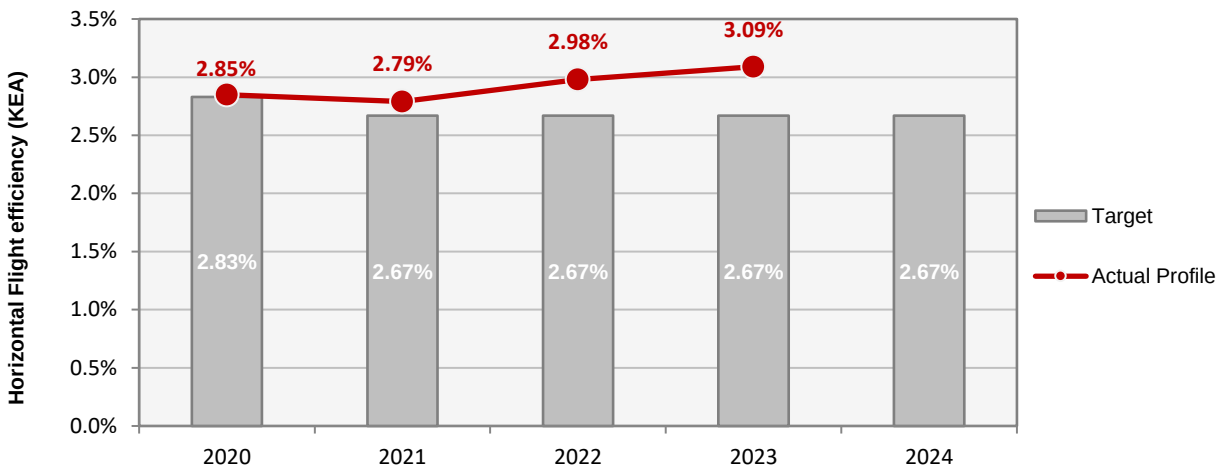
All five EoSM components of the ANSP meet, or exceed, the RP3 target level. The level was maintained compared with 2022.

ITALY

ENVIRONMENT - Horizontal flight efficiency

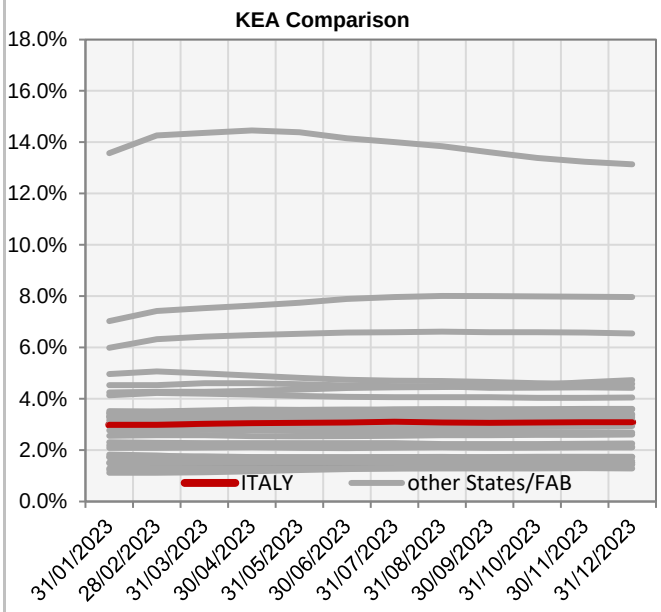
KEA

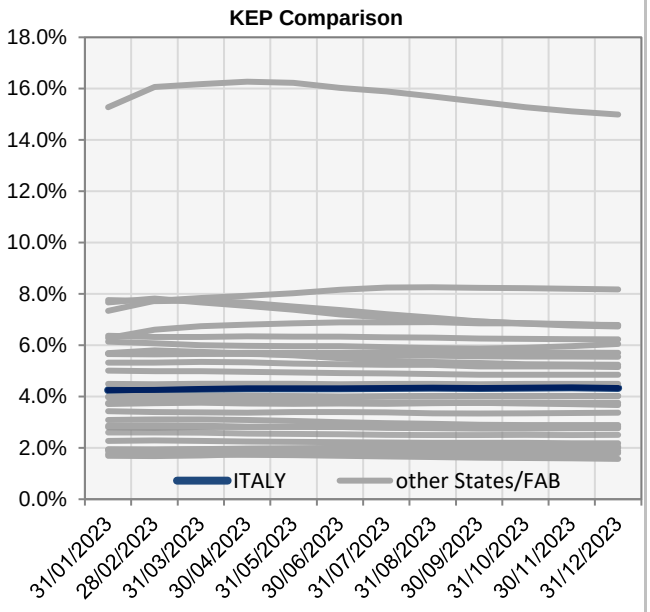
	2020	2021	2022	2023	2024
Target	2.83%	2.67%	2.67%	2.67%	2.67%
Actual performance	2.85%	2.79%	2.98%	3.09%	



End of month indicators evolution in 2023

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	2.99%	2.99%	3.03%	3.05%	3.06%	3.08%	3.11%	3.08%	3.06%	3.08%	3.09%	3.09%
KEP	4.25%	4.26%	4.30%	4.32%	4.32%	4.32%	4.34%	4.35%	4.34%	4.35%	4.36%	4.34%
KES	3.89%	3.90%	3.94%	3.95%	3.95%	3.95%	3.98%	3.99%	3.99%	4.01%	4.02%	4.01%





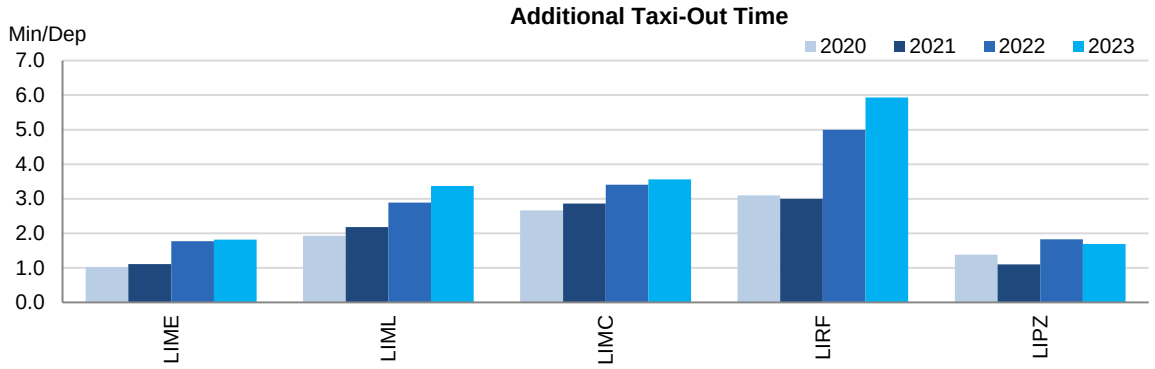
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

ITALY **ENVIRONMENT - Airports**

1. Overview

Italy identified five airports as subject to RP3 monitoring. All of them have a fully implemented data flow that allows the proper monitoring of environmental indicators.
Traffic at the ensemble of these Italian airports in 2023 is 6% lower than in 2019, but increased 15% with respect to 2022.
Both additional times in 2023 increased with respect to 2022 at most of these airports in different degrees.
The overall share of CDO flights for Italy (24.0%) is below the overall RP3 value in 2023 (28.8%).

2. Additional Taxi-Out Time



Additional taxi-out times at Rome Fiumiccino (LIRF; 2019: 7.87 min/dep.; 2020: 3.1 min/dep.; 2021: 3 min/dep.; 2022: 5 min/dep.; 2023: 5,93 min/dep.) increased once again in 2023 resulting in the highest additional taxi-out times in the SES monitored airports.
The rest of Italian airports observed a small increase of their additional taxi-out times in 2023, except for Venice (LIPZ) where there was a small reduction.

According to the Italian monitoring report:
As in previous years of the RP3 and also for the entire RP2, similar as for the PI of the Terminal/ASMA, ENAV and the other ANSPs in ECAC do not have full access to the complete set of data used by PRU to process the output, and therefore they are not able to replicate the data processing and consequently to verify the correct assessment of the information.
As already reported in past years, the ad-hoc WG PRU/EUROCONTROL/ANSPs created for the scope of reviewing the TAXI-OUT Methodology completed the assigned task and released the new Methodology at the end of the 2022.
Then, since March 2023 both the outputs (new output and previous one) are available within the ANS Performance website, accessible at monthly level for the scope of monitoring and comparing any gaps or any inconsistencies between the National yearly counted outputs vs the assigned Performance Targets.
Therefore, the results counted in 2023 encourage the Italian NSA to continue to incentivize ENAV SpA with the flight efficiency policy implemented with the aim of also reducing/optimising performance of TAXI-OUT for the monitored Italian airports and consequently reduce consumption and CO2 emissions.
As can be seen from the data reported below, even Milan Linate airport, which had recorded an increase in both TAXI times and for the ASMA PI due to Safety requirement, has reported the trend towards the reduction of additional TAXI times thanks to the optimizations implemented on the movement area of the airport.
The single value that highlighted an increase in TAXI Additional Time is related to Bergamo airport which, in contrast to the trend, recorded a slight increase in the PI TAXI-OUT value (2019 vs 2023); the cause of that can be attributed to the considerable increase in traffic managed at the airport in 2023 (over 4,500 vs 2019 and 2,500 vs 2022), which for obvious reasons led to an increase in movements on the manoeuvring area and therefore a slight and related increase of TAXI-Out time.

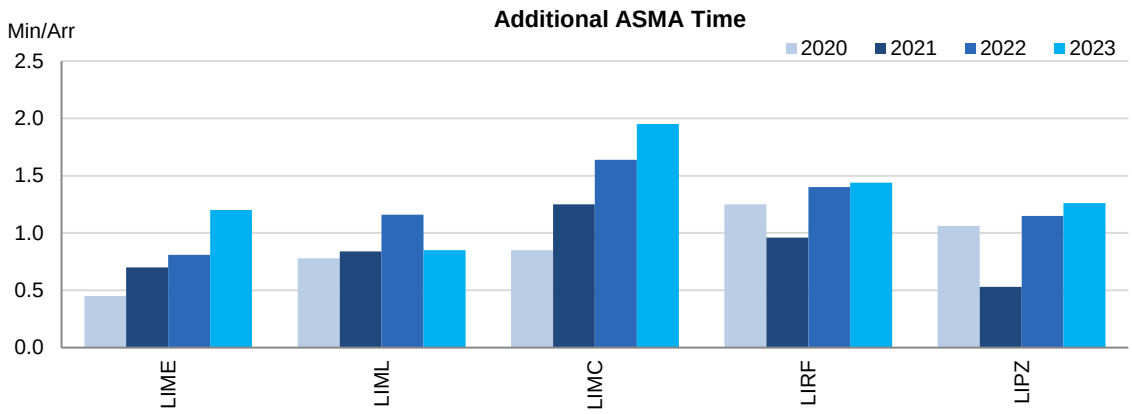
However, mitigation actions have already been planned to improve TAXI procedures with the aim to continue with time optimization and to avoid any future inconsistencies for this PI.
Below the 2023's output data for the ASMA PI (using the new Methodology) compared with the similar data from 2019 and 2022, albeit with characteristics that are not always the same both for the type of aircraft and/or for the detail of the trajectory:

LIMC (Milan/Malpensa)	*2019: 5.11 mins*	*2022: 4.16 mins*	*2023: 4.22 mins*
LIME (Bergamo/Orio Alserio)	*2019: 3.41 mins*	*2022: 3.22 mins*	*2023: 3.43 mins*
LIML (Milan/Linate)	*2019: 3.75 mins*	*2022: 4.79 mins*	*2023: 4.75 mins*
LIPZ (Venice/Tessera)	*2019: 3.98 mins*	*2022: 3.09 mins*	*2023: 3.15 mins*
LIRF (Rome/Fiumicino)	*2019: 7.12 mins*	*2022: 5.88 mins*	*2023: 6.51 mins*

Here following the output data (using the actual Methodology and the same criteria for the new methodology) referred to 2019, 2022 and 2023:

LIMC (Milan/Malpensa	*2019: 4.76 mins*	*2022: 3.41 mins*	*2023: 3.56 mins*
LIME (Bergamo/Orio Alserio)	*2019: 1.81 mins*	*2022: 1.77 mins*	*2023: 1.82 mins*
LIML (Milan/Linate)	*2019: 2.43 mins*	*2022: 2.89 mins*	*2023: 3.37 mins*
LIPZ (Venice/Tessera)	*2019: 2.52 mins*	*2022: 1.83 mins*	*2023: 1.69 mins*
LIRF (Rome/Fiumicino)	*2019: 7.87 mins*	*2022: 5.00 mins*	*2023: 5.93 mins*

3. Additional ASMA Time



Similar as for additional taxi-out time, additional ASMA times at most of Italian airports increased in 2023 (except for Milan Linate). Milan Malpensa (LIMC: 2019: 2.59 min/arr.; 2020: 0.85 min/arr.; 2021: 1.25 min/arr.; 2022: 1.64 min/arr.; 2023: 1.95 min/arr.) showed the longest additional ASMA time in Italy and the 4th highest in the SES monitored airports (SES average additional ASMA time= 1.16 min/arr.)

According to the Italian monitoring report:
As in previous years of this RP3 and also for the entire RP2, similar as for the PI of the TAXI-OUT, ENAV SpA and the other ANSPs in ECAC do not have full access to the complete set of data used by PRU to process the output, and therefore they are not able to replicate the data processing and consequently to verify the correct assessment of the information.
As already reported last years within the comments of the 2022 and 2023 Reports, the ad-hoc WG PRU/EUROCONTROL/ANSPs created for the scope of reviewing the ASMA Methodology completed the assigned task and released the new Methodology at the end of the 2022.
Then, since March 2023 both the outputs (new output and previous one) are available within the ANS Performance website, accessible at monthly level for the scope of monitoring and comparing any gaps or any inconsistencies between the National yearly counted outputs vs the assigned Performance Targets.
As already considered for the PI TAXI-Out that the complete detail of the trajectory data (flight trajectory on the Terminal Area/ASMA) is not available to Users (except in the case following a specific request addressed directly to the PRU) and that only the consolidated value at a monthly level it is available, for the purposes of the post analysis and for the comments to be provided to this Report, an ad hoc analysis was conducted comparing both the 2 outputs.
The conclusions are available at the bottom of this paragraph.
As already demonstrated and also considering the notes to the TAXI-OUT PI at the PI #3 sheet, the same considerations can also be taken into account for the ASMA PI, both for the presentation of the data and for the analysis' method, without the necessity to report and therefore repeat them also in this section.
Therefore, as for the PI TAXI_Out, also the results counted in 2023 encourage the Italian NSA to continue to incentivize ENAV SpA with the flight efficiency policy implemented with the aim of also reducing/optimising performance of the PI ASMA for the monitored Italian airports and consequently reduce consumption and CO2 emissions.

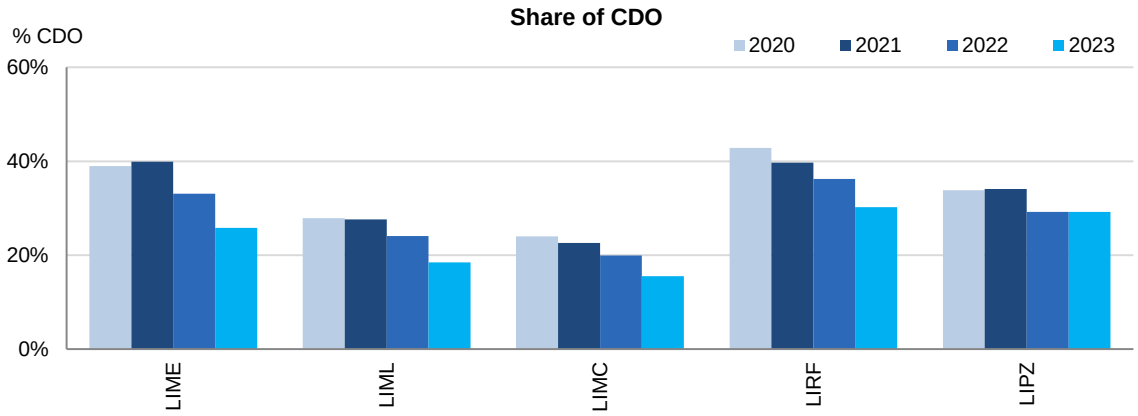
As can be seen from the data reported below, even Milan Linate airport (which had recorded an increase in both TAXI times and for the ASMA PI due to Safety requirement in 2022) has reported the trend towards the reduction of additional ASMA times thanks to the ATC optimization procedures implemented in the Terminal airspace around the arrival airport.
Below the 2023's output data for the ASMA PI (using the new Methodology) compared with the similar data from 2019 and 2022, albeit with characteristics that are not always the same both for the type of aircraft and/or for the detail of the trajectory:

LIMC (Milan/Malpensa)	*2019: 4.48 mins*	*2022: 3.33 mins*	*2023: 3.47 mins*
LIME (Bergamo/Orio Alserio)	*2019: 3.05 mins*	*2022: 2.30 mins*	*2023: 2.55 mins*
LIML (Milan/Linate)	*2019: 2.46 mins*	*2022: 2.49 mins*	*2023: 2.36 mins*
LIPZ (Venice/Tessera)	*2019: 3.49 mins*	*2022: 2.70 mins*	*2023: 2.81 mins*
LIRF (Rome/Fiumicino)	*2019: 3.81 mins*	*2022: 2.88 mins*	*2023: 3.22 mins*

Here following the output data (using the actual Methodology and the same criteria for the new methodology) referred to 2019, 2022 and 2023:

LIMC (Milan/Malpensa	*2019: 2.59 mins*	*2022: 1.64 mins*	*2023: 1.95 mins*
LIME (Bergamo/Orio Alserio)	*2019: 0.94 mins*	*2022: 0.81 mins*	*2023: 1.20 mins*
LIML (Milan/Linate)	*2019: 0.96 mins*	*2022: 1.16 mins*	*2023: 0.85 mins*
LIPZ (Venice/Tessera)	*2019: 1.95 mins*	*2022: 1.15 mins*	*2023: 1.26 mins*
LIRF (Rome/Fiumicino)	*2019: 2.08 mins*	*2022: 1.40 mins*	*2023: 1.44 mins*

4. Share of arrivals applying CDO



The share of CDO flights decreased at all airports with the biggest decrease at Bergamo (-7.3 percentage points). Rome and Venice had shares of CDO flights above the overall RP3 value in 2023 - 28.8% - (LIRF: 30.2%; LIPZ: 29.2%).
All airports had the lowest monthly values during the summer months.

According to the Italian monitoring report: *The current methodology used by PRU to measure the performances of ANSPs in the management of Continuous Descent Operations (PI CDO) has been questioned several times and by several representatives (STATES/ANSPs) both in the method and in the metrics used by PRU for the performance analysis of the proposed output.*

ENAV SpA has strongly contested (see the notes to last year's 2022 Report and previous ones) the methodology with which the "interruptions" of the CDO trajectory are identified as negative input, disagreeing with the value presented in the Performance Reports starting from 2020. A methodology that does not take into consideration the real ATC constraints in managing the flight itself, nor, obviously, the needs and priorities of the Safety of Operations.

Given the above, it is absolutely unacceptable that only 30% of flights landing at LIRF, or only 16% landing at LIMC in 2023, were consistent with a continuous descent from TOD to landing!
It is not possible for such a low percentage of flights to be compliant with Continuous Descent Operations using an efficient EnRoute and Terminal NTW and other implementations introduced in the airspace in order to increase the efficiency of flight operations at national airports.
Just as it is unacceptable that the presence of the AMAN TOOL in operation for Rome Fiumicino airport since last spring 2023 and that the CDO measures applied during real-time operations by the ATCOs do not impact and indeed reduce the performance for the PI CDO compared to the previous year (2022).

Hence the need to consider a revision of the methodology used by the PRU; but at the same time, as already proposed in previous years and following coordination with the PRU which shared the data in order to detect a different metric, it is required to be able to re-count the value of the proposed output by excluding from the calculation the flights not compliant with the CDO flight segment below FL75.
The numbers are available within the ANS Performance website and easily manageable by PRU.

And yet, without repeating once again what has already been observed and presented in recent years in terms of comments and objections to the output proposed by PRU in the Report, an update/revision was also requested with a recalculation of the output proposed for the PI CDO since the beginning of RP3 (2020).

Giving simply that, that it is almost clear particularly during the rush hours when it is impossible for an aircraft in sequence for landing to maintain the continuous descent glide path due to preceding aircraft, the recalculated numbers will reflect what it really happens in the Italian airspace relatively to the VFE PI.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Bergamo/Orio Alserio-LIME	1.02	1.11	1.77	1.82		0.45	0.7	0.81	1.2		39%	40%	33%	26%	
Milan/Linate-LIML	1.93	2.18	2.89	3.37		0.78	0.84	1.16	0.85		28%	28%	24%	18%	
Milan/Malpensa-LIMC	2.66	2.86	3.41	3.56		0.85	1.25	1.64	1.95		24%	23%	20%	16%	
Rome/Fiumicino-LIRF	3.1	3	5	5.93		1.25	0.96	1.4	1.44		43%	40%	36%	30%	
Venice/Tessera-LIPZ	1.38	1.1	1.83	1.69		1.06	0.53	1.15	1.26		34%	34%	29%	29%	

ITALY **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

The Military invests efforts and resources for a well-functioning FUA and free-route airspace procedures that provide additional airspace and flight efficiency to civil aviation to the maximum extent possible, which, at the same time, could also contribute reducing CO2 emissions. The interoperability of systems is pursued at every level and in every area of civil.military cooperation (ASM, ATS, AIS); the stuatus of implementation of common information exchange systems or the development of solution (i.e. interface between civil-military systems) to ensure full interoperability is constantly followed within cooperation committees and technical boards. Within airspace and airports where ANS are provided by military collaborative decision-making process is very effective and there are no critical issues attributable to specific ANS and airport restrictions with reference to ATFM measures

Military - related measures implemented or planned to improve capacity

"Measures already in place:
• Full advantage of FUA application at pre-tactical and tactical level in the most of military ARES and free-route
• Collocation of civ mil ATCO in the same ACC Ops Room (they use the same technology and data);
• Collaborative Decision Making Process (CDM) in Airspace design and AIS
• Full interoperability Systems implementation and optimization is pursued"
• Dynamic CDM in airspace design;
• Continuing promotion of the procedures used in airspace reservation;
• Evolution in the interoperability of systems, information management."

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Italy				50%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Brindisi				59%	
Milano				22%	
Padova				29%	
Rome				44%	

Initiatives implemented or planned to improve PI#6

n/a

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Italy					

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Brindisi					
Milano					
Padova					
Rome					

Initiatives implemented or planned to improve PI#7

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Italy					

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Brindisi					
Milano					
Padova					
Rome					

Initiatives implemented or planned to improve PI#8

ITALY **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.25	0.07	0.11	0.11	0.11	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.01	0.05	0.15	0.14		

NSA's assessment of capacity performance

After the recovery observed during 2022, for Italy 2023 represented the year in which the crisis in the air traffic sector was finally overcome, with a total volume of flights at the end of the year that saw a result of +1,5% compared to 2019 - a pre-Covid reference year and a record year in terms of traffic levels handled - or +10,7% compared to 2022.

A substantial contribution to traffic growth and the increased development of service units was also ensured by the performance achieved in operational capacity, as measured by the flight punctuality indicator. In particular, despite a large volume of traffic, the punctuality recorded at the end of 2023 was at the highest level, with an average delay of 0,01 minutes per assisted flight, compared to the target for the year of 0,04 minutes (when considering only C, R, S, M, T and P causes).

The global ER target (0,11) wasn't reached by ANSP due to weather; indeed, the delay was almost 0,13min just for weather reason.
ANSP reached the capacity goal for the incentive ER and terminal schemes.

Monitoring process for capacity performance

Monthly monitoring and analysis of the operational performance at Country and single ACC level is carried out by ENAV. Checks are made against the value of ATFM generated delay per month and its exepcted trend across the year.

The post-operations performance adjustment process was conducted by ENAV during the year. At the beginning of summer 2023 a few disputation processes were initiated by ENAC in respect of NM to acknowledge the erroneous attribution to Italy of some enroute ATFM delays.

In addition during all the Summer 2023, the process of delay reattribution was put in place between NM and ENAV. The outcomes of the reconciliation process confirmed the figure of Capacity KPI #1 as presented by PRB in the current table (0.14 m/f). In addition to that, the supplementary Capacity ENR PI#1 which solely includes the ATM reasons of ATFM delay scored 0,01 min/flight.

In 2023 there were six reasons of Enroute ATFM delay: Weather (81.2%), ATC Equipment (6.4%), Industrial Action (4.8%), Other (4.0%), ATC Capacity (3.3%) and Other (0.2%). As such, the "ATM" reasons (ATC Equipment and Capacity) accounted only for a small part of the overall delay assignment. As represented in several fora, Italy is experiencing a huge increase of weather phenomena having impact on traffic flows and capacity.

Capacity Planning

No remarks

ATCO in OPS (FTE)							
Brindisi ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	87	95	94	96	
Actual	91	90	87	92	92		
Milano ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	264	282	282	278	
Actual	253	260	264	282	290		
Padova ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	208	213	213	211	
Actual	194	201	208	204	207		
Rome ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	322	332	327	320	
Actual	327	319	322	331	335		

Application of Corrective Measures for Capacity (if applicable)

In 2023 there were six reasons of Enroute ATFM delay: Weather (81.2%), ATC Equipment (6.4%), Industrial Action (4.8%), Other (4.0%), ATC Capacity (3.3%) and P – Special Events (0.2%). As such, the "ATM" reasons (ATC Equipment and Capacity) accounted only for a small part of the overall delay assignment. As represented in several fora, Italy is experiencing a huge increase of weather phenomena having impact on traffic flows and capacity.

The capacity target entered in RP3 does not adequately take into account the anomalous increase in meteorological impact on air traffic flow. Over the last three years, weather conditions have had an over-increasing influence in delay reasons and we must recognize this as a factual reality when considering the baseline for these last two years of the RP3 period and the subsequent RP4.

It wasn't possible to identify any further measures to reduce the delay due to meteorological phenomena, that have not already been adopted (e.g. opening new sectors, diversions etc.)

Summary of capacity performance

Italian ACCs experienced an increase in traffic from 1 664k flights with 254k minutes of ATFM delay (following NM post operations delay attribution process) in 2022 to 1 854k flights with 264k minutes of ATFM delay in 2023.

For reference, in 2019, Italian ACCs handled 1 831k flights with 32k minutes of ATFM delays.

There was an additional 56k minutes of ATFM delay originating in Italy that were re-attributed to the DFS via the NM post operations delay attribution process, according to the NMB agreement for eNM/S23 measures, to ameliorate the capacity shortfall in Karlsruhe UAC.

En route ATFM delays in 2023 were attributed to adverse weather (81%); ATC equipment (6%); industrial action (5%); Other (4%) and ATC capacity (3%).

The amount of delays attributed to adverse weather in 2023 were 214k minutes. In 2018 with 1 753 flights, there were 16k minutes of attributed weather delay; in 2019 with 1 831k flights, there were 15k minutes of ATFM delay attributed to adverse weather; in 2022, with 1 854k flights there were 144k minutes of ATFM delays attributed to adverse weather.

En route Capacity Incentive Scheme						
ENAV	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
National Capacity target	0.25	0.07	0.11	0.11	0.11	The incentive scheme is under review by the European Commission
Deadband +/-	-	-	-	0.109-0.111	0.109-0.111	
Actual performance	0.01	0.05	0.15	0.14		

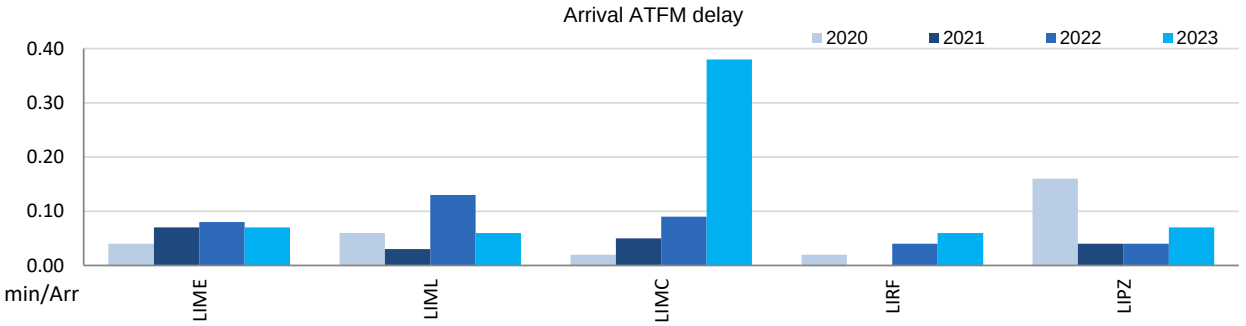
ITALY **CAPACITY - Airports**

1. Overview

Italy identified five airports as subject to RP3 monitoring. All of them have a fully implemented data flow that allows the proper monitoring of pre-departure delays. The quality of the reporting has improved, allowing in 2023 the calculation of the ATC pre-departure delay at the five airports.
Traffic at the ensemble of these Italian airports in 2023 is 6% lower than in 2019, but increased 15% with respect to 2022.

Average arrival ATFM delays in 2023 was 0.15 min/arr, compared to 0.07 min/arr in 2022. National target was met.
ATFM slot adherence has slightly deteriorated (2023: 95.8%; 2022: 96.1%).

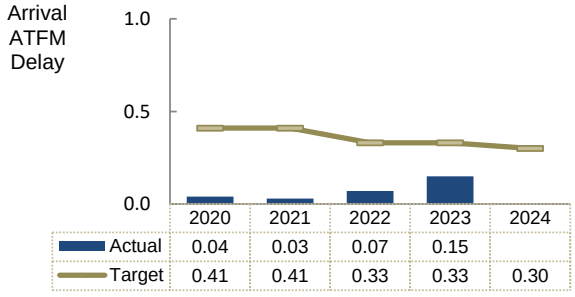
2. Arrival ATFM Delay



The national average arrival ATFM delay at Italian airports in 2023 was 0.15 min/arr.
54% of all delays at Italian airports were attributed to weather and 23% associated with environmental issues mostly at Milan Malpensa.

According to the Italian monitoring report: *This indicator includes all the reasons of ATFM delay. Nevertheless, as done in 2.3.1.A KPI#1, it is important to show the figures that really contributed to the achievement of the ATM performance. Below there are the figures for the "Terminal ATM-only arrival delay per flight" indicator which is limited to C,R,S,T,M,P causes for the following airports:*
LIMC: 0.00 m/f
LIME: 0.00 m/f
LIML: 0.00 m/f
LIPZ: 0.00 m/f
LIRF: 0.02 m/f

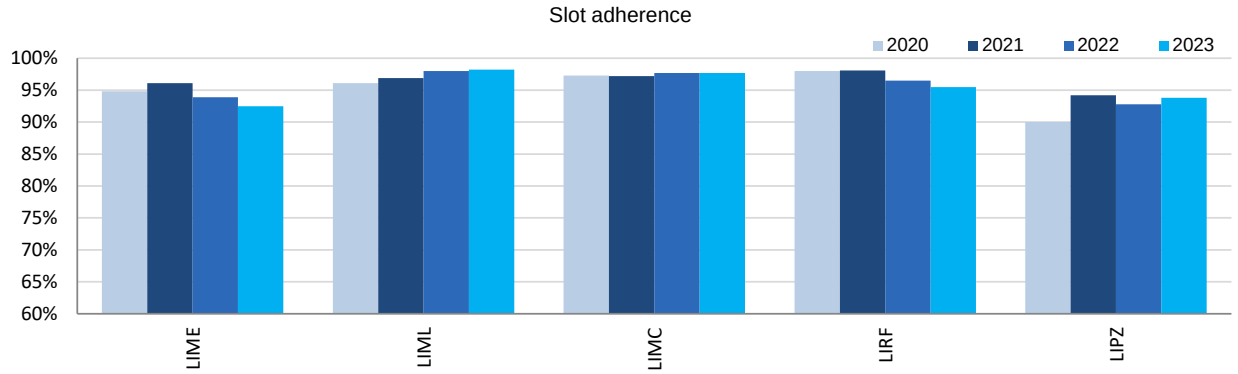
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.04	0.03	0.07	0.15	
Target	0.41	0.41	0.33	0.33	0.30

The Italian performance plan sets a national target on arrival ATFM delay for 2023 of 0.33 min/arr. This target was met in 2023 with an actual performance of 0.15 min/arr.
The incentive scheme uses modulated pivot values limited CRSTMP delay causes. This pivot value for CRSTMP is 0.04 min/arr in 2023. According to the attribution of the regulation reason, the actual CRSTMP value for 2023 is 0.006 min/arr. The NSA calculates a bonus of € 976 750.

4. ATFM Slot Adherence



All Italian airports showed adherence above 90% and the national average was 95.8%. With regard to the 4.2% of flights that did not adhere, 2% was early and 2.2% was late.
According to the Italian monitoring report: *Slightly worse performance values are reported in the prefilled tables for year 2023 with respect to what has been elaborated by Italy (ENAV) for the same year. The own elaboration is based upon NM/NMIR data and the difference is usually around one decimal percentage point. It can be explained by the use of different flight samples that eventually respected the ATFM slot time window.*

5. ATC Pre-departure Delay

The performance at all four Italian airports in 2023 was similar to the observed in 2022, with Rome almost reaching 2 min/dep, the second highest ATC pre-departure delay in the SES monitored airports.

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time at Italian airports in 2023 was similar to the observed delay in 2022. Once again, the highest pre-departure delays were observed at Milan Malpensa (LIMC: 2023: 23.95 min/dep) followed by Bergamo (LIME: 2023: 20.68 min/dep) and Venice (LIPZ: 2023: 20.27 min/dep), all of them above the SES average of 19.15 min/dep.

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Bergamo/Orio Alserio-LIME	0.04	0.07	0.08	0.07		94.8%	96.1%	93.9%	92.5%		0.53	0.77	1.14	1.06		8.00	12.53	21.37	20.68	
Milan/Linate-LIML	0.06	0.03	0.13	0.06		96.1%	96.9%	98.0%	98.2%		n/a	n/a	n/a	0.68		5.14	7.79	11.17	13.04	
Milan/Malpensa-LIMC	0.02	0.05	0.09	0.38		97.3%	97.2%	97.7%	97.7%		n/a	n/a	1.18	1.23		17.81	20.14	23.51	23.95	
Rome/Fiumicino-LIRF	0.02	0	0.04	0.06		98.0%	98.1%	96.5%	95.5%		0.64	0.89	1.56	1.94		6.44	9.22	14.93	17.33	
Venice/Tessera-LIPZ	0.16	0.04	0.04	0.07		90.0%	94.2%	92.8%	93.8%		0.86	0.75	1.15	1.15		9.78	11.97	20.06	20.27	

ITALY: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Italy ECZ represents 9.7% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 19 November 2021 and found consistent as per Commission Decision (EU) 2022/773 of 13 April 2022
  The final version of the plan was adopted and published by Italy in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Italy: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	582 128 865	615 248 136	1 197 377 001	650 766 141	673 861 874	689 087 960
Inflation %	0.0%	1.7%		1.8%	1.2%	1.2%
Inflation index (100 in 2017)	101.8	103.5		105.3	106.6	107.9
Real en route costs (€2017)	575 114 508	600 665 737	1 175 780 245	626 745 304	643 329 121	651 865 224
Total en route service units	3 989 844	5 514 000	9 503 844	8 507 000	10 457 000	11 278 000
Real en route DUC per service unit (€2017)	**144.14**	**108.93**	**123.72**	**73.67**	**61.52**	**57.80**

Italy: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	582 128 865	603 746 409	1 185 875 273	644 560 879	669 478 652	
Inflation %	0.0%	1.9%		8.7%	5.9%	
Inflation index (100 in 2017)	101.8	103.7		112.8	119.4	
Real en route costs (€2017)	575 114 508	588 346 958	1 163 461 466	591 189 254	590 114 647	
Total en route service units	3 989 844	5 782 897	9 772 742	9 561 778	10 618 354	
Real en route AUC per service unit (€2017)	**144.14**	**101.74**	**119.05**	**61.83**	**55.57**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-11 501 727	-11 501 727	-6 205 262	-4 383 223	
	in %	-	-1.9%	-1.0%	-1.0%	-0.7%	
Inflation %	in p.p.	0.0 p.p.	0.2 p.p.		6.9 p.p.	4.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.2 p.p.		7.4 p.p.	12.9 p.p.	
Real en route costs (€2017)	in value	0	-12 318 778	-12 318 778	-35 556 050	-53 214 474	
	in %	-	-2.1%	-1.0%	-5.7%	-8.3%	
Total en route service units	in value	0	268 897	268 897	1 054 778	161 354	
	in %	-	+4.9%	+2.8%	+12.4%	+1.5%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-7.20**	**-4.66**	**-11.85**	**-5.95**	
	in %	**-**	**-6.6%**	**-3.8%**	**-16.1%**	**-9.7%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -9.7% (or -5.95 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned en route costs in real terms (-8.3%, or -53.2 M€2017) and higher than planned TSUs (+1.5%). It should be noted that the actual inflation index in 2023 was +12.9 p.p. higher than planned.

En route service units

The difference between the 2023 actual and planned TSUs (+1.5%) falls inside the ±2% dead band. Hence the gain of additional en route revenues is retained by the ANSPs (see items 10 to 14).

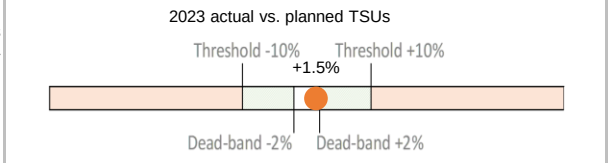
En route costs by entity

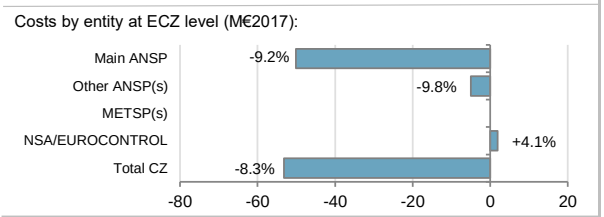
The 2023 actual real en route costs are -8.3% (-53.2 M€2017) lower than planned. This is the result of lower than planned costs for the main ANSP, ENAV (-9.2%, or -50.1 M€2017) and the other ANSP (ITAF, -9.8%, or -5.0 M€2017), while the NSA/EUROCONTROL costs are higher (+4.1%, or +1.9 M€2017) than planned.

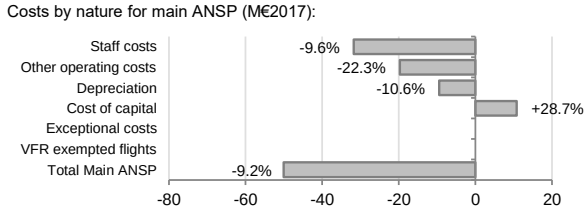
En route costs for the main ANSP (ENAV) at charging zone level

The 2023 actual real en route costs for ENAV are significantly lower than planned (-9.2%, or -50.1 M€2017), mainly due to a higher than planned inflation index in 2023 (+12.9 p.p.) and resulting from:

- Significantly lower than planned staff costs in real terms (-9.6%), but slightly higher in nominal terms (+1.3%), reported to be mainly due to "hirings, and agreements with the trade unions with regard to working hours flexibility, recovery of inflation of approximately 5.2%, and increase in salary of 2% per annum over 2023-2025",
- Significantly lower than planned other operating costs (-22.3%) without explanations,
- Significantly lower than planned depreciation (-10.6%), no explanations is provided beyond the fact that the difference will be reimbursed to users,
- Significantly higher than planned cost of capital (+28.7%), mainly due to "the increase in the average interest on debt from 1.86% to 5.00% (including the debt risk premium equal to 3.83%)"







ITALY: En route charging zone

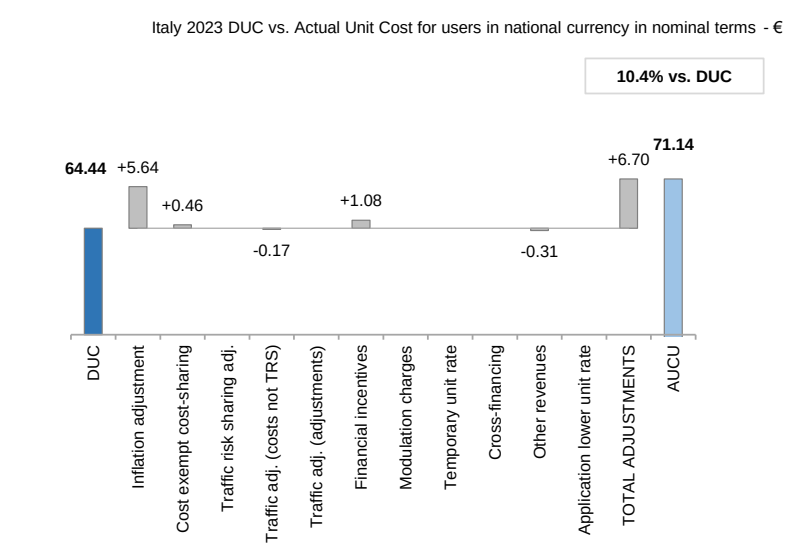
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in **national currency and in nominal terms.**

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	64.44
DUC to be charged retroactively	0.00
DUC	**64.44**
Inflation adjustment	5.64
Cost exempt from cost-sharing	0.46
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	-0.17
Traffic adj. (adjustments)*	
Financial incentives	1.08
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.31
Application of lower unit rate	0.00
Total adjustments	6.70
AUCU	**71.14**
AUCU vs. DUC	**+10.4%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

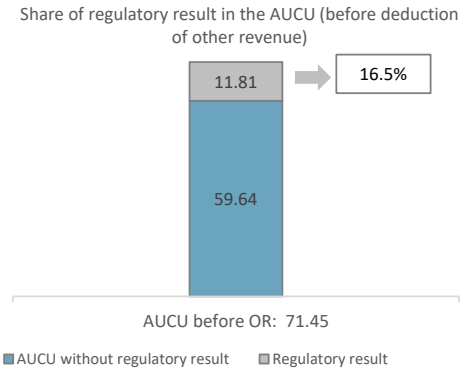
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	1 345	0.13
	Competent authorities and qualified entities costs	-233	-0.02
	Eurocontrol costs	2 115	0.20
	Pension costs	0	0.00
	Interest on loans	1 684	0.16
	Changes in law	0	0.00
Total costs exempt from cost sharing		**4 910**	**0.46**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
ENAV	119 188	11.22
ITAF	6 241	0.59

METSP(s)	€ '000	€/SU
Total charging zone	125 428	11.81
Actual cost for users* **	758 707	71.45
Regulatory result (% AUCU)	16.5%	16.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (71.14 €) is +10.4% higher than the nominal DUC (64.44 €). The difference between these two figures (+6.70 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+5.64 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+0.46 €/SU);
- the deduction of the traffic adjustment (-0.17 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+1.08 €/SU); and
- the deduction of the other revenues (-0.31 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 16.5%.

ITALY: En route main ANSP (ENAV) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out **in national currency and in nominal terms.**

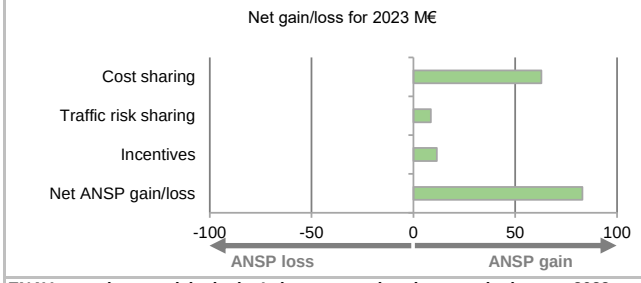
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

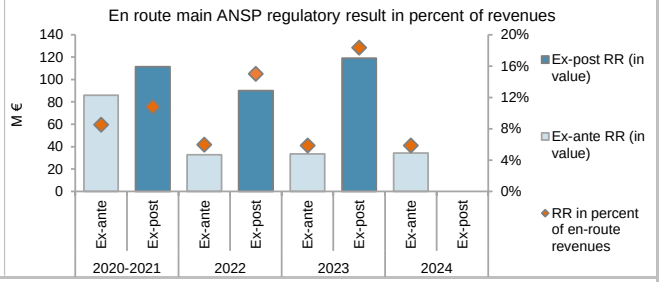
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	6 981	5 379	6 136	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	920	29 953	53 944	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-3 618	-4 128	2 812	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**4 282**	**31 204**	**62 891**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	2.8%	12.4%	1.5%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	986 793	537 111	558 797	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**22 191**	**23 633**	**8 622**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**11 474**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**26 473**	**54 837**	**82 987**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ENAV planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	884 478	1 124 267	2 008 745	1 003 431	909 701	907 796
Proportion of financing through equity (in %)	75%	75%	75%	75%	75%	75%
RoE pre-tax rate (in %)	6.6%	5.0%	5.7%	4.4%	4.9%	5.0%
RoE (in value)	43 562	42 447	86 009	32 754	33 458	34 352
Ex-ante regulatory result (+/-) for the en route charging zone	**43 562**	**42 447**	**86 009**	**32 754**	**33 458**	**34 352**
Revenue for the en route charging zone	**492 482**	**520 610**	**1 013 093**	**551 426**	**573 690**	**588 781**
Ex-ante regulatory result (+/-) in percent of revenues	**8.8%**	**8.2%**	**8.5%**	**5.9%**	**5.8%**	**5.8%**
Ex-ante RoE pre-tax rate (in %)	**6.6%**	**5.0%**	**5.7%**	**4.4%**	**4.9%**	**5.0%**
ENAV actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	884 478	1 096 750	1 981 229	1 081 642	984 266	
Proportion of financing through equity (in %)	75%	75%	75%	75%	75%	
RoE pre-tax rate (in %)	6.6%	5.0%	5.7%	4.4%	4.9%	
RoE (in value)	43 562	41 408	84 970	35 307	36 200	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	26 473	26 473	54 837	82 987	
Ex-post regulatory result (+/-) for the en route charging zone	**43 562**	**67 881**	**111 443**	**90 144**	**119 188**	
Revenue for the en route charging zone	**492 482**	**540 103**	**1 032 586**	**600 884**	**650 541**	
Ex-post regulatory result (+/-) in percent of revenues	**8.8%**	**12.6%**	**10.8%**	**15.0%**	**18.3%**	
Ex-post RoE pre-tax rate (in %)	**6.6%**	**8.3%**	**7.5%**	**11.1%**	**16.1%**	

13. Focus on the main ANSP regulatory result on en route activity





ENAV net gain on activity in the Italy en route charging zone in the year 2023

ENAV reported a net gain of +83.0 M€, as a combination of a gain of +62.9 M€ arising from the cost sharing mechanism, with a gain of +8.6 M€ arising from the traffic risk sharing mechanism and a gain of +11.5 M€ relating to financial incentives.

ENAV overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity above mentioned (+83.0 M€) and the actual RoE (+36.2 M€) amounts to +119.2 M€ (18.3% of the en route revenues). The resulting ex-post rate of return on equity is 16.1%, which is higher than the 4.9% planned in the PP.

ITALY: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
ITAF planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the en route charging zone	**46 725**	**49 060**	**95 785**	**53 316**	**53 927**	**53 949**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
ITAF actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	**0**	**529**	**529**	**3 459**	**6 241**	
Revenue for the en route charging zone	**46 725**	**48 861**	**95 586**	**56 719**	**60 039**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**1.1%**	**0.6%**	**6.1%**	**10.4%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Italy (ITAF) corresponds to 10.4% of the en route revenues. It should be noted that ITAF does not charge any cost of capital.

ITALY ZONE 1: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Italy zone 1 TCZ represents 2.5% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Italy zone 1: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	30 724 712	30 961 063	61 685 776	32 694 898	34 117 550	34 270 939
Inflation %	0.0%	1.7%		1.8%	1.2%	1.2%
Inflation index (100 in 2017)	101.8	103.5		105.3	106.6	107.9
Real terminal costs (€2017)	30 396 073	30 262 880	60 658 953	31 554 941	32 660 406	32 549 596
Total terminal service units	73 384	76 000	149 384	176 000	220 000	230 000
Real terminal DUC per service unit (€2017)	**414.21**	**398.20**	**406.06**	**179.29**	**148.46**	**141.52**

Italy zone 1: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	30 724 712	29 748 147	60 472 860	32 758 752	34 438 490	
Inflation %	0.0%	1.9%		8.7%	5.9%	
Inflation index (100 in 2017)	101.8	103.7		112.8	119.4	
Real terminal costs (€2017)	30 396 073	29 011 303	59 407 376	30 203 974	30 626 416	
Total terminal service units	73 384	79 337	152 720	158 726	205 768	
Real terminal AUC per service unit (€2017)	**414.21**	**365.67**	**388.99**	**190.29**	**148.84**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-1 212 916	-1 212 916	63 854	320 939	
	in %	-	-3.9%	-2.0%	+0.2%	+0.9%	
Inflation %	in p.p.	0.0 p.p.	0.2 p.p.		6.9 p.p.	4.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.2 p.p.		7.4 p.p.	12.9 p.p.	
Real terminal costs (€2017)	in value	0	-1 251 577	-1 251 577	-1 350 967	-2 033 990	
	in %	-	-4.1%	-2.1%	-4.3%	-6.2%	
Total terminal service units	in value	0	3 337	3 337	-17 274	-14 232	
	in %	-	+4.4%	+2.2%	-9.8%	-6.5%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-32.52**	**-17.07**	**11.00**	**0.38**	
	in %	**-**	**-8.2%**	**-4.2%**	**+6.1%**	**+0.3%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +0.3% (or +0.38 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TNSUs (-6.5%) and significantly lower than planned terminal costs in real terms (-6.2%, or -2.0 M€2017). It should be noted that actual inflation index in 2023 was +12.9 p.p. higher than planned.

Terminal charging zone 1 service units

The difference between actual and planned TNSUs (-6.5%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

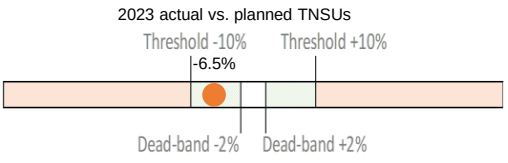
Terminal charging zone 1 costs by entity

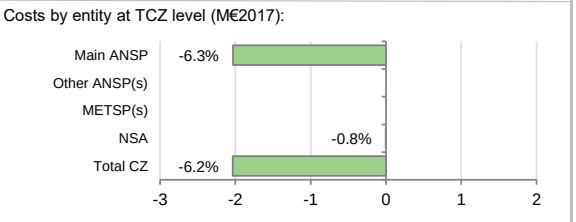
The 2023 actual real terminal costs are -6.2% (-2.0 M€2017) lower than planned for the TCZ1. This results from lower than planned costs for the main ANSP, ENAV (-6.3%, or -2.0 M€2017) and the NSA (-0.8%, or -0.002 M€2017).

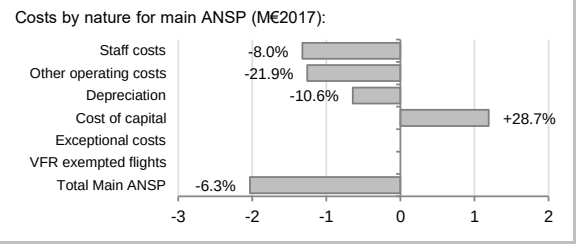
Terminal charging zone 1 costs for the main ANSP (ENAV) at charging zone level

The 2023 actual real terminal ANS costs are significantly lower than planned for ENAV TCZ1 (-6.3%, or -2.0 M€2017), mainly due to a higher than planned inflation index in 2023 and from:

- Significantly lower than planned staff costs (-8.0%), but higher in nominal terms (+3.1%), reported to be mainly due to *"hirings, and agreements with the trade unions with regard to working hours flexibility, recovery of inflation of approximately 5.2%, and increase in salary of 2% per annum over 2023-2025"*,
- Significantly lower than planned other operating costs (-21.9%), without explanations,
- Significantly lower than planned depreciation (-10.6%), no explanation is provided beyond the fact that the difference will be reimbursed to users,
- Significantly higher than planned cost of capital (+28.7%), reported to be mainly due to *"the increase in the average interest on debt from 1.86% to 5.00% (including the debt risk premium equal to 3.83%)"*.







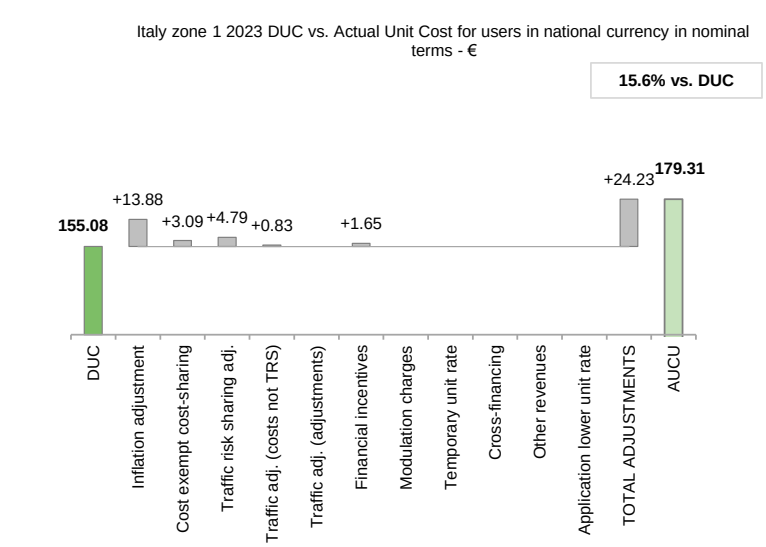
ITALY ZONE 1: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out **in national currency and in nominal terms.**

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	155.08
DUC to be charged retroactively	0.00
DUC	**155.08**
Inflation adjustment	13.88
Cost exempt from cost-sharing	3.09
Traffic risk sharing adjustment	4.79
Traffic adj. (costs not TRS)	0.83
Traffic adj. (adjustments)*	
Financial incentives	1.65
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	24.23
AUCU	**179.31**
AUCU vs. DUC	**15.6%**

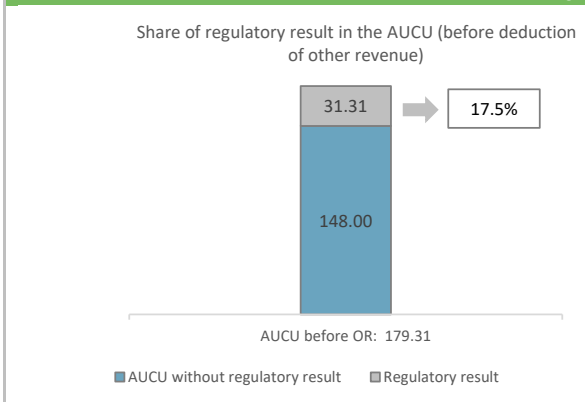
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	452	2.20
	Competent authorities and qualified entities costs	-2	-0.01
	Eurocontrol costs	0	0.00
	Pension costs	0	0.00
	Interest on loans	185	0.90
	Changes in law	0	0.00
Total costs exempt from cost sharing		**636**	**3.09**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
ENAV	6 442	31.31

METSP(s)	€ '000	€/SU
Total charging zone	6 442	31.31
Actual cost for users* **	36 897	179.31
Regulatory result (% AUCU)	17.5%	17.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (179.31 €) is +15.6% higher than the nominal DUC (155.08 €). The difference between these two figures (+24.23 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+13.88 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+3.09 €/SU);
- the addition of the traffic risk sharing adjustments (+4.79 €/SU);
- the addition of the traffic adjustment (+0.83 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (+1.65 €/SU).

The share of the regulatory result (see items 10 to 13) in the AUCU (before the deduction of other revenues) is 17.5%.

ITALY ZONE 1: Terminal main ANSP (ENAV) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out **in national currency and in nominal terms.**

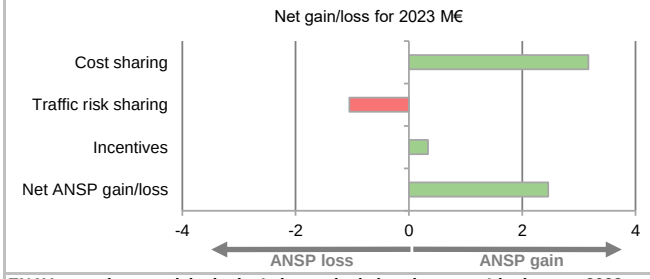
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

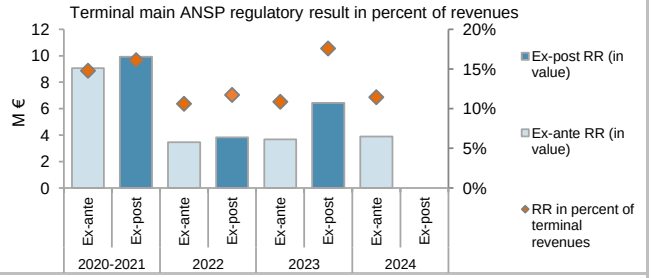
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	1 180	-48	-323	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	49	1 582	2 856	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-789	-119	638	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**440**	**1 414**	**3 171**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	2.2%	-9.8%	-6.5%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	56 880	30 152	31 474	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**1 177**	**-1 310**	**-1 051**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**339**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**1 618**	**105**	**2 458**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ENAV planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	106 968	100 559	207 527	105 750	100 114	102 955
Proportion of financing through equity (in %)	75%	75%	75%	75%	75%	75%
RoE pre-tax rate (in %)	6.6%	5.0%	5.8%	4.4%	4.9%	5.0%
RoE (in value)	5 268	3 797	9 065	3 452	3 682	3 896
Ex-ante regulatory result (+/-) for the terminal charging zone	**5 268**	**3 797**	**9 065**	**3 452**	**3 682**	**3 896**
Revenue for the terminal charging zone	**30 516**	**30 737**	**61 254**	**32 471**	**33 894**	**34 047**
Ex-ante regulatory result (+/-) in percent of revenues	**17.3%**	**12.4%**	**14.8%**	**10.6%**	**10.9%**	**11.4%**
Ex-ante RoE pre-tax rate (in %)	**6.6%**	**5.0%**	**5.8%**	**4.4%**	**4.9%**	**5.0%**
ENAV actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	106 968	80 634	187 602	113 993	108 320	
Proportion of financing through equity (in %)	75%	75%	75%	75%	75%	
RoE pre-tax rate (in %)	6.6%	5.0%	5.9%	4.4%	4.9%	
RoE (in value)	5 268	3 044	8 313	3 721	3 984	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	1 618	1 618	105	2 458	
Ex-post regulatory result (+/-) for the terminal charging zone	**5 268**	**4 662**	**9 930**	**3 826**	**6 442**	
Revenue for the terminal charging zone	**30 516**	**31 175**	**61 691**	**32 624**	**36 675**	
Ex-post regulatory result (+/-) in percent of revenues	**17.3%**	**15.0%**	**16.1%**	**11.7%**	**17.6%**	
Ex-post RoE pre-tax rate (in %)	**6.6%**	**7.7%**	**7.1%**	**4.5%**	**7.9%**	

13. Focus on main ANSP regulatory result on terminal activity





ENAV net gain on activity in the Italy terminal charging zone 1 in the year 2023

ENAV reported a net gain of +2.5 M€, as a combination of a gain of +3.2 M€ arising from the cost sharing mechanism, with a loss of -1.1 M€ arising from the traffic risk sharing mechanism and a gain of +0.3 M€ relating to financial incentives.

ENAV overall regulatory results (RR) for the terminal charging zone 1 activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+2.5 M€) and the actual RoE (+4.0 M€) amounts to +6.4 M€ (17.6% of the terminal revenues in the TCZ1). The resulting ex-post rate of return on equity is 7.9%, which is higher than the 4.9% planned in the PP.

ITALY ZONE 2: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Italy zone 2 TCZ represents 4.5% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 4 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 4
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Italy zone 2: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	53 719 717	57 125 883	110 845 600	61 486 950	64 129 608	65 855 281
Inflation %	0.0%	1.7%		1.8%	1.2%	1.2%
Inflation index (100 in 2017)	101.8	103.5		105.3	106.6	107.9
Real terminal costs (€2017)	53 066 438	55 741 234	108 807 672	59 192 224	61 196 632	62 266 240
Total terminal service units	143 170	179 000	322 170	270 000	323 000	340 000
Real terminal DUC per service unit (€2017)	**370.65**	**311.40**	**337.73**	**219.23**	**189.46**	**183.14**

Italy zone 2: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	53 719 717	56 704 591	110 424 308	60 633 468	63 214 571	
Inflation %	0.0%	1.9%		8.7%	5.9%	
Inflation index (100 in 2017)	101.8	103.7		112.8	119.4	
Real terminal costs (€2017)	53 066 438	55 243 505	108 309 943	55 561 331	55 648 375	
Total terminal service units	143 170	191 446	334 616	309 238	340 548	
Real terminal AUC per service unit (€2017)	**370.65**	**288.56**	**323.68**	**179.67**	**163.41**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-421 291	-421 291	-853 482	-915 037	
	in %	-	-0.7%	-0.4%	-1.4%	-1.4%	
Inflation %	in p.p.	0.0 p.p.	0.2 p.p.		6.9 p.p.	4.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.2 p.p.		7.4 p.p.	12.9 p.p.	
Real terminal costs (€2017)	in value	0	-497 729	-497 729	-3 630 894	-5 548 257	
	in %	-	-0.9%	-0.5%	-6.1%	-9.1%	
Total terminal service units	in value	0	12 446	12 446	39 238	17 548	
	in %	-	+7.0%	+3.9%	+14.5%	+5.4%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-22.84**	**-14.05**	**-39.56**	**-26.05**	
	in %	**-**	**-7.3%**	**-4.2%**	**-18.0%**	**-13.8%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -13.8% (or -26.05 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned terminal costs in real terms (-9.1%, or -5.5 M€2017) and significantly higher than planned TNSUs (+5.4%). It should be noted that actual inflation index in 2023 was +12.9 p.p. higher than planned.

Terminal charging zone 2 service units

The difference between the 2023 actual and planned TNSUs (+5.4%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

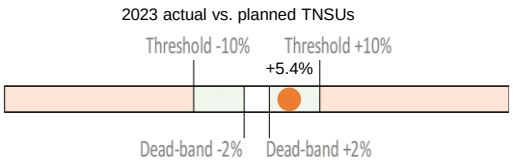
Terminal charging zone 2 costs by entity

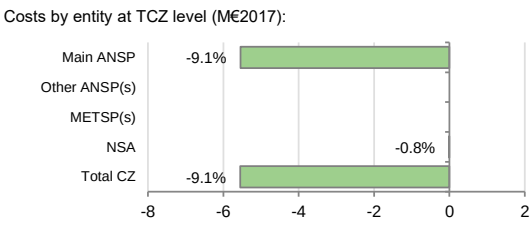
The 2023 actual real terminal ANS costs are -9.1% (-5.5 M€2017) lower than planned for the TCZ2. This is the result of lower than planned costs for the main ANSP, ENAV (-9.1%, or -5.6 M€2017) and the NSA (-0.8%, or -0.003 M€2017).

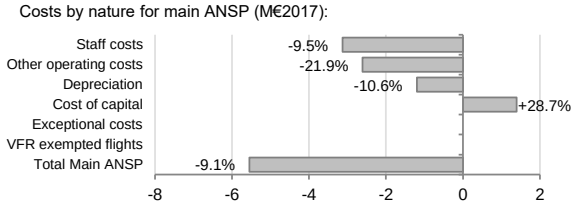
Terminal charging zone 2 costs for the main ANSP (ENAV) at charging zone level

The 2023 real actual terminal ANS costs are significantly lower than planned for ENAV TCZ2 (-9.1%, or -5.6 M€2017), mainly due to a higher than planned inflation index in 2023 and from:

- Significantly lower than planned staff costs (-9.5%), but slightly higher in nominal terms (+1.4%), reported to be mainly due to *"hirings, and agreements with the trade unions with regard to working hours flexibility, recovery of inflation of approximately 5.2%, and increase in salary of 2% per annum over 2023-2025"*,
- Significantly lower than planned other operating costs (-21.9%), without explanations,
- Significantly lower than planned depreciation (-10.6%), no explanation is provided beyond the fact that the difference will be reimbursed to users,
- Significantly higher than planned cost of capital (+28.7%), reported to be mainly due to *"the increase in the average interest on debt from 1.86% to 5.00% (including the debt risk premium equal to 3.83%)"*.







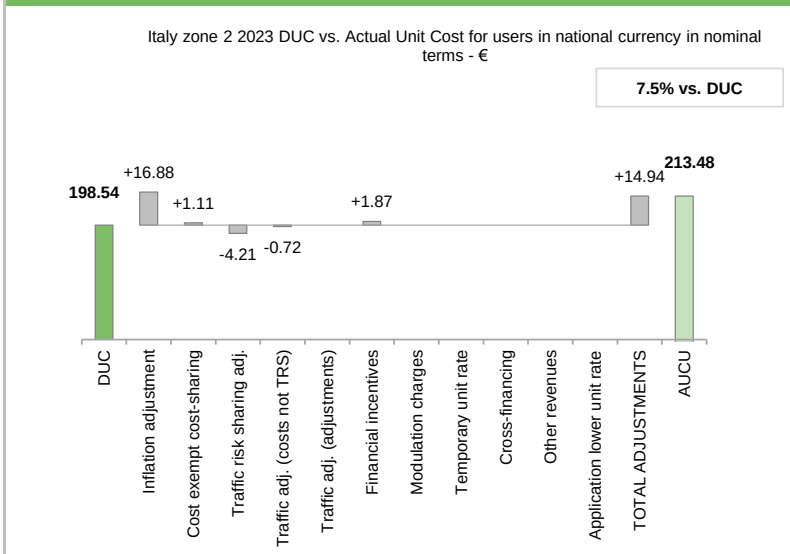
ITALY ZONE 2: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	198.54
DUC to be charged retroactively	0.00
DUC	**198.54**
Inflation adjustment	16.88
Cost exempt from cost-sharing	1.11
Traffic risk sharing adjustment	-4.21
Traffic adj. (costs not TRS)	-0.72
Traffic adj. (adjustments)*	
Financial incentives	1.87
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	14.94
AUCU	**213.48**
AUCU vs. DUC	**7.5%**

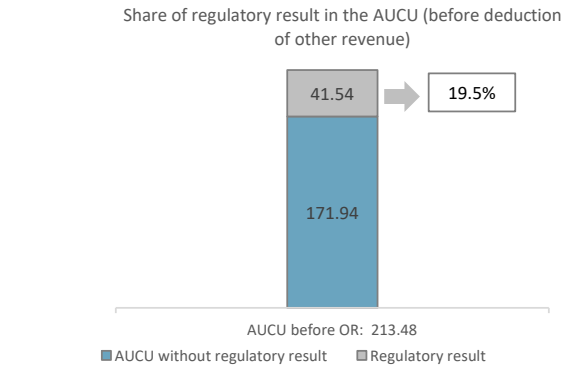
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	165	0.48
	Competent authorities and qualified entities costs	-3	-0.01
	Eurocontrol costs	0	0.00
	Pension costs	0	0.00
	Interest on loans	217	0.64
	Changes in law	0	0.00
Total costs exempt from cost sharing		**379**	**1.11**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
ENAV	14 147	41.54

METSP(s)	€ '000	€/SU
Total charging zone	14 147	41.54
Actual cost for users* **	72 700	213.48
Regulatory result (% AUCU)	19.5%	19.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (213.48 €) is +7.5% higher than the nominal DUC (198.54 €). The difference between these two figures (+14.94 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+16.88 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+1.11 €/SU);
- the deduction of the traffic risk sharing adjustments (-4.21 €/SU);
- the deduction of the traffic adjustment (-0.72 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (+1.87 €/SU).

The share of the regulatory result (see items 10 to 13) in the AUCU (before the deduction of other revenues) is 19.5%.

ITALY ZONE 2: Terminal main ANSP (ENAV) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out **in national currency and in nominal terms**.

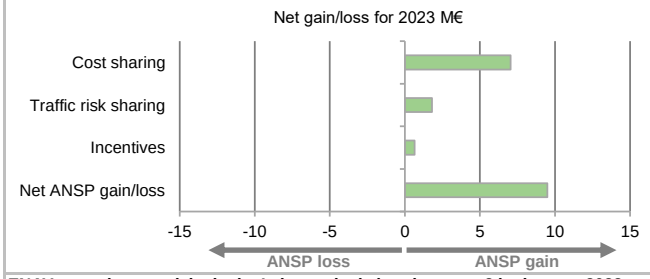
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

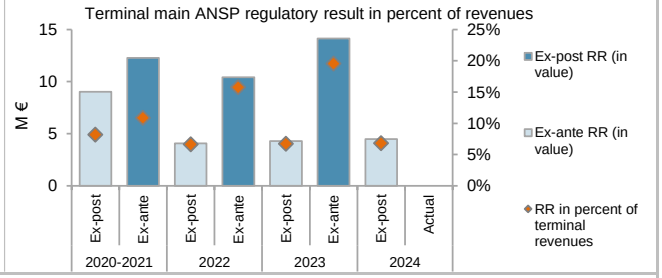
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	371	877	912	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	97	3 185	5 748	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-138	-539	382	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**330**	**3 523**	**7 042**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	3.9%	14.5%	5.4%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	102 984	57 149	59 620	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**2 635**	**2 515**	**1 806**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**638**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**2 966**	**6 038**	**9 486**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ENAV planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	92 922	118 048	210 970	124 871	117 125	118 266
Proportion of financing through equity (in %)	75%	75%	75%	75%	75%	75%
RoE pre-tax rate (in %)	6.6%	5.0%	5.7%	4.4%	4.9%	5.0%
RoE (in value)	4 577	4 457	9 033	4 076	4 308	4 475
Ex-ante regulatory result (+/-) for the terminal charging zone	**4 577**	**4 457**	**9 033**	**4 076**	**4 308**	**4 475**
Revenue for the terminal charging zone	**53 395**	**56 777**	**110 173**	**61 139**	**63 781**	**65 507**
Ex-ante regulatory result (+/-) in percent of revenues	**8.6%**	**7.8%**	**8.2%**	**6.7%**	**6.8%**	**6.8%**
Ex-ante RoE pre-tax rate (in %)	**6.6%**	**5.0%**	**5.7%**	**4.4%**	**4.9%**	**5.0%**
ENAV actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	92 922	125 431	218 353	134 604	126 726	
Proportion of financing through equity (in %)	75%	75%	75%	75%	75%	
RoE pre-tax rate (in %)	6.6%	5.0%	5.7%	4.4%	4.9%	
RoE (in value)	4 577	4 736	9 312	4 394	4 661	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	2 966	2 966	6 038	9 486	
Ex-post regulatory result (+/-) for the terminal charging zone	**4 577**	**7 701**	**12 278**	**10 432**	**14 147**	
Revenue for the terminal charging zone	**53 395**	**59 372**	**112 768**	**66 299**	**72 355**	
Ex-post regulatory result (+/-) in percent of revenues	**8.6%**	**13.0%**	**10.9%**	**15.7%**	**19.6%**	
Ex-post RoE pre-tax rate (in %)	**6.6%**	**8.2%**	**7.5%**	**10.3%**	**14.9%**	

13. Focus on main ANSP regulatory result on terminal activity





ENAV net gain on activity in the Italy terminal charging zone 2 in the year 2023

ENAV reported a net gain of +9.5 M€, as a combination of a gain of +7.0 M€ arising from the cost sharing mechanism, with a gain of +1.8 M€ arising from the traffic risk sharing mechanism and a gain of +0.6 M€ relating to financial incentives.

ENAV overall regulatory results (RR) for the terminal charging zone 2 activity

Ex-post, the overall RR taking into account the net gain from the terminal activity above mentioned (+9.5 M€) and the actual RoE (+4.7 M€) amounts to +14.1 M€ (19.6% of the terminal revenues in TCZ2). The resulting ex-post rate of return on equity is 14.9%, which is higher than the 4.9% planned in the PP.

ITALY: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Italy

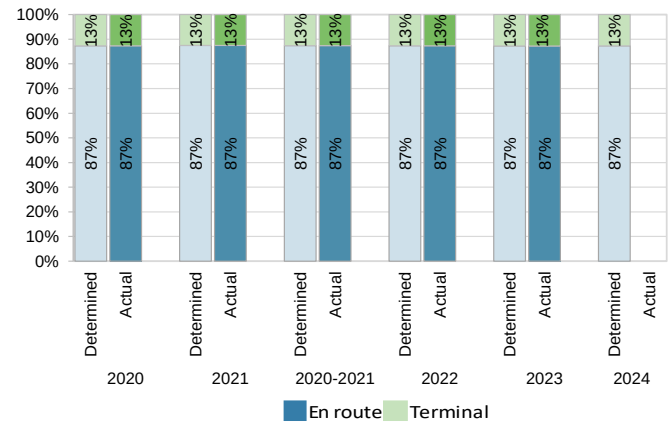
Terminal charging zone 1: Italy zone 1 Terminal charging zone 2: Italy zone 2

Italy: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	575 114 508	600 665 737	1 175 780 245	626 745 304	643 329 121	651 865 224
Real terminal costs (€2017)	83 462 511	86 004 114	169 466 625	90 747 166	93 857 038	94 815 836
Real gate-to-gate costs (€2017)	658 577 019	686 669 851	1 345 246 869	717 492 470	737 186 159	746 681 060
En route share (%)	87.3%	87.5%	87.4%	87.4%	87.3%	87.3%

Italy: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	575 114 508	588 346 958	1 163 461 466	591 189 254	590 114 647	
Real terminal costs (€2017)	83 462 511	84 254 808	167 717 319	85 765 305	86 274 791	
Real gate-to-gate costs (€2017)	658 577 019	672 601 766	1 331 178 785	676 954 559	676 389 438	
En route share (%)	87.3%	87.5%	87.4%	87.3%	87.2%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-14 068 085	-14 068 085	-40 537 911	-60 796 721	
	in %	0.0%	-2.0%	-1.0%	-5.6%	-8.2%	
En route share	in p.p.	0.0 p.p.	-0.0 p.p.	-0.0 p.p.	-0.0 p.p.	-0.0 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, the real actual gate-to-gate ANS costs are -8.2% (-60.8 M€2017) lower than planned, as en route costs are lower than planned by -53.2 M€2017 and terminal costs are lower than planned by -7.6 M€2017.

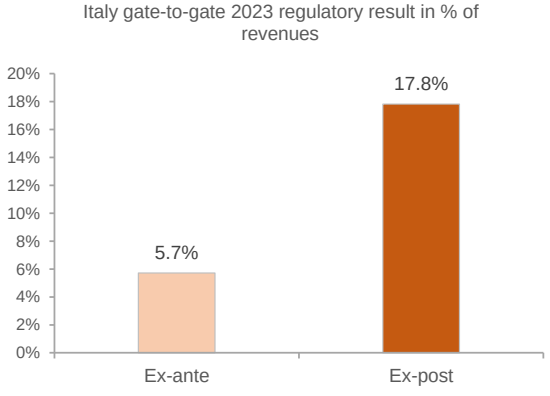
The actual share of en route in gate-to-gate ANS costs (87.2%) is in line with that planned in the PP for 2023 (87.3%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
ENAV	41 448	671 365	6.2%		139 776	759 571	18.4%	
ITAF	0	53 927	0.0%		6 241	60 039	10.4%	
METSP(s)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
Total	**41 448**	**725 292**	**5.7%**		**146 017**	**819 610**	**17.8%**	

For the ANSPs providing services in the en route and terminal charging zones of Italy covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +146.0 M€ (+125.4 M€ for en route and +20.6 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 17.8% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (5.7% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

LATVIA

LATVIA **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
SJSC	97	D	C	D	C	C

Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.

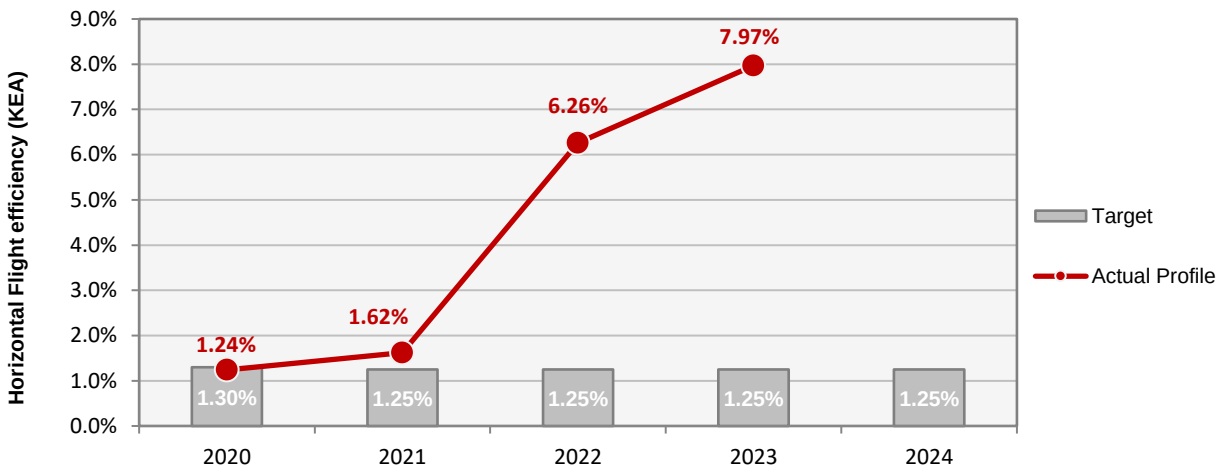
Observations

All five EoSM components of the ANSP meet, or exceed, the RP3 target level. Over 2023, "Safety Policy and Objectives " and "Safety Risk Management" were improved and reached the RP3 target level.

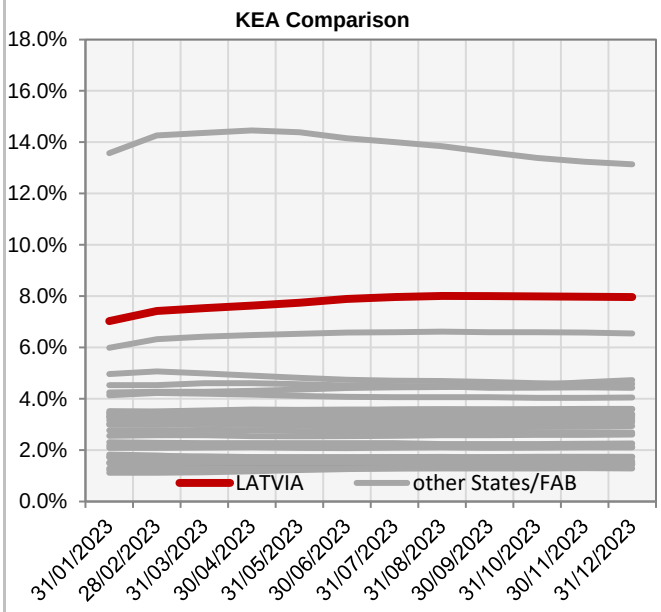
LATVIA

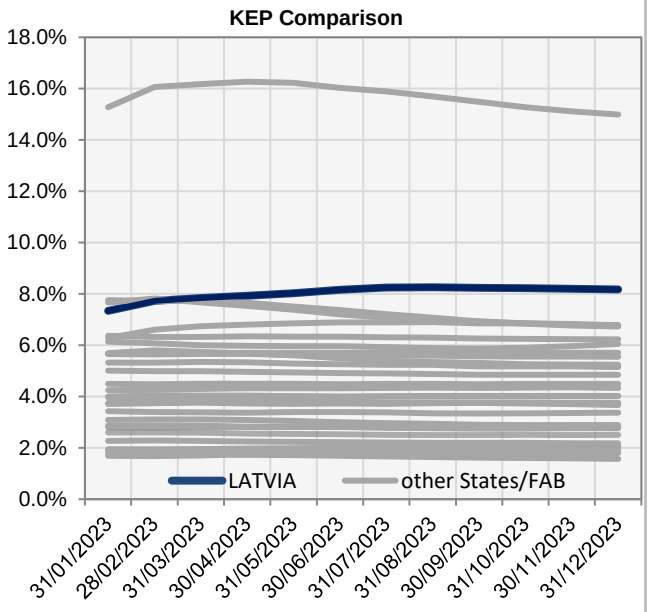
ENVIRONMENT - Horizontal flight efficiency

KEA	2020	2021	2022	2023	2024
Target	1.30%	1.25%	1.25%	1.25%	1.25%
Actual performance	1.24%	1.62%	6.26%	7.97%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	7.03%	7.43%	7.53%	7.64%	7.75%	7.89%	7.97%	8.01%	8.00%	7.99%	7.98%	7.97%
KEP	7.34%	7.73%	7.84%	7.93%	8.03%	8.16%	8.25%	8.26%	8.24%	8.22%	8.20%	8.17%
KES	7.03%	7.41%	7.52%	7.60%	7.69%	7.79%	7.86%	7.87%	7.85%	7.83%	7.81%	7.78%





The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

LATVIA **ENVIRONMENT - Airports**

1. Overview

Latvia identified 3 airports as subject to RP3 monitoring. In accordance with IR (EU) 2019/317 and the traffic figures at these 3 airports, additional taxi-out and ASMA times are not monitored and the environmental performance focuses only on the share of arrivals applying CDO.
The shares of CDO flights at all airports were (well) above the overall RP3 value in 2023 (28.8%).

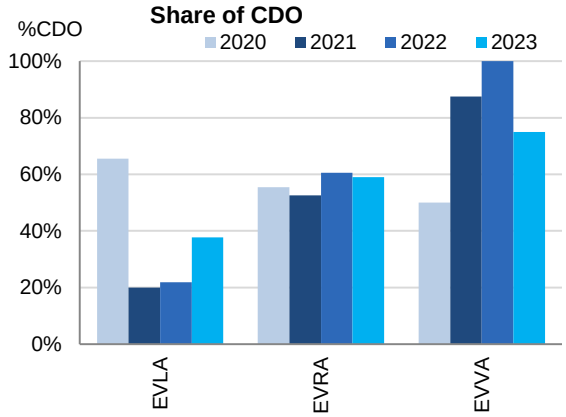
2. Additional Taxi-Out Time

This indicator is not monitored for airports below 80 000 IFR movements average during the 2016-2018 period, so it is not monitored for any airport in this state.

3. Additional ASMA Time

This indicator is not monitored for airports below 80 000 IFR movements average during the 2016-2018 period, so it is not monitored for any airport in this state.

4. Share of arrivals applying CDO



Liepaya had a significant increase of the share of CDO flights by 15.9 percentage points to 37.8%. 45 landing flights were detected at Liepaya in 2023.
Ventstpils had only 4 detected flights in 2023. Three of those flights were considered a CDO flight so Ventstpils has a share of 75% CDO.
Riga and Ventstpils have values well above the overall RP3 value in 2023 - 28.8% (EVRA: 59.0%; EVVA: 75.0%).

According to the Latvian monitoring report:
EVVA (Ventstpils) airport does not have IFR flight procedures and doesn't have ATS.
EVLA (Liepaja) has only AFIS, but it does have IFR flight procedures.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Liepaya-EVLA	-	-	-	-		-	-	-	-		66%	20%	22%	38%	
Riga-EVRA	-	-	-	-		-	-	-	-		56%	53%	61%	59%	
Ventstpils-EVVA	-	-	-	-		-	-	-	-		50%	88%	100%	75%	

LATVIA **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

"No precise measurements are currently available to analyze the impact of military activities on the environment Key Performance Area (KPA). However, it is expected that the impact of sanctions due to the Ukraine war on air traffic flows is much greater than military activities alone.

In 2023, LGS provided services for 2,756 military aircraft flights en route, amounting to a total of 189,870.22 EUR. Additionally, terminal services were provided for 1,317 military aircraft flights, amounting to 81,555.15 EUR. Furthermore, LGS handled other flights exempt from en route and terminal charges: 937 en route flights amounting to 14,899.29 EUR and 2,744 terminal flights amounting to 24,837.49 EUR. In total, these services amounted to 311,162.20 EUR in 2023.

Role of Airspace Design
The design of airspace plays a crucial role in managing the environmental impact of military operations. The segregation of airspace for military use, while necessary for national security, often results in longer flight paths for civilian aircraft, leading to increased fuel consumption and emissions. Efforts to redesign airspace to facilitate more direct routing, while accommodating military requirements, can mitigate some of these environmental impacts.

Procedures Used in Airspace Reservation
Procedures for reserving airspace for military activities are designed to balance the needs of both military and civilian air traffic. Effective coordination and flexible use of airspace can minimize disruptions and reduce the environmental impact. For instance, the implementation of temporary segregated areas (TSAs) and flexible use of airspace (FUA) allows for the dynamic allocation of airspace based on real-time needs, thereby optimizing airspace usage and minimizing unnecessary deviations.

Interoperability of Systems
Interoperability between military and civilian air traffic management systems is essential for efficient airspace management. Improved interoperability facilitates seamless coordination, reducing delays and optimizing flight paths. This, in turn, leads to lower fuel consumption and reduced emissions. The integration of advanced technologies and systems enhances the ability to manage mixed traffic effectively, contributing to better environmental performance.

Information Management
Accurate and timely information management is vital for minimizing the environmental impact of military activities. Real-time data sharing between military and civilian air traffic controllers ensures that airspace reservations are managed efficiently, reducing the need for holding patterns and reroutes that increase fuel burn. Enhanced information management supports better planning and execution of flights, thereby contributing to environmental sustainability.

Specific Local Circumstances and Economic Impact
The specific local circumstances in Latvia, including its geographical location and the presence of military training areas, significantly influence the impact of military activities on the environment. The proximity to conflict zones and the increased military presence due to geopolitical tensions necessitate more frequent and extensive military operations. This, combined with the need to accommodate rerouted civilian flights avoiding conflict zones, exacerbates the environmental impact.

The economic landscape in 2023 was marked by reduced air traffic due to the geopolitical situation and the aftermath of the COVID-19 pandemic. This reduction in traffic, combined with the high costs of inflation, created very unstable and unpredictable conditions for LGS. The lower income from decreased civilian air traffic and the increased costs due to inflation made financial planning extremely challenging. The provision of services to military flights, while necessary, did not fully compensate for the lost revenue from commercial flights, highlighting the financial strain on LGS.

Conclusion
While precise measurements of the environmental impact of military activities are not available, the combination of strategic airspace design, flexible airspace reservation procedures, improved system interoperability, and effective information management can significantly mitigate this impact. LGS's role in balancing military and civilian airspace needs, particularly in the context of heightened geopolitical tensions, underscores the importance of these measures in promoting environmental sustainability.

However, the reduced air traffic and the disastrous financial consequences of lower income and higher costs due to inflation create highly unstable and unpredictable conditions, rendering any planning and comparing to plans totally useless. This underscores the need for adaptive an"

Military - related measures implemented or planned to improve capacity

No impact on the capacity has been observed. In order to avoid in the future any issues, assistance from Eurocontrol has been requested to optimize mil airspace design and airspace use procedures.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Latvia	13%	87%	59%	55%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Riga	13%	87%	59%	55%	

Initiatives implemented or planned to improve PI#6

Harmonization of civilmilitary airspace use procedures within 3 Baltic states is going. For the development of new military FUA aeras, assessment of Eurocontrol has been requested in order to optimize the design and FUA airspace use procedures, to minimise air traffic rerouting from Riga FIR altogether and to avoid disruption of the Riga airport operations.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Latvia	n/a	n/a	n/a	n/a	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Riga	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#7

FRA has been implemented in 2015.

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Latvia	n/a	n/a	n/a	n/a	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Riga	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#8

FRA has been implemented in 2015.

LATVIA **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.06	0.01	0.03	0.03	0.03	
Actual performance	0.00	0.00	0.00	0.00		

NSA's assessment of capacity performance

The ongoing conflict in Ukraine, which began in 2022, continued to exert substantial influence on air traffic patterns and volumes in 2023. The sanctions imposed by the European Union (EU) against Russia, along with reciprocal sanctions by Russia, led to a dramatic shift in traffic flows. Specifically, flights between Europe and Russia remained suspended, and routes to and from China and Southeast Asia were significantly reduced. Sanctions forced Russian operators to navigate around EU airspace, leading to increased traffic over international waters in the Baltic Sea to connect Kaliningrad with mainland Russia.

Being a NATO state, which directly borders Russian Federation, the complexity of airspace has gone up. More military zones are being set up.

There were no capacity problems in Riga FIR and no capacity problems in an any of the aerodromes in 2023.

Monitoring process for capacity performance

Monitoring through annual inspections and safety meetings with the ANSP.

Capacity Planning

Capacity planning is appropriate for the required performance. No ATFM delays were observed.

ATCO in OPS (FTE)							
Riga ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	58	63	62	61	
Actual	56	60	58	58	49		

The war in Ukraine had a material and adverse effect on the traffic flows. Those changes triggered the change of the assumptions in the Performance plan, which was adopted on December 5, 2022. The main assumption of the ATCO planning was that the operational capacity of 62 ATCOs is sufficient to cope with the traffic. Some ATCOs retired due to medical reasons and few left for other ANSPs in Europe, mainly due to financial reasons. There is a plan to replenish the ATCOs levels during the RP4, starting from 2024. The lower level of ATCOs is still sufficient to cope with lower level of traffic, however some non-ATCO duties are abolished in order to complete the operational roster.

Application of Corrective Measures for Capacity (if applicable)

Due to staff shortage under specific circumstances there is a possibility that capacity could be impacted. Results of the ATCO fatigue risk and stress assessment revealed the necessary changes that must implemented by the ANSP - mainly- to ensure sufficient ATCO staffing numbers (increase of ATCOs), and to ensure appropriate rostering system implementation beyond excell sheet in order to comply with EU reg 2017/373 requirements for Fatigue Risk and Stress Management (FRSM).

The NSA intends to monitor the situation, to ensure proper application of the EU Reg 2017/373 requirements for FRMS.

Additional Information Related to Russia's War of Agression Against Ukraine

The changes of traffic flows in Riga FIR were material. EU and RU banned one another's airspace users on entering the airspace. That lead to decline in flights to East Asia. Basically the Europe - Russian flight segment (a quarter of all flights prior to crisis) was fully wiped out. On the other hand Riga FIR now handles all the traffic to Kaliningrad exclave. This negatively impacts Environment Key Performance indicator. Latvia gained some extra traffic on north - south axis due to previously mentioned bans on use of airspaces.
Bordering Russia and being both EU and NATO member state, Latvia experiences more traffic complexity due to more military restriction zones.
All of the above does not directly effect the capacity performance expressed as ATFM delay KPI, however it adds complexity, volatility and uncertainty, especially financially (inability to pay by RU operators, volatility of traffic and decrease of average SU per flight).

To mitigate any possible impacts on en route capacity performance, due to higher than expected decline in number of ATCOs, ANSP is now training new ATCOs to replenish their amount to normal operational level of 62 ATCOs.

Summary of capacity performance

Latvia experienced an increase in traffic, from 186k flights in 2022 with zero delay, to 196k flights in 2023, also with zero ATFM delays.

Traffic levels are still much lower than the 2019 levels of 295k flights

En route Capacity Incentive Scheme

LGS	2020	2021	2022	2023	2024	Observations
National Capacity target	-	-	0.03	0.03	0.03	The incentive scheme is under review by the Euorpean Commission
Deadband +/-	-	-	-	[0.02-0.04]	[0.02-0.04]	
Actual performance	=	=	0.00	0.00		

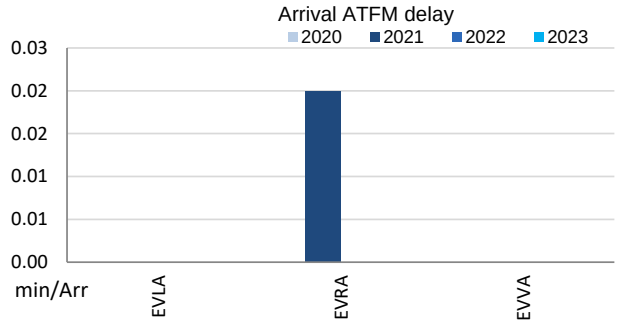
LATVIA **CAPACITY - Airports**

1. Overview

Latvia identified 4 airports as subject to RP3 monitoring. In accordance with IR (EU) 2019/317 and the traffic figures at these 4 airports, pre-departure delays are not monitored and the capacity performance monitoring focuses on arrival ATFM delay and slot adherence.
Traffic at these Latvian airports in 2023 was still 30% lower than in 2019, regardless of a 11% increase with respect to 2022.

No arrival ATFM delays were recorded at Latvian airports in 2023, same as in 2022. National target was met.
ATFM slot adherence remained very high at 99.5% in 2023 (2022: 99.6%).

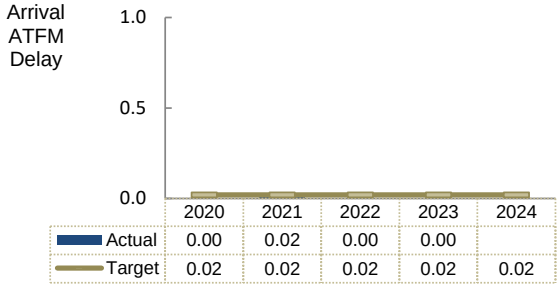
2. Arrival ATFM Delay



Average arrival ATFM delays in 2023 were zero at all three Latvian airports.

The Latvian monitoring report clarifies: *EVVA has no ATS. EVRA and EVLA has no capacity issues. CDM has been voluntarily implemented by Riga airport and LGS to ensure a back up support, for expedient air traffic movement ir Riga airport.*

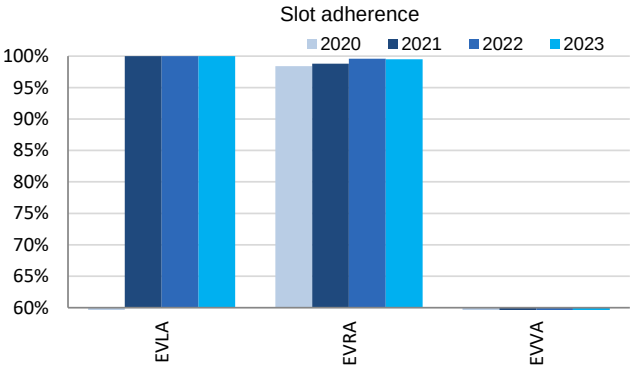
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.00	0.02	0.00	0.00	
Target	0.02	0.02	0.02	0.02	0.02

The Latvian performance plan sets a national target on arrival ATFM delay for 2023 of 0.02 min/arr. This target was met with an actual performance of 0.00 min/arr. According to the Performance Plan, this should correspond to a maximum bonus of 2%, however the Latvian monitoring report does not declare any bonus.

4. ATFM Slot Adherence



Riga's ATFM slot compliance was an excellent 99.5%. With regard to the 0.5% of flights that did not adhere, 0.4% was early and 0.1% was late.
EVVA did not have any regulated departures and EVLA had only 1, with a 100% slot adherence.

According to the Latvian monitoring report:
Overall, the performance has remained the same at 99% adherence to the ATFM slots in Riga airport and 100% at Liepaja.
EVVA (Ventstpils) has no ATS and EVLA (Liepaja) has only AFIS with limited working hours.

5. ATC Pre-departure Delay

This indicator is not monitored for airports below 80 000 IFR movements annual average during the 2016-2018 period, so it is not monitored for any airport in Latvia.

6. All Causes Pre-departure Delay

This indicator is not monitored for airports below 80 000 IFR movements annual average during the 2016-2018 period, so it is not monitored for any airport in Latvia.

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Liepaya-EVLA	0	0	0	0		n/a	100.0%	100.0%	100.0%		-	-	-	-		-	-	-	-	
Riga-EVRA	0	0.02	0	0		98.4%	98.8%	99.6%	99.5%		-	-	-	-		-	-	-	-	
Ventstpils-EVVA	0	0	0	0		n/a	n/a	n/a	n/a		-	-	-	-		-	-	-	-	

LATVIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Latvia ECZ represents 0.3% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 13 July 2022 and found consistent as per Commission Decision (EU) 2022/2426 of 5 December 2022
  The final version of the plan was adopted and published by Latvia in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Latvia: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	19 790 150	20 295 138	40 085 288	20 051 203	22 707 660	22 828 981
Inflation %	0.1%	2.1%		10.0%	3.9%	3.1%
Inflation index (100 in 2017)	105.5	107.7		119.7	124.3	128.1
Real en route costs (€2017)	19 046 363	19 273 567	38 319 930	17 724 537	19 519 091	19 144 924
Total en route service units	439 248	517 000	956 248	466 000	548 000	570 000
Real en route DUC per service unit (€2017)	**43.36**	**37.28**	**40.07**	**38.04**	**35.62**	**33.59**

Latvia: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	19 790 150	18 651 514	38 441 664	19 603 843	22 335 841	
Inflation %	0.1%	3.2%		17.2%	9.1%	
Inflation index (100 in 2017)	105.5	108.8		127.5	139.2	
Real en route costs (€2017)	19 046 363	17 572 511	36 618 874	16 668 372	17 914 371	
Total en route service units	439 248	541 944	981 192	465 601	465 897	
Real en route AUC per service unit (€2017)	**43.36**	**32.42**	**37.32**	**35.80**	**38.45**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-1 643 624	-1 643 624	-447 360	-371 819	
	in %	-	-8.1%	-4.1%	-2.2%	-1.6%	
Inflation %	in p.p.	0.0 p.p.	1.1 p.p.		7.2 p.p.	5.3 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.1 p.p.		7.8 p.p.	14.8 p.p.	
Real en route costs (€2017)	in value	0	-1 701 055	-1 701 055	-1 056 165	-1 604 720	
	in %	-	-8.8%	-4.4%	-6.0%	-8.2%	
Total en route service units	in value	0	24 944	24 944	-399	-82 103	
	in %	-	+4.8%	+2.6%	-0.1%	-15.0%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-4.85**	**-2.75**	**-2.24**	**2.83**	
	in %	**-**	**-13.0%**	**-6.9%**	**-5.9%**	**+8.0%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was +8.0% (or +2.83 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TSUs (-15.0%) and significantly lower than planned en route costs in real terms (-8.2%, or -1.6 M€2017). It should be noted that actual inflation index in 2023 was +14.8 p.p. higher than planned.

En route service units

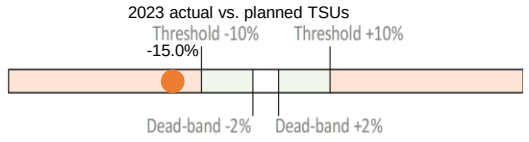
The difference between actual and planned TSUs (-15.0%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

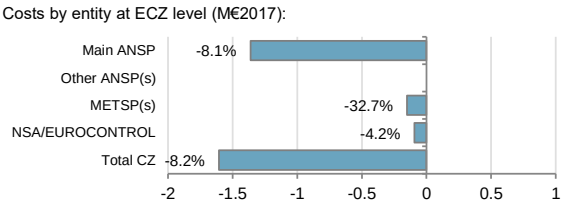
En route costs by entity

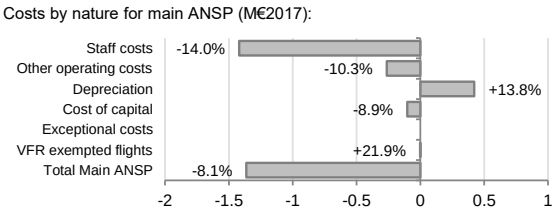
Actual real en route costs are -8.2% (-1.6 M€2017) lower than planned. This is the result of lower costs for the main ANSP, LGS (-8.1%, or -1.4 M€2017), the MET service provider (-32.7%, or -0.1 M€2017) and the NSA/EUROCONTROL (-4.2%, or -0.1 M€2017).

En route costs for the main ANSP (LGS) at charging zone level

Significantly lower than planned en route costs in real terms for LGS in 2023 (-8.1%, or -1.4 M€2017) result from:
- Significantly lower staff costs (-14.0%), reflecting reduction in staff numbers due to lower than planned traffic volumes.
- Significantly lower other operating costs (-10.3%) in real terms, reflecting primarily the impact of the inflation index (+14.8 p.p.) since, in nominal terms, other operating costs are mostly in line with the plan (+0.4%).
- Significantly higher depreciation (+13.8%), reflecting the "*commissioning of initially (2020-2021) delayed investments in 2023*".
- Significantly lower cost of capital (-8.9%), which, since LGS is entirely financed through equity, reflects lower actual asset base used to calculate the cost of capital.
- Higher deduction for VFR exempted flights (+21.9%).







LATVIA: En route charging zone

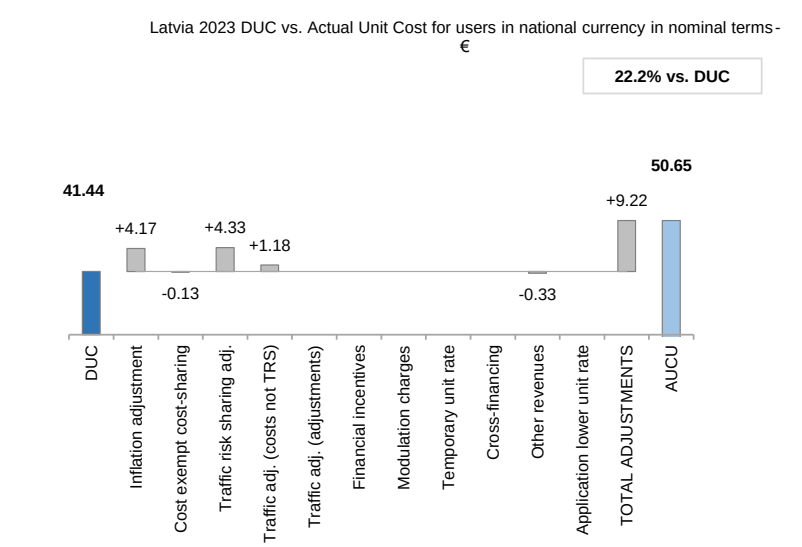
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	41.44
DUC to be charged retroactively	0.00
DUC	**41.44**
Inflation adjustment	4.17
Cost exempt from cost-sharing	-0.13
Traffic risk sharing adjustment	4.33
Traffic adj. (costs not TRS)	1.18
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.33
Application of lower unit rate	0.00
Total adjustments	9.22
AUCU	**50.65**
AUCU vs. DUC	**+22.2%**

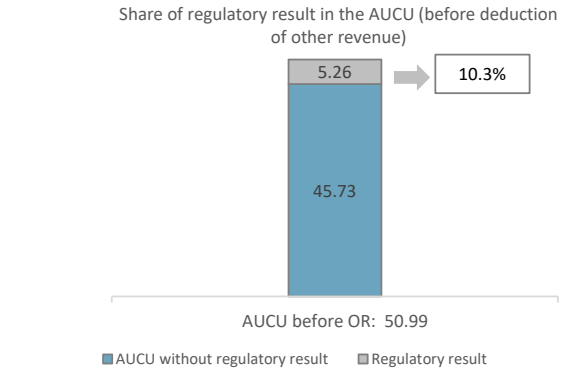
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	96	0.21
	Competent authorities and qualified entities costs	-12	-0.03
	Eurocontrol costs	-81	-0.17
	Pension costs	-64	-0.14
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-61**	**-0.13**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
LGS	2 252	4.83
METSP(s)	**€ '000**	**€/SU**
Latvia MET	200	0.43
Total charging zone	2 453	5.26
Actual cost for users* **	23 754	50.99
Regulatory result (% AUCU)	10.3%	10.3%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (50.65 €) is +22.2% higher than the nominal DUC (41.44 €). The difference between these two figures (+9.22 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+4.17 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-0.13 €/SU);
- the addition of the traffic risk sharing adjustments (+4.33 €/SU);
- the addition of the traffic adjustment (+1.18 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-0.33 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 10.3%.

LATVIA: En route main ANSP (LGS) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

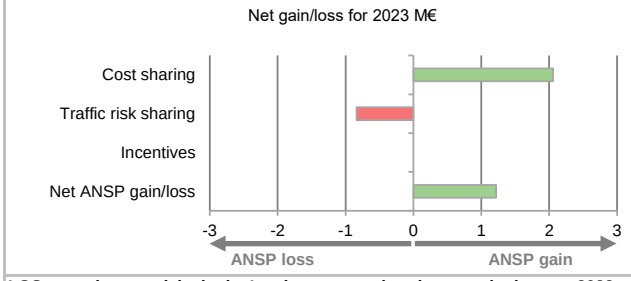
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

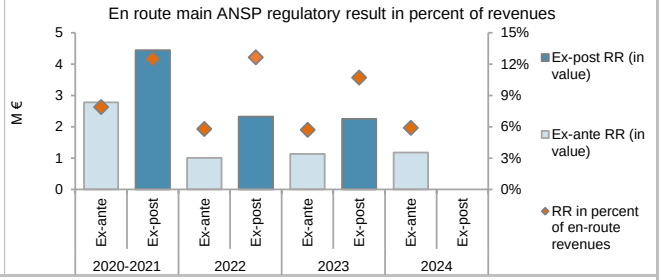
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	1 508	294	140	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	150	904	1 881	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-533	69	35	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**1 125**	**1 267**	**2 056**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	2.6%	-0.1%	-15.0%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	33 522	16 645	19 046	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**732**	**-14**	**-838**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**1 856**	**1 253**	**1 218**	

12. Regulatory result (RR) for the main ANSP at charging zone level

LGS planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	20 549	21 528	42 077	20 140	22 740	23 500
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	6.6%	6.6%	6.6%	5.0%	5.0%	5.0%
RoE (in value)	1 356	1 421	2 777	1 006	1 136	1 176
Ex-ante regulatory result (+/-) for the en route charging zone	**1 356**	**1 421**	**2 777**	**1 006**	**1 136**	**1 176**
Revenue for the en route charging zone	**17 419**	**17 821**	**35 240**	**17 439**	**19 954**	**20 014**
Ex-ante regulatory result (+/-) in percent of revenues	**7.8%**	**8.0%**	**7.9%**	**5.8%**	**5.7%**	**5.9%**
Ex-ante RoE pre-tax rate (in %)	**6.6%**	**6.6%**	**6.6%**	**5.0%**	**5.0%**	**5.0%**
LGS actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	20 549	18 629	39 178	21 436	20 693	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	6.6%	6.6%	6.6%	5.0%	5.0%	
RoE (in value)	1 356	1 230	2 586	1 071	1 035	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	1 856	1 856	1 253	1 218	
Ex-post regulatory result (+/-) for the en route charging zone	**1 356**	**3 086**	**4 442**	**2 323**	**2 252**	
Revenue for the en route charging zone	**17 419**	**18 169**	**35 588**	**18 398**	**21 032**	
Ex-post regulatory result (+/-) in percent of revenues	**7.8%**	**17.0%**	**12.5%**	**12.6%**	**10.7%**	
Ex-post RoE pre-tax rate (in %)	**6.6%**	**16.6%**	**11.3%**	**10.8%**	**10.9%**	

13. Focus on the main ANSP regulatory result on en route activity





LGS net gain on activity in the Latvia en route charging zone in the year 2023

LGS reported a net gain of +1.2 M€, as a combination of a gain of +2.1 M€ arising from the cost sharing mechanism, with a loss of -0.8 M€ arising from the traffic risk sharing mechanism.

LGS overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+1.2 M€) and the actual RoE (+1.0 M€) amounts to +2.3 M€ (10.7% of the en route revenues). The resulting ex-post rate of return on equity is 10.9%, which is higher than the 5.0% planned in the PP.

LATVIA: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity

Latvia MET planned regulatory result (€ '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	337	337	674	337	563	569
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Latvia MET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	-9	-9	12	200	
Revenue for the en route charging zone	337	331	668	349	624	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	-2.8%	-1.4%	3.5%	32.1%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Latvia (Latvian MET service provider) corresponds to 32.1% of the en route revenues. The RoE cannot be calculated for Latvian MET SP, as it does not charge the cost of capital and has no equity.

LATVIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Latvia TCZ represents 0.5% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 3 of which:
  - Airports with fewer than 80,000 IFR mvmts: 3
  - Airports with more than 80,000 IFR mvmts: 0
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Latvia: Data from RP3 Performance Plan	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Terminal costs (nominal €)	5 968 000	6 273 000	12 241 000	5 976 000	6 863 000	7 219 000
Inflation %	0.1%	2.1%		10.0%	3.9%	3.1%
Inflation index (100 in 2017)	105.5	107.7		119.7	124.3	128.1
Real terminal costs (€2017)	5 779 829	6 010 333	11 790 162	5 398 697	6 068 548	6 244 635
Total terminal service units	18 167	20 975	39 142	37 000	46 000	48 000
Real terminal DUC per service unit (€2017)	**318.16**	**286.54**	**301.22**	**145.91**	**131.92**	**130.10**

Latvia: Actual data from Reporting Tables	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Terminal costs (nominal €)	5 968 000	5 980 619	11 948 619	6 363 470	6 783 106	
Inflation %	0.1%	3.2%		17.2%	9.1%	
Inflation index (100 in 2017)	105.5	108.8		127.5	139.2	
Real terminal costs (€2017)	5 779 829	5 708 115	11 487 945	5 538 930	5 586 897	
Total terminal service units	18 167	21 663	39 830	32 339	36 647	
Real terminal AUC per service unit (€2017)	**318.16**	**263.49**	**288.43**	**171.28**	**152.45**	

Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Terminal costs (nominal €)	in value	0	-292 381	-292 381	387 470	-79 894	
	in %	-	-4.7%	-2.4%	+6.5%	-1.2%	
Inflation %	in p.p.	0.0 p.p.	1.1 p.p.		7.2 p.p.	5.3 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.1 p.p.		7.8 p.p.	14.8 p.p.	
Real terminal costs (€2017)	in value	0	-302 217	-302 217	140 233	-481 651	
	in %	-	-5.0%	-2.6%	+2.6%	-7.9%	
Total terminal service units	in value	0	688	688	-4 661	-9 353	
	in %	-	+3.3%	+1.8%	-12.6%	-20.3%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-23.05**	**-12.79**	**25.37**	**20.53**	
	in %	**-**	**-8.0%**	**-4.2%**	**+17.4%**	**+15.6%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +15.6% (or +20.53 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TNSUs (-20.3%) and significantly lower than planned terminal costs in real terms (-7.9%, or -0.5 M€2017). It should be noted that actual inflation index in 2023 was +14.8 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-20.3%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

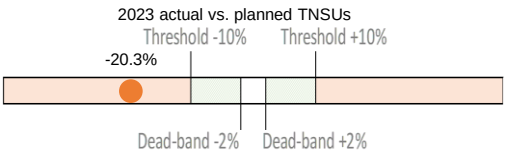
Terminal costs by entity

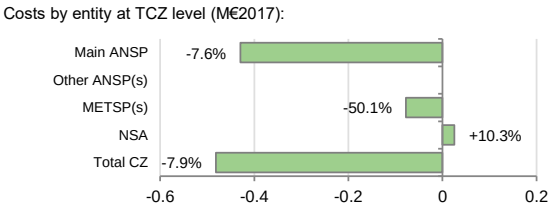
Actual real terminal costs are -7.9% (-0.5 M€2017) lower than planned. This is the result of lower costs for the main ANSP, LGS (-7.6%, or -0.4 M€2017) and the MET service provider (-50.1%, or -0.1 M€2017) and higher costs for the NSA (+10.3%, or +0.03 M€2017).

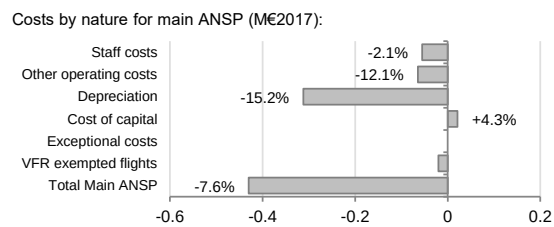
Terminal costs for the main ANSP (LGS) at charging zone level

Significantly lower than planned terminal costs in real terms for LGS in 2023 (-7.6%, or -0.4 M€2017) result from:

- Lower staff costs (-2.1%) in real terms, reflecting primarily the impact of the inflation index (+14.8 p.p.) since, in nominal terms, staff costs are significantly higher than planned (+9.6%), which is explained by increase in "*salaries for Air Traffic Control Officers (ATCOs) and other staff categories*".
- Significantly lower other operating costs (-12.1%), reflecting primarily the impact of the inflation index since, in nominal terms, costs were only slightly below planned (-1.6%).
- Significantly lower depreciation (-15.2%), explained by "*commissioning of investments for terminal with longer depreciation schedules*".
- Higher cost of capital (+4.3%), which, since LGS is entirely financed through equity, reflects higher actual asset base used to calculate the cost of capital.







LATVIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

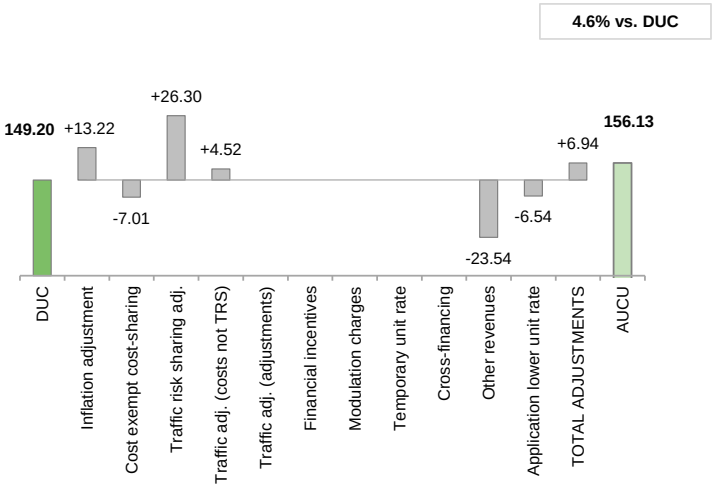
5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level

Latvia 2023 DUC vs. Actual Unit Cost for users in national currency in nominal terms - €



Components of the AUCU	€/SU
Initial DUC charged	149.20
DUC to be charged retroactively	0.00
DUC	**149.20**
Inflation adjustment	13.22
Cost exempt from cost-sharing	-7.01
Traffic risk sharing adjustment	26.30
Traffic adj. (costs not TRS)	4.52
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-23.54
Application of lower unit rate	-6.54
Total adjustments	6.94
AUCU	**156.13**
AUCU vs. DUC	**4.6%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

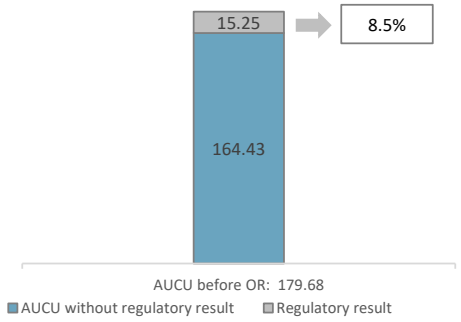
7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-282	-7.71
	Competent authorities and qualified entities costs	25	0.69
	Eurocontrol costs	0	0.00
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-257**	**-7.01**

Source: These data are taken from the June 2024 Terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level

Share of regulatory result in the AUCU (before deduction of other revenue)



ANSP(S)	€ '000	€/SU
LGS	459	12.52

METSP(s)	€ '000	€/SU
Latvia-MET	100	2.73
Total charging zone	559	15.25
Actual cost for users* **	6 585	179.68
Regulatory result (% AUCU)	8.5%	8.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (156.13 €) is +4.6% higher than the nominal DUC (149.20 €). The difference between these two figures (+6.94 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+13.22 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-7.01 €/SU);
- the addition of the traffic risk sharing adjustments (+26.30 €/SU);
- the addition of the traffic adjustment (+4.52 €/SU) for the costs not subject to traffic risk sharing;
- the deduction of the other revenues (-23.54 €/SU); and
- application of a lower unit rate as foreseen in Art. 29(6) in year 2023 (-6.54 €/SU); and

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 8.5%.

LATVIA: Terminal main ANSP (LGS) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: Ex-post RR does not take into account the application of the lower unit rate as per Art. 29.6 (loss in revenues corresponds to -0.2 M€ for 2023).

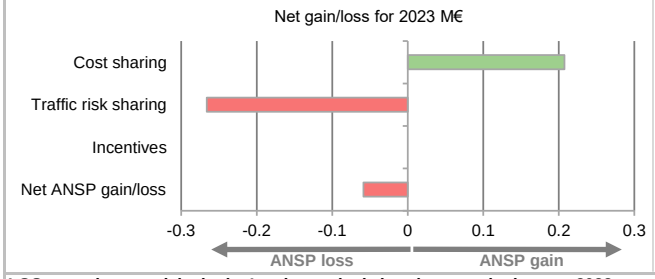
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

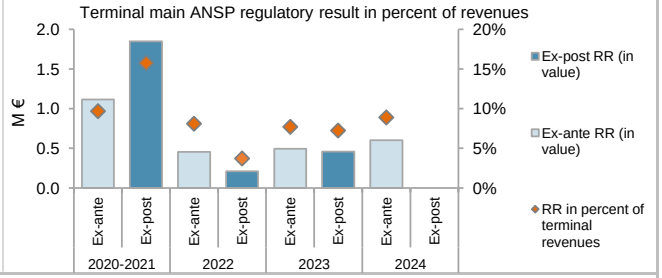
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	277	-372	21	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	38	223	463	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	34	91	-277	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**350**	**-59**	**207**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.8%	-12.6%	-20.3%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	10 524	5 279	6 049	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**185**	**-232**	**-266**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**535**	**-292**	**-59**	

12. Regulatory result (RR) for the main ANSP at charging zone level

LGS planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	8 679	8 192	16 871	9 071	9 919	12 071
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	6.6%	6.6%	6.6%	5.0%	5.0%	5.0%
RoE (in value)	573	541	1 114	454	496	604
Ex-ante regulatory result (+/-) for the terminal charging zone	**573**	**541**	**1 114**	**454**	**496**	**604**
Revenue for the terminal charging zone	**5 592**	**5 898**	**11 490**	**5 608**	**6 426**	**6 788**
Ex-ante regulatory result (+/-) in percent of revenues	**10.2%**	**9.2%**	**9.7%**	**8.1%**	**7.7%**	**8.9%**
Ex-ante RoE pre-tax rate (in %)	**6.6%**	**6.6%**	**6.6%**	**5.0%**	**5.0%**	**5.0%**
LGS actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	8 679	11 221	19 900	10 037	10 350	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	6.6%	6.6%	6.6%	5.0%	5.0%	
RoE (in value)	573	741	1 314	502	517	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	535	535	-292	-59	
Ex-post regulatory result (+/-) for the terminal charging zone	**573**	**1 276**	**1 849**	**211**	**459**	
Revenue for the terminal charging zone	**5 592**	**6 156**	**11 748**	**5 689**	**6 346**	
Ex-post regulatory result (+/-) in percent of revenues	**10.2%**	**20.7%**	**15.7%**	**3.7%**	**7.2%**	
Ex-post RoE pre-tax rate (in %)	**6.6%**	**11.4%**	**9.3%**	**2.1%**	**4.4%**	

13. Focus on main ANSP regulatory result on terminal activity





LGS net gain on activity in the Latvia terminal charging zone in the year 2023

LGS reported a net loss of -0.1 M€, as a combination of a gain of +0.2 M€ arising from the cost sharing mechanism, with a loss of -0.3 M€ arising from the traffic risk sharing mechanism.

LGS overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-0.1 M€) and the actual RoE (+0.5 M€) amounts to +0.5 M€ (7.2% of the terminal revenues). The resulting ex-post rate of return on equity is 4.4%, which is lower than the 5.0% planned in the PP.

LATVIA: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Latvia-MET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**113**	**113**	**226**	**113**	**190**	**191**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Latvia-MET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**-2**	**-2**	**3**	**100**	
Revenue for the terminal charging zone	**113**	**111**	**224**	**116**	**206**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**-2.0%**	**-1.0%**	**2.8%**	**48.5%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Latvia (Latvian MET service provider) corresponds to 48.5% of the terminal revenues. The RoE cannot be calculated for Latvian MET SP, as it does not charge the cost of capital and has no equity.

LATVIA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Latvia

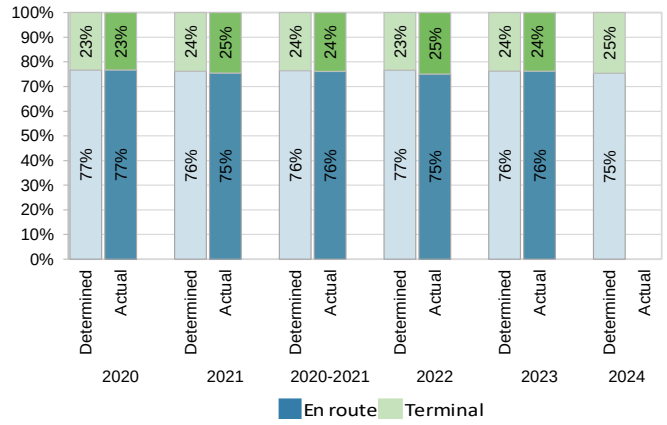
Terminal charging zone 1: Latvia

Latvia: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	19 046 363	19 273 567	38 319 930	17 724 537	19 519 091	19 144 924
Real terminal costs (€2017)	5 779 829	6 010 333	11 790 162	5 398 697	6 068 548	6 244 635
Real gate-to-gate costs (€2017)	24 826 192	25 283 899	50 110 092	23 123 233	25 587 639	25 389 559
En route share (%)	76.7%	76.2%	76.5%	76.7%	76.3%	75.4%

Latvia: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	19 046 363	17 572 511	36 618 874	16 668 372	17 914 371	
Real terminal costs (€2017)	5 779 829	5 708 115	11 487 945	5 538 930	5 586 897	
Real gate-to-gate costs (€2017)	24 826 192	23 280 627	48 106 819	22 207 302	23 501 268	
En route share (%)	76.7%	75.5%	76.1%	75.1%	76.2%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-2 003 273	-2 003 273	-915 932	-2 086 371	
	in %	0.0%	-7.9%	-4.0%	-4.0%	-8.2%	
En route share	in p.p.	0.0 p.p.	-0.7 p.p.	-0.4 p.p.	-1.6 p.p.	-0.1 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -8.2% (-2.1 M€2017) lower than planned, as en route costs are lower than planned by -1.6 M€2017 and terminal costs are lower than planned by -0.5 M€2017.

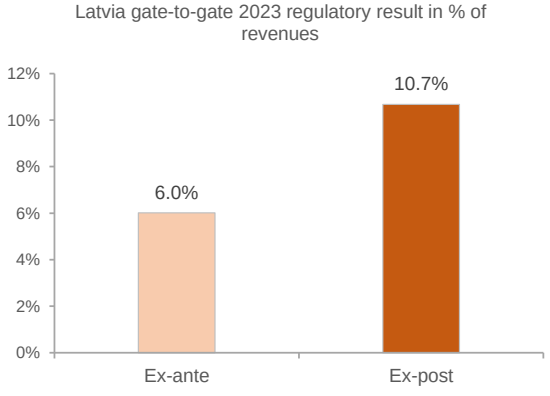
The actual share of en route in gate-to-gate ANS costs (76.2%) is in line with that planned in the PP for 2023 (76.3%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
LGS	1 632	26 380	6.2%		2 711	27 378	9.9%	
METSP(s)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
Latvia MET	0	753	0.0%		300	830	36.2%	
Total	**1 632**	**27 133**	**6.0%**		**3 011**	**28 208**	**10.7%**	

For the ANSPs providing services in the en route and terminal charging zones of Latvia covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +3.0 M€ (+2.5 M€ for en route and +0.6 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 10.7% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (6.0% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

LITHUANIA

LITHUANIA **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
Oro Navigacjia	100	D	D	D	D	D
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

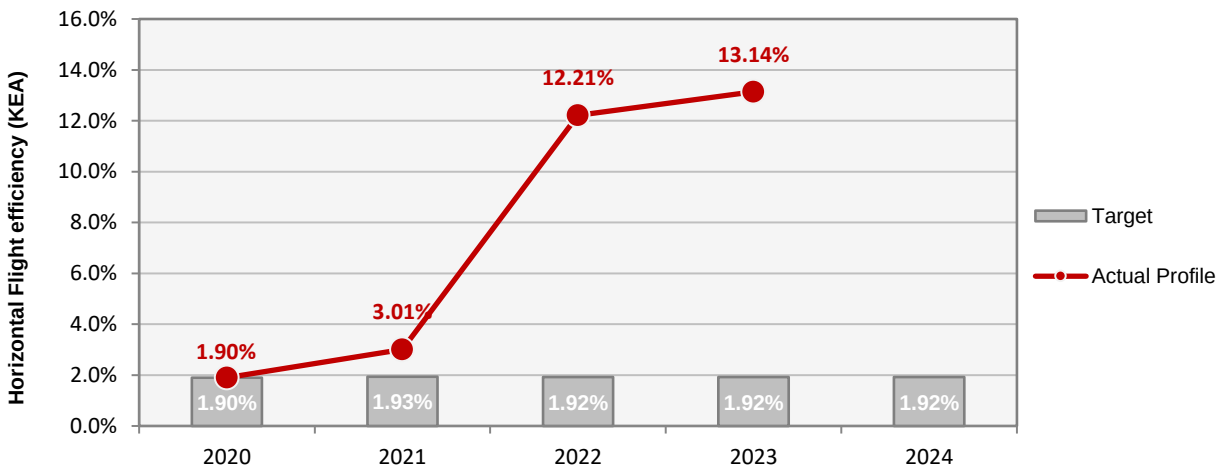
Observations
All five EoSM components of the ANSP meet, or exceed, already the 2024 target level. The ANSP has maintained the maximum level for all components.

LITHUANIA

ENVIRONMENT - Horizontal flight efficiency

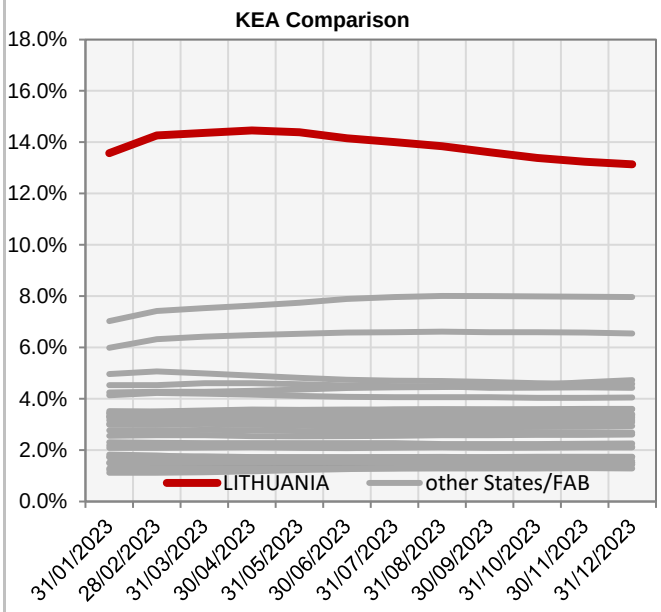
KEA

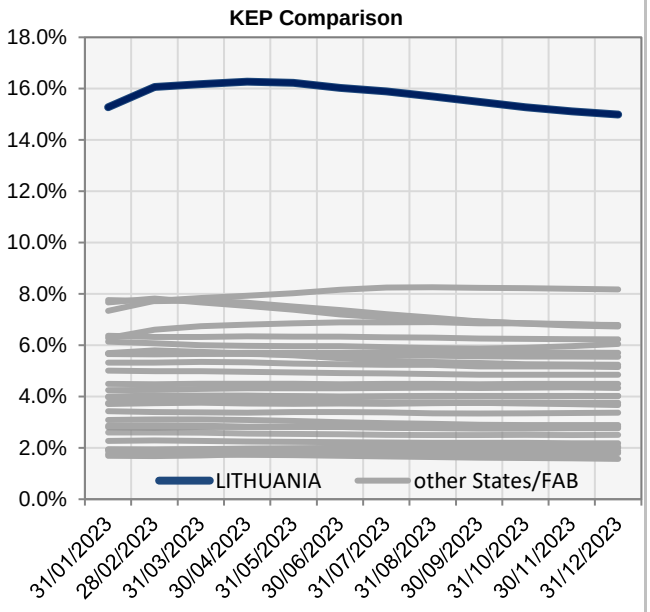
	2020	2021	2022	2023	2024
Target	1.90%	1.93%	1.92%	1.92%	1.92%
Actual performance	1.90%	3.01%	12.21%	13.14%	



End of month indicators evolution in 2023

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	13.57%	14.27%	14.37%	14.46%	14.39%	14.15%	14.00%	13.84%	13.61%	13.39%	13.24%	13.14%
KEP	15.28%	16.06%	16.18%	16.27%	16.23%	16.03%	15.89%	15.70%	15.49%	15.27%	15.12%	14.99%
KES	14.44%	15.29%	15.53%	15.65%	15.64%	15.43%	15.27%	15.10%	14.90%	14.68%	14.51%	14.36%





The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

LITHUANIA **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

Due to increased MIL activity in the region impact on environmental KPA is significant (to negative side). Airspace design is under revision to support current and future MIL activity, new TSA type areas are designed for MIL operations. FUA principles are applied for day-to-day airspace managemet, procedures are implemented based on LoA with ASM tool LARA in use between CIV-MIL.
New Modular (Temporary) TSAs were created, with focus on testing more flexible ways of area activation (tactical activation for MIL not affecting CIVIL, based on LoA). Testing will last till 31-OCT-2024. If results will be satisfactory, Temporary areas will be converted to permanent TSAs.

Military - related measures implemented or planned to improve capacity

New modular TSAs with more dynamic/flexible ways of management could potentialy reduce airspace capacity issues or at least balace military and civil airspace needs (this model is under testing). INTEL/SURVEILANCE flights most propably will remain, ANSP has no authority to regulating this part of MIL operations.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Lithuania	96%	100%	99%	100%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Vilnius	96%	100%	99%	100%	

Initiatives implemented or planned to improve PI#6

ON is implementing latest version of LARA (v 4.0) to improve the related performance.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Lithuania	91%	89%	90%	94%	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Vilnius	91%	89%	90%	94%	

Initiatives implemented or planned to improve PI#7

ON is implementing latest version of LARA (v 4.0) to improve the related performance.

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Lithuania	65%	66%	55%	61%	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Vilnius	65%	66%	55%	61%	

Initiatives implemented or planned to improve PI#8

ON is implementing latest version of LARA (v 4.0) to improve the related performance.

LITHUANIA **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.05	0.01	0.02	0.02	0.02	
Actual performance	0.00	0.00	0.00	0.00		

NSA's assessment of capacity performance

The target was reached with overperformance and generated 0 min delay per flight instead of targeted 0,02 min. Respectfully, the ATSP Oro Navigacija is subject to reward of 218,8 kEur, in line with the set incentive scheme.

Monitoring process for capacity performance

Is performed monthly by analysing data provided in the EUROCONTROL Aviation Intelligence Unit dashboard.

Capacity Planning

Capacity planning was carried out by Oro Navigacija taking into account the STATFOR and Seasonal NOP Rolling plan and communicated to ANSP airspace users plans.

ATCO in OPS (FTE)							
Vilnius ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	36	35	35	36	
Actual	35	36	34	35	34		

Number of FTE ATCOs will be reinstated in 2024.

Additional Information Related to Russia's War of Aggression Against Ukraine

Traffic over Vilnius FIR is very uncertain. STATFOR MAY 2024 outlook for Lithuania 2024-2025 has been revised upwards partially due to a stronger domestic traffic in the Russian Federation (RF) (i.e. with its enclave Kaliningrad) that was underestimated in STATFOR February 2024 forecast.

The traffic flow west-south (so called Kaliningrad transit) shifted to transit north-south above the Baltic Sea after the restrictions RF registered aircraft to operate in Lithuanian airspace. Due to EU sanctions EUROCONTROL CRCO is not able to collect charges due by RF operators despite the traffic is increasing in the Baltic sea region (above Baltic High Seas, so called "neutral" waters)

Summary of capacity performance

Lithuania experienced an increased in traffic from 183k flights in 2922, with zero en-route ATFM delay, to 188k flights in 2023, also with zero en-route ATFM delay. Traffic levels remain substantially below the 302k flights in 2019, due to war and international sanctions.

En route Capacity Incentive Scheme						
SE Oro Navigacija	2020	2021	2022	2023	2024	Observations
National Capacity target	0.05	0.01	0.02	0.02	0.02	The actual performance is better than the national target and deadband range. Therefore Oro Navigacija is due a bonus of €218 776.
Deadband +/-	-	-	-	[0.019-0.021]	[0.019-0.021]	
Actual performance	0.00	0.00	0.00	0.00		

LITHUANIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Lithuania ECZ represents 0.3% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 revised (final) performance plan submitted 26 August 2022 and found consistent as per Commission Decision (EU) 2022/2494 of 9 December
  The final version of the plan was adopted and published by Lithuania in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Lithuania: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	19 503 591	20 910 657	40 414 248	21 945 063	24 906 259	26 082 576
Inflation %	1.1%	3.2%		17.9%	8.5%	3.0%
Inflation index (100 in 2017)	105.9	109.3		130.6	141.7	146.0
Real en route costs (€2017)	18 661 791	19 622 485	38 284 647	18 189 614	19 502 382	19 990 456
Total en route service units	332 616	425 318	757 934	372 234	415 785	434 912
Real en route DUC per service unit (€2017)	**56.11**	**46.14**	**50.51**	**48.87**	**46.90**	**45.96**

Lithuania: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	19 503 591	21 440 731	40 944 322	21 738 274	24 086 157	
Inflation %	1.1%	4.6%		18.9%	8.7%	
Inflation index (100 in 2017)	105.9	110.8		131.7	143.2	
Real en route costs (€2017)	18 661 791	19 932 490	38 594 281	17 878 314	18 700 367	
Total en route service units	332 616	443 151	775 768	375 999	404 023	
Real en route AUC per service unit (€2017)	**56.11**	**44.98**	**49.75**	**47.55**	**46.29**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	530 074	530 074	-206 789	-820 103	
	in %	+0.0%	+2.5%	+1.3%	-0.9%	-3.3%	
Inflation %	in p.p.	0.0 p.p.	1.4 p.p.		1.0 p.p.	0.2 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.5 p.p.		1.1 p.p.	1.5 p.p.	
Real en route costs (€2017)	in value	0	310 005	309 633	-311 300	-802 015	
	in %	-	+1.6%	+0.8%	-1.7%	-4.1%	
Total en route service units	in value	0	17 833	17 833	3 765	-11 762	
	in %	-	+4.2%	+2.4%	+1.0%	-2.8%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-1.16**	**-0.76**	**-1.32**	**-0.62**	
	in %	**-0.0%**	**-2.5%**	**-1.5%**	**-2.7%**	**-1.3%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -1.3% (or -0.62 €2017) lower than the planned DUC. This results from the combination of lower than planned en route costs in real terms (-4.1%, or -0.8 M€2017) and lower than planned TSUs (-2.8%).

En route service units

The difference between actual and planned TSUs (-2.8%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

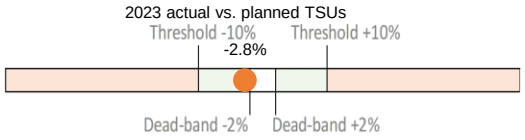
En route costs by entity

Actual real en route costs are -4.1% (-0.8 M€2017) lower than planned. This is the result of lower costs for the main ANSP, Oro Navigacija (-4.6%, or -0.8 M€2017), the MET service provider (-8.0%, or -0.04 M€2017) and the other ANSP (LGS-Ninta Adaxa, -3.3%) and higher costs for the NSA/EUROCONTROL (+1.5%).

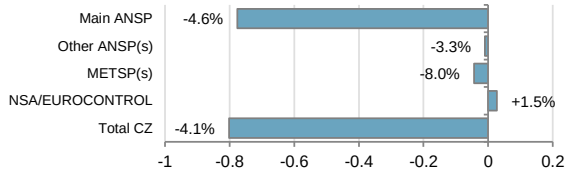
En route costs for the main ANSP (Oro Navigacija) at charging zone level

Lower than planned en route costs in real terms for Oro Navigacija in 2023 (-4.6%, or -0.8 M€2017) result from:

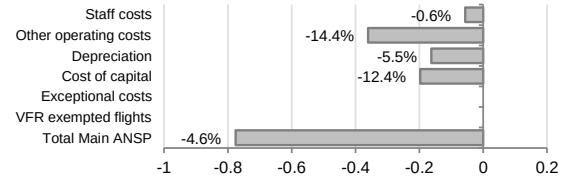
- Slightly lower staff costs (-0.6%) in real terms, reflecting the impact of the inflation index (+1.5 p.p.) since, in nominal terms, staff costs were slightly above the plan (+0.5%), which is explained by "*significantly higher starting salaries* [for new staff] – *due to continuous pressures and very competitive labour-market and continuous double-digit annual average salaries growth in Lithuania* ".
- Significantly lower other operating costs (-14.4%) reflecting lower than planned energy costs as well as delays in tender process for key ATM system's maintenance services.
- Lower depreciation (-5.5%), due to slight delays in the implementation of investment programme.
- Significantly lower cost of capital (-12.4%) resulting from lower than planned asset base.



Costs by entity at ECZ level (M€2017):



Costs by nature for main ANSP (M€2017):



LITHUANIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

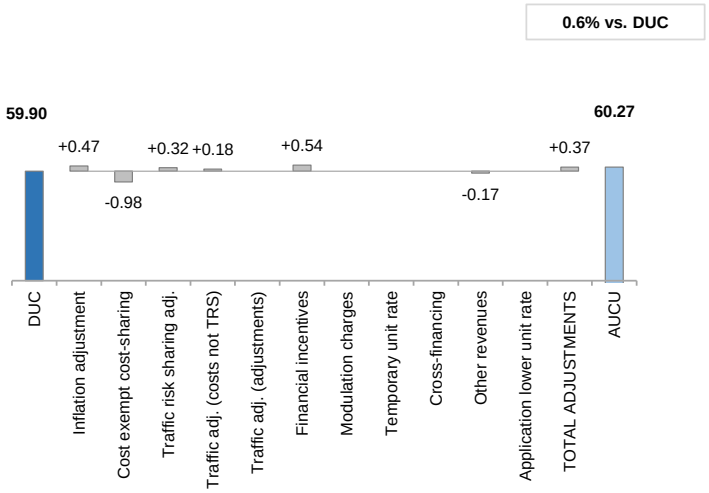
5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level

Lithuania 2023 DUC vs. Actual Unit Cost for users in national currency in nominal terms - €



Components of the AUCU	€/SU
Initial DUC charged	59.90
DUC to be charged retroactively	0.00
DUC	**59.90**
Inflation adjustment	0.47
Cost exempt from cost-sharing	-0.98
Traffic risk sharing adjustment	0.32
Traffic adj. (costs not TRS)	0.18
Traffic adj. (adjustments)*	
Financial incentives	0.54
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.17
Application of lower unit rate	0.00
Total adjustments	0.37
AUCU	**60.27**
AUCU vs. DUC	**+0.6%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

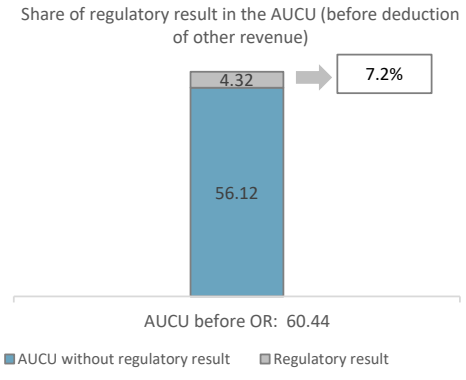
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-416	-1.03
	Competent authorities and qualified entities costs	-127	-0.31
	Eurocontrol costs	155	0.38
	Pension costs	-6	-0.01
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-394**	**-0.98**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
Oro Navigacija	1 642	4.06
LGS-NINTA ADAXA	45	0.11
METSP(s)	**€ '000**	**€/SU**
Lithuania MET	60	0.15
Total charging zone	1 747	4.32
Actual cost for users* **	24 420	60.44
Regulatory result (% AUCU)	7.2%	7.2%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (60.27 €) is +0.6% higher than the nominal DUC (59.90 €). The difference between these two figures (+0.37 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+0.47 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-0.98 €/SU);
- the addition of the traffic risk sharing adjustments (+0.32 €/SU);
- the addition of the traffic adjustment (+0.18 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (+0.54 €/SU).
- the deduction of the other revenues (-0.17 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 7.2%.

LITHUANIA: En route main ANSP (Oro Navigacija) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

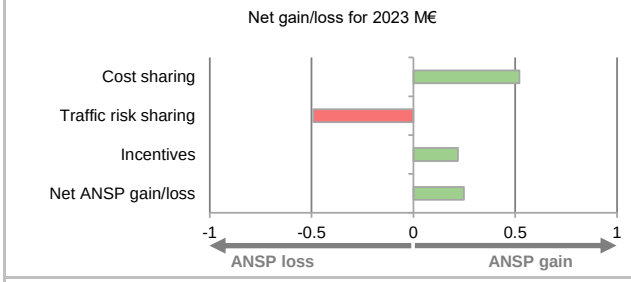
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

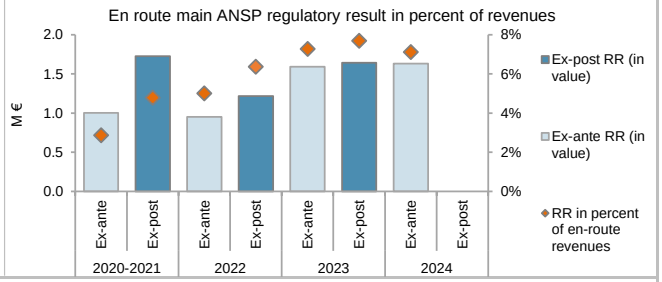
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-407	197	776	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	194	128	179	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	127	-236	-434	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-86**	**89**	**521**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	2.4%	1.0%	-2.8%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	35 070	19 033	21 878	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**739**	**193**	**-492**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**219**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**653**	**281**	**248**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Oro Navigacija planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	39 185	33 474	72 660	31 676	31 819	32 647
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	0.0%	3.0%	1.4%	3.0%	5.0%	5.0%
RoE (in value)	0	1 004	1 004	950	1 591	1 632
Ex-ante regulatory result (+/-) for the en route charging zone	**0**	**1 004**	**1 004**	**950**	**1 591**	**1 632**
Revenue for the en route charging zone	**16 832**	**18 238**	**35 070**	**19 033**	**21 878**	**22 962**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**5.5%**	**2.9%**	**5.0%**	**7.3%**	**7.1%**
Ex-ante RoE pre-tax rate (in %)	**0.0%**	**3.0%**	**1.4%**	**3.0%**	**5.0%**	**5.0%**
Oro Navigacija actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	39 185	35 789	74 975	31 204	27 875	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	0.0%	3.0%	1.4%	3.0%	5.0%	
RoE (in value)	0	1 074	1 074	936	1 394	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	653	653	281	248	
Ex-post regulatory result (+/-) for the en route charging zone	**0**	**1 727**	**1 727**	**1 217**	**1 642**	
Revenue for the en route charging zone	**16 832**	**19 297**	**36 129**	**19 117**	**21 349**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**8.9%**	**4.8%**	**6.4%**	**7.7%**	
Ex-post RoE pre-tax rate (in %)	**0.0%**	**4.8%**	**2.3%**	**3.9%**	**5.9%**	

13. Focus on the main ANSP regulatory result on en route activity





Oro Navigacija net gain on activity in the Lithuania en route charging zone in the year 2023

Oro Navigacija reported a net gain of +0.2 M€, as a combination of a gain of +0.5 M€ arising from the cost sharing mechanism, with a loss of -0.5 M€ arising from the traffic risk sharing mechanism and a gain of +0.2 M€ relating to financial incentives.

Oro Navigacija overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+0.2 M€) and the actual RoE (+1.4 M€) amounts to +1.6 M€ (7.7% of the en route revenues). The resulting ex-post rate of return on equity is 5.9%, which is higher than the 5.0% planned in the PP.

LITHUANIA: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity							
LGS-NINTA ADAXA planned regulatory result (€ '000)		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone		22	29	51	19	22	25
Revenue for the en route charging zone		323	335	658	336	388	419
Ex-ante regulatory result (+/-) in percent of revenues		6.8%	8.7%	7.7%	5.7%	5.6%	6.1%
Ex-ante RoE pre-tax rate (in %)		5.2%	6.6%	5.9%	5.0%	5.0%	5.0%
LGS-NINTA ADAXA actual regulatory result (€ '000)		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone		22	10	32	64	45	
Revenue for the en route charging zone		323	285	608	342	395	
Ex-post regulatory result (+/-) in percent of revenues		6.8%	3.5%	5.3%	18.8%	11.3%	
Ex-post RoE pre-tax rate (in %)		5.2%	2.6%	4.0%	16.5%	11.8%	
Lithuania MET planned regulatory result (€ '000)		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone		0	0	0	0	0	0
Revenue for the en route charging zone		600	621	1 221	724	753	789
Ex-ante regulatory result (+/-) in percent of revenues		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A		N/A	N/A	N/A	N/A	N/A
Lithuania MET actual regulatory result (€ '000)		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone		0	-102	-102	6	60	
Revenue for the en route charging zone		600	629	1 229	730	760	
Ex-post regulatory result (+/-) in percent of revenues		0.0%	-16.3%	-8.3%	0.8%	7.9%	
Ex-post RoE pre-tax rate (in %)	N/A		N/A	N/A	N/A	N/A	
Total other ANSPs planned regulatory result (€ '000)		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone		22	29	51	19	22	25
Revenue for the en route charging zone		923	956	1 879	1 060	1 141	1 208
Ex-ante regulatory result (+/-) in percent of revenues		2.4%	3.0%	2.7%	1.8%	1.9%	2.1%
Ex-ante RoE pre-tax rate (in %)	N/A		N/A	N/A	N/A	N/A	N/A
Total other ANSPs actual regulatory result (€ '000)		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone		22	-92	-70	70	105	
Revenue for the en route charging zone		923	914	1 837	1 072	1 156	
Ex-post regulatory result (+/-) in percent of revenues		2.4%	-10.1%	-3.8%	6.5%	9.1%	
Ex-post RoE pre-tax rate (in %)	N/A		N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Lithuania (LGS - NINTA ADAXA, Lithuania MET) corresponds to 9.1% of the en route revenues. The RoE cannot be calculated for Lithuania MET as it doesn't charge the cost of capital and has no equity.

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Annual Monitoring Report 2023

Local level view

LUXEMBOURG

LUXEMBOURG **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
ANA LUX	70	B	B	B	B	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

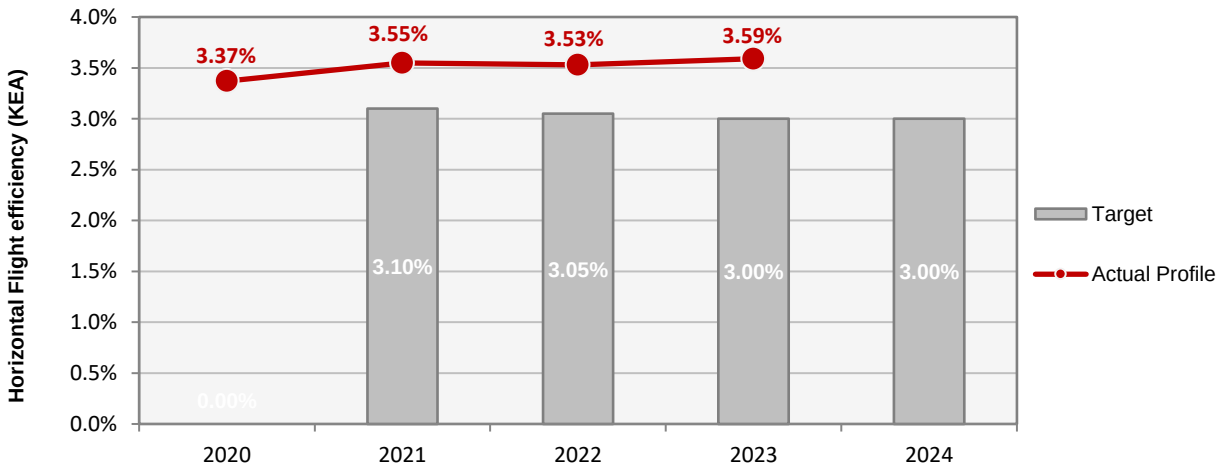
Four out of five EoSM components remain below the RP3 target level. Over 2023 a decrease of maturity levels has been observed for "Safety Risk Management". Improvements for nine questions among all components are expected during RP3 to achieve RP3 targets.

BELGIUM-LUXEMBOURG

ENVIRONMENT - Horizontal flight efficiency

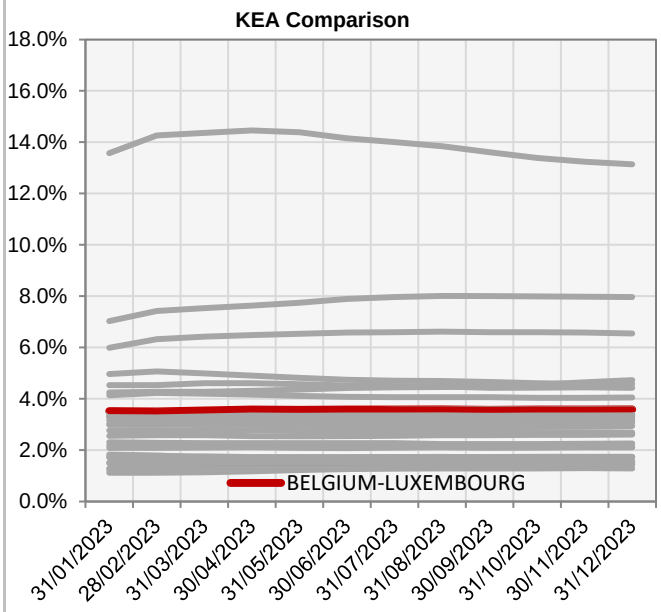
KEA

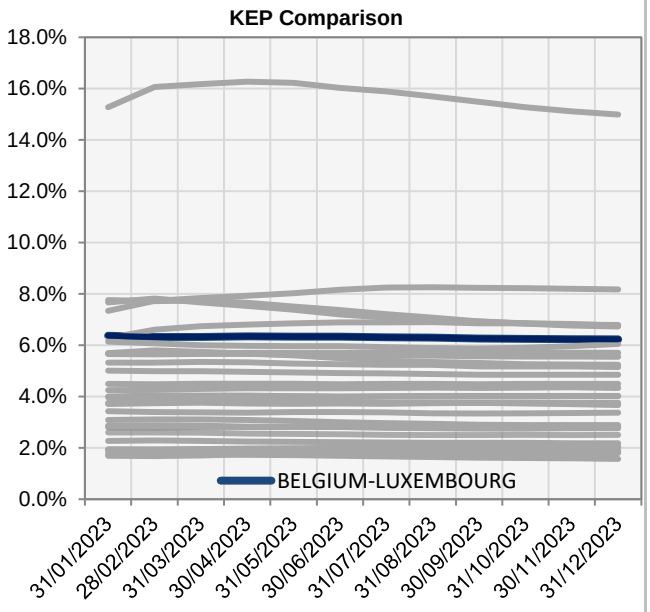
	2020	2021	2022	2023	2024
Target	n/a	3.10%	3.05%	3.00%	3.00%
Actual performance	3.37%	3.55%	3.53%	3.59%	



End of month indicators evolution in 2023

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	3.52%	3.51%	3.55%	3.58%	3.57%	3.58%	3.58%	3.59%	3.57%	3.58%	3.58%	3.59%
KEP	6.37%	6.32%	6.32%	6.35%	6.33%	6.33%	6.31%	6.30%	6.26%	6.25%	6.24%	6.23%
KES	6.08%	6.03%	6.03%	6.05%	6.01%	6.00%	5.98%	5.96%	5.91%	5.90%	5.88%	5.87%





The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

LUXEMBOURG **ENVIRONMENT - Airports**

1. Overview

The scope of RP3 monitoring for Luxembourg comprises the main airport (ELLX), where traffic in 2023 was still 6% lower than in 2019 with an increase of 3% with respect to 2022.
In accordance with IR (EU) 2019/317 and the traffic volume, additional taxi-out and ASMA times are not monitored at Luxembourg and the environmental performance focuses only on the share of arrivals applying CDO.

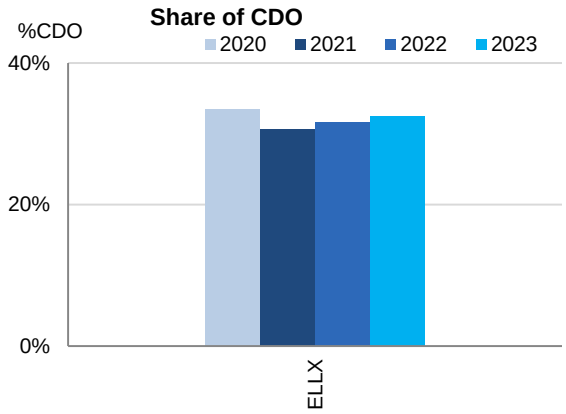
2. Additional Taxi-Out Time

This indicator is not monitored for airports below 80 000 IFR movements average during the 2016-2018 period, so it is not monitored for any airport in this state.

3. Additional ASMA Time

This indicator is not monitored for airports below 80 000 IFR movements average during the 2016-2018 period, so it is not monitored for any airport in this state.

4. Share of arrivals applying CDO



The share of CDO flights for Luxembourg is 32.4% which is an increase of 0.8 percentage points and above the overall RP3 value in 2023 (28.8%).
The monthly values stayed relatively stable during 2023.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Luxembourg-ELLX	-	-	-	-		-	-	-	-		34%	31%	32%	32%	

LUXEMBOURG **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

"For obvious flight safety reasons, military activities must be segregated from civil flows which has an impact on both horizontal (HFE) and vertical flight efficiency (VFE).
Because ASM manageable areas form an integral part of the nominal system, military airspace reservations shall be considered as part of the performance baseline rather than a key factor degrading environmental KPIs.
As a result of implementation of the FUA concept the impact of military activities using Restricted Airspace -RSA on civil performance is highly minored when associated with an efficient ASM process:

- At strategic level (HLAPB) by designing areas in accordance with A-FUA concept (MVPA/VGA structures), especially for congested airspaces.

- At pre-tactical level (AMC), by managing these areas in a dynamic way, with an associated level 2 CDM process, validated by HLAPB.

- At tactical level (ACC/Regional Military Control Centre) by activating/deactivating areas as close as possible to actual use and allowing crossing or direct routes when possible (in accordance with TRA status), with an associated level 3 CDM process validated by HLAPB.

- At each level, HLAPB, AMC or ACC/Regional Military Control Centre, a key factor of efficiency is a trust-driven civil-military cooperation. As a counterpart, AOs and CFSPs must be reactive and take efficiently into account available or released airspaces. At last, ANSP have also to adapt the route network to create more DCTs within military areas.

Finally, local circumstances (e.g. constrained airspace, proximity of international hubs, etc….) as well as a large number of military missions that differ from one State to another must be taken into account. Therefore, airspace needs (e.g. airspace requirements for the 5th generation fighters) and related ASM procedures of the States differ and standardized objectives cannot be defined."

Military - related measures implemented or planned to improve capacity

"FABEC States are working on mid-term improvements regarding implementation of ASM level 1, 2, and 3 procedures. Some local initiatives regarding ASM/ATFCM convergence, like the traffic Light Scheme concept in France are promoted at FABEC level, as well as at ECAC level in the EUROCONTROL OEP framework.

Another major improvement is the interconnection of the existing ASM tools (e.g. LARA, STANLY_ACOS) at FABEC Level, to enhance regional coordination among FABEC AMCs as well as with the NM. "

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Luxembourg			n/a	n/a	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Maastricht					

Initiatives implemented or planned to improve PI#6

NIL

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Luxembourg			n/a	n/a	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Maastricht					

Initiatives implemented or planned to improve PI#7

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Luxembourg			n/a	n/a	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Maastricht					

Initiatives implemented or planned to improve PI#8

BELGIUM - LUXEMBOURG **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	n/a	n/a	0.17	0.17	0.17	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	n/a	n/a	0.13	0.18		

NSA's assessment of capacity performance

En route capacity target was not achieved. All causes targets was not met due to two severe weather events in August 2023 and two big military exercises in the vicinity of MUAC in summer 2023 (air defender '23 and task force '23).

Monitoring process for capacity performance

For skeyes, capacity monitoring is executed via the process as described in the manual of the NSA. Relevant data are collected from skyes, FABEC and other entities (Eurocontrol dashboard). If occuring delays a justification can be requested from skeyes, with potential corrective action request afterwards.

MUAC reports its en-route capacity performance to the states through the MUAC Finance and Performance committee. The performance data is also monitored on a monthly basis through the FAO/PMG (FABEC ANSP Office / Performance Management Group) capacity report. This report is based on MUAC data and available PRU data, which is consolidated and analysed and the results compared to the reference and indicative values. Even though the FABEC states now have national performance plans, the monitoring for en-route capacity performance is carried out under the auspices of the FABEC Financial and Performance Committee (FPC), counterpart of the European Commission at the States side, consulting and reporting to FABEC Council as appropriate.

On a monthly basis and through the FAO/PMG /FABEC ANSP OFFICE/ Performance Management Group) the ANSPs collectively submit a report to the FPC, based on PRU available data, consolidated and analysed, on their joint progress in achieving the FABEC target set and reference or indicative values and on the results and analysis of the en- route capacity achievement.

In case the target set and/or the annual/reference values are threatened not to be met, FAO/PMG is asked to propose to FPC possible corrective measures which the ANSPs determine fit to react to the weaker performance at FAB, national and/or ACC level, in order to remedy the situation.

The FPC analyses the reports, assesses the actions considered by the ANSPs together with the necessity of appropriate measures to be taken by the States or the NSAs and makes an advice to the proposals, made by the FAO/PMG, to the FABEC Council for such appropriate measures, after consultation with the FAO/PMG. The potential corrective measures take into account the seriousness of the risk of not meeting the targets set and/or the annual/reference values.

This monitoring process is described in the FABEC FPC States Performance Process description, which is regularly updated.

Capacity Planning

A weekly Rolling NOP, published every Friday has been introduced through which NM coordinates with all partners to ensure capacity is available at ACCs and in the airspace they manage, and on the ground at airports, to meet the expected traffic demand from the airlines on each day of the next six weeks enabling to coordinate all operational stakeholders throughout the pandemic to ensure that network actors can plan their recovery effectively based on predicted traffic levels.

ATCO in OPS (FTE)							
Brussels ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	85	85	88	91	
Actual	81	84	82	82	82		

Maastricht ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	288	293	300	302	
Actual	292	283	288	293	294		

skeyes: the difference in 2021 and 2022 was partially offset in 2023 by the arrival of new ATCOs who had completed their training and by the change in working arrangements for existing ATCOs.

MUAC: fewer ATCOs passed the course + more ATCOs extended their career.

Application of Corrective Measures for Capacity (if applicable)

None. As the weather situation was considered to be exceptional, at this moment no specific measures were needed to be considered.

Summary of capacity performance

Belgium & Luxembourg did not achieve the required en route capacity performance for 2023. There were 1 174k flights handled in the airspace of Belgium & Luxembourg (both Brussels ACC and the Brussels sectors in MUAC) with 206k minutes of en route ATFM delay. In 2022 there were 1 038k flights with 131k minutes of en route ATFM delay.

En route Capacity Incentive Scheme						
Skeyes	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
National Capacity target	-	-	-	-	-	No incentive scheme was applicable for Belgium in 2023 since the performance plan was only adopted in the same year.
Deadband +/-	-	-	-	-	-	
Actual performance	-	-	-	-		

MUAC	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
National Capacity target	-	-	-	-	-	No incentive scheme was applicable for Belgium in 2023 since the performance plan was only adopted in the same year.
Deadband +/-	-	-	-	-	-	
Actual performance	-	-	-	-		

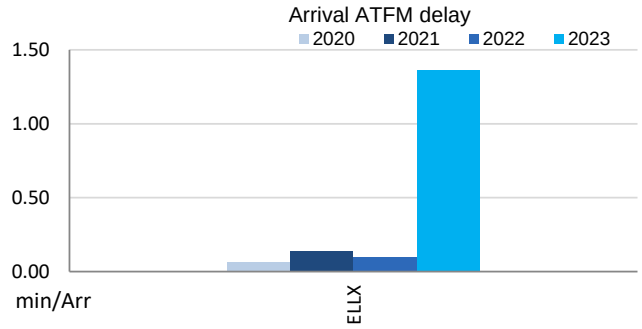
LUXEMBOURG **CAPACITY - Airports**

1. Overview

The scope of RP3 monitoring for Luxembourg comprises the main airport (ELLX), where traffic in 2023 was still 6% lower than in 2019 with an increase of 3% with respect to 2022.
In accordance with IR (EU) 2019/317 and the traffic volume, pre-departure delays are not monitored at Luxembourg and the capacity performance monitoring focuses on arrival ATFM delay and slot adherence.

Average arrival ATFM delays in 2023 was 1.36 min/arr, compared to 0.10 min/arr in 2022. The national target was not met.
ATFM slot adherence has improved (2023: 95%; 2022: 94.1%).

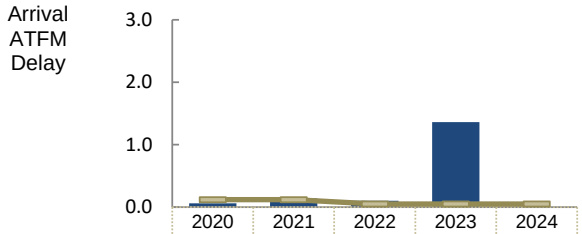
2. Arrival ATFM Delay



Arrival ATFM delays at Luxembourg have significantly increased in 2023 (ELLX: 2020: 0.06 min/arr; 2021: 0.14 min/arr; 2022: 0.10 min/arr; 2023: 1.36 min/arr). 47% of all delays were attributed to equipment issues and 45% were attributed to "Other" regulation reason.

According to Luxembourg's monitoring report:
Imposed traffic reductions by our NSA, due to a Level I finding. NMOC regulations in place from May to December due to a lack of ATSEP qualifications (12 arrivals per hour until mid-July and 16 as of mid-July until mid-December). Thanks to the reorganisation and restructuring of the CNS and the arrival and training of new ATSEPs, those restrictions have been cancelled end of the year.
As part of its oversight activities, the NSA-LU did impose a reduction on ATC Capacity due to lack of adequate staffing levels and qualified/competent ATSEPs to perform all relevant duties as required by the current regulatory requirements. The staffing levels reached an acceptable status at the end of 2023, therefore all restrictions were withdrawn.
The NSA is currently monitoring the overall situation at CNS level (especially on the NAV and SUR service provision) that might affect the overall capacity target due to implementation of ATFM restrictions.

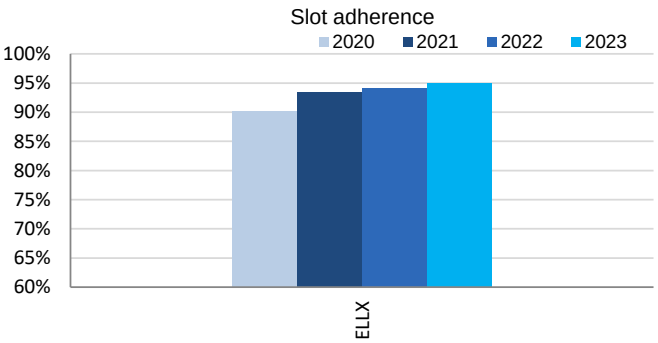
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.06	0.14	0.10	1.36	
Target	0.12	0.12	0.05	0.05	0.05

The incentive scheme uses modulated pivot values limited CRSTMP delay causes. This pivot value for CRSTMP is 0.05 min/arr in 2023 (same as the national target all reasons). According to the attribution of the regulation reason, the actual CRSTMP value for 2023 is 0.049 min/arr, falling within the deadband. The NSA however mentions in the monitoring report that *As the Luxembourg PP was only adopted in 2023 this incentive scheme is not applicable.*

4. ATFM Slot Adherence



Luxembourg's ATFM slot compliance continues improving along RP3. In 2023 it was 95%, an improvement with respect to 2022 (94.1%).
With regard to the 5% of flights that did not adhere, 2% was early and 3.1% was late.

Luxembourg's monitoring report adds:
Slight improvement; slot adherence getting better due to monthly recap about performances.

5. ATC Pre-departure Delay

This indicator is not monitored for airports below 80 000 IFR movements annual average during the 2016-2018 period, so it is not monitored for any airport in Luxembourg.

6. All Causes Pre-departure Delay

This indicator is not monitored for airports below 80 000 IFR movements annual average during the 2016-2018 period, so it is not monitored for any airport in Luxembourg.

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Luxembourg-ELLX	0.06	0.14	0.1	1.36		90.2%	93.4%	94.1%	95.0%		-	-	-	-		-	-	-	-	

BELGIUM-LUXEMBOURG: En route charging zone — Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Belgium-Luxembourg ECZ represents 3.6% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 16 September 2023 and found consistent as per Commission Decisions (EU) 2024/343 and (EU) 2024/350 of 13 December 2023. The final version of the plan was adopted and published by Belgium-Luxembourg in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Belgium-Luxembourg: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	214 796 327	227 401 527	442 197 853	250 216 368	262 099 700	252 086 165
Inflation %	0.4%	1.7%		7.8%	4.7%	2.1%
Inflation index (100 in 2017)	103.9	105.7		115.6	123.9	126.5
Real en route costs (€2017)	207 900 840	216 999 041	424 899 880	220 164 809	217 182 536	205 455 739
Total en route service units	1 080 873	1 161 104	2 241 977	2 107 529	2 404 046	2 560 026
Real en route DUC per service unit (€2017)	**192.35**	**186.89**	**189.52**	**104.47**	**90.34**	**80.26**

Belgium-Luxembourg: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	214 796 327	216 987 149	431 783 476	240 464 564	254 545 926	
Inflation %	0.4%	3.2%		10.3%	2.3%	
Inflation index (100 in 2017)	103.9	107.3		118.3	121.0	
Real en route costs (€2017)	207 900 840	204 483 829	412 384 668	207 511 047	215 522 647	
Total en route service units	1 080 873	1 166 899	2 247 771	2 096 176	2 446 535	
Real en route AUC per service unit (€2017)	**192.35**	**175.24**	**183.46**	**99.00**	**88.09**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-10 414 378	-10 414 378	-9 751 804	-7 553 774	
	in %	-	-4.6%	-2.4%	-3.9%	-2.9%	
Inflation %	in p.p.	0.0 p.p.	1.5 p.p.		2.5 p.p.	-2.4 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.6 p.p.		2.7 p.p.	-2.8 p.p.	
Real en route costs (€2017)	in value	0	-12 515 212	-12 515 212	-12 653 762	-1 659 889	
	in %	-	-5.8%	-2.9%	-5.7%	-0.8%	
Total en route service units	in value	0	5 795	5 795	-11 353	42 489	
	in %	-	+0.5%	+0.3%	-0.5%	+1.8%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-11.65**	**-6.06**	**-5.47**	**-2.25**	
	in %	**-**	**-6.2%**	**-3.2%**	**-5.2%**	**-2.5%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -2.5% (or -2.25 €2017) lower than the planned DUC. This results from the combination of higher than planned TSUs (+1.8%) and slightly lower than planned en route costs in real terms (-0.8%, or -1.7 M€2017).

En route service units

The difference between actual and planned TSUs (+1.8%) falls inside the ±2% dead band. Hence gain of additional en route revenues is kept by the ANSPs (see items 10 to 14).

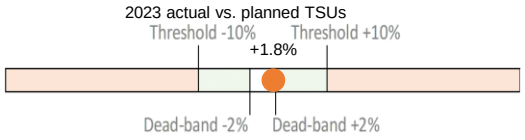
En route costs by entity

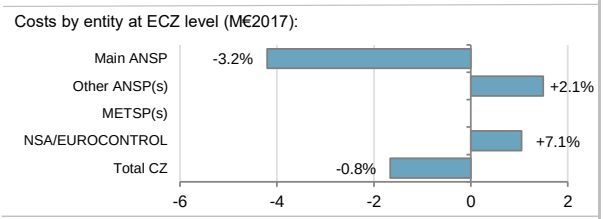
Actual real en route costs are -0.8% (-1.7 M€2017) lower than planned. This is the result of lower costs for the main ANSP, skeyes (-3.2%, or -4.2 M€2017) and higher costs for the NSA/EUROCONTROL (+7.1%, or +1.1 M€2017) and the other ANSPs (ANA and MUAC, +2.1%, or +1.5 M€2017).

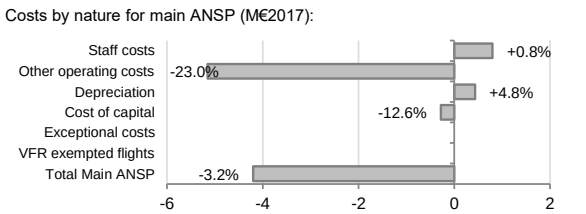
En route costs for the main ANSP (skeyes) at charging zone level

Lower than planned en route costs in real terms for skeyes in 2023 (-3.2%, or -4.2 M€2017) result from:

- Slightly higher staff costs (+0.8%) due to inflation index impact (-2.8 p.p.) since in nominal terms staff costs are lower than planned by -1.5%;
- Significantly lower other operating costs (-23.0%), primarily due to lower utility costs. Energy costs, which had risen sharply in 2022 due to the economic crisis and the war in Ukraine, decreased more quickly than expected in 2023. Additionally, some revenues were deducted from the 2023 actual cost base, including financial revenues, a SESAR subsidy, and a reversed provision for a legal dispute that was no longer necessary (these costs were not originally included in the plan);
- Higher depreciation (+4.8%), "mainly due to additional depreciation costs after decommissioning of equipment (ISAAC SR4, old WAN), which was not foreseen in the performance plan"; and,
- Significantly lower cost of capital (-12.6%), mainly due to a lower fixed asset base.







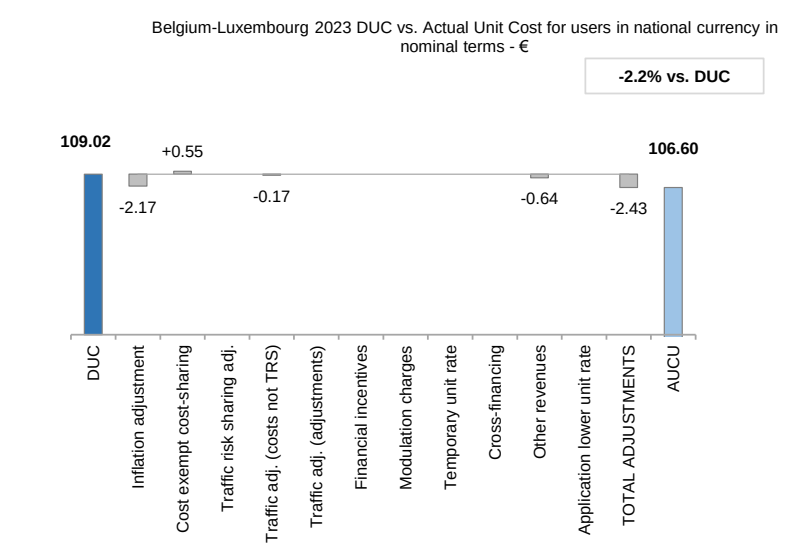
BELGIUM-LUXEMBOURG: En route charging zone — Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	110.23
DUC to be charged retroactively	-1.21
DUC	**109.02**
Inflation adjustment	-2.17
Cost exempt from cost-sharing	0.55
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	-0.17
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.64
Application of lower unit rate	0.00
Total adjustments	-2.43
AUCU	**106.60**
AUCU vs. DUC	**-2.2%**

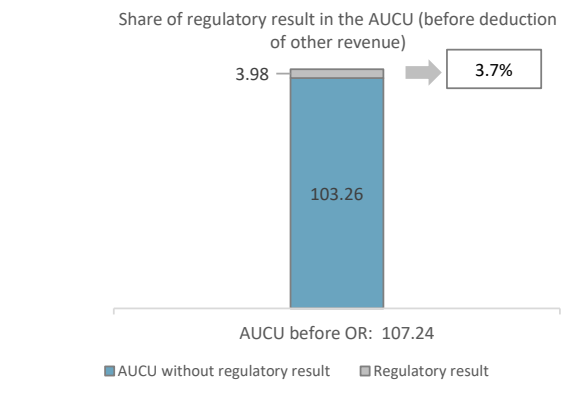
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	328	0.13
	Competent authorities and qualified entities costs	29	0.01
	Eurocontrol costs	1 017	0.42
	Pension costs	-25	-0.01
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**1 348**	**0.55**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
skeyes (Belgium-Lux)	10 077	4.12
ANA LUX	-887	-0.36
MUAC (Belgium)	526	0.21
MUAC (Luxembourg)	16	0.01
METSP(s)	**€ '000**	**€/SU**
Total charging zone	9 732	3.98
Actual cost for users* **	262 357	107.24
Regulatory result (% AUCU)	3.7%	3.7%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (106.60 €) is -2.2% lower than the nominal DUC (109.02 €). The difference between these two figures (-2.43 €/SU) is due to:
- the negative inflation adjustment resulting from lower than planned inflation (-2.17 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+0.55 €/SU);
- the deduction of the traffic adjustment (-0.17 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-0.64 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 3.7%.
It is to be noted that Belgian State did not charge a part of 2023 Eurocontrol costs (0.5 M€2017) to airspace users but covered it through "State intervention".

BELGIUM: En route main ANSP (skeyes) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

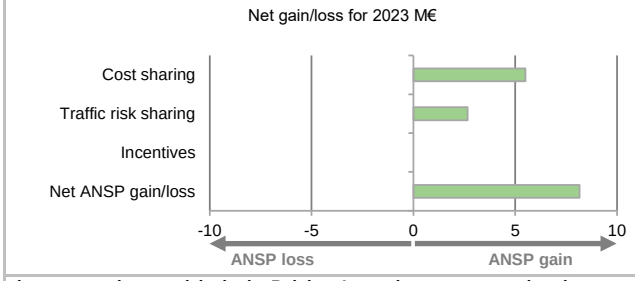
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

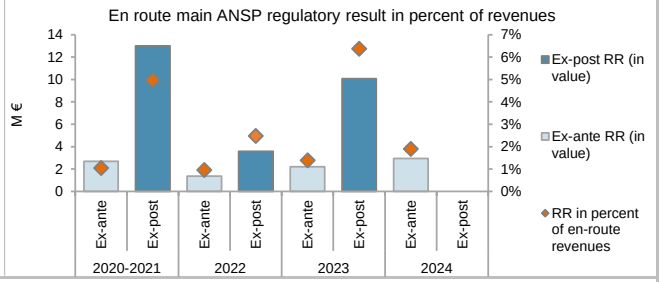
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	8 267	445	8 468	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	1 828	3 100	-3 351	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-338	-292	384	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**9 757**	**3 254**	**5 502**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.3%	-0.5%	1.8%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	246 514	136 433	150 216	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**637**	**-735**	**2 655**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**10 395**	**2 519**	**8 157**	

12. Regulatory result (RR) for the main ANSP at charging zone level

skeyes (Belgium-Lux) planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	77 960	70 127	148 088	80 148	77 718	92 902
Proportion of financing through equity (in %)	89%	72%	81%	68%	74%	83%
RoE pre-tax rate (in %)	2.2%	2.3%	2.2%	2.5%	3.8%	3.8%
RoE (in value)	1 532	1 157	2 689	1 368	2 197	2 941
Ex-ante regulatory result (+/-) for the en route charging zone	**1 532**	**1 157**	**2 689**	**1 368**	**2 197**	**2 941**
Revenue for the en route charging zone	**125 844**	**134 183**	**260 028**	**143 554**	**158 583**	**155 885**
Ex-ante regulatory result (+/-) in percent of revenues	**1.2%**	**0.9%**	**1.0%**	**1.0%**	**1.4%**	**1.9%**
Ex-ante RoE pre-tax rate (in %)	**2.2%**	**2.3%**	**2.2%**	**2.5%**	**3.8%**	**3.8%**
skeyes (Belgium-Lux) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	77 960	65 584	143 544	62 860	68 021	
Proportion of financing through equity (in %)	89%	72%	81%	68%	74%	
RoE pre-tax rate (in %)	2.2%	2.3%	2.2%	2.5%	3.8%	
RoE (in value)	1 532	1 082	2 614	1 073	1 920	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	10 395	10 395	2 519	8 157	
Ex-post regulatory result (+/-) for the en route charging zone	**1 532**	**11 477**	**13 009**	**3 591**	**10 077**	
Revenue for the en route charging zone	**125 844**	**136 311**	**262 155**	**145 627**	**158 272**	
Ex-post regulatory result (+/-) in percent of revenues	**1.2%**	**8.4%**	**5.0%**	**2.5%**	**6.4%**	
Ex-post RoE pre-tax rate (in %)	**2.2%**	**24.4%**	**11.1%**	**8.4%**	**19.9%**	

13. Focus on the main ANSP regulatory result on en route activity





skeyes net gain on activity in the Belgium-Luxembourg en route charging zone in the year 2023

skeyes reported a net gain of +8.2 M€, as a combination of a gain of +5.5 M€ arising from the cost sharing mechanism, with a gain of +2.7 M€ arising from the traffic risk sharing mechanism.

skeyes overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+8.2 M€) and the actual RoE (+1.9 M€) amounts to +10.1 M€ (6.4% of the en route revenues). The resulting ex-post rate of return on equity is 19.9%, which is higher than the 3.8% planned in the PP.

BELGIUM-LUXEMBOURG: Other en route ANSPs/METSPs — Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity

ANA LUX planned regulatory result (€ '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	74	198	272	0	0	0
Revenue for the en route charging zone	7 230	7 734	14 964	7 312	7 568	7 407
Ex-ante regulatory result (+/-) in percent of revenues	1.0%	2.6%	1.8%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	1.8%	1.8%	1.8%	0.0%	0.0%	0.0%
ANA LUX actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	74	601	675	-285	-887	
Revenue for the en route charging zone	7 230	7 822	15 052	7 237	7 278	
Ex-post regulatory result (+/-) in percent of revenues	1.0%	7.7%	4.5%	-3.9%	-12.2%	
Ex-post RoE pre-tax rate (in %)	1.8%	14.6%	8.2%	-4.5%	-14.0%	

MUAC (Belgium) planned regulatory result (€ '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	62 219	61 994	124 213	81 791	78 830	74 246
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
MUAC (Belgium) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	1 101	1 101	10 705	526	
Revenue for the en route charging zone	62 219	63 095	125 314	82 927	78 649	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	1.7%	0.9%	12.9%	0.7%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

MUAC (Luxembourg) planned regulatory result (€ '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	1 924	1 917	3 842	2 530	2 438	2 296
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
MUAC (Luxembourg) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	34	34	331	16	
Revenue for the en route charging zone	1 924	1 952	3 876	2 565	2 432	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	1.8%	0.9%	12.9%	0.7%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSPs planned regulatory result (€ '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	74	198	272	0	0	0
Revenue for the en route charging zone	71 374	71 645	143 019	91 633	88 835	83 949
Ex-ante regulatory result (+/-) in percent of revenues	0.1%	0.3%	0.2%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Total other ANSPs actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	74	1 736	1 811	10 751	-345	
Revenue for the en route charging zone	71 374	72 869	144 242	92 729	88 359	
Ex-post regulatory result (+/-) in percent of revenues	0.1%	2.4%	1.3%	11.6%	-0.4%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Belgium-Luxembourg (ANA, MUAC Belgium and MUAC Luxembourg) corresponds to -0.4% of the en route revenues. The RoE cannot be calculated for MUAC, as it has no equity.

LUXEMBOURG: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Luxembourg TCZ represents 1.1% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 1
  - Airports with more than 80,000 IFR mvmts: 0
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Luxembourg: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	14 886 778	15 998 271	30 885 049	14 758 082	15 289 170	15 808 863
Inflation %	0.0%	0.9%		5.6%	2.6%	3.1%
Inflation index (100 in 2017)	103.6	104.6		113.3	119.1	122.8
Real terminal costs (€2017)	14 426 430	15 402 852	29 829 282	13 245 680	13 135 564	13 239 595
Total terminal service units	40 007	46 661	86 668	53 623	56 688	60 145
Real terminal DUC per service unit (€2017)	**360.60**	**330.10**	**344.18**	**247.01**	**231.72**	**220.13**

Luxembourg: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	14 886 778	14 950 684	29 837 462	15 064 398	16 559 558	
Inflation %	0.0%	3.5%		8.2%	2.9%	
Inflation index (100 in 2017)	103.6	107.3		116.1	119.4	
Real terminal costs (€2017)	14 426 430	14 065 550	28 491 980	13 184 201	14 091 686	
Total terminal service units	40 007	45 367	85 374	54 061	53 414	
Real terminal AUC per service unit (€2017)	**360.60**	**310.04**	**333.73**	**243.87**	**263.82**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-1 047 587	-1 047 587	306 316	1 270 388	
	in %	+0.0%	-6.5%	-3.4%	+2.1%	+8.3%	
Inflation %	in p.p.	0.0 p.p.	2.6 p.p.		2.6 p.p.	0.3 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	2.7 p.p.		2.8 p.p.	0.3 p.p.	
Real terminal costs (€2017)	in value	0	-1 337 302	-1 337 302	-61 480	956 123	
	in %	+0.0%	-8.7%	-4.5%	-0.5%	+7.3%	
Total terminal service units	in value	0	-1 294	-1 294	438	-3 274	
	in %	-	-2.8%	-1.5%	+0.8%	-5.8%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-20.06**	**-10.45**	**-3.14**	**32.10**	
	in %	**+0.0%**	**-6.1%**	**-3.0%**	**-1.3%**	**+13.9%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +13.9% (or +32.1 €2017) higher than the planned DUC. This results from the combination of significantly higher than planned terminal costs in real terms (+7.3%, or +1.0 M€2017) and significantly lower than planned TNSUs (-5.8%).

Terminal charging zone 2 service units

The difference between actual and planned TNSUs (-5.8%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

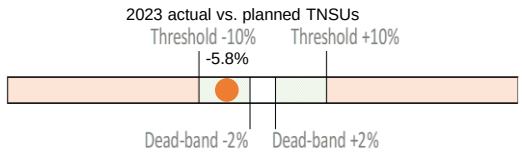
Terminal charging zone 2 costs by entity

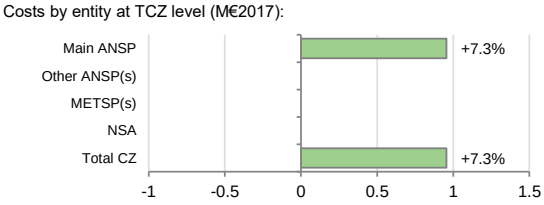
Actual real terminal costs are +7.3% (+1.0 M€2017) higher than planned. This is the result of higher costs for the main ANSP, ANA (+7.3%, or +1.0 M€2017).

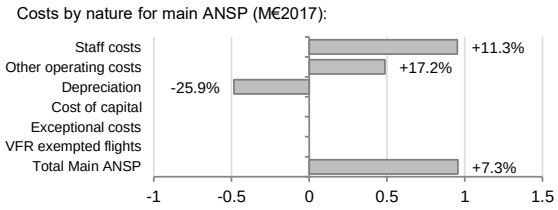
Terminal charging zone 2 costs for the main ANSP (ANA) at charging zone level

Significantly higher than planned terminal costs in real terms for ANA in 2023 (+7.3%, or +1.0 M€2017) result from:

- Significantly higher staff costs (+11.3%), due to higher salaries and more employees: Luxembourg's legal cost-of-living adjustments led to a 5.1% average salary increase in 2023. ANA's state-employed staff received a 1.49% raise based on career progression. CNS department grew from 14 to 20 employees by year-end 2023, with an average headcount of 15.3. CERT department expanded from 12 to 19.5 FTEs, with an average headcount of 15.9, due to regulatory and workload increases;
- Significantly higher other operating costs (+17.2%), mainly due to support contracts for integrating and training new ATSEPs, expected to decrease by 2025. Additionally, there are costs for analysing ESASSP reports, which will significantly drop as trained ATSEPs take over. Training costs have also risen due to new ATSEP recruitment; and,
- Significantly lower depreciation (-25.9%), mainly due to a revised investment plan, leading to project cancellations and postponements. The two main projects delayed are the surveillance chain upgrade and the replacement of the WAN and LAN infrastructure.







LUXEMBOURG: Terminal charging zone

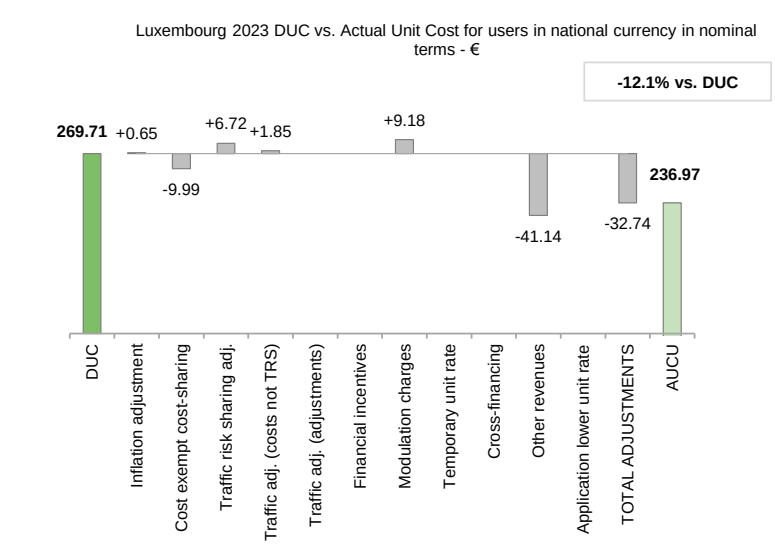
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	267.76
DUC to be charged retroactively	1.95
DUC	**269.71**
Inflation adjustment	0.65
Cost exempt from cost-sharing	-9.99
Traffic risk sharing adjustment	6.72
Traffic adj. (costs not TRS)	1.85
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	9.18
Temporary UR**	
Cross-financing	0.00
Other revenues	-41.14
Application of lower unit rate	0.00
Total adjustments	-32.74
AUCU	**236.97**
AUCU vs. DUC	**-12.1%**

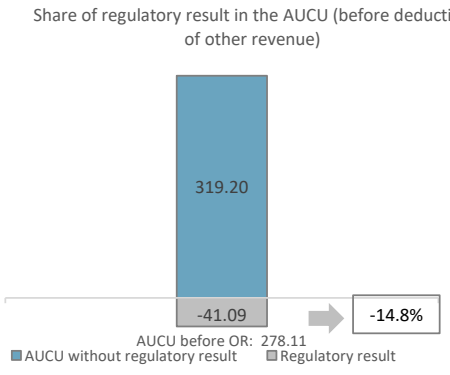
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-484	-9.07
	Competent authorities and qualified entities costs	0	0.00
	Eurocontrol costs	0	0.00
	Pension costs	-49	-0.93
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-534**	**-9.99**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
ANA LUX	-2 195	-41.09
METSP(s)	**€ '000**	**€/SU**
Total charging zone	-2 195	-41.09
Actual cost for users* **	14 855	278.11
Regulatory result (% AUCU)	-14.8%	-14.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (236.97 €) is -12.1% lower than the nominal DUC (269.71 €). The difference between these two figures (-32.74 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+0.65 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-9.99 €/SU);
- the addition of the traffic risk sharing adjustments (+6.72 €/SU);
- the addition of the traffic adjustment (+1.85 €/SU) for the costs not subject to traffic risk sharing;
- the modulation of charges (+9.18 €/SU); and
- the deduction of the other revenues (-41.14 €/SU).

The share of the regulatory result (see items 10 to 13) in the AUCU (before the deduction of other revenues) is -14.8%.

LUXEMBOURG: Terminal main ANSP (ANA LUX) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

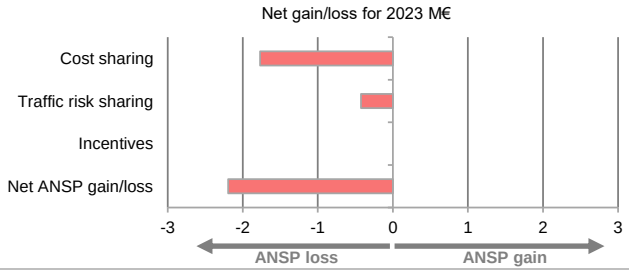
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

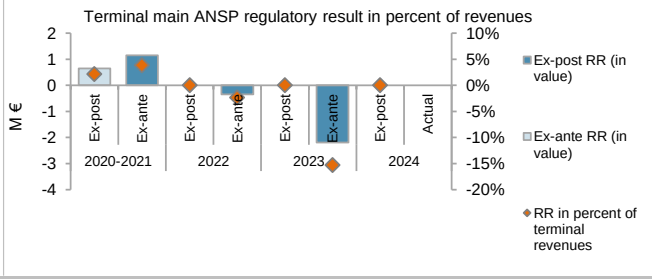
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	934	-306	-1 270	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	351	313	35	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-139	-459	-534	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**1 147**	**-452**	**-1 770**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-1.5%	0.8%	-5.8%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	26 686	13 052	13 576	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-398**	**107**	**-425**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**748**	**-345**	**-2 195**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ANA LUX planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	11 080	25 218	36 298	25 044	28 598	28 179
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	100%
RoE pre-tax rate (in %)	1.8%	1.8%	1.8%	0.0%	0.0%	0.0%
RoE (in value)	198	451	649	0	0	0
Ex-ante regulatory result (+/-) for the terminal charging zone	**198**	**451**	**649**	**0**	**0**	**0**
Revenue for the terminal charging zone	**14 530**	**15 515**	**30 044**	**14 758**	**15 289**	**15 809**
Ex-ante regulatory result (+/-) in percent of revenues	**1.4%**	**2.9%**	**2.2%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**1.8%**	**1.8%**	**1.8%**	**0.0%**	**0.0%**	**0.0%**
ANA LUX actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	11 080	11 313	22 393	15 950	14 602	
Proportion of financing through equity (in %)	100%	100%	100%	100%	100%	
RoE pre-tax rate (in %)	1.8%	1.8%	1.8%	0.0%	0.0%	
RoE (in value)	198	202	400	0	0	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	748	748	-345	-2 195	
Ex-post regulatory result (+/-) for the terminal charging zone	**198**	**951**	**1 149**	**-345**	**-2 195**	
Revenue for the terminal charging zone	**14 530**	**15 329**	**29 859**	**14 719**	**14 365**	
Ex-post regulatory result (+/-) in percent of revenues	**1.4%**	**6.2%**	**3.8%**	**-2.3%**	**-15.3%**	
Ex-post RoE pre-tax rate (in %)	**1.8%**	**8.4%**	**5.1%**	**-2.2%**	**-15.0%**	

13. Focus on main ANSP regulatory result on terminal activity





ANA net gain on activity in the Luxembourg terminal charging zone in the year 2023

ANA reported a net loss of -2.2 M€, as a combination of a loss of -1.8 M€ arising from the cost sharing mechanism, with a loss of -0.4 M€ arising from the traffic risk sharing mechanism.

ANA overall regulatory results (RR) for the Luxembourg terminal charging zone activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-2.2 M€) amounts to -2.2 M€ (-15.3% of the terminal revenues), as the RoE for ANA has been set to zero. The resulting ex-post rate of return on equity is -15.0%.

BELGIUM-LUXEMBOURG: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Belgium-Luxembourg

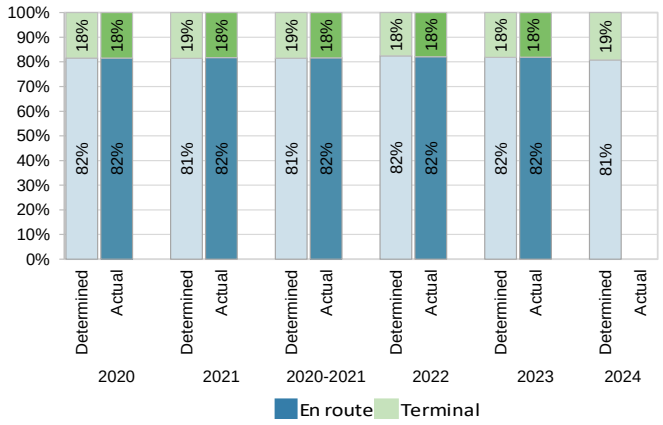
Terminal charging zone 1: Belgium Brussels Terminal charging zone 2: Luxembourg

Belgium-Luxembourg: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	207 900 840	216 999 041	424 899 880	220 164 809	217 182 536	205 455 739
Real terminal costs (€2017)	47 043 378	49 456 299	96 499 677	46 890 820	48 195 936	48 847 695
Real gate-to-gate costs (€2017)	254 944 217	266 455 340	521 399 557	267 055 629	265 378 472	254 303 434
En route share (%)	81.5%	81.4%	81.5%	82.4%	81.8%	80.8%

Belgium-Luxembourg: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	207 900 840	204 483 829	412 384 668	207 511 047	215 522 647	
Real terminal costs (€2017)	47 043 378	45 719 716	92 763 094	45 273 566	47 622 376	
Real gate-to-gate costs (€2017)	254 944 217	250 203 545	505 147 762	252 784 613	263 145 023	
En route share (%)	81.5%	81.7%	81.6%	82.1%	81.9%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-16 251 795	-16 251 795	-14 271 016	-2 233 449	
	in %	0.0%	-6.1%	-3.1%	-5.3%	-0.8%	
En route share	in p.p.	-0.0 p.p.	0.3 p.p.	0.1 p.p.	-0.4 p.p.	0.1 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -0.8% (-2.2 M€2017) lower than planned, as en route costs are lower than planned by -1.7 M€2017 and terminal costs are lower than planned by -0.6 M€2017.

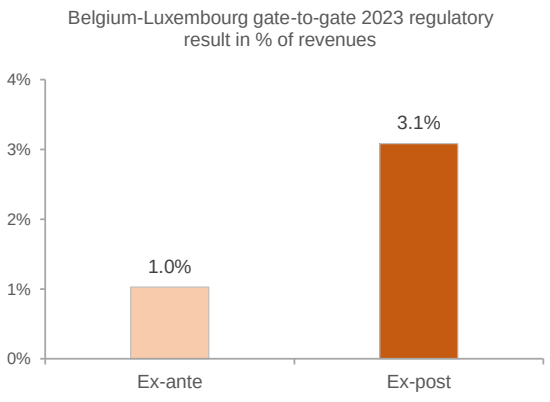
The actual share of en route in gate-to-gate ANS costs (81.9%) is in line with that planned in the PP for 2023 (81.8%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
skeyes (Belgium-Lux)	3 127	200 288	1.6%		11 822	198 388	6.0%	
ANA LUX	0	22 857	0.0%		-3 082	21 642	-14.2%	
MUAC (Belgium)	0	78 830	0.0%		526	78 649	0.7%	
MUAC (Luxembourg)	0	2 438	0.0%		16	2 432	0.7%	
METSP(s)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
Total	**3 127**	**304 413**	**1.0%**		**9 282**	**301 111**	**3.1%**	

For the ANSPs providing services in the en route and terminal charging zones of Belgium-Luxembourg covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +9.3 M€ (+9.7 M€ for en route and -0.5 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 3.1% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (1.0% of gate-to-gate revenues).



Annual Monitoring Report 2023

Local level view

MALTA

MALTA **Monitoring of SAFETY for 2023**

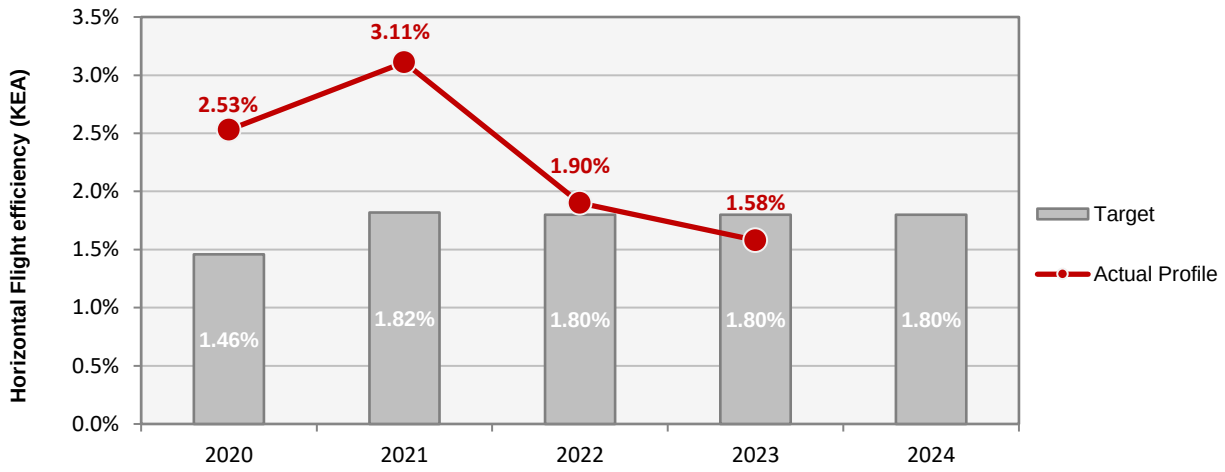
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
MATS	98	C	D	D	C	D
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

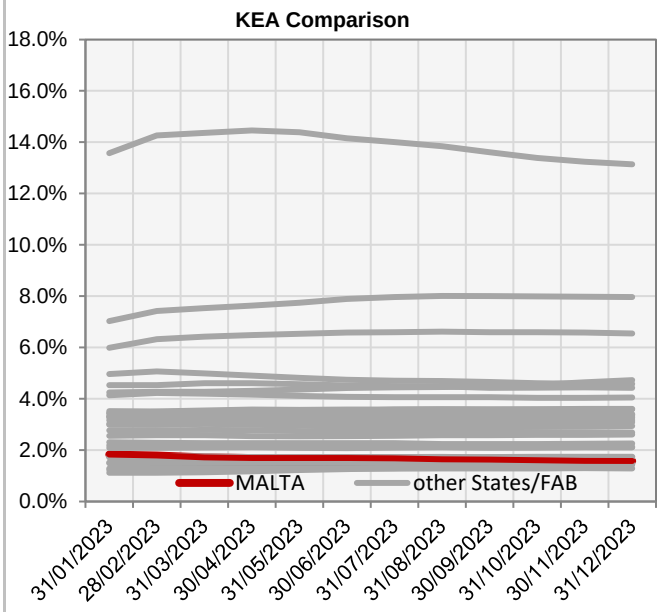
All five EoSM components of the ANSP meet, or exceed, the RP3 target level. Two components "Safety Culture and Safety Assurance" were degraded from level D to Level C, but remained on the RP3 target levels.

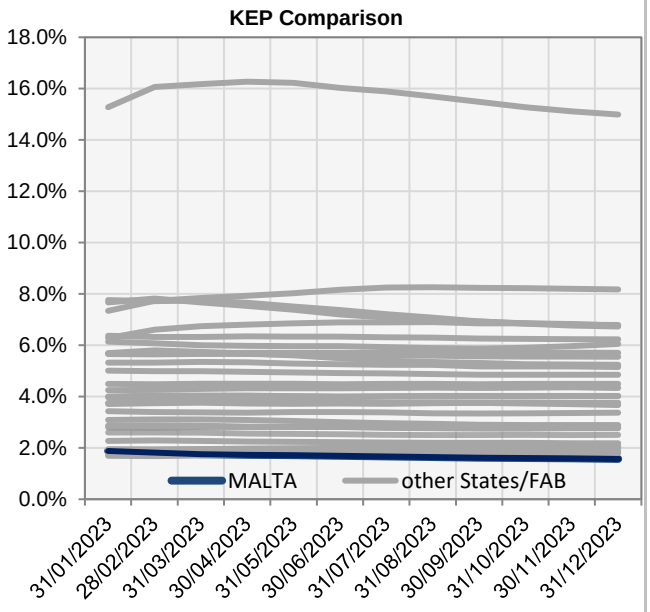
MALTA **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.46%	1.82%	1.80%	1.80%	1.80%
Actual performance	2.53%	3.11%	1.90%	1.58%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	1.83%	1.79%	1.72%	1.70%	1.70%	1.69%	1.68%	1.65%	1.63%	1.61%	1.59%	1.58%
KEP	1.88%	1.82%	1.75%	1.73%	1.72%	1.69%	1.67%	1.64%	1.62%	1.60%	1.59%	1.57%
KES	1.42%	1.39%	1.33%	1.33%	1.33%	1.31%	1.29%	1.27%	1.26%	1.25%	1.24%	1.23%





The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

MALTA **ENVIRONMENT - Airports**

1. Overview

The scope of RP3 monitoring for Malta comprises the main airport (LMML), where traffic level in 2023, after a 22% increase with respect to 2022, was completely recovered and in fact 1% higher than in 2019.
In accordance with IR (EU) 2019/317 and the traffic volume, additional taxi-out and ASMA times are not monitored at this airport and the environmental performance focuses only on the share of arrivals applying CDO.
The share of CDO flights is still in the higher range of all observed values in 2023 and well above the overall RP3 value in 2023 (28.8%).

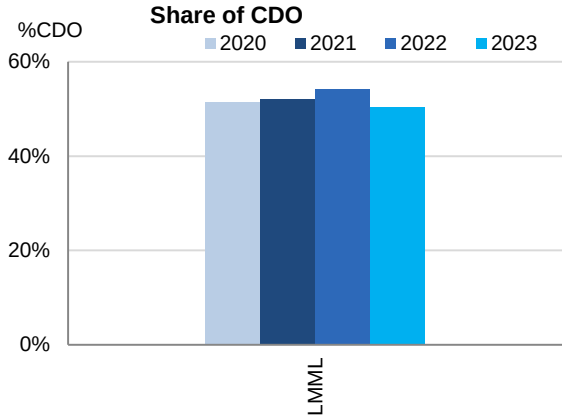
2. Additional Taxi-Out Time

This indicator is not monitored for airports below 80 000 IFR movements average during the 2016-2018 period, so it is not monitored for any airport in this state.

3. Additional ASMA Time

This indicator is not monitored for airports below 80 000 IFR movements average during the 2016-2018 period, so it is not monitored for any airport in this state.

4. Share of arrivals applying CDO



The share of CDO flights at Malta (LMML) decreased to 50.3% (-3.8 percentage points) which is still well above the overall RP3 value in 2023 (28.8%) and in the higher range of all observed values in 2023.

According to Malta's monitoring report: *With the introduction of the INTRAC project, the NSA will be in a position to monitor the effectiveness of CDO.*

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Malta/Luqa-LMML	-	-	-	-		-	-	-	-		51%	52%	54%	50%	

MALTA **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

Not applicable

Military - related measures implemented or planned to improve capacity

Not applicable

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Malta					

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Malta	16%				

Initiatives implemented or planned to improve PI#6

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Malta					

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Malta					

Initiatives implemented or planned to improve PI#7

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Malta					

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Malta					

Initiatives implemented or planned to improve PI#8

MALTA **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	n/a	0.01	0.01	0.01	0.01	
Actual performance	0.00	0.00	0.00	0.00		

NSA's assessment of capacity performance

While numbers are rebounding, the charging zones retain significan excess capacity availability.

Monitoring process for capacity performance

NSA monitors ATFM delays via NM dashboard and regular inspections. Actual values represent expected capacity targets.

NSA continues to monitor the recruitment progress by the ANSP

Capacity Planning

No capacity issues identified for LM ENR airspace, and Target set is the lowest allowable under the regulation.

ATCO in OPS (FTE)							
Malta ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	30	39	38	38	
Actual	32	30	30	28	32		

Application of Corrective Measures for Capacity (if applicable)

In addition to the 4 ATCOs added during 2023, an additional 4 FTE ATCOs will be employed during 2024. NSA continues to monitor the recruitment progress by the ANSP

Summary of capacity performance

Malta experienced an increase in traffic from 101k flights in 2022, with zero en route ATFM delay, to 132k flights in 2023, also with zero en route ATFM delay. For reference, in 2019, Malta had 130k flights with negligible en route ATFM delays.

En route Capacity Incentive Scheme						
Malta Air Traffic Services l	2020	2021	2022	2023	2024	Observations
National Capacity target	n/a	0.01	0.01	0.01	0.01	The incentive scheme is under review by the Euorpean Commission
Deadband +/-	-	-	-	[0-0.06]	[0-0.06]	
Actual performance	0.00	0.00	0.00	0.00		

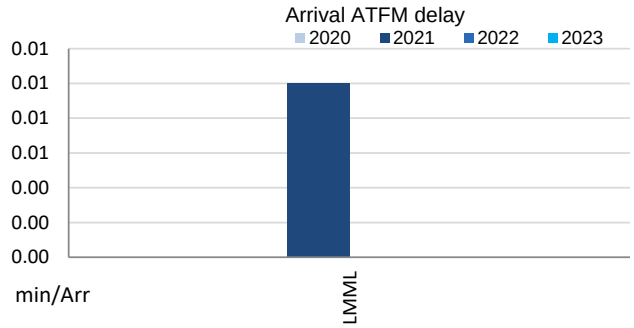
MALTA **CAPACITY - Airports**

1. Overview

The scope of RP3 monitoring for Malta comprises the main airport (LMML), where traffic level in 2023, after a 22% increase with respect to 2022, was completely recovered and in fact 1% higher than in 2019.
In accordance with IR (EU) 2019/317 and the traffic volume, pre-departure delays are not monitored at Malta and the capacity performance monitoring focuses on arrival ATFM delay and slot adherence.

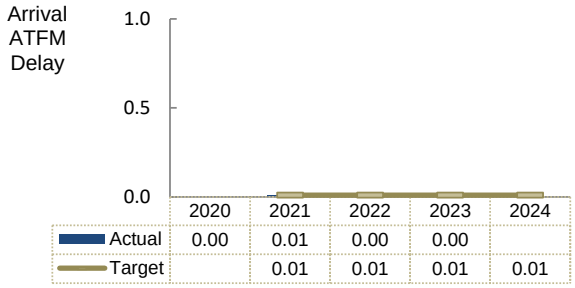
Average arrival ATFM delays in 2023 was 0 min/arr (same as in 2022) and ATFM slot adherence remains high (2023: 96.4%; 2022: 96.6%).

2. Arrival ATFM Delay



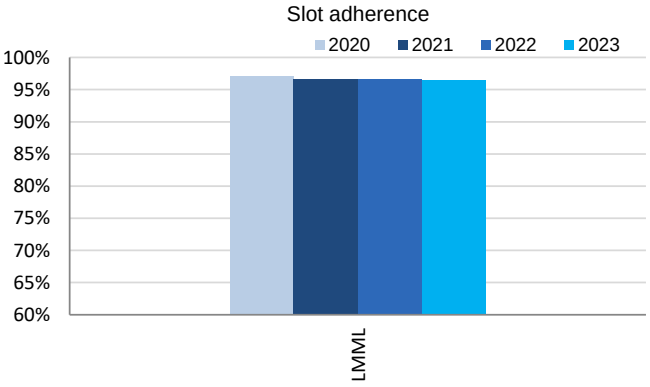
No arrival ATFM delay was observed at Malta-Luqa (LMML) in 2023.

3. Arrival ATFM Delay – National Target and Incentive Scheme



Malta's performance plan sets a national target on arrival ATFM delay for 2023 of 0.01 min/arr. This target was met with an actual performance of 0.00 min/arr. According to the Performance Plan however, the pivot values are 0.02. The modulation is not clarified and Malta's monitoring report claims a bonus of € 60 687.

4. ATFM Slot Adherence



Malta's ATFM slot compliance was 96.4%. With regard to the 3.6% of flights that did not adhere, 1.5% was early and 2.1% was late.
According to Malta's monitoring report: *The performance has deteriorated slightly due to the huge increase in traffic and major ongoing works on the aerodrome which during busy periods resulted in slight extended taxi times.*

5. ATC Pre-departure Delay

This indicator is not monitored for airports below 80 000 IFR movements annual average during the 2016-2018 period, so it is not monitored for any airport in Malta.

6. All Causes Pre-departure Delay

This indicator is not monitored for airports below 80 000 IFR movements annual average during the 2016-2018 period, so it is not monitored for any airport in Malta.

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Malta/Luqa-LMML	0	0.01	0	0		97.1%	96.6%	96.6%	96.4%		-	-	-	-		-	-	-	-	

MALTA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Malta ECZ represents 0.3% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 13 July 2022 and found consistent as per Commission Decision (EU) 2022/2425 of 5 December 2022
  The final version of the plan was adopted and published by Malta in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Malta: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	20 127 208	21 864 744	41 991 952	23 764 564	23 778 505	25 626 024
Inflation %	0.8%	0.7%		4.7%	2.8%	2.1%
Inflation index (100 in 2017)	104.1	104.8		109.7	112.8	115.1
Real en route costs (€2017)	19 569 513	21 155 781	40 725 294	22 250 004	21 740 183	23 058 376
Total en route service units	395 964	528 000	923 964	811 000	1 006 000	1 044 000
Real en route DUC per service unit (€2017)	**49.42**	**40.07**	**44.08**	**27.44**	**21.61**	**22.09**

Malta: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	20 127 208	20 340 685	40 467 893	20 271 917	19 084 722	
Inflation %	0.8%	0.7%		6.1%	5.6%	
Inflation index (100 in 2017)	104.1	104.8		111.2	117.4	
Real en route costs (€2017)	19 569 513	19 645 764	39 215 277	18 717 746	16 962 889	
Total en route service units	395 964	503 699	899 664	666 812	968 128	
Real en route AUC per service unit (€2017)	**49.42**	**39.00**	**43.59**	**28.07**	**17.52**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-1 524 059	-1 524 059	-3 492 647	-4 693 783	
	in %	-	-7.0%	-3.6%	-14.7%	-19.7%	
Inflation %	in p.p.	0.0 p.p.	0.0 p.p.		1.4 p.p.	2.8 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.0 p.p.		1.5 p.p.	4.6 p.p.	
Real en route costs (€2017)	in value	0	-1 510 017	-1 510 017	-3 532 258	-4 777 295	
	in %	-	-7.1%	-3.7%	-15.9%	-22.0%	
Total en route service units	in value	0	-24 301	-24 301	-144 188	-37 872	
	in %	-	-4.6%	-2.6%	-17.8%	-3.8%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-1.06**	**-0.49**	**0.64**	**-4.09**	
	in %	**-**	**-2.7%**	**-1.1%**	**+2.3%**	**-18.9%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -18.9% (or -4.09 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned en route costs in real terms (-22.0%, or -4.8 M€2017) and lower than planned TSUs (-3.8%). It should be noted that actual inflation index in 2023 was +4.6 p.p. higher than planned.

En route service units

The difference between the 2023 actual and planned TSUs (-3.8%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

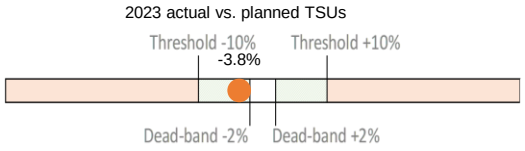
En route costs by entity

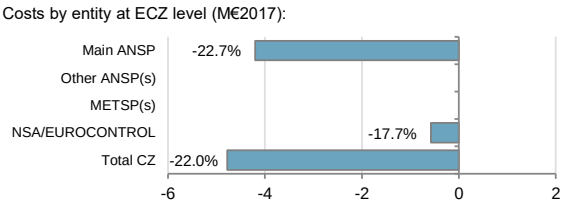
The 2023 actual real en route costs are -22.0% (-4.8 M€2017) lower than planned. This is the result of lower than planned costs for the main ANSP, MATS (-22.7%, or -4.2 M€2017) and the NSA/EUROCONTROL (-17.7%, or -0.6 M€2017).

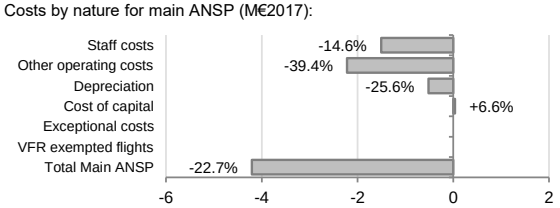
En route costs for the main ANSP (MATS) at charging zone level

The 2023 actual real en route costs for MATS were significantly lower than planned (-22.7%, or -4.2 M€2017), partially due to a higher than planned inflation index in 2023 (+4.6 p.p.) and resulting from:
- Significantly lower than planned staff costs (-14.6%),
- Significantly lower than planned other operating costs (-39.4%),
- Significantly lower than planned depreciation (-25.6%),
- Significantly higher than planned cost of capital (+6.6%).

No explanations on the differences between the 2023 determined and actual costs is available in the Additional information to the reporting tables (Additional information to the Reporting Tables: Table 1 - item 2. a) or in the NSA Monitoring Report (2.4.1 a). It is noted that the en route actual costs reported are lower than planned for all items but the cost of capital.







MALTA: En route charging zone

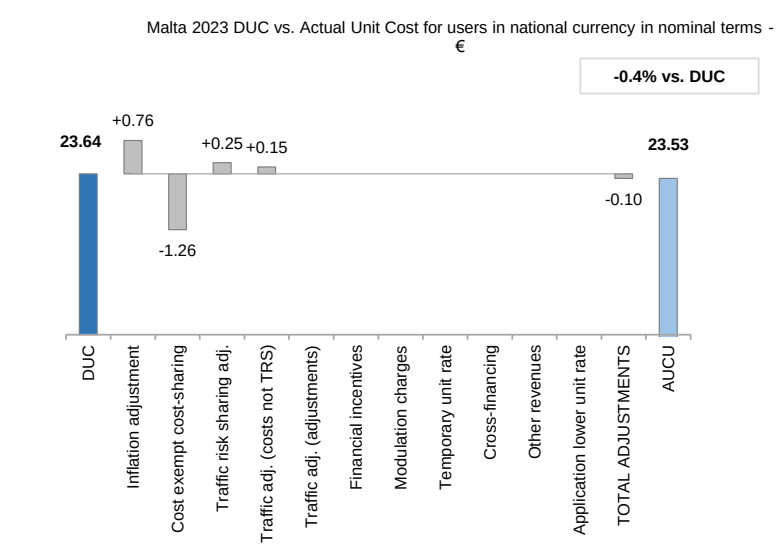
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out **in national currency and in nominal terms.**

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	23.64
DUC to be charged retroactively	0.00
DUC	**23.64**
Inflation adjustment	0.76
Cost exempt from cost-sharing	-1.26
Traffic risk sharing adjustment	0.25
Traffic adj. (costs not TRS)	0.15
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	-0.10
AUCU	**23.53**
AUCU vs. DUC	**-0.4%**

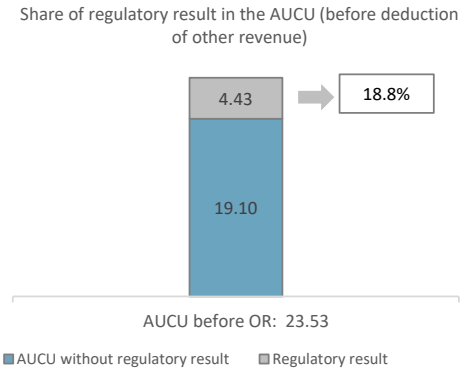
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-650	-0.67
	Competent authorities and qualified entities costs	-563	-0.58
	Eurocontrol costs	-10	-0.01
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-1 223**	**-1.26**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
MATS	4 291	4.43
METSP(s)	**€ '000**	**€/SU**
Malta MET	0	0.00
Total charging zone	4 291	4.43
Actual cost for users* **	22 784	23.53
Regulatory result (% AUCU)	18.8%	18.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (23.53 €) is -0.4% lower than the nominal DUC (23.64 €). The difference between these two figures (-0.10 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+0.76 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-1.26 €/SU);
- the addition of the traffic risk sharing adjustments (+0.25 €/SU); and
- the addition of the traffic adjustment (+0.15 €/SU) for the costs not subject to traffic risk sharing.

The share of the regulatory result (see items 10 to 13) in the AUCU (before the deduction of other revenues) is 18.8%.

MALTA: En route main ANSP (MATS) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out **in national currency and in nominal terms.**

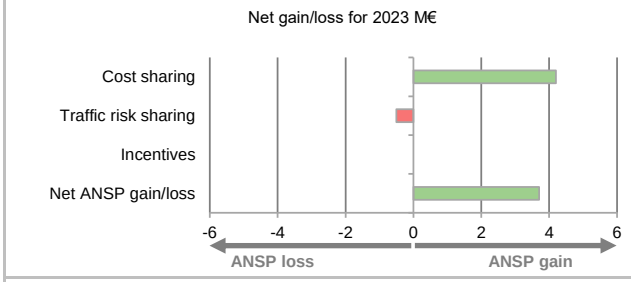
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

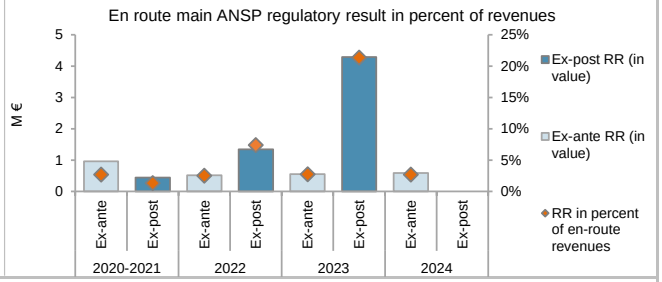
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	1 433	3 449	4 121	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	0	228	731	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 023	-1 811	-650	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**410**	**1 867**	**4 202**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-2.6%	-17.8%	-3.8%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	34 696	19 932	19 873	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-759**	**-877**	**-503**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**-349**	**990**	**3 699**	

12. Regulatory result (RR) for the main ANSP at charging zone level

MATS planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	10 917	12 436	23 354	12 976	13 885	14 757
Proportion of financing through equity (in %)	91%	95%	93%	98%	100%	100%
RoE pre-tax rate (in %)	5.0%	4.0%	4.4%	4.1%	4.0%	4.0%
RoE (in value)	495	470	964	515	555	590
Ex-ante regulatory result (+/-) for the en route charging zone	**495**	**470**	**964**	**515**	**555**	**590**
Revenue for the en route charging zone	**17 253**	**18 775**	**36 027**	**20 598**	**20 539**	**22 313**
Ex-ante regulatory result (+/-) in percent of revenues	**2.9%**	**2.5%**	**2.7%**	**2.5%**	**2.7%**	**2.6%**
Ex-ante RoE pre-tax rate (in %)	**5.0%**	**4.0%**	**4.4%**	**4.1%**	**4.0%**	**4.0%**
MATS actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	10 917	7 758	18 675	8 615	14 801	
Proportion of financing through equity (in %)	91%	95%	93%	100%	100%	
RoE pre-tax rate (in %)	5.0%	4.0%	4.5%	4.1%	4.0%	
RoE (in value)	495	293	788	349	592	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	-349	-349	990	3 699	
Ex-post regulatory result (+/-) for the en route charging zone	**495**	**-56**	**438**	**1 339**	**4 291**	
Revenue for the en route charging zone	**17 253**	**16 992**	**34 245**	**18 138**	**20 117**	
Ex-post regulatory result (+/-) in percent of revenues	**2.9%**	**-0.3%**	**1.3%**	**7.4%**	**21.3%**	
Ex-post RoE pre-tax rate (in %)	**5.0%**	**-0.8%**	**2.5%**	**15.5%**	**29.0%**	

13. Focus on the main ANSP regulatory result on en route activity





MATS net gain on activity in the Malta en route charging zone in the year 2023

MATS reported a net gain of +3.7 M€, as a combination of a gain of +4.2 M€ arising from the cost sharing mechanism, with a loss of -0.5 M€ arising from the traffic risk sharing mechanism.

MATS overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+3.7 M€) and the actual RoE (+0.6 M€) amounts to +4.3 M€ (21.3% of the en route revenues). The resulting ex-post rate of return on equity is 29.0%, which is higher than the 4.0% planned in the PP.

MALTA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Malta TCZ represents 0.3% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 1
  - Airports with more than 80,000 IFR mvmts: 0
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Malta: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	5 058 181	5 349 338	10 407 520	5 757 104	6 088 716	6 673 787
Inflation %	0.8%	0.7%		4.7%	2.8%	2.1%
Inflation index (100 in 2017)	104.1	104.8		109.7	112.8	115.1
Real terminal costs (€2017)	4 913 948	5 167 669	10 081 618	5 374 588	5 565 036	5 999 409
Total terminal service units	14 528	19 000	33 528	31 000	35 000	36 000
Real terminal DUC per service unit (€2017)	**338.24**	**271.98**	**300.69**	**173.37**	**159.00**	**166.65**

Malta: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	5 058 181	3 706 616	8 764 798	4 835 798	4 435 294	
Inflation %	0.8%	0.7%		6.1%	5.6%	
Inflation index (100 in 2017)	104.1	104.8		111.2	117.4	
Real terminal costs (€2017)	4 913 948	3 579 852	8 493 800	4 441 445	3 943 323	
Total terminal service units	14 528	19 269	33 797	29 791	37 488	
Real terminal AUC per service unit (€2017)	**338.24**	**185.79**	**251.32**	**149.09**	**105.19**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-1 642 722	-1 642 722	-921 306	-1 653 422	
	in %	-	-30.7%	-15.8%	-16.0%	-27.2%	
Inflation %	in p.p.	0.0 p.p.	0.0 p.p.		1.4 p.p.	2.8 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.0 p.p.		1.5 p.p.	4.6 p.p.	
Real terminal costs (€2017)	in value	0	-1 587 818	-1 587 818	-933 143	-1 621 712	
	in %	-	-30.7%	-15.7%	-17.4%	-29.1%	
Total terminal service units	in value	0	269	269	-1 209	2 488	
	in %	-	+1.4%	+0.8%	-3.9%	+7.1%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-86.20**	**-49.37**	**-24.29**	**-53.81**	
	in %	**-**	**-31.7%**	**-16.4%**	**-14.0%**	**-33.8%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -33.8% (or -53.81 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned terminal costs in real terms (-29.1%, or -1.6 M€2017) and significantly higher than planned TNSUs (+7.1%). It should be noted that actual inflation index in 2023 was +4.6 p.p. higher than planned.

Terminal service units

The difference between the 2023 actual and planned TNSUs (+7.1%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

Terminal costs by entity

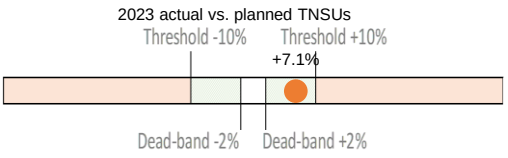
The 2023 actual real terminal ANS costs are -29.1% (-1.6 M€2017) lower than planned. This is the result of lower than planned costs for the main ANSP, MATS (-33.8%, or -1.6 M€2017) and the NSA (-16.5%, or -0.1 M€2017) while other ANSP costs are higher (MIA, +6.5%, or +0.03 M€2017) than planned.

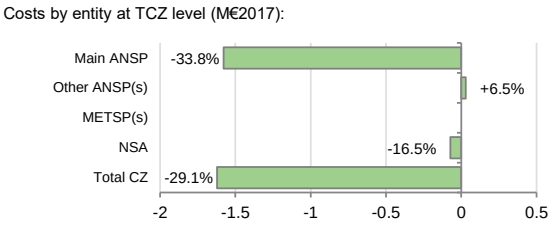
Terminal costs for the main ANSP (MATS) at charging zone level

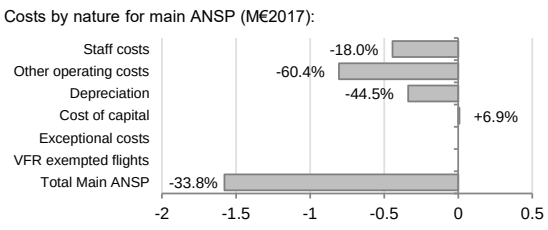
The 2023 actual real terminal ANS costs for MATS are lower than planned (-33.8%, or -1.6 M€2017), partially due to a higher than planned inflation index in 2023 (+4.6 p.p.) and resulting from:

- Significantly lower than planned staff costs (-18.0%),
- Significantly lower than planned other operating costs (-60.4%),
- Significantly lower than planned depreciation (-44.5%),
- Significantly higher than planned cost of capital (+6.9%).

No explanations on the differences between the 2023 determined and actual costs is available in the Additional information to the reporting tables (Additional information to the Reporting Tables: Table 1 - item 2. a) or in the NSA Monitoring Report (2.4.1 b). It is noted that the en route actual costs reported are lower than planned for all items but the cost of capital.







MALTA: Terminal charging zone

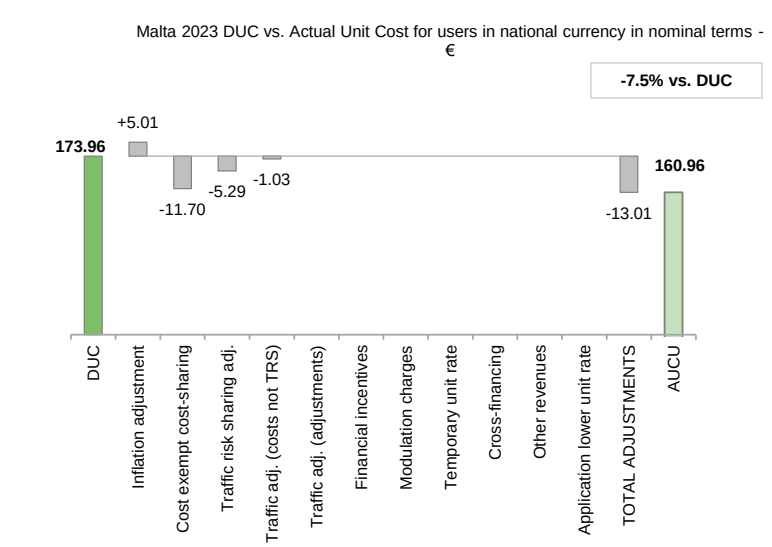
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	173.96
DUC to be charged retroactively	0.00
DUC	**173.96**
Inflation adjustment	5.01
Cost exempt from cost-sharing	-11.70
Traffic risk sharing adjustment	-5.29
Traffic adj. (costs not TRS)	-1.03
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	-13.01
AUCU	**160.96**
AUCU vs. DUC	**-7.5%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

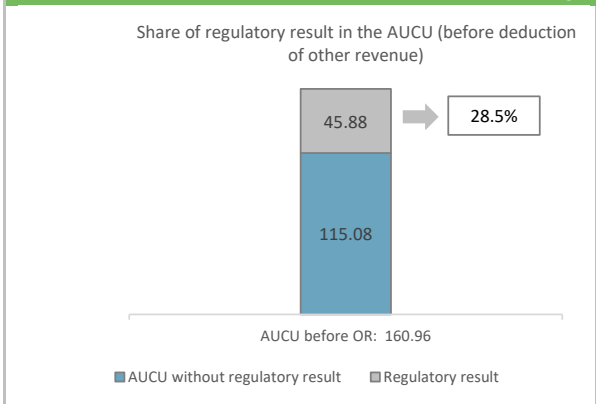
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-366	-9.75
	Competent authorities and qualified entities costs	-73	-1.95
	Eurocontrol costs	0	0.00
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-439**	**-11.70**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
MATS	1 730	46.14
MIA	-10	-0.26
METSP(s)	**€ '000**	**€/SU**
Malta-MET	0	0.00
Total charging zone	1 720	45.88
Actual cost for users* **	6 034	160.96
Regulatory result (% AUCU)	28.5%	28.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (160.96 €) is -7.5% lower than the nominal DUC (173.96 €). The difference between these two figures (-13.01 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+5.01 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-11.70 €/SU);
- the deduction of the traffic risk sharing adjustments (-5.29 €/SU); and
- the deduction of the traffic adjustment (-1.03 €/SU) for the costs not subject to traffic risk sharing.

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 28.5%.

MALTA: Terminal main ANSP (MATS) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out **in national currency and in nominal terms.**

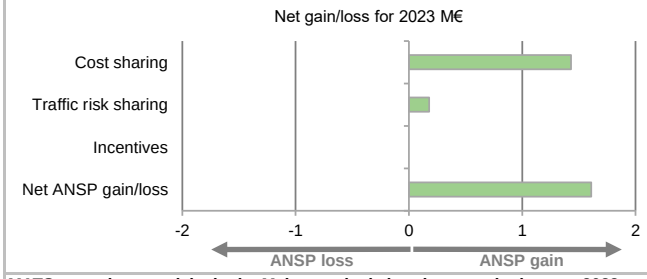
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

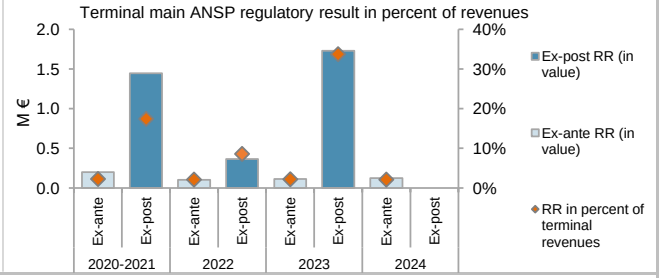
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	1 629	866	1 621	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	0	53	174	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-410	-505	-366	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**1 219**	**415**	**1 430**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.8%	-3.9%	7.1%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	8 440	4 732	5 047	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**68**	**-122**	**178**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**1 286**	**293**	**1 608**	

12. Regulatory result (RR) for the main ANSP at charging zone level

MATS planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	2 236	2 606	4 842	2 619	2 837	3 090
Proportion of financing through equity (in %)	91%	95%	93%	98%	100%	100%
RoE pre-tax rate (in %)	5.0%	4.0%	4.4%	4.0%	4.0%	4.0%
RoE (in value)	101	98	200	104	114	124
Ex-ante regulatory result (+/-) for the terminal charging zone	**101**	**98**	**200**	**104**	**114**	**124**
Revenue for the terminal charging zone	**4 177**	**4 461**	**8 639**	**4 836**	**5 152**	**5 721**
Ex-ante regulatory result (+/-) in percent of revenues	**2.4%**	**2.2%**	**2.3%**	**2.1%**	**2.2%**	**2.2%**
Ex-ante RoE pre-tax rate (in %)	**5.0%**	**4.0%**	**4.4%**	**4.0%**	**4.0%**	**4.0%**
MATS actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	2 236	1 589	3 825	1 764	3 032	
Proportion of financing through equity (in %)	91%	95%	93%	100%	100%	
RoE pre-tax rate (in %)	5.0%	4.0%	4.5%	4.0%	4.0%	
RoE (in value)	101	60	161	71	121	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	1 286	1 286	293	1 608	
Ex-post regulatory result (+/-) for the terminal charging zone	**101**	**1 346**	**1 448**	**365**	**1 730**	
Revenue for the terminal charging zone	**4 177**	**4 119**	**8 296**	**4 263**	**5 139**	
Ex-post regulatory result (+/-) in percent of revenues	**2.4%**	**32.7%**	**17.5%**	**8.6%**	**33.7%**	
Ex-post RoE pre-tax rate (in %)	**5.0%**	**89.2%**	**40.8%**	**20.7%**	**57.1%**	

13. Focus on main ANSP regulatory result on terminal activity





MATS net gain on activity in the Malta terminal charging zone in the year 2023

MATS reported a net gain of +1.6 M€, as a combination of a gain of +1.4 M€ arising from the cost sharing mechanism, with a gain of +0.2 M€ arising from the traffic risk sharing mechanism.

MATS overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+1.6 M€) and the actual RoE (+0.1 M€) amounts to +1.7 M€ (33.7% of the terminal revenues). The resulting ex-post rate of return on equity is 57.1%, which is higher than the 4.0% planned in the PP.

MALTA: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
MIA planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**474**	**470**	**944**	**492**	**496**	**500**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
MIA actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**16**	**16**	**25**	**-10**	
Revenue for the terminal charging zone	**474**	**478**	**952**	**471**	**527**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**3.3%**	**1.6%**	**5.2%**	**-1.9%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSP in the terminal charging zone for Malta (MIA) corresponds to -1.9% of the terminal revenues. It should be noted that MIA does not charge any cost of capital.

MALTA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Malta

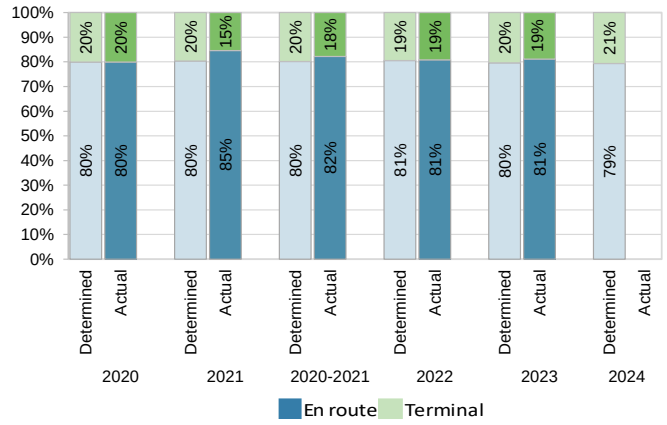
Terminal charging zone 1: Malta

Malta: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	19 569 513	21 155 781	40 725 294	22 250 004	21 740 183	23 058 376
Real terminal costs (€2017)	4 913 948	5 167 669	10 081 618	5 374 588	5 565 036	5 999 409
Real gate-to-gate costs (€2017)	24 483 461	26 323 450	50 806 911	27 624 592	27 305 219	29 057 785
En route share (%)	79.9%	80.4%	80.2%	80.5%	79.6%	79.4%

Malta: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	19 569 513	19 645 764	39 215 277	18 717 746	16 962 889	
Real terminal costs (€2017)	4 913 948	3 579 852	8 493 800	4 441 445	3 943 323	
Real gate-to-gate costs (€2017)	24 483 461	23 225 616	47 709 077	23 159 191	20 906 212	
En route share (%)	79.9%	84.6%	82.2%	80.8%	81.1%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-3 097 834	-3 097 834	-4 465 401	-6 399 007	
	in %	0.0%	-11.8%	-6.1%	-16.2%	-23.4%	
En route share	in p.p.	0.0 p.p.	4.2 p.p.	2.0 p.p.	0.3 p.p.	1.5 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -23.4% (-6.4 M€2017) lower than planned, as en route costs are lower than planned by -4.8 M€2017 and terminal costs are lower than planned by -1.6 M€2017.

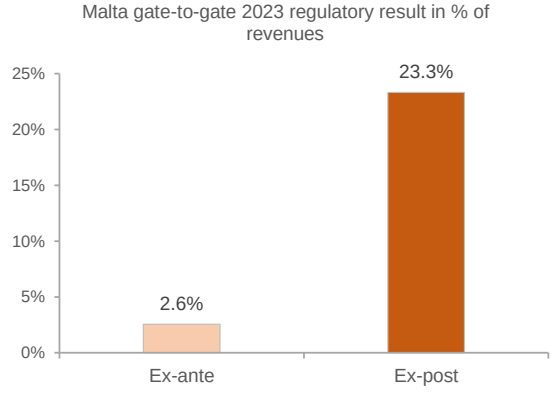
The actual share of en route in gate-to-gate ANS costs (81.1%) is slightly higher than planned in the PP for 2023 (79.6%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
MATS	669	25 691	2.6%		6 021	25 256	23.8%	
MIA	0	496	0.0%		-10	527	-1.9%	
METSP(s)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
Malta MET	0	0			0	0		
Total	**669**	**26 187**	**2.6%**		**6 011**	**25 783**	**23.3%**	

For the ANSPs providing services in the en route and terminal charging zones of Malta covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +6.0 M€ (+4.3 M€ for en route and +1.7 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 23.3% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (2.6% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

NETHERLANDS

NETHERLANDS **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
LVNL	95	C	C	D	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

All five EoSM components of the ANSP meet the RP3 target level. The level was maintained compared with 2022.

MUAC **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
MUAC	95	C	C	D	C	C

Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.

MUAC oversight is exercised in a coordinated manner by the Four States' NSAs (Belgium, Germany, Luxembourg and the Netherlands) over which territories and airspaces MUAC provides air traffic services. Safety performance of MUAC is reported separately of these fours States as it has been assessed and agreed by the four NSAs.

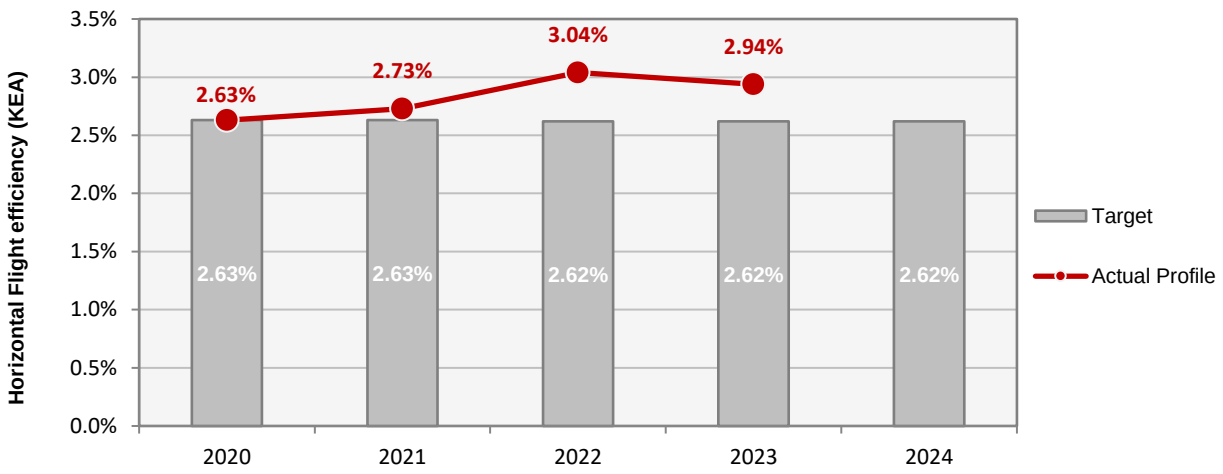
Observations

All five EoSM components of the ANSP meet the RP3 target levels. The level was maintained compared with 2022.

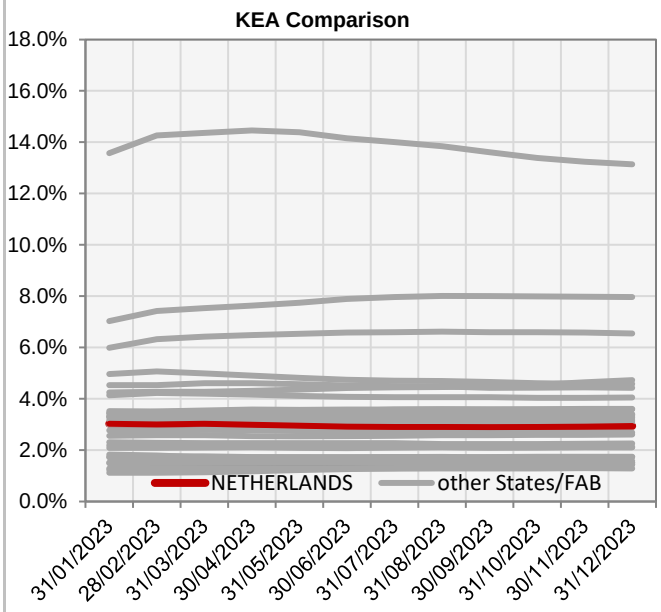
NETHERLANDS

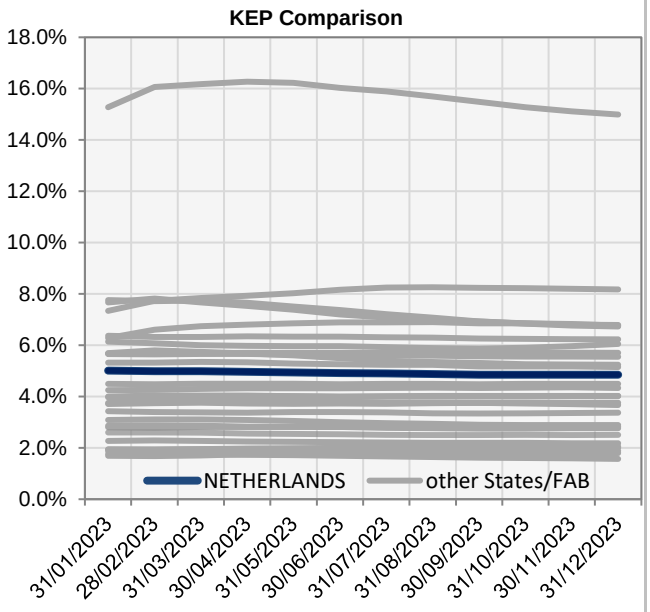
ENVIRONMENT - Horizontal flight efficiency

KEA	2020	2021	2022	2023	2024
Target	2.63%	2.63%	2.62%	2.62%	2.62%
Actual performance	2.63%	2.73%	3.04%	2.94%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	3.03%	3.01%	3.03%	2.99%	2.95%	2.92%	2.91%	2.91%	2.90%	2.91%	2.92%	2.94%
KEP	5.01%	4.99%	4.99%	4.97%	4.94%	4.92%	4.90%	4.88%	4.85%	4.85%	4.85%	4.85%
KES	4.81%	4.79%	4.78%	4.75%	4.71%	4.69%	4.66%	4.64%	4.62%	4.62%	4.62%	4.62%





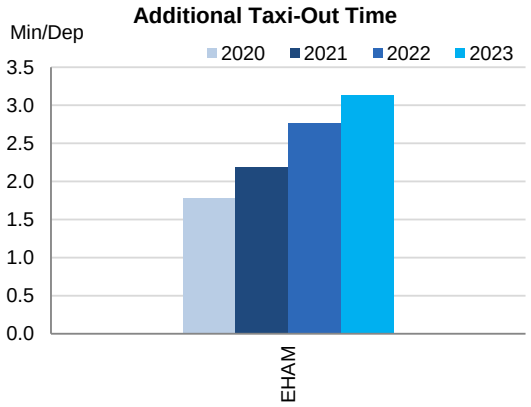
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

NETHERLANDS **ENVIRONMENT - Airports**

1. Overview

For the Netherlands, the scope of the performance monitoring of terminal services under RP3 comprises a total of 4 airports. In accordance with IR (EU) 2019/317 and the traffic figures at these 4 airports, only Amsterdam must be monitored for additional taxi-out and ASMA times.
The Airport Operator Data Flow, necessary for the monitoring of the additional times, is correctly established where required and the monitoring of all environment indicators can be performed.
Traffic at these 4 airports decreased in 2023 was still 10% lower than in 2019, with an increase of 8% with respect to 2022.
At annual level, in 2023 additional taxi-out times deteriorated in comparison to 2022, while additional ASMA times decreased slightly.
The share of CDO flights was 25.0% in 2023 which is lower than the 2022 value of 25.9%.

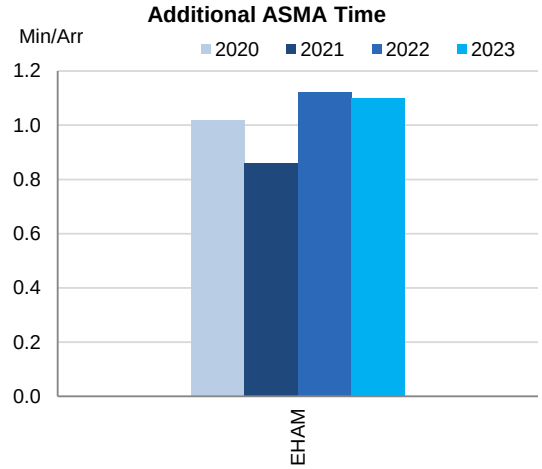
2. Additional Taxi-Out Time



Additional taxi-out times at Amsterdam (EHAM; 2019: 3.11 min/dep; 2020: 1.78 min/dep.; 2021: 2.19 min/dep.; 2022: 2.77 min/dep.; 2023: 3.13 min/dep.) increased in 2023 by 13% resulting in an annual value above the SES average 2.81 min/dep and also above the pre-COVID value in 2019.

According to the Dutch monitoring report: *No specific initiatives are planned. The performance is mainly influenced by the runway combination in use (e.g. taxiing around an active runway instead of crossing it - that only happens when the runway is not in use) or taxiway maintenance.*

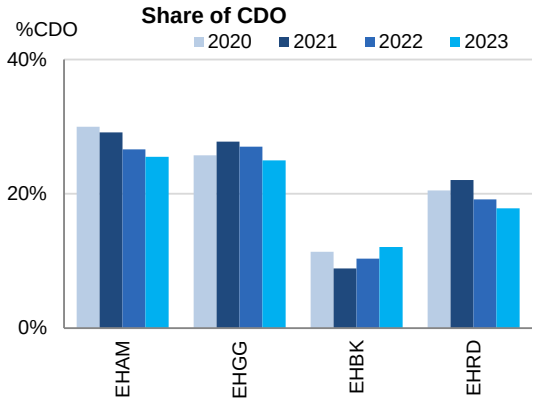
3. Additional ASMA Time



Additional times in the terminal airspace of Amsterdam (EHAM; 2019: 1.78 min/arr.; 2020: 1.02 min/arr.; 2021: 0.86 min/arr.; 2022: 1.12 min/arr.; 2023: 1.1 min/arr.) decreased in 2023 by 2% resulting in an annual value just below the SES average 1.16 min/arr., and lower than the pre-COVID value in 2019.

According to the Dutch monitoring report: *RECAT-EU and Time-Based Separation has been introduced at Amsterdam-Schiphol resulting in increased runway capacity under certain circumstances and reduced time in ASMA.*
Furthermore, implementation of fixed arrival routes in the Schiphol TMA are planned in RP4. Expected effects are reduced vectoring and more predictable times in the TMA.

4. Share of arrivals applying CDO



All airport have shares of CDO flights below the overall RP3 value in 2023 (28.8%).
Amsterdam (EHAM), Groningen (EHGG) and Rotterdam (EHRD) have a lower share of CDO flights than in 2022 while it has increased at Maastricht-Aachen (EHBK) from 10.4% in 2022 to 12.1% of CDO flights in 2023.

According to the Dutch monitoring report: *For the Netherlands, the percentage of arrivals performing a CDO is similar in 2023 compared to 2022, 2021, and 2020. Even with lower traffic levels arrivals have to fly a part of the approach in level flight e.g. due to procedures (vertical separation between parallel approaches, interception of glide slope from below).*
Implementation of fixed arrival routes in the Schiphol and Rotterdam TMA in RP4 should improve predictability of distance to go for airspace users and thus a higher share of CDOs.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Amsterdam Schiphol-EHAM	1.78	2.19	2.77	3.13		1.02	0.86	1.12	1.1		30%	29%	27%	26%	
Groningen Eelde-EHGG	-	-	-	-		-	-	-	-		26%	28%	27%	25%	
Maastricht - Aachen-EHBK	-	-	-	-		-	-	-	-		11%	9%	10%	12%	
Rotterdam-EHRD	-	-	-	-		-	-	-	-		20%	22%	19%	18%	

NETHERLANDS **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

"For obvious flight safety reasons, military activities must be segregated from civil flows which has an impact on both horizontal (HFE) and vertical flight efficiency (VFE).
Because ASM manageable areas form an integral part of the nominal system, military airspace reservations shall be considered as part of the performance baseline rather than a key factor degrading environmental KPIs.
As a result of implementation of the FUA concept the impact of military activities using Restricted Airspace -RSA on civil performance is highly minored when associated with an efficient ASM process:

- At strategic level (HLAPB) by designing areas in accordance with A-FUA concept (MVPA/VGA structures), especially for congested airspaces.

- At pre-tactical level (AMC), by managing these areas in a dynamic way, with an associated level 2 CDM process, validated by HLAPB.

- At tactical level (ACC/Regional Military Control Centre) by activating/deactivating areas as close as possible to actual use and allowing crossing or direct routes when possible (in accordance with TRA status), with an associated level 3 CDM process validated by HLAPB.

- At each level, HLAPB, AMC or ACC/Regional Military Control Centre, a key factor of efficiency is a trust-driven civil-military cooperation. As a counterpart, AOs and CFSPs must be reactive and take efficiently into account available or released airspaces. At last, ANSP have also to adapt the route network to create more DCTs within military areas.

Finally, local circumstances (e.g. constrained airspace, proximity of international hubs, etc.…) as well as a large number of military missions that differ from one State to another must be taken into account. Therefore, airspace needs (e.g. airspace requirements for the 5th generation fighters) and related ASM procedures of the States differ and standardized objectives cannot be defined."

Military - related measures implemented or planned to improve capacity

"FABEC States are working on mid-term improvements regarding implementation of ASM level 1, 2, and 3 procedures. Some local initiatives regarding ASM/ATFCM convergence, like the traffic Light Scheme concept in France are promoted at FABEC level, as well as at ECAC level in the EUROCONTROL OEP framework.

Another major improvement is the interconnection of the existing ASM tools (e.g. LARA, STANLY_ACOS) at FABEC Level, to enhance regional coordination among FABEC AMCs as well as with the NM. "

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Netherlands	91%	88%	83%	83%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Amsterdam					
Maastricht					

Initiatives implemented or planned to improve PI#6

For MUAC the ATMP will be used to propose improved routings to aircraft operators in pre-tract. The tool takes into account the expected airspace availability. This tool allows airlines to reduce the amounts of fuel used by proposing fuel-saving alternatives. MUAC is expanding their capacity to do these route suggestions.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Netherlands			90%	90%	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Amsterdam			97%		
Maastricht			89%		

Initiatives implemented or planned to improve PI#7

NIL

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Netherlands			81%	78%	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Amsterdam					
Maastricht					

Initiatives implemented or planned to improve PI#8

NIL

NETHERLANDS **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	n/a	n/a	0.14	0.14	0.14	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	n/a	n/a	0.04	0.06		

NSA's assessment of capacity performance

Weather and temporary airspace closures impacted the performance across the board. The war in Ukraine has caused an increase in military exercises in Dutch airspace. This is expected to continue into the coming years

Monitoring process for capacity performance

LVNL reports its en-route capacity performance to the state through their Quarterly performance report. This report is based on LVNL data and available PRU data, which is consolidated and analysed and the results compared to the reference and indicative values. The performance data is also monitored on a monthly basis through the AFG/PMG (ANSP FABEC Group / Performance Management Group) capacity report. This report is based on MUAC data and available PRU data, which is consolidated and analysed and the results compared to the reference and indicative values.

MUAC reports its en-route capacity performance to the states through the MUAC Finance and Performance committee. Similarly to the LVNL data the performance data is also monitored on a monthly basis through the AFG/PMG capacity report.

Capacity Planning

The ANSPs in the Netherlands, LVNL and MUAC, contribute to the new NOP planning process, both the long term NOP and the weekly Rolling NOP. They contribute information and data to the provision for a consolidated European network view of the evolution of the air traffic, enabling the planning of the service delivered to match the expected air traffic demand in a safe, efficient and coordinated manner. However, the 10% capacity buffer requested by the NM, the recommendation for zero delay and the continuous optimistic traffic forecast selected have naturally an adverse impact on ANSPs finance.

ATCO in OPS (FTE)							
Amsterdam ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	85	86	85	81	
Actual	89	90	83	80	78		

Maastricht ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	290	309	300	302	
Actual	292	286	288	293	294		

Additional Information Related to Russia's War of Aggression Against Ukraine

The Netherlands has experienced changes in traffic flows due to the Russia/Ukraine situation. It is mainly noticed that UK Asia traffic flows fly through the Belgian instead of the Dutch airspace, additionally the France Asia traffic flows now fly down south instead of to the North through Dutch airspace and towards Russia.

Summary of capacity performance

The Netherlands achieved the required en route capacity performance for 2023. There were 1 128k flights handled in the Dutch airspace (both Amsterdam ACC and the DECO sectors in MUAC). There were 67k minutes of en route ATFM delay attributed to ANSPs in Dutch airspace.

En route Capacity Incentive Scheme						
LVNL	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
CRSTMP Capacity target	-	-	-	0.07	-	Netherlands use an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The new target for LVNL was set at 0.07 minutes per flight and the actual performance is reported as 0.06 minutes per flight (CRSTMP only), which falls within the deadband. Neither bonus nor malus is due
Deadband +/-	-	-	-	[0.05-0.09]	-	
Actual performance	-	-	-	0.06		
MUAC	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
CRSTMP Capacity target	-	-	-	0.09	-	Netherlands use an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The new target for MUAC was set at 0.09 minutes per flight and the actual performance is reported as 0.06 minutes per flight (CRSTMP only), which falls within the deadband. Neither bonus nor malus is due
Deadband +/-	-	-	-	0.03	-	
Actual performance	-	-	-	0.06		

NETHERLANDS **CAPACITY - Airports**

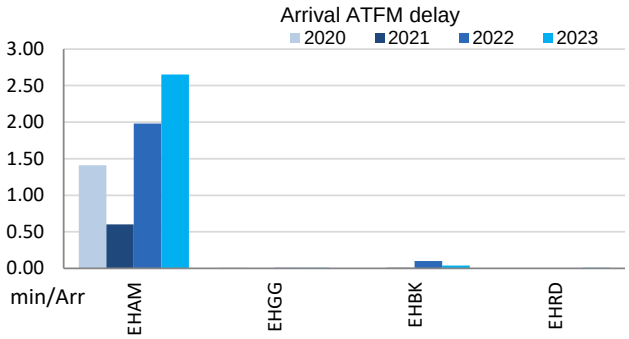
1. Overview

For the Netherlands, the scope of the performance monitoring of terminal services under RP3 comprises a total of 4 airports. In accordance with IR (EU) 2019/317 and the traffic figures at these 4 airports, only Amsterdam must be monitored for pre-departure delays. The Airport Operator Data Flow is fully established at Amsterdam and the monitoring of pre-departure delays can be performed. Nevertheless, the quality of the reporting does not allow for the calculation of the ATC pre-departure delay, with more than 40% of the reported delay not allocated to any cause.

Traffic at these 4 airports decreased in 2023 was still 10% lower than in 2019, with an increase of 8% with respect to 2022.

Average arrival ATFM delays in 2023 was 2.42 min/arr, compared to 1.78 min/arr in 2022.
ATFM slot adherence has improved (2023: 98.5%; 2022: 97.7%).

2. Arrival ATFM Delay



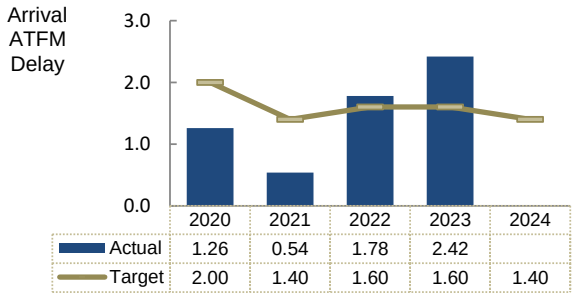
Amsterdam (EHAM: 2019: 4.23 min/arr.; 2020: 1.41 min/arr.; 2021: 0.60 min/arr.; 2022: 1.98 min/arr.; 2023: 2.65 min/arr.) significantly increased the arrival ATFM delays, resulting in one of the highest values amongst the SES monitored airports.
76% of the delays were attributed to Weather, followed by 23% attributed to Aerodrome Capacity issues.
The rest of Dutch airports registered zero or nearly zero arrival ATFM delays in 2023.

According to the Dutch monitoring report:
Long term corrective measures are considered feasible and LVNL is working with AAS, the main airline operators at Schiphol and the slot coordinator to better spread traffic demand, possibly by improving the slot allocation. This with the aim of reducing bunch forming for inbound for inbound aircraft since this is one of the major causes of airport delay at Schiphol. With the envisaged growth in traffic volume at Schiphol this delay cause will gain importance in the coming years. Additionally, LVNL has started activities to increase the runway capacity of Schiphol. In January of 2023 RECAT-EU wake turbulence categories and Time-Based Separation (TBS) were realised. A part of this increase could be used to reduce airport ATFM delays.

In the coming years each year one runway will undergo heavy maintenance, lasting 2-3 months. This reduced runway availability increases the probability that only one landing runway can be used while demand is for two runways.

Due to the war in Ukraine there has been a Europe-wide trend for more and longer military exercises. These exercises impact the available airspace around the major Aerodrome in the Netherlands. There is significant risk of these exercises further influencing capacity performance.

3. Arrival ATFM Delay – National Target and Incentive Scheme

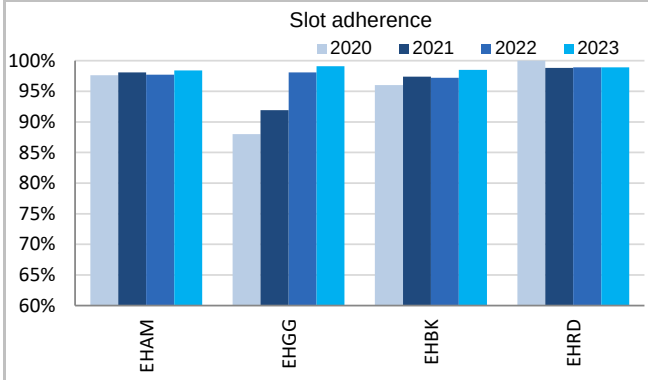


	2020	2021	2022	2023	2024
Actual	1.26	0.54	1.78	2.42	
Target	2.00	1.40	1.60	1.60	1.40

The Dutch performance plan sets a national target on arrival ATFM delay for 2023 of 1.60 min/arr. This target was not met, with an actual performance of 2.42 min/arr.
The incentive scheme uses modulated pivot values limited to CRSTMP delay causes. According to the Dutch monitoring report, this pivot value for CRSTMP is 0.37 min/arr in 2023 and based on the attribution of the regulation reason, the actual CRSTMP value for 2023 was 0.020 min/arr.
The NSA calculates a bonus of € 376.64180.

According to the Dutch monitoring report:
The terminal and airport delay target was not met, with a performance of 0.82 min/fl. above target. However, it should be noted that the CRSPTM target was met.
The Airport ATFM delay per flight was not met in 2023, primarily due to aerodrome capacity and weather related incidents. Additionally, the Frysian Flag military exercise, and runway maintenance also caused additional delays.
The main causes for the target not being met were out of the control of the ANSP (weather, aerodrome capacity, military exercises). Long term corrective measures are considered feasible.

4. ATFM Slot Adherence



All four airports showed adherence above 98% and the national average was 98.5%. With regard to the 1.5% of flights that did not adhere, 0.5% was early and 1% was late.

5. ATC Pre-departure Delay

The share of unidentified delay reported by Amsterdam (the only Dutch airport subject to monitoring of this indicator) in 2023 was well above 40% every month of the year, preventing the calculation of this indicator.
The insufficient data quality provided by Amsterdam is a long standing issue.
The Dutch monitoring report does not mention any special measure to improve the data reporting, but reports:
The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF).
However, there are several quality checks before EUROCONTROL can produce the final value which is established as the average minutes of pre-departure delay (delay in the actual off block time) associated to the IATA delay code 89 (through the APDF, for each delayed flight, the reasons for that delay have to be transmitted and coded according to IATA delay codes.
However, sometimes the airport operator has no information concerning the reasons for the delay in the off block, or they cannot convert the reasons to the IATA delay codes. In those cases, the airport operator might:
- Not report any information about the reasons for the delay for that flight (unreported delay)
- Report a special code to indicate they do not have the information (code ZZZ)
- Report a special code to indicate they do not have the means to collect or translate the information (code 999)
To be able to calculate with a minimum of accuracy the PI for a given month, the minutes of delay that are not attributed to any IATA code reason should not exceed 40% of the total minutes of pre-departure delay observed at the airport.

6. All Causes Pre-departure Delay

Amsterdam is the only Dutch airport subject to the monitoring of this indicator.
The total (all causes) delay in the actual off block time at Amsterdam in 2023 was 24.01 min/dep, an improvement with respect to the 27.35 min/dep observed in 2022, but nevertheless the third highest among the RP3 monitored airports.

According to the Dutch monitoring report: *The departure delays in 2020 and 2021 were on the low end due to the lower amount of flights because of COVID-19. The beginning of the COVID-recovery in 2022 caused delays to move back towards 2019 levels. While 2022 had additional issues relating to the recovery and increased flight numbers (which is why 2023 subsequently saw a small reduction in delay duration), we expect this rising trend to hold until the values from 2019 are matched.*

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Amsterdam Schiphol-EHAM	1.41	0.6	1.98	2.65		97.6%	98.1%	97.7%	98.4%		n/a	n/a	n/a	n/a		15.52	20.40	27.35	24.01	
Groningen Eelde-EHGG	0.01	0	0.01	0.01		88.0%	91.9%	98.1%	99.1%		-	-	-	-		-	-	-	-	
Maastricht - Aachen-EHBK	0	0.01	0.1	0.04		96.0%	97.4%	97.2%	98.5%		-	-	-	-		-	-	-	-	
Rotterdam-EHRD	0	0	0	0.01		100.0%	98.8%	98.9%	98.9%		-	-	-	-		-	-	-	-	

NETHERLANDS: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Netherlands ECZ represents 3.8% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 04 November 2022 and found consistent as per Commission Decision (EU) 2023/179 of 14 December 2022
  The final version of the plan was adopted and published by Netherlands in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Netherlands: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	243 029 947	234 579 497	477 609 444	246 424 037	253 428 073	259 058 008
Inflation %	1.1%	1.4%		1.5%	1.6%	1.6%
Inflation index (100 in 2017)	105.5	107.0		108.6	110.3	112.1
Real en route costs (€2017)	232 377 205	221 891 943	454 269 148	229 819 383	233 322 266	236 043 088
Total en route service units	1 479 593	1 515 000	2 994 593	2 593 000	3 081 000	3 294 000
Real en route DUC per service unit (€2017)	**157.05**	**146.46**	**151.70**	**88.63**	**75.73**	**71.66**

Netherlands: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	243 029 947	230 489 192	473 519 139	245 292 261	281 131 991	
Inflation %	1.1%	2.8%		11.6%	4.1%	
Inflation index (100 in 2017)	105.5	108.4		121.0	126.0	
Real en route costs (€2017)	232 377 205	215 411 703	447 788 907	209 189 077	232 583 983	
Total en route service units	1 479 593	1 565 320	3 044 913	2 585 835	2 833 576	
Real en route AUC per service unit (€2017)	**157.05**	**137.62**	**147.06**	**80.90**	**82.08**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-4 090 304	-4 090 304	-1 131 776	27 703 918	
	in %	-	-1.7%	-0.9%	-0.5%	+10.9%	
Inflation %	in p.p.	0.0 p.p.	1.4 p.p.		10.1 p.p.	2.5 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.5 p.p.		12.5 p.p.	15.7 p.p.	
Real en route costs (€2017)	in value	0	-6 480 241	-6 480 241	-20 630 306	-738 283	
	in %	-	-2.9%	-1.4%	-9.0%	-0.3%	
Total en route service units	in value	0	50 320	50 320	-7 165	-247 424	
	in %	-	+3.3%	+1.7%	-0.3%	-8.0%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-8.85**	**-4.64**	**-7.73**	**6.35**	
	in %	**-**	**-6.0%**	**-3.1%**	**-8.7%**	**+8.4%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was +8.4% (or +6.35 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TSUs (-8.0%) and slightly lower than planned en route costs in real terms (-0.3%, or -0.7 M€2017). It should be noted that actual inflation index in 2023 was +15.7 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (-8.0%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

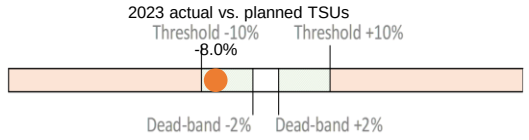
En route costs by entity

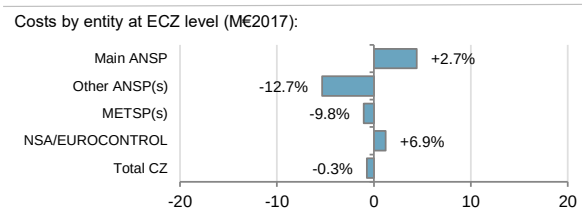
Actual real en route costs are -0.3% (-0.7 M€2017) lower than planned. This is the result of lower costs for the other ANSP (MUAC (Netherlands), -12.7%, or -5.3 M€2017) and the MET service provider (-9.8%, or -1.0 M€2017) and higher costs for the NSA/EUROCONTROL (+6.9%, or +1.2 M€2017) and the main ANSP, LVNL (+2.7%, or +4.4 M€2017).

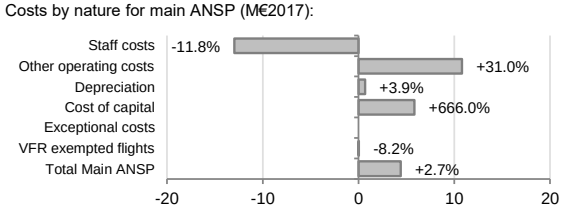
En route costs for the main ANSP (LVNL) at charging zone level

Higher than planned en route costs in real terms for LVNL in 2023 (+2.7%, or +4.4 M€2017) result from:

- Significantly lower staff costs (-11.8%), due to inflation index impact (-15.7 p.p.) since in nominal terms staff costs are slightly higher than planned by +0.7%; mainly because a combination of opposite factors, "in summer 2023 the wages increased. The number of staff on LVNLs payroll is below the assumed number of staff in the performance plan due to the tight labour market conditions. Pension costs were lower than expected due to a reduced pension premium compared to the performance plan':
- Significantly higher other operating costs (+31.0%), mainly due to energy costs higher than expected and the costs of hiring external staff;
- Higher depreciation (+3.9%), non specific driver information has been provided;
- Significantly higher cost of capital (+666.0%), due to the higher interest rates; and
- Significantly lower deduction for VFR exempted flights (-8.2%).







NETHERLANDS: En route charging zone

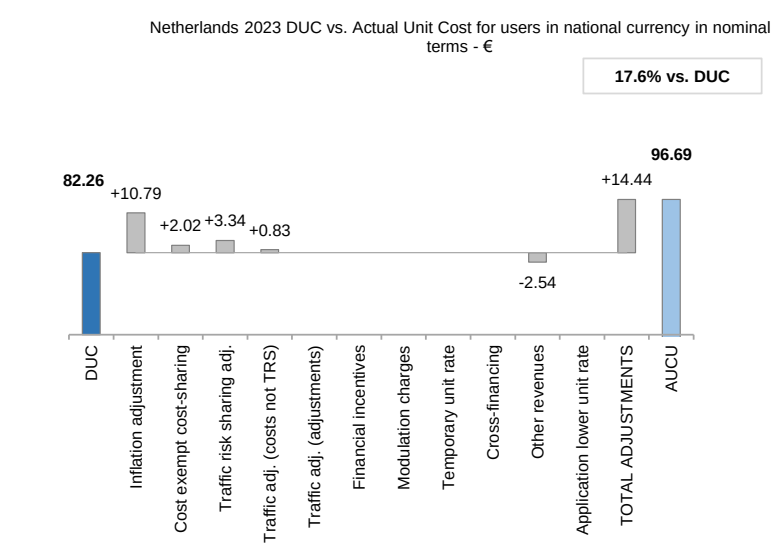
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	82.26
DUC to be charged retroactively	0.00
DUC	**82.26**
Inflation adjustment	10.79
Cost exempt from cost-sharing	2.02
Traffic risk sharing adjustment	3.34
Traffic adj. (costs not TRS)	0.83
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-2.54
Application of lower unit rate	0.00
Total adjustments	14.44
AUCU	**96.69**
AUCU vs. DUC	**+17.6%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

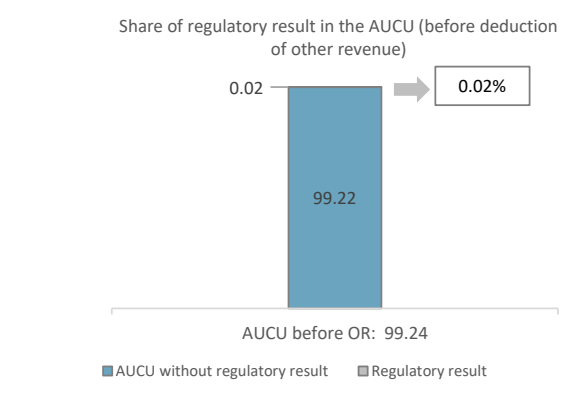
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-603	-0.21
	Competent authorities and qualified entities costs	-374	-0.13
	Eurocontrol costs	1 595	0.56
	Pension costs	-1 978	-0.70
	Interest on loans	6 999	2.47
	Changes in law	86	0.03
Total costs exempt from cost sharing		**5 726**	**2.02**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
LVNL	-5 846	-2.06
MUAC (Netherlands)	4 741	1.67
METSP(s)	**€ '000**	**€/SU**
Netherlands MET	1 166	0.41
Total charging zone	61	0.02
Actual cost for users* **	281 193	99.24
Regulatory result (% AUCU)	0.02%	0.02%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (99.69 €) is +17.6% higher than the nominal DUC (82.26 €). The difference between these two figures (+14.44 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+10.79 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+2.02 €/SU);
- the addition of the traffic risk sharing adjustments (+3.34 €/SU);
- the addition of the traffic adjustment (+0.83 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-2.54 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 0.02%.

NETHERLANDS: En route main ANSP (LVNL) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

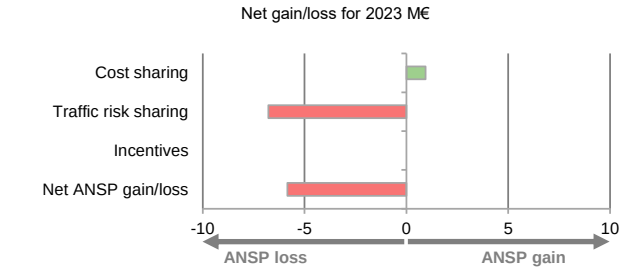
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

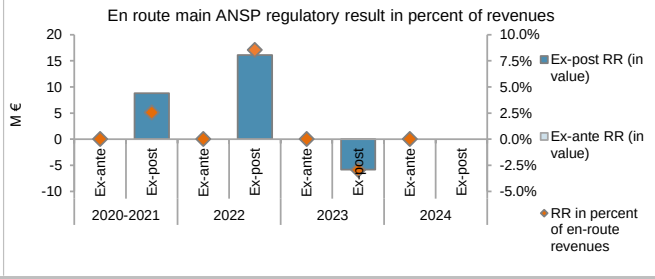
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	1 802	-715	-26 482	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	2 049	17 752	22 623	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-739	-467	4 794	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**3 113**	**16 570**	**935**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.7%	-0.3%	-8.0%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	337 559	171 717	178 005	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**5 672**	**-474**	**-6 781**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**8 785**	**16 096**	**-5 846**	

12. Regulatory result (RR) for the main ANSP at charging zone level

LVNL planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	219 254	273 087	492 340	300 237	312 756	317 083
Proportion of financing through equity (in %)	0%	0%	0%	0%	0%	0%
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoE (in value)	0	0	0	0	0	0
Ex-ante regulatory result (+/-) for the en route charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the en route charging zone	**172 918**	**164 641**	**337 559**	**171 717**	**178 005**	**181 888**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
LVNL actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	219 254	241 476	460 730	258 907	264 813	
Proportion of financing through equity (in %)	0%	0%	0%	0%	0%	
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	
RoE (in value)	0	0	0	0	0	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	8 785	8 785	16 096	-5 846	
Ex-post regulatory result (+/-) for the en route charging zone	**0**	**8 785**	**8 785**	**16 096**	**-5 846**	
Revenue for the en route charging zone	**172 918**	**171 624**	**344 542**	**188 528**	**198 641**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**5.1%**	**2.5%**	**8.5%**	**-2.9%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

13. Focus on the main ANSP regulatory result on en route activity





LVNL net gain on activity in the Netherlands en route charging zone in the year 2023

LVNL reported a net loss of -5.8 M€, as a combination of a gain of +0.9 M€ arising from the cost sharing mechanism, with a loss of -6.8 M€ arising from the traffic risk sharing mechanism.

LVNL overall regulatory results (RR) for the en route activity

LVNL has no return on equity, as its assets are entirely financed through debt, no ex-ante estimated surplus was embedded in the cost of capital provided in the PP for RP3. Therefore, ex-post, the overall RR is equal to the net loss from the en route activity mentioned above (-5.8 M€) and corresponds to -2.9% of the en route revenues.

NETHERLANDS: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
MUAC (Netherlands) planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	42 081	36 524	78 605	45 512	46 027	47 611
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
MUAC (Netherlands) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	1 747	1 747	7 239	4 741	
Revenue for the en route charging zone	42 081	38 271	80 353	50 297	50 419	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	4.6%	2.2%	14.4%	9.4%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	
Netherlands MET planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	9 627	11 065	20 692	11 536	11 652	11 770
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Netherlands MET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	578	578	1 682	1 166	
Revenue for the en route charging zone	9 627	11 218	20 845	12 634	13 167	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	5.2%	2.8%	13.3%	8.9%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	
Total other ANSPs planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	51 708	47 589	99 297	57 048	57 679	59 381
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Total other ANSPs actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	2 325	2 325	8 921	5 907	
Revenue for the en route charging zone	51 708	49 489	101 197	62 931	63 586	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	4.7%	2.3%	14.2%	9.3%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Netherlands (MUAC and KNMI) corresponds to 9.3% of the en route revenues. The RoE cannot be calculated for MUAC, as they have no equity.

NETHERLANDS: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Netherlands TCZ represents 5.6% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 4 of which:
  - Airports with fewer than 80,000 IFR mvmts: 3
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Netherlands: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	72 301 444	71 092 604	143 394 048	74 772 706	77 867 459	79 526 060
Inflation %	1.1%	1.4%		1.5%	1.6%	1.6%
Inflation index (100 in 2017)	105.5	107.0		108.6	110.3	112.1
Real terminal costs (€2017)	68 854 896	66 892 674	135 747 570	69 422 076	71 324 542	72 133 235
Total terminal service units	210 653	244 000	454 653	313 300	376 000	401 000
Real terminal DUC per service unit (€2017)	**326.86**	**274.15**	**298.57**	**221.58**	**189.69**	**179.88**

Netherlands: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	72 301 444	69 238 119	141 539 563	73 762 180	85 242 376	
Inflation %	1.1%	2.8%		11.6%	4.1%	
Inflation index (100 in 2017)	105.5	108.4		121.0	126.0	
Real terminal costs (€2017)	68 854 896	64 343 347	133 198 243	62 171 155	69 794 037	
Total terminal service units	210 653	243 718	454 372	340 503	369 078	
Real terminal AUC per service unit (€2017)	**326.86**	**264.01**	**293.15**	**182.59**	**189.10**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	-1 854 485	-1 854 485	-1 010 526	7 374 917	
	in %	-	-2.6%	-1.3%	-1.4%	+9.5%	
Inflation %	in p.p.	0.0 p.p.	1.4 p.p.		10.1 p.p.	2.5 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.5 p.p.		12.5 p.p.	15.7 p.p.	
Real terminal costs (€2017)	in value	0	-2 549 327	-2 549 327	-7 250 921	-1 530 505	
	in %	-	-3.8%	-1.9%	-10.4%	-2.1%	
Total terminal service units	in value	0	-282	-282	27 203	-6 922	
	in %	-	-0.1%	-0.1%	+8.7%	-1.8%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-10.14**	**-5.43**	**-39.00**	**-0.59**	
	in %	**-**	**-3.7%**	**-1.8%**	**-17.6%**	**-0.3%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -0.3% (or -0.59 €2017) lower than the planned DUC. This results from the combination of lower than planned terminal costs in real terms (-2.1%, or -1.5 M€2017) and lower than planned TNSUs (-1.8%). It should be noted that actual inflation index in 2023 was +15.7 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-1.8%) falls inside the ±2% dead band. Hence loss of terminal revenues is borne by the ANSPs (see items 10 to 14).

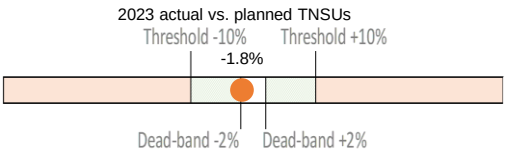
Terminal costs by entity

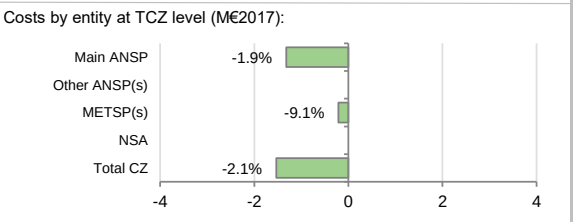
Actual real terminal costs are -2.1% (-1.5 M€2017) lower than planned. This is the result of lower costs for the main ANSP, LVNL (-1.9%, or -1.3 M€2017) and the MET service provider (-9.1%, or -0.2 M€2017).

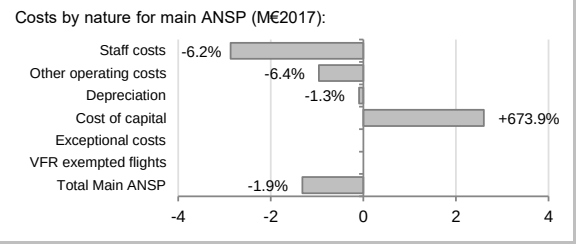
Terminal costs for the main ANSP (LVNL) at charging zone level

Slightly lower than planned terminal costs in real terms for LVNL in 2023 (-1.9%, or -1.3 M€2017) result from:

- Significantly lower staff costs (-6.2%), due to inflation index impact (-15.7 p.p.) since in nominal terms staff costs are higher than planned by +7.1%; mainly due to summer 2023, wages increased. However, due to the tight labour market, the number of staff on LVNL's payroll was below the performance plan's assumptions. Pension costs were lower than expected due to a reduced pension premium;
- Significantly lower other operating costs (-6.4%) ,due to inflation index impact (-15.7 p.p.) since in nominal terms staff costs are higher than planned by +6.8%, mainly due to higher energy costs than expected and the costs of hiring external staff;
- Slightly lower depreciation (-1.3%); and,
- Significantly higher cost of capital (+673.9%) due to the higher interest rates.







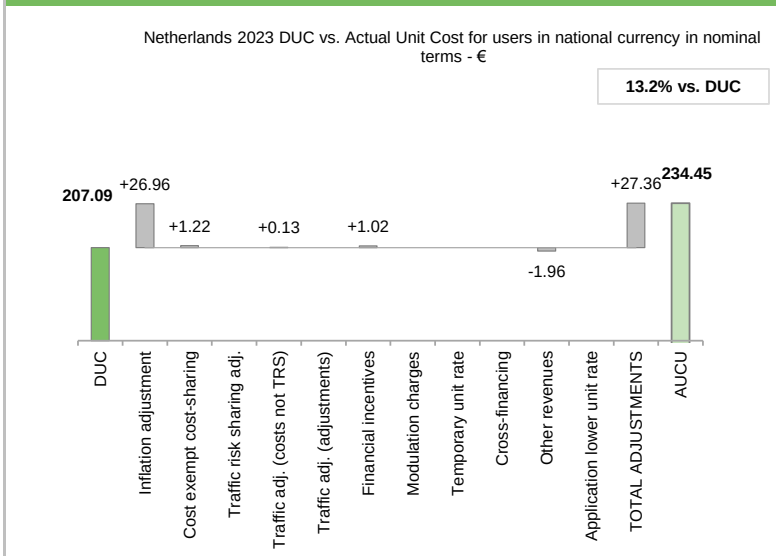
NETHERLANDS: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	207.09
DUC to be charged retroactively	0.00
DUC	**207.09**
Inflation adjustment	26.96
Cost exempt from cost-sharing	1.22
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	0.13
Traffic adj. (adjustments)*	
Financial incentives	1.02
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-1.96
Application of lower unit rate	0.00
Total adjustments	27.36
AUCU	**234.45**
AUCU vs. DUC	**13.2%**

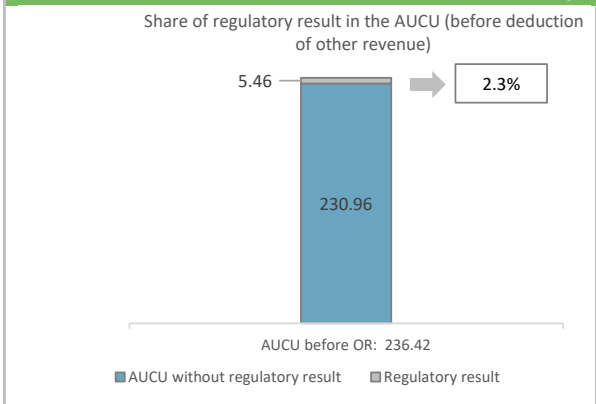
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-145	-0.39
	Competent authorities and qualified entities costs	0	0.00
	Eurocontrol costs	0	0.00
	Pension costs	-878	-2.38
	Interest on loans	1 386	3.76
	Changes in law	86	0.23
Total costs exempt from cost sharing		**449**	**1.22**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
LVNL	1 779	4.82

METSP(s)	€ '000	€/SU
Netherlands-MET	234	0.64
Total charging zone	2 014	5.46
Actual cost for users* **	87 256	236.42
Regulatory result (% AUCU)	2.3%	2.3%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (234.45 €) is +13.2% higher than the nominal DUC (207.09 €). The difference between these two figures (+27.36 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+26.96 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+1.22 €/SU);
- the addition of the traffic adjustment (+0.13 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+1.02 €/SU); and
- the deduction of the other revenues (-1.96 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 2.3%.

NETHERLANDS: Terminal main ANSP (LVNL) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

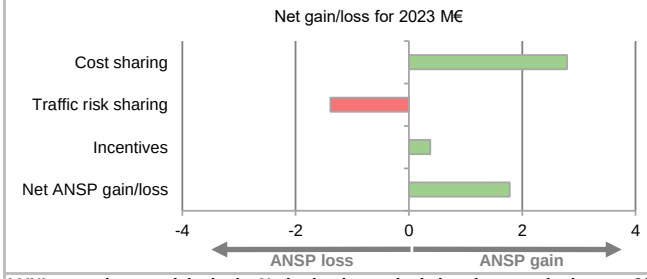
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

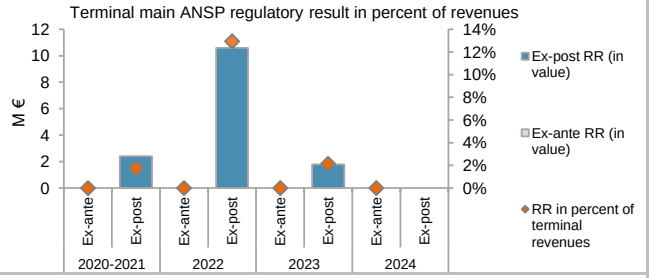
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	1 775	900	-7 280	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	857	7 490	9 596	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-133	-700	473	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**2 500**	**7 690**	**2 789**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-0.1%	8.7%	-1.8%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	138 866	72 258	75 328	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-86**	**2 894**	**-1 387**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**377**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**2 414**	**10 584**	**1 779**	

12. Regulatory result (RR) for the main ANSP at charging zone level

LVNL planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	44 956	59 661	104 617	60 569	63 048	64 612
Proportion of financing through equity (in %)	0%	0%	0%	0%	0%	0%
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoE (in value)	0	0	0	0	0	0
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**70 188**	**68 678**	**138 866**	**72 258**	**75 328**	**76 961**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
LVNL actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	44 956	48 140	93 096	52 170	66 340	
Proportion of financing through equity (in %)	0%	0%	0%	0%	0%	
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	
RoE (in value)	0	0	0	0	0	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	2 414	2 414	10 584	1 779	
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**2 414**	**2 414**	**10 584**	**1 779**	
Revenue for the terminal charging zone	**70 188**	**69 316**	**139 505**	**81 942**	**84 387**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**3.5%**	**1.7%**	**12.9%**	**2.1%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

13. Focus on main ANSP regulatory result on terminal activity





LVNL net gain on activity in the Netherlands terminal charging zone in the year 2023

LVNL reported a net gain of +1.8 M€, as a combination of a gain of +2.8 M€ arising from the cost sharing mechanism, with a loss of -1.4 M€ arising from the traffic risk sharing mechanism and a gain of +0.4 M€ relating to financial incentives.

LVNL overall regulatory results (RR) for the terminal activity

LVNL has no return on equity, as its assets are entirely financed through debt, no ex-ante estimated surplus was embedded in the cost of capital provided in the PP for RP3. Therefore, ex-post, the overall RR is equal to the net gain from the terminal activity mentioned above (+1.8 M€) and corresponds to 2.1% of the en route revenues.

NETHERLANDS: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Netherlands-MET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**2 113**	**2 415**	**4 528**	**2 515**	**2 539**	**2 565**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Netherlands-MET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**112**	**112**	**350**	**234**	
Revenue for the terminal charging zone	**2 113**	**2 448**	**4 561**	**2 754**	**2 869**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**4.6%**	**2.5%**	**12.7%**	**8.2%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Netherlands (KNMI) corresponds to 8.2% of the terminal revenues. It should be noted that KNMI does not charge cost of capital.

NETHERLANDS: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Netherlands

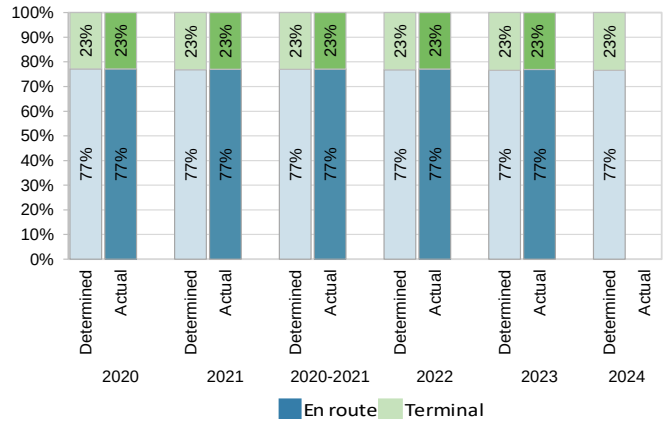
Terminal charging zone 1: Netherlands

Netherlands: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	232 377 205	221 891 943	454 269 148	229 819 383	233 322 266	236 043 088
Real terminal costs (€2017)	68 854 896	66 892 674	135 747 570	69 422 076	71 324 542	72 133 235
Real gate-to-gate costs (€2017)	301 232 100	288 784 617	590 016 718	299 241 459	304 646 809	308 176 323
En route share (%)	77.1%	76.8%	77.0%	76.8%	76.6%	76.6%

Netherlands: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	232 377 205	215 411 703	447 788 907	209 189 077	232 583 983	
Real terminal costs (€2017)	68 854 896	64 343 347	133 198 243	62 171 155	69 794 037	
Real gate-to-gate costs (€2017)	301 232 100	279 755 050	580 987 150	271 360 232	302 378 021	
En route share (%)	77.1%	77.0%	77.1%	77.1%	76.9%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-9 029 567	-9 029 567	-27 881 227	-2 268 788	
	in %	0.0%	-3.1%	-1.5%	-9.3%	-0.7%	
En route share	in p.p.	0.0 p.p.	0.2 p.p.	0.1 p.p.	0.3 p.p.	0.3 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -0.7% (-2.3 M€2017) lower than planned, as en route costs are lower than planned by -0.7 M€2017 and terminal costs are lower than planned by -1.5 M€2017.

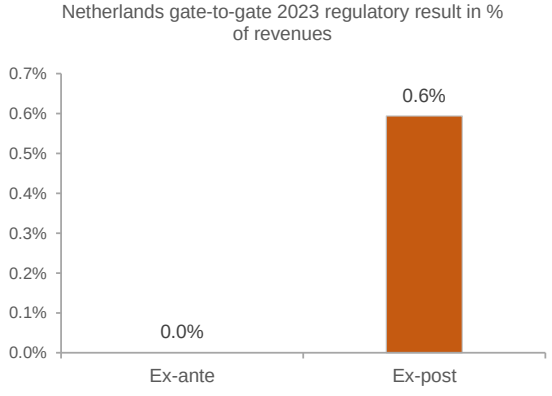
The actual share of en route in gate-to-gate ANS costs (76.9%) is slightly higher than planned in the PP for 2023 (76.6%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
LVNL	0	253 334	0.0%		-4 066	283 029	-1.4%	
MUAC (Netherlands)	0	46 027	0.0%		4 741	50 419	9.4%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Netherlands MET	0	14 191	0.0%		1 400	16 036	8.7%	
Total	**0**	**313 551**	**0.0%**		**2 075**	**349 484**	**0.6%**	

For the ANSPs providing services in the en route and terminal charging zones of Netherlands covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +2.1 M€ (+0.1 M€ for en route and +2.0 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 0.6% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (0.0% of gate-to-gate revenues). It should be noted that LVNL has no return on equity, as its assets are entirely financed through debt, no ex-ante estimated surplus was embedded in the cost of capital provided in the PP for RP3.



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Annual Monitoring Report 2023

Local level view

NORWAY

NORWAY **Monitoring of SAFETY for 2023**

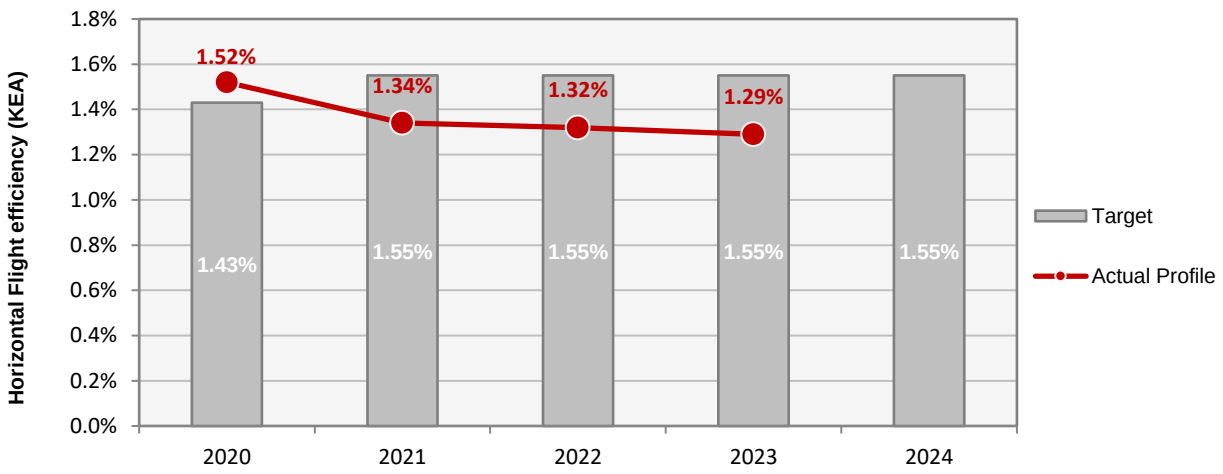
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
Avinor	84	C	C	C	C	B
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

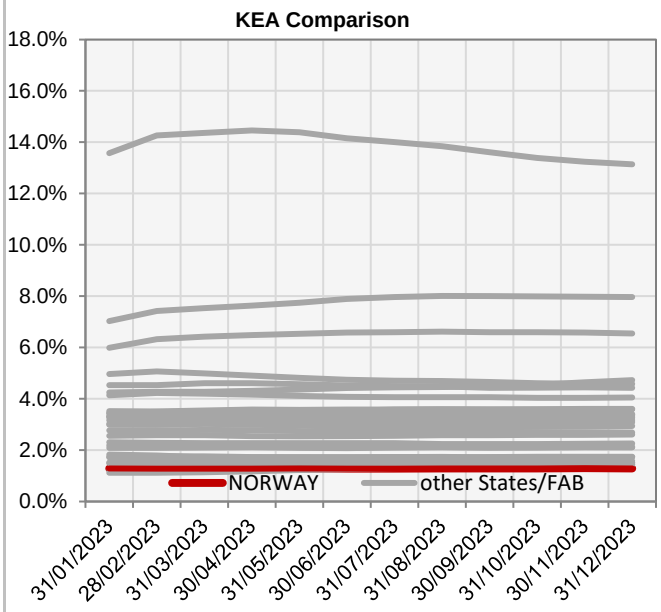
Three EoSM components of the ANSP meet the RP3 target level. Over 2023 degradation was observed for one question for "Safety Promotion" reducing the maturity of the component from level C to the level B, and consequently not achieving the target for this component. Additionally, the ANSP will need to improve one question for Safety Risk Management to achieve RP3 targets.

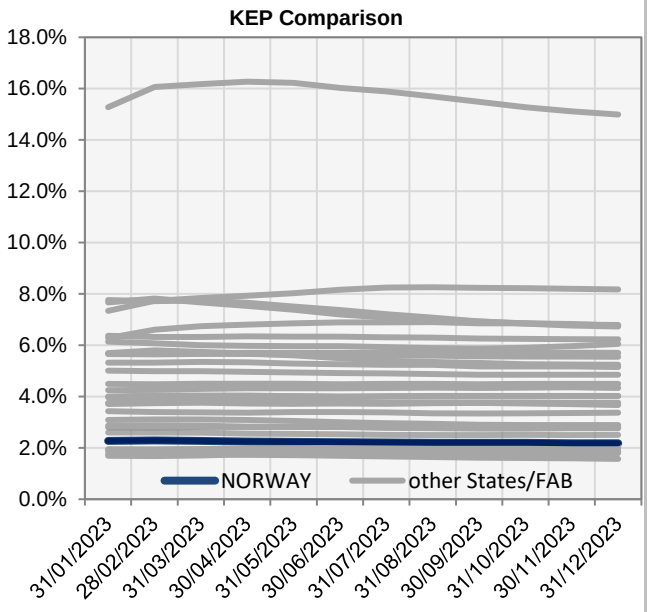
NORWAY **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.43%	1.55%	1.55%	1.55%	1.55%
Actual performance	1.52%	1.34%	1.32%	1.29%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	1.29%	1.28%	1.28%	1.28%	1.29%	1.28%	1.28%	1.29%	1.29%	1.29%	1.30%	1.29%
KEP	2.27%	2.29%	2.27%	2.25%	2.24%	2.22%	2.21%	2.20%	2.20%	2.20%	2.18%	2.18%
KES	2.27%	2.29%	2.27%	2.25%	2.23%	2.22%	2.20%	2.19%	2.20%	2.19%	2.17%	2.17%





The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

NORWAY **ENVIRONMENT - Airports**

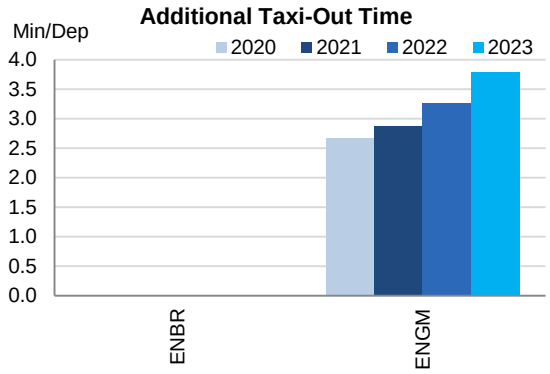
1. Overview

Norway has identified four airports as subject to RP2 monitoring. However, in accordance with IR (EU) 2019/317 and the traffic figures, only two of these airports (Oslo (EGNM) and Bergen (ENBR)) must be monitored for additional taxi-out and ASMA times. Oslo (A-CDM implemented) is the only Norwegian airport that has finished the full implementation of the Airport Operator Data Flow required for the monitoring of additional times.
In October 2023 Avinor modified the data delivery to Eurocontrol and completed the technical configuration of the APDF to integrate Bergen, Stavanger and Trondheim airports in the monthly reporting procedure. Regrettably, the lack of registration of actual runway-in-use for flights at those airports does not allow for the calculation of the additional taxi-out and ASMA times, as it is a mandatory parameter in the application of the methodology for the calculation of these indicators.

Traffic at the ensemble of these four Norwegian airports in 2023 was still 8% lower than in 2019.

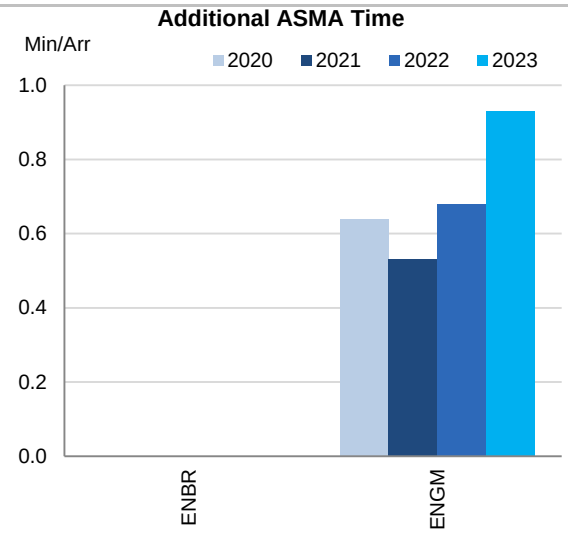
The share of CDO flights is still in the higher range of all observed values in 2023. Norway is in the second place in terms of highest share of CDO flights when calculated by State (65.4%).

2. Additional Taxi-Out Time



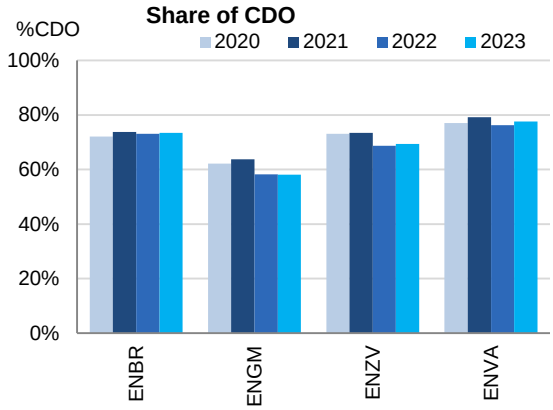
The additional taxi-out times at Oslo increased again in 2023 (ENGM; 2019: 3.92 min/dep.; 2020: 2.68 min/dep.; 2021: 2.87 min/dep.; 2022: 3.26 min/dep.; 2022: 3.79 min/dep.) and are getting closer to the pre-pandemic value, but remain well below the SES average of 2.81 min/dep.

3. Additional ASMA Time



Additional ASMA times at Oslo increased in 2023 (ENGM; 2019: 1.03 min/arr.; 2020: 0.64 min/arr.; 2021: 0.53 min/arr.; 2022: 0.68 min/arr.; 2023: 0.93 min/arr.) but remain below the pre-pandemic values and the SES average of 1.16 min/arr.

4. Share of arrivals applying CDO



The shares of CDO flights have stayed similar to the 2022 values. The value for Trondheim has increased by 1.3 percentage points to 77.6%. All airports still have very high shares of CDO flights with all airports having more than double the overall RP3 value in 2023 (28.8%).

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Bergen/Flesland-ENBR	n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a		72%	74%	73%	73%	
Oslo/Gardermoen-ENGM	2.68	2.87	3.26	3.79		0.64	0.53	0.68	0.93		62%	64%	58%	58%	
Stavanger/Sola-ENZV	-	-	-	-		-	-	-	-		73%	73%	69%	69%	
Trondheim/Vaernes-ENVA	-	-	-	-		-	-	-	-		77%	79%	76%	78%	

NORWAY **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

LARA has been implemented and Civil/Military Airspace Committee maintain a continued focus on the effectiveness of the booking procedures.

Military - related measures implemented or planned to improve capacity

The AMC procedure has been revised establishing new and larger areas in southern Norway with a design that is optimized to cater to civilian traffic flows. The civil/military airspace continually work on optimizing the airspace structure to minimize the impact of military air operations on civilian air traffic. LARA has been deployed to both civil and military users and further integration into the ATM system is ongoing.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Norway	56%	57%	49%	57%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Bodo	n/a	n/a	n/a	n/a	
Oslo	n/a	n/a	n/a	n/a	
Stavanger	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#6

Ratio in 2023 approx. at same level as previous years in RP3. Else, please see section 5. Military Dimension

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Norway	n/a	n/a	n/a	n/a	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Bodo	n/a	n/a	n/a	n/a	
Oslo	n/a	n/a	n/a	n/a	
Stavanger	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#7

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Norway	n/a	n/a	n/a	n/a	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Bodo	n/a	n/a	n/a	n/a	
Oslo	n/a	n/a	n/a	n/a	
Stavanger	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#8

NORWAY **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.08	0.06	0.08	0.11	0.11	
Actual performance	0.01	0.00	0.01	0.03		

NSA's assessment of capacity performance

En Route:
No specific capacity issues in 2023, actual traffic in (service units) was 0,5% above the level set in the PP. The actual en-route atfm delay per flight of 0,03 min./flt. (all causes included) was significant below the national target set to 0,08 min./flt. Actual performance is so far in RP3 better than set in the rev. PP.

Monitoring process for capacity performance

No remarks

Capacity Planning

Norway has been developing ATC capacity over years, and is in position to provide more capacity than the national reference values. Based on consultation meetings with the airspace users and Avinor ANS, the en route delay is set to between 0,08 min./flt and 0,11 min./flt. in RP3.

Avinor ANS has over the last years been increasing capacity, in order to being able to shift to new technology without major operational consequences for the airspace users.

ATCO in OPS (FTE)							
Bodo ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	37	41	42	42	
Actual	33	31	31	38	34		
Oslo ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	82	98	100	104	
Actual	103	71	90	91	92		
Stavanger ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	20	29	31	31	
Actual	30	19	27	29	31		

Additional Information Related to Russia's War of Aggression Against Ukraine

Initially there was some drop in overflights, which have recovered since. In general en route capacity has not been affected.

Summary of capacity performance
Norway experienced an increase in traffic from 529k flights in 2022, with marginal delay (3k minutes), to 529k flights in 2023 with 17k minutes of en-route ATFM delay. For reference in 2019, Norway handled 595k flights with <2k minutes of en-route ATFM delays.

En route Capacity Incentive Scheme						
Avinor Flysikring AS (Avinor ANS)	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
National Capacity target	0.08	0.06	0.08	0.11	0.11	The adopted incentive scheme does not foresee the payment of any bonus even though the capacity targets were met.
Deadband +/-	-	-	-	[0.08-0.14]	[0.08-0.14]	
Actual performance	0.01	0.00	0.01	0.03		

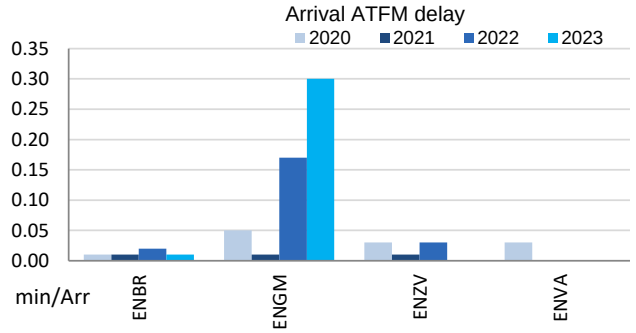
NORWAY **CAPACITY - Airports**

1. Overview

Norway has identified four airports as subject to RP2 monitoring. However, in accordance with IR (EU) 2019/317 and the traffic figures, only two of these airports (Oslo (EGNM) and Bergen (ENBR)) must be monitored for pre-departure delays. Oslo (A-CDM implemented) is the only Norwegian airport that has finished the full implementation of the Airport Operator Data Flow required for the monitoring of these pre-departure delays.
Regarding the APDF implementation and the calculation of the pre-departure delays at Bergen, Norway started providing data in October 2023, so the indicators should be available as of 2024.
Traffic at the ensemble of these four Norwegian airports in 2023 was still 8% lower than in 2019.

Average arrival ATFM delays in 2023 was 0.16 min/arr, compared to 0.10 min/arr in 2022. The national target was met.
ATFM slot adherence remained very high (2023: 99.2; %2022: 99.3%).

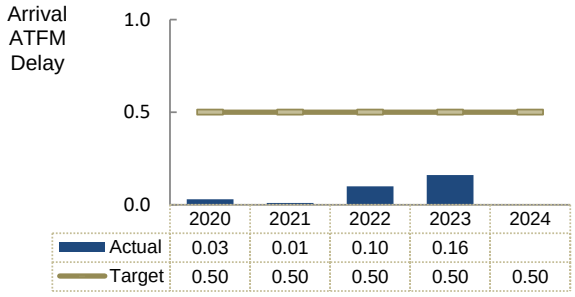
2. Arrival ATFM Delay



For the second year in a row, arrival ATFM delays increased at Oslo (ENGM; 2019: 0.31 min/arr; 2020: 0.05 min/arr; 2021: 0.01 min/arr; 2022: 0.17 min/arr; 2023: 0.30 min/arr) while the rest of airports registered minimum delays.
94% of the arrival ATFM delays in Norway were attributed to Weather, followed by ATC Staffing issues (6%) at Oslo.

According to the Norwegian monitoring report: *The actual terminal and airport ANS ATFM arrival delay per flight of 0,16 min./flt. at a national level in 2023, significant below the national target set to 0,50 min./flt. Actual performance is so far i RP3 better than set in the PP. A significant part of the delays are reported in 2023 are connected to weather conditions i April (0,34). November (0,47) and in December (0,37)*

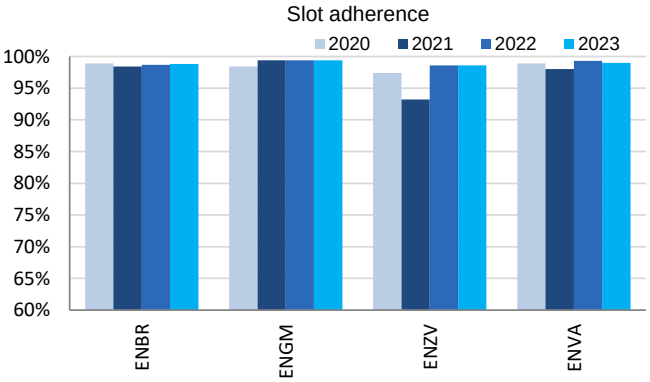
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.03	0.01	0.10	0.16	
Target	0.50	0.50	0.50	0.50	0.50

Norway's performance plan sets a national target on arrival ATFM delay for 2023 of 0.50 min/arr. This target was met with an actual performance of 0.16 min/arr. The incentive scheme uses modulated pivot values limited to CRSTMP delay causes. This pivot value for CRSTMP is 0.08 min/arr in 2023. According to the attribution of the regulation reason, the actual CRSTMP value for 2023 is 0.009 min/arr.
The Norwegian Performance Plan does not establish any bonus.

4. ATFM Slot Adherence



All Norwegian airports showed adherence above 98% and the national average was 99.2%. With regard to the 0.8% of flights that did not adhere, 0.4% was early and 0.4% was late.
According to Norway's monitoring report: Adherence to *ATFM slots at national level in 2023 (99,2%) is approx. in line with previous years both in RP3 and in RP2.*
I.e. excellent performance.

5. ATC Pre-departure Delay

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Oslo but not implemented at Bergen. Therefore the monitoring of this indicator in Norway is limited to Oslo.
The performance at Oslo remained similar to 2022 (ENGM; 2019: 0.14 min/dep.; 2020: 0.05 min/dep.; 2021: 0.06 min/dep.; 2022: 0.10 min/dep.; 2023: 0.11 min/dep.)
According to Norway's monitoring report: *Pre-departure delay in 2023 (ENGM) increasing compared to the two previous years during the pandemic, still below the level before the pandemic (2017-2019).*
Pre-departure delay not calculated at ENBR for 2023. In October 2023 Avinor modified the data delivery to EUROCONTROL and completed the technical configuration of DANSAP to integrate Bergen airport in the monthly reporting procedure. As of 2024, the yearly value for pre-departure delay will be reported. For the months October-December 2023, there were no ATC pre-departure delay at ENBR.

6. All Causes Pre-departure Delay

The calculation of the All causes pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Oslo but not implemented at Bergen. Therefore the monitoring of this indicator in Norway is limited to Oslo.
The total (all causes) delay in the actual off block time at Oslo decreased in 2023 (ENGM: 2020: 5.01 min/dep.; 2021: 6.74 min/dep.; 2022: 12.74 min/dep.; 2023: 11.13 min/dep.) and resulted in the second lowest value among the RP3 monitored airports.

According to Norway's monitoring report: *Average time of all cause departure delay per flight in 2023 was reduced at ENGM compared to 2022 and is well below the level of delay experienced in 2019.*
Same as for ATC pre-departure delay, this indicator should be available for Bergen as of 2024.
For the months October-December 2023, average time of all cause departure delay per IFR flight at ENBR was calculated by Avinor to 8,44.

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Bergen/Flesland-ENBR	0.01	0.01	0.02	0.01		98.9%	98.4%	98.7%	98.8%		n/a	n/a	n/a	n/a		n/a	n/a	n/a	n/a	
Oslo/Gardermoen-ENGM	0.05	0.01	0.17	0.3		98.4%	99.4%	99.4%	99.4%		0.05	0.06	0.10	0.11		5.01	6.74	12.74	11.13	
Stavanger/Sola-ENZV	0.03	0.01	0.03	0		97.4%	93.2%	98.6%	98.6%		-	-	-	-		-	-	-	-	
Trondheim/Vaernes-ENVA	0.03	0	0	0		98.9%	98.0%	99.3%	99.0%		-	-	-	-		-	-	-	-	

NORWAY: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Norway ECZ represents 1.9% of the SES en route ANS actual costs in 2023
- National currency: NOK Exchange rates (1 EUR=) 2017: 9.32776 NOK 2023: 11.4099 NOK
- Performance Plan: RP3 draft performance plan dated 23 February 2022 and found consistent as per ESA Decision 069/22/COL of 6 April 2022
  The final version of the plan was adopted and published by Norway in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Norway: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal NOK)	1 062 829 022	1 137 252 345	2 200 081 367	1 214 521 187	1 237 546 593	1 268 465 176
Inflation %	1.2%	2.2%		2.0%	2.0%	2.0%
Inflation index (100 in 2017)	106.6	109.0		111.2	113.4	115.6
Real en route costs (NOK2017)	1 012 905 492	1 067 536 208	2 080 441 700	1 120 940 259	1 125 662 157	1 136 639 931
Total en route service units	1 229 871	1 406 724	2 636 595	2 048 218	2 316 485	2 472 291
Real en route DUC per service unit (NOK2017)	**823.59**	**758.88**	**789.06**	**547.28**	**485.94**	**459.75**
Real en route DUC per service unit (€2017)	**88.29**	**81.36**	**84.59**	**58.67**	**52.10**	**49.29**

Norway: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal NOK)	1 062 829 022	1 144 598 776	2 207 427 797	1 193 134 900	1 263 856 768	
Inflation %	1.2%	3.9%		6.2%	5.8%	
Inflation index (100 in 2017)	106.6	110.8		117.7	124.5	
Real en route costs (NOK2017)	1 012 905 492	1 060 231 867	2 073 137 358	1 055 263 902	1 072 411 300	
Total en route service units	1 229 871	1 445 483	2 675 354	2 071 287	2 328 670	
Real en route AUC per service unit (NOK2017)	**823.59**	**733.48**	**774.90**	**509.47**	**460.53**	
Real en route AUC per service unit (€2017)	**88.29**	**78.63**	**83.07**	**54.62**	**49.37**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal NOK)	in value	0	7 346 431	7 346 431	-21 386 287	26 310 175	
	in %	-	+0.6%	+0.3%	-1.8%	+2.1%	
Inflation %	in p.p.	0.0 p.p.	1.7 p.p.		4.2 p.p.	3.8 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.8 p.p.		6.5 p.p.	11.1 p.p.	
Real en route costs (NOK2017)	in value	0	-7 304 341	-7 304 341	-65 676 357	-53 250 857	
	in %	-	-0.7%	-0.4%	-5.9%	-4.7%	
Total en route service units	in value	0	38 759	38 759	23 069	12 185	
	in %	-	+2.8%	+1.5%	+1.1%	+0.5%	
Real en route unit cost per service unit (NOK2017)	**in value**	**0.00**	**-25.40**	**-14.16**	**-37.80**	**-25.41**	
	in %	**-**	**-3.3%**	**-1.8%**	**-6.9%**	**-5.2%**	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-2.72**	**-1.52**	**-4.05**	**-2.72**	
	in %	**-**	**-3.3%**	**-1.8%**	**-6.9%**	**-5.2%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -5.2% (or -25.41 NOK2017, -2.72 €2017) lower than the planned DUC. This results from the combination of lower than planned en route costs in real terms (-4.7%, or -53.3 MNOK2017, -5.7 M€2017) and slightly higher than planned TSUs (+0.5%). It should be noted that actual inflation index in 2023 was +11.1 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (+0.5%) falls inside the ±2% dead band. Hence gain of additional en route revenues is fully retained by the ANSPs (see items 10 to 14).

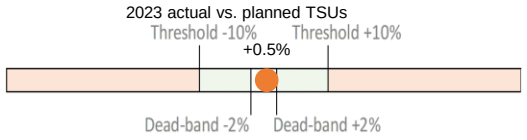
En route costs by entity

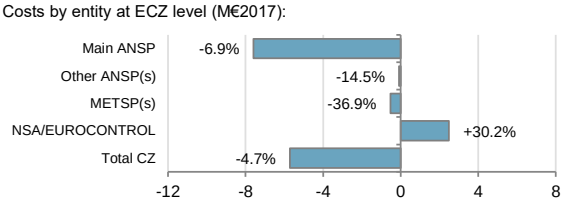
Actual real en route costs are -4.7% (-5.7 M€2017) lower than planned. This is the result of lower costs for the main ANSP, Avinor (-6.9%, or -7.6 M€2017), the MET service provider (-36.9%, or -0.5 M€2017) and the other ANSP (KJE, -14.5%, or -0.1 M€2017) and higher costs for the NSA/EUROCONTROL (+30.2%, or +2.5 M€2017).

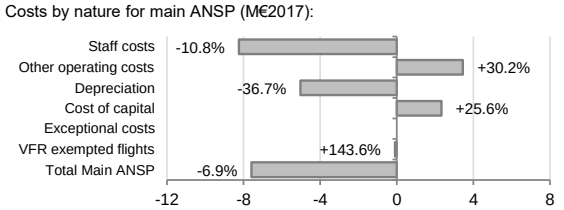
En route costs for the main ANSP (Avinor) at charging zone level

Significantly lower than planned en route costs in real terms for Avinor in 2023 (-6.9%, or -7.6 M€2017), while the costs were slightly above the plan in nominal terms (+0.8%) resulting from:

- Significantly lower staff costs (-10.8%) in real terns, while, in nominal terms costs were -2.1% below the plan, reflecting lower than planned growth in wages as well as "*increased project activity compared to plan, which moves costs from staff cost to cost of capital*";
- Significantly higher other operating costs (+30.2%), resulting from a combination of a write-off of an investment project as well as higher than planned travel costs, reversed provisions and higher than planned costs of service contracts for systems.
- Significantly lower depreciation (-36.7%), resulting from a combination of lower than planned effect of leases (IFRS16) and lower than planned depreciation of fixed assets.
- Significantly higher cost of capital (+25.6%) explained by increase in project costs related to the new ATM system as detailed above.
- Significantly higher deduction for VFR exempted flights (+143.6%).







NORWAY: En route charging zone

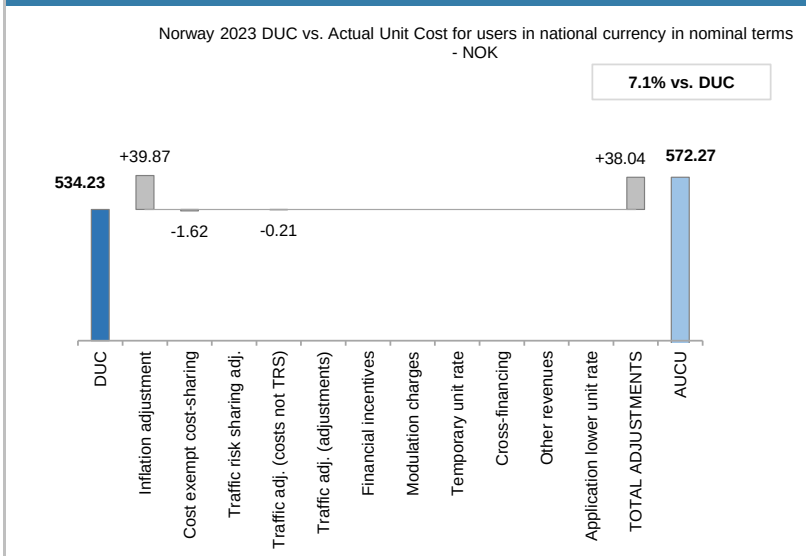
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	NOK/SU	€/SU
Initial DUC charged	534.23	46.82
DUC to be charged retroactively	0.00	0.00
DUC	**534.23**	**46.82**
Inflation adjustment	39.87	3.49
Cost exempt from cost-sharing	-1.62	-0.14
Traffic risk sharing adjustment	0.00	0.00
Traffic adj. (costs not TRS)	-0.21	-0.02
Traffic adj. (adjustments)*		
Financial incentives	0.00	0.00
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	0.00	0.00
Application of lower unit rate	0.00	0.00
Total adjustments	38.04	3.33
AUCU	**572.27**	**50.16**
AUCU vs. DUC	**+7.1%**	**+7.1%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

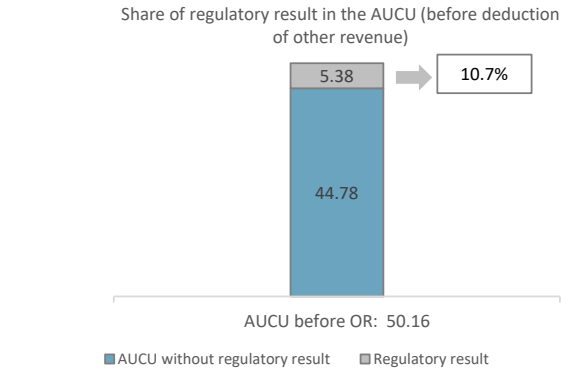
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		NOK '000	€ '000	NOK/SU	€/SU
by item	New and existing investments	-27 016	-2 368	-11.60	-1.02
	Competent authorities and qualified entities costs	723	63	0.31	0.03
	Eurocontrol costs	22 515	1 973	9.67	0.85
	Pension costs	0	0	0.00	0.00
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-3 778**	**-331**	**-1.62**	**-0.14**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	NOK '000	€ '000	NOK/SU	€/SU
Avinor (Continental)	135 207	11 850	58.06	5.09
KJE	1 747	153	0.75	0.07
METSP(s)	**NOK '000**	**€ '000**	**NOK/SU**	**€/SU**
Norway MET	6 085	533	2.61	0.23
Total charging zone	143 040	12 536	61.43	5.38
Actual cost for users* **	1 332 627	116 796	572.27	50.16
Regulatory result (% AUCU)	10.7%	10.7%	10.7%	10.7%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (572.27 NOK or 50.16 €) is +7.1% higher than the nominal DUC (534.23 NOK or 46.82 €). The difference between these two figures (+38.04 NOK/SU or +3.33 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+39.87 NOK/SU or +3.49 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-1.62 NOK/SU or -0.14 €/SU); and
- the deduction of the traffic adjustment (-0.21 NOK/SU or -0.02 €/SU) for the costs not subject to traffic risk sharing.

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 10.7%.

NORWAY: En route main ANSP (Avinor) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: Ex-ante and ex-post RoE are computed based on the notional gearing of 60% debt used in the RP3 PP. The actual gearing of Avinor should be reported.
Note 2: Ex-post RR does not take into account the application of lower unit rates as per Art. 29.6 in 2020-2021 and 2022 (loss in revenues for Avinor corresponds to -797 MNOK for 2020-2021 and -106 MNOK for 2022).

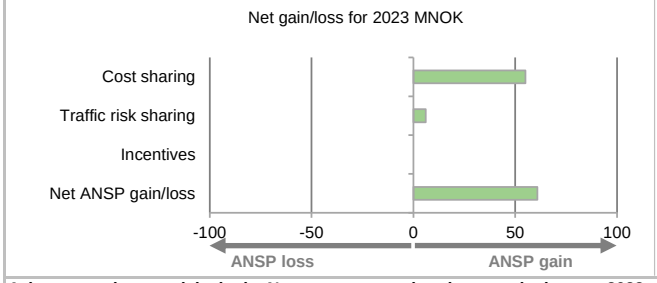
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

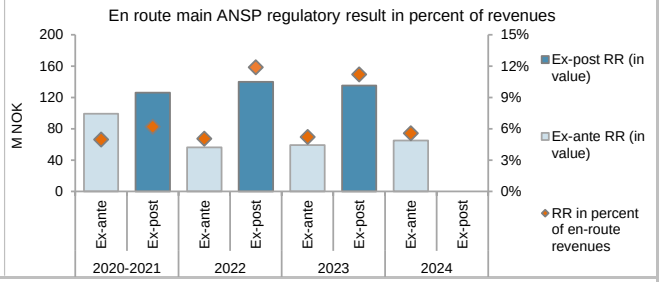
Cost sharing (NOK '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-20 153	17 036	-8 796	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	13 735	53 312	90 757	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	-3 466	-27 016	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-6 419**	**66 882**	**54 945**	
Traffic risk sharing (NOK '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.5%	1.1%	0.5%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	2 001 581	1 117 358	1 139 383	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**29 424**	**12 585**	**5 993**	
Incentives (NOK '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (NOK '000)	**23 005**	**79 467**	**60 938**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**2 264**	**7 871**	**5 341**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Avinor (Continental) planned regulatory result (NOK '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	1 054 273	1 378 474	2 432 746	1 378 597	1 449 380	1 590 886
Proportion of financing through equity (in %)	40%	40%	40%	40%	40%	40%
RoE pre-tax rate (in %)	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%
RoE (in value)	43 014	56 242	99 256	56 247	59 135	64 908
Ex-ante regulatory result (+/-) for the en route charging zone	**43 014**	**56 242**	**99 256**	**56 247**	**59 135**	**64 908**
Revenue for the en route charging zone	**971 539**	**1 030 041**	**2 001 581**	**1 117 358**	**1 139 383**	**1 169 597**
Ex-ante regulatory result (+/-) in percent of revenues	**4.4%**	**5.5%**	**5.0%**	**5.0%**	**5.2%**	**5.5%**
Ex-ante RoE pre-tax rate (in %)	**10.2%**	**10.2%**	**10.2%**	**10.2%**	**10.2%**	**10.2%**
Avinor (Continental) actual regulatory result (NOK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	1 054 273	1 474 720	2 528 993	1 485 119	1 820 327	
Proportion of financing through equity (in %)	40%	40%	40%	40%	40%	
RoE pre-tax rate (in %)	10.2%	10.2%	10.2%	10.2%	10.2%	
RoE (in value)	43 014	60 169	103 183	60 593	74 269	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	23 005	23 005	79 467	60 938	
Ex-post regulatory result (+/-) for the en route charging zone	**43 014**	**83 174**	**126 188**	**140 060**	**135 207**	
Revenue for the en route charging zone	**971 539**	**1 073 200**	**2 044 739**	**1 179 789**	**1 209 118**	
Ex-post regulatory result (+/-) in percent of revenues	**4.4%**	**7.8%**	**6.2%**	**11.9%**	**11.2%**	
Ex-post RoE pre-tax rate (in %)	**10.2%**	**14.1%**	**12.5%**	**23.6%**	**18.6%**	

13. Focus on the main ANSP regulatory result on en route activity





Avinor net gain on activity in the Norway en route charging zone in the year 2023

Avinor reported a net gain of +60.9 MNOK, as a combination of a gain of +54.9 MNOK arising from the cost sharing mechanism, with a gain of +6.0 MNOK arising from the traffic risk sharing mechanism.

Avinor overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+60.9 MNOK) and the actual RoE (+74.3 MNOK) amounts to +135.2 MNOK (11.2% of the en route revenues). The resulting ex-post rate of return on equity is 18.6%, which is higher than the 10.2% planned in the PP. See also **Note 1** in box 10 above.

NORWAY: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity

KJE planned regulatory result (NOK '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	3 827	6 000	9 827	6 092	6 184	6 276
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
KJE actual regulatory result (NOK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	215	215	2 126	1 747	
Revenue for the en route charging zone	3 827	6 244	10 071	6 517	6 822	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	3.4%	2.1%	32.6%	25.6%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Norway MET planned regulatory result (NOK '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	10 239	14 431	24 670	14 724	15 019	15 320
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Norway MET actual regulatory result (NOK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	2 032	2 032	3 689	6 085	
Revenue for the en route charging zone	10 239	14 671	24 910	15 585	16 490	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	13.9%	8.2%	23.7%	36.9%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSPs planned regulatory result (NOK '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	14 067	20 431	34 497	20 816	21 203	21 597
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Total other ANSPs actual regulatory result (NOK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	2 247	2 247	5 814	7 833	
Revenue for the en route charging zone	14 067	20 915	34 982	22 102	23 312	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	10.7%	6.4%	26.3%	33.6%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Norway (KJE and Norway MET) corresponds to 33.6% of the en route revenues. The RoE cannot be calculated for KJE and Norway MET, as they have no equity. It should be noted that KJE and Norway MET do not charge the cost of capital.

NORWAY: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Norway TCZ represents 3.6% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 4 of which:
  - Airports with fewer than 80,000 IFR mvmts: 2
  - Airports with more than 80,000 IFR mvmts: 2
- National currency: NOK Exchange rates (1 EUR=) 2017: 9.32776 NOK 2023: 11.4099 NOK
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Norway: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal NOK)	409 579 091	411 164 202	820 743 293	409 243 459	430 889 417	446 675 240
Inflation %	1.2%	2.2%		2.0%	2.0%	2.0%
Inflation index (100 in 2017)	106.6	109.0		111.2	113.4	115.6
Real terminal costs (NOK2017)	388 508 806	382 988 070	771 496 875	374 977 851	388 790 356	396 881 896
Total terminal service units	134 330	139 240	273 570	204 803	240 423	258 338
Real terminal DUC per service unit (NOK2017)	**2 892.20**	**2 750.56**	**2 820.11**	**1 830.92**	**1 617.11**	**1 536.29**
Real terminal DUC per service unit (€2017)	**310.06**	**294.88**	**302.34**	**196.29**	**173.37**	**164.70**

Norway: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal NOK)	409 579 091	418 799 778	828 378 869	452 886 757	506 628 774	
Inflation %	1.2%	3.9%		6.2%	5.8%	
Inflation index (100 in 2017)	106.6	110.8		117.7	124.5	
Real terminal costs (NOK2017)	388 508 806	385 000 690	773 509 496	394 992 626	420 735 526	
Total terminal service units	134 330	136 797	271 127	220 067	227 740	
Real terminal AUC per service unit (NOK2017)	**2 892.20**	**2 814.39**	**2 852.94**	**1 794.88**	**1 847.44**	
Real terminal AUC per service unit (€2017)	**310.06**	**301.72**	**305.85**	**192.42**	**198.06**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal NOK)	in value	0	7 635 576	7 635 576	43 643 298	75 739 357	
	in %	-	+1.9%	+0.9%	+10.7%	+17.6%	
Inflation %	in p.p.	0.0 p.p.	1.7 p.p.		4.2 p.p.	3.8 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.8 p.p.		6.5 p.p.	11.1 p.p.	
Real terminal costs (NOK2017)	in value	0	2 012 620	2 012 620	20 014 775	31 945 169	
	in %	-	+0.5%	+0.3%	+5.3%	+8.2%	
Total terminal service units	in value	0	-2 443	-2 443	15 264	-12 683	
	in %	-	-1.8%	-0.9%	+7.5%	-5.3%	
Real terminal unit cost per service unit (NOK2017)	**in value**	**0.00**	**63.83**	**32.83**	**-36.04**	**230.33**	
	in %	**-**	**+2.3%**	**+1.2%**	**-2.0%**	**+14.2%**	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**6.84**	**3.52**	**-3.86**	**24.69**	
	in %	**-**	**+2.3%**	**+1.2%**	**-2.0%**	**+14.2%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +14.2% (or +230.33 NOK2017, +24.69 €2017) higher than the planned DUC. This results from the combination of significantly higher than planned terminal costs in real terms (+8.2%, or +31.9 MNOK2017, +3.4 M€2017) and significantly lower than planned TNSUs (-5.3%). It should be noted that actual inflation index in 2023 was +11.1 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-5.3%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

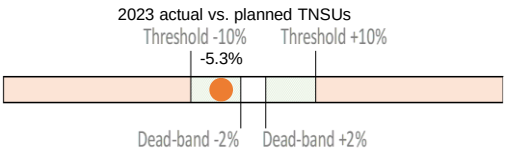
Terminal costs by entity

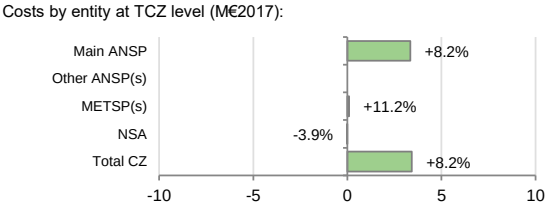
Actual real terminal costs are +8.2% (+3.4 M€2017) higher than planned. This is the result of higher costs for the main ANSP, Avinor (+8.2%, or +3.3 M€2017) and the MET service provider (+11.2%, or +0.1 M€2017) and lower costs for the NSA (-3.9%).

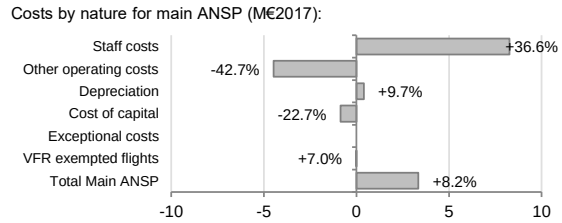
Terminal costs for the main ANSP (Avinor) at charging zone level

Significantly higher than planned terminal costs in real terms for Avinor in 2023 (+8.2%, or +3.3 M€2017) result from:

- Significantly higher staff costs (+36.6%), reflecting i) higher salary, pension and overtime costs and ii) a change in cost accounting methodology which "*results in an increase in staff costs and a reduction in other operating costs accordingly*".
- Significantly lower other operating costs (-42.7%), primarily resulting from the change in cost accounting methodology as detailed above.
- Significantly higher depreciation (+9.7%),
- Significantly lower cost of capital (-22.7%) explained by "*delay in projects, mainly related to the new OSL tower system*."
- Significantly higher deduction for VFR exempted flights (+7.0%).







NORWAY: Terminal charging zone

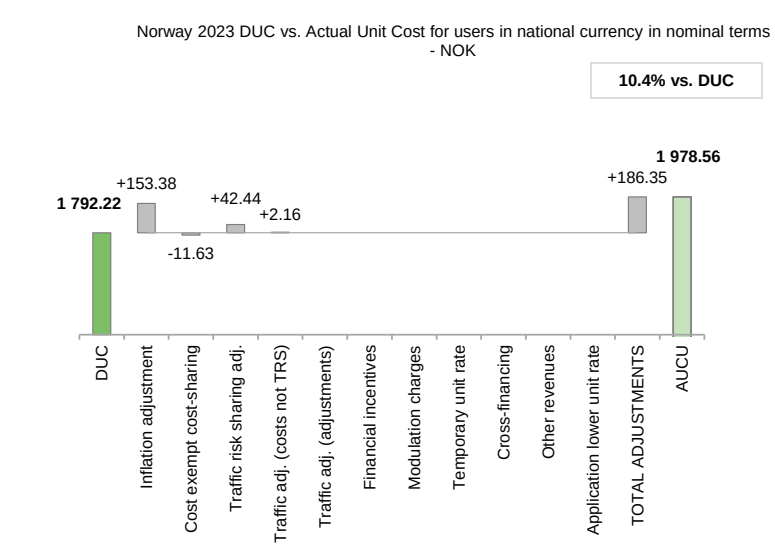
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	NOK/SU	€/SU
Initial DUC charged	1 792.22	157.08
DUC to be charged retroactively	0.00	0.00
DUC	**1 792.22**	**157.08**
Inflation adjustment	153.38	13.44
Cost exempt from cost-sharing	-11.63	-1.02
Traffic risk sharing adjustment	42.44	3.72
Traffic adj. (costs not TRS)	2.16	0.19
Traffic adj. (adjustments)*		
Financial incentives	0.00	0.00
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	0.00	0.00
Application of lower unit rate	0.00	0.00
Total adjustments	186.35	16.33
AUCU	**1 978.56**	**173.41**
AUCU vs. DUC	**10.4%**	**10.4%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

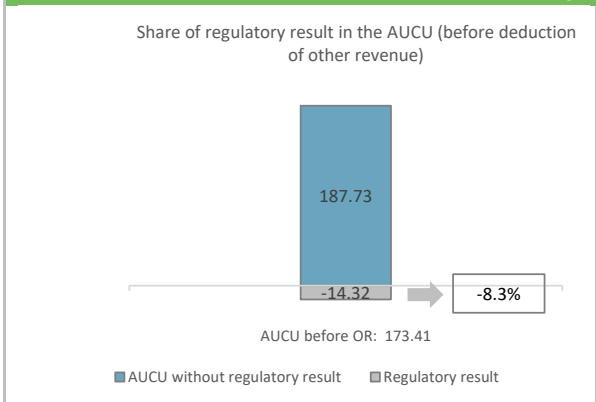
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		NOK '000	€ '000	NOK/SU	€/SU
by item	New and existing investments	-4 220	-370	-18.53	-1.62
	Competent authorities and qualified entities costs	-34	-3	-0.15	-0.01
	Eurocontrol costs	0	0	0.00	0.00
	Pension costs	1 606	141	7.05	0.62
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-2 648**	**-232**	**-11.63**	**-1.02**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	NOK '000	€ '000	NOK/SU	€/SU
Avinor	-36 167	-3 170	-158.81	-13.92
METSP(s)	**NOK '000**	**€ '000**	**NOK/SU**	**€/SU**
Norway-MET	-1 033	-91	-4.54	-0.40
Total charging zone	-37 200	-3 260	-163.34	-14.32
Actual cost for users* **	450 598	39 492	1 978.56	173.41
Regulatory result (% AUCU)	-8.3%	-8.3%	-8.3%	-8.3%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (1978.56 NOK or 173.41 €) is +10.4% higher than the nominal DUC (1792.22 NOK or 157.08 €). The difference between these two figures (+186.35 NOK/SU or +16.33 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+153.38 NOK/SU or +13.44 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-11.63 NOK/SU or -1.02 €/SU);
- the addition of the traffic risk sharing adjustments (+42.44 NOK/SU or +3.72 €/SU); and
- the addition of the traffic adjustment (+2.16 NOK/SU or +0.19 €/SU) for the costs not subject to traffic risk sharing.

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is -8.3%.

NORWAY: Terminal main ANSP (Avinor) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: Ex-ante and ex-post RoE are computed based on the notional gearing of 60% debt used in the RP3 PP. The actual gearing of Avinor should be reported.
Note 2: Ex-post RR does not take into account the application of lower unit rates as per Art. 29.6 in 2020-2021 and 2022 (loss in revenues for Avinor corresponds to -359 MNOK for 2020-2021 and -40 MNOK for 2022).

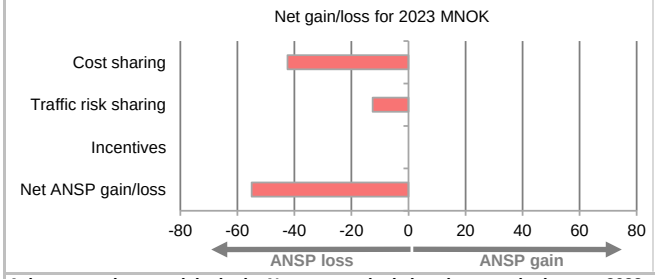
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

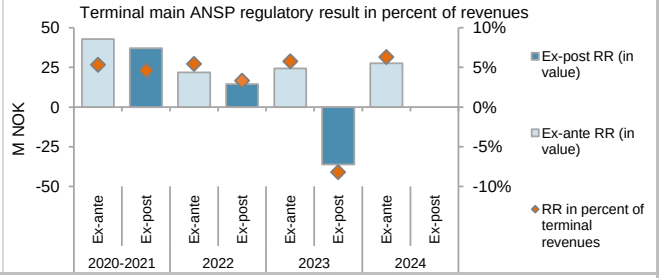
Cost sharing (NOK '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-4 434	-41 561	-73 915	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	5 553	19 483	34 105	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	-2 614	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**1 119**	**-22 078**	**-42 423**	
Traffic risk sharing (NOK '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-0.9%	7.5%	-5.3%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	803 043	400 118	421 581	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-7 171**	**14 548**	**-12 574**	
Incentives (NOK '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on terminal activity (NOK '000)	**-6 051**	**-7 530**	**-54 997**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**-596**	**-746**	**-4 820**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Avinor planned regulatory result (NOK '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	516 798	531 951	1 048 749	535 908	597 361	676 414
Proportion of financing through equity (in %)	40%	40%	40%	40%	40%	40%
RoE pre-tax rate (in %)	10.2%	10.2%	10.2%	10.2%	10.2%	10.2%
RoE (in value)	21 085	21 704	42 789	21 865	24 372	27 598
Ex-ante regulatory result (+/-) for the terminal charging zone	**21 085**	**21 704**	**42 789**	**21 865**	**24 372**	**27 598**
Revenue for the terminal charging zone	**400 825**	**402 218**	**803 043**	**400 118**	**421 581**	**437 181**
Ex-ante regulatory result (+/-) in percent of revenues	**5.3%**	**5.4%**	**5.3%**	**5.5%**	**5.8%**	**6.3%**
Ex-ante RoE pre-tax rate (in %)	**10.2%**	**10.2%**	**10.2%**	**10.2%**	**10.2%**	**10.2%**
Avinor actual regulatory result (NOK '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	516 798	540 607	1 057 404	538 183	461 537	
Proportion of financing through equity (in %)	40%	40%	40%	40%	40%	
RoE pre-tax rate (in %)	10.2%	10.2%	10.2%	10.2%	10.2%	
RoE (in value)	21 085	22 057	43 142	21 958	18 831	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	-6 051	-6 051	-7 530	-54 997	
Ex-post regulatory result (+/-) for the terminal charging zone	**21 085**	**16 005**	**37 091**	**14 428**	**-36 167**	
Revenue for the terminal charging zone	**400 825**	**400 601**	**801 426**	**434 149**	**440 499**	
Ex-post regulatory result (+/-) in percent of revenues	**5.3%**	**4.0%**	**4.6%**	**3.3%**	**-8.2%**	
Ex-post RoE pre-tax rate (in %)	**10.2%**	**7.4%**	**8.8%**	**6.7%**	**-19.6%**	

13. Focus on main ANSP regulatory result on terminal activity





Avinor net gain on activity in the Norway terminal charging zone in the year 2023

Avinor reported a net loss of -55.0 MNOK, as a combination of a loss of -42.4 MNOK arising from the cost sharing mechanism, with a loss of -12.6 MNOK arising from the traffic risk sharing mechanism.

Avinor overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-55.0 MNOK) and the actual RoE (+18.8 MNOK) amounts to -36.2 MNOK (8.2% of the terminal revenues). The resulting ex-post rate of return on equity is -19.6%. See also **Note 1** in box 10 above.

NORWAY: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Norway-MET planned regulatory result (NOK '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**7 930**	**8 104**	**16 034**	**8 266**	**8 431**	**8 600**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Norway-MET actual regulatory result (NOK '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**-3 114**	**-3 114**	**-1 659**	**-1 033**	
Revenue for the terminal charging zone	**7 930**	**8 239**	**16 168**	**8 750**	**9 257**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**-37.8%**	**-19.3%**	**-19.0%**	**-11.2%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Norway (Norway MET) corresponds to -11.2% of the terminal revenues. The RoE cannot be calculated for the MET service provider, as it has no equity. It should be noted that Norway MET does not charge the cost of capital.

NORWAY: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Norway

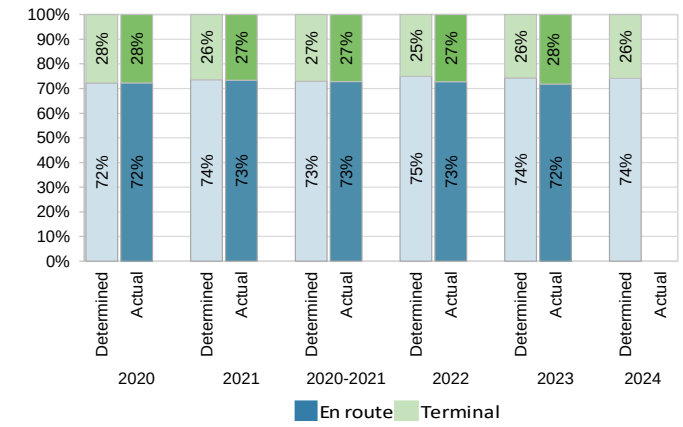
Terminal charging zone 1: Norway

Norway: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	108 590 432	114 447 221	223 037 653	120 172 502	120 678 722	121 855 615
Real terminal costs (€2017)	41 650 815	41 058 954	82 709 769	40 200 204	41 680 999	42 548 468
Real gate-to-gate costs (€2017)	150 241 247	155 506 175	305 747 422	160 372 706	162 359 721	164 404 083
En route share (%)	72.3%	73.6%	72.9%	74.9%	74.3%	74.1%

Norway: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	108 590 432	113 664 145	222 254 578	113 131 545	114 969 864	
Real terminal costs (€2017)	41 650 815	41 274 721	82 925 536	42 345 925	45 105 741	
Real gate-to-gate costs (€2017)	150 241 247	154 938 866	305 180 113	155 477 470	160 075 605	
En route share (%)	72.3%	73.4%	72.8%	72.8%	71.8%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-567 309	-567 309	-4 895 235	-2 284 116	
	in %	0.0%	-0.4%	-0.2%	-3.1%	-1.4%	
En route share	in p.p.	0.0 p.p.	-0.2 p.p.	-0.1 p.p.	-2.2 p.p.	-2.5 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -1.4% (-2.3 M€2017) lower than planned, as en route costs are lower than planned by -5.7 M€2017 and terminal costs are higher than planned by +3.4 M€2017.

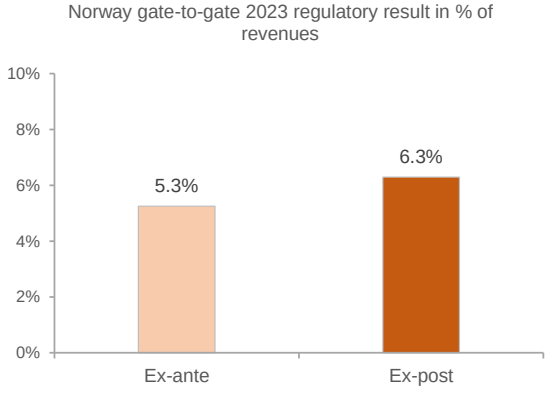
The actual share of en route in gate-to-gate ANS costs (71.8%) is lower than planned in the PP for 2023 (74.3%).

3. Gate-to-gate regulatory result (RR) 2023

In NOK '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Avinor (Continental)	83 507	1 560 965	5.3%		99 041	1 649 616	6.0%	
KJE	0	6 184	0.0%		1 747	6 822	25.6%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Norway MET	0	23 451	0.0%		5 052	25 747	19.6%	
Total	**83 507**	**1 590 599**	**5.3%**		**105 840**	**1 682 185**	**6.3%**	

For the ANSPs providing services in the en route and terminal charging zones of Norway covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +105.8 MNOK (+143.0 MNOK for en route and -37.2 MNOK for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 6.3% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (5.3% of gate-to-gate revenues). See also **Note 1** in box 10 for en route and terminal charging zones.



Annual Monitoring Report 2023

Local level view

POLAND

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POLAND **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
PANSA	100	D	D	D	D	D
Port Lotniczy Bydgoszcz S.A.	77	C	C	C	C	C
Warmia i Mazury sp. z o.o.	79	C	C	D	C	C

Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.

Observations

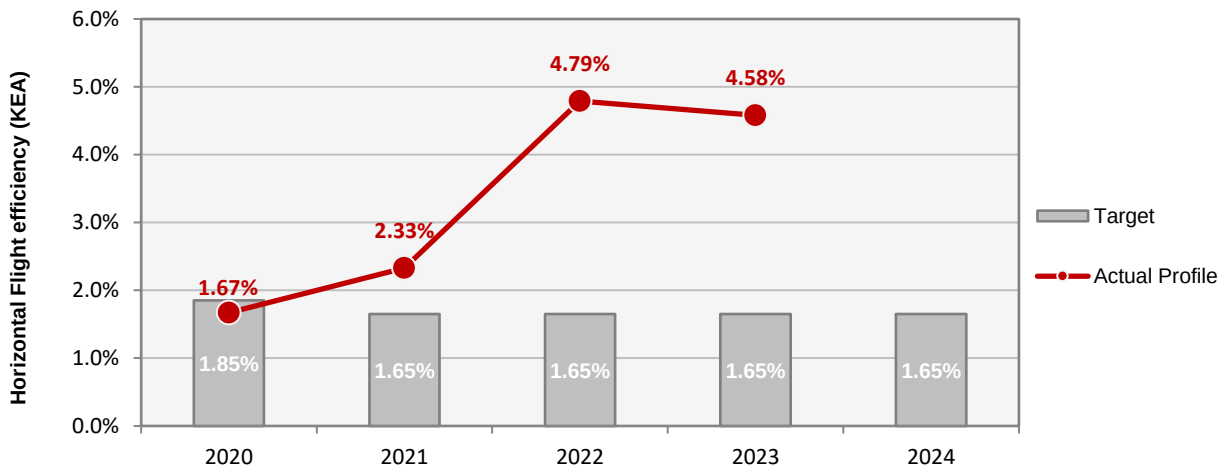
All five EoSM components of PANSA meet or exceed the RP3 target level. The ANSP has already achieved the maximum level of maturity.

Four out of five EoSM components of Port Lotniczy Bydgoszcz meet the RP3 target level with only "Safety Risk Management" is below the target. Improvements in "Safety Risk Management" are still required during RP3 to achieve RP3 targets.

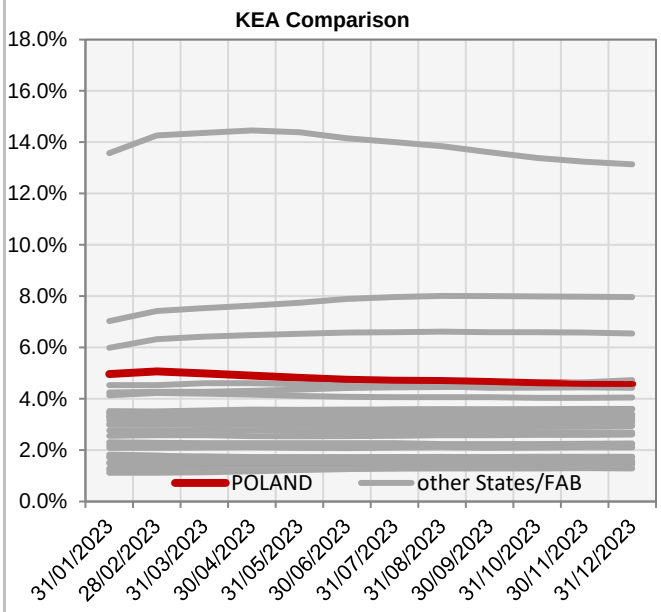
Warmia i Mazury achieved the RP3 target level for all five EoSM components in 2022 and maintained the levels over 2023.

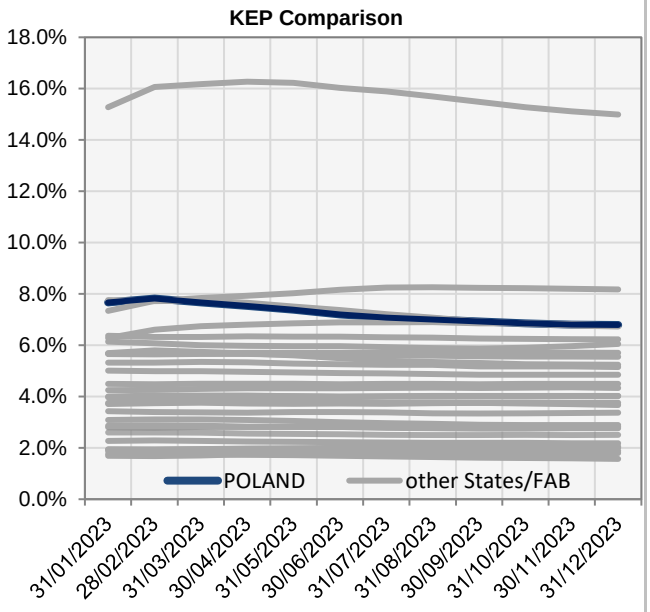
POLAND **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.85%	1.65%	1.65%	1.65%	1.65%
Actual performance	1.67%	2.33%	4.79%	4.58%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	4.97%	5.07%	4.99%	4.91%	4.82%	4.75%	4.71%	4.69%	4.66%	4.61%	4.59%	4.58%
KEP	7.67%	7.82%	7.67%	7.53%	7.39%	7.20%	7.08%	7.00%	6.93%	6.85%	6.81%	6.79%
KES	7.16%	7.35%	7.25%	7.15%	7.01%	6.83%	6.74%	6.68%	6.62%	6.55%	6.51%	6.49%





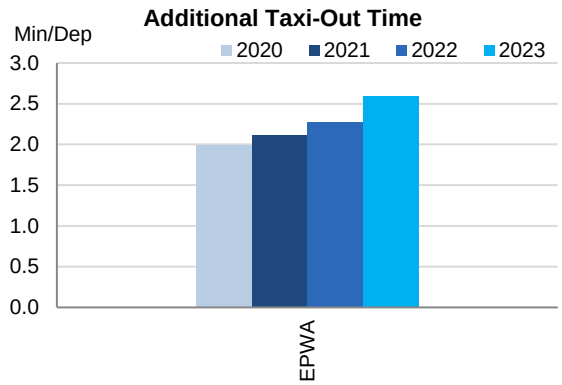
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

POLAND **ENVIRONMENT - Airports**

1. Overview

For Poland the scope of the RP3 monitoring comprises a total of 15 airports. However, in accordance with IR (EU) 2019/317 and the traffic figures, only the main airport Warsaw (EPWA) must be monitored for additional taxi-out and ASMA times.
The Airport Operator Data Flow, necessary for the monitoring of the additional times, is correctly established where required and the monitoring of all environment indicators can be performed.
Traffic at the ensemble of these 15 airports in 2023, after a 13% increase with respect to 2022, was almost back to precovid levels (-2,5% with respect to 2019)
Additional taxi-out times have slightly increased, while additional ASMA times have impoved marginally.
The shares of CDO flights have stayed relatively stable with respect to 2022 and almost all values are above the RP3 overall value in 2023 (28.8%).

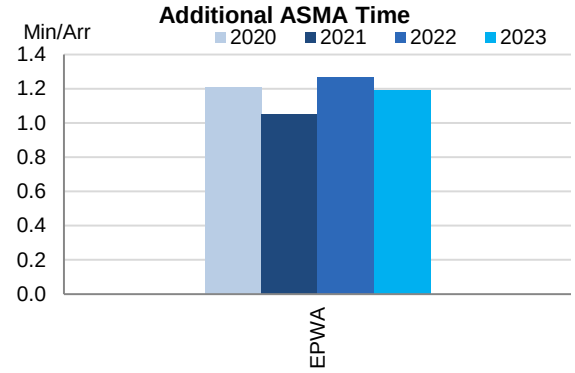
2. Additional Taxi-Out Time



Additional taxi-out times at Warsaw (EPWA; 2019: 3.43 min/dep.; 2020: 1.99 min/dep.; 2021: 2.11 min/dep.; 2022: 2.28 min/dep.; 2023: 2.59 min/dep.) slightly increased once more, although remained under the SES average for 2023 (2.81 min/dep.)

According to the Polish monitoring report:
2023 additional taxi-out time may be attributed to significant airside work in progress. Ongoing work on revalidating A-CDM may be a factor in reducing this index in near future. Planned initiatives include Traffic Complexity Tool (Fast time simulations) and A-SMGCS.

3. Additional ASMA Time

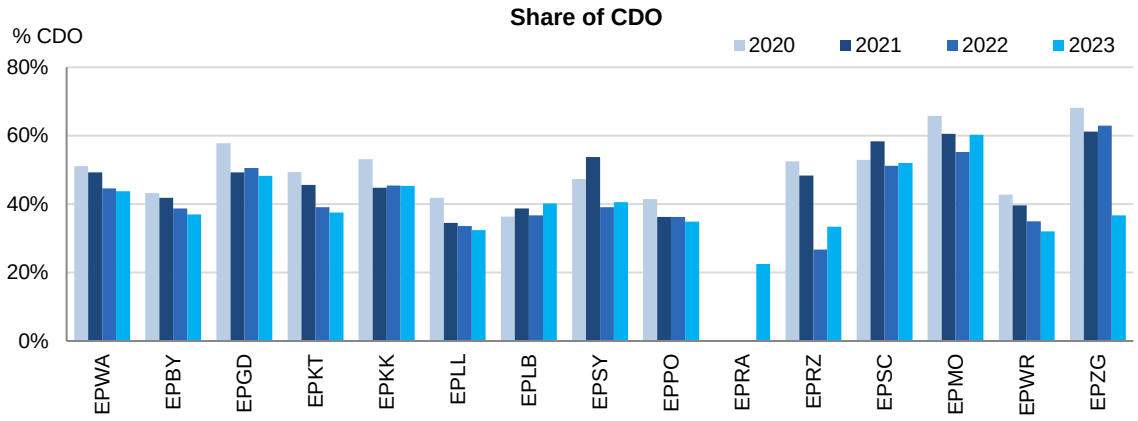


Additional times in the terminal airspace of Warsaw (EPWA; 2019: 2.09 min/arr.; 2020: 1.21 min/arr.; 2021: 1.05 min/arr.; 2022: 1.27 min/arr.; 2023: 1.19 min/arr.) in 2023 decreased slighlty but they still exceed the SES average of 1.16 min/arr.

For information on measures implemented over 2020-2022, the Polish monitoring report refers to the respective Annual Monitoring Reports.

For 2023, the Polish monitoring report mentions: *There are several changes in Warszawa TMA planned to reduce the additional time in that airspace. A change to the radar separation minimum from 5 NM to 3 NM in the TMA is planned as well as a partial implementation of RECAT-EU. Both of these changes are expected to allow to reduce the distance flown by the aircraft in the terminal airspace thus reducing the time. Moreover, sectorisation change of the Warszawa TMA is planned that is expected to bring further improvement. All of the above-mentioned changes are planned to be implemented early RP4.*

4. Share of arrivals applying CDO



All airports have shares of CDO flights (well) above the overall RP3 value in 2023 (28.8%) except for Rzeszów-Jasionka (EPRZ - 22.5%).
Lublin, Olsztyn-Mazury, Rzeszów-Jasionka, Szczecin-Goleniów and Warszawa/Modlin had (slightly) higher values than in 2022 (EPLB: +3.5 percentage points; EPSY: +1.5 percentage points; EPRZ: +6.7 percentage points; EPSC: + 0.8 percentage points; EPMO: + 5.0 percentage points) while the values for the other airports decreased (between -26.2 and -0.1 percentage points).

According to the Polish monitoring report: *For information on measures implemented over 2020-2022 please see the respective Annual Monitoring Reports.*
Planned reduction of the radar separation minimum in Warszawa TMA from 5 NM to 3 NM is expected to allow a greater number of operations to be performed as CDA. The change is planned to be implemented early RP4.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Chopina w Warszawie-EPWA	1.99	2.11	2.28	2.59		1.21	1.05	1.27	1.19		51%	49%	45%	44%	
Bydgoszcz-EPBY	-	-	-	-		-	-	-	-		43%	42%	39%	37%	
EPGD	-	-	-	-		-	-	-	-		58%	49%	51%	48%	
Katowice-Pyrzowice-EPKT	-	-	-	-		-	-	-	-		49%	46%	39%	38%	
Kraków-Balice-EPKK	-	-	-	-		-	-	-	-		53%	45%	45%	45%	
Łódź-EPLL	-	-	-	-		-	-	-	-		42%	35%	34%	32%	
Lublin-EPLB	-	-	-	-		-	-	-	-		36%	39%	37%	40%	
Olsztyn-Mazury-EPSY	-	-	-	-		-	-	-	-		47%	54%	39%	41%	
Poznań-Ławica-EPPO	-	-	-	-		-	-	-	-		42%	36%	36%	35%	
Radom-Sadków-EPRA	-	-	-	-		-	-	-	-		n/a	n/a	n/a	22%	
Rzeszów-Jasionka-EPRZ	-	-	-	-		-	-	-	-		52%	48%	27%	33%	
Szczecin-Goleniów-EPSC	-	-	-	-		-	-	-	-		53%	58%	51%	52%	
Warszawa/Modlin-EPMO	-	-	-	-		-	-	-	-		66%	61%	55%	60%	
Wrocław-Strachowice-EPWR	-	-	-	-		-	-	-	-		43%	40%	35%	32%	
Zielona Góra-Babimost-EPZG	-	-	-	-		-	-	-	-		68%	61%	63%	37%	

POLAND **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

"There are over 30 permanent military areas extending over FL95 in FIR EPWW that have the impact on civil traffic flows and thereby can influence the horizontal flight efficiency indicator. Additionally, in FIR EPWW recurring significant multinational NATO military exercises are held including: Anakonda, Astral Knight, AV-DET Rotation, Baltops, Defender, Dragon, Rammstein Guard, Tobruq Legacy. Due to large scale of those exercises there are aircraft stopovers and regroupings on military aerodromes in FIR EPWW that increase the load on ACC GAT and OAT Warszawa that might impact the route efficiency of civil aircrafts. Military aerodromes, including EPLK, EPKS, EPPW, EPMM, are located nearby the main civil aerodromes.
There are agreed procedures and LoA signed between PANSA and the Military side describing the process of airspace management at pre-tactical and tactical level in order to optimise its use. The procedures are continuously updated according to the current needs of both the civilian and military sides. The local ASM system (CAT) automatically exchanges the data with the Network Manager system. ASM information is available in ATM system, additionally published on PANSA website."

Military - related measures implemented or planned to improve capacity

"On strategic airspace management level, all significant military exercises and permanent military areas are evaluated and analysed taking into account historic civil traffic flows and civil traffic predictions taking into account both entry count and occupancy.
The locations of the military activities are, whenever possible, designed not to affect the main traffic flows, ATC routes, DCTs and BALTIC FAB connectivity and to have minimal or even no impact on capacity. Segmentation, time and level restrictions are imposed when needed to mitigate the impact in location in heavy traffic periods of the day. If possible, class C TRA airspace is implemented to minimize the impact on civil operations.
Further measures include:
- update of local ASM system/radar data added to visualize military activity in segregated areas. As a result, update of coordination procedures to reduce the time required to release segregated areas back to civil traffic.
- implementation of closer cooperation between AMC Poland and FMP Warszawa in order to reduce as much as possible negative influence of segregated areas on civil traffic. Implementation of new coordination procedures (NPZ management) taking into account forecasted demand of civil traffic on segregated airspace allocation in time on the day of the operations."

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Poland	36%	36%	40%	44%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Warsaw	36%	36%	40%	44%	

Initiatives implemented or planned to improve PI#6

"On strategic airspace management level, all significant exercises and permanent areas are evaluated and analysed taking into account historic civil traffic flows and civil traffic predictions.
The impact, depending on the scale, is consulted with the key stakeholders including neighboring states, aerodrome operators, aircraft operators, ATS, military, EUROCONTROL NM.
The lateral and vertical limits of the airspace elements published are designated considering the actual needs of users and nature of activities. All airspace elements shall be planned only for the time period necessary to perform the intended task. The user is obliged to specify precisely the period of activity of a selected element and all timely suspensions of activity between these periods.
The locations of the activities are designed not to affect the main traffic flows, ATC routes, DCTs and FRA connectivity. Segmentation, time and level restrictions are imposed when needed to mitigate the impact in location in heavy traffic periods of the day. If possible class C TRA airspace is implemented to minimize the impact on civil routing.
When the areas excess the set scale they are always divided into smaller modules/segments. Each of these segments is designed in order to fit particular activities without necessity to activate the whole area to perform specific assignments. The shape of these segments is always aligned with main civil traffic flows to minimize the horizontal flight inefficiency.
Further measures include:
- update of local ASM system/radar data added to visualize military activity in segregated areas. As a result, update of coordination procedures to reduce the time required to release segregated areas back to civil traffic.
- implementation of closer cooperation between AMC Poland and FMP Warszawa in order to reduce as much as possible negative influence of segregated areas on civil traffic. Implementation of new coordination procedures (NPZ management) taking into account forecasted demand of civil traffic on segregated airspace allocation in time on the day of the operations.
Annual review of the efficiency of airspace utilization is conducted."

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Poland	60%	82%	81%	82%	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Warsaw	60%	82%	81%	82%	

Initiatives implemented or planned to improve PI#7

"The available flight planning options are constantly updated to allow Aircraft Operator (AO) to plan the most horizontally effective trajectory, even when the areas are active. Except ATS network and DCTs, the AOs have the possibility to plan in the Free Route Airspace environment (FRA). Implementation of cross-border free route airspace operations within Lithuanian and Polish airspace (BALTIC FRA) and the cross border operations between BALTIC FRA and South East Europe FRA were implemented in 1Q 2022 which could further increase the planning opportunities. It is planned to further expand cross-border options by implementation of cross-border FRA operations between Poland, Czechia and Sweden by the end of 2024.
The lateral and vertical limits of the airspace elements published are designated considering the actual needs of users and nature of activities. All airspace elements shall be planned only for the time period necessary to perform the intended task. The user is obliged to specify precisely the period of activity of a selected element and all timely suspensions of activity between these periods.
Segmentation, time and level restrictions are imposed when needed to mitigate the impact in location in heavy traffic periods of the day. If possible class C TRA airspace is implemented to minimize the impact on civil routing.
Special procedures are prepared including dynamic change of level or segment and creation of new temporary routings for avoidance of military traffic.
Further measures include:
- update of local ASM system/radar data added to visualize military activity in segregated areas. As a result, update of coordination procedures to reduce the time required to release segregated areas back to civil traffic.
- implementation of closer cooperation between AMC Poland and FMP Warszawa in order to reduce as much as possible negative influence of segregated areas on civil traffic. Implementation of new coordination procedures (NPZ management) taking into account forecasted demand of civil traffic on segregated airspace allocation in time on the day of the operations.
Due to the war in Ukraine and significantly increased number of NATO flights in Polish airspace special procedures were implemented in order to easy flight planning process for AUs. For some areas FUA restrictions are dynamically managed and if possible are not activated on a given days."

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Poland	121%	130%	126%	127%	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Warsaw	121%	130%	126%	127%	

Initiatives implemented or planned to improve PI#8

"The lateral and vertical limits of the airspace elements published are designated considering the actual needs of users and nature of activities. All airspace elements shall be planned only for the period necessary to perform the intended task. The user is obliged to specify precisely the period of activity of a selected element and all timely suspensions of activity between these periods.
Segmentation, time and level restrictions are imposed when needed to mitigate the impact in location in heavy traffic periods of the day. If possible class C TRA airspace is implemented to minimize the impact on civil routing.
Special procedures are prepared including dynamic change of level or area segment.
Further measures include:
- update of local ASM system/radar data added to visualize military activity in segregated areas. As a result, update of coordination procedures to reduce the time required to release segregated areas back to civil traffic.
- implementation of closer cooperation between AMC Poland and FMP Warszawa in order to reduce as much as possible negative influence of segregated areas on civil traffic. Implementation of new coordination procedures (NPZ management) taking into account forecasted demand of civil traffic on segregated airspace allocation in time on the day of the operations."

POLAND **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.30	0.07	0.12	0.12	0.12	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.00	0.07	1.09	0.20		

NSA's assessment of capacity performance

Performance over 2023 was strongly impacted by the consequence of the military aggression of the Russian Federation on Ukraine, a war right behind Poland's eastern border. The resulting closure of the Ukrainian airspace and further restrictions imposed on traffic flows on east-western axis (as a consequence of sanctions and reciprocal actions) led to significant changes to traffic flows in the Polish airspace (including drop in overflights and increase in traffic on the north-southern axis along Poland's eastern border). Uncertainty regarding traffic evolution in FIR Warszawa was still visible in 2023. At the same time, a direct consequence of the war was significant increase in military activity (including NATO) in FIR Warszawa, which impacted airspace availability for civil traffic. All this had an impact on capacity and increased complexity.

PANSA has to maintain its operational abilities aimed at allowing it to effectively respond to traffic increase once the military conflict is over and traffic flows come back to their pre-war, shorter, routes. This necessitated continuation of actions aimed at increasing capacity in subsequent years.

The results in the CAPACITY KPA at the end of 2023 year for Poland (PANSA) was 0,20 minutes/flight with a target of 0,12 minutes/flight.

The aggression of the Russian Federation against Ukraine has a significant impact on the air navigation services in Poland due to the introduction of a number of restrictions in FIR Warszawa. A direct consequence of this situation are significant delays in Polish airspace, especially the en route delays rate.

Monitoring process for capacity performance

Evolution of capacity situation and delays is performed every day based on own PANSA OPS data as well as NM data. Monthly monitoring is implemented based on EUROCONTROL (ANS performance) data. The results in the CAPACITY KPA at the end of 2023 year for Poland (PANSA) was 0,20 minutes/flight with a target of 0,12 minutes/flight. The significant increase of delays in Polish airspace, especially the en route delays rate is a direct consequence of the Russian Federation against Ukraine. This situation continues since the beginning of the invasion in February 2022.

Capacity Planning

Capacity planning over 2023 *focused on mid to long-term planning based on STATFOR forecasts, NM data, PANSA simulations as well as short term planning (up to 8 weeks) under the NOP rolling planning initiative coordinated by the Network Manager.*

Capacity planning, was challenging due to higher than pre-RP3 uncertainty regarding traffic levels as well as military activity resulting from the geopolitical developments.

Despite the war in Ukraine and challenges related thereto, PANSA continued implementing initiatives aimed at improving capacity in FIR Warszawa to meet challenges related to traffic increase after the crisis as well as potential changes in traffic flows.

These included, among others, the following:
- continuation of new ATCOs training (continued training process for trainees employed before the pandemic outbreak and trainees from recruitment processes started in 2022 (new ATCO course in 2022), as well as new recruitment process for ATCO started in 2023),
- continued adaptation of the air traffic management system (Pegasus_21) to operational needs and modernisation of the ATM system as well as works – under international iTEC cooperation – on new ATM system to be implemented in the future,
- use of tools supporting ATCOs and flow management optimisation (including use of Traffic Complexity Tool and NMP Flow),
- continued investments in infrastructure (CNS) and technology allowing for optimisation of airspace structures and optimisation of coverage in the Polish airspace as well as supporting contingency,
- implementation of the first stage of airspace three-layer vertical split (south-eastern part of the Polish airspace – JR sectors – operationally deployed in April 2023) and preparation for implementation of subsequent stages in RP4,
- reorganisation of Kraków TMA – new sectors, new SID/STAR procedures (operationally deployed in 2023),
- continued harmonisation of GAT and OAT traffic leading to implementation of EUROAT,
- refreshment trainings for current ATCOs to maintain their competence,
- continuation of flexible rostering,
- evolving ACC sector configurations and management to cope with updated traffic forecasts,
- continued FMP dynamic management and ATFCM techniques including STAM,
- improvement of comprehensive airspace management.

PANSA also actively contributed to the implementation of Summer 2023 NM measures aimed at limiting delays in the mostly congested parts of the Network.

Plans for 2024 *include continuation of the above listed initiatives, among others:*
- further works on reorganisation of ACC Warszawa sector configuration – three layer vertical division – further stages (planned to be operationally deployed in RP4),
- continuation of training process for new ATCOs (including new recruitments), with initiatives supporting increased efficiency of the recruitment and training processes,
- adaptation of the air traffic management system to operational needs and modernisation of the ATM System,
- continued investments in infrastructure (CNS) and technology allowing for optimisation of airspace structures and optimisation of coverage in the Polish airspace as well as supporting resilience, scalability and flexibility of service provision,
- development of CPDLC operational use (logon-list).

ATCO in OPS (FTE)							
Warsaw ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	173	183	189	194	
Actual	175	172	172	178	177		

Number of additional ATCOs in OPS who have started working in the OPS room (FTEs): 9 consists of:
6 - new licenses & 3 - shifts to PRU1 (ATCOs in OPS) category from other PRU categories.

Number of ATCOs in OPS who have stopped working in the OPS room (FTEs): 9,8 consists of:
4 – termination of the contract; 5 – shifts from PRU1 (ATCOs in OPS) category to other PRU categories &
0,8 – balance of increase and reduction of working time on the request of employee.

Application of Corrective Measures for Capacity (if applicable)

The following elements impacted the en-route delay indicator over 2023 that resulted in not meeting the target:
1. Military aggression of the Russian Federation on Ukraine,
2. Reorganisation of Kraków TMA.

On point 1 - the Russian aggression against Ukraine resulted in the introduction of restrictions in FIR Warszawa (specifically, along Poland's eastern border), impacting availability of the airspace for civil traffic. Much wider military activities are visible, also linked to increased number of NATO flights in eastern part of the Polish airspace. Significant portion of this part of the airspace is reserved for military flights (performed H24) thus unavailable for civil traffic. The limited capacity (caused directly by the political circumstances), coupled with increased demand in sectors group J (due to limited possibilities of planning through sector R, caused by NPZ), has an impact on delays in the Polish airspace. Moreover, unpredictability of certain military operations (including NATO ad hoc operations) results in difficulties for strategic planning of traffic flows, requiring implementation of tactical measures. The impact on delays can be especially visible during the period of higher traffic levels (when the traffic demand exceeds the available capacity in the parts of FIR Warszawa which were impacted by the restrictions).

On point 2 – the airspace reorganisation was necessary following analysis of delays recorded in 2019 as well as due to significant increase in traffic in South-Eastern part of the Polish airspace (especially to/from EPRZ airport) following the outbreak of the war in Ukraine. The change in TMA boundaries, new sectorization and new SID/STAR procedures were aimed at improving the traffic flow management and increasing capacity of the Kraków TMA. However, during the implementation phase, temporary reduction of occupancy values had to be applied, what impacted the level of delays – this impact was especially visible over September-October 2023.

The ANSP, PANSA, has implemented two specific measures to remedy the capacity situation:

- Improved sectorisation within the ACC - New sector configurations have been implemented in JKZR priotion of airspace since June 2022; and the first stage of a three-layer vertical airspace split was implemented in April 2023.

- Traffic flow management - evaluations of traffic flows, carried out on regular basis, in order to modify flows and move from congested areas to volumes of airspace where spare capacity can be found - this is ongoing.

Additional Information Related to Russia's War of Aggression Against Ukraine

The war in Ukraine and related geopolitical situation is expected to impact capacity indicator for Poland also in 2024. Due to unpredictability of the situation (unpredictability related to further evolution of the conflict and of possible impact on Poland) as well as uncertainty regarding military activities in FIR Warszawa, it is difficult to assess the possible impact on 2024 capacity results.

The biggest impact on en-route capacity performance for Poland is linked with increased military activity and related limited capacity available to civil traffic. As indicated above, much wider military activities in the Polish airspace are visible, also linked to increased number of NATO flights in eastern part of the Polish airspace. Significant portion of this part of airspace is reserved for military flights (performed H24), thus unavailable for civil traffic. At the same time, following closure of Ukrainian airspace and very limited possible use of Belarusian airspace, additional traffic flows are observed on the north-southern axis along the eastern Poland's border. The combination of limited airspace available and traffic demand leads to increase in delays. Moreover, unpredictability of certain military operations (including NATO ad hoc operations) results in difficulties for strategic planning of traffic flows, requiring implementation of tactical measures. The impact can be especially visible during the period of higher traffic levels (when the traffic demand exceeds the available capacity in the parts of FIR Warszawa which were impacted by the restrictions).

Following discussion with the Network Manager, since mid-March 2022 delays directly caused by the war in Ukraine have been marked as "O" (other) and thus also included in the data published by the Network Manager. Delays marked "O" are only related to the war in Ukraine and do not take into account other causes of delays. Certain delays marked "M" are also considered as related to the war in Ukraine. Over 2023, the delays coded "O" amounted to 2 635 minutes, while those coded "M" related to the war amounted to 569 minutes.

Mitigation measures implemented n regards to capacity include:

As indicated in Annual Monitoring Report for 2022 and above:
- PANSA implemented RAD measures and EU Restrictions that were aimed to reduce ATFCM delays within EPWW FIR sectors with limited capacity due to additional military activity.
- PANSA also implemented solutions aimed at minimising this negative impact, especially in the south-eastern part of the Polish airspace: level change of military areas, RAD and PTR to change EPRZ traffic profiles, new sector configurations in JKZR part since 17.06.2022, coordination with LZBB to unblock PODAN and KEFIR border points (above FL315).
- Further improvements in the sectorisation in the south-eastern part of the Polish airspace were made through introduction of three-layer vertical split (first stage implemented in April 2023).

Summary of capacity performance

Poland experienced an increase in traffic from 627k flight in 2022, with 669k minutes of ATFM delay, to 697k flights in 2023 with 136k minutes of en-route ATFM delay.

There was an additional 6k minutes of delay originating in Poland that were re-attributed to DFS via the NM post operations delay attribution process, according to the NMB agreement for eNM/S23 measures, to ameliorate capacity shortfalls in Karlsruhe UAC.

En route Capacity Incentive Scheme

Polish Air Navigation Serv	2020	2021	2022	2023	2024	Observations
National Capacity target	0.30	0.07	0.12	0.12	0.12	The NSA reports that a penalty of PLN 16 252 603 is due.
Deadband +/-	-	-	-	0.96 - 0.144	[0-0]	
Actual performance	0.00	0.07	1.09	0.20		

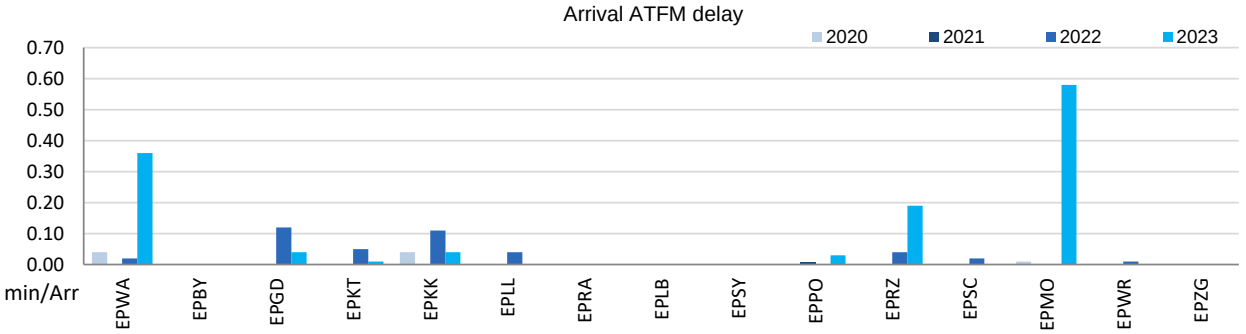
POLAND **CAPACITY - Airports**

1. Overview

For Poland the scope of the RP3 monitoring comprises a total of 15 airports. However, in accordance with IR (EU) 2019/317 and the traffic figures, only the main airport Warsaw (EPWA) must be monitored for the pre-departure delay indicators.
The Airport Operator Data Flow, necessary for the monitoring of the pre-departure delays, is correctly established where required and the monitoring of these indicators can be performed.
Traffic at the ensemble of these 15 airports in 2023, after a 13% increase with respect to 2022, was almost back to precovid levels (-2,5% with respect to 2019)

Average arrival ATFM delays in 2023 was 0.19 min/arr, compared to 0.04 min/arr in 2022. National target was met.
ATFM slot adherence was similar to the previous year (2023: 96.6%; 2022: 96.5%).

2. Arrival ATFM Delay



On average, arrival ATFM delays have increased at Polish airports, with most delays concentrated at Warsaw (EPWA; 2023: 0.36 min/arr). The national average arrival ATFM delay in 2023 was 0.19 min/arr. 83% of all delays at Polish airports were attributed to Aerodrome Capacity, followed by 6% attributed to Weather.

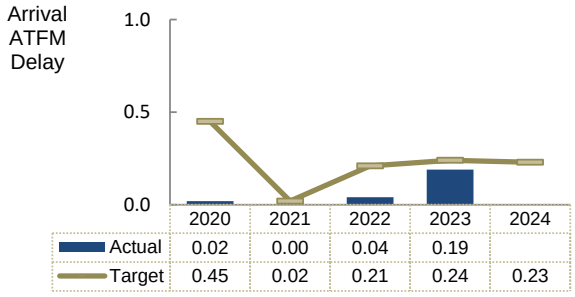
According to the Polish monitoring report:
The actual performance over 2023 was better than the target set in the adopted RP3 PP.
Large majority of delays recorded in 2023 were linked to non-ATC reasons. Aerodrome-related delays accounted for 84% of the terminal delays and Weather conditions generated 6% of the terminal delays. ATC-related delays accounted for 10% of terminal delays in 2023.

The outbreak of the war in Ukraine impacted traffic to/from Rzeszów-Jasionka (EPRZ) airport, which became kind of a transportation hub for Ukraine. As a consequence, significant traffic increase at this airport, as compared to both previous years as well as the assumptions underlying the adopted RP3 PP, was observed.
Moreover, military exercises are being organized at/around the airport and military operations are performed at the airport - causing also temporary closure of the airport.
Increased military activity, following the outbreak of the war, had some impact on delays in Rzeszów-Jasionka (EPRZ) airport over 2023.
Below are the airport arrival ATFM delays for Rzeszów-Jasionka (EPRZ) airport over 2023 related to the war in Ukraine:

Delays related to the war in UA	EPRZ (minutes)	Delay reason
JAN	0	
FEB	35	M - Airspace Management - AD
MAR	0	
APR	155	O - Other - AD
MAY	52	M - Airspace Management - AD
JUN	0	
JUL	215	M - Airspace Management - AD
AUG	148	M - Airspace Management - AD
SEP	286	M - Airspace Management - AD
OCT	229	M - Airspace Management - AD
NOV	209	M - Airspace Management - AD
DEC	0	
Total 2023	**1 329**	
O - Other - AD	*155*	
M - Airspace Management - AD	*1 174*	

For measuring addition to the information provided above, see the measures implemented in 2022, provided in Annual Performance Monitoring Report for 2022.

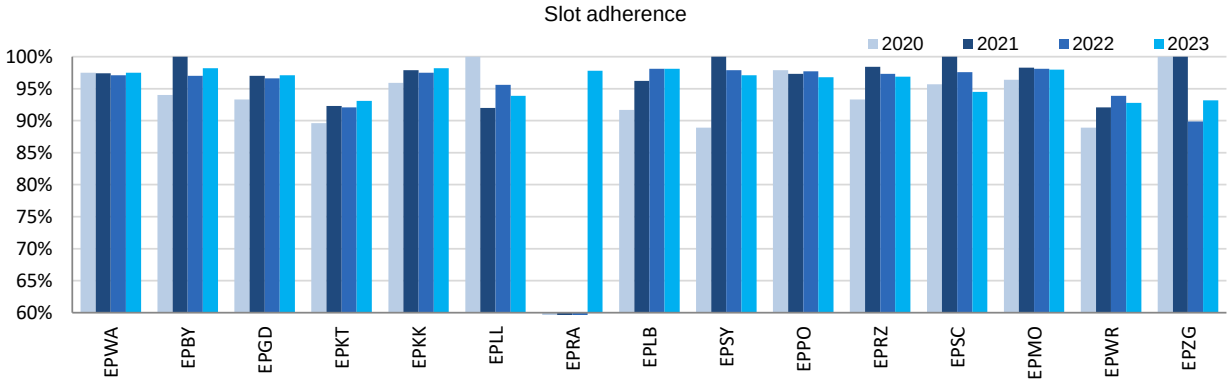
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.02	0.00	0.04	0.19	
Target	0.45	0.02	0.21	0.24	0.23

Poland's performance plan sets a national target on arrival ATFM delay for 2023 of 0.24 min/arr. This target was met with an actual performance of 0.19 min/arr. The incentive scheme uses modulated pivot values limited to CRSTMP delay causes. According to the Polish monitoring report, this pivot value for CRSTMP is 0.05 min/arr in 2023 and based on the attribution of the regulation reason, the actual CRSTMP value for 2023 was 0.019 min/arr (the NSA reports a CRSTMP value of 0.026 min/arr that could not be verified)
The NSA calculates a bonus of PLN 3 326 247.

4. ATFM Slot Adherence



Polish airports showed adherence between 92.8% and 98.2% and Warsaw (EPWA) reached 97.5%. The national average was 96.6%, similar to the previous year (96.5%). With regard to the 3.4% of flights that did not adhere, 2.1% was early and 1.3% was late.

According to the Polish monitoring report: *Performance achieved in 2023 still may be influenced by consequences of COVID-19 pandemic and Russia's war of aggression against Ukraine and related traffic drop. It should not be compared to the first years of RP3 and the previous periods.*

5. ATC Pre-departure Delay

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Warsaw.
The annual value for 2023 was very similar to the observed in 2021 and 2022 and lower than pre-COVID (EPWA: 2019: 0.87 min/dep; 2021: 0.59 min/dep; 2022: 0.6 min/dep; 2023: 0.61 min/dep)

According to the Polish monitoring report: *DCL implementation and subsequent implementation of Ground Planner position will improve pre-departure planning and is expected to improve pre-departure delays if caused by ATC.*

6. All Causes Pre-departure Delay

Warsaw is the only Polish airport subject to the monitoring of this indicator.
The total (all causes) delay in the actual off block time at Warsaw decreased in 2023 (EPWA: 2020: 9.32 min/dep.; 2021: 12.61 min/dep.; 2022: 21.26 min/dep.; 2023: 17.53 min/dep.)

According to the Polish monitoring report: *2023 performance may be attributed to significant airside work in progress. No significant actions were taken to improve this indicator in 2023. DCL/GND planner position and revalidation of A-CDM are short term actions that are aimed at improving overall performance (partially in 2024).*

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Lotnisko Chopina w Warszawie-EPWA	0.04	0	0.02	0.36		97.5%	97.4%	97.1%	97.5%		n/a	0.59	0.60	0.61		9.32	12.61	21.26	17.53	
Bydgoszcz-EPBY	0	0	0	0		94.0%	100.0%	97.0%	98.2%		-	-	-	-		-	-	-	-	
Gdańsk im. Lecha Wałęsy-EPGD	0	0	0.12	0.04		93.3%	97.0%	96.6%	97.1%		-	-	-	-		-	-	-	-	
Katowice-Pyrzowice-EPKT	0	0	0.05	0.01		89.6%	92.3%	92.1%	93.1%		-	-	-	-		-	-	-	-	
Kraków-Balice-EPKK	0.04	0	0.11	0.04		95.9%	97.9%	97.5%	98.2%		-	-	-	-		-	-	-	-	
Łódź-EPLL	0	0	0.04	0		100.0%	92.0%	95.6%	93.9%		-	-	-	-		-	-	-	-	
Radom-EPRA	0	n/a	n/a	0		n/a	n/a	n/a	97.8%		-	-	-	-		-	-	-	-	
Lublin-EPLB	0	0	0	0		91.7%	96.2%	98.1%	98.1%		-	-	-	-		-	-	-	-	
Olsztyn-Mazury-EPSY	0	0	0	0		88.9%	100.0%	97.9%	97.1%		-	-	-	-		-	-	-	-	
Poznań-Ławica-EPPO	0	0.01	0	0.03		97.9%	97.3%	97.7%	96.8%		-	-	-	-		-	-	-	-	
Rzeszów-Jasionka-EPRZ	0	0	0.04	0.19		93.3%	98.4%	97.3%	96.9%		-	-	-	-		-	-	-	-	
Szczecin-Goleniów-EPSC	0	0	0.02	0		95.7%	100.0%	97.6%	94.5%		-	-	-	-		-	-	-	-	
Warszawa/Modlin-EPMO	0.01	0	0	0.58		96.4%	98.3%	98.1%	98.0%		-	-	-	-		-	-	-	-	
Wrocław-Strachowice-EPWR	0	0	0.01	0		88.9%	92.1%	93.9%	92.8%		-	-	-	-		-	-	-	-	
Zielona Góra-Babimost-EPZG	0	0	0	0		100.0%	100.0%	89.9%	93.2%		-	-	-	-		-	-	-	-	

POLAND: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Poland ECZ represents 3.0% of the SES en route ANS actual costs in 2023
- National currency: PLN Exchange rates (1 EUR=) 2017: 4,25483 PLN 2023: 4,53803 PLN
- Performance Plan: RP3 draft performance plan dated 04 February 2022 and found consistent as per Commission Decision (EU) 2022/779 of 13 April 2022
  The final version of the plan was adopted and published by Poland in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Poland: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal PLN)	770 873 178	832 074 098	1 602 947 276	875 857 917	914 029 458	950 341 024
Inflation %	3.70%	3.20%		2.52%	2.53%	2.50%
Inflation index (100 in 2017)	107.1	110.6		113.4	116.2	119.1
Real en route costs (PLN2017)	732 049 657	771 058 475	1 503 108 131	798 885 838	819 037 945	837 052 160
Total en route service units	2 145 811	2 549 306	4 695 117	3 990 970	4 762 963	5 129 508
Real en route DUC per service unit (PLN2017)	**341.15**	**302.46**	**320.14**	**200.17**	**171.96**	**163.18**
Real en route DUC per service unit (€2017)	**80.18**	**71.09**	**75.24**	**47.05**	**40.42**	**38.35**

Poland: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal PLN)	770 873 178	632 683 487	1 403 556 665	858 430 940	990 244 217	
Inflation %	3.7%	5.2%		13.2%	10.9%	
Inflation index (100 in 2017)	107.1	112.7		127.6	141.5	
Real en route costs (PLN2017)	732 049 657	583 327 811	1 315 377 467	721 225 326	763 483 878	
Total en route service units	2 145 811	2 585 928	4 731 739	3 128 964	3 536 911	
Real en route AUC per service unit (PLN2017)	**341.15**	**225.58**	**277.99**	**230.50**	**215.86**	
Real en route AUC per service unit (€2017)	**80.18**	**53.02**	**65.34**	**54.17**	**50.73**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal PLN)	in value	0	-199 390 611	-199 390 611	-17 426 977	76 214 760	
	in %	-	-24.0%	-12.4%	-2.0%	+8.3%	
Inflation %	in p.p.	0.0 p.p.	2.0 p.p.		10.7 p.p.	8.4 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	2.1 p.p.		14.2 p.p.	25.3 p.p.	
Real en route costs (PLN2017)	in value	0	-187 730 664	-187 730 664	-77 660 512	-55 554 066	
	in %	-	-24.3%	-12.5%	-9.7%	-6.8%	
Total en route service units	in value	0	36 622	36 622	-862 006	-1 226 052	
	in %	-	+1.4%	+0.8%	-21.6%	-25.7%	
Real en route unit cost per service unit (PLN2017)	**in value**	**0.00**	**-76.88**	**-42.15**	**30.33**	**43.90**	
	in %	**-**	**-25.4%**	**-13.2%**	**+15.2%**	**+25.5%**	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-18.07**	**-9.91**	**7.13**	**10.32**	
	in %	**-**	**-25.4%**	**-13.2%**	**+15.2%**	**+25.5%**	

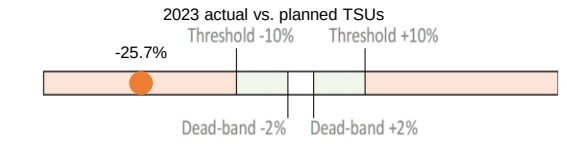
4. Focus on en route DUC monitoring at charging zone level

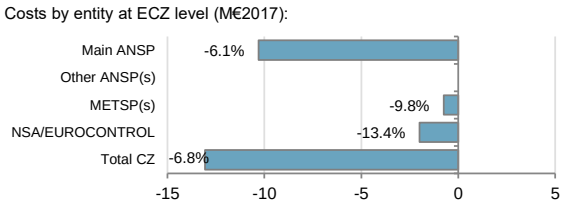
AUC vs. DUC
In 2023, the en route AUC was +25.5% (or +43.9 PLN2017, +10.32 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TSUs (-25.7%) and lower than planned en route costs in real terms (-6.8%, or -55.6 MPLN2017, -13.1 M€2017). It should be noted that actual inflation index in 2023 was +25.3 p.p. higher than planned.

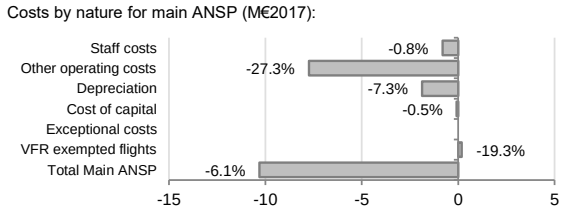
En route service units
The difference between actual and planned TSUs (-25.7%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

En route costs by entity
Actual real en route costs are -6.8% (-13.1 M€2017) lower than planned. This is the result of lower costs for the main ANSP, PANSA (-6.1%, or -10.3 M€2017), the NSA/EUROCONTROL (-13.4%, or -2.0 M€2017) and the MET service provider (-9.8%, or -0.8 M€2017).

En route costs for the main ANSP (PANSA) at charging zone level
Lower than planned en route costs in real terms for PANSA in 2023 (-6.1%, or -10.3 M€2017) result from:
- Slightly lower staff costs in real terms (-0.8%) but higher in nominal terms (+ 20.8%); driven by significant increase in inflation rates; these costs reflect mainly obligations of PANSA towards its employees based on the current remuneration scheme reflecting inflation compensation payments calculated for 2022 and 2023;
- Significantly lower other operating costs in real terms (-27.3%) and nominal terms (-11.5%), driven by cost reductions which more than offset the increase in energy costs due to higher energy prices.
- Lower depreciation (-7.3%), mainly due to "uncertainty from global crises and the war in Ukraine, which led to the postponement or review of some projects."
- Slightly lower cost of capital (-0.5%) mainly due to a lower asset base, despite a higher WACC rate caused by a substantial increase in the annual interest rate on debt and rising WIBOR reference rates.







POLAND: En route charging zone

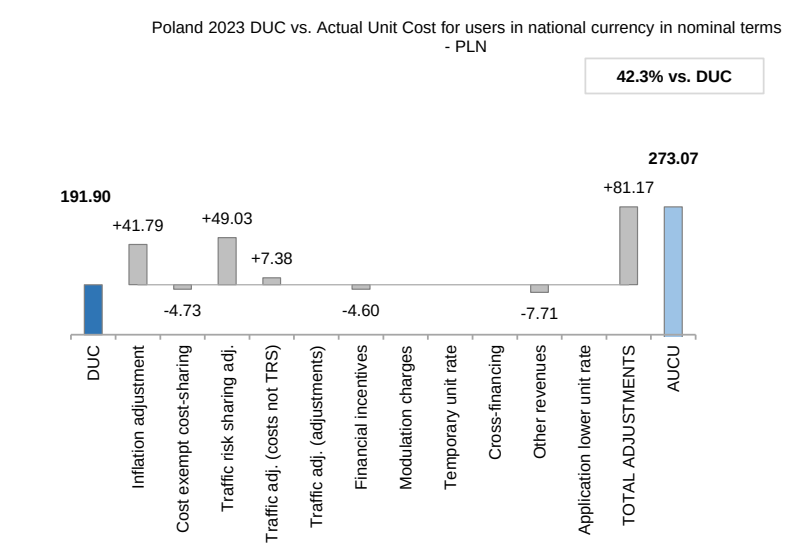
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	PLN/SU	€/SU
Initial DUC charged	191.90	42.29
DUC to be charged retroactively	0.00	0.00
DUC	**191.90**	**42.29**
Inflation adjustment	41.79	9.21
Cost exempt from cost-sharing	-4.73	-1.04
Traffic risk sharing adjustment	49.03	10.80
Traffic adj. (costs not TRS)	7.38	1.63
Traffic adj. (adjustments)*		
Financial incentives	-4.60	-1.01
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-7.71	-1.70
Application of lower unit rate	0.00	0.00
Total adjustments	81.17	17.89
AUCU	**273.07**	**60.17**
AUCU vs. DUC	**+42.3%**	**+42.3%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

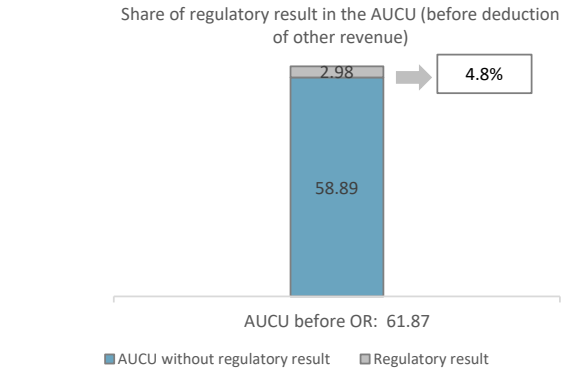
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		PLN '000	€ '000	PLN/SU	€/SU
by item	New and existing investments	-9 162	-2 019	-2.59	-0.57
	Competent authorities and qualified entities costs	942	208	0.27	0.06
	Eurocontrol costs	-9 448	-2 082	-2.67	-0.59
	Pension costs	0	0	0.00	0.00
	Interest on loans	937	206	0.26	0.06
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-16 731**	**-3 687**	**-4.73**	**-1.04**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	PLN '000	€ '000	PLN/SU	€/SU
PANSA	43 289	9 539	12.24	2.70
METSP(s)	**PLN '000**	**€ '000**	**PLN/SU**	**€/SU**
Poland-MET IMWM	3 279	723	0.93	0.20
Poland-MET Airport Meteo	842	186	0.24	0.05
Poland-MET_WIM	264	58	0.07	0.02
Poland-MET BYDGOSZCZ	130	29	0.04	0.01
Total charging zone	47 803	10 534	13.52	2.98
Actual cost for users* **	993 091	218 838	280.78	61.87
Regulatory result (% AUCU)	4.8%	4.8%	4.8%	4.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (273.07 PLN or 60.17 €) is +42.3% higher than the nominal DUC (191.90 PLN or 42.29 €). The difference between these two figures (+81.17 PLN/SU or +17.89 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+41.79 PLN/SU or +9.21 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-4.73 PLN/SU or -1.04 €/SU);
- the addition of the traffic risk sharing adjustments (+49.03 PLN/SU or +10.80 €/SU);
- the addition of the traffic adjustment (+7.38 PLN/SU or +1.63 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-4.60 PLN/SU or -1.01 €/SU); and
- the deduction of the other revenues (-7.71 PLN/SU or -1.70 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 4.8%.

POLAND: En route main ANSP (PANSA) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

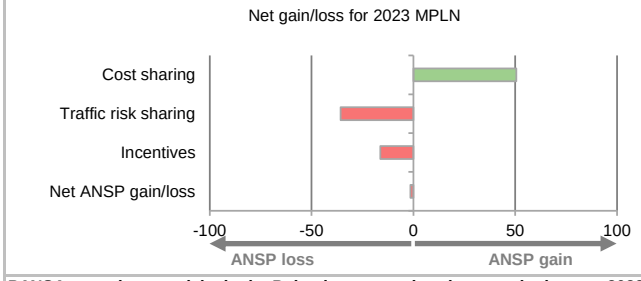
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

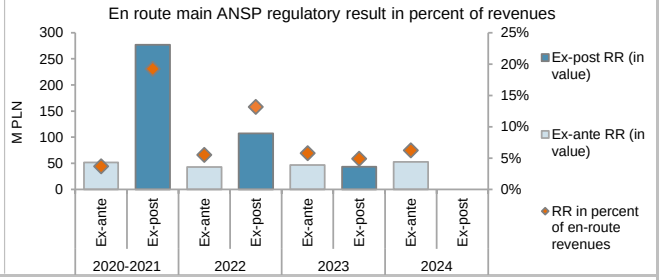
Cost sharing (PLN '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	196 768	21 942	-81 367	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	11 683	77 664	139 975	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	6 445	-2 856	-8 074	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**214 896**	**96 750**	**50 534**	
Traffic risk sharing (PLN '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.8%	-21.6%	-25.7%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	1 412 687	777 208	812 630	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**11 019**	**-34 197**	**-35 756**	
Incentives (PLN '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-16 253**	
Net ANSP gain(+)/loss(-) on en route activity (PLN '000)	**225 915**	**62 553**	**-1 474**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**49 547**	**13 366**	**-325**	

12. Regulatory result (RR) for the main ANSP at charging zone level

PANSA planned regulatory result (PLN '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	1 195 647	1 209 989	2 405 636	1 193 782	1 298 108	1 394 343
Proportion of financing through equity (in %)	97%	84%	90%	74%	71%	73%
RoE pre-tax rate (in %)	2.4%	2.4%	2.4%	4.9%	5.1%	5.2%
RoE (in value)	27 697	23 919	51 616	42 763	46 868	52 493
Ex-ante regulatory result (+/-) for the en route charging zone	**27 697**	**23 919**	**51 616**	**42 763**	**46 868**	**52 493**
Revenue for the en route charging zone	**678 018**	**734 669**	**1 412 687**	**777 208**	**812 630**	**847 116**
Ex-ante regulatory result (+/-) in percent of revenues	**4.1%**	**3.3%**	**3.7%**	**5.5%**	**5.8%**	**6.2%**
Ex-ante RoE pre-tax rate (in %)	**2.4%**	**2.4%**	**2.4%**	**4.9%**	**5.1%**	**5.2%**
PANSA actual regulatory result (PLN '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	1 195 647	1 080 451	2 276 098	1 087 600	1 123 269	
Proportion of financing through equity (in %)	97%	91%	94%	85%	79%	
RoE pre-tax rate (in %)	2.4%	2.4%	2.4%	4.9%	5.1%	
RoE (in value)	27 697	23 149	50 846	44 785	44 763	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	225 915	225 915	62 553	-1 474	
Ex-post regulatory result (+/-) for the en route charging zone	**27 697**	**249 064**	**276 761**	**107 337**	**43 289**	
Revenue for the en route charging zone	**678 018**	**763 816**	**1 441 834**	**817 818**	**892 523**	
Ex-post regulatory result (+/-) in percent of revenues	**4.1%**	**32.6%**	**19.2%**	**13.1%**	**4.9%**	
Ex-post RoE pre-tax rate (in %)	**2.4%**	**25.4%**	**13.0%**	**11.6%**	**4.9%**	

13. Focus on the main ANSP regulatory result on en route activity





PANSA net gain on activity in the Poland en route charging zone in the year 2023

PANSA reported a net loss of -1.5 MPLN, as a combination of a gain of +50.5 MPLN arising from the cost sharing mechanism, with a loss of -35.8 MPLN arising from the traffic risk sharing mechanism and a loss of -16.3 MPLN relating to financial incentives.

PANSA overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net loss from the en route activity mentioned above (-1.5 MPLN) and the actual RoE (+44.8 MPLN) amounts to +43.3 MPLN (4.9% of the en route revenues). The resulting ex-post rate of return on equity is 4.9%, which is lower than the 5.1% planned in the PP.

POLAND: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
Poland-MET IMWM planned regulatory result (PLN '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	299	334	632	113	175	176
Revenue for the en route charging zone	29 923	31 768	61 692	31 893	33 213	34 696
Ex-ante regulatory result (+/-) in percent of revenues	1.0%	1.1%	1.0%	0.4%	0.5%	0.5%
Ex-ante RoE pre-tax rate (in %)	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Poland-MET IMWM actual regulatory result (PLN '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	299	799	1 097	3 125	3 279	
Revenue for the en route charging zone	29 923	32 276	62 199	35 617	40 046	
Ex-post regulatory result (+/-) in percent of revenues	1.0%	2.5%	1.8%	8.8%	8.2%	
Ex-post RoE pre-tax rate (in %)	4.0%	9.5%	6.9%	143.0%	119.2%	
Poland-MET Airport Meteo planned regulatory result (PLN '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	16	10	26	46	37	39
Revenue for the en route charging zone	299	320	619	324	1 231	1 188
Ex-ante regulatory result (+/-) in percent of revenues	5.3%	3.1%	4.1%	14.3%	3.0%	3.3%
Ex-ante RoE pre-tax rate (in %)	5.1%	4.8%	5.0%	4.9%	4.9%	4.9%
Poland-MET Airport Meteo actual regulatory result (PLN '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	16	41	57	56	842	
Revenue for the en route charging zone	299	326	624	358	1 422	
Ex-post regulatory result (+/-) in percent of revenues	5.3%	12.5%	9.1%	15.5%	59.2%	
Ex-post RoE pre-tax rate (in %)	5.1%	19.7%	10.9%	69.2%	228.2%	
Poland-MET_WIM planned regulatory result (PLN '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	12	11	23	30	31	29
Revenue for the en route charging zone	1 636	1 671	3 307	1 760	1 807	1 812
Ex-ante regulatory result (+/-) in percent of revenues	0.7%	0.7%	0.7%	1.7%	1.7%	1.6%
Ex-ante RoE pre-tax rate (in %)	5.1%	4.7%	4.9%	4.6%	4.6%	4.6%
Poland-MET_WIM actual regulatory result (PLN '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	12	0	12	119	264	
Revenue for the en route charging zone	1 636	1 703	3 339	1 971	2 182	
Ex-post regulatory result (+/-) in percent of revenues	0.7%	0.0%	0.4%	6.1%	12.1%	
Ex-post RoE pre-tax rate (in %)	5.1%	0.1%	2.6%	29.2%	62.3%	
Poland-MET BYDGOSZCZ planned regulatory result (PLN '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	52	48	100	53	53	47
Revenue for the en route charging zone	1 150	1 350	2 500	1 479	1 440	1 467
Ex-ante regulatory result (+/-) in percent of revenues	4.6%	3.5%	4.0%	3.6%	3.7%	3.2%
Ex-ante RoE pre-tax rate (in %)	6.8%	5.7%	6.3%	5.0%	4.7%	4.6%
Poland-MET BYDGOSZCZ actual regulatory result (PLN '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	52	157	210	153	130	
Revenue for the en route charging zone	1 150	1 372	2 522	1 654	1 715	
Ex-post regulatory result (+/-) in percent of revenues	4.6%	11.5%	8.3%	9.3%	7.6%	
Ex-post RoE pre-tax rate (in %)	6.8%	18.9%	13.1%	17.8%	13.4%	
Total other ANSPs						
Total other ANSPs planned regulatory result (PLN '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	379	402	781	242	295	292
Revenue for the en route charging zone	33 007	35 110	68 117	35 456	37 691	39 163
Ex-ante regulatory result (+/-) in percent of revenues	1.1%	1.1%	1.1%	0.7%	0.8%	0.7%
Ex-ante RoE pre-tax rate (in %)	4.3%	4.2%	4.2%	4.4%	4.3%	4.3%
Total other ANSPs actual regulatory result (PLN '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	379	997	1 376	3 453	4 515	
Revenue for the en route charging zone	33 007	35 677	68 684	39 600	45 366	
Ex-post regulatory result (+/-) in percent of revenues	1.1%	2.8%	2.0%	8.7%	10.0%	
Ex-post RoE pre-tax rate (in %)	4.3%	10.3%	7.5%	97.6%	100.1%	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Poland (Poland-MET IMWM, Poland-MET Airport Meteo, Poland-MET_WIM, Poland-MET BYDGOSZCZ) corresponds to 10.0% of the en route revenues. The ex-post RoE 100.1% is higher than planned 4.3%.

POLAND ZONE 1: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Poland zone 1 TCZ represents 0.9% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: PLN Exchange rates (1 EUR=) 2017: 4,25483 PLN 2023: 4,53803 PLN
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Poland zone 1: Data from RP3 Performance Plan		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Terminal costs (nominal PLN)		33 255 751	48 543 917	81 799 669	48 871 242	50 173 711	52 624 872
Inflation %		3.7%	3.2%		2.5%	2.5%	2.5%
Inflation index (100 in 2017)		107.1	110.6		113.4	116.2	119.1
Real terminal costs (PLN2017)		31 377 540	44 507 345	75 884 885	44 037 508	44 320 933	45 668 485
Total terminal service units		43 637	54 873	98 511	87 356	96 630	103 108
Real terminal DUC per service unit (PLN2017)		**719.05**	**811.09**	**770.32**	**504.11**	**458.67**	**442.92**
Real terminal DUC per service unit (€2017)		**169.00**	**190.63**	**181.05**	**118.48**	**107.80**	**104.10**
Poland zone 1: Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Terminal costs (nominal PLN)		33 255 751	34 465 013	67 720 764	51 673 666	62 204 167	
Inflation %		3.7%	5.2%		13.2%	10.9%	
Inflation index (100 in 2017)		107.1	112.7		127.6	141.5	
Real terminal costs (PLN2017)		31 377 540	31 310 379	62 687 919	42 256 612	46 493 067	
Total terminal service units		43 637	53 296	96 933	83 357	98 874	
Real terminal AUC per service unit (PLN2017)		**719.05**	**587.49**	**646.71**	**506.93**	**470.23**	
Real terminal AUC per service unit (€2017)		**169.00**	**138.08**	**152.00**	**119.14**	**110.52**	
Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Terminal costs (nominal PLN)	in value	0	-14 078 905	-14 078 905	2 802 424	12 030 456	
	in %	-	-29.0%	-17.2%	+5.7%	+24.0%	
Inflation %	in p.p.	0.0 p.p.	2.0 p.p.		10.7 p.p.	8.4 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	2.1 p.p.		14.2 p.p.	25.3 p.p.	
Real terminal costs (PLN2017)	in value	0	-13 196 966	-13 196 966	-1 780 896	2 172 134	
	in %	-	-29.7%	-17.4%	-4.0%	+4.9%	
Total terminal service units	in value	0	-1 578	-1 578	-3 999	2 244	
	in %	-	-2.9%	-1.6%	-4.6%	+2.3%	
Real terminal unit cost per service unit (PLN2017)	**in value**	**0.00**	**-223.61**	**-123.61**	**2.82**	**11.56**	
	in %	**-**	**-27.6%**	**-16.0%**	**+0.6%**	**+2.5%**	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-52.55**	**-29.05**	**0.66**	**2.72**	
	in %	**-**	**-27.6%**	**-16.0%**	**+0.6%**	**+2.5%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +2.5% (or +11.56 PLN2017, +2.72 €2017) higher than the planned DUC. This results from the combination of higher than planned terminal costs in real terms (+4.9%, or +2.2 MPLN2017, +0.5 M€2017) and higher than planned TNSUs (+2.3%). It should be noted that actual inflation index in 2023 was +25.3 p.p. higher than planned.

Terminal charging zone 1 service units

The difference between actual and planned TNSUs (+2.3%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

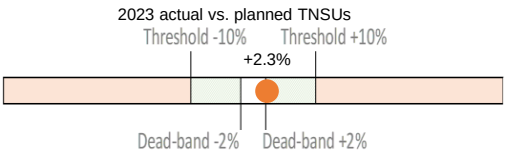
Terminal charging zone 1 costs by entity

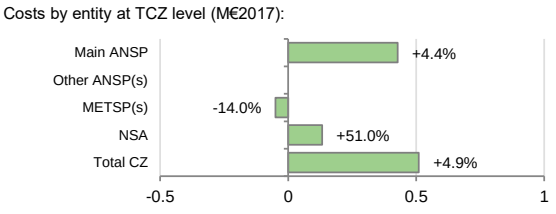
Actual real terminal costs are +4.9% (+0.5 M€2017) higher than planned. This is the result of higher costs for the main ANSP, PANSA (+4.4%, or +0.4 M€2017) and the NSA (+51.0%, or +0.1 M€2017) and lower costs for the MET service provider (-14.0%, or -0.05 M€2017).

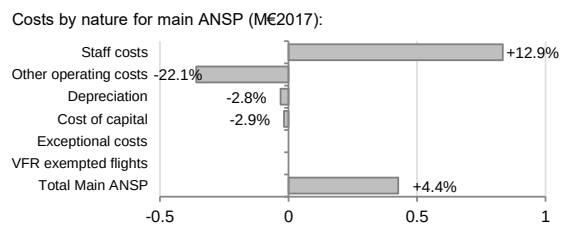
Terminal charging zone 1 costs for the main ANSP (PANSA) at charging zone level

Higher than planned terminal costs in real terms for PANSA in 2023 (+4.4%, or +0.4 M€2017) result from:

- Significantly higher staff costs in real terms (+12.9%) and nominal terms (+37.4%), driven by significant increase in inflation rates; these costs reflect mainly obligations of PANSA towards its employees based on the current remuneration scheme reflecting inflation compensation payments calculated for 2022 and 2023;
- Significantly lower other operating costs in real terms (-22.1%) and nominal terms (5.1%), driven by cost reductions, which more than offset the increase in energy costs due to higher energy prices.
- Lower depreciation (-2.8%), mainly "uncertainty from global crises and the war in Ukraine, which led to the postponement or review of some projects.";
- Lower cost of capital (-2.9%), mainly due to a lower asset base, despite a higher WACC rate caused by a substantial increase in the annual interest rate on debt and rising WIBOR reference rates.







POLAND ZONE 1: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

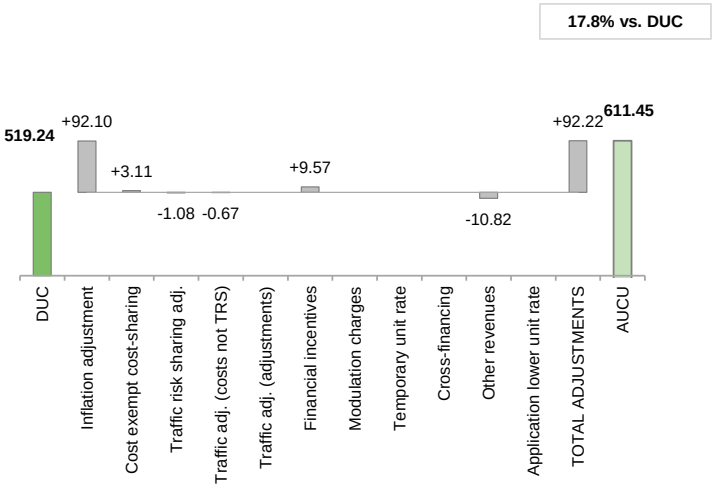
5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level

Poland zone 1 2023 DUC vs. Actual Unit Cost for users in national currency in nominal terms - PLN



Components of the AUCU	PLN/SU	€/SU
Initial DUC charged	519.24	114.42
DUC to be charged retroactively	0.00	0.00
DUC	**519.24**	**114.42**
Inflation adjustment	92.10	20.30
Cost exempt from cost-sharing	3.11	0.69
Traffic risk sharing adjustment	-1.08	-0.24
Traffic adj. (costs not TRS)	-0.67	-0.15
Traffic adj. (adjustments)*		
Financial incentives	9.57	2.11
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-10.82	-2.38
Application of lower unit rate	0.00	0.00
Total adjustments	92.22	20.32
AUCU	**611.45**	**134.74**
AUCU vs. DUC	**17.8%**	**17.8%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

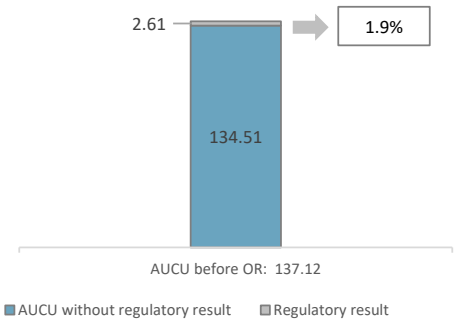
7. Terminal costs exempt from cost sharing

		PLN '000	€ '000	PLN/SU	€/SU
by item	New and existing investments	-307	-68	-3.11	-0.69
	Competent authorities and qualified entities costs	564	124	5.70	1.26
	Eurocontrol costs	0	0	0.00	0.00
	Pension costs	0	0	0.00	0.00
	Interest on loans	51	11	0.52	0.11
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**308**	**68**	**3.11**	**0.69**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level

Share of regulatory result in the AUCU (before deduction of other revenue)



ANSP(S)	PLN '000	€ '000	PLN/SU	€/SU
PANSA	872	192	8.82	1.94
METSP(s)	**PLN '000**	**€ '000**	**PLN/SU**	**€/SU**
MET IMWM	298	66	3.01	0.66
Total charging zone	1 170	258	11.83	2.61
Actual cost for users* **	61 527	13 558	622.27	137.12
Regulatory result (% AUCU)	1.9%	1.9%	1.9%	1.9%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (611.45 PLN or 134.74 €) is +17.8% higher than the nominal DUC (519.24 PLN or 114.42 €). The difference between these two figures (+92.22 PLN/SU or +20.32 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+92.10 PLN/SU or +20.30 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+3.11 PLN/SU or +0.69 €/SU);
- the deduction of the traffic risk sharing adjustments (-1.08 PLN/SU or -0.24 €/SU);
- the deduction of the traffic adjustment (-0.67 PLN/SU or -0.15 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+9.57 PLN/SU or +2.11 €/SU); and
- the deduction of the other revenues (-10.82 PLN/SU or -2.38 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 1.9%.

POLAND ZONE 1: Terminal main ANSP (PANSA) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

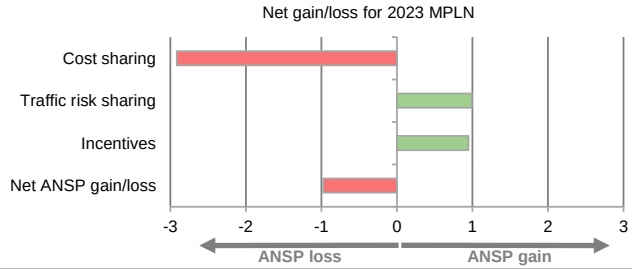
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

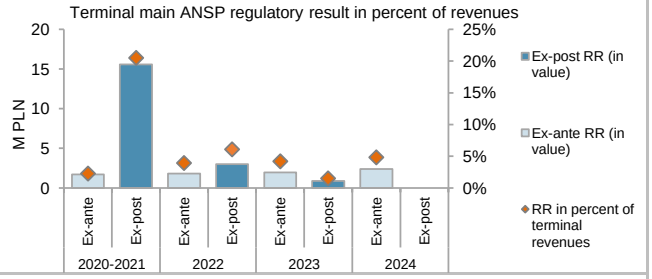
Cost sharing (PLN '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	14 183	-2 479	-11 385	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	782	4 928	8 727	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	120	-20	-256	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**15 085**	**2 430**	**-2 914**	
Traffic risk sharing (PLN '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-1.6%	-4.6%	2.3%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	76 334	46 070	47 322	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-1 223**	**-1 278**	**992**	
Incentives (PLN '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**946**	
Net ANSP gain(+)/loss(-) on terminal activity (PLN '000)	**13 863**	**1 152**	**-975**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**3 040**	**246**	**-215**	

12. Regulatory result (RR) for the main ANSP at charging zone level

PANSA planned regulatory result (PLN '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	35 874	45 389	81 263	50 460	54 865	63 974
Proportion of financing through equity (in %)	97%	84%	89%	74%	71%	73%
RoE pre-tax rate (in %)	2.4%	2.4%	2.4%	4.9%	5.1%	5.2%
RoE (in value)	831	897	1 728	1 808	1 981	2 408
Ex-ante regulatory result (+/-) for the terminal charging zone	**831**	**897**	**1 728**	**1 808**	**1 981**	**2 408**
Revenue for the terminal charging zone	**30 567**	**45 767**	**76 334**	**46 070**	**47 322**	**49 697**
Ex-ante regulatory result (+/-) in percent of revenues	**2.7%**	**2.0%**	**2.3%**	**3.9%**	**4.2%**	**4.8%**
Ex-ante RoE pre-tax rate (in %)	**2.4%**	**2.4%**	**2.4%**	**4.9%**	**5.1%**	**5.2%**
PANSA actual regulatory result (PLN '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	35 874	41 407	77 281	45 414	46 359	
Proportion of financing through equity (in %)	97%	91%	93%	85%	79%	
RoE pre-tax rate (in %)	2.4%	2.4%	2.4%	4.9%	5.1%	
RoE (in value)	831	887	1 718	1 870	1 847	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	13 863	13 863	1 152	-975	
Ex-post regulatory result (+/-) for the terminal charging zone	**831**	**14 750**	**15 581**	**3 022**	**872**	
Revenue for the terminal charging zone	**30 567**	**45 447**	**76 014**	**49 701**	**57 731**	
Ex-post regulatory result (+/-) in percent of revenues	**2.7%**	**32.5%**	**20.5%**	**6.1%**	**1.5%**	
Ex-post RoE pre-tax rate (in %)	**2.4%**	**39.3%**	**21.6%**	**7.8%**	**2.4%**	

13. Focus on main ANSP regulatory result on terminal activity





PANSA net gain on activity in the Poland terminal charging zone 1 in the year 2023

PANSA reported a net loss of -1.0 MPLN, as a combination of a loss of -2.9 MPLN arising from the cost sharing mechanism, with a gain of +1.0 MPLN arising from the traffic risk sharing mechanism and a gain of +0.9 MPLN relating to financial incentives.

PANSA overall regulatory results (RR) for the terminal charging zone 1 activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-1.0 MPLN) and the actual RoE (+1.8 MPLN) amounts to +0.9 MPLN (1.5% of the terminal revenues). The resulting ex-post rate of return on equity is 2.4%, which is lower than the 5.1% planned in the PP.

POLAND ZONE 1: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
MET IMWM planned regulatory result (PLN '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**1 682**	**1 741**	**3 423**	**1 727**	**1 747**	**1 791**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
MET IMWM actual regulatory result (PLN '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**27**	**27**	**199**	**298**	
Revenue for the terminal charging zone	**1 682**	**1 774**	**3 457**	**1 944**	**2 127**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**1.5%**	**0.8%**	**10.2%**	**14.0%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal charging zone 1 activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone 1 for Poland (MET IMWM) corresponds to 14.0% of the terminal revenues. It should be noted that MET IMWM does not charge cost of capital.

POLAND ZONE 2: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Poland zone 2 TCZ represents 2.9% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 14 of which:
  - Airports with fewer than 80,000 IFR mvmts: 14
  - Airports with more than 80,000 IFR mvmts: 0
- National currency: PLN Exchange rates (1 EUR=) 2017: 4,25483 PLN 2023: 4,53803 PLN
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Poland zone 2: Data from RP3 Performance Plan		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Terminal costs (nominal PLN)		107 007 850	153 280 891	260 288 740	149 058 558	150 166 336	149 863 037
Inflation %		3.70%	3.20%		2.52%	2.53%	2.50%
Inflation index (100 in 2017)		107.1	110.6		113.4	116.2	119.1
Real terminal costs (PLN2017)		101 339 514	140 933 556	242 273 070	134 684 632	133 096 739	130 519 058
Total terminal service units		62 352	76 368	138 720	123 910	131 402	141 942
Real terminal DUC per service unit (PLN2017)		**1 625.29**	**1 845.45**	**1 746.49**	**1 086.95**	**1 012.90**	**919.52**
Real terminal DUC per service unit (€2017)		**381.99**	**433.73**	**410.47**	**255.46**	**238.06**	**216.11**
Poland zone 2: Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Terminal costs (nominal PLN)		107 007 850	115 643 459	222 651 309	166 037 344	204 590 882	
Inflation %		3.70%	5.20%		13.20%	10.90%	
Inflation index (100 in 2017)		107.1	112.7		127.6	141.5	
Real terminal costs (PLN2017)		101 339 514	105 409 039	206 748 553	136 962 975	154 328 280	
Total terminal service units		62 352	78 808	141 160	140 929	162 481	
Real terminal AUC per service unit (PLN2017)		**1 625.29**	**1 337.54**	**1 464.64**	**971.86**	**949.82**	
Real terminal AUC per service unit (€2017)		**381.99**	**314.36**	**344.23**	**228.41**	**223.23**	
Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Terminal costs (nominal PLN)	in value	0	-37 637 432	-37 637 432	16 978 787	54 424 545	
	in %	-	-24.6%	-14.5%	+11.4%	+36.2%	
Inflation %	in p.p.	0.0 p.p.	2.0 p.p.		10.7 p.p.	8.4 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	2.1 p.p.		14.2 p.p.	25.3 p.p.	
Real terminal costs (PLN2017)	in value	0	-35 524 517	-35 524 517	2 278 343	21 231 540	
	in %	-	-25.2%	-14.7%	+1.7%	+16.0%	
Total terminal service units	in value	0	2 440	2 440	17 019	31 079	
	in %	-	+3.2%	+1.8%	+13.7%	+23.7%	
Real terminal unit cost per service unit (PLN2017)	**in value**	**0.00**	**-507.91**	**-281.85**	**-115.10**	**-63.07**	
	in %	**-**	**-27.5%**	**-16.1%**	**-10.6%**	**-6.2%**	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-119.37**	**-66.24**	**-27.05**	**-14.82**	
	in %	**-**	**-27.5%**	**-16.1%**	**-10.6%**	**-6.2%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -6.2% (or -63.07 PLN2017, -14.82 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TNSUs (+23.7%) and significantly higher than planned terminal costs in real terms (+16.0%, or +21.2 MPLN2017, +5.0 M€2017). It should be noted that actual inflation index in 2023 was +25.3 p.p. higher than planned.

Terminal charging zone 2 service units

The difference between actual and planned TNSUs (+23.7%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

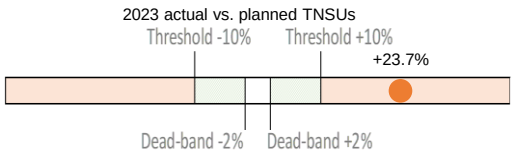
Terminal charging zone 2 costs by entity

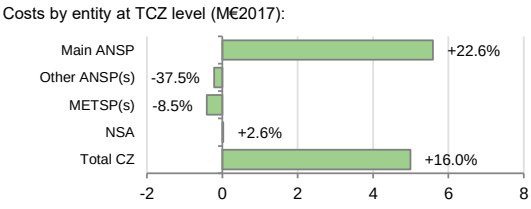
Actual real terminal costs are +16.0% (+5.0 M€2017) higher than planned. This is the result of higher costs for the main ANSP, PANSA (+22.6%, or +5.6 M€2017) and the NSA (+2.6%, or +0.03 M€2017) and lower costs for the other ANSPs (ANSP-BYDGOSZCZ and ANSP-Warmia-Mazury, -37.5%, or -0.2 M€2017) and the MET service provider (-8.5%, or -0.4 M€2017).

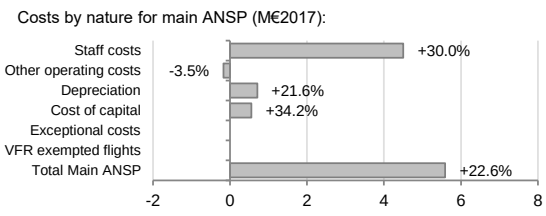
Terminal charging zone 2 costs for the main ANSP (PANSA) at charging zone level

Significantly higher than planned terminal costs in real terms for PANSA in 2023 (+22.6%, or +5.6 M€2017) result from:

- Significantly higher staff costs (+30.0%) due to changes in remuneration regulations byt also dynamic recovery of traffic at regional airports leading to additional payments for overtime.
- Lower other operating costs in real terms (-3.5%) but higher in nominal tersm (+17.4%);
- Significantly higher depreciation (+21.6%) due to higher traffic in charging zone leading to increase in cost allocation related to the usage of assets necessary for providing ANS;
- Significantly higher cost of capital (+34.2%) due to a higher asset base (+16.7%) from changes in traffic structure and an increased WACC rate driven by rising annual interest rates and WIBOR reference rates.







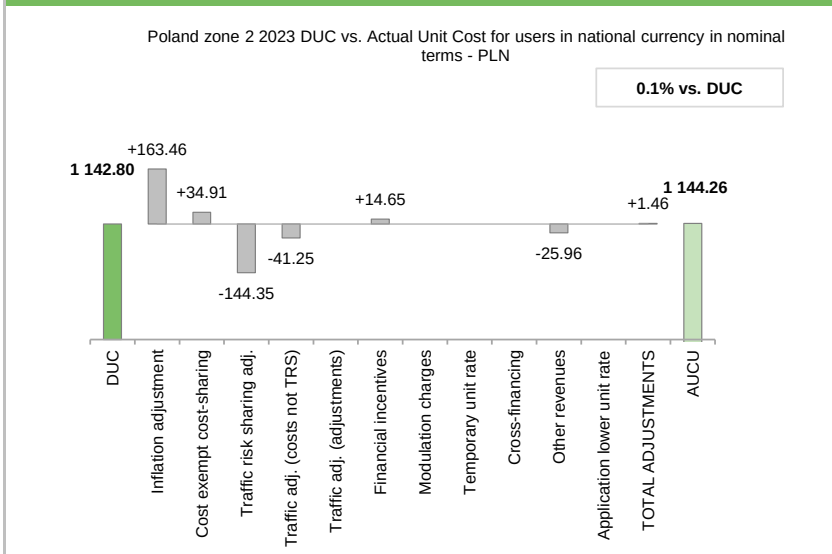
POLAND ZONE 2: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	PLN/SU	€/SU
Initial DUC charged	1 142.80	251.83
DUC to be charged retroactively	0.00	0.00
DUC	**1 142.80**	**251.83**
Inflation adjustment	163.46	36.02
Cost exempt from cost-sharing	34.91	7.69
Traffic risk sharing adjustment	-144.35	-31.81
Traffic adj. (costs not TRS)	-41.25	-9.09
Traffic adj. (adjustments)*		
Financial incentives	14.65	3.23
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-25.96	-5.72
Application of lower unit rate	0.00	0.00
Total adjustments	1.46	0.32
AUCU	**1 144.26**	**252.15**
AUCU vs. DUC	**0.1%**	**0.1%**

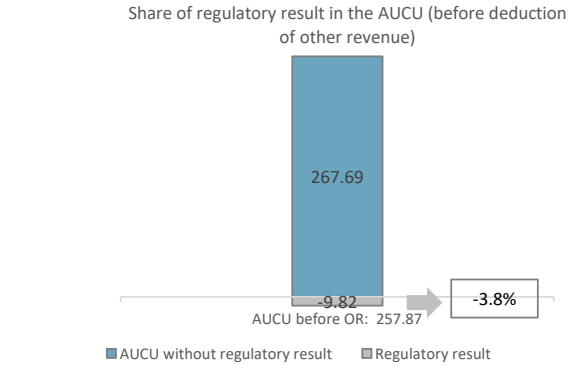
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		PLN '000	€ '000	PLN/SU	€/SU
by item	New and existing investments	5 318	1 172	32.73	7.21
	Competent authorities and qualified entities costs	123	27	0.76	0.17
	Eurocontrol costs	0	0	0.00	0.00
	Pension costs	0	0	0.00	0.00
	Interest on loans	231	51	1.42	0.31
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**5 672**	**1 250**	**34.91**	**7.69**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	PLN '000	€ '000	PLN/SU	€/SU
PANSA	-11 194	-2 467	-68.89	-15.18
ANSP-BYDGOSZCZ	399	88	2.45	0.54
ANSP Warmia-Mazury	812	179	5.00	1.10
METSP(s)	**PLN '000**	**€ '000**	**PLN/SU**	**€/SU**
MET IMWM	883	195	5.43	1.20
MET Airport Meteo	1 250	275	7.69	1.70
MET-BYDGOSZCZ	424	93	2.61	0.57
MET-Warmia-Mazury	186	41	1.14	0.25
Total charging zone	-7 241	-1 596	-44.56	-9.82
Actual cost for users* **	190 138	41 899	1 170.22	257.87
Regulatory result (% AUCU)	-3.8%	-3.8%	-3.8%	-3.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (1 144.26 PLN or 252.15 €) is +0.1% higher than the nominal DUC (1 142.80 PLN or 251.83 €). The difference between these two figures (+1.46 PLN/SU or +0.32 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+163.46 PLN/SU or +36.02 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+34.91 PLN/SU or +7.69 €/SU);
- the deduction of the traffic risk sharing adjustments (-144.35 PLN/SU or -31.81 €/SU);
- the deduction of the traffic adjustment (-41.25 PLN/SU or -9.09 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+14.65 PLN/SU or +3.23 €/SU); and
- the deduction of the other revenues (-25.96 PLN/SU or -5.72 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is -3.8%.

POLAND ZONE 2: Terminal main ANSP (PANSA) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

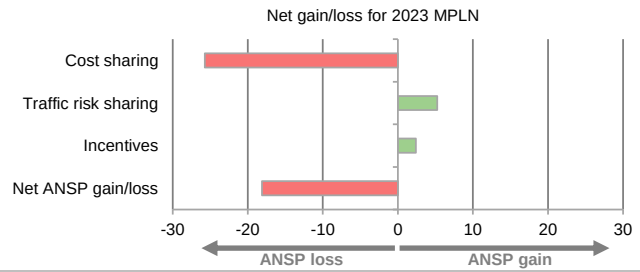
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

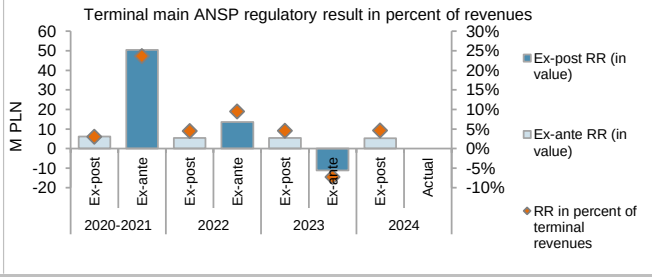
Cost sharing (PLN '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	37 491	-16 283	-52 787	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	2 091	12 569	21 348	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	996	5 143	5 714	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**40 577**	**1 429**	**-25 726**	
Traffic risk sharing (PLN '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.8%	13.7%	23.7%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	206 915	120 531	118 990	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**3 640**	**5 303**	**5 236**	
Incentives (PLN '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**2 380**	
Net ANSP gain(+)/loss(-) on terminal activity (PLN '000)	**44 217**	**6 732**	**-18 110**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**9 697**	**1 438**	**-3 991**	

12. Regulatory result (RR) for the main ANSP at charging zone level

PANSA planned regulatory result (PLN '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	137 408	151 116	288 524	150 544	148 661	141 373
Proportion of financing through equity (in %)	97%	84%	90%	74%	71%	73%
RoE pre-tax rate (in %)	2.4%	2.4%	2.4%	4.9%	5.1%	5.2%
RoE (in value)	3 183	2 987	6 170	5 393	5 367	5 322
Ex-ante regulatory result (+/-) for the terminal charging zone	**3 183**	**2 987**	**6 170**	**5 393**	**5 367**	**5 322**
Revenue for the terminal charging zone	**81 110**	**125 805**	**206 915**	**120 531**	**118 990**	**115 879**
Ex-ante regulatory result (+/-) in percent of revenues	**3.9%**	**2.4%**	**3.0%**	**4.5%**	**4.5%**	**4.6%**
Ex-ante RoE pre-tax rate (in %)	**2.4%**	**2.4%**	**2.4%**	**4.9%**	**5.1%**	**5.2%**
PANSA actual regulatory result (PLN '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	137 408	141 064	278 472	165 698	173 559	
Proportion of financing through equity (in %)	97%	91%	94%	85%	79%	
RoE pre-tax rate (in %)	2.4%	2.4%	2.4%	4.9%	5.1%	
RoE (in value)	3 183	3 022	6 205	6 823	6 916	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	44 217	44 217	6 732	-18 110	
Ex-post regulatory result (+/-) for the terminal charging zone	**3 183**	**47 239**	**50 422**	**13 555**	**-11 194**	
Revenue for the terminal charging zone	**81 110**	**132 532**	**213 642**	**143 546**	**153 667**	
Ex-post regulatory result (+/-) in percent of revenues	**3.9%**	**35.6%**	**23.6%**	**9.4%**	**-7.3%**	
Ex-post RoE pre-tax rate (in %)	**2.4%**	**37.0%**	**19.3%**	**9.6%**	**-8.2%**	

13. Focus on main ANSP regulatory result on terminal activity





PANSA net gain on activity in the Poland terminal charging zone 2 in the year 2023

PANSA reported a net loss of -18.1 MPLN, as a combination of a loss of -25.7 MPLN arising from the cost sharing mechanism, with a gain of +5.2 MPLN arising from the traffic risk sharing mechanism and a gain of +2.4 MPLN relating to financial incentives.

PANSA overall regulatory results (RR) for the terminal charging zone 2 activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-18.1 MPLN) and the actual RoE (+6.9 MPLN) amounts to -11.2 MPLN (-7.3% of the terminal revenues).

POLAND ZONE 2: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
BYDGOSZCZ (ANSP/MET) planned regulatory result (PLN '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	84	77	161	89	128	203
Revenue for the terminal charging zone	1 863	2 068	3 931	2 684	2 918	3 673
Ex-ante regulatory result (+/-) in percent of revenues	4.5%	3.7%	4.1%	3.3%	4.4%	5.5%
Ex-ante RoE pre-tax rate (in %)	6.6%	5.6%	6.1%	4.9%	5.4%	6.5%
BYDGOSZCZ (ANSP/MET) actual regulatory result (PLN '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	84	271	355	578	823	
Revenue for the terminal charging zone	1 863	2 114	3 977	3 031	3 326	
Ex-post regulatory result (+/-) in percent of revenues	4.5%	12.8%	8.9%	19.1%	24.7%	
Ex-post RoE pre-tax rate (in %)	6.6%	19.6%	13.4%	40.3%	51.5%	
MAZURY (ANSP/MET) planned regulatory result (PLN '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	55	53	107	70	68	130
Revenue for the terminal charging zone	2 639	3 019	5 658	3 196	3 264	3 827
Ex-ante regulatory result (+/-) in percent of revenues	2.1%	1.7%	1.9%	2.2%	2.1%	3.4%
Ex-ante RoE pre-tax rate (in %)	5.1%	4.7%	4.9%	4.6%	4.6%	4.6%
MAZURY (ANSP/MET) actual regulatory result (PLN '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	55	206	260	38	998	
Revenue for the terminal charging zone	2 639	3 130	5 769	3 653	4 011	
Ex-post regulatory result (+/-) in percent of revenues	2.1%	6.6%	4.5%	1.0%	24.9%	
Ex-post RoE pre-tax rate (in %)	5.1%	24.4%	13.6%	4.7%	123.9%	
MET IMWM planned regulatory result (PLN '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	416	416	832	160	215	231
Revenue for the terminal charging zone	16 988	17 846	34 834	17 942	18 437	19 852
Ex-ante regulatory result (+/-) in percent of revenues	2.4%	2.3%	2.4%	0.9%	1.2%	1.2%
Ex-ante RoE pre-tax rate (in %)	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
MET IMWM actual regulatory result (PLN '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	416	612	1 028	1 299	883	
Revenue for the terminal charging zone	16 988	18 095	35 083	19 823	22 169	
Ex-post regulatory result (+/-) in percent of revenues	2.4%	3.4%	2.9%	6.6%	4.0%	
Ex-post RoE pre-tax rate (in %)	4.0%	5.7%	4.9%	41.0%	23.3%	
MET Airport Meteo planned regulatory result (PLN '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	5	3	9	15	55	58
Revenue for the terminal charging zone	100	107	206	108	1 828	1 764
Ex-ante regulatory result (+/-) in percent of revenues	5.3%	3.1%	4.1%	14.3%	3.0%	3.3%
Ex-ante RoE pre-tax rate (in %)	5.1%	4.8%	5.0%	4.9%	4.9%	4.9%
MET Airport Meteo actual regulatory result (PLN '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	5	14	19	19	1 250	
Revenue for the terminal charging zone	100	109	208	119	2 111	
Ex-post regulatory result (+/-) in percent of revenues	5.3%	12.5%	9.1%	15.5%	59.2%	
Ex-post RoE pre-tax rate (in %)	5.1%	19.7%	10.9%	69.2%	228.2%	
Total other ANSPs planned regulatory result (PLN '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	560	549	1 109	335	465	622
Revenue for the terminal charging zone	21 590	23 039	44 629	23 930	26 445	29 117
Ex-ante regulatory result (+/-) in percent of revenues	2.6%	2.4%	2.5%	1.4%	1.8%	2.1%
Ex-ante RoE pre-tax rate (in %)	4.4%	4.2%	4.3%	4.4%	4.5%	4.8%
Total other ANSPs actual regulatory result (PLN '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	560	1 102	1 662	1 933	3 953	
Revenue for the terminal charging zone	21 590	23 447	45 037	26 626	31 617	
Ex-post regulatory result (+/-) in percent of revenues	2.6%	4.7%	3.7%	7.3%	12.5%	
Ex-post RoE pre-tax rate (in %)	4.4%	8.4%	6.4%	35.6%	58.6%	

Total other ANSP overall regulatory results (RR) for the terminal charging zone 2 activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Poland (ANSP-BYDGOSZCZ, ANSP-Warmia-Mazury, MET IMWM, MET Airport Meteo, MET-BYDGOSZCZ, MET-Warmia-Mazury) corresponds to 12.5% of the terminal revenues. The ex-post RoE 58.6% is higher than planned 4.5%.

POLAND: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Poland

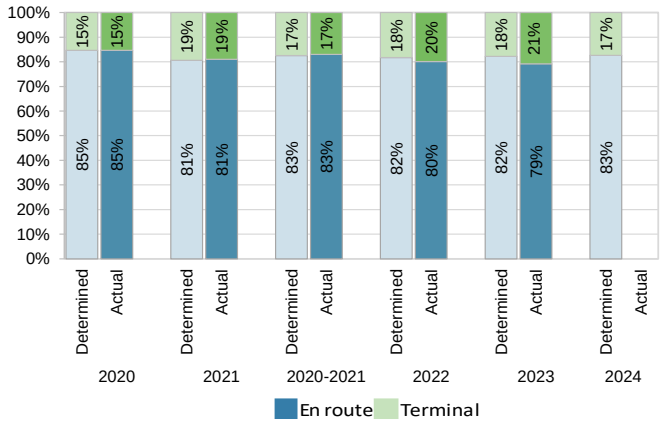
Terminal charging zone 1: Poland zone 1 Terminal charging zone 2: Poland zone 2

Poland: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	172 051 447	181 219 573	353 271 019	187 759 755	192 496 044	196 729 872
Real terminal costs (€2017)	31 192 093	43 583 622	74 775 715	42 004 531	41 697 946	41 408 832
Real gate-to-gate costs (€2017)	203 243 540	224 803 194	428 046 734	229 764 286	234 193 991	238 138 704
En route share (%)	84.7%	80.6%	82.5%	81.7%	82.2%	82.6%

Poland: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	172 051 447	137 097 795	309 149 242	169 507 437	179 439 338	
Real terminal costs (€2017)	31 192 093	32 132 757	63 324 850	42 121 445	47 198 442	
Real gate-to-gate costs (€2017)	203 243 540	169 230 552	372 474 092	211 628 881	226 637 780	
En route share (%)	84.7%	81.0%	83.0%	80.1%	79.2%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-55 572 643	-55 572 643	-18 135 405	-7 556 211	
	in %	0.0%	-24.7%	-13.0%	-7.9%	-3.2%	
En route share	in p.p.	0.0 p.p.	0.4 p.p.	0.5 p.p.	-1.6 p.p.	-3.0 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -3.2% (-7.6 M€2017) lower than planned, as en route costs are lower than planned by -13.1 M€2017 and terminal costs are higher than planned by +5.5 M€2017.

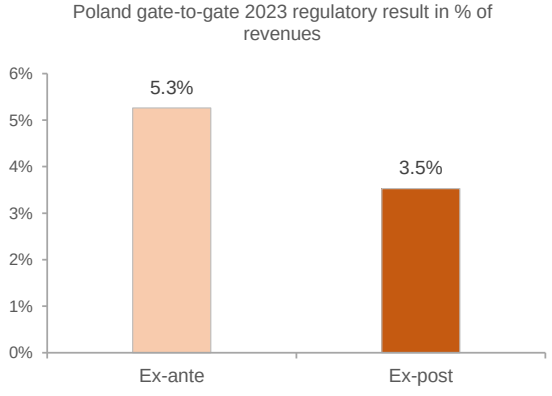
The actual share of en route in gate-to-gate ANS costs (79.2%) is lower than planned in the PP for 2023 (82.2%).

3. Gate-to-gate regulatory result (RR) 2023

In PLN '000	Ex-ante				Ex-post		
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**
PANSA	54 216	978 942	5.5%		32 967	1 103 922	3.0%
Poland zone 2-ANSP-BYDGOSZCZ	52	901	5.8%		399	925	43.1%
Poland zone 2-ANSP Warmia-Mazury	45	1 939	2.3%		812	2 412	33.7%
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**
Poland-MET IMWM	390	53 397	0.7%		4 460	64 342	6.9%
Poland-MET Airport Meteo	92	3 058	3.0%		2 092	3 533	59.2%
Poland-MET_WIM	54	3 131	1.7%		449	3 782	11.9%
Poland-MET BYDGOSZCZ	128	3 457	3.7%		554	4 116	13.5%
Total	**54 977**	**1 044 826**	**5.3%**		**41 733**	**1 183 032**	**3.5%**

For the ANSPs providing services in the en route and terminal charging zones of Poland covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +41.7 MPLN (+47.8 MPLN for en route and -6.1 MPLN for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 3.5% of gate-to-gate ANS revenues.

This is lower than the return planned for the year (5.3% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

PORTUGAL

PORTUGAL **Monitoring of SAFETY for 2023**

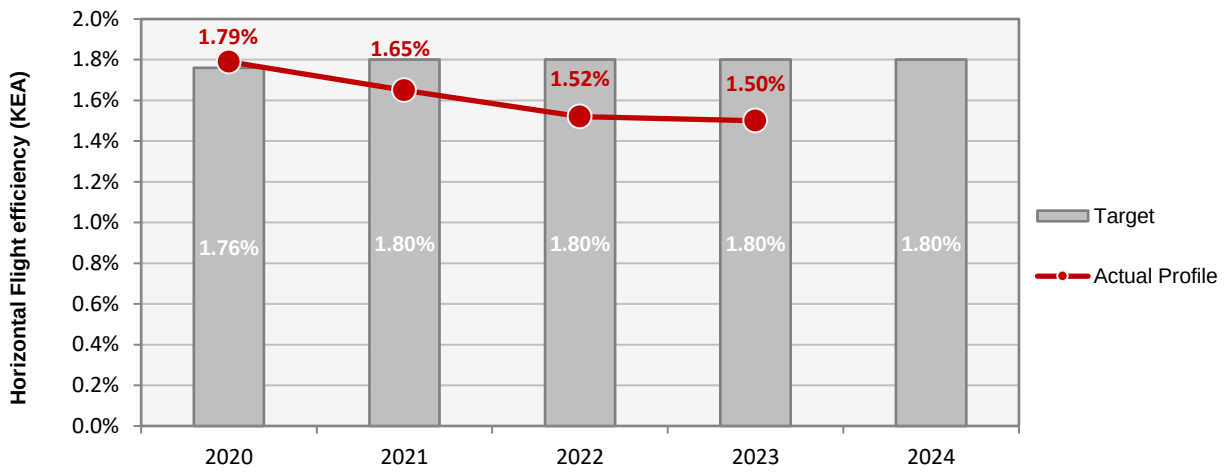
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
NAV Portugal	92	C	C	C	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

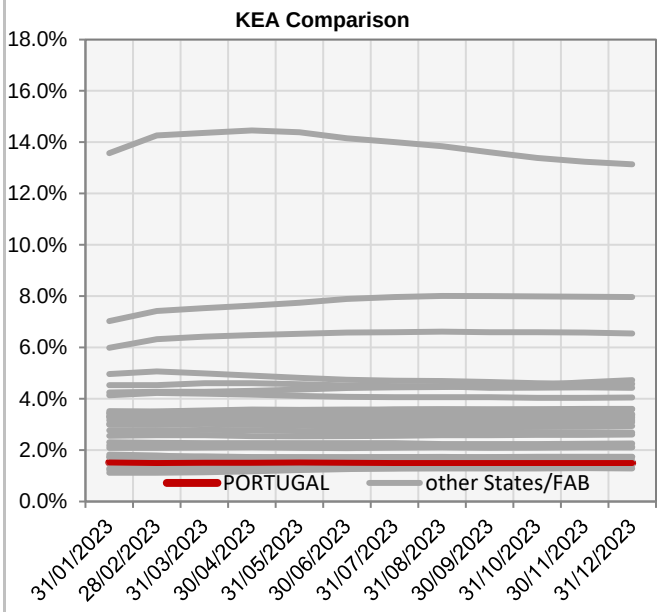
Four out of five EoSM components of the ANSP meet the RP3 target level. Over 2023, the component "Safety Risk Management" was degraded and is below 2024 target level. Improvements for two questions in "Safety Risk Management" are still expected during RP3 to achieve RP3 targets.

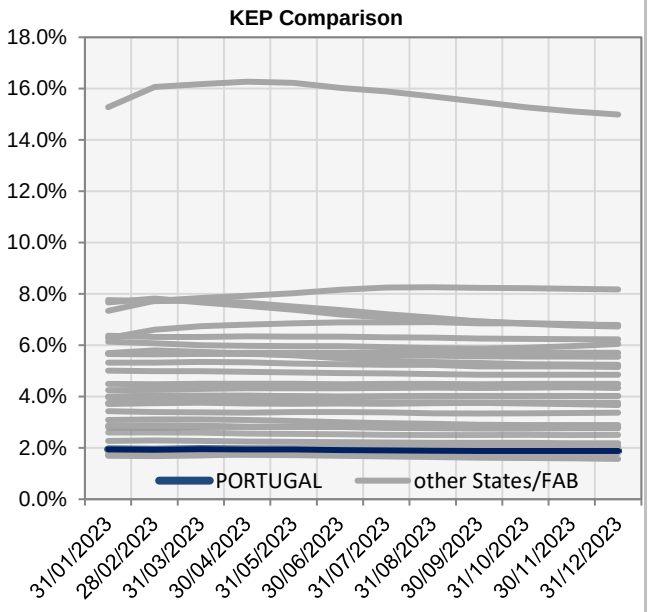
PORTUGAL **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.76%	1.80%	1.80%	1.80%	1.80%
Actual performance	1.79%	1.65%	1.52%	1.50%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	1.52%	1.50%	1.51%	1.51%	1.52%	1.51%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
KEP	1.94%	1.93%	1.95%	1.94%	1.94%	1.92%	1.90%	1.89%	1.88%	1.88%	1.88%	1.88%
KES	1.79%	1.79%	1.81%	1.80%	1.80%	1.78%	1.76%	1.75%	1.75%	1.74%	1.74%	1.74%





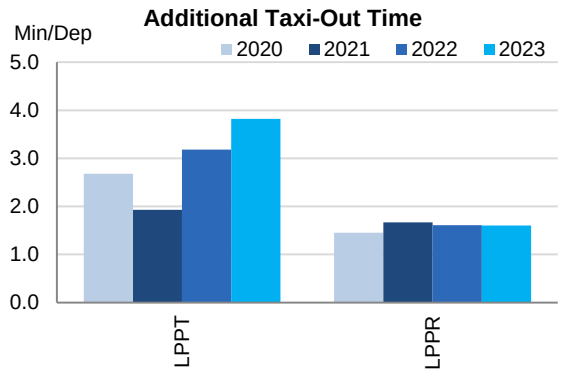
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

PORTUGAL **ENVIRONMENT - Airports**

1. Overview

The scope of RP3 monitoring for Portugal comprises 10 airports. However, in accordance with IR (EU) 2019/317 and the traffic figures, only two of these airports (Lisbon (LPPT) and Porto (LPPR)) must be monitored for additional taxi-out and ASMA times.
The Airport Operator Data Flow, necessary for the monitoring of the additional times, is correctly established where required and the monitoring of all environment indicators can be performed.
Traffic at these 10 airports in 2023, after an increase of 11% versus 2022, was 7% higher than in 2019.
With the traffic recovery, the additional times at Lisbon observed further deterioration in 2023, while the performance at Porto was very similar to the previous year in taxi-out and ASMA.
The shares of CDO flights are relatively high in 2023 with most airports having an increase in the share of CDO flights.

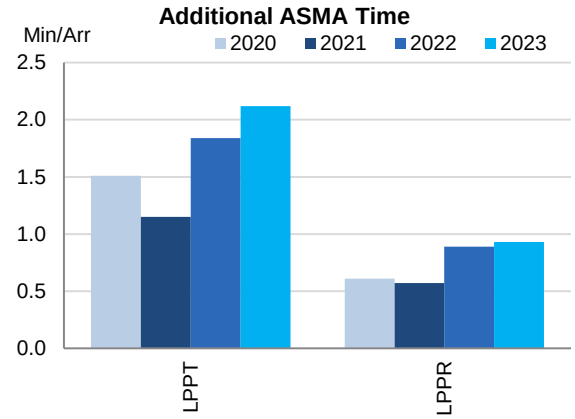
2. Additional Taxi-Out Time



Additional taxi-out times at Lisbon (LPPT; 2019: 3.96 min/dep.; 2020: 2.68 min/dep.; 2021: 1.93 min/dep.; 2022: 3.18 min/dep.; 2023: 3.82 min/dep.) increased again in 2023 resulting in the 4th highest additional taxi-out times in the SES area and well above the SES average of 2.81 min/dep.

According to the Portuguese monitoring report:
Regular performance and capacity reports by the ANSP are presented to the NSA in which the ENV KPI is specifically addressed.

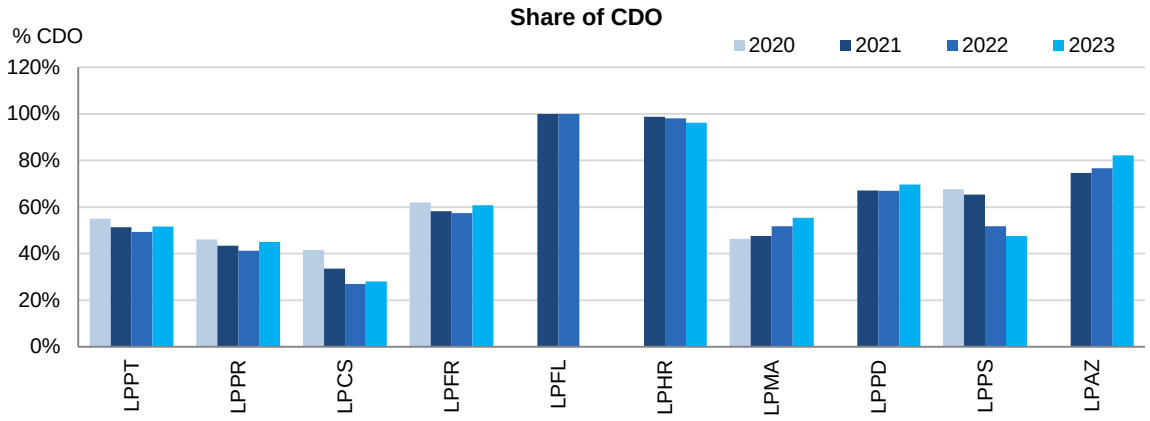
3. Additional ASMA Time



Like the additional taxi-out times, the additional times in the terminal airspace at Lisbon (LPPT; 2019: 2.75 min/arr.; 2020: 1.51 min/arr.; 2021: 1.15 min/arr.; 2022: 1.84 min/arr.; 2023: 2,12 min/arr.) experimented an increase in 2023 and resulted well above the SES average of 1.16 min/arr with the second highest value of all SES monitored airports.

According to the Portuguese monitoring report:
Regular performance and capacity reports by the ANSP are presented to the NSA in which the ENV KPI is specifically addressed.

4. Share of arrivals applying CDO



All airports except Cascais have shares of CDO flights well above the overall RP3 value in 2023 (28.8%), ranging from 28.0% (Cascais - LPCS) to 96.1% (Horta - LPHR). It should however be noted that Horta had only 181 arriving flights in 2023.
Most airports have an increase of the share of CDO flights, with the biggest increase for Santa Maria by 5.4 percentage points.

According to the Portuguese monitoring report: *Regular performance and capacity reports by the ANSP are presented to the NSA in which the ENV KPI is specifically addressed.*

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Lisbon-LPPT	2.68	1.93	3.18	3.82		1.51	1.15	1.84	2.12		55%	51%	49%	52%	
Porto-LPPR	1.45	1.67	1.61	1.6		0.61	0.57	0.89	0.93		46%	43%	41%	45%	
Cascais-LPCS	-	-	-	-		-	-	-	-		42%	34%	27%	28%	
Faro-LPFR	-	-	-	-		-	-	-	-		62%	58%	57%	61%	
Flores-LPFL	-	-	-	-		-	-	-	-		n/a	100%	100%	n/a	
Horta-LPHR	-	-	-	-		-	-	-	-		n/a	99%	98%	96%	
Madeira-LPMA	-	-	-	-		-	-	-	-		46%	48%	52%	55%	
Ponta Delgada-LPPD	-	-	-	-		-	-	-	-		n/a	67%	67%	70%	
Porto Santo-LPPS	-	-	-	-		-	-	-	-		68%	65%	52%	48%	
Santa Maria-LPAZ	-	-	-	-		-	-	-	-		n/a	75%	77%	82%	

PORTUGAL **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

Airspace design is established in accordance with the FUA principles for strategic, pre-tactical and tactical levels. The military training missions are conducted primarily within the restricted airspace associated with military aerodromes or, when necessary, at the temporary segregated airspace established at strategic level. This type of airspace usage results in direct and short transit routes to and from the established training areas. The average transit route extension between the military aerodromes and the training areas in Portugal is around 20NM.Additionally, the average duration of the training missions, (not including the transit times) is one (1) hour, except during major exercises.A close and active daily coordination between the military and the civil ANSP is, since long, the trademark of the Portuguese ASM. Also, the FUA coordination is supported by the Local and regional Airspace Management Tool (LARA), which enables the required level of civil military interoperability for the ASM process. As a general assessment, the environmental impact of the military during the RP3 period is expected to be low, since the military training activity was reduced due to the pandemic, and the current airspace structure promotes the optimization of transit times between air bases and training areas, thus reducing the associated carbon footprint.

Military - related measures implemented or planned to improve capacity

"ASM is the main enabler to minimize the military impact on the capacity KPA, which is supported by the LARA tool, and is achieved through a close civil military cooperation at all the three FUA levels.
On a daily basis, the FUA level 2 and 3 is managed by the ASM cell which is jointly manned by civil and military personnel, co-located within the Lisbon ACC. This provides for a close liaison at both pre-tactical and tactical level.
Overall, the reduction of the military training activity, including exercises, should result in a low impact in capacity. Moreover, the activation of airspace under the FUA principle should not be included in any type of capacity reduction, since, in the current operational arrangements between the Portuguese civil ANSP and the military, the required blocks of airspace are only active between the actual time the military aircraft enter the area until the moment they vacate it, thus increasing capacity.
The current trend by some ANSP to include the use of FUA by the military as a “capacity reduction factor”, is not only contrary to the principles contained in Regulation 2150/2005, it is also detrimental to the effort put by the military in the mission planning phase when establishing the airspace daily requirements. "

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Portugal					

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Lisbon					

Initiatives implemented or planned to improve PI#6

Implementation of the A_FUA functionallity as per regulation 2021/116 will improve the use of airspace by both the civil and the military. Also with the implementation of the LARA tool more accurate statistic reports will be available to evaluate the FUA performance.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Portugal	n/a	n/a			

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Lisbon	n/a	n/a			

Initiatives implemented or planned to improve PI#7

LARA interfaces and associated statistic tools are in the final stages of implementation by the ANSP.

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Portugal	n/a	n/a			

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Lisbon	n/a	n/a			

Initiatives implemented or planned to improve PI#8

LARA interfaces and associated statistic tools are in the final stages of implementation by the ANSP.

PORTUGAL **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.23	0.09	0.13	0.13	0.13	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.25	0.07	0.67	0.48		

NSA's assessment of capacity performance

After the recovery of traffic in 2022, in 2023 traffic levels already surpassed 2019 figures. Specifically, in Lisbon FIR, traffic increased 11%, when compared to 2022, and is already 4,0% above 2019 levels.

Continued growth in traffic in 2023, when 2019 levels were surpassed (both for en-route and terminal), have taken a toll regarding capacity. Elementary sectors have reached their maximum capacity, which together with a lack of controllers have caused delays above expected. A restructuring of the airspace is ongoing, while the training / recruitment of new ATCOs is advancing, in order to solve the issues underlying the Portuguese underperformance.

Monitoring process for capacity performance

NAV Portugal and ANAC have a capacity monitoring process in place that consists of quarterly reports and follow-up meetings to monitor and present corrective measures whenever necessary.

Capacity Planning

The main causes of en route delays are:

276 813 minutes of delay (84% of total delay) on elementary sectors due to an existing limitation to open a maximum of 9 route sectors in the Lisbon ACC. This issue is being addressed through a complete restructuring of the upper airspace that is already being developed with the support of Eurocontrol experts;

A second reason that generated 22 866 minutes of delay (7% of total delay) was due to the lack of ATCOs. This problem is being addressed by NAV's commitment to recruit 24 new ATCOs each year and to send 5 ATCOs to ACCs for APS qualification and 8 for enroute qualification each year. In an unprecedented move, we are even sending ATCOs directly from Ab initio to the ACC in order not to lose any placements and to speed up these placements.

ATCO in OPS (FTE)							
Lisbon ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	153	163	175	182	
Actual	146	148	147	150	154		

Although the figures show a gap compared to what was planned in DEC 2023, it should be borne in mind that 11 new ATCOs entered service in Q1 2024, making a total of 17. This planning gap is mainly the result of qualification times (on average 8 to 9 months), but due to various circumstances the respective qualifications may take place in the first few weeks of 2024.

Application of Corrective Measures for Capacity (if applicable)

The NSA corroborates the analysis presented by NAV Portugal, included in the "capacity planning" item above, and, moreover, we consider that it is also worth mentioning the sharp recovery in traffic in 2023. In fact, NAV Portugal is in the top ten European providers with a volume of traffic in 2023 already above the registered movements for 2019.

In view of the above, and with regard to the mitigation measures being implemented, NAV Portugal is working on three different axes so that this situation can be reversed or at least mitigated from 2024 onwards:
▪ Recruitment and training of ATCOs;
▪ Airspace Optimisation;
▪ Increasing Sector Capacity.

With regard to the first point, and as already mentioned, NAV Portugal aims to reduce the current gap, which is why it has had 13 ATCOs in qualification at the Lisbon ACC since the beginning of 2023 (8 ACS + 5 APS). A further 13 ATCOs are scheduled to be transferred to the Lisbon ACC for qualification in 2024 (8 ACS + 5 APS). The extension of the operational age limit for ATCOs from 58 to 60 should also have a positive impact on the total number of ATCOs available, compared to the numbers initially planned. However, this impact will only materialise when the relevant Decree-Law is published, which is expected to be soon. Notwithstanding, by the end of RP3 the ATCOs gap it's not expected to be fully solved.

With regard to the second point, there are two lines of work to be pursued:
▪ One which involves to vertically divide the West sector and make it more flexible, which consists of creating new volumes of airspace with increased efficiency. This issue is already being addressed by NAV Portugal together with the NM. Once validated, these new airspaces volumes will make it possible to choose a more efficient and less penalising sectorisation.
▪ NAV Portugal has developed an airspace restructuring study with the aim of increasing total airspace capacity in the Lisbon FIR and thus mitigating some of the situations described above regarding the West sector and other sectors. The next steps in this study, which has now been finalised, will involve the Network Manager (NM) in its analysis, simulation and validation, not forgetting the need for safety assessments and training.

Summary of capacity performance

Portugal experienced an increase in traffic from 610k flights in 2022, with 404k minutes of en route ATFM delay, to 677k flights in 2023 with a reduction in ATFM delays to 327k minutes.

There were an addition 2k minutes of en route ATFM delay, originating in Portugal, that were re-attributed to the DSNA in France, in accordance with the NM post operations delay reattribution process, endorsed by the NMB, due to eNM/S23 measures to mitigate the capacity shortfalls in France..

En route Capacity Incentive Scheme

NAV Portugal (Continental	2020	2021	2022	2023	2024	Observations
CRSTMP target				0.12		Portugal uses an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The national target was set at 0.12 minutes per flight and the actual performance is reported as 0.46 minutes per flight (CRSTMP only). This results in a reported penalty of €649 071
Deadband +/-	-	-	-	[0.09-0.15]		
Actual performance				0.46		

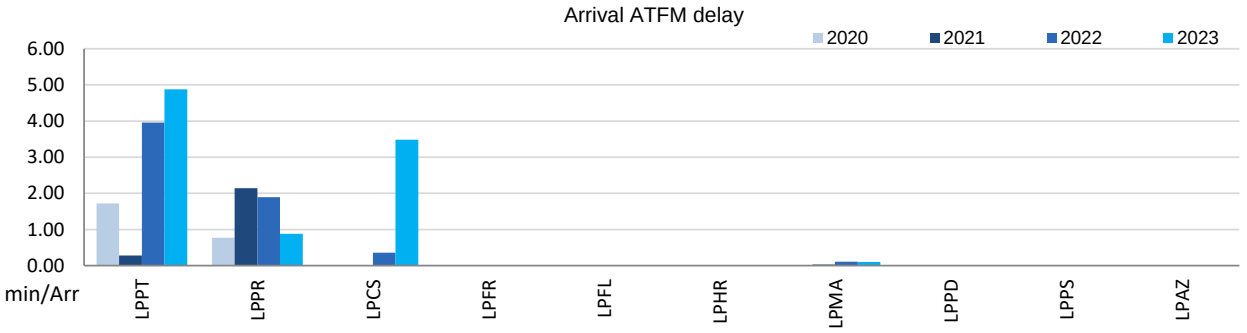
PORTUGAL **CAPACITY - Airports**

1. Overview

The scope of RP3 monitoring for Portugal comprises 10 airports in 2020, However, in accordance with IR (EU) 2019/317 and the traffic figures, only two of these airports (Lisbon (LPPT) and Porto (LPPR)) must be monitored for pre-departure delays.
The Airport Operator Data Flow, necessary for the monitoring of these pre-departure delays, is correctly established where required and the monitoring of all capacity indicators can be performed.
Traffic at these 10 airports in 2023, with an increase of 11% versus 2022, was 7% higher than in 2019.

Average arrival ATFM delays in 2023 was 2.59 min/arr, compared to 2.31 min/arr in 2022. The national target was not met.
ATFM slot adherence increased reaching 97.2% in 2023.

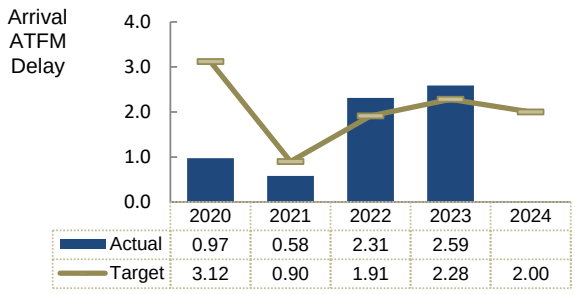
2. Arrival ATFM Delay



The national average arrival ATFM delay at Portuguese airports in 2023 was 2.59 min/arr, again higher than the previous year. This is driven by further deterioration of performance at Lisbon (LPPT; 2019: 4.13 min/arr; 2020: 1.72 min/arr; 2021: 0.28 min/arr; 2023: 4.88 min/arr). With this performance, Lisbon showed the highest arrival ATFM delay across the SES monitored airports. Cascais also shows one of the highest arrival ATFM delays in the SES area (LPCS: 2023: 3.48 min/arr.)
56% of the arrival Portuguese delays were attributed to Aerodrome Capacity issues, followed by 27% due to Weather.

According to the Portuguese monitoring report: *ATFM arrival delay followed the same behaviour as the ATFM en Route delay , with several affecting causes at airport level. With almost 90% of total ATFM arrival delay, LPPT generates the majority of delays, mainly due to airport infrastructure limitations to accommodate traffic demand (57% of total), while weather is responsible for 26%.*
Other airports in general performed better than what had been targeted, except for Cascais, that is influenced by the available capacity at the terminal control area (which is shared with LPPT).
NSA recommendation to the ANSP: The NSA corroborates the analysis presented by the ANSP, namely the paramount impact of airport capacity in the terminal delays.
As measures put in place, the Portuguese NSA reports, for Lisbon: *Cooperate with the APO, in order to look for solutions that could contribute to reduce the current level of delays. Ongoing. Target: 2026*

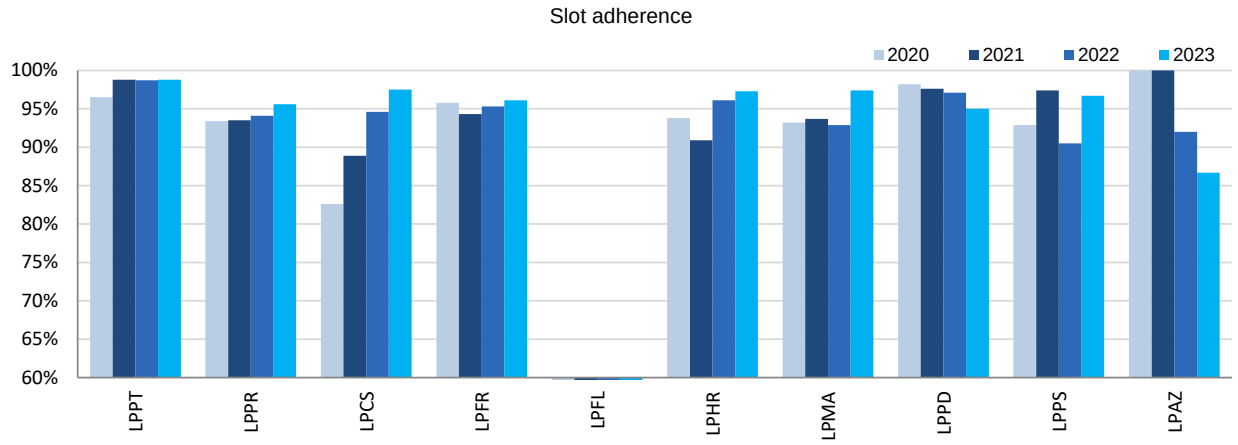
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.97	0.58	2.31	2.59	
Target	3.12	0.90	1.91	2.28	2.00

Portugal's performance plan sets a national target on arrival ATFM delay for 2023 of 2.28 min/arr. This target, with an actual performance of 2.59 min/arr, was not met. The incentive scheme uses modulated pivot values limited to CRSTMP delay causes. According to the Portuguese monitoring report, this pivot value for CRSTMP is 0.87 min/arr in 2023 and based on the attribution of the regulation reason, the actual CRSTMP value for 2023 was 0.436 min/arr.
The NSA calculates a bonus of € 200 720.

4. ATFM Slot Adherence



All Portuguese airports showed adherence around or above 90%.
The national average was 97.2%. With regard to the 2.8% of flights that did not adhere, 2.1% was early and 0.7% was late.

5. ATC Pre-departure Delay

The performance at Lisbon deteriorated again in 2023 and exceeded the delays of 2019 (LPPT; 2019: 4.16 min/dep.; 2020: 2.13 min/dep.; 2021: 1.22 min/dep.; 2022: 3.22 min/dep.; 2023: 5.66 min/dep.) Like in previous years this delay is the highest in the SES area.

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time in 2023 increased at Lisbon (LPPT: 2020: 12.02 min/dep.; 2021: 11.03 min/dep.; 2022: 25.21 min/dep.; 2023: 26.37 min/dep.) and decreased at Porto (LPPR: 2020: 9.15 min/dep.; 2021: 10.70 min/dep.; 2022: 18,40 min/dep.; 2023: 17.77 min/dep.)
These average delays at Lisbon are the highest amongst the SES monitored airports.

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Lisbon-LPPT	1.72	0.28	3.96	4.88		96.5%	98.8%	98.7%	98.8%		2.13	1.22	3.22	5.66		12.02	11.03	25.21	26.37	
Porto-LPPR	0.77	2.14	1.89	0.88		93.4%	93.5%	94.1%	95.6%		n/a	n/a	0.44	0.44		9.15	10.70	18.40	17.77	
Cascais-LPCS	0	0	0.36	3.48		82.6%	88.9%	94.6%	97.5%		-	-	-	-		-	-	-	-	
Faro-LPFR	0	0	0.01	0		95.8%	94.3%	95.3%	96.1%		-	-	-	-		-	-	-	-	
Flores-LPFL	0	0	0	0		n/a	n/a	n/a	n/a		-	-	-	-		-	-	-	-	
Horta-LPHR	0	0	0	0		93.8%	90.9%	96.1%	97.3%		-	-	-	-		-	-	-	-	
Madeira-LPMA	0	0.03	0.11	0.1		93.2%	93.7%	92.9%	97.4%		-	-	-	-		-	-	-	-	
Ponta Delgada-LPPD	0	0	0	0		98.2%	97.6%	97.1%	95.0%		-	-	-	-		-	-	-	-	
Porto Santo-LPPS	0	0	0	0		92.9%	97.4%	90.5%	96.7%		-	-	-	-		-	-	-	-	
Santa Maria-LPAZ	0	0	0	0		100.0%	100.0%	92.0%	86.7%		-	-	-	-		-	-	-	-	

PORTUGAL CONTINENTAL: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Portugal Continental ECZ represents 2.4% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 17 November 2021 and found consistent as per Commission Decision (EU) 2022/767 of 13 April 2022

  The final version of the plan was adopted and published by Portugal Continental in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Portugal Continental: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	115 523 007	117 279 296	232 802 303	139 106 168	150 290 389	154 572 715
Inflation %	0.0%	0.9%		1.2%	1.3%	1.4%
Inflation index (100 in 2017)	101.5	102.4		103.6	104.9	106.4
Real en route costs (€2017)	114 095 861	115 019 714	229 115 575	135 200 935	144 619 857	147 095 309
Total en route service units	1 556 016	1 924 895	3 480 911	3 315 551	3 582 357	3 884 376
Real en route DUC per service unit (€2017)	**73.33**	**59.75**	**65.82**	**40.78**	**40.37**	**37.87**

Portugal Continental: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	115 523 007	118 446 123	233 969 130	130 067 304	165 177 293	
Inflation %	0.0%	0.9%		8.1%	5.3%	
Inflation index (100 in 2017)	101.5	102.4		110.7	116.6	
Real en route costs (€2017)	114 095 861	116 103 545	230 199 406	119 593 567	145 888 782	
Total en route service units	1 556 016	1 988 333	3 544 349	3 695 099	4 123 128	
Real en route AUC per service unit (€2017)	**73.33**	**58.39**	**64.95**	**32.37**	**35.38**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	1 166 827	1 166 827	-9 038 864	14 886 904	
	in %	-	+1.0%	+0.5%	-6.5%	+9.9%	
Inflation %	in p.p.	0.0 p.p.	0.0 p.p.		6.9 p.p.	4.0 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.0 p.p.		7.1 p.p.	11.7 p.p.	
Real en route costs (€2017)	in value	0	1 083 831	1 083 831	-15 607 368	1 268 925	
	in %	-	+0.9%	+0.5%	-11.5%	+0.9%	
Total en route service units	in value	0	63 438	63 438	379 548	540 771	
	in %	-	+3.3%	+1.8%	+11.4%	+15.1%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-1.36**	**-0.87**	**-8.41**	**-4.99**	
	in %	**-**	**-2.3%**	**-1.3%**	**-20.6%**	**-12.4%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -12.4% (or -4.99 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+15.1%) and slightly higher than planned en route costs in real terms (+0.9%, or +1.3 M€2017). It should be noted that actual inflation index in 2023 was +11.7 p.p. higher than planned.

En route service units

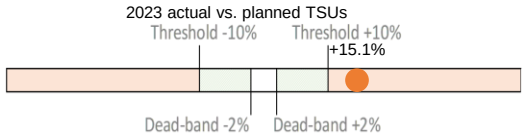
The difference between actual and planned TSUs (+15.1%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

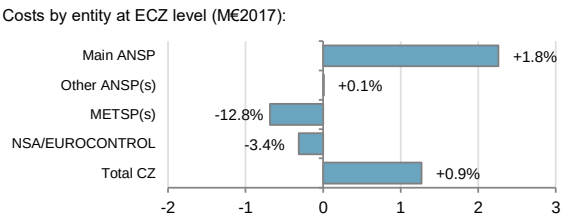
En route costs by entity

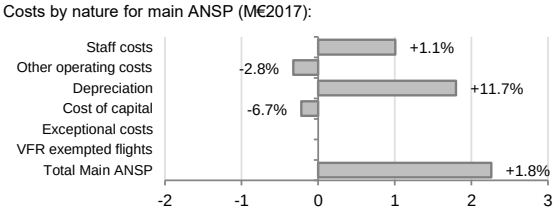
Actual real en route costs are +0.9% (+1.3 M€2017) higher than planned. This is the result of higher costs for the main ANSP, NAV Portugal (+1.8%, or +2.3 M€2017) and the other ANSP (SAR provider, +0.1%, or +0.01 M€2017) and lower costs for the NSA/EUROCONTROL (-3.4%, or -0.3 M€2017) and the MET service provider (-12.8%, or -0.7 M€2017).

En route costs for the main ANSP (NAV Portugal) at charging zone level

Higher than planned en route costs in real terms for NAV Portugal in 2023 (+1.8%, or +2.3 M€2017) result from:
- Higher staff costs (+1.1% in real terms and +12.3% in nominal terms), primarily due to necessary overtime to manage a 15.1% increase in traffic compared to the plan;
- Slightly lower other operating costs by -2.8% in real terms (higher in nominal terms +8.1%);
- Significantly higher depreciation costs (+11.7% in real terms), reflecting the implementation of investments that had been deferred in the early years of the reference period, mainly related to the new ATM system (TOPSKY);
- Significantly lower cost of capital (-6.7% in real terms), due to lower net book value of fixed assets.







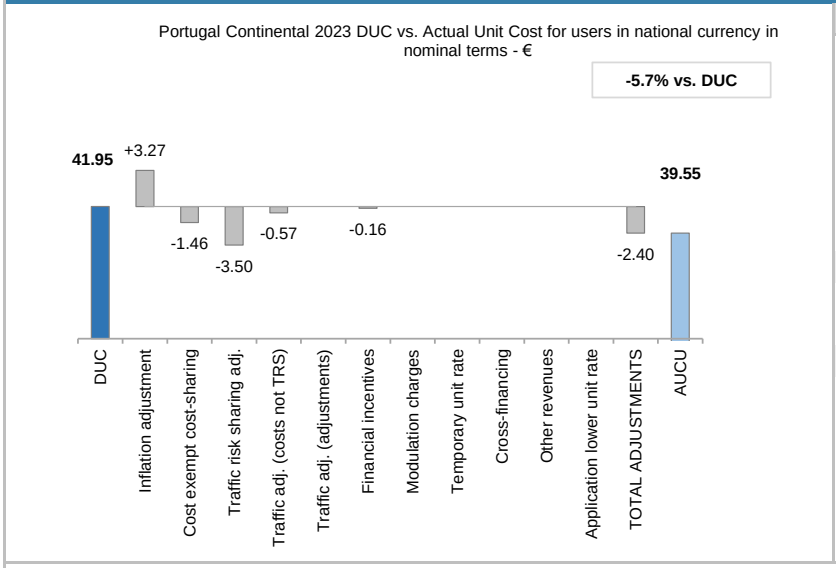
PORTUGAL CONTINENTAL: En route charging zone — Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	41.95
DUC to be charged retroactively	0.00
DUC	**41.95**
Inflation adjustment	3.27
Cost exempt from cost-sharing	-1.46
Traffic risk sharing adjustment	-3.50
Traffic adj. (costs not TRS)	-0.57
Traffic adj. (adjustments)*	
Financial incentives	-0.16
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	-2.40
AUCU	**39.55**
AUCU vs. DUC	**-5.7%**

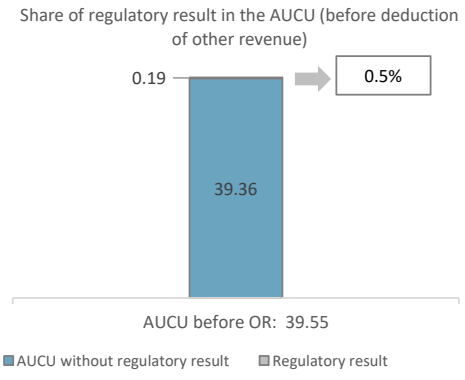
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	545	0.13
	Competent authorities and qualified entities costs	-83	-0.02
	Eurocontrol costs	-232	-0.06
	Pension costs	-6 238	-1.51
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-6 007**	**-1.46**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
NAV Portugal (Continental)	414	0.10
Portugal Continental SAR	232	0.06
METSP(s)	**€ '000**	**€/SU**
Portugal Continental MET	146	0.04
Total charging zone	792	0.19
Actual cost for users* **	163 063	39.55
Regulatory result (% AUCU)	0.5%	0.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (39.55 €) is -5.7% lower than the nominal DUC (41.95 €). The difference between these two figures (-2.40 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+3.27 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-1.46 €/SU);
- the deduction of the traffic risk sharing adjustments (-3.50 €/SU);
- the deduction of the traffic adjustment (-0.57 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (-0.16 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 0.5%.

PORTUGAL CONTINENTAL: En route main ANSP (NAV Portugal) **Monitoring of en route COST-EFFICIENCY for 2023**

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

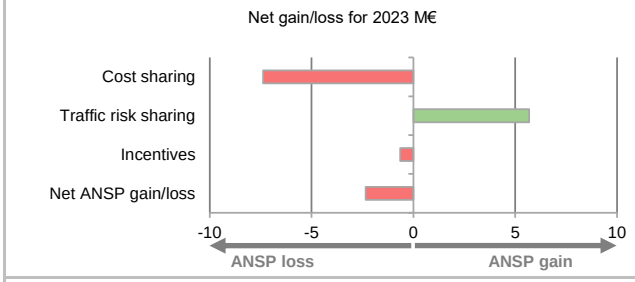
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

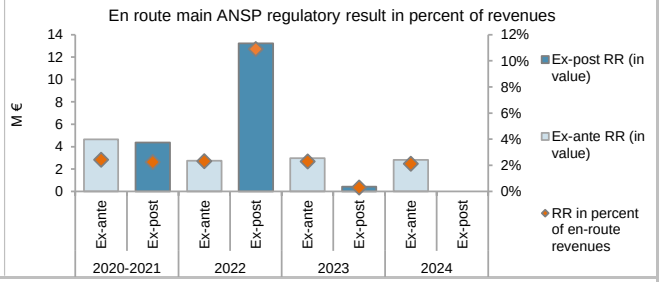
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-1 773	8 529	-14 746	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	0	7 048	12 371	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-982	-9 640	-5 008	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-2 755**	**5 936**	**-7 382**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.8%	11.4%	15.1%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	190 994	118 222	129 193	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**3 481**	**5 202**	**5 684**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-649**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**726**	**11 138**	**-2 346**	

12. Regulatory result (RR) for the main ANSP at charging zone level

NAV Portugal (Continental) planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	41 220	69 774	110 994	106 102	114 796	109 724
Proportion of financing through equity (in %)	70%	70%	70%	61%	61%	61%
RoE pre-tax rate (in %)	6.0%	6.0%	6.0%	4.2%	4.2%	4.2%
RoE (in value)	1 728	2 925	4 653	2 733	2 959	2 828
Ex-ante regulatory result (+/-) for the en route charging zone	**1 728**	**2 925**	**4 653**	**2 733**	**2 959**	**2 828**
Revenue for the en route charging zone	**95 572**	**96 616**	**192 188**	**118 833**	**129 814**	**133 840**
Ex-ante regulatory result (+/-) in percent of revenues	**1.8%**	**3.0%**	**2.4%**	**2.3%**	**2.3%**	**2.1%**
Ex-ante RoE pre-tax rate (in %)	**6.0%**	**6.0%**	**6.0%**	**4.2%**	**4.2%**	**4.2%**
NAV Portugal (Continental) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	41 220	45 915	87 134	81 682	107 166	
Proportion of financing through equity (in %)	70%	70%	70%	61%	61%	
RoE pre-tax rate (in %)	6.0%	6.0%	6.0%	4.2%	4.2%	
RoE (in value)	1 728	1 925	3 653	2 104	2 760	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	726	726	11 138	-2 346	
Ex-post regulatory result (+/-) for the en route charging zone	**1 728**	**2 651**	**4 379**	**13 242**	**414**	
Revenue for the en route charging zone	**95 572**	**99 115**	**194 687**	**121 442**	**142 213**	
Ex-post regulatory result (+/-) in percent of revenues	**1.8%**	**2.7%**	**2.2%**	**10.9%**	**0.3%**	
Ex-post RoE pre-tax rate (in %)	**6.0%**	**8.2%**	**7.2%**	**26.7%**	**0.6%**	

13. Focus on the main ANSP regulatory result on en route activity





NAV Portugal net gain on activity in the Portugal Continental en route charging zone in the year 2023

NAV Portugal reported a net loss of -2.3 M€, as a combination of a loss of -7.4 M€ arising from the cost sharing mechanism, with a gain of +5.7 M€ arising from the traffic risk sharing mechanism and a loss of -0.6 M€ relating to financial incentives.

NAV Portugal overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net loss from the en route activity mentioned above (-2.3 M€) and the actual RoE (+2.8 M€) amounts to +0.4 M€ (0.3% of the en route revenues). The resulting ex-post rate of return on equity is 0.6%, which is lower than the 4.2% planned in the PP.

PORTUGAL CONTINENTAL: Other en route ANSPs/METSPs Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
Portugal Continental SAR planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	5 725	5 791	11 516	5 506	5 545	5 632
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Portugal Continental SAR actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	199	199	625	232	
Revenue for the en route charging zone	5 725	6 001	11 726	6 093	6 381	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	3.3%	1.7%	10.3%	3.6%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	
Portugal Continental MET planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	139	148	287	144	146	149
Revenue for the en route charging zone	5 524	5 610	11 134	5 489	5 593	5 719
Ex-ante regulatory result (+/-) in percent of revenues	2.5%	2.6%	2.6%	2.6%	2.6%	2.6%
Ex-ante RoE pre-tax rate (in %)	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Portugal Continental MET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	139	-53	86	-383	146	
Revenue for the en route charging zone	5 524	5 442	10 966	5 397	5 446	
Ex-post regulatory result (+/-) in percent of revenues	2.5%	-1.0%	0.8%	-7.1%	2.7%	
Ex-post RoE pre-tax rate (in %)	4.0%	-1.8%	1.3%	-23.8%	4.0%	
Total other ANSPs planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	139	148	287	144	146	149
Revenue for the en route charging zone	11 249	11 401	22 650	10 995	11 138	11 351
Ex-ante regulatory result (+/-) in percent of revenues	1.2%	1.3%	1.3%	1.3%	1.3%	1.3%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Total other ANSPs actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	139	146	285	242	379	
Revenue for the en route charging zone	11 249	11 443	22 692	11 490	11 827	
Ex-post regulatory result (+/-) in percent of revenues	1.2%	1.3%	1.3%	2.1%	3.2%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Portugal Continental (SAR and MET providers)) corresponds to 3.2% of the en route revenues. It should be noted that the SAR provider does not charge cost of capital.

PORTUGAL: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Portugal TCZ represents 3.1% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 10 of which:
  - Airports with fewer than 80,000 IFR mvmts: 8
  - Airports with more than 80,000 IFR mvmts: 2
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Portugal: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal €)	34 829 936	33 103 732	67 933 668	39 079 710	42 067 274	43 963 676
Inflation %	0.0%	0.9%		1.2%	1.3%	1.4%
Inflation index (100 in 2017)	101.5	102.4		103.6	104.9	106.4
Real terminal costs (€2017)	34 377 977	32 423 922	66 801 899	37 864 473	40 318 956	41 656 556
Total terminal service units	122 723	155 162	277 885	252 079	269 126	287 502
Real terminal DUC per service unit (€2017)	**280.13**	**208.97**	**240.39**	**150.21**	**149.81**	**144.89**

Portugal: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal €)	34 829 936	34 283 768	69 113 704	37 880 661	44 656 641	
Inflation %	0.0%	0.9%		8.1%	5.3%	
Inflation index (100 in 2017)	101.5	102.4		110.7	116.6	
Real terminal costs (€2017)	34 377 977	33 584 305	67 962 282	34 576 971	38 875 239	
Total terminal service units	122 723	160 329	283 052	280 660	319 530	
Real terminal AUC per service unit (€2017)	**280.13**	**209.47**	**240.11**	**123.20**	**121.66**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal €)	in value	0	1 180 036	1 180 036	-1 199 048	2 589 367	
	in %	-	+3.6%	+1.7%	-3.1%	+6.2%	
Inflation %	in p.p.	0.0 p.p.	0.0 p.p.		6.9 p.p.	4.0 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.0 p.p.		7.1 p.p.	11.7 p.p.	
Real terminal costs (€2017)	in value	0	1 160 383	1 160 383	-3 287 502	-1 443 717	
	in %	-	+3.6%	+1.7%	-8.7%	-3.6%	
Total terminal service units	in value	0	5 166	5 166	28 581	50 404	
	in %	+0.00%	+3.3%	+1.9%	+11.3%	+18.7%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**0.50**	**-0.29**	**-27.01**	**-28.15**	
	in %	**-0.0%**	**+0.2%**	**-0.1%**	**-18.0%**	**-18.8%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -18.8% (or -28.15 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TNSUs (+18.7%) and lower than planned terminal costs in real terms (-3.6%, or -1.4 M€2017). It should be noted that actual inflation index in 2023 was +11.7 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (+18.7%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

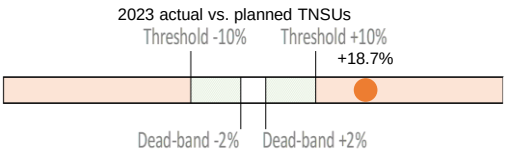
Terminal costs by entity

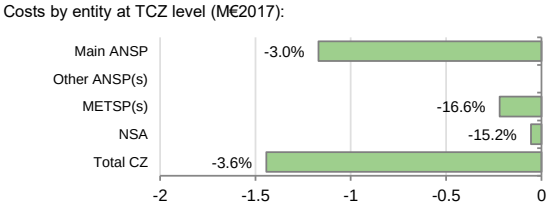
Actual real terminal costs are -3.6% (-1.4 M€2017) lower than planned. This is the result of lower costs for the main ANSP, NAV Portugal (-3.0%, or -1.2 M€2017), the MET service provider (-16.6%, or -0.2 M€2017) and the NSA (-15.2%, or -0.1 M€2017).

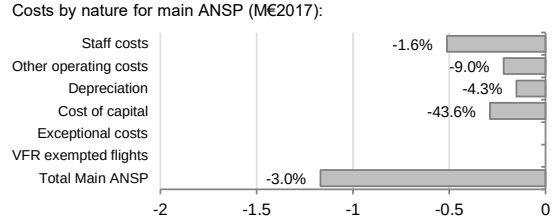
Terminal costs for the main ANSP (NAV Portugal) at charging zone level

Lower than planned terminal costs in real terms for NAV Portugal in 2023 (-3.0%, or -1.2 M€2017) result from:

- Slightly lower staff costs in real terms (-1.6%) but higher in nominal terms (+9.4%) due to non-controllable financial market factors that elevated the final costs of the Defined Benefit (DB) pension plans, leading to higher than anticipated pension liabilities;
- Significantly lower other operating costs, by -9.0% in real terms (higher +1% in nominal terms), thanks to savings that offset higher charges for electricity, IT consulting services and other external supplies;
- Lower depreciation (-4.3%), mainly due to delays in the TOPSKY Towers project,
- Significantly lower cost of capital (-43.6%), due to a lower net book value of fixed assets.







PORTUGAL: Terminal charging zone

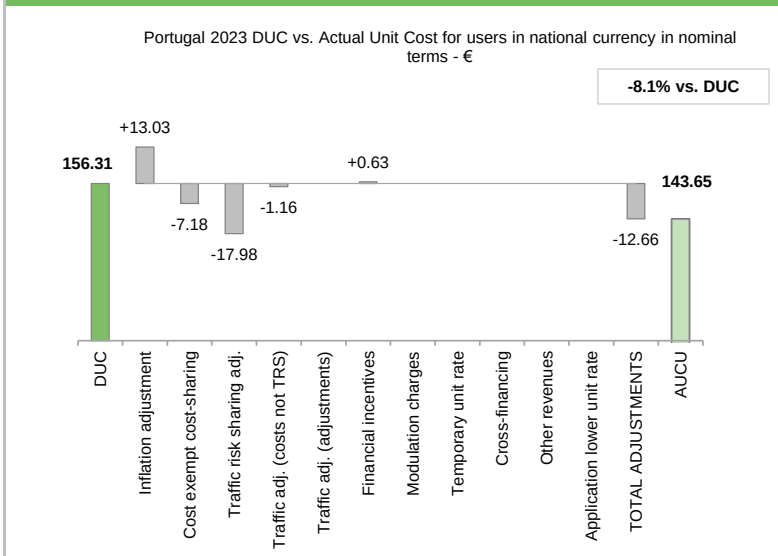
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	156.31
DUC to be charged retroactively	0.00
DUC	**156.31**
Inflation adjustment	13.03
Cost exempt from cost-sharing	-7.18
Traffic risk sharing adjustment	-17.98
Traffic adj. (costs not TRS)	-1.16
Traffic adj. (adjustments)*	
Financial incentives	0.63
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	-12.66
AUCU	**143.65**
AUCU vs. DUC	**-8.1%**

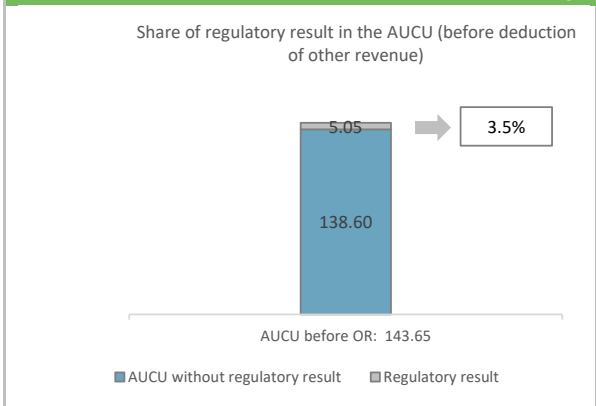
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-609	-1.90
	Competent authorities and qualified entities costs	-55	-0.17
	Eurocontrol costs	0	0.00
	Pension costs	-1 632	-5.11
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-2 295**	**-7.18**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
NAV Portugal (Continental)	1 519	4.75
METSP(s)	**€ '000**	**€/SU**
Portugal-MET	94	0.30
Total charging zone	1 613	5.05
Actual cost for users* **	45 899	143.65
Regulatory result (% AUCU)	3.5%	3.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (143.65 €) is -8.1% lower than the nominal DUC (156.31 €). The difference between these two figures (-12.66 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+13.03 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-7.18 €/SU);
- the deduction of the traffic risk sharing adjustments (-17.98 €/SU);
- the deduction of the traffic adjustment (-1.16 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (+0.63 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 3.5%.

PORTUGAL: Terminal main ANSP (NAV Portugal) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

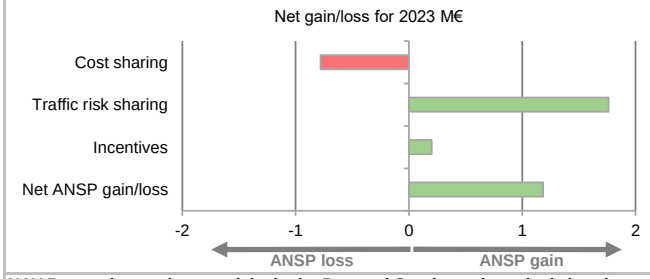
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

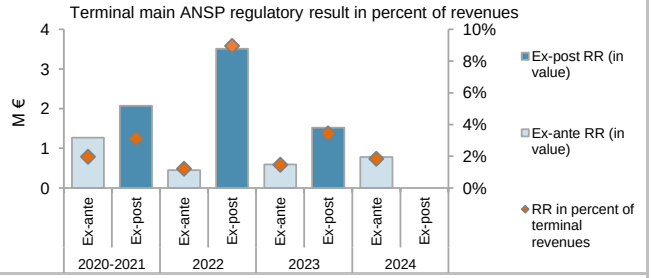
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-1 191	1 202	-2 740	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	0	2 327	4 030	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	576	-2 064	-2 071	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-615**	**1 465**	**-780**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.9%	11.3%	18.7%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	64 185	37 140	40 087	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**1 193**	**1 634**	**1 764**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**201**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**579**	**3 099**	**1 184**	

12. Regulatory result (RR) for the main ANSP at charging zone level

NAV Portugal (Continental) planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	15 774	14 545	30 319	17 634	23 044	30 207
Proportion of financing through equity (in %)	70%	70%	70%	61%	61%	61%
RoE pre-tax rate (in %)	6.0%	6.0%	6.0%	4.2%	4.2%	4.2%
RoE (in value)	661	610	1 271	454	593	777
Ex-ante regulatory result (+/-) for the terminal charging zone	**661**	**610**	**1 271**	**454**	**593**	**777**
Revenue for the terminal charging zone	**33 223**	**31 442**	**64 665**	**37 377**	**40 329**	**42 191**
Ex-ante regulatory result (+/-) in percent of revenues	**2.0%**	**1.9%**	**2.0%**	**1.2%**	**1.5%**	**1.8%**
Ex-ante RoE pre-tax rate (in %)	**6.0%**	**6.0%**	**6.0%**	**4.2%**	**4.2%**	**4.2%**
NAV Portugal (Continental) actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	15 774	19 933	35 707	15 960	12 990	
Proportion of financing through equity (in %)	70%	70%	70%	61%	61%	
RoE pre-tax rate (in %)	6.0%	6.0%	6.0%	4.2%	4.2%	
RoE (in value)	661	836	1 497	411	334	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	579	579	3 099	1 184	
Ex-post regulatory result (+/-) for the terminal charging zone	**661**	**1 414**	**2 076**	**3 510**	**1 519**	
Revenue for the terminal charging zone	**33 223**	**33 212**	**66 434**	**39 275**	**44 253**	
Ex-post regulatory result (+/-) in percent of revenues	**2.0%**	**4.3%**	**3.1%**	**8.9%**	**3.4%**	
Ex-post RoE pre-tax rate (in %)	**6.0%**	**10.1%**	**8.3%**	**36.2%**	**19.3%**	

13. Focus on main ANSP regulatory result on terminal activity





NAV Portugal net gain on activity in the Portugal Continental terminal charging zone in the year 2023

NAV Portugal reported a net gain of +1.2 M€, as a combination of a loss of -0.8 M€ arising from the cost sharing mechanism, with a gain of +1.8 M€ arising from the traffic risk sharing mechanism and a gain of +0.2 M€ relating to financial incentives.

NAV Portugal overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+1.2 M€) and the actual RoE (+0.3 M€) amounts to +1.5 M€ (3.4% of the terminal revenues). The resulting ex-post rate of return on equity is 19.3%, which is higher than the 4.2% planned in the PP.

PORTUGAL: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Portugal-MET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**33**	**35**	**67**	**35**	**36**	**37**
Revenue for the terminal charging zone	**1 300**	**1 320**	**2 620**	**1 348**	**1 377**	**1 406**
Ex-ante regulatory result (+/-) in percent of revenues	**2.5%**	**2.6%**	**2.6%**	**2.6%**	**2.6%**	**2.6%**
Ex-ante RoE pre-tax rate (in %)	**4.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**
Portugal-MET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**33**	**-12**	**20**	**-38**	**94**	
Revenue for the terminal charging zone	**1 300**	**1 281**	**2 580**	**1 322**	**1 340**	
Ex-post regulatory result (+/-) in percent of revenues	**2.5%**	**-1.0%**	**0.8%**	**-2.9%**	**7.0%**	
Ex-post RoE pre-tax rate (in %)	**4.0%**	**-1.8%**	**1.3%**	**-10.0%**	**10.5%**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Portugal Continental (Portugal-MET) corresponds to 7.0% of the terminal revenues. The ex-post RoE 10.5% is higher than planned 4.0%.

PORTUGAL CONTINENTAL: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Portugal Continental

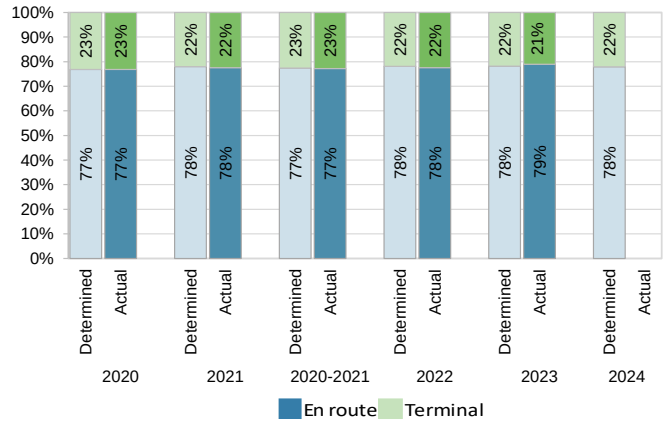
Terminal charging zone 1: Portugal

Portugal Continental: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	114 095 861	115 019 714	229 115 575	135 200 935	144 619 857	147 095 309
Real terminal costs (€2017)	34 377 977	32 423 922	66 801 899	37 864 473	40 318 956	41 656 556
Real gate-to-gate costs (€2017)	148 473 837	147 443 636	295 917 473	173 065 408	184 938 813	188 751 865
En route share (%)	76.8%	78.0%	77.4%	78.1%	78.2%	77.9%

Portugal Continental: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	114 095 861	116 103 545	230 199 406	119 593 567	145 888 782	
Real terminal costs (€2017)	34 377 977	33 584 305	67 962 282	34 576 971	38 875 239	
Real gate-to-gate costs (€2017)	148 473 837	149 687 850	298 161 687	154 170 539	184 764 021	
En route share (%)	76.8%	77.6%	77.2%	77.6%	79.0%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	2 244 214	2 244 214	-18 894 870	-174 792	
	in %	0.0%	1.5%	0.8%	-10.9%	-0.1%	
En route share	in p.p.	0.0 p.p.	-0.4 p.p.	-0.2 p.p.	-0.5 p.p.	0.8 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are -0.1% (-0.2 M€2017) lower than planned, as en route costs are higher than planned by +1.3 M€2017 and terminal costs are lower than planned by -1.4 M€2017.

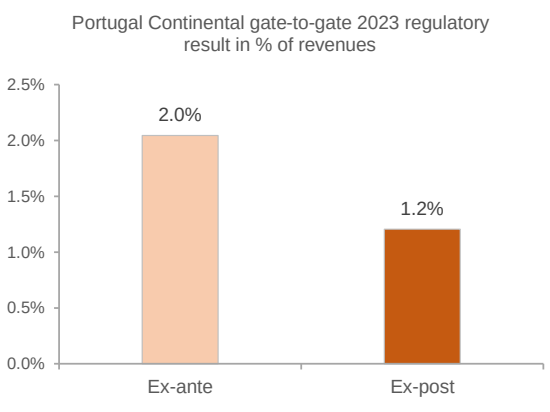
The actual share of en route in gate-to-gate ANS costs (79%) is slightly higher than planned in the PP for 2023 (78.2%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
NAV Portugal (Continental)	3 552	170 143	2.1%		1 932	186 466	1.0%	
Portugal Continental SAR	0	5 545	0.0%		232	6 381	3.6%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Portugal Continental MET	182	6 970	2.6%		241	6 786	3.5%	
Total	**3 734**	**182 658**	**2.0%**		**2 405**	**199 633**	**1.2%**	

For the ANSPs providing services in the en route and terminal charging zones of Portugal Continental covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +2.4 M€ (+0.8 M€ for en route and +1.6 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 1.2% of gate-to-gate ANS revenues.

This is lower than the return planned for the year (2.0% of gate-to-gate revenues).



Annual Monitoring Report 2023

Local level view

ROMANIA

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ROMANIA **Monitoring of SAFETY for 2023**

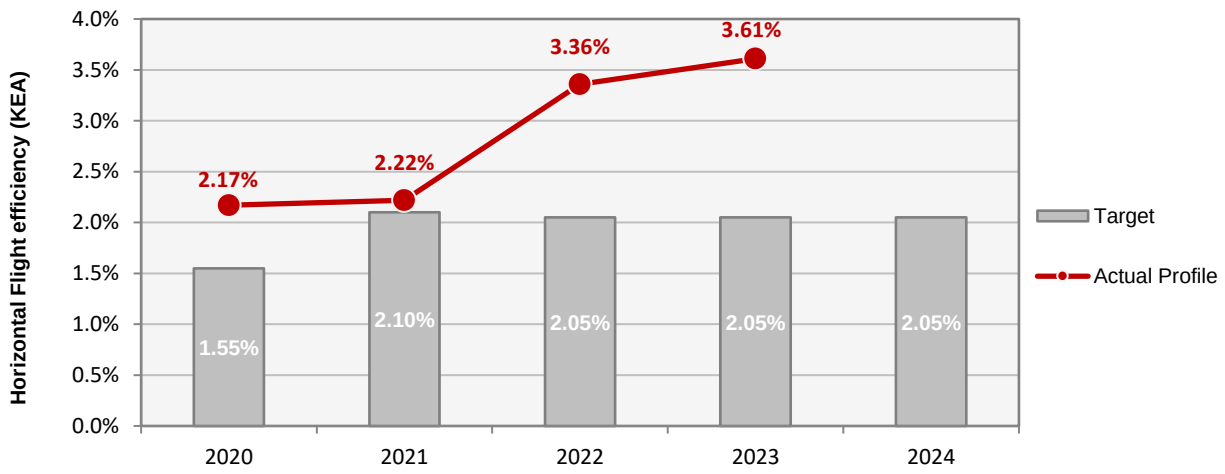
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
Romatsa	91	C	C	C	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

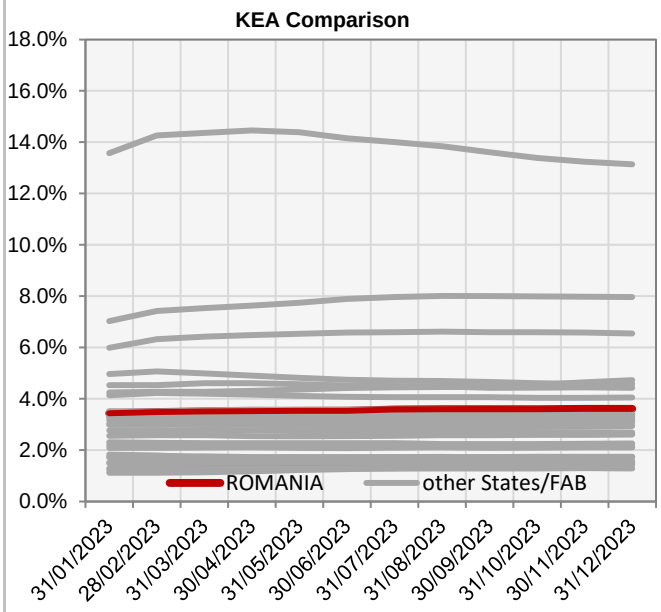
Four out of five EoSM components of the ANSP meet the RP3 target level. Over 2023, the component "Safety Risk Management" was degraded and is below 2024 target level. Improvement for a single question in "Safety Risk Management" is expected during RP3 to achieve RP3 targets.

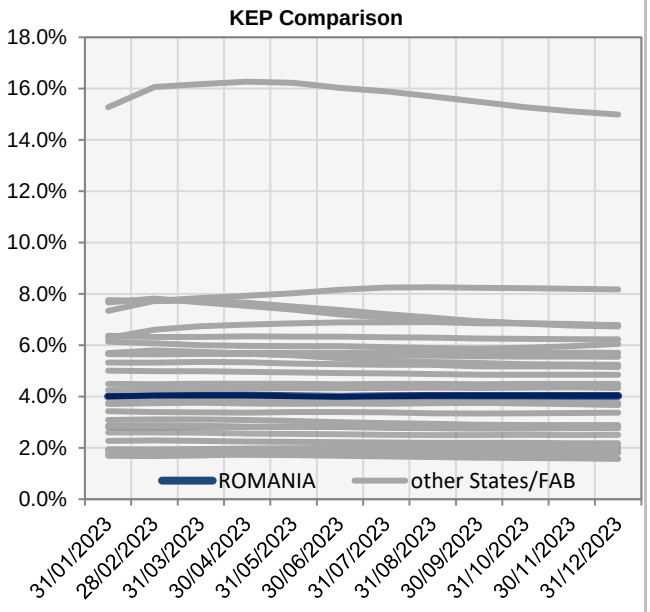
ROMANIA **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.55%	2.10%	2.05%	2.05%	2.05%
Actual performance	2.17%	2.22%	3.36%	3.61%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	3.44%	3.49%	3.51%	3.52%	3.53%	3.54%	3.59%	3.60%	3.60%	3.60%	3.61%	3.61%
KEP	4.00%	4.04%	4.04%	4.04%	4.01%	3.99%	4.01%	4.02%	4.02%	4.02%	4.03%	4.03%
KES	3.96%	4.03%	4.04%	4.05%	4.02%	4.00%	4.01%	4.02%	4.02%	4.02%	4.02%	4.02%





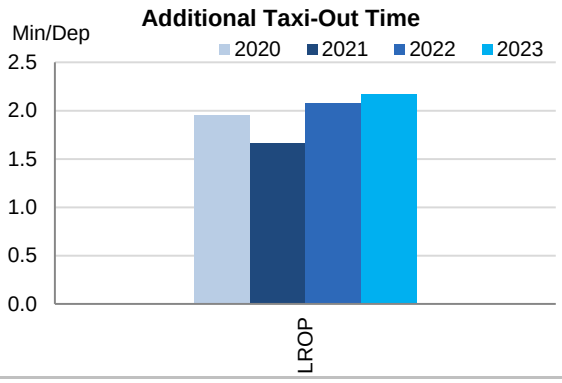
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

ROMANIA **ENVIRONMENT - Airports**

1. Overview

Romania includes 2 airports under RP3 monitoring. However, in accordance with IR (EU) 2019/317 and the traffic figures, only Bucharest/Otopeni (LROP) must be monitored for additional taxi-out and ASMA times. The Airport Operator Data Flow, necessary for the monitoring of the additional times, is correctly implemented where required and the monitoring of all environment indicators can be performed.
Traffic at these 2 airports in 2023 was still 9% lower than in 2019, but showed a 9% increase with respect to 2022.
Additional times at Bucharest/Otopeni increased slightly in 2023, but remained below the respective SES averages.
Both airports have shares of CDO flights that stayed stable with respect to 2022 with Bucharest AUREL VLAICU having a share of CDO flights just below the overall RP3 value in 2023 of 28.8%.

2. Additional Taxi-Out Time

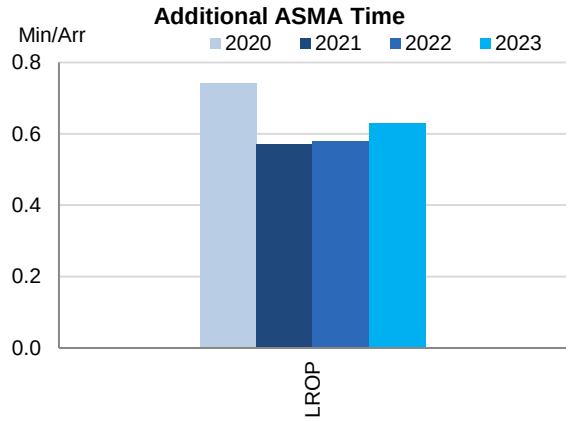


Additional taxi-out times at Bucharest/Otopeni (LROP; 2019: 2.67 min/dep.; 2020: 1.95 min/dep.; 2021: 1.66 min/dep.; 2022: 2.08 min/dep.; 2023: 2.17 min/dep.) increased in 2023, but was still below the SES average of 2.81 min/dep.

In the Romanian monitoring report, ROMATSA mentions the same measures or initiatives as the last two years, although no dates are provided:

a) Implemented:
- clearance delivery position;
- ASMGCS at Otopeni TWR - advanced surface management ground control system;
- Common procedure between Bucharest Airports National Company and TWR Otopeni for repairing works periods on the manoeuvering area, ie pre-established alternative standard taxi routes;
- Common procedure regarding ATFM (according to EU Reg 255/2010) regarding the regulation of traffic in situations that may influence the airport's capacity.
b) Planned:
- Modernisation ASMGCS - Implementation of Advanced Tower Messaging - upgrading the local ATC system at Otopeni TWR to provide departure planning information (expected to be fully implemented in Q2 2024);
- AMAN at Bucuresti TMA - Arrival Manager (ongoing, contract signed with the ATM system provider for the implementation in the ATM 2015+ System of the Arrival Manager Module (AMAN) for Bucuresti TMA).
NSA: specific monitoring of data on EUROCONTROL portal and oversight activities

3. Additional ASMA Time

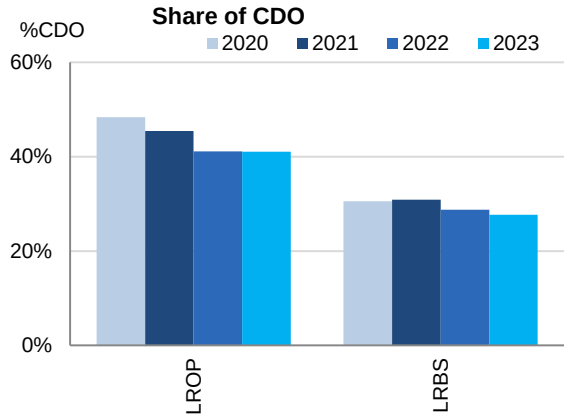


Additional ASMA times at Bucharest/Otopeni (LROP; 2019: 0.75 min/arr.; 2020: 0.74 min/arr.; 2021: 0.57 min/arr.; 2022: 0.58 min/arr.; 2023: 0.63 min/arr.) increased in 2023, but was still well below the SES average of 1.16 min/dep.

In the Romanian monitoring report, ROMATSA mentiones the following measures or initiatives:

a) Implemented:
- SID / STAR RNAV 1;
- as current practice, vectorizations for shortening the trajectories when the traffic is of low complexity (DIRECT TO);
- Bucharest TMA resectorisation - implementation of new sector: DIRECTOR.
b) Planned:
- implementation of AMAN - Arrival Manager (ongoing, contract signed with the ATM system provider for the implementation in the ATM 2015+ System of the Arrival Manager Module (AMAN) for Bucuresti TMA);
- implementation of RNP (required navigation performance) approach procedures.
NSA: specific monitoring of data on EUROCONTROL portal and oversight activities

4. Share of arrivals applying CDO



Bucharest/Otopeni (LROP), being the major airport in Romania, has the highest share of CDO flights: 41.1% which is well above the overall RP3 value in 2023 (28.8%).
The share of CDO flights at Bucharest AUREL VLAICU (LRBS) decreased to 27.7%, being slightly below the overall RP3 value in 2023 of 28.8%.

According to the Romanian monitoring report:

ROMATSA: Resumption of AIP Romania amendment process, chap. 2.21 Noise abatement procedures with the following specific provisions for aircraft operating at Otopeni Airport:
"In order to reduce aircraft noise and emissions, ATC gives clearances allowing continuous descent (CD) traffic situation permitting. Continuous descent can be planned based on track distance information of the STAR or, when vectored, on estimated track distance provided by ATC. "
NSA: NSA is monitoring this indicator through LSSIP

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Otopeni-Intl.-LROP	1.95	1.66	2.08	2.17		0.74	0.57	0.58	0.63		48%	45%	41%	41%	
Bucharest AUREL VLAICU-LRBS	-	-	-	-		-	-	-	-		31%	31%	29%	28%	

ROMANIA **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

Military - related measures implemented or planned to improve capacity

The FUA Concept is fully implemented in Romania at all specific levels, as follows: at Level 1 through National Air Space Management Council, at Level 2 through AMC, as civil-military body and at Level 3 through civil-military coordination offices colocated. At FAB level, an Air Space Policy Body is defined for strategic coordination between Romania and Bulgaria. Furthermore, Romanian operational procedures allow the crossing of most military training zones by civil aircraft with a prior coordination.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Romania	83%	86%	87%	87%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Bucharest					

Initiatives implemented or planned to improve PI#6

"ROMATSA: The FUA Concept is fully implemented in Romania at all specific levels, as follows: at Level 1 through National Air Space Management Council, at Level 2 through AMC, as civil-military body and at Level 3 through civil-military coordination offices colocated. At FAB level, an Air Space Policy Body is defined for strategic coordonation between Romania and Bulgaria. Furthermore, Romanian operational procedures allow the crossing of most military training zones by civil aircraft with a prior coordination
NSA: continuous oversight"

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Romania	n/a	n/a	n/a	n/a	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Bucharest	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#7

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Romania	n/a	n/a	n/a	n/a	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Bucharest	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#8

ROMANIA **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.14	0.02	0.04	0.04	0.04	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.00	0.00	0.00	0.16		

NSA's assessment of capacity performance

The year 2023 continues to be deeply impacted, both economically and operationally, by the war in Ukraine. The Russian invasion and the subsequent restrictions and sanctions imposed have determined traffic flows that were already circumnavigating the conflict area following the events in 2014 to be pushed further to Romania's south-western part. Furthermore, new traffic flows prefer to cross atypically the Romanian airspace in this geopolitical context. Average distance/flight has increased compared to 2019 and this is visible also in the service units evolution that has outpaced the IFR movements trend in comparison with 2019. These, combined with the increased military activity, including ad-hoc activity focused not only in the NE part of Romania, but in the entirety of the airspace, have generated an increase in complexity whilst also forcing operations into a narrower corridor to keep AUs away from conflict zones.

Despite the swift rebound of traffic in Romanian airspace, nearly reaching pre-pandemic levels with 97% of 2019 IFR movements and surpassing those levels with 104% in terms of service units, the complexity has increased due to re-routings and heightened military activity from the war in Ukraine. Nevertheless, ROMATSA has managed to maintain zero (CRSTMP) delays attributable to ATC, with delays occurring only due to weather conditions.

Monitoring process for capacity performance

ROMATSA provided regularly inputs on capacity availability in the context of NOP Rolling Seasonal Plan implemented by the Network manager at European network level. The expected en-route performance was and is regularly evaluated by the NM for each ACC, including Bucuresti ACC, in terms of planned/maximum sector openings in relation with the estimated traffic demand.
The performance target has not been met solely due to weather related restrictions. From 121 301 ATFM delay minutes incurred in 2023, the total of 100% were generated due to weather reasons. The delay due to all other reasons, incl. ATC capacity and stafffing, were zero which confirms that there was no capacity gap in 2023.

Capacity Planning

The capacity as previously planned and published within an annual NOP (Network Operatios Plan) has been adapted accordingly by adoption of capacity plans under a NOP Rolling Seasonal Plan format, including periods of 6 weeks, based on the expected traffic demand regularly provided by the Network Manager. These plans refer to:
- sector openings;
- maximum possible sector openings;
- availability of support of operational staff;
- special events and projects, etc.
Bucuresti ACC ensured a stable sector opening plan with no sector capacity reduction, with the possibility to increase the number of sectors when traffic increased.

ATCO in OPS (FTE)							
Bucharest ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	219	239	244	262	
Actual	233	225	219	238	241		

ROMATSA has continued its training and recruitment process as planned to replace ageing ATCOs from ACC Bucharest. 21 ATCOs who had previously been counted at 0.5 FTE have further extended their competencies (new sectors licences) and thus 10.5 FTE have been added. In the same time 8 ATCOs have left the OPS room, out of which 7 retired and 1 lost his licence due to medical reasons.

Application of Corrective Measures for Capacity (if applicable)

The performance target has not been met solely due to weather related restrictions. From 121 301 ATFM delay minutes incurred in 2023, the total of 100% were generated due to weather reasons. The delay due to all other reasons, incl. ATC capacity and stafffing, were zero which confirms that there was no capacity gap in 2023.

Significant Risks Likely to Affect Capacity Performance in Reference Period

Traffic values have increased in the aftermath of the COVID-19 pandemic and due to the re-routings caused by the war in Ukraine and the restrictions imposed. Traffic flows that were already circumnavigating the conflict area following the events in 2014 have been pushed further to Romania's south-western part. Furthermore, new traffic flows prefer to cross atypically the Romanian airspace in this geopolitical context. Average distance/flight has increased compared to 2019 and this is visible also in the service units evolution. From April 2023, the number of daily IFR movements in Romanian airspace has surpassed 2019 levels. These, combined with the increased military activity have generated an increase in complexity.

Another risk is generated by ROMATSA's ageing ATCO personnel, especially in ACC Bucharest, where more than 1/3 of ATCOs are over 50 years old and will be over age 55 at the end of RP3. It takes between 3 to 5 years to fully train and authorize an ATCO for ACC, therefore a recruitment process was started in 2017 to guarantee proper staffing levels to ensure safety and capacity.

Additional Information Related to Russia's War of Aggression Against Ukraine

Traffic flows that were already circumnavigating the conflict area following the events in 2014 have been pushed further to Romania's south-western part (Examples of traffic flows: Russian Federation – Turkey, Turkey - Sweden, Poland - Israel, Lithuania - Turkey, Romania - Poland, Turkey - Finland, Russian Federation - Egypt, Poland - Qatar, United Kingdom - Romania, Turkey - Norway).

Furthermore, new traffic flows prefer to cross atypically the Romanian airspace in this geopolitical context (Examples of the most affected flows : Russia-Turkey, United Kingdom – India, Republic of Korea – Germany, Australia - United Kingdom, Kazakhstan – Hungary, Qatar – Sweden, Pakistan - United Kingdom). These, combined with the increased military activity, scheduled or ad-hoc, focused not only in the NE part of Romania, but in the entirety of the airspace, have generated an increase in complexity.

In 2023, ROMATSA managed to mantain a high-level of performance for en route capacity, despite a challenging summer season, with traffic values above the 2019 level, the reduction of available airspace due to military activity and significant weather disruptions.

Through application of FUA principles, civil-military coordination helped mitigate any possible impacts on en-route capacity performance.

Summary of capacity performance

Romania experienced an increase in traffic from 656k flights in 2022, with zero en route ATFM delay, to 769k flights in 2023 with 131k minutes of en route ATFM delay. In 2019, Romania had 747k flights with 85k minutes of en route ATFM delay.

In 2023, all ATFM delays were attributed to adverse weather.

There were an additional 33k minutes of delay originating in Romania that were re-attributed to DFS via the NM post operations delay attribution process, according to the NMB agreement for eNM/S23 measures, to ameliorate capacity shortfalls in Karlsruhe UAC.

En route Capacity Incentive Scheme

	2020	2021	2022	2023	2024	Observations
CRSTMP Capacity target	n/a	n/a	n/a	0.04	n/a	The incentive scheme is under review by the Euorpean Commission
Deadband +/-	-	-	-	0.01	n/a	
Actual performance	n/a	n/a	n/a	0.00		

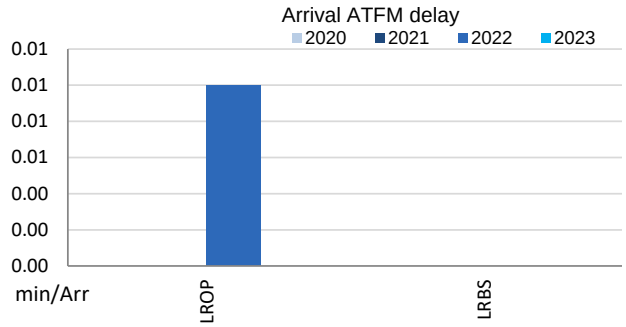
ROMANIA **CAPACITY - Airports**

1. Overview

Romania includes 2 airports under RP3 monitoring. However, in accordance with IR (EU) 2019/317 and the traffic figures, only Bucharest/Otopeni (LROP) must be monitored for the pre-departure delay indicators. The Airport Operator Data Flow, necessary for the monitoring of these delays, is correctly implemented where required and the monitoring of all capacity indicators can be performed. The quality of the reporting from Bucharest improved in 2023, allowing for the calculation of the ATC pre-departure delay indicator.
Traffic at these 2 airports in 2023 was still 9% lower than in 2019, but showed a 9% increase with respect to 2022.

Average arrival ATFM delays in 2023 were zero at both Romanian airports. The national target was met.
ATFM slot adherence remained very hight (2023: 99.6%; 2022: 99.4%) .

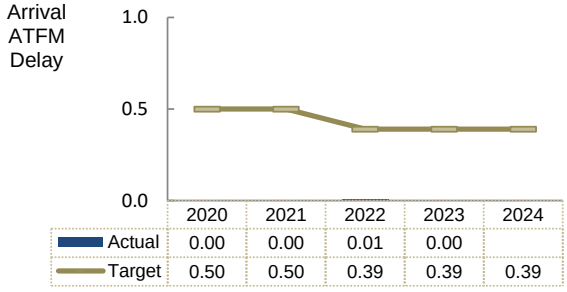
2. Arrival ATFM Delay



Average arrival ATFM delays at both Romanian airports under monitoring in 2023 were zero min/arr, with only 54 minutes recorded in the entire year for Bucharest/Otopeni.

According to the Romanian monitoring report: *ROMATSA and Bucharest Airports National Company continue to work together to ensure optimum capacity level at terminal level as this impacts the entire network. On one hand ROMATSA has implemented at Otopeni TWR a different ATM system with ASMGCS component, composed of a surveillance subsystem (operational for over three years) and an electronic flight strips subsystem (transferred into operations on April 8th 2019), interfaced via OLDI with the System covering the rest of the ATS units.*
There is in place also a common procedure between Bucharest Airports National Company and TWR Otopeni for repairing works periods on the manoeuvering area, i.e. pre-established alternative standard taxi routes.
According to EU Reg 255/2010, a common procedure regarding ATFM for the regulation of traffic in situations that may influence the airport's capacity is in place.
Implementation of AMAN at Bucharest TMA starts this year and will be finalised at the beginning of RP4, while the upgrade of ASMGCS to include Advanced Tower Messaging (implementation of DPI messages) is ongoing and will be finalised this year.

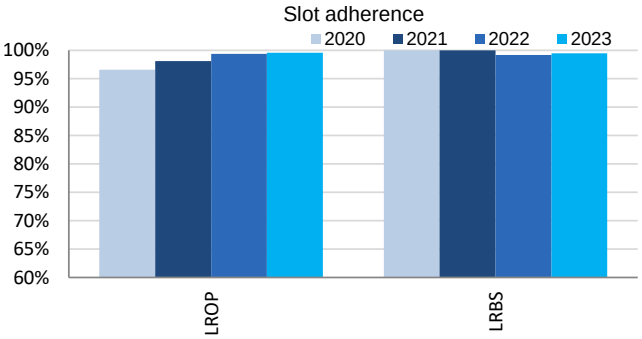
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.00	0.00	0.01	0.00	
Target	0.50	0.50	0.39	0.39	0.39

Romanian performance plan sets a national target on arrival ATFM delay for 2023 of 0.39 min/arr. This target was met, with no delays recorded at any of the Romanian airports under monitoring. The incentive scheme uses modulated pivot values limited to CRSTMP delay causes, with a pivot value for 2023 o 0.04 min/arr. The actual value for CRSTMP was 0 min/arr in 2023 (since also all delays regardless of the reason are zero).
The NSA calculates a bonus of RON 545 985.

4. ATFM Slot Adherence



The national average, driven by Bucharest/Otopeni, was an excellent 99.6%. With regard to the 0.4% of flights that did not adhere, 0.3% was early and 0.1% was late.
According to the Romanian monitoring report: *Performance improved compared to 2022. According to EU Reg 255/2010 a common procedure regarding ATFM for the regulation of traffic in situations that may influence the airport's capacity is in place between Bucharest Airports National Company and ROMATSA.*

5. ATC Pre-departure Delay

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Bucharest/Otopeni (the only Romanian airport subject to monitoring of this indicator).
The quality of the data provided improved in 2023, allowing for the calculation of this indicator for the first time in RP3. The annual average of the ATC pre-departure delay in 2023 at Budapest (LROP) was 0.37 min/dep.

According to the Romanian monitoring report:
In 2023 departure delays at LROP were mainly due to aerodrome capacity. ROMATSA and Bucharest Airports National Company continue to work together to ensure optimum capacity level at terminal level as this impacts the entire network. ROMATSA has implemented at Otopeni TWR a different ATM system with ASMGCS component, composed of a surveillance subsystem (operational for over three years) and an electronic flight strips subsystem (transferred into operations on April 8th 2019), interfaced via OLDI with the System covering the rest of the ATS units. An upgrade to the system will be finalised in 2024 to include Advanced Tower Messaging.
There is in place also a common procedure between Bucharest Airports National Company and TWR Otopeni for repairing/maintenance periods on the manoeuvering area, i.e. pre-established alternative standard taxi routes.
According to EU Reg 255/2010, a common procedure regarding ATFM for the regulation of traffic in situations that may influence the airport's capacity is in place.
Implementation of AMAN at Bucuresti TMA starts this year and will be finalised in the beginning of RP4.

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time at Bucharest/Otopeni slightly decreased in 2023 (LROP: 2020: 10.22 min/dep.; 2021: 12.45 min/dep.; 2022: 22.67 min/dep.; 2023: 21.23 min/dep.)

The Romanian monitoring report mentions the same measures taken as for the ATC pre-departure delay (see above).

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Otopeni-Intl.-LROP	0	0	0.01	0		96.6%	98.1%	99.4%	99.6%		n/a	n/a	n/a	0.37		10.22	12.45	22.67	21.23	
Bucharest AUREL VLAICU-LRBS	0	0	0	0		100.0%	100.0%	99.2%	99.5%		-	-	-	-		-	-	-	-	

ROMANIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Romania ECZ represents 3.3% of the SES en route ANS actual costs in 2023
- National currency: RON Exchange rates (1 EUR=) 2017: 4.56629 RON 2023: 4.94375 RON
- Performance Plan: RP3 draft performance plan dated 13 July 2022 and found consistent as per Commission Decision (EU) 2022/2424 of 5 December 2022

  The final version of the plan was adopted and published by Romania in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Romania: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal RON)	829 103 803	862 516 826	1 691 620 629	999 844 521	1 137 701 999	1 208 532 282
Inflation %	2.3%	2.8%		9.3%	4.0%	3.0%
Inflation index (100 in 2017)	110.6	113.7		125.9	130.9	134.8
Real en route costs (RON2017)	762 460 146	774 836 449	1 537 296 595	822 771 096	904 168 391	934 279 954
Total en route service units	2 245 622	2 898 081	5 143 703	4 583 000	5 531 000	5 825 000
Real en route DUC per service unit (RON2017)	**339.53**	**267.36**	**298.87**	**179.53**	**163.47**	**160.39**
Real en route DUC per service unit (€2017)	**74.36**	**58.55**	**65.45**	**39.32**	**35.80**	**35.13**

Romania: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal RON)	829 103 803	873 701 122	1 702 804 925	1 035 878 004	1 237 370 968	
Inflation %	2.3%	4.1%		12.0%	9.7%	
Inflation index (100 in 2017)	110.6	115.2		129.0	141.5	
Real en route costs (RON2017)	762 460 146	775 923 757	1 538 383 903	833 340 612	918 675 413	
Total en route service units	2 245 622	2 869 907	5 115 528	4 770 304	5 920 196	
Real en route AUC per service unit (RON2017)	**339.53**	**270.37**	**300.73**	**174.69**	**155.18**	
Real en route AUC per service unit (€2017)	**74.36**	**59.21**	**65.86**	**38.26**	**33.98**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal RON)	in value	0	11 184 295	11 184 295	36 033 482	99 668 969	
	in %	-	+1.3%	+0.7%	+3.6%	+8.8%	
Inflation %	in p.p.	0.0 p.p.	1.3 p.p.		2.7 p.p.	5.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.5 p.p.		3.1 p.p.	10.6 p.p.	
Real en route costs (RON2017)	in value	0	1 087 308	1 087 308	10 569 516	14 507 022	
	in %	-	+0.1%	+0.1%	+1.3%	+1.6%	
Total en route service units	in value	0	-28 174	-28 174	187 304	389 196	
	in %	-	-1.0%	-0.5%	+4.1%	+7.0%	
Real en route unit cost per service unit (RON2017)	**in value**	**0.00**	**3.00**	**1.86**	**-4.83**	**-8.30**	
	in %	**-**	**+1.1%**	**+0.6%**	**-2.7%**	**-5.1%**	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**0.66**	**0.41**	**-1.06**	**-1.82**	
	in %	**-**	**+1.1%**	**+0.6%**	**-2.7%**	**-5.1%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -5.1% (or -8.3 RON2017, -1.82 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+7.0%) and higher than planned en route costs in real terms (+1.6%, or +14.5 MRON2017, +3.2 M€2017). It should be noted that the actual inflation index in 2023 was +10.6 p.p. higher than planned.

En route service units

The difference between 2023 actual and planned TSUs (+7.0%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

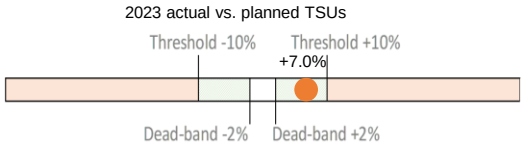
En route costs by entity

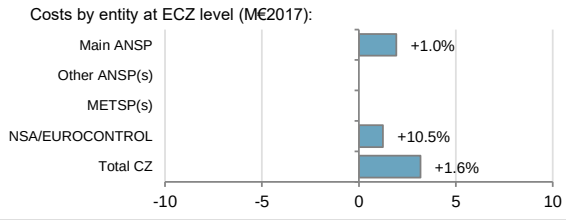
The 2023 actual real en route costs are +1.6% (+3.2 M€2017) higher than planned. This is the result of higher than planned costs for the main ANSP, ROMATSA (+1.0%, or +1.9 M€2017) and the NSA/EUROCONTROL (+10.5%, or +1.3 M€2017).

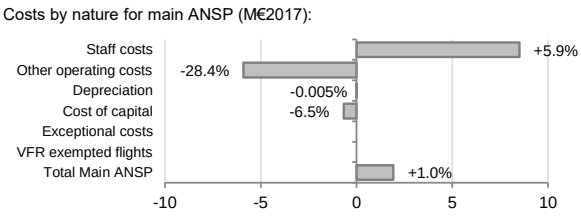
En route costs for the main ANSP (ROMATSA) at charging zone level

Higher than planned en route costs in real terms for ROMATSA in 2023 (+1.0%, or +1.9 M€2017) result from:

- Significantly higher than planned staff costs (+5.9%), reported to be mainly due to *"compensation for the increase in inflation, exceeding the traffic forecast and meeting the capacity target, and as a result of the increase in pension costs"*.
- Significantly lower than planned other operating costs (-28.4%), reported to be mainly due to *"decrease in electricity costs and delays in the training program and contracting with third parties"*,
- Depreciation costs in line with the performance plan (-0.005%),
- Significantly lower than planned cost of capital (-6.5%), reported to be mainly due to *"delays in contract signatures for new investments as well as impediments in deliveries impacting negatively the Investment Plan for 2023"*







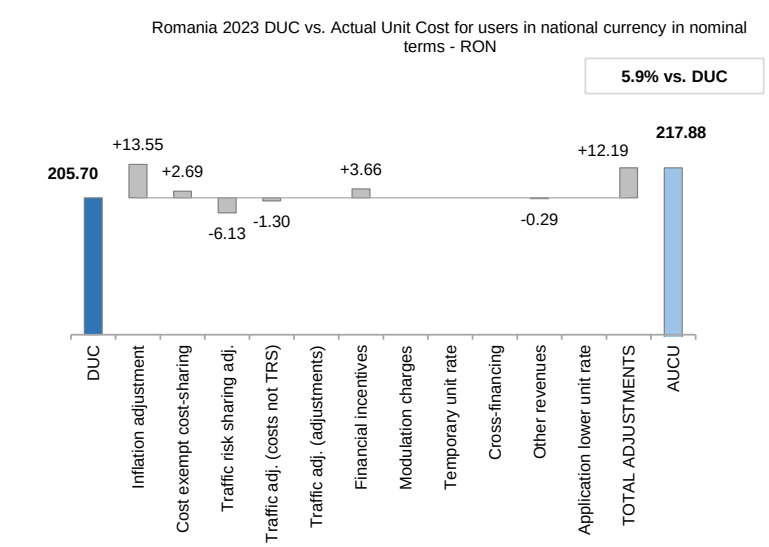
ROMANIA: En route charging zone — Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in **national currency and in nominal terms.**

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	RON/SU	€/SU
Initial DUC charged	205.70	41.61
DUC to be charged retroactively	0.00	0.00
DUC	**205.70**	**41.61**
Inflation adjustment	13.55	2.74
Cost exempt from cost-sharing	2.69	0.54
Traffic risk sharing adjustment	-6.13	-1.24
Traffic adj. (costs not TRS)	-1.30	-0.26
Traffic adj. (adjustments)*		
Financial incentives	3.66	0.74
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-0.29	-0.06
Application of lower unit rate	0.00	0.00
Total adjustments	12.19	2.47
AUCU	**217.88**	**44.07**
AUCU vs. DUC	**+5.9%**	**+5.9%**

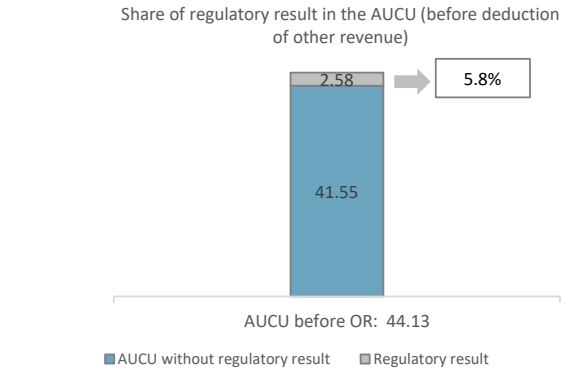
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		RON '000	€ '000	RON/SU	€/SU
by item	New and existing investments	-1 513	-306	-0.26	-0.05
	Competent authorities and qualified entities costs	-3 022	-611	-0.51	-0.10
	Eurocontrol costs	8 714	1 763	1.47	0.30
	Pension costs	10 881	2 201	1.84	0.37
	Interest on loans	856	173	0.14	0.03
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**15 917**	**3 220**	**2.69**	**0.54**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	RON '000	€ '000	RON/SU	€/SU
ROMATSA	75 390	15 250	12.73	2.58
METSP(s)	**RON '000**	**€ '000**	**RON/SU**	**€/SU**
Total charging zone	75 390	15 250	12.73	2.58
Actual cost for users* **	1 291 631	261 265	218.17	44.13
Regulatory result (% AUCU)	5.8%	5.8%	5.8%	5.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (217.88 RON or 44.07 €) is +5.9% higher than the nominal DUC (205.70 RON or 41.61 €). The difference between these two figures (+12.19 RON/SU or +2.47 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+13.55 RON/SU or +2.74 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+2.69 RON/SU or +0.54 €/SU);
- the deduction of the traffic risk sharing adjustments (-6.13 RON/SU or -1.24 €/SU);
- the deduction of the traffic adjustment (-1.30 RON/SU or -0.26 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+3.66 RON/SU or +0.74 €/SU); and
- the deduction of the other revenues (-0.29 RON/SU or -0.06 €/SU).

The share of the regulatory result (see items 10 to 13) in the AUCU (before the deduction of other revenues) is 5.8%.

ROMANIA: En route main ANSP (ROMATSA) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out **in national currency and in nominal term**s.

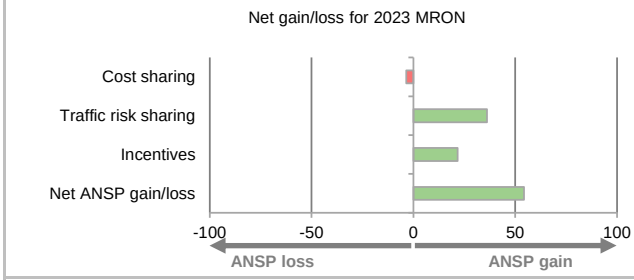
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

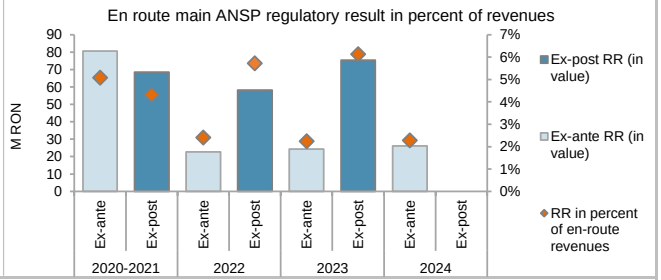
Cost sharing (RON '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-17 013	-39 469	-93 976	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	9 543	21 504	80 226	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-52	29 171	10 224	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-7 522**	**11 206**	**-3 527**	
Traffic risk sharing (RON '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-0.5%	4.1%	7.0%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	1 507 906	897 303	1 028 621	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-8 259**	**23 564**	**36 115**	
Incentives (RON '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**21 672**	
Net ANSP gain(+)/loss(-) on en route activity (RON '000)	**-15 782**	**34 770**	**54 260**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**-3 209**	**7 056**	**10 975**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ROMATSA planned regulatory result (RON '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	534 225	526 173	1 060 398	584 892	651 607	670 123
Proportion of financing through equity (in %)	93%	57%	75%	50%	48%	53%
RoE pre-tax rate (in %)	9.1%	11.7%	10.1%	7.8%	7.8%	7.4%
RoE (in value)	45 310	35 264	80 574	22 727	24 285	26 173
Ex-ante regulatory result (+/-) for the en route charging zone	**45 310**	**35 264**	**80 574**	**22 727**	**24 285**	**26 173**
Revenue for the en route charging zone	**779 258**	**809 552**	**1 588 810**	**945 254**	**1 083 590**	**1 152 229**
Ex-ante regulatory result (+/-) in percent of revenues	**5.8%**	**4.4%**	**5.1%**	**2.4%**	**2.2%**	**2.3%**
Ex-ante RoE pre-tax rate (in %)	**9.1%**	**11.7%**	**10.1%**	**7.8%**	**7.8%**	**7.4%**
ROMATSA actual regulatory result (RON '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	534 225	522 628	1 056 853	570 545	568 618	
Proportion of financing through equity (in %)	93%	64%	78%	53%	48%	
RoE pre-tax rate (in %)	9.1%	11.7%	10.2%	7.8%	7.8%	
RoE (in value)	45 310	38 972	84 282	23 500	21 130	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	-15 782	-15 782	34 770	54 260	
Ex-post regulatory result (+/-) for the en route charging zone	**45 310**	**23 190**	**68 501**	**58 270**	**75 390**	
Revenue for the en route charging zone	**779 258**	**810 783**	**1 590 042**	**1 019 493**	**1 231 827**	
Ex-post regulatory result (+/-) in percent of revenues	**5.8%**	**2.9%**	**4.3%**	**5.7%**	**6.1%**	
Ex-post RoE pre-tax rate (in %)	**9.1%**	**7.0%**	**8.3%**	**19.3%**	**27.8%**	

13. Focus on the main ANSP regulatory result on en route activity





ROMATSA net gain on activity in the Romania en route charging zone in the year 2023

ROMATSA reported a net gain of +54.3 MRON, as a combination of a loss of -3.5 MRON arising from the cost sharing mechanism, with a gain of +36.1 MRON arising from the traffic risk sharing mechanism and a gain of +21.7 MRON relating to financial incentives.

ROMATSA overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+54.3 MRON) and the actual RoE (+21.1 MRON) amounts to +75.4 MRON (6.1% of the en route revenues). The resulting ex-post rate of return on equity is 27.8%, which is much higher than the 7.8% planned in the PP.

ROMANIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Romania TCZ represents 1.7% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 2 of which:
  - Airports with fewer than 80,000 IFR mvmts: 1
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: RON Exchange rates (1 EUR=) 2017: 4.56629 RON 2023: 4.94375 RON
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Romania: Data from RP3 Performance Plan		2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal RON)		76 128 704	88 591 319	164 720 024	97 263 290	109 965 411	113 486 715
Inflation %		2.3%	2.8%		9.3%	4.0%	3.0%
Inflation index (100 in 2017)		110.6	113.7		125.9	130.9	134.8
Real terminal costs (RON2017)		69 727 232	79 065 826	148 793 058	78 876 018	86 224 223	86 638 794
Total terminal service units		31 587	47 000	78 587	67 000	71 000	74 000
Real terminal DUC per service unit (RON2017)		**2 207.47**	**1 682.25**	**1 893.35**	**1 177.25**	**1 214.43**	**1 170.79**
Real terminal DUC per service unit (€2017)		**483.43**	**368.41**	**414.64**	**257.81**	**265.95**	**256.40**
Romania: Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Terminal costs (nominal RON)		76 128 704	85 147 248	161 275 952	105 254 719	130 466 241	
Inflation %		2.3%	4.1%		12.0%	9.7%	
Inflation index (100 in 2017)		110.6	115.2		129.0	141.5	
Real terminal costs (RON2017)		69 727 232	75 167 703	144 894 934	83 241 901	94 478 387	
Total terminal service units		31 587	43 395	74 982	63 333	68 985	
Real terminal AUC per service unit (RON2017)		**2 207.47**	**1 732.19**	**1 932.40**	**1 314.35**	**1 369.54**	
Real terminal AUC per service unit (€2017)		**483.43**	**379.34**	**423.19**	**287.84**	**299.92**	
Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Terminal costs (nominal RON)	in value	0	-3 444 071	-3 444 071	7 991 429	20 500 831	
	in %	-	-3.9%	-2.1%	+8.2%	+18.6%	
Inflation %	in p.p.	0.0 p.p.	1.3 p.p.		2.7 p.p.	5.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.5 p.p.		3.1 p.p.	10.6 p.p.	
Real terminal costs (RON2017)	in value	0	-3 898 123	-3 898 123	4 365 883	8 254 164	
	in %	-	-4.9%	-2.6%	+5.5%	+9.6%	
Total terminal service units	in value	0	-3 605	-3 605	-3 667	-2 015	
	in %	-	-7.7%	-4.6%	-5.5%	-2.8%	
Real terminal unit cost per service unit (RON2017)	**in value**	**0.00**	**49.93**	**39.05**	**137.10**	**155.12**	
	in %	**-**	**+3.0%**	**+2.1%**	**+11.6%**	**+12.8%**	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**10.94**	**8.55**	**30.02**	**33.97**	
	in %	**-**	**+3.0%**	**+2.1%**	**+11.6%**	**+12.8%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +12.8% (or +155.12 RON2017, +33.97 €2017) higher than the planned DUC. This results from the combination of significantly higher than planned terminal costs in real terms (+9.6%, or +8.3 MRON2017, +1.8 M€2017) and lower than planned TNSUs (-2.8%). It should be noted that actual inflation index in 2023 was +10.6 p.p. higher than planned.

Terminal service units

The difference between the 2023 actual and planned TNSUs (-2.8%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

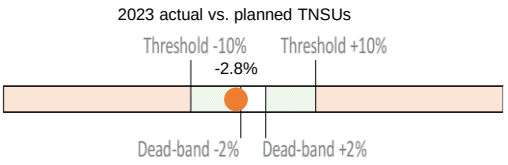
Terminal costs by entity

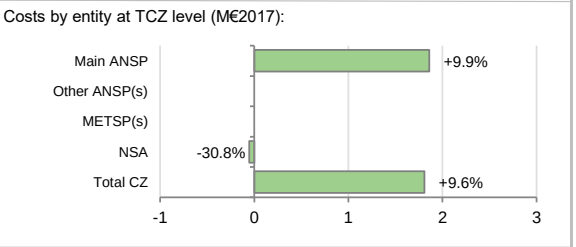
The 2023 real actual terminal costs are +9.6% (+1.8 M€2017) higher than planned. This is the result of higher than planned costs for the main ANSP, ROMATSA (+9.9%, or +1.9 M€2017) and lower than planned costs for the NSA (-30.8%, or -0.1 M€2017).

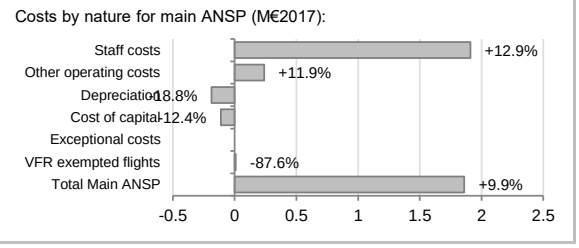
Terminal costs for the main ANSP (ROMATSA) at charging zone level

Significantly higher than planned terminal costs in real terms for ROMATSA in 2023 (+9.9%, or +1.9 M€2017) result from:

- Significantly higher than planned staff costs (+12.9%), reporetd to be mainly due to "an increase of pension costs and compensation of personnel with inflation"
- Significantly higher than planned other operating costs (+11.9%) reported to be mainly due to "a provision for unsettled clients as the recovery rate is progressing slowly".,
- Significantly lower than planned depreciation (-18.8%), reported to be mainly due "to the postponement of finalisation for the Modernization of A-SMGCS at DSNA Bucharest - Implementation of Advanced Tower Messaging".
- Significantly lower than planned cost of capital (-12.4%). reported to be mainly due to "the postponment of the A_SMGCS investment, partially offset by the increasing interest rate for the contracted loan"
- Significantly lower than planned deduction for VFR exempted flights (-87.6%).







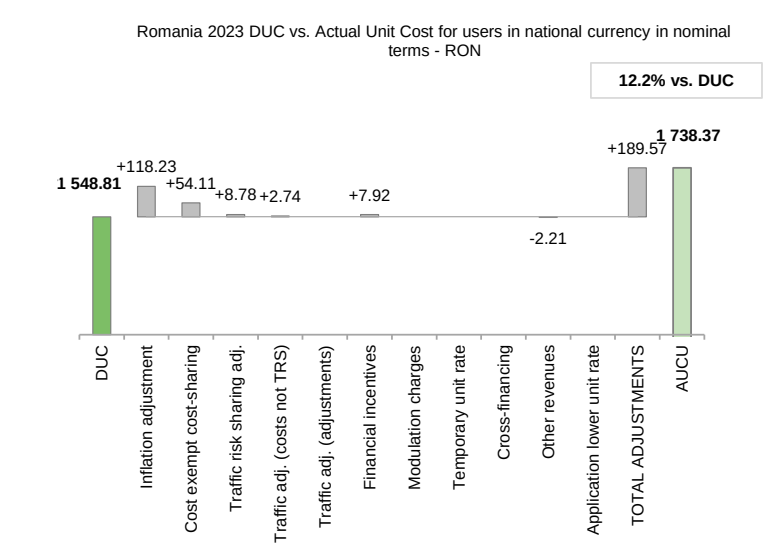
ROMANIA: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	RON/SU	€/SU
Initial DUC charged	1 548.81	313.29
DUC to be charged retroactively	0.00	0.00
DUC	**1 548.81**	**313.29**
Inflation adjustment	118.23	23.91
Cost exempt from cost-sharing	54.11	10.94
Traffic risk sharing adjustment	8.78	1.78
Traffic adj. (costs not TRS)	2.74	0.55
Traffic adj. (adjustments)*		
Financial incentives	7.92	1.60
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-2.21	-0.45
Application of lower unit rate	0.00	0.00
Total adjustments	189.57	38.34
AUCU	**1 738.37**	**351.63**
AUCU vs. DUC	**12.2%**	**12.2%**

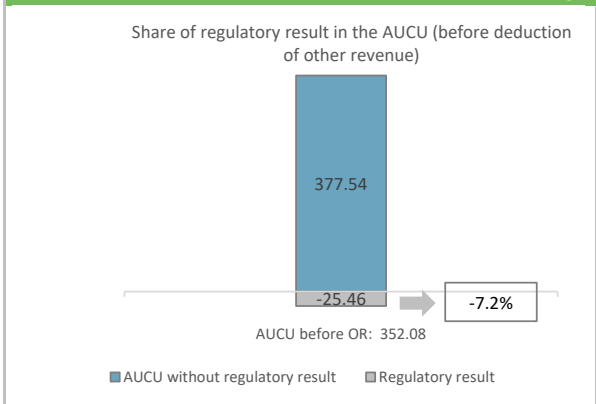
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		RON '000	€ '000	RON/SU	€/SU
by item	New and existing investments	-1 293	-262	-18.74	-3.79
	Competent authorities and qualified entities costs	-237	-48	-3.43	-0.69
	Eurocontrol costs	0	0	0.00	0.00
	Pension costs	5 191	1 050	75.25	15.22
	Interest on loans	71	14	1.04	0.21
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**3 733**	**755**	**54.11**	**10.94**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	RON '000	€ '000	RON/SU	€/SU
ROMATSA	-8 682	-1 756	-125.86	-25.46

METSP(s)	RON '000	€ '000	RON/SU	€/SU
Total charging zone	-8 682	-1 756	-125.86	-25.46
Actual cost for users* **	120 075	24 288	1 740.58	352.08
Regulatory result (% AUCU)	-7.2%	-7.2%	-7.2%	-7.2%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 13)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (1 738.37 RON or 351.63 €) is +12.2% higher than the nominal DUC (1 548.81 RON or 313.29 €). The difference between these two figures (+189.57 RON/SU or +38.34 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+118.23 RON/SU or +23.91 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+54.11 RON/SU or +10.94 €/SU);
- the addition of the traffic risk sharing adjustments (+8.78 RON/SU or +1.78 €/SU);
- the addition of the traffic adjustment (+2.74 RON/SU or +0.55 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+7.92 RON/SU or +1.60 €/SU); and
- the deduction of the other revenues (-2.21 RON/SU or -0.45 €/SU).

The share of the regulatory result (see items 10 to 13) in the AUCU (before the deduction of other revenues) is -7.2%.

ROMANIA: Terminal main ANSP (ROMATSA) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out **in national currency and in nominal terms.**

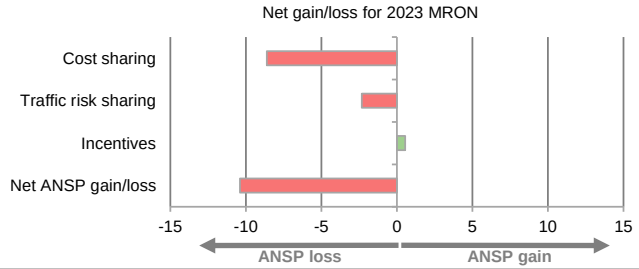
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

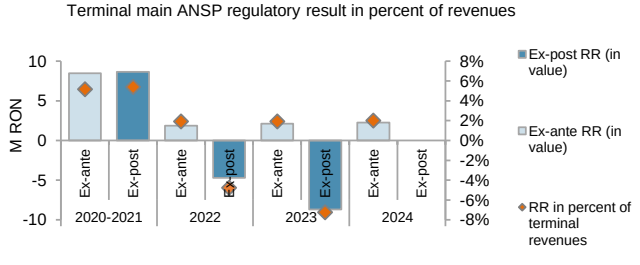
Cost sharing (RON '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	3 200	-8 227	-20 737	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	1 037	2 233	8 156	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-7	2 244	3 969	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**4 229**	**-3 750**	**-8 612**	
Traffic risk sharing (RON '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	-4.6%	-5.5%	-2.8%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	154 732	91 337	103 300	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**-4 296**	**-2 778**	**-2 326**	
Incentives (RON '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**546**	
Net ANSP gain(+)/loss(-) on terminal activity (RON '000)	**-67**	**-6 528**	**-10 392**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**-14**	**-1 325**	**-2 102**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ROMATSA planned regulatory result (RON '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	56 199	55 115	111 314	47 930	56 290	57 937
Proportion of financing through equity (in %)	93%	57%	75%	50%	48%	53%
RoE pre-tax rate (in %)	9.1%	11.7%	10.1%	7.8%	7.8%	7.4%
RoE (in value)	4 767	3 694	8 460	1 862	2 102	2 267
Ex-ante regulatory result (+/-) for the terminal charging zone	**4 767**	**3 694**	**8 460**	**1 862**	**2 102**	**2 267**
Revenue for the terminal charging zone	**75 560**	**87 987**	**163 547**	**96 551**	**109 197**	**112 583**
Ex-ante regulatory result (+/-) in percent of revenues	**6.3%**	**4.2%**	**5.2%**	**1.9%**	**1.9%**	**2.0%**
Ex-ante RoE pre-tax rate (in %)	**9.1%**	**11.7%**	**10.1%**	**7.8%**	**7.8%**	**7.4%**
ROMATSA actual regulatory result (RON '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	56 199	53 018	109 216	44 119	45 995	
Proportion of financing through equity (in %)	93%	64%	79%	53%	48%	
RoE pre-tax rate (in %)	9.1%	11.7%	10.1%	7.8%	7.8%	
RoE (in value)	4 767	3 955	8 721	1 817	1 709	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	-67	-67	-6 528	-10 392	
Ex-post regulatory result (+/-) for the terminal charging zone	**4 767**	**3 888**	**8 654**	**-4 711**	**-8 682**	
Revenue for the terminal charging zone	**75 560**	**84 720**	**160 280**	**98 250**	**119 542**	
Ex-post regulatory result (+/-) in percent of revenues	**6.3%**	**4.6%**	**5.4%**	**-4.8%**	**-7.3%**	
Ex-post RoE pre-tax rate (in %)	**9.1%**	**11.5%**	**10.1%**	**-20.1%**	**-39.5%**	

13. Focus on main ANSP regulatory result on terminal activity





ROMATSA net gain on activity in the Romania terminal charging zone in the year 2023

ROMATSA reported a net loss of -10.4 MRON, as a combination of a loss of -8.6 MRON arising from the cost sharing mechanism, with a loss of -2.3 MRON arising from the traffic risk sharing mechanism and a gain of +0.5 MRON relating to financial incentives.

ROMATSA overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-10.4 MRON) and the actual RoE (+1.7 MRON) amounts to -8.7 MRON (-7.3% of the terminal revenues). The resulting ex-post rate of return on equity is -39.5%.

ROMANIA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Romania

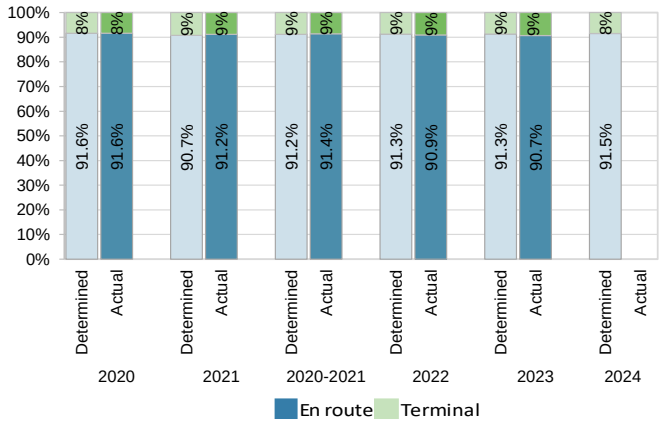
Terminal charging zone 1: Romania

Romania: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	166 975 848	169 686 211	336 662 059	180 183 715	198 009 411	204 603 727
Real terminal costs (€2017)	15 269 996	17 315 113	32 585 109	17 273 546	18 882 774	18 973 564
Real gate-to-gate costs (€2017)	182 245 845	187 001 324	369 247 168	197 457 261	216 892 185	223 577 291
En route share (%)	91.6%	90.7%	91.2%	91.3%	91.3%	91.5%

Romania: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	166 975 848	169 924 327	336 900 176	182 498 399	201 186 393	
Real terminal costs (€2017)	15 269 996	16 461 439	31 731 435	18 229 657	20 690 404	
Real gate-to-gate costs (€2017)	182 245 845	186 385 766	368 631 611	200 728 056	221 876 797	
En route share (%)	91.6%	91.2%	91.4%	90.9%	90.7%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-615 558	-615 558	3 270 795	4 984 612	
	in %	0.0%	-0.3%	-0.2%	1.7%	2.3%	
En route share	in p.p.	0.0 p.p.	0.4 p.p.	0.2 p.p.	-0.3 p.p.	-0.6 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, the actual gate-to-gate ANS costs are +2.3% (+5.0 M€2017) higher than planned, as en route costs are higher than planned by +3.2 M€2017 and terminal costs are higher than planned by +1.8 M€2017.

The actual share of en route in gate-to-gate ANS costs (90.7%) is slightly lower than planned in the PP for 2023 (91.3%).

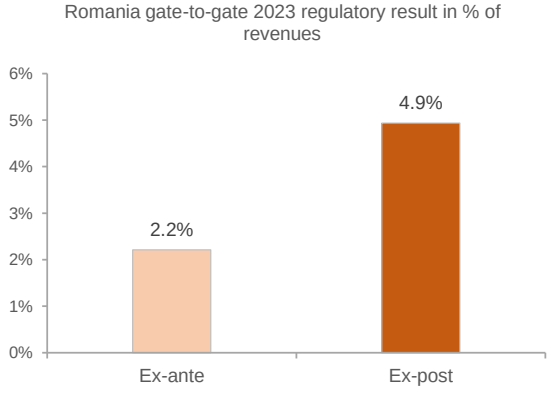
3. Gate-to-gate regulatory result (RR) 2023

In RON '000

	Ex-ante				Ex-post			
ANSP(S)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
ROMATSA	26 387	1 192 787	2.2%		66 708	1 351 369	4.9%	
METSP(s)	RR	Revenues	RR % revenues		RR	Revenues	RR % revenues	
Total	**26 387**	**1 192 787**	**2.2%**		**66 708**	**1 351 369**	**4.9%**	

For the ANSPs providing services in the en route and terminal charging zones of Romania covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +66.7 MRON (+75.4 MRON for en route and -8.7 MRON for terminal - see boxes 10 to 13 for the detailed analysis at charging zones level), corresponding to 4.9% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (2.2% of gate-to-gate revenues).



Annual Monitoring Report 2023

Local level view

SLOVAKIA

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SLOVAKIA **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
LPS SR	87	C	C	D	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

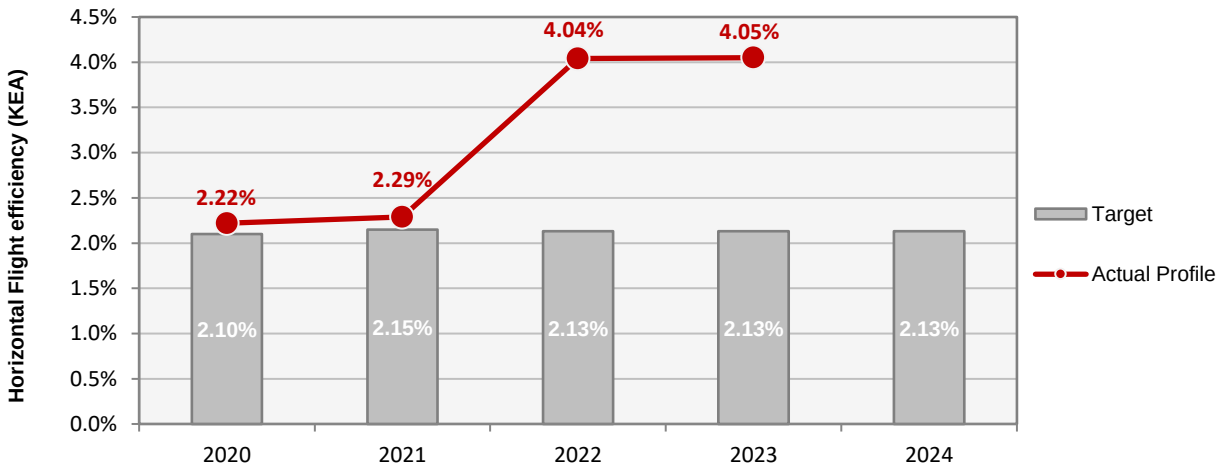
The ANSP improved "Safety Assurance" component over 2023 and consequently meet the RP3 target level for all five EoSM components.

SLOVAKIA

ENVIRONMENT - Horizontal flight efficiency

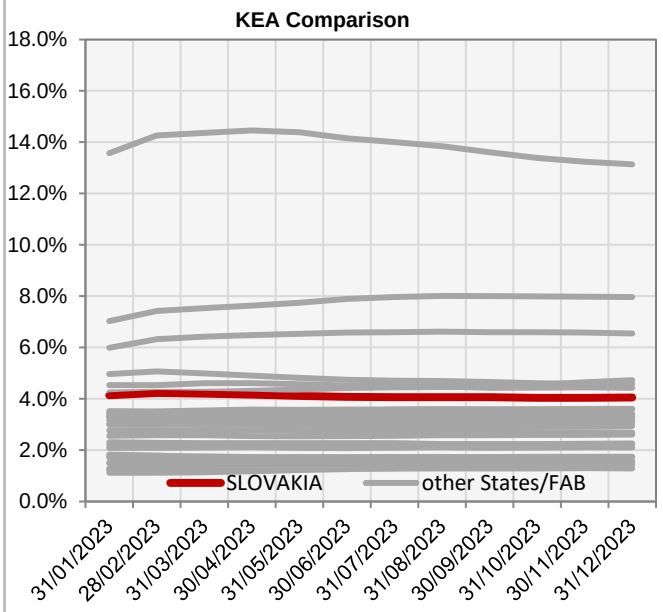
KEA

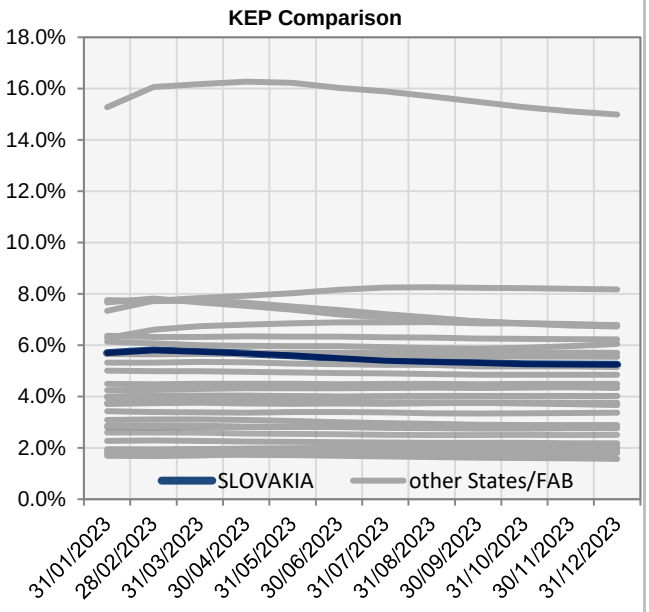
	2020	2021	2022	2023	2024
Target	2.10%	2.15%	2.13%	2.13%	2.13%
Actual performance	2.22%	2.29%	4.04%	4.05%	



End of month indicators evolution in 2023

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	4.14%	4.23%	4.20%	4.16%	4.12%	4.08%	4.06%	4.06%	4.06%	4.04%	4.04%	4.05%
KEP	5.69%	5.80%	5.74%	5.68%	5.61%	5.50%	5.40%	5.35%	5.31%	5.26%	5.25%	5.24%
KES	5.43%	5.55%	5.50%	5.44%	5.37%	5.27%	5.18%	5.13%	5.10%	5.05%	5.03%	5.02%





The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

SLOVAKIA **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

Closure of Ukrainian airspace and to establishment of military transit corridors has caused a significant shift of traffic flows to the west with the extraordinate de-tour impacting of KEA indicator.

Military - related measures implemented or planned to improve capacity

Military corridors triggered a negative impact on airspace complexity and airspace availability.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Slovakia	42%	49%	61%	n/a	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Bratislava	53%	56%	48%	n/a	

Initiatives implemented or planned to improve PI#6

Data not yet available

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Slovakia			96%	n/a	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Bratislava			96%	n/a	

Initiatives implemented or planned to improve PI#7

Data not yet available

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Slovakia			86%	n/a	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Bratislava			86%	n/a	

Initiatives implemented or planned to improve PI#8

Data not yet available

SLOVAKIA **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.60	0.05	0.07	0.08	0.07	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.00	0.00	0.00	0.03		

NSA's assessment of capacity performance

in terms of IFR movements actual volume exceeded number of IFR movements included in the revised performance plan by almost 26%.

Operational situation in Slovak airspace also continued to be impacted by the war in Ukraine.

Target has been met with a recorded delay of 0.03 minutes per flight (0.08 min/flight required).

Monitoring process for capacity performance

Analysis on strategical, pretactical and post ops level is being done on regular basis using Eurocontrol's 6 weeks traffic forecast, NMIR Tool, Eurocontrol's ACC Dashboard and our internal rostering tool to monitor and ensure that provided capacity meets traffic demand.

Capacity Planning

During the period of 2022-2023 ATFM delay per flight was always below target limit. We expect this trend to continue in next years. No capacity issues are foreseen for RP3 in the baseline traffic growth scenario.

ATCO in OPS (FTE)							
Bratislava ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	58	60	62	63	
Actual	54	62	60	65	69		

Additional Information Related to Russia's War of Aggression Against Ukraine

The situation in Ukraine is not new. ATCOs have enough skills and experiences how to manage the situation.
They are urged not deviate the flight from the vertical/lateral profile stated in the flight plan, unless weather, safety or other technical reason (in relation to KEA). No reduction in sector capacities.

Summary of capacity performance

Slovakia experienced an increase in traffic from 470k flights in 2022, with <2k minutes of en route ATFM delay, to 530k flights in 2023 with 17k minutes of en route ATFM delay. In 2019, Slovakia handled 562k flights with 40k minutes of ATFM delay.

There were an additional 5k minutes of delay originating in Slovakia that were re-attributed to DFS via the NM post operations delay attribution process, according to the NMB agreement for eNM/S23 measures, to ameliorate capacity shortfalls in Karlsruhe UAC.

En route Capacity Incentive Scheme						
LPS SR	2020	2021	2022	2023	2024	Observations
CRSTMP Capacity target	-	-	-	0.06	-	Slovakia uses an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The national target was set at 0.06 minutes per flight and the actual performance is reported as 0.03 minutes per flight (CRSTMP only). This results in a reported bonus of € 138 101
Deadband +/-	-	-	-	0.01	-	
Actual performance	0.00	0.00	0.00	0.03		

SLOVAKIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Slovakia ECZ represents 0.9% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 15 December 2021 and found consistent as per Commission Decision (EU) 2022/768 of 13 April 2022
  The final version of the plan was adopted and published by Slovakia in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Slovakia: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	44 945 003	47 600 378	92 545 382	59 383 508	62 056 434	63 498 702
Inflation %	2.0%	1.2%		1.9%	2.0%	2.1%
Inflation index (100 in 2017)	107.5	108.8		110.9	113.1	115.5
Real en route costs (€2017)	42 646 113	44 628 382	87 274 495	54 676 787	56 317 420	56 771 300
Total en route service units	475 362	608 638	1 084 000	798 052	952 668	1 094 249
Real en route DUC per service unit (€2017)	**89.71**	**73.33**	**80.51**	**68.51**	**59.12**	**51.88**

Slovakia: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	44 945 003	40 436 086	85 381 089	58 151 985	71 283 941	
Inflation %	2.0%	2.8%		12.1%	11.0%	
Inflation index (100 in 2017)	107.5	110.5		123.9	137.5	
Real en route costs (€2017)	42 646 113	37 709 295	80 355 408	49 305 801	55 820 919	
Total en route service units	475 362	611 991	1 087 353	972 528	1 083 018	
Real en route AUC per service unit (€2017)	**89.71**	**61.62**	**73.90**	**50.70**	**51.54**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-7 164 292	-7 164 292	-1 231 523	9 227 507	
	in %	-	-15.1%	-7.7%	-2.1%	+14.9%	
Inflation %	in p.p.	0.0 p.p.	1.6 p.p.		10.2 p.p.	9.0 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.7 p.p.		13.0 p.p.	24.4 p.p.	
Real en route costs (€2017)	in value	0	-6 919 086	-6 919 086	-5 370 986	-496 501	
	in %	-	-15.5%	-7.9%	-9.8%	-0.9%	
Total en route service units	in value	0	3 353	3 353	174 476	130 350	
	in %	-	+0.6%	+0.3%	+21.9%	+13.7%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-11.71**	**-6.61**	**-17.81**	**-7.57**	
	in %	**-**	**-16.0%**	**-8.2%**	**-26.0%**	**-12.8%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -12.8% (or -7.57 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+13.7%) and slightly lower than planned en route costs in real terms (-0.9%, or -0.5 M€2017). It should be noted that actual inflation index in 2023 was +24.4 p.p. higher than planned.

En route service units

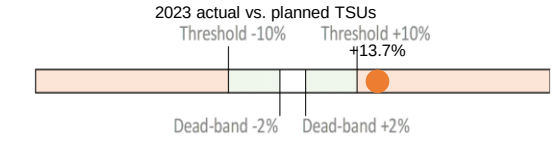
The difference between actual and planned TSUs (+13.7%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

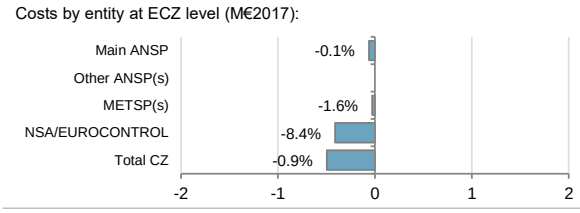
En route costs by entity

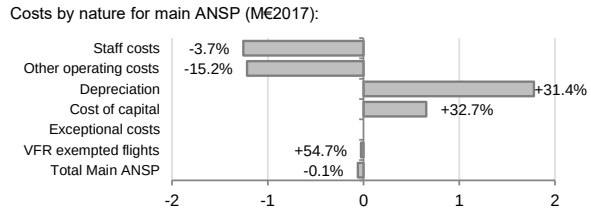
Actual real en route costs are -0.9% (-0.5 M€2017) lower than planned. This is the result of lower costs for the NSA/EUROCONTROL (-8.4%, or -0.4 M€2017), the main ANSP, LPS (-0.1%, or -0.1 M€2017) and the MET service provider (-1.6%, or 0.03 M€2017).

En route costs for the main ANSP (LPS) at charging zone level

Consistent with planned en route costs in real terms for LPS in 2023 (-0.1%, or -0.1 M€2017) result from:
- Lower staff costs in real terms (-3.7%), but higher in nominal terms (+17.1%) due to inflation, which was negotiated in the union contract;
- Significantly lower other operating costs in real terms (-15.2%), but higher in nominal terms (+3.1%);
- Significantly higher depreciation costs (+31.4%) due to a €1.3M reduction for the 2023 unit rate calculation resulted from RP2 carry-over, but also higher inflation that impacted the pricess of the new assets;
- Significantly higher cost of capital (+32.7%) due to a higher value of the asset base and a higher than expected interest rate on the loan (EURIBOR 3M);
- Significantly higher deduction for VFR exempted flights (+54.7%).







SLOVAKIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

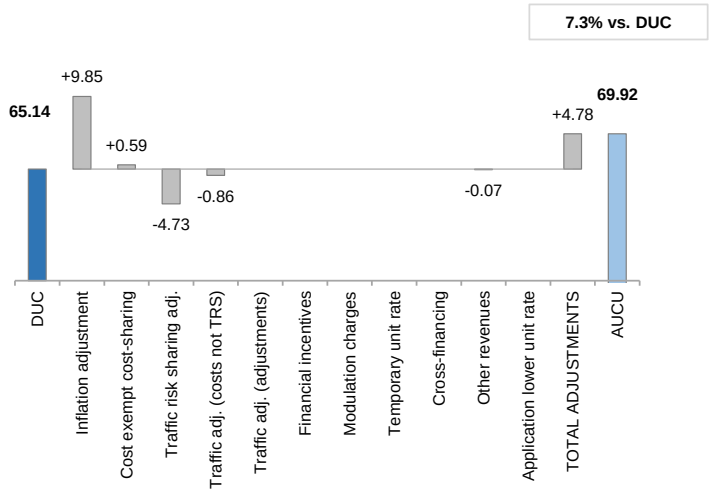
5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level

Slovakia 2023 DUC vs. Actual Unit Cost for users in national currency in nominal terms - €



Components of the AUCU	€/SU
Initial DUC charged	65.14
DUC to be charged retroactively	0.00
DUC	**65.14**
Inflation adjustment	9.85
Cost exempt from cost-sharing	0.59
Traffic risk sharing adjustment	-4.73
Traffic adj. (costs not TRS)	-0.86
Traffic adj. (adjustments)*	
Financial incentives	0.00
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-0.07
Application of lower unit rate	0.00
Total adjustments	4.78
AUCU	**69.92**
AUCU vs. DUC	**+7.3%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

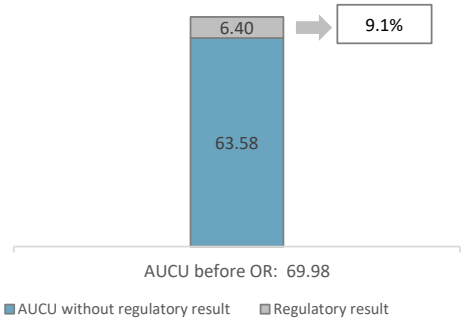
7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	1 012	0.93
	Competent authorities and qualified entities costs	305	0.28
	Eurocontrol costs	-715	-0.66
	Pension costs	0	0.00
	Interest on loans	35	0.03
	Changes in law	0	0.00
Total costs exempt from cost sharing		**636**	**0.59**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level

Share of regulatory result in the AUCU (before deduction of other revenue)



ANSP(S)	€ '000	€/SU
LPS	6 889	6.36

METSP(s)	€ '000	€/SU
Slovakia MET	37	0.03

Total charging zone	6 927	6.40
Actual cost for users* **	75 792	69.98
Regulatory result (% AUCU)	9.1%	9.1%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (69.92 €) is +7.3% higher than the nominal DUC (65.14 €). The difference between these two figures (+4.78 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+9.85 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+0.59 €/SU);
- the deduction of the traffic risk sharing adjustments (-4.73 €/SU);
- the deduction of the traffic adjustment (-0.86 €/SU) for the costs not subject to traffic risk sharing; and
- the deduction of the other revenues (-0.07 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 9.1%.

SLOVAKIA: En route main ANSP (LPS) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

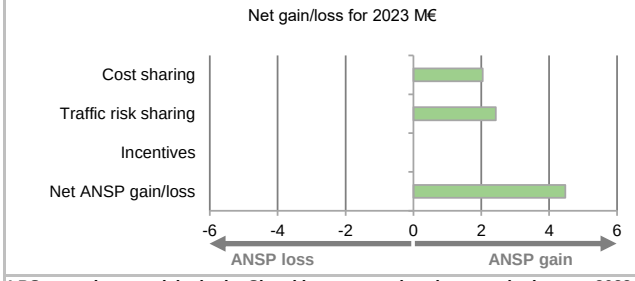
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

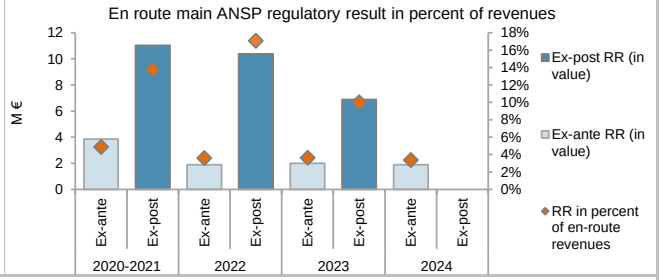
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	6 406	-15	-9 255	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	541	5 413	10 249	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	441	1 047	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**6 947**	**5 839**	**2 041**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.3%	21.9%	13.7%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	79 226	52 628	55 240	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**245**	**2 316**	**2 431**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**7 192**	**8 155**	**4 471**	

12. Regulatory result (RR) for the main ANSP at charging zone level

LPS planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	43 906	45 466	89 371	46 751	48 539	44 724
Proportion of financing through equity (in %)	100%	89%	94%	79%	84%	89%
RoE pre-tax rate (in %)	4.4%	4.7%	4.6%	5.1%	4.9%	4.7%
RoE (in value)	1 942	1 917	3 859	1 881	1 999	1 887
Ex-ante regulatory result (+/-) for the en route charging zone	**1 942**	**1 917**	**3 859**	**1 881**	**1 999**	**1 887**
Revenue for the en route charging zone	**38 339**	**40 886**	**79 226**	**52 628**	**55 240**	**56 400**
Ex-ante regulatory result (+/-) in percent of revenues	**5.1%**	**4.7%**	**4.9%**	**3.6%**	**3.6%**	**3.3%**
Ex-ante RoE pre-tax rate (in %)	**4.4%**	**4.7%**	**4.6%**	**5.1%**	**4.9%**	**4.7%**
LPS actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	43 906	44 541	88 446	53 912	55 316	
Proportion of financing through equity (in %)	100%	90%	95%	81%	89%	
RoE pre-tax rate (in %)	4.4%	4.7%	4.6%	5.1%	4.9%	
RoE (in value)	1 942	1 891	3 833	2 224	2 418	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	7 192	7 192	8 155	4 471	
Ex-post regulatory result (+/-) for the en route charging zone	**1 942**	**9 083**	**11 025**	**10 379**	**6 889**	
Revenue for the en route charging zone	**38 339**	**41 673**	**80 012**	**60 797**	**68 966**	
Ex-post regulatory result (+/-) in percent of revenues	**5.1%**	**21.8%**	**13.8%**	**17.1%**	**10.0%**	
Ex-post RoE pre-tax rate (in %)	**4.4%**	**22.7%**	**13.1%**	**23.8%**	**14.0%**	

13. Focus on the main ANSP regulatory result on en route activity





LPS net gain on activity in the Slovakia en route charging zone in the year 2023

LPS reported a net gain of +4.5 M€, as a combination of a gain of +2.0 M€ arising from the cost sharing mechanism, with a gain of +2.4 M€ arising from the traffic risk sharing mechanism.

LPS overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+4.5 M€) and the actual RoE (+2.4 M€) amounts to +6.9 M€ (10.0% of the en route revenues). The resulting ex-post rate of return on equity is 14.0%, which is higher than the 4.9% planned in the PP.

SLOVAKIA: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity							
Slovakia MET planned regulatory result (€ '000)		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone		**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the en route charging zone		**1 513**	**1 770**	**3 283**	**1 907**	**1 949**	**2 118**
Ex-ante regulatory result (+/-) in percent of revenues		**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**		**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Slovakia MET actual regulatory result (€ '000)		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone		**0**	**392**	**392**	**469**	**37**	
Revenue for the en route charging zone		**1 513**	**1 797**	**3 310**	**2 131**	**2 369**	
Ex-post regulatory result (+/-) in percent of revenues		**0.0%**	**21.8%**	**11.9%**	**22.0%**	**1.6%**	
Ex-post RoE pre-tax rate (in %)	**N/A**		**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSP in the en route charging zone for Slovakia (SHMU) corresponds to 1.6% of the en route revenues. It should be noted that SHMU does not charge cost of capital.

Annual Monitoring Report 2023

Local level view

SLOVENIA

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SLOVENIA **Monitoring of SAFETY for 2023**

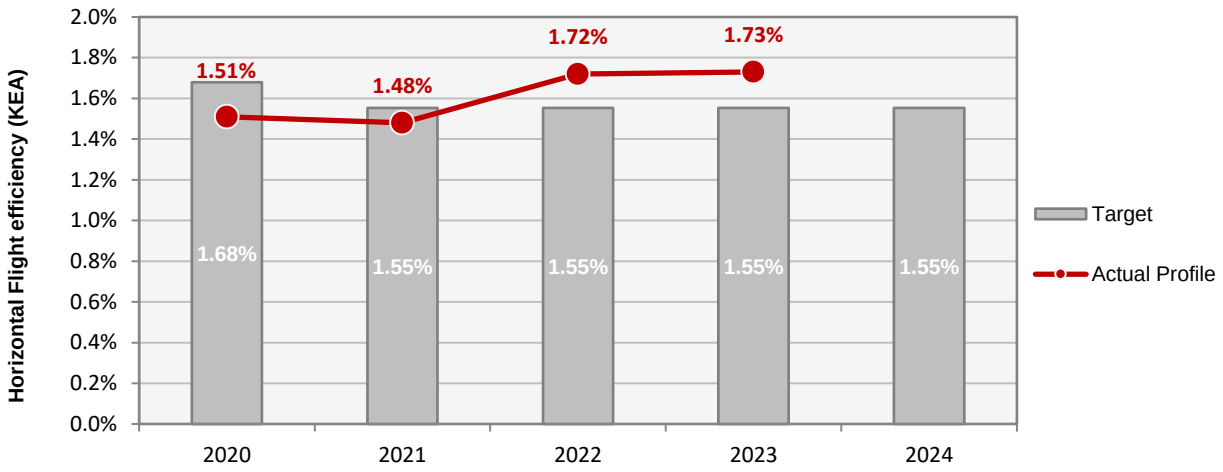
Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
Slovenia Control	75	C	C	C	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

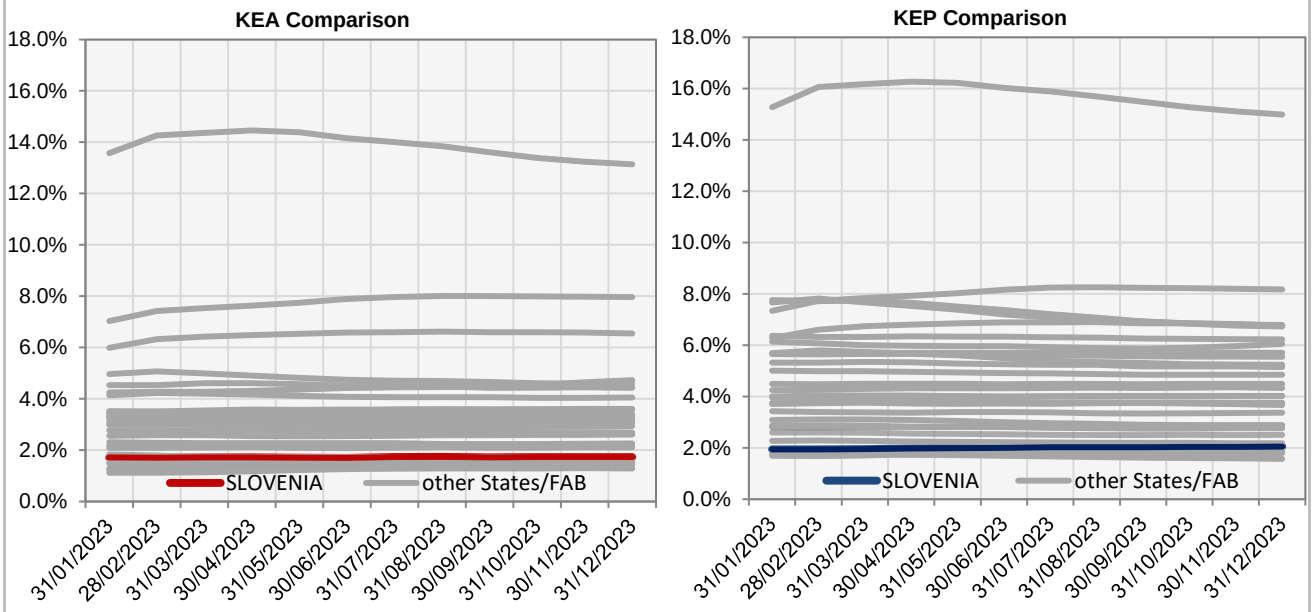
Maturity levels have been maintained compared with 2022. Four out of five EoSM components of the ANSP meet the RP3 target level. Only the component "Safety Risk Management" is below 2024 target level, with three questions requiring improvements to achieve RP3 targets.

SLOVENIA **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.68%	1.55%	1.55%	1.55%	1.55%
Actual performance	1.51%	1.48%	1.72%	1.73%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	1.72%	1.71%	1.72%	1.72%	1.71%	1.70%	1.73%	1.74%	1.72%	1.73%	1.73%	1.73%
KEP	1.94%	1.94%	1.95%	1.98%	1.99%	2.00%	2.02%	2.03%	2.03%	2.04%	2.04%	2.05%
KES	1.75%	1.75%	1.76%	1.77%	1.78%	1.79%	1.80%	1.81%	1.82%	1.82%	1.82%	1.82%



The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

SLOVENIA **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

No impact

Military - related measures implemented or planned to improve capacity

No impact

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Slovenia					

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Ljubljana					

Initiatives implemented or planned to improve PI#6

"Slovenia AMC started sharing AUP/UUP with NM on 01.01.2023, but without any restrictions being imposed on the users flight planning during activation."

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Slovenia					

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Ljubljana					

Initiatives implemented or planned to improve PI#7

"Slovenia AMC started sharing AUP/UUP with NM on 01.01.2023, but without any restrictions being imposed on the users flight planning during activation."

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Slovenia					

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Ljubljana					

Initiatives implemented or planned to improve PI#8

"Slovenia AMC started sharing AUP/UUP with NM on 01.01.2023, but without any restrictions being imposed on the users flight planning during activation."

SLOVENIA **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.23	0.05	0.09	0.09	0.09	
Actual performance	0.00	0.00	0.00	0.03		

NSA's assessment of capacity performance

Traffic significantly above the (performance plan) planned traffic. Capacity targets achieved.

Monitoring process for capacity performance

No specific monitoring in place, no delays caused by Ljubljana ACC.

Capacity Planning

Planned capacity in line with NM requirements.

ATCO in OPS (FTE)							
Ljubljana ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	68	69	69	72	
Actual	66	65	68	70	68		

Application of Corrective Measures for Capacity (if applicable)

Not required.

Summary of capacity performance

Slovenia experienced an increase in traffic from 453k flights, with practically zero en route ATFM delays in 2022, to 500k flights in 2023 with 13k minutes of en route ATFM delays. (10k of which were attributed to adverse weather).

En route Capacity Incentive Scheme						
Slovenia Control, Ltd	2020	2021	2022	2023	2024	Observations
CRSTMP Capacity target	-	-	-	0.049	-	The incentive scheme is under review by the European Commission
Deadband +/-	-	-	-	0.01	-	
Actual performance	0.00	0.00	0.00	0.005		

SLOVENIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Slovenia ECZ represents 0.6% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 13 December 2021 and found consistent as per Commission Decision (EU) 2022/777 of 13 April 2022
  The final version of the plan was adopted and published by Slovenia in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Slovenia: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	31 716 704	31 335 841	63 052 545	34 865 292	36 234 614	36 617 359
Inflation %	0.0%	0.8%		1.5%	1.6%	1.8%
Inflation index (100 in 2017)	103.6	104.5		106.0	107.8	109.7
Real en route costs (€2017)	30 876 185	30 292 691	61 168 876	33 287 877	34 158 305	34 037 505
Total en route service units	263 994	339 029	603 022	535 978	570 849	605 805
Real en route DUC per service unit (€2017)	**116.96**	**89.35**	**101.44**	**62.11**	**59.84**	**56.19**

Slovenia: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	31 716 704	29 458 544	61 175 249	35 193 002	40 695 184	
Inflation %	0.0%	2.0%		9.3%	7.2%	
Inflation index (100 in 2017)	103.6	105.7		115.5	123.9	
Real en route costs (€2017)	30 876 185	28 229 075	59 105 260	31 363 759	34 106 432	
Total en route service units	263 994	369 971	633 965	595 456	677 207	
Real en route AUC per service unit (€2017)	**116.96**	**76.30**	**93.23**	**52.67**	**50.36**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-1 877 296	-1 877 296	327 710	4 460 570	
	in %	-	-6.0%	-3.0%	+0.9%	+12.3%	
Inflation %	in p.p.	0.0 p.p.	1.2 p.p.		7.8 p.p.	5.6 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.2 p.p.		9.5 p.p.	16.1 p.p.	
Real en route costs (€2017)	in value	0	-2 063 616	-2 063 616	-1 924 117	-51 873	
	in %	-	-6.8%	-3.4%	-5.8%	-0.2%	
Total en route service units	in value	0	30 942	30 942	59 478	106 358	
	in %	-	+9.1%	+5.1%	+11.1%	+18.6%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-13.05**	**-8.21**	**-9.44**	**-9.47**	
	in %	**-**	**-14.6%**	**-8.1%**	**-15.2%**	**-15.8%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -15.8% (or -9.47 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+18.6%) and slightly lower than planned en route costs in real terms (-0.2%, or -0.1 M€2017). It should be noted that actual inflation index in 2023 was +16.1 p.p. higher than planned.

En route service units

The difference between the 2023 actual and planned TSUs (+18.6%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

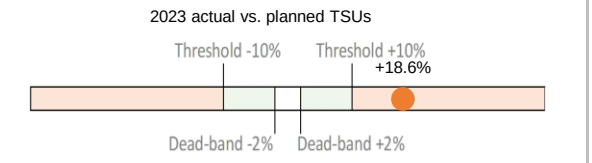
En route costs by entity

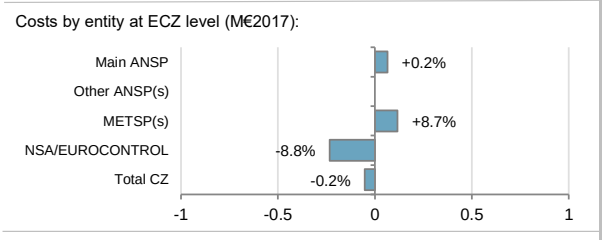
The 2023 actual real en route costs are -0.2% (-0.1 M€2017) lower than planned. This is the result of lower than planned costs for the NSA/EUROCONTROL (-8.8%, or -0.2 M€2017) and higher than planned costs for the main ANSP, Slovenia Control (+0.2%, or +0.1 M€2017) and the MET service provider (+8.7%, or +0.1 M€2017).

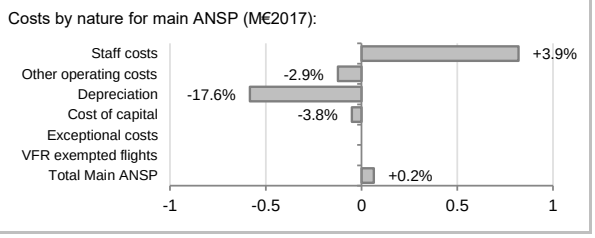
En route costs for the main ANSP (Slovenia Control) at charging zone level

Slightly higher than planned en route costs in real terms for Slovenia Control in 2023 (+0.2%, or +0.1 M€2017) result from:

- Higher than planned staff costs (+3.9% or +19.4% in nominal terms) reported to be due to due to *"new collective agreement being signed and inflation adjusted, half of the increase not linked to actual increase of staff salaries but linked to actuarial calculations resulting from new agreement"*,
- Lower than planned other operating costs (-2.9%), but higher in nominal terms (+11.7%), reported to be mainly due to *"significantly higher inflation than planned"*,
- Significantly lower than planned depreciation (-17.6%), reported to be mainly due to *"delayed investm* ents",
- Lower than planned cost of capital (-3.8%), mainly due to lower fixed assets.







SLOVENIA: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

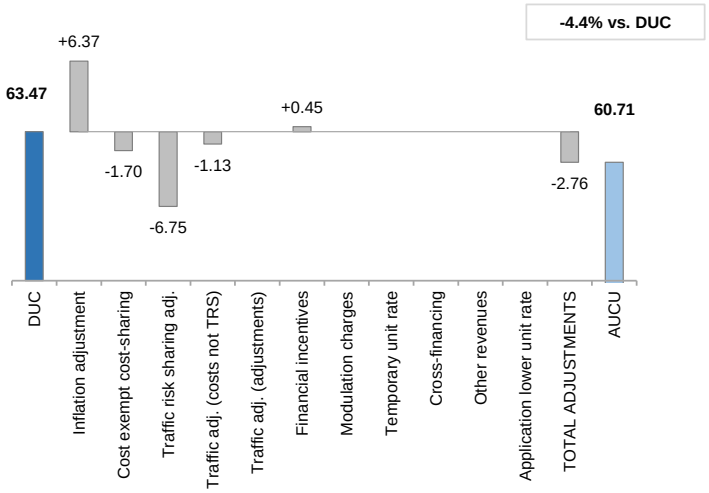
5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level

Slovenia 2023 DUC vs. Actual Unit Cost for users in national currency in nominal terms - €



Components of the AUCU	€/SU
Initial DUC charged	63.47
DUC to be charged retroactively	0.00
DUC	**63.47**
Inflation adjustment	6.37
Cost exempt from cost-sharing	-1.70
Traffic risk sharing adjustment	-6.75
Traffic adj. (costs not TRS)	-1.13
Traffic adj. (adjustments)*	
Financial incentives	0.45
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	-2.76
AUCU	**60.71**
AUCU vs. DUC	**-4.4%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

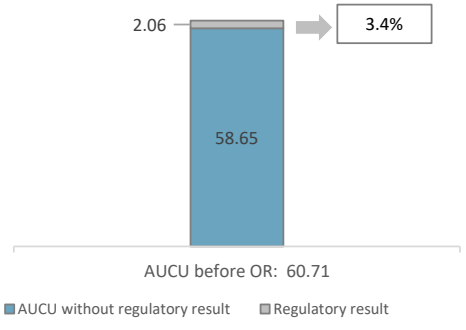
7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-920	-1.36
	Competent authorities and qualified entities costs	-222	-0.33
	Eurocontrol costs	-11	-0.02
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-1 153**	**-1.70**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level

Share of regulatory result in the AUCU (before deduction of other revenue)



ANSP(S)	€ '000	€/SU
Slovenia Control	1 576	2.33

METSP(s)	€ '000	€/SU
Slovenia MET	-179	-0.26
Total charging zone	1 396	2.06
Actual cost for users* **	41 116	60.71
Regulatory result (% AUCU)	3.4%	3.4%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (60.71 €) is -4.4% lower than the nominal DUC (63.47 €). The difference between these two figures (-2.76 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+6.37 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-1.70 €/SU);
- the deduction of the traffic risk sharing adjustments (-6.75 €/SU);
- the deduction of the traffic adjustment (-1.13 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (+0.45 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 3.4%.

SLOVENIA: En route main ANSP (Slovenia Control) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out **in national currency and in nominal terms.**

Note 1: *The ex-ante and ex-post RoE are calculated based on the notional capital structure (representing the proportion of financing through equity for determined and actual 2020-2021, 2022 and 2023 at the level of 40%). The actual proportion should be reported.*

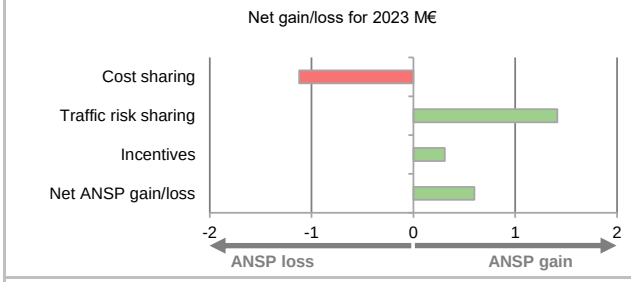
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

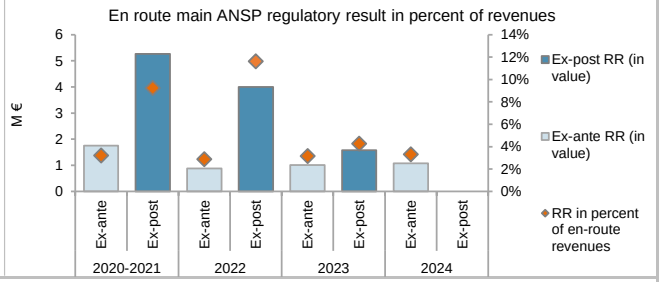
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	1 660	-414	-4 345	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	272	2 370	4 114	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	-88	-891	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**1 932**	**1 868**	**-1 122**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	5.1%	11.1%	18.6%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	55 060	30 768	32 138	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**1 618**	**1 354**	**1 414**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**308**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**3 550**	**3 221**	**600**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Slovenia Control planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	23 304	18 884	42 187	21 238	24 440	25 798
Proportion of financing through equity (in %) **(see Note 1)**	40%	40%	40%	40%	40%	40%
RoE pre-tax rate (in %)	10.4%	10.4%	10.4%	10.4%	10.4%	10.4%
RoE (in value)	971	784	1 755	882	1 015	1 071
Ex-ante regulatory result (+/-) for the en route charging zone	**971**	**784**	**1 755**	**882**	**1 015**	**1 071**
Revenue for the en route charging zone	**27 777**	**27 284**	**55 060**	**30 768**	**32 138**	**32 500**
Ex-ante regulatory result (+/-) in percent of revenues	**3.5%**	**2.9%**	**3.2%**	**2.9%**	**3.2%**	**3.3%**
Ex-ante RoE pre-tax rate (in %)	**10.4%**	**10.4%**	**10.4%**	**10.4%**	**10.4%**	**10.4%**
Slovenia Control actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	23 304	17 908	41 212	18 733	23 504	
Proportion of financing through equity (in %)	40%	40%	40%	40%	40%	
RoE pre-tax rate (in %)	10.4%	10.4%	10.4%	10.4%	10.4%	
RoE (in value)	971	744	1 715	778	976	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	3 550	3 550	3 221	600	
Ex-post regulatory result (+/-) for the en route charging zone	**971**	**4 294**	**5 265**	**3 999**	**1 576**	
Revenue for the en route charging zone	**27 777**	**29 174**	**56 951**	**34 403**	**37 082**	
Ex-post regulatory result (+/-) in percent of revenues	**3.5%**	**14.7%**	**9.2%**	**11.6%**	**4.2%**	
Ex-post RoE pre-tax rate (in %)	**10.4%**	**59.9%**	**31.9%**	**53.4%**	**16.8%**	

13. Focus on the main ANSP regulatory result on en route activity





Slovenia Control net gain on activity in the Slovenia en route charging zone in the year 2023

Slovenia Control reported a net gain of +0.6 M€, as a combination of a loss of -1.1 M€ arising from the cost sharing mechanism, with a gain of +1.4 M€ arising from the traffic risk sharing mechanism and a gain of +0.3 M€ relating to financial incentives.

Slovenia Control overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+0.6 M€) and the actual RoE (+1.0 M€) amounts to +1.6 M€ (4.2% of the en route revenues). The resulting ex-post rate of return on equity is 16.8%, which is higher than the 10.4% planned in the PP.

SLOVENIA: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
Slovenia MET planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the en route charging zone	**1 526**	**1 445**	**2 971**	**1 484**	**1 435**	**1 410**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Slovenia MET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	**0**	**-94**	**-94**	**-95**	**-179**	
Revenue for the en route charging zone	**1 526**	**1 461**	**2 988**	**1 593**	**1 605**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**-6.4%**	**-3.1%**	**-5.9%**	**-11.2%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSP in the en route charging zone for Slovenia (MET ARSO) corresponds to -11.2% of the en route revenues. It should be noted that MET ARSO does not charge cost of capital.

Annual Monitoring Report 2023

Local level view

SPAIN

SPAIN **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
ENAIRE	100	D	D	D	D	D
SKYWAY	96	C	D	D	C	D

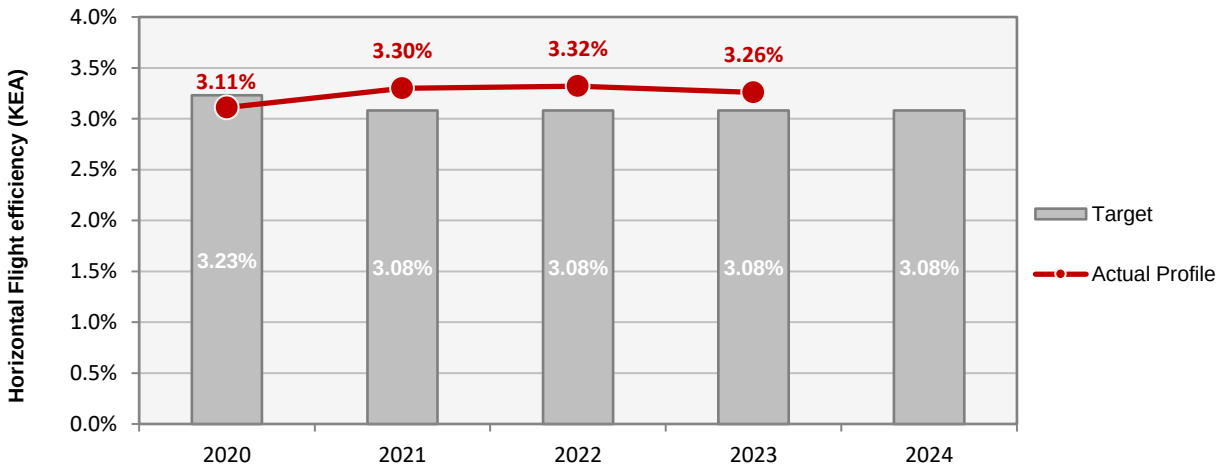
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.

Observations

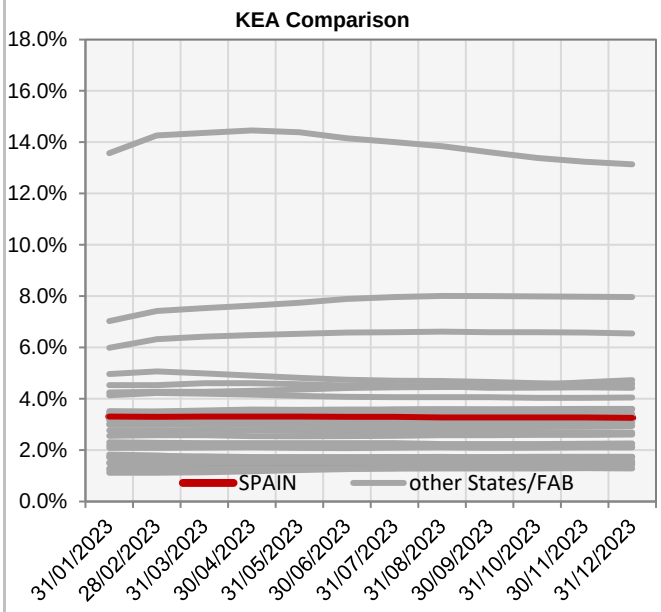
All five EoSM components of ENAIRE meet or exceed the RP3 target level. Maximum maturity level is maintained.
SKYWAY improved "Safety Risk Management" component over 2023 and consequently meet the RP3 target level for all five EoSM components.

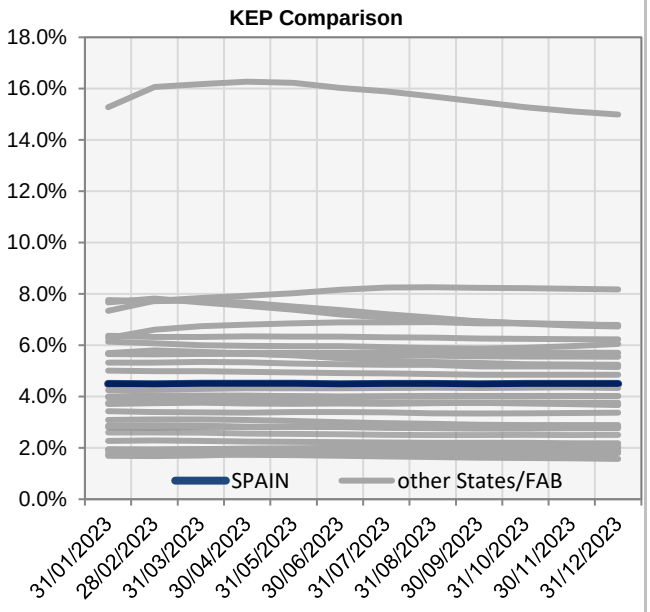
SPAIN **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	3.23%	3.08%	3.08%	3.08%	3.08%
Actual performance	3.11%	3.30%	3.32%	3.26%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	3.31%	3.30%	3.31%	3.31%	3.31%	3.30%	3.30%	3.28%	3.28%	3.27%	3.27%	3.26%
KEP	4.49%	4.48%	4.50%	4.50%	4.50%	4.48%	4.49%	4.49%	4.48%	4.49%	4.49%	4.49%
KES	4.39%	4.38%	4.39%	4.39%	4.40%	4.38%	4.38%	4.38%	4.37%	4.38%	4.38%	4.38%





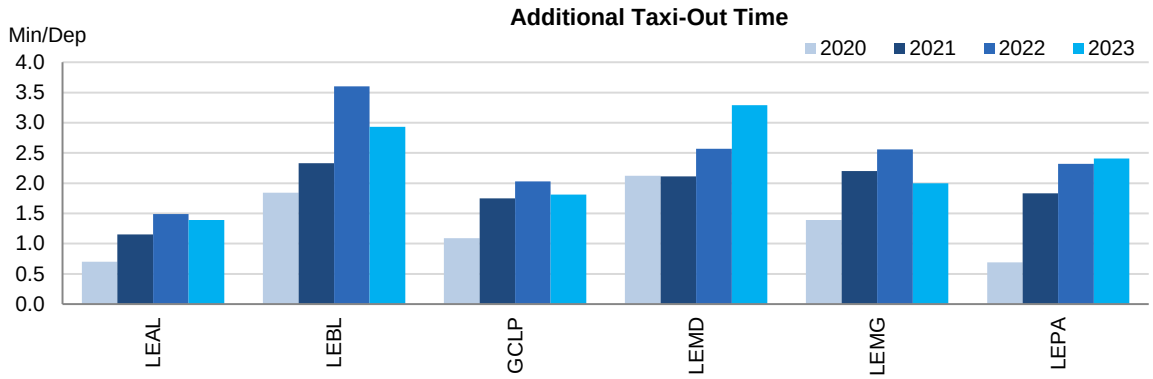
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

SPAIN **ENVIRONMENT - Airports**

1. Overview

Spain includes seven airports under RP3 monitoring. However in accordance with IR (EU) 2019/317 and the traffic figures, Ibiza is not monitored for additional taxi-out and ASMA times.
The Airport Operator Data Flow, necessary for the monitoring of the additional times, is correctly implemented where required and the monitoring of all environment indicators can be performed.
Traffic at the ensemble of Spanish airports under monitoring in 2023 was only 2% lower than in 2019, with an increase of 9% with respect to 2022. Gran Canaria, Palma, Malaga and Ibiza surpassed the 2019 traffic.
The evolution in 2023 of the additional times both in the taxi-out and the approach phase vary across the 6 monitored airports.
The share of CDO flights is higher than the overall RP3 value in 2023 for all airports. The values stayed relatively stable with respect to 2022.
The Spanish NSA reports that all these indicators are being monitored by AESA. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.

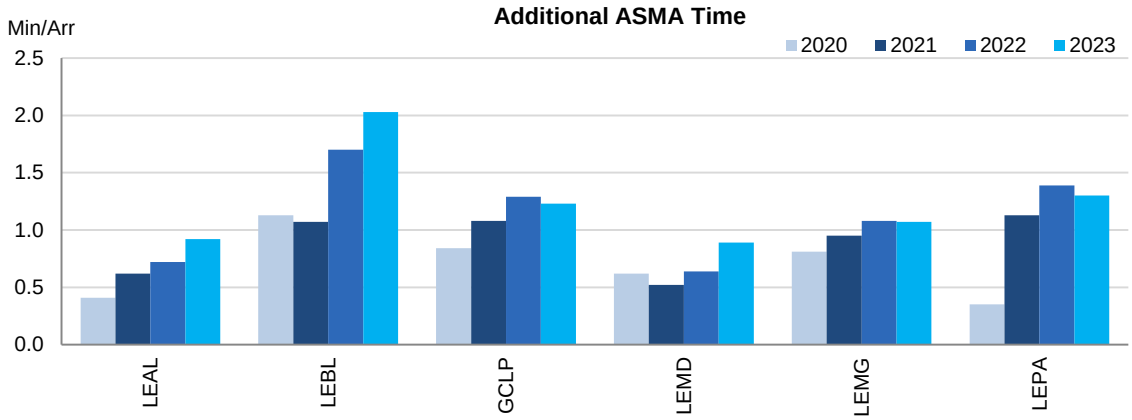
2. Additional Taxi-Out Time



The additional taxi out time (aggregated for the 6 airports monitored in RP3) decreased in 2023 by 1.5% in relation to the value of 2022.
At Barcelona (LEBL; 2019: 4.48 min/dep.; 2020: 1.84 min/dep.; 2021: 2.33 min/dep.; 2022: 3.6 min/dep.; 2023: 2.93 min/dep.) there was a significant improvement although the 2023 value was still right above the SES average of 2.81 min/dep.
On the contrary, Madrid (LEMD; 2019: 4.01 min/dep.; 2020: 2.12 min/dep.; 2021: 2.11 min/dep.; 2022: 2.57 min/dep.; 2023: 3.29 min/dep.) observed a significant deterioration.

According to the Spanish monitoring report:
In general, the greatest increase throughout the year occurs in the high season months of each airport, variations in this indicator are related to traffic, especially at airports such as LEPA.
In 2023 taxi times at LEMD are higher than 2022 due to traffic increase, taxi RWY closure during April for maintenance and frequent adverse weather conditions during May, June and July. There is a peak in taxi time at LEBL in March (RWY06L/24R closure for maintenance purpose).
There is work in progress regarding the improvement of A-CDM in Madrid, Barcelona, Palma y Málaga:
- The project related to more accurate Taxi times/stand is almost finished.
- New TWR UPDATE A-DPI has already been implemented.
Although LEIB did not reach >80k movements in 2016-2018, it does in 2023 and is monitored together with these 6 airports as it is one of the airports considered in the Spanish performance plan (ESPP3) for RP3. In 2023 it reaches a value of 2,0, -8,7% lower than the 2022 value (2,19). The additional taxi out time (aggregated for the 7 airports monitored in RP3) has a value of 2,57 at the same level as in 2022 (2,61).

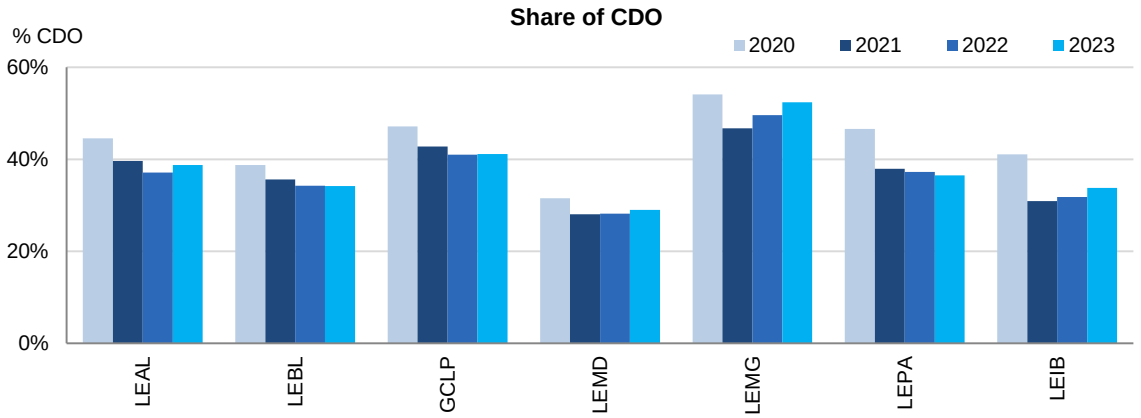
3. Additional ASMA Time



The additional time in terminal area (aggregated for the 6 airports monitored in RP3) in 2023 increased by 13.2% in relation to the value of 2022.
Barcelona observed the highest increase in the additional ASMA times (LEBL; 2019: 2.58 min/arr.; 2020: 1.13 min/arr.; 2021: 1.07 min/arr.; 2022: 1.7 min/arr.; 2023: 2,03 min/arr.) resulting in the third highest value across the SES monitored airports. Madrid and Alicante also observed increases in 2023 but their additional ASMA times remained under the SES average of 1.16 min/arr.
Together with Barcelona, Palma(LEPA) and Gran Canaria (GCLP) also resulted in additional ASMA time above the SES average.

According to the Spanish monitoring report:
In general, the greatest increase throughout the year occurs in the high season months of each airport, variations in this indicator are related to traffic, especially at airports such as LEPA.
High ASMA times during the early part of the year at LEMD due to new procedures in Madrid TMA and frequent adverse weather conditions during May, June and July. There is a peak in ASMA times at LEBL due to RWY06L/24R closure for maintenance in march.
Some restructuring projects are planned for the coming years in the main TMAs in Spain:
- PBN STARs and RNP APCH in Madrid TMA
- PBN SIDs, ILS & RNP APCH in Palma TMA
- Reorganization of Canarias TMA
Although LEIB did not reach >80k movements in 2016-2018, it does in 2023 and is monitored together with these 6 airports since it is one of the airports considered in the Spanish performance plan (ESPP3) for RP3. In 2023 it reaches a value of 0,86, -4% lower than the 2022 value (0,90). The additional time in terminal area (aggregated for the 7 airports monitored in RP3) has a value of 1,27 in 2023, 12% higher than the previous year (1,13).

4. Share of arrivals applying CDO



All airports had their share of CDO flights above the overall RP3 value in 2023 (28.8%), ranging from 29.0% (LEMD) to 52.4% (LEMG).
Ibiza (LEIB) had an increase of 2.0 percentage points while the values for Barcelona (LEBL) and Gran Canaria (GCLP) stayed almost the same.
Over the summer months, the share of CDO flights is generally lower.

According to the Spanish monitoring report: *The share of arrivals applying continuous descent operation (aggregated for the 7 airports monitored in RP3) has remained at the same level as in 2022 (+1,9%), despite traffic levels are already at pre-pandemic levels.*

In general, the greatest decrease throughout the year occurs in the high season months of each airport. Variations in this indicator are related to traffic, especially at airports such as LEPA.

The conditions of use of continuous descent procedures mean that the use of this type of procedure is not always compatible with the techniques used when it is necessary to manage medium/high traffic demands at airports/TMAs. Therefore, the authorisation of these procedures must be compatible with the airport's operations in order to meet the demand without establishing restrictions. In the long term, there are plans to modify the structure of the CDA procedures currently published at some airports and to transfer to the arrival procedures section of the AIP the information to proceed with the continuous descent from some point of the STARs to the IAF, to some point of the intermediate approach or to the IF, thus maximising the use of these operations.

This PI is monitored by AESA. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Alicante-LEAL	0.7	1.15	1.49	1.39		0.41	0.62	0.72	0.92		45%	40%	37%	39%	
Barcelona-LEBL	1.84	2.33	3.6	2.93		1.13	1.07	1.7	2.03		39%	36%	34%	34%	
Gran Canaria-GCLP	1.09	1.75	2.03	1.81		0.84	1.08	1.29	1.23		47%	43%	41%	41%	
Madrid/Barajas-LEMD	2.12	2.11	2.57	3.29		0.62	0.52	0.64	0.89		32%	28%	28%	29%	
Malaga-LEMG	1.39	2.2	2.56	2		0.81	0.95	1.08	1.07		54%	47%	50%	52%	
Palma de Mallorca-LEPA	0.69	1.83	2.32	2.41		0.35	1.13	1.39	1.3		47%	38%	37%	37%	
Ibiza-LEIB	-	-	-	-		-	-	-	-		41%	31%	32%	34%	

SPAIN **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

Civil-Military coordination regarding Flexible Use of Airspace is on progress at strategic level established within the specific working group called UPEA inside CIDETRA(previous CIDETMA). Dissemination of progress on FUA to civil operators is considered an enabler to achieve Flight Plans using more efficient routes through the Civil Use of Release Airspace (CURA). Spanish Air Force has been active participant in the general meetings to implement the Spanish Free Route Airspace Programme and an specific group composed by ENAIRE and Spanish Air Force was created in order to further improve the coordination for the implementation of FRA, with a special focus in ASM related matters. Furthermore, a close coordination work with the Network Manager is ongoing. A group of initiatives haven been implemented, such as the VPA, modulation of ARES and use of FUA-R.

Military - related measures implemented or planned to improve capacity.

Based on the Principles of FUA, use of AUP and update in UUP is already well and robustly implemented as well as the tactical release of ARES in close coordination in between Civil and Military ACC ATCOs.
80% of implemtentation of the Spanish SCC transition plan has been completed. A civil-military procedure for creation of ARES of vriable vertical and lateral limits has been implemented. Further actions on improvements on civil military coordination for ad-hoc rquest or large exercises preparation have been on course. Spain Mil and Civ participate in OEP FUA initiatives as champoiosn is large exercise preparations.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Spain	53%	44%	45%	52%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Barcelona					
Canarias					
Madrid					
Palma					
Sevilla					

Initiatives implemented or planned to improve PI#6

"NSA monitors values and promotes a better adjustments on the booked them to the needs.2023 shows an increase of 7 points in the use percentage. It is worth to highlight that Spain provides with actual use figures, instead of ERSA.

The particularities of this indicator have been analyzed in our airspace since there are no monthly data published at SES portal and they are provided by the Spanish Air Force NSA. "

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Spain	49%	74%	74%	68%	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Barcelona	n/a	n/a	n/a	n/a	
Canarias	n/a	n/a	n/a	n/a	
Madrid	n/a	n/a	n/a	n/a	
Palma	n/a	n/a	n/a	n/a	
Sevilla	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#7

"In the coming years, we expect to improve this PI with the definition of new FUA restrictions allowing new traffic flows through an RSA with military activity, the definition of adjustable boundary procedures, new modular RSAs, improvements in military RPAS activity management, etc. We also expect the implementation of FRA to improve flight planning through optimal routing.

This PI is monitored annually to evaluate the evolution of the indicators because our ANSP, ENAIRE, which provides the data to calculate the indicator, requests it from Eurocontrol and for the time being they are not in a position to request it on a more frequent basis. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder."

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Spain	52%	79%	75%	71%	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Barcelona	n/a	n/a	n/a	n/a	
Canarias	n/a	n/a	n/a	n/a	
Madrid	n/a	n/a	n/a	n/a	
Palma	n/a	n/a	n/a	n/a	
Sevilla	n/a	n/a	n/a	n/a	

Initiatives implemented or planned to improve PI#8

"In the coming years, we expect to improve this PI with the definition of new FUA restrictions allowing new traffic flows through an RSA with military activity, the definition of adjustable boundary procedures, new modular RSAs, improvements in military RPAS activity management, etc. We also expect the implementation of FRA to improve flight planning through optimal routing.

This PI is monitored annually to evaluate the evolution of the indicators because our ANSP, ENAIRE, which provides the data to calculate the indicator, requests it from Eurocontrol and for the time being they are not in a position to request it on a more frequent basis. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder."

SPAIN **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	**2021**	**2022**	**2023**	**2024**	**Observations**
National Target	0.47	0.12	0.20	0.19	0.19	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.40	0.09	0.30	0.47		

NSA's assessment of capacity performance

Regarding the Continental Spain en-route area, it was expected to reach 1,888 thousands of flights in line with the scenario base of STATFOR forecast October 2021. However the actual figure in 2023 amounts to 2,063 thousands of flights, which means an increase of 9.3% above forecasted and a 2,2% above 2019 traffic.

En route delay has been above the 2023 target, as previously informed to the Commission before the end of 2023 and according to Regulation (EU) 2019/317 Article 37(1).

En-route has already exceeded pre-pandemic traffic levels, being 2% higher than 2019, while delay is virtually similar and only 1% higher than 2019.

In general projects have been implemented solving the problems that had been identified but new challenges have arisen such as the large increase in traffic in the (Seville) LECS region (16% higher compared to 2019), changes in traffic flows that saturate sectors and increase their complexity, etc. All these pose new challenges that require new measures that are already under consideration.

Monitoring process for capacity performance

By 2023 the minutes reallocated by network measures (eNM/23) and the information related to the Post-Operations Performance (approved Post-Ops cases) distributed by Eurocontrol throught the Post-operations performance adjustment process, have been taken into account. Since March, en route traffic has been higher than the equivalent of 2019. In some regions the recovery with respect to pre-pandemic has been faster and already since January they were at values above the 2019 equivalents in Canarias ACC (GCCC), Palma ACC (LECP) and Seville ACC (LECS), while other regions such as Madrid ACC (LECM) did not exceed pre-pandemic levels until August. Despite the increase in traffic, national delay levels remained below target until May and ERD values in 2023 have always remained lower than those of 2019 until the end of the year when they equaled it, i.e. an ERD value similar to 2019 has been reached but managing 2% more en-route traffic.

From June onwards, with the reactivation of traffic and the development of the high season in most ACCs, more delay minutes were generated, concluding the year with their non-compliance. Delays were mainly caused by C-ATC Capacity (65% of the 2023 total, compared to 69% in 2022) and W-Weather (24% of the 2023 total, compared to 25% in 2022). At GCCC, the RNAV1 implementation in October-November resulted in about 30k min of delay due to P-Special Event during the transition procces but an improvement in operations is expected from 2024 onwards. At LECB, weather accounts for one third of the delay. In LECM, LECP and LECS, most of the delay is due to C-ATC Capacity (70-75%). In LECP, the delay is mainly concentrated in Jul-Aug. In LECS, during the second half of the year there were some minutes of delay due to S-Staffing which is an increase over 2022 but still well below the values that were in 2019 for this cause, also the implementation of MIDAS during November caused minutes of delay due to P-Special Event during the transition procces.

The AESA Monitoring Process continues to monitor this indicator on a monthly basis taking into account the different causes of delay, since the incentive system implemented for RP3 considers a mechanism modulated by causes of delay. The evolution of the attributable and non-attributable delay causes is monitored in order to apply the incentive mechanism and to identify the reasons in the event of non-compliance.

The alert mechanism continues to be active to warn, months before the end of the year, of possible non-compliance. In 2023 this mechanism was activated to report to the Commission the expected non-compliance of this indicator, which finally ocurred.

Capacity Planning

The NOP Rolling Seasonal Plan during 2023 has changed, covering now an outlook of eight weeks instead of six. The time horizon and frecuency of the updates is regularly reviewed.
Every week Enaire updated data to the plan (planned sector openings, maximum possible sector openings, sector capacity reductions if any, availability of support to operations staff, additional information -e.g. other constraints to be highlighted- and special events and major projects). The plan is a living document regularly updated and published by NM in order to be adapted to the changed conditions of the Air Navigation Service. Also a NOP for the 2024-2029 period was elaborated.

Regarding the current status of the main projects planned for 2023:
-Capacity and Quality of Service & Airspace
•LECB ACC: Capacity of the LEBL final approach sector was improved, on 18-Aug-2023, from 40 to 41 in East and West configurations. New sector LECBPLC and new configurations (3D, 5E) created.
Phase 2 of the FRA project is progressing as planned, with publication of additional connectivities in June 2023 and (scheduled for) December 2023. This project will continue until end of 2025, but the milestones for 2023 have been completed successfully.
The BALSE sector splitting was performed on May 18, 2023. Together with this splitting, new sectorizations were created, and the division flight level between LECBMNL and LECBMNU was changed from FL325 to FL345.

•GCCC ACC: New sector configurations have been created in October, 2023. In addition, the capacities of GCCCNEX and GCCCNEL sectors was increased (NEX increased from 30 to 32 traffics/h, and NEL from 32 to 35 traffics/h).
Phase 2 of the FRA project is progressing as planned, with publication of additional connectivities in June 2023 and (scheduled for) December 2023. This project will continue until end of 2025, but the milestones for 2023 have been completed successfully.
Cooperation with Morocco for the improvement of the interface is progressing, but at a very slow pace.

•LECM ACC: New sectors and configurations published on Feb. 23, 2023 with the implementation of parallel independent approaches. Significant increase of capacity in LEMD final approach sectors.
Phase 2 of the FRA project is progressing as planned, with publication of additional connectivities in June 2023 and (scheduled for) December 2023. This project will continue until end of 2025, but the milestones for 2023 have been completed successfully.
Coordination of activities between Nav Portugal, Enaire regarding implementation of cross border free route with Lisboa are ongoing.
Significant changes in traffic flows are observed in Madrid ACC after recovery from COVID. Splitting of ZGZ/TER is ready to be implemented, but no benefit is expected from the project with current patterns. Therefore the project effective implementation has been postponed until benefits justify the implementation.

•LECP ACC: The MXX sector was split on 28 May, 2023. This sector split, together with the capacity increase of MXX performed in August 2022, is improving delivered capacity in a sector that was generating significant delays since 2018.
Redesign of Palma TMA, delayed for years due to environmental issues, will not be ready for 2025, and a new plan is being prepared. Currently it includes implementation of new procedures for LEMH and SIDs for LEPA in 2027, and new approach procedures for LEPA in 2028.

•LECS ACC: Redesign of MAR sector together with global redesign of several en-route sectors and associated configurations. Redesign of MAR sector, initially planned for 2024, was successfully implemented on November 2nd, 2023, ahead of schedule. The project implied a major redesign of several sector volumes and operational procedures, and was implemented together with the new procedures in Malaga TMA. During the transition plan capacities were reduced and some delays (Special Event) were generated. In the medium and long term, the project will provide additional overall capacity.

Phase 2 of the FRA project is progressing as planned, with publication of additional connectivities in 2023. This project will continue until end of 2025, but the milestones for 2023 have been completed successfully.

ATCO in OPS (FTE)							
Barcelona ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	341	350	350	338	
Actual	339	323	347	351	343		
Canarias ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	161	164	164	162	
Actual	156	151	155	171	168		
Madrid ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	434	407	386	398	
Actual	425	415	436	423	427		
Palma ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	128	120	118	121	
Actual	130	137	133	133	127		
Sevilla ACC	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**Observations**
Planned (Perf Plan)	-	-	137	132	129	133	
Actual	140	131	136	131	142		

Application of Corrective Measures for Capacity (if applicable)

Targets in LECB, LECM, LECS and GCCC have not been met. In all ACCs except GCCC, C-ATC Capacity is the main cause of delay, representing 65% of the total delay. In LECB it is 61% but in LECM, LECP and LECS it is between 71% and 75%. In GCCC it is only 40% because the minutes caused by the implementation of RNAV1 procedures during October-November have resulted in many minutes for P-Special Event delay, being the first cause of delay with 41% of the total in that ACC. In LECB the delay due to W-Weather accounted for 34% of the total in this ACC, the highest percentage of the 5 ACCs; in the others, W-Weather accounted foe between 11% and 19% and in the 5 ACCs as a whole it represents 24%. P-Special Event delay accounted for 5% of the total due mainly to the contribution of RNAV1 implementation during October-November at GCCC, due to MIDAS during November at LECS and due to an Ocuupancy Trial during May at LECM.

Compared to 2019, it should be noted that LECB and LECM improved delay values even taking into account that the recovery of traffic to pre-pandemic levels has been achieved and surpassed in 2023. Traffic in 2023 has been higher than expected. In Sevilla there has been an increase of 16% taking 2019 as reference; in Palma, there has been a 7% increase. The rest of ACCs also with increase over 2019 figures, and even over 2022 figures. Sevilla with an increase of 13% over 2022 figures.These are average figures, but peak demand has been very strong.

The ERD ATT indicator of attributable causes of delay (CRSTMP) has also not met its target at national level, as well as by region, where only LECP has remained below the target. Despite C-ATC Capacity being the main cause of delay, fewer minutes have been reported compared to 2019 even having managed 2% more traffic. In contrast W-Weather delay has increased by almost 50% compared to 2019 minutes for this cause. Flight, airport and air traffic operations all suffered from volatility of demand, in general. Weather regulations were particularly volatile in 2023. Weather affected operations earlier this summer (May) and continued through July-September. One of the sectors more affected in Spain by weather regulations in 2023 was the LECBCCC, which is indeed one of the most affected areas by thunderstorms in Spain.

The sector accumulating highest delay in Seville was LECSSUR. Demand increased above all expectations due to significant increase of traffic to and from Morocco. In addition, Moroccan companies refuse to overfly Algers, and plan their flights via Sevilla ACC and the Southern part of Barcelona ACC. The Santiago Oceanic (LECMSAO) sector also experienced a significant increase in trans-oceanic flights. These flights cause high workload, since ATCOs need to coordinate and transmit the oceanic clearance individually. Regulations are introduced to control complexity of the sector and this explains the high delay figures in this sector. Other circumstances could be new distribution of traffic flows due to changes in the en-route unit rates.

As reported to the Commission in December 2023, the non-compliance of the indicator ERD was foreseen and communicated according to Regulation (EU) 2019/317 Article 37(1). In that report, the situation was analyzed at route level and in each region, concluding that the improvements in capacity that could have led to meeting the targets were not met due to the large increase in traffic handled, in particular in the flow to Morocco causing overload in the LECSSUR sector, demand for overflying increased above expected, the negative contribution of Weather to a more optimal management of traffic flows and demand drift during the day that was causing problems for the night shift in many occasions. In general, the projects contemplated in ESPP3 were being implemented on time but did not appear to be sufficient to meet the targets set given the volume of traffic managed.

Recommendations to the ANSP to rectify the situation:

In the report to the Commission submitted in December 2023, some of the additional measures planned by ENAIRE were explained. Some of the planned projects are the split of LECSSUR sector planned in April 2024, a change in the division level between the LECSSEVL and LECSSEVU sectors, the redesign of LECMSAN/LECMSAO sectors for 2025, new procedures for LECBCC to reduce the delay due to Weather, etc.

Endorse ENAIRE to continue implementing the capacity plan in order to achieve the objectives of delays and better air traffic management, focusing on projects that have an impact on the increase of available capacity, as well as on the implementation of projects that improve operations to manage traffic increases above pre-pandemic levels.

Special attention should be paid to the aspects mentioned in relation to the increase in traffic, since these are new circumstances not contemplated in the ESPP3 capacity plan and therefore the necessary measures are already taken through the additional measures described above to alleviate the problems that have arisen.

Measures put in place by the ANSP:

Continued effort to increase staffing levels and.or availability in Madrid ACC and Barcelona ACC - provide additioanl ATCOs - continuous and ongoing;

Continued alignment of traffic demand and sector opening times in Madrid ACC and Barcelona ACC - adapt configurations and sector openings constantly to traffic demand - achieved in 2023;

Cross-border scenarios LECB -LECP - to balance traffic between feeders to Palma airport. Some scenarios converted to static measures (RAD) - achieved in 2023;

France/Spain airspace restructuring project and re-sectorisation in Barcelona ACC and Madrid ACC - DSNA/EUROCONTROL/ENAIRE working group established - implementation in 2024;

Particpiation in Operational Excellence Program of EUROCONTROL - ASM-ATFM practices - achived in 2023;

Canarias ACC participation in the knock-on-delay trial initiative - new traffic counting methodology - implemented in 2023;

Significant use of scenarios in LECM - to manage overloads in upper sectors; some re-routings to avoid congested areas - achieved in 2023;

New scenarios created in LECSSUR sector - management of traffic increase - achieved in 2023.

Identified Risks to Capacity Performance

AESA is aware that there is a certain risk of not meeting the performance target in 2023 given the degree of seasonality that exists in some units. The various monitoring activities will continue, monthly and annual monitoring, as well as periodic monitoring of the assignment of delay causes in order to know the evolution of the KPIs and the specific characteristics of each unit. This results in a better knowledge of the behavior of the indicators and a fluid communication and coordination with the ANSP. Additionally, AESA is monitoring the cases reported by our ANSP through the Post-OPS performance adjustment process, collaborating with both ANSPs and other stakeholders with the aim of deepening the analysis of the cases.

As the year progresses and especially as the summer season unfolds, with the existing follow-up mechanisms thanks to various monitoring and alert system in force, if this risk of non-compliance materializes, it will be notified to the Commission as established in the Regulation (EU) 2019/317.

Information Related to Russia's War of Aggression Against Ukraine

Due to the Ukaine war, Oceanic traffic is proceeding via the Northern sectors in Madrid ACC, with particular impact on the SAO (Santiago Oceanic) sector. ATFCM procedures have been implemented to control workload on SAN/SAO when the level of oceanic traffic is high, and a new project has been planned to reorganize the Northern sectors and increase delivered capacity.

Other significant variations in traffic flows have been observed in 2023, but it is difficult to identify Russia's war against Ukraine as the main causal factor.

Summary of capacity performance

Spain experienced an increase in traffic from 1 983k flights in 2022, with 588k minutes of en route ATFM delay, to 2 194k flights in 2023, with 1 029k minutes of en route ATFM delay.

There were an additional 101k minutes of en route ATFM delay originating in the Spanish ACCs that were re-attributed to other ANSPs via the NM post operations delay attribution process:

71k minutes of en route ATFM delay were re-attributed to DSNA and a further 29k minutes of en route ATFM delay were re-attributed to the DFS as part of the eNM/S23 measures.

En route Capacity Incentive Scheme

	2020	2021	2022	2023	2024	Observations
CRSTMP Capacity target	n/a	n/a	n/a	0.144	n/a	Spain uses an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The new target was set at 0.144 minutes per flight and the actual performance is reported as 0.35 minutes per flight (CRSTMP only). This results in a reported malus of € 3 034 031.00
Deadband +/-	-	-	-	0.01	n/a	
Actual performance	n/a	n/a	n/a	0.350		

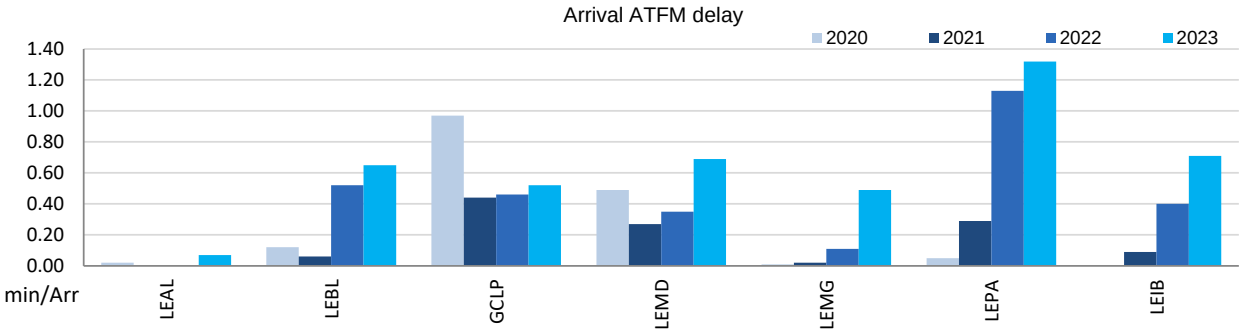
SPAIN **CAPACITY - Airports**

1. Overview

Spain includes seven airports under RP3 monitoring. However in accordance with IR (EU) 2019/317 and the traffic figures, Ibiza is not monitored for pre-departure delays.
The Airport Operator Data Flow, necessary for the monitoring of these pre-departure delays, is correctly implemented where required. Nevertheless, the quality of the reporting from 5 of the 6 the Spanish airports does not allow for the calculation of the ATC pre-departure delay, with more than 60% of the reported delay not allocated to any cause.
Traffic at the ensemble of Spanish airports under monitoring in 2023 was only 2% lower than in 2019, with an increase of 9% with respect to 2022. Gran Canaria, Palma, Malaga and Ibiza surpassed the 2019 traffic.

Average arrival ATFM delays in 2023 was 0.70 min/arr, compared to 0.48 min/arr in 2022. The national target was not met.
ATFM slot adherence remained very high (2023: 98%; 2022: 97.9%).

2. Arrival ATFM Delay



The national average arrival ATFM delay at Spanish airports in 2023 was 0.70 min/arr., an increase with respect to the 2022 value (0.48 min/arr) but still lower than the 2019 value (1.02 min/arr).

All Spanish airports under monitoring observed a deterioration to some extent in their performance, with Palma registering the highest arrival ATFM delay per flight (LEPA: 2023: 1.32 min/arr.)
53% of the delays at Spanish airports were attributed to Weather followed by 18% to ATC Capacity.

According to the Spanish monitoring report: *The capacity KPI #2 was above reference values in 2023 for Spain and only one airport met its targets (LEBL). The six other airports were above them. By 2023 the information related to the Post-Operations Performance (approved Post-Ops cases) distributed by EUROCONTROL through the Post-operations performance adjustment process, have been taken into account.*
Pre-pandemic traffic levels have recovered later than en-route and were not above 2019 equivalents until October. The recovery has been uneven depending on the airport, some already exceeded their 2019 equivalents since the first months of the year (LEMG, LEIB, LEPA, LEAL, GCLP), while others have done it at the end of the year (LEBL) or have not yet done so (LEMD). The recovery of cumulative traffic in all 2023 is very remarkable in LEMG (12%) and LEIB (10%) but there are other airports that have not yet exceeded 2019 levels, LEMD (-9%), LEBL (-7%), so that the set of the seven airports (SPA7) stands at -2% compared to 2019. At the national level (SPA7) the traffic level was 2% lower than 2019 but the delay was 24% lower than 2019. The TAD indicator remained below target until July but has finally exceeded the target even though it has improved compared to the values achieved in 2019.
In the first quarter the year, the delay was moderate. From May onwards, with the reactivation of traffic and the development of the high season in most airports, more delay minutes were generated. The main cause of delay is W-Weather (53% of the 2023 total, similar to 2022 and compared to 49% in 2019), almost half of the minutes are concentrated in LEPA, also remarkable in LEBL and LEMD. The second cause of delay is C-ATC Capacity (18% of the 2023 total, compared to 26% in 2022 and 24% in 2019) but 2023 minutes have almost half reduced compared to 2019, more than half of the minutes are concentrated in LEMD, also highlights in LEPA. Compared to 2019, there is some reduction in delay minutes per G-Aerodrome Capacity (11% of the 2023 total) but an increase in minutes per P-Special Event cause (10% of the 2023 total) due to the effects of the implementation of AMBAR in LEMD in the first months of the year and MIDAS in LEMG in the last months of 2023.

Regarding the particularity of the LEAL and LEIB airports, in which different ANSPs are involved, from 2023 onwards it is necessary to differentiate TAD value for LEAL and LEIB aerodromes for incentive purposes. LEAL and LEIB arrival delay can be differentiate between SKYWAY (Aerodrome ATC service provider) and ENAIRE (Approach ATC service provider). According the document "Monitoring of delays in arrivals in RP3 for Alicante and Ibiza airports" prepared by AESA, the part of delay that would correspond to ENAIRE or SKYWAY (previously FerroNATS) for these two airports would be as follows:

LEAL: ENAIRE: 0,01 min/flight. SKYWAY: 0,06 min/flight. A few minutes due to G-Aerodrome Capacity and a few due to W-Weather, so much of it is allocated to the TWR-AD environment. Attributable delay causes is zero for both providers.

LEIB: ENAIRE: 0,24 min/flight . SKYWAY: 0,47 min/flight. Several causes of delay, highlighting W-Weather, A-Accident/Incident and G-Aerodrome Capacity, so more minutes are allocated to the TWR-AD environment than to the APP-TMA environment. Almost all the attributable delay causes corresponds to the APP-TMA environment, which is ENAIRE's responsibility.

Identification and analysis by the NSA of the underlying reasons or circumstances having led to the performance target not being achieved

All targets have been failed except at LEBL. At LEPA, LEBL and LEIB airports, W-Weather has been the first cause of delay, at LEMD W-Weather and C-ATC Capacity have been the main causes practically equal, LEMG has been very affected by the implementation of MIDAS in November causing P-Special Event to be the main cause of delay in 2023, while at GCLP the main cause of delay has been G-Aerodrome Capacity. The reduction of minutes compared to 2019 in causes C-ATC Capacity and G-Aerodrome Capacity is considered positive, highlighting that the minutes for C-ATC Capacity have been similar to those of 2022 but managing 9% more traffic.
The TAD ATT indicator of attributable causes of delay (CRSTMP) has also not met its target at national level but several airports have remained below their target. Only LEMD (due to its C-ATC Capacity delay minutes plus AMBAR implementation which contributed minutes per P-Special Event), LEMG (due to MIDAS implementation with P-Special Event minutes) and GCLP (due to C-ATC Capacity and T-ATC Equipment minutes due to calibrations) have failed to meet their attributable target.
As reported to the Commission in December 2023, the non-compliance of the indicator TAD was foreseen and communicated according to Regulation (EU) 2019/317 Article 37(1). In that report, the situation was analysed concluding that TAD compliance is highly conditioned by the presence of Weather, which is becoming increasingly frequent but this condition is not the same at all airports. The possibilities of finding projects that manage to reduce this type of delay is more difficult given the highly unpredictable nature of Weather. In general, some of the projects set out in ESPP3 to achieve the targets have been implemented or are being carried out as planned, although some of the projects have been rescheduled. The increase in the occurrence of bad weather and the consequent increase in delays, together with the postponement of some of the planned projects, may led to the failure to meet the targets set in ESPP3.

Recommendations to the ANSP to rectify the situation

In the report to the Commission submitted in December 2023, some of the additional measures planned by ENAIRE were explained. Some of the planned projects are to impulse a TMA restructuring and a manual TWR update message handling implemented in some airports.
Endorse ENAIRE to continue implementing the capacity plan in order to achieve the objectives of delays and better air traffic management, focusing on projects that have an impact on the increase of available capacity, as well as on the implementation of projects that improve operations to manage traffic increases above pre-pandemic levels.

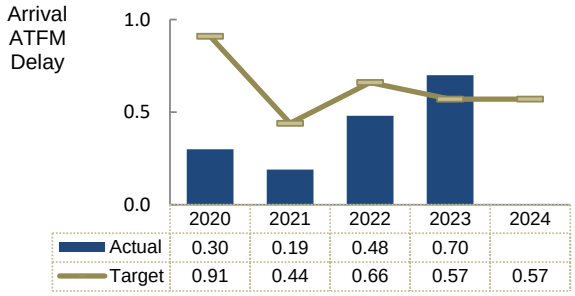
Measures put in place

Title / Airport(s)	Description	Timeline for implementation	Status
LEPA	*Regarding Palma (LEPA), high-level contacts are being established with the regional administration in Balearic Islands to provide political impulse to a TMA restructuring project that has been delayed several years; this project would bring a significant increase in arrival capacity to Palma de Mallorca*	*TBD*	*Ongoing*
LEBL,LEMD,GCLP, LEMG and LEPA	*Manual TWR Update message handling has been implemented in LEBL, LEMD, GCLP (and planned for LEMG and LEPA before Summer 2024). This reduces workload on ATCOs, since telephone coordination with the airport are significantly reduced.*	*2024*	*Ongoing*
LEIB, LEAL	*The ATC Capacity for LEIB TWR has been increased in June 2023 and the ATC Capacity for LEAL TWR has been increased in April 2024.*	*2023*	*Achieved*

The Spanish monitoring report adds:

For 2024, no particular risk of non-compliance with the KPI is expected, but given the degree of seasonality that exists in some units, the various monitoring activities will continue, monthly and annual monitoring, as well as periodic monitoring of the assignment of delay causes in order to know the evolution of the KPIs and the specific characteristics of each unit. This results in a better knowledge of the behaviour of the indicators and a fluid communication and coordination with the ANSP. Additionally, AESA is monitoring the cases reported by our ANSP through the Post-OPS performance adjustment process, collaborating with both ANSPs and other stakeholders with the aim of deepening the analysis of the cases.
As the year progresses and especially as the summer season unfolds, with the existing follow-up mechanisms thanks to various monitoring and alert system in force, if this risk of non-compliance materializes, it will be notified to the Commission as established in the Regulation (EU) 2019/317.

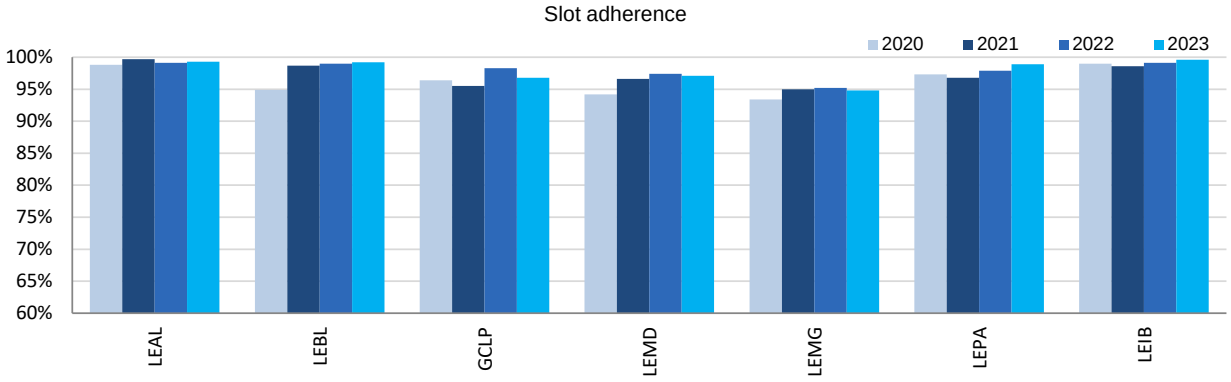
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.30	0.19	0.48	0.70	
Target	0.91	0.44	0.66	0.57	0.57

Spain's performance plan sets a national target on arrival ATFM delay for 2023 of 0.57 min/arr. This target was not met, with an actual performance of 0.70 min/arr. The incentive scheme uses modulated pivot values limited to CRSTMP delay causes. According to the Spanish monitoring report, this pivot value for CRSTMP is 0.168392 min/arr in 2023 and based on the attribution of the regulation reason, the actual CRSTMP value for 2023 was 0.207 min/arr.
The NSA calculates a penalty of € 29 042.40.

4. ATFM Slot Adherence



All Spanish airports showed adherence around or above 95% and the national average was 98%. With regard to the 2% of flights that did not adhere, 1.5% was early and 0.5% was late.

The Spanish monitoring reports adds: *The result for 2023 (aggregate of the 7 airports subject to monitoring) improves by 0.6% the result of the previous year, being all results well above the value of 80% set in Regulation (EU) No. 255/2010 of the Commission . ANSPs does not believe it is necessary to establish specific improvement measures.*
This PI is being monitored by AESA to evaluate the evolution of the indicators. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.

5. ATC Pre-departure Delay

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at all 6 Spanish airports subject to monitoring of this indicator.
However, there are several quality checks before EUROCONTROL can produce the final value which is established as the average minutes of pre-departure delay (delay in the actual off block time) associated to the IATA delay code 89 (through the APDF, for each delayed flight, the reasons for that delay have to be transmitted and coded according to IATA delay codes.
However, sometimes the airport operator has no information concerning the reasons for the delay in the off block, or they cannot convert the reasons to the IATA delay codes. In those cases, the airport operator might:
- Not report any information about the reasons for the delay for that flight (unreported delay)
- Report a special code to indicate they do not have the information (code ZZZ)
- Report a special code to indicate they do not have the means to collect and/or translate the information (code 999)
To be able to calculate with a minimum of accuracy the PI for a given month, the minutes of delay that are not attributed to any IATA code reason should not exceed 40% of the total minutes of pre-departure delay observed at the airport.
Finally, to be able to produce the annual figure, at least 10 months of valid data is requested by EUROCONTROL.
The high share of unidentified delay reported by 5 out of the 6 Spanish airports under monitoring (all except Alicante) prevent the calculation of this indicator. At Alicante, the only airport where the indicator could be calculated, the ATC pre-departure delay increased in 2023 (LEAL; 2022: 0.51 min/dep.; 2023: 0.68 min/dep.)
According to the Spanish monitoring report, *although LEIB does not yet reach >80k movements, it is monitored together with these 6 airports since it is one of the airports considered in the Spanish performance plan (ESPP3) for RP3.*
The Spanish monitoring report adds: *This PI is being monitored by AESA to evaluate the evolution of the indicators. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.*
No change from last year's figures. During 2022 AESA focused on investigating the origin of the lack of data. The delay represented in this indicator is related to IATA code 89 and AESA was able to confirm that the lack of data was due to the fact that these data did not meet the minimum quality required to be considered. PRU sets a minimum threshold on the quality of its data, so if codes ZZZ and 999 exceed 40% of the delay minutes, then the indicator is not published with a numerical value, as it exceeds that minimum threshold set by PRU.
Sometimes it happens that the airport operator has no information on the reasons for the delay or it cannot be associated with an IATA code. After several communications with the airport manager, AESA has understood that codes ZZZ and 999 are generally assigned when no code has been given (and therefore the cause of the delay is not known) or when the actual delay does not match the declared delay. The indicator picks up the initial declared delay data but this is subject to change and so there are occasions when it does not match the actual delay. This is why there is so much indeterminacy represented by these ZZZ and 999 codes. There does not seem to be a simple resolution to this situation since the data needed to publish the indicator is collected around the middle of the following month and the process of defining the codes that are more in line with reality is done through a post-operational analysis that takes considerably longer.

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time at Spanish airports in 2022 increased once again at all airports. The highest pre-departure delays were observed at Palma (LEPA: 2020: 5.44 min/arr; 8.20 min/arr; 2022: 19.98 min/dep; 2023: 20.62 min/dep) and Malaga (LEMG: 2020: 11.33 min/arr; 10.86 min/arr; 2022: 19.14 min/dep; 2023: 20.85 min/dep).

According to the Spanish monitoring report: *The 2023 values are higher than the 2020-2022 values. The evolution of the indicator throughout 2023 is upward in the first half of the year and then remains stable until the end of the year, this behaviour is given in almost every airport considered in ESPP3. The aggregated result for 2023 (of the 6 airports subject to monitoring) is 17,57 min/dep, which slightly worsens compared to 2022 (16,20 min/dep).*
This type of delay seems to increase when the number of movements grows. The historical series with only 4 years (2020-2023) is very small because 2020-2021 are special years and therefore the behaviour of 2022-2023, being only two years, might not be extrapolable for future years considering that ENAIRE has reached its maximum historical level of traffic in 2023.
This PI is being monitored by AESA to evaluate the evolution of the indicators. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Alicante-LEAL	0.02	0	0	0.07		98.8%	99.7%	99.1%	99.3%		n/a	n/a	0.51	0.68		9.03	8.06	17.41	19.42	
Barcelona-LEBL	0.12	0.06	0.52	0.65		94.9%	98.7%	99.0%	99.2%		n/a	n/a	n/a	n/a		8.74	8.27	15.76	17.07	
Gran Canaria-GCLP	0.97	0.44	0.46	0.52		96.4%	95.5%	98.3%	96.8%		n/a	n/a	0.35	n/a		11.30	9.42	14.97	16.06	
Madrid/Barajas-LEMD	0.49	0.27	0.35	0.69		94.2%	96.6%	97.4%	97.1%		n/a	n/a	n/a	n/a		9.52	9.68	13.11	14.87	
Malaga-LEMG	0.01	0.02	0.11	0.49		93.4%	95.0%	95.2%	94.8%		n/a	n/a	0.60	n/a		11.33	10.86	19.14	20.85	
Palma de Mallorca-LEPA	0.05	0.29	1.13	1.32		97.3%	96.8%	97.9%	98.9%		n/a	n/a	n/a	n/a		5.44	8.20	19.98	20.62	
Ibiza-LEIB	0	0.09	0.4	0.71		99.0%	98.6%	99.1%	99.6%		-	-	-	-		-	-	-	-	

SPAIN CONTINENTAL: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Spain Continental ECZ represents 10.1% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 26 January 2022 and found consistent as per Commission Decision (EU) 2022/776 of 13 April 2022
  The final version of the plan was adopted and published by Spain in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Spain Continental: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	598 351 394	592 163 350	1 190 514 743	622 143 018	629 825 005	633 678 309
Inflation %	0.0%	1.0%		1.3%	1.5%	1.6%
Inflation index (100 in 2017)	102.5	103.6		104.9	106.5	108.2
Real en route costs (€2017)	587 141 409	576 803 493	1 163 944 902	600 260 618	601 512 333	598 574 451
Total en route service units	4 436 942	6 369 718	10 806 660	11 190 159	11 637 507	12 421 049
Real en route DUC per service unit (€2017)	**132.33**	**90.55**	**107.71**	**53.64**	**51.69**	**48.19**

Spain Continental: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	598 351 394	581 225 503	1 179 576 897	716 686 848	690 907 070	
Inflation %	0.0%	3.0%		8.3%	3.4%	
Inflation index (100 in 2017)	102.5	105.6		114.4	118.2	
Real en route costs (€2017)	587 141 409	558 011 545	1 145 152 954	646 311 170	611 667 850	
Total en route service units	4 436 942	6 382 913	10 819 854	11 078 709	12 451 831	
Real en route AUC per service unit (€2017)	**132.33**	**87.42**	**105.84**	**58.34**	**49.12**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-10 937 847	-10 937 847	94 543 831	61 082 065	
	in %	-	-1.8%	-0.9%	+15.2%	+9.7%	
Inflation %	in p.p.	0.0 p.p.	2.0 p.p.		7.0 p.p.	1.9 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	2.0 p.p.		9.5 p.p.	11.8 p.p.	
Real en route costs (€2017)	in value	0	-18 791 948	-18 791 948	46 050 552	10 155 517	
	in %	-	-3.3%	-1.6%	+7.7%	+1.7%	
Total en route service units	in value	0	13 195	13 195	-111 450	814 324	
	in %	-	+0.2%	+0.1%	-1.0%	+7.0%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-3.13**	**-1.87**	**4.70**	**-2.56**	
	in %	**-**	**-3.5%**	**-1.7%**	**+8.8%**	**-5.0%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -5.0% (or -2.56 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+7.0%) and higher than planned en route costs in real terms (+1.7%, or +10.2 M€2017). It should be noted that actual inflation index in 2023 was +11.8 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (+7.0%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSPs and the airspace users (see the main ANSP gain in Box 11).

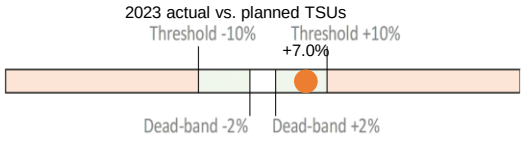
En route costs by entity

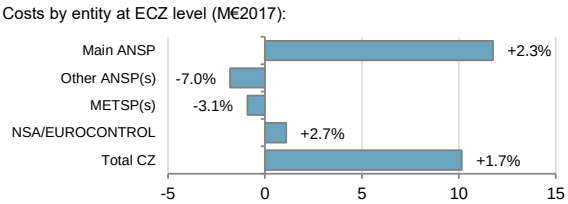
Actual real en route costs are +1.7% (+10.2 M€2017) higher than planned. This is the result of higher costs, in real terms, for the main ANSP, ENAIRE (+2.3%, or +11.8 M€2017) and the NSA/EUROCONTROL (+2.7%, or +1.1 M€2017) and lower costs for the MET service provider (-3.1%, or -0.9 M€2017) and the other ANSP (EA, -7.0%, or -1.8 M€2017).

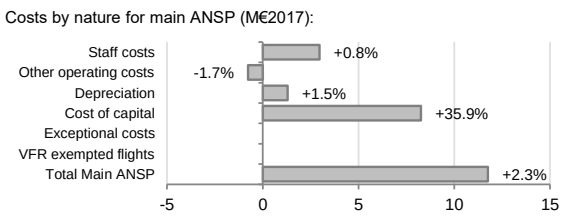
En route costs for the main ANSP (ENAIRE) at charging zone level

Higher than planned en route costs in real terms for ENAIRE in 2023 (+2.3%, or +11.8 M€2017) result from:

- Slightly higher staff costs (+0.8%), which reflects a combination of increases driven by changes in national laws on Public Employees salary and on Social Security Scheme National Law as well as the introduction of Special Active Reserve (through Law 26/2022 of 19 December), which, among others, solves the problem of forced retirement of ATCOs at the age of 65.
- Lower other operating costs (-1.7%) in real terms reflecting the impact of inflation index (+11.8 p.p.) since, in nominal terms, other operating costs were above planned (+9.2%) reflecting higher energy costs.
- Higher depreciation costs (+1.5%), and
- Significantly higher cost of capital (+35.9%), primarily reflecting the use of much higher average interest rate on debts to calculate WACC (3.3% vs 0.8% planned).







SPAIN CONTINENTAL: En route charging zone

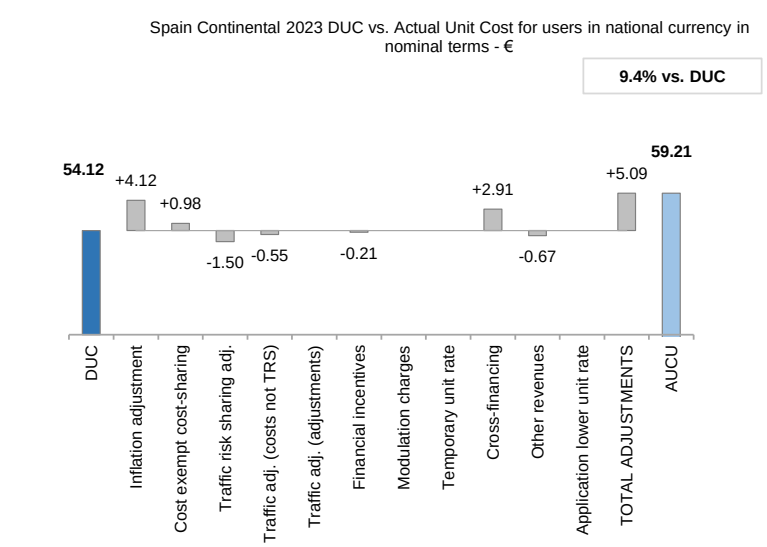
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	54.12
DUC to be charged retroactively	0.00
DUC	**54.12**
Inflation adjustment	4.12
Cost exempt from cost-sharing	0.98
Traffic risk sharing adjustment	-1.50
Traffic adj. (costs not TRS)	-0.55
Traffic adj. (adjustments)*	
Financial incentives	-0.21
Modulation of charges	0.00
Temporary UR**	
Cross-financing	2.91
Other revenues	-0.67
Application of lower unit rate	0.00
Total adjustments	5.09
AUCU	**59.21**
AUCU vs. DUC	**+9.4%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

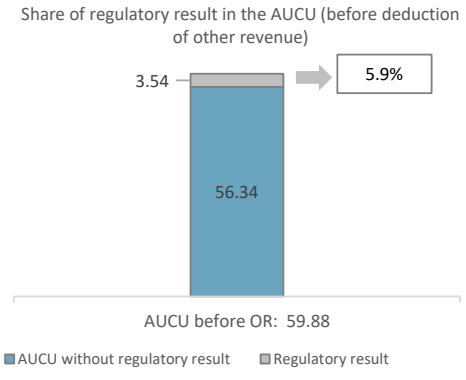
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	11 092	0.89
	Competent authorities and qualified entities costs	-291	-0.02
	Eurocontrol costs	1 384	0.11
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**12 185**	**0.98**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
ENAIRE (Continental)	35 541	2.85
EA (Continental)	4 793	0.38
METSP(s)	**€ '000**	**€/SU**
Spain Continental AEMET	3 740	0.30
Total charging zone	44 074	3.54
Actual cost for users* **	745 578	59.88
Regulatory result (% AUCU)	5.9%	5.9%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (59.21 €) is +9.4% higher than the nominal DUC (54.12 €). The difference between these two figures (+5.09 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+4.12 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+0.98 €/SU);
- the deduction of the traffic risk sharing adjustments (-1.50 €/SU);
- the deduction of the traffic adjustment (-0.55 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-0.21 €/SU);
- cross-financing between Spain Continental and Spain Canarias charging zones (+2.91 €/SU); and
- the deduction of the other revenues (-0.67 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 5.9%.

SPAIN CONTINENTAL: En route main ANSP (ENAIRE) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

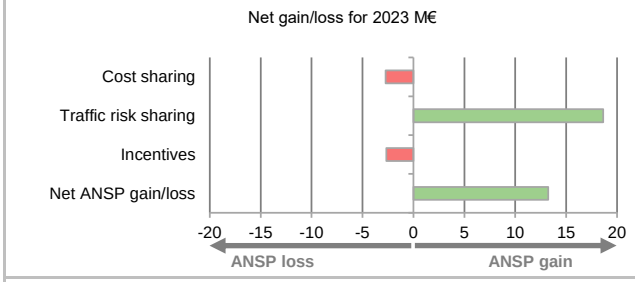
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

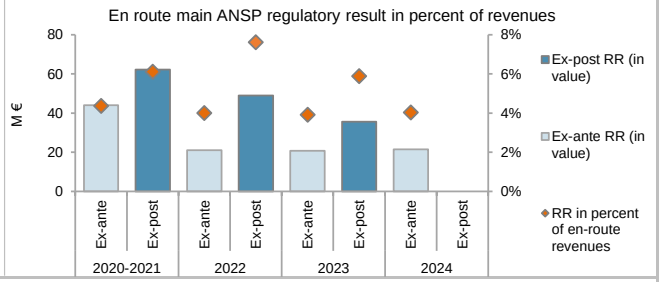
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	10 875	-87 613	-58 999	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	7 992	38 798	46 836	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-490	83 290	9 431	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**18 378**	**34 474**	**-2 732**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.1%	-1.0%	7.0%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	1 010 523	526 613	532 271	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**1 234**	**-5 245**	**18 625**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-2 661**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**19 612**	**29 229**	**13 232**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ENAIRE (Continental) planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	457 138	448 005	905 143	475 226	529 766	570 677
Proportion of financing through equity (in %)	73%	72%	73%	61%	48%	44%
RoE pre-tax rate (in %)	6.7%	6.7%	6.7%	7.2%	8.2%	8.6%
RoE (in value)	22 366	21 666	44 032	21 072	20 804	21 508
Ex-ante regulatory result (+/-) for the en route charging zone	**22 366**	**21 666**	**44 032**	**21 072**	**20 804**	**21 508**
Revenue for the en route charging zone	**510 411**	**500 112**	**1 010 523**	**526 613**	**532 271**	**534 414**
Ex-ante regulatory result (+/-) in percent of revenues	**4.4%**	**4.3%**	**4.4%**	**4.0%**	**3.9%**	**4.0%**
Ex-ante RoE pre-tax rate (in %)	**6.7%**	**6.7%**	**6.7%**	**7.2%**	**8.2%**	**8.6%**
ENAIRE (Continental) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	457 138	433 289	890 427	466 971	545 667	
Proportion of financing through equity (in %)	73%	69%	71%	58%	50%	
RoE pre-tax rate (in %)	6.7%	6.7%	6.7%	7.2%	8.2%	
RoE (in value)	22 366	20 236	42 603	19 731	22 309	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	19 612	19 612	29 229	13 232	
Ex-post regulatory result (+/-) for the en route charging zone	**22 366**	**39 848**	**62 215**	**48 960**	**35 541**	
Revenue for the en route charging zone	**510 411**	**508 849**	**1 019 260**	**643 455**	**604 503**	
Ex-post regulatory result (+/-) in percent of revenues	**4.4%**	**7.8%**	**6.1%**	**7.6%**	**5.9%**	
Ex-post RoE pre-tax rate (in %)	**6.7%**	**13.3%**	**9.8%**	**18.0%**	**13.1%**	

13. Focus on the main ANSP regulatory result on en route activity





ENAIRE net gain on activity in the Spain Continental en route charging zone in the year 2023

ENAIRE reported a net gain of +13.2 M€, as a combination of a loss of -2.7 M€ arising from the cost sharing mechanism, with a gain of +18.6 M€ arising from the traffic risk sharing mechanism and a loss of -2.7 M€ relating to financial incentives.

ENAIRE overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+13.2 M€) and the actual RoE (+22.3 M€) amounts to +35.5 M€ (5.9% of the en route revenues). The resulting ex-post rate of return on equity is 13.1%, which is higher than the 8.2% planned in the PP.

SPAIN CONTINENTAL: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
EA (Continental) planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	56	185	240	331	546	829
Revenue for the en route charging zone	22 834	24 166	47 000	25 764	26 878	28 098
Ex-ante regulatory result (+/-) in percent of revenues	0.2%	0.8%	0.5%	1.3%	2.0%	3.0%
Ex-ante RoE pre-tax rate (in %)	0.4%	0.8%	0.6%	1.0%	1.5%	2.0%
EA (Continental) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	56	-1 480	-1 425	2 633	4 793	
Revenue for the en route charging zone	22 834	25 272	48 106	32 592	30 336	
Ex-post regulatory result (+/-) in percent of revenues	0.2%	-5.9%	-3.0%	8.1%	15.8%	
Ex-post RoE pre-tax rate (in %)	0.4%	-3.8%	-2.7%	3.7%	11.7%	
Spain Continental AEMET planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	1 647	1 663	3 310	1 713	1 764	1 782
Revenue for the en route charging zone	27 933	28 508	56 441	29 433	30 177	30 768
Ex-ante regulatory result (+/-) in percent of revenues	5.9%	5.8%	5.9%	5.8%	5.8%	5.8%
Ex-ante RoE pre-tax rate (in %)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Spain Continental AEMET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	1 647	1 904	3 551	3 598	3 740	
Revenue for the en route charging zone	27 933	28 856	56 789	31 415	32 864	
Ex-post regulatory result (+/-) in percent of revenues	5.9%	6.6%	6.3%	11.5%	11.4%	
Ex-post RoE pre-tax rate (in %)	3.0%	3.4%	3.2%	6.3%	6.2%	
Total other ANSPs planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	1 702	1 848	3 550	2 044	2 311	2 611
Revenue for the en route charging zone	50 767	52 674	103 442	55 196	57 055	58 865
Ex-ante regulatory result (+/-) in percent of revenues	3.4%	3.5%	3.4%	3.7%	4.0%	4.4%
Ex-ante RoE pre-tax rate (in %)	2.4%	2.4%	2.4%	2.3%	2.4%	2.6%
Total other ANSPs actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	1 702	424	2 126	6 231	8 533	
Revenue for the en route charging zone	50 767	54 128	104 895	64 006	63 200	
Ex-post regulatory result (+/-) in percent of revenues	3.4%	0.8%	2.0%	9.7%	13.5%	
Ex-post RoE pre-tax rate (in %)	2.4%	0.5%	1.3%	4.9%	8.4%	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the Spain Continental en route charging zone (EA and AEMET) corresponds to 13.5% of the en route revenues. The ex-post RoE (8.4%) is higher than planned (2.4%).

SPAIN CANARIAS: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Spain Canarias ECZ represents 1.6% of the SES en route ANS actual costs in 2023
- National currency: EUR
- Performance Plan: RP3 draft performance plan dated 26 January 2022 and found consistent as per Commission Decision (EU) 2022/776 of 13 April 2022

  The final version of the plan was adopted and published by Spain in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Spain Canarias: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal €)	94 071 894	94 122 644	188 194 538	98 205 202	99 602 071	101 565 300
Inflation %	0.0%	1.0%		1.3%	1.5%	1.6%
Inflation index (100 in 2017)	102.5	103.6		104.9	106.5	108.2
Real en route costs (€2017)	92 318 035	91 644 355	183 962 389	94 667 134	94 956 026	95 745 531
Total en route service units	802 932	949 650	1 752 582	1 414 576	1 610 163	1 775 489
Real en route DUC per service unit (€2017)	**114.98**	**96.50**	**104.97**	**66.92**	**58.97**	**53.93**

Spain Canarias: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal €)	94 071 894	91 801 425	185 873 319	113 165 783	112 118 224	
Inflation %	0.0%	3.0%		8.3%	3.4%	
Inflation index (100 in 2017)	102.5	105.6		114.4	118.2	
Real en route costs (€2017)	92 318 035	88 092 429	180 410 464	101 968 844	98 746 550	
Total en route service units	802 932	1 007 563	1 810 495	1 789 655	1 990 428	
Real en route AUC per service unit (€2017)	**114.98**	**87.43**	**99.65**	**56.98**	**49.61**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal €)	in value	0	-2 321 219	-2 321 219	14 960 581	12 516 152	
	in %	-	-2.5%	-1.2%	+15.2%	+12.6%	
Inflation %	in p.p.	0.0 p.p.	2.0 p.p.		7.0 p.p.	1.9 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	2.0 p.p.		9.5 p.p.	11.8 p.p.	
Real en route costs (€2017)	in value	0	-3 551 926	-3 551 926	7 301 710	3 790 524	
	in %	-	-3.9%	-1.9%	+7.7%	+4.0%	
Total en route service units	in value	0	57 913	57 913	375 079	380 265	
	in %	-	+6.1%	+3.3%	+26.5%	+23.6%	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-9.07**	**-5.32**	**-9.95**	**-9.36**	
	in %	**-**	**-9.4%**	**-5.1%**	**-14.9%**	**-15.9%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was -15.9% (or -9.36 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+23.6%) and higher than planned en route costs in real terms (+4.0%, or +3.8 M€2017). It should be noted that actual inflation index in 2023 was +11.8 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (+23.6%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSPs and the airspace users (see the main ANSP gain in Box 11).

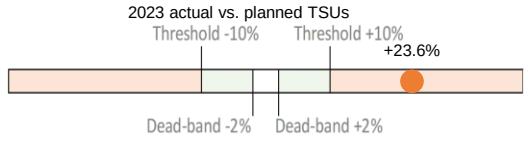
En route costs by entity

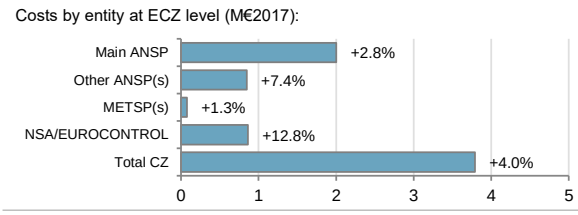
Actual real en route costs are +4.0% (+3.8 M€2017) higher than planned. This is the result of higher costs for the main ANSP, ENAIRE (+2.8%, or +2.0 M€2017), the other ANSP (EA), +7.4%, or +0.8 M€2017), the NSA/EUROCONTROL (+12.8%, or +0.9 M€2017) and the MET service provider (+1.3%, or +0.1 M€2017).

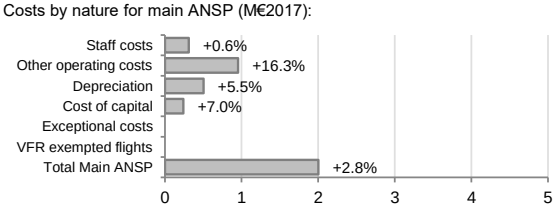
En route costs for the main ANSP (ENAIRE) at charging zone level

Higher than planned en route costs in real terms for ENAIRE in 2023 (+2.8%, or +2.0 M€2017) result from:

- Slightly higher staff costs (+0.6%), which reflects a combination of increases driven by changes in national laws on Public Employees salary and on Social Security Scheme National Law as well introduction of Special Active Reserve (through Law 26/2022 of 19 December), which, among others, solves the problem of forced retirement of ATCOs at the age of 65.
- Significantly higher other operating costs (+16.3%), primarily reflecting much higher than planned energy costs.
- Significantly higher depreciation costs (+5.5%),
- Significantly higher cost of capital (+7.0%), primarily reflecting the use of much higher average interest rate on debts to calculate WACC (3.3% vs 0.8% planned).







SPAIN CANARIAS: En route charging zone

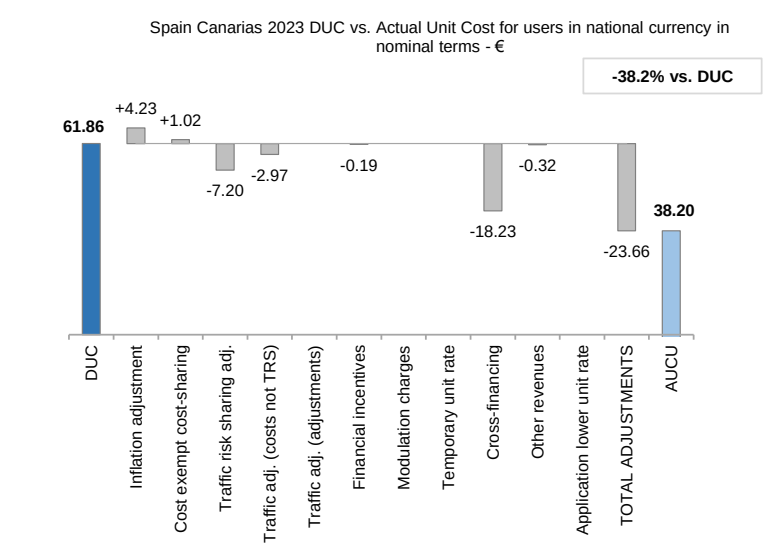
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	61.86
DUC to be charged retroactively	0.00
DUC	**61.86**
Inflation adjustment	4.23
Cost exempt from cost-sharing	1.02
Traffic risk sharing adjustment	-7.20
Traffic adj. (costs not TRS)	-2.97
Traffic adj. (adjustments)*	
Financial incentives	-0.19
Modulation of charges	0.00
Temporary UR**	
Cross-financing	-18.23
Other revenues	-0.32
Application of lower unit rate	0.00
Total adjustments	-23.66
AUCU	**38.20**
AUCU vs. DUC	**-38.2%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

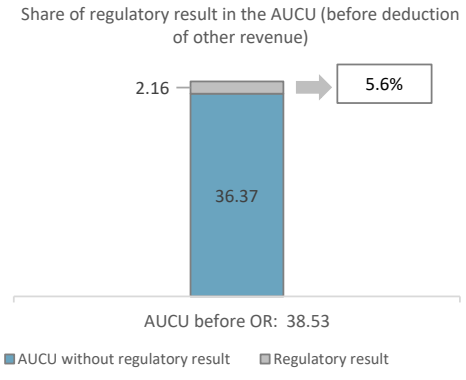
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	1 175	0.59
	Competent authorities and qualified entities costs	26	0.01
	Eurocontrol costs	838	0.42
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**2 038**	**1.02**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
ENAIRE (Canarias)	3 919	1.97
EA (Canarias)	-167	-0.08
METSP(s)	**€ '000**	**€/SU**
Spain Canarias AEMET	555	0.28
Total charging zone	4 308	2.16
Actual cost for users* **	76 685	38.53
Regulatory result (% AUCU)	5.6%	5.6%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (38.20 €) is -38.2% lower than the nominal DUC (61.86 €). The difference between these two figures (-23.66 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+4.23 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+1.02 €/SU);
- the deduction of the traffic risk sharing adjustments (-7.20 €/SU);
- the deduction of the traffic adjustment (-2.97 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-0.19 €/SU);
- cross-financing between Spain Continental and Spain Canarias charging zones (-18.23 €/SU); and
- the deduction of the other revenues (-0.32 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 4.8%.

SPAIN CANARIAS: En route main ANSP (ENAIRE) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

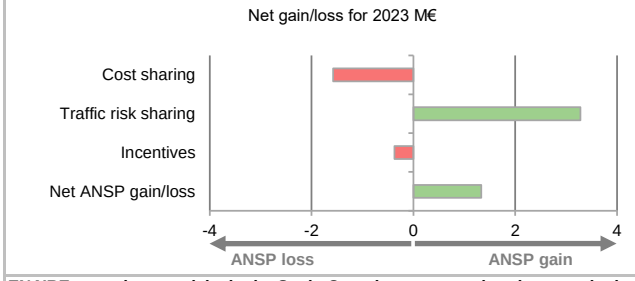
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

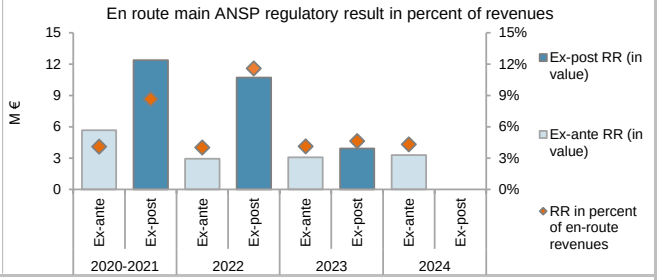
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	2 539	-10 830	-9 080	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	1 145	5 591	6 847	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	55	10 414	655	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**3 739**	**5 175**	**-1 577**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	3.3%	26.5%	23.6%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	138 944	73 461	74 535	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**3 323**	**3 232**	**3 280**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-373**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**7 061**	**8 407**	**1 330**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ENAIRE (Canarias) planned regulatory result (€ '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	58 405	58 016	116 421	66 256	78 077	86 972
Proportion of financing through equity (in %)	73%	72%	73%	61%	48%	44%
RoE pre-tax rate (in %)	6.7%	6.7%	6.7%	7.2%	8.2%	8.6%
RoE (in value)	2 858	2 806	5 663	2 938	3 066	3 278
Ex-ante regulatory result (+/-) for the en route charging zone	**2 858**	**2 806**	**5 663**	**2 938**	**3 066**	**3 278**
Revenue for the en route charging zone	**69 474**	**69 471**	**138 944**	**73 461**	**74 535**	**76 099**
Ex-ante regulatory result (+/-) in percent of revenues	**4.1%**	**4.0%**	**4.1%**	**4.0%**	**4.1%**	**4.3%**
Ex-ante RoE pre-tax rate (in %)	**6.7%**	**6.7%**	**6.7%**	**7.2%**	**8.2%**	**8.6%**
ENAIRE (Canarias) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	58 405	52 731	111 136	54 709	63 336	
Proportion of financing through equity (in %)	73%	69%	71%	58%	50%	
RoE pre-tax rate (in %)	6.7%	6.7%	6.7%	7.2%	8.2%	
RoE (in value)	2 858	2 463	5 320	2 312	2 589	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	7 061	7 061	8 407	1 330	
Ex-post regulatory result (+/-) for the en route charging zone	**2 858**	**9 524**	**12 381**	**10 719**	**3 919**	
Revenue for the en route charging zone	**69 474**	**73 993**	**143 466**	**92 698**	**84 944**	
Ex-post regulatory result (+/-) in percent of revenues	**4.1%**	**12.9%**	**8.6%**	**11.6%**	**4.6%**	
Ex-post RoE pre-tax rate (in %)	**6.7%**	**26.0%**	**15.6%**	**33.6%**	**12.4%**	

13. Focus on the main ANSP regulatory result on en route activity





ENAIRE net gain on activity in the Spain Canarias en route charging zone in the year 2023

ENAIRE reported a net gain of +1.3 M€, as a combination of a loss of -1.6 M€ arising from the cost sharing mechanism, with a gain of +3.3 M€ arising from the traffic risk sharing mechanism and a loss of -0.4 M€ relating to financial incentives.

ENAIRE overall regulatory results (RR) for the en route activity in Spain Canarias en route charging zone

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+1.3 M€) and the actual RoE (+2.6 M€) amounts to +3.9 M€ (4.6% of the en route revenues). The resulting ex-post rate of return on equity is 12.4%, which is higher than the 8.2% planned in the PP.

SPAIN CANARIAS: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity						
EA (Canarias) planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	25	103	128	188	284	393
Revenue for the en route charging zone	10 747	11 039	21 785	11 699	12 070	12 485
Ex-ante regulatory result (+/-) in percent of revenues	0.2%	0.9%	0.6%	1.6%	2.4%	3.1%
Ex-ante RoE pre-tax rate (in %)	0.4%	0.8%	0.7%	1.0%	1.5%	2.0%
EA (Canarias) actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	25	-345	-320	-842	-167	
Revenue for the en route charging zone	10 747	11 393	22 140	13 721	13 512	
Ex-post regulatory result (+/-) in percent of revenues	0.2%	-3.0%	-1.4%	-6.1%	-1.2%	
Ex-post RoE pre-tax rate (in %)	0.4%	-3.8%	-2.0%	-7.7%	-1.2%	
Spain Canarias AEMET planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	324	327	651	337	347	350
Revenue for the en route charging zone	5 805	5 926	11 731	6 119	6 273	6 397
Ex-ante regulatory result (+/-) in percent of revenues	5.6%	5.5%	5.5%	5.5%	5.5%	5.5%
Ex-ante RoE pre-tax rate (in %)	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Spain Canarias AEMET actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	324	377	701	552	555	
Revenue for the en route charging zone	5 805	6 001	11 806	6 566	6 925	
Ex-post regulatory result (+/-) in percent of revenues	5.6%	6.3%	5.9%	8.4%	8.0%	
Ex-post RoE pre-tax rate (in %)	3.0%	3.5%	3.3%	4.8%	4.5%	
Total other ANSPs planned regulatory result (€ '000)	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone	349	429	778	524	631	743
Revenue for the en route charging zone	16 552	16 965	33 517	17 819	18 343	18 883
Ex-ante regulatory result (+/-) in percent of revenues	2.1%	2.5%	2.3%	2.9%	3.4%	3.9%
Ex-ante RoE pre-tax rate (in %)	2.0%	1.8%	1.9%	1.7%	2.1%	2.4%
Total other ANSPs actual regulatory result (€ '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	349	31	381	-290	388	
Revenue for the en route charging zone	16 552	17 394	33 945	20 287	20 437	
Ex-post regulatory result (+/-) in percent of revenues	2.1%	0.2%	1.1%	-1.4%	1.9%	
Ex-post RoE pre-tax rate (in %)	2.0%	0.2%	1.0%	-1.3%	1.5%	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the Spain Canarias en route charging zone (EA and AEMET) corresponds to 1.9% of the en route revenues. The ex-post RoE of 1.5% is lower than planned (2.1%).

SPAIN: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Spain TCZ represents 7.6% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 7 of which:
  - Airports with fewer than 80,000 IFR mvmts: 1
  - Airports with more than 80,000 IFR mvmts: 6
- National currency: EUR
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Spain: Data from RP3 Performance Plan	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Terminal costs (nominal €)	95 964 862	104 576 746	200 541 608	103 842 314	104 878 596	105 253 510
Inflation %	0.0%	1.0%		1.3%	1.5%	1.6%
Inflation index (100 in 2017)	102.5	103.6		104.9	106.5	108.2
Real terminal costs (€2017)	93 857 401	101 330 684	195 188 085	99 507 764	99 223 546	98 238 295
Total terminal service units	349 849	497 176	847 024	840 734	880 377	924 351
Real terminal DUC per service unit (€2017)	**268.28**	**203.81**	**230.44**	**118.36**	**112.71**	**106.28**

Spain: Actual data from Reporting Tables	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Terminal costs (nominal €)	95 964 862	100 387 940	196 352 802	119 486 996	110 022 250	
Inflation %	0.0%	3.0%		8.3%	3.4%	
Inflation index (100 in 2017)	102.5	105.6		114.4	118.2	
Real terminal costs (€2017)	93 857 401	95 606 763	189 464 164	105 746 780	94 738 181	
Total terminal service units	349 849	504 497	854 346	838 209	932 231	
Real terminal AUC per service unit (€2017)	**268.28**	**189.51**	**221.77**	**126.16**	**101.63**	

Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Terminal costs (nominal €)	in value	0	-4 188 806	-4 188 806	15 644 683	5 143 654	
	in %	-	-4.0%	-2.1%	+15.1%	+4.9%	
Inflation %	in p.p.	0.0 p.p.	2.0 p.p.		7.0 p.p.	1.9 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	2.0 p.p.		9.5 p.p.	11.8 p.p.	
Real terminal costs (€2017)	in value	0	-5 723 921	-5 723 921	6 239 016	-4 485 365	
	in %	-	-5.6%	-2.9%	+6.3%	-4.5%	
Total terminal service units	in value	0	7 322	7 322	-2 525	51 853	
	in %	-	+1.5%	+0.9%	-0.3%	+5.9%	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-14.30**	**-8.67**	**7.80**	**-11.08**	
	in %	**-**	**-7.0%**	**-3.8%**	**+6.6%**	**-9.8%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was -9.8% (or -11.08 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TNSUs (+5.9%) and lower than planned terminal costs in real terms (-4.5%, or -4.5 M€2017). It should be noted that, in nominal terms, terminal costs were +4.9% (+5.1 M€) above the plan since the inflation index in 2023 was +11.8 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (+5.9%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional terminal revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

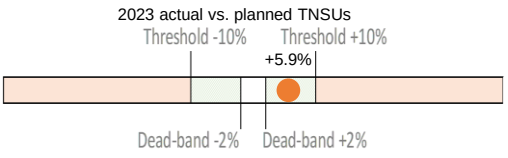
Terminal costs by entity

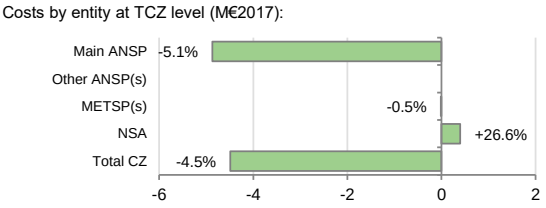
Actual real terminal costs are -4.5% (-4.5 M€2017) lower than planned. This is the result of lower costs, in real terms, for the main ANSP, ENAIRE (-5.1%, or -4.9 M€2017) and the MET service provider (-0.5%) and higher costs for the NSA (+26.6%, or +0.4 M€2017).

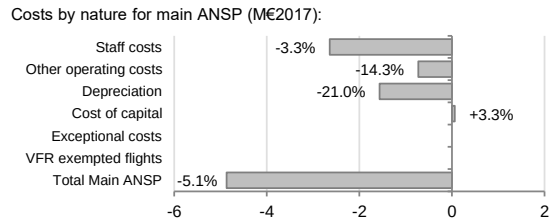
Terminal costs for the main ANSP (ENAIRE) at charging zone level

Significantly lower than planned terminal costs in real terms for ENAIRE in 2023 (-5.1%, or -4.9 M€2017) result from:

- Lower staff costs (-3.3%) in real terms. It is noted that in nominal terms the costs were above the plan (+7.4%), reflecting a combination of increases driven by changes in national laws on Public Employees salary and on Social Security Scheme National Law as well as the introduction of Special Active Reserve (through Law 26/2022 of 19 December), which, among others, solves the problem of forced retirement of ATCOs at the age of 65.
- Significantly lower other operating costs (-14.3%),
- Significantly lower depreciation costs (-21.0%) reflecting "*a lower percentage of asset base cost allocation in the TNC charging zone*", and
- Higher cost of capital (+3.3%), primarily reflecting the use of much higher average interest rate on debts to calculate WACC (3.3% vs 0.8% planned).







SPAIN: Terminal charging zone

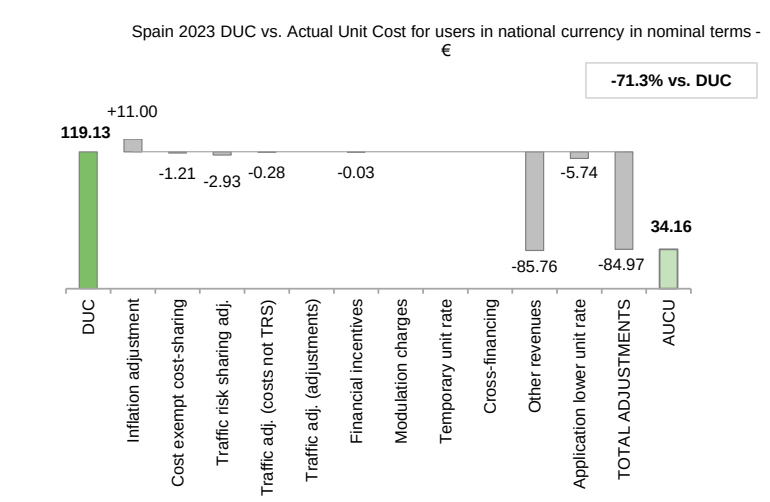
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	€/SU
Initial DUC charged	119.13
DUC to be charged retroactively	0.00
DUC	**119.13**
Inflation adjustment	11.00
Cost exempt from cost-sharing	-1.21
Traffic risk sharing adjustment	-2.93
Traffic adj. (costs not TRS)	-0.28
Traffic adj. (adjustments)*	
Financial incentives	-0.03
Modulation of charges	0.00
Temporary UR**	
Cross-financing	0.00
Other revenues	-85.76
Application of lower unit rate	-5.74
Total adjustments	-84.97
AUCU	**34.16**
AUCU vs. DUC	**-71.3%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

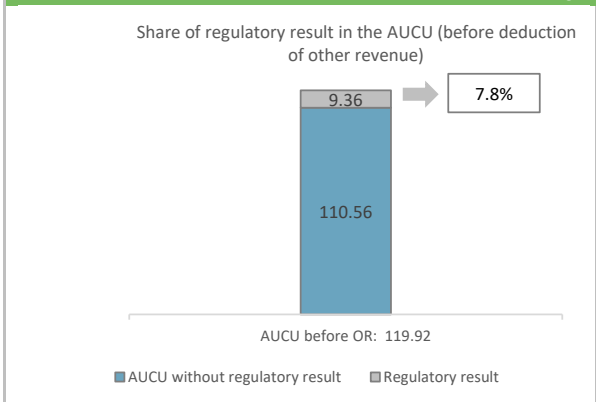
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		€ '000	€/SU
by item	New and existing investments	-1 528	-1.64
	Competent authorities and qualified entities costs	397	0.43
	Eurocontrol costs	0	0.00
	Pension costs	0	0.00
	Interest on loans	0	0.00
	Changes in law	0	0.00
Total costs exempt from cost sharing		**-1 131**	**-1.21**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	€ '000	€/SU
ENAIRE	8 483	9.10
METSP(s)	**€ '000**	**€/SU**
AEMET	240	0.26
Total charging zone	8 723	9.36
Actual cost for users* **	111 794	119.92
Regulatory result (% AUCU)	7.8%	7.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (34.16 €) is -71.3% lower than the nominal DUC (119.13 €). The difference between these two figures (-84.97 €/SU) is due to:

- the deduction of the other revenues (-85.76 €/SU), since aerodrome service is subject to a contract between AENA (the airport operator) and ENAIRE, and with a view that only the final approach costs are actually recovered via terminal unit rate, not the aerodrome ones, the amount of this contract for each year represents a subtraction of the cost base for the calculation of the unit rate under the form of other revenues;
- the positive inflation adjustment resulting from higher than planned inflation (+11.00 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-1.21 €/SU);
- the deduction of the traffic risk sharing adjustments (-2.93 €/SU) and traffic adjustment (-0.28 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-0.03 €/SU); and
- application of a lower unit rate as foreseen in Art. 29(6) in year 2023 (-5.74 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 7.8%.

SPAIN: Terminal main ANSP (ENAIRE) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.
Note 1: It is noted that only a smaller portion of terminal determined costs (≈22% in 2023) is charged to airspace users through terminal charges, while the rest is financed through the income relating to the service agreement with the airport operator (see also box 9), which is "for somewhat fixed amount independent from the traffic levels". This should be taken into consideration when interpreting the regulatory result for Spain TCZ.
Note 2: Ex-post RR does not take into account the application of the lower unit rate as per Art. 29.6 (loss in revenues corresponds to -5.3 M€ for 2023).

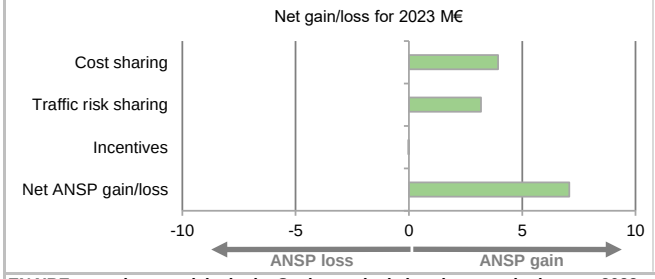
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

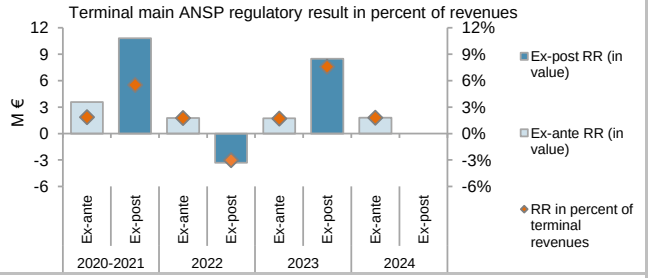
Cost sharing (€ '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	4 692	-14 797	-4 571	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	1 814	8 237	10 055	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-651	2 212	-1 554	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**5 855**	**-4 348**	**3 930**	
Traffic risk sharing (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.9%	-0.3%	5.9%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	193 223	99 782	100 430	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**1 670**	**-300**	**3 181**	
Incentives (€ '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-29**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**7 525**	**-4 648**	**7 081**	

12. Regulatory result (RR) for the main ANSP at charging zone level

ENAIRE planned regulatory result (€ '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	36 398	37 234	73 632	39 507	43 790	47 474
Proportion of financing through equity (in %)	73%	72%	73%	61%	48%	44%
RoE pre-tax rate (in %)	6.7%	6.7%	6.7%	7.2%	8.2%	8.6%
RoE (in value)	1 781	1 801	3 582	1 752	1 720	1 789
Ex-ante regulatory result (+/-) for the terminal charging zone	**1 781**	**1 801**	**3 582**	**1 752**	**1 720**	**1 789**
Revenue for the terminal charging zone	**92 353**	**100 869**	**193 223**	**99 782**	**100 430**	**100 445**
Ex-ante regulatory result (+/-) in percent of revenues	**1.9%**	**1.8%**	**1.9%**	**1.8%**	**1.7%**	**1.8%**
Ex-ante RoE pre-tax rate (in %)	**6.7%**	**6.7%**	**6.7%**	**7.2%**	**8.2%**	**8.6%**
ENAIRE actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	36 398	32 456	68 854	31 271	34 279	
Proportion of financing through equity (in %)	73%	69%	71%	58%	50%	
RoE pre-tax rate (in %)	6.7%	6.7%	6.7%	7.2%	8.2%	
RoE (in value)	1 781	1 516	3 297	1 321	1 401	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	7 525	7 525	-4 648	7 081	
Ex-post regulatory result (+/-) for the terminal charging zone	**1 781**	**9 041**	**10 822**	**-3 326**	**8 483**	
Revenue for the terminal charging zone	**92 353**	**103 703**	**196 056**	**109 931**	**112 082**	
Ex-post regulatory result (+/-) in percent of revenues	**1.9%**	**8.7%**	**5.5%**	**-3.0%**	**7.6%**	
Ex-post RoE pre-tax rate (in %)	**6.7%**	**40.1%**	**22.0%**	**-18.2%**	**49.8%**	

13. Focus on main ANSP regulatory result on terminal activity





ENAIRE net gain on activity in the Spain terminal charging zone in the year 2023

ENAIRE reported a net gain of +7.1 M€, as a combination of a gain of +3.9 M€ arising from the cost sharing mechanism, with a gain of +3.2 M€ arising from the traffic risk sharing mechanism; however, as mentioned in Box 9, it is recalled that only the part related to final approach will be recovered from airspace users.

ENAIRE overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+7.1 M€) and the actual RoE (+1.4 M€) amounts to +8.5 M€ (7.6% of the terminal revenues). The resulting ex-post rate of return on equity is 49.8%, which is higher than the 8.2% planned in the PP.

SPAIN: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
AEMET planned regulatory result (€ '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**150**	**154**	**304**	**161**	**176**	**188**
Revenue for the terminal charging zone	**2 639**	**2 708**	**5 347**	**2 817**	**2 956**	**3 077**
Ex-ante regulatory result (+/-) in percent of revenues	**5.7%**	**5.7%**	**5.7%**	**5.7%**	**6.0%**	**6.1%**
Ex-ante RoE pre-tax rate (in %)	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**	**3.0%**
AEMET actual regulatory result (€ '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**150**	**206**	**356**	**234**	**240**	
Revenue for the terminal charging zone	**2 639**	**2 723**	**5 362**	**3 012**	**3 178**	
Ex-post regulatory result (+/-) in percent of revenues	**5.7%**	**7.6%**	**6.6%**	**7.8%**	**7.5%**	
Ex-post RoE pre-tax rate (in %)	**3.0%**	**4.1%**	**3.6%**	**4.3%**	**4.0%**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Spain (MET service provider - AEMET) corresponds to 7.5% of the terminal revenues. The ex-post RoE (4.0%) is higher than planned (3.0%).

SPAIN: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Spain Continental En route charging zone 2: Spain Canarias

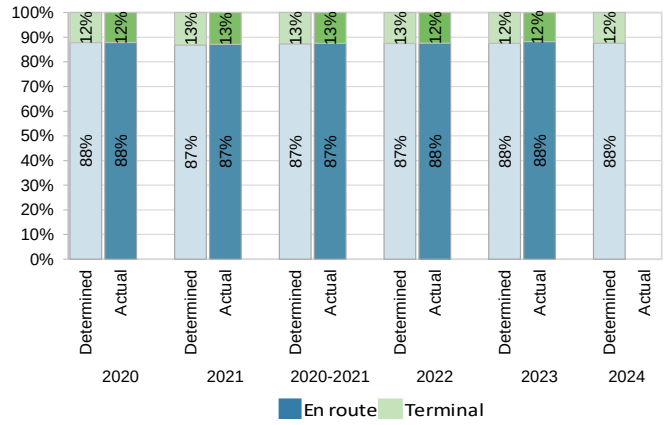
Terminal charging zone 1: Spain

Spain: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	679 459 443	668 447 848	1 347 907 291	694 927 752	696 468 359	694 319 982
Real terminal costs (€2017)	93 857 401	101 330 684	195 188 085	99 507 764	99 223 546	98 238 295
Real gate-to-gate costs (€2017)	773 316 844	769 778 531	1 543 095 376	794 435 516	795 691 906	792 558 277
En route share (%)	87.9%	86.8%	87.4%	87.5%	87.5%	87.6%

Spain: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	679 459 443	646 103 975	1 325 563 418	748 280 014	710 414 400	
Real terminal costs (€2017)	93 857 401	95 606 763	189 464 164	105 746 780	94 738 181	
Real gate-to-gate costs (€2017)	773 316 844	741 710 738	1 515 027 582	854 026 794	805 152 581	
En route share (%)	87.9%	87.1%	87.5%	87.6%	88.2%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-28 067 794	-28 067 794	59 591 278	9 460 675	
	in %	0.0%	-3.6%	-1.8%	7.5%	1.2%	
En route share	in p.p.	0.0 p.p.	0.3 p.p.	0.1 p.p.	0.1 p.p.	0.7 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are +1.2% (+9.5 M€2017) higher than planned, as en route costs are higher than planned by +13.9 M€2017 and terminal costs are lower than planned by -4.5 M€2017.

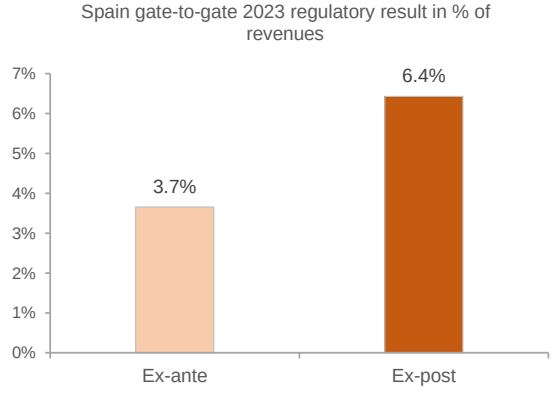
The actual share of en route in gate-to-gate ANS costs (88.2%) is slightly higher than planned in the PP for 2023 (87.5%).

3. Gate-to-gate regulatory result (RR) 2023

In € '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
ENAIRE (Spain)	25 590	707 236	3.6%		47 943	801 529	6.0%	
EA (Spain)	830	38 948	2.1%		4 625	43 848	10.5%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
AEMET (Spain)	2 287	39 406	5.8%		4 535	42 966	10.6%	
Total	**28 708**	**785 590**	**3.7%**		**57 104**	**888 343**	**6.4%**	

For the ANSPs providing services in the en route and terminal charging zones of Spain covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +57.1 M€ (+48.4 M€ for en route and +8.7 M€ for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 6.4% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (3.7% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

SWEDEN

SWEDEN **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
LFV	87	C	C	D	C	C
ACR	79	C	C	C	C	C
SDATS	86	C	C	D	C	C
AFAB	80	C	C	C	C	C

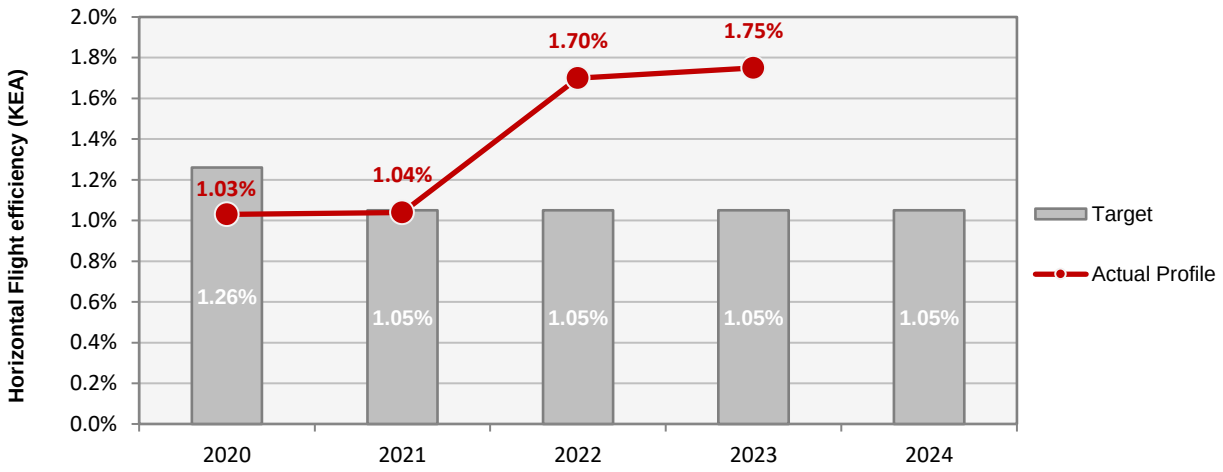
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.

Observations

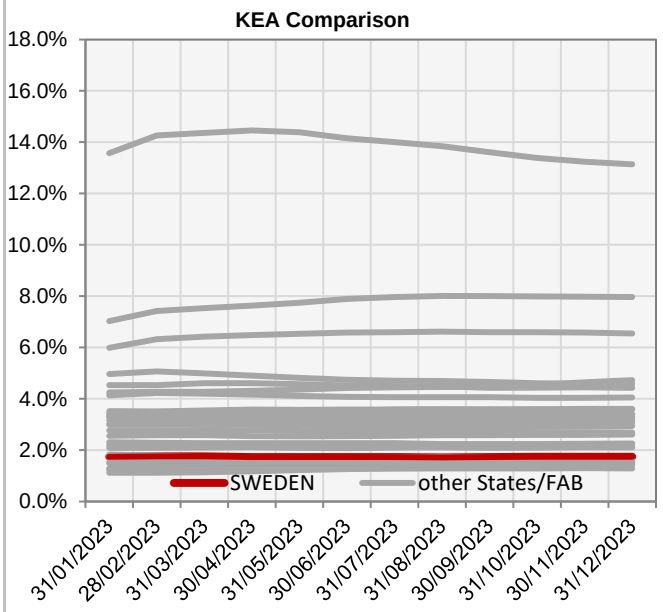
LFV: All five EoSM components of LFV meet the RP3 target level. The level was maintained compared with 2022.
ACR: Four out of five EoSM components of ACR meet already the RP3 target level. Improvements for "Safety Risk Management" component are still expected during RP3 to achieve 2024 targets.
SDATS: All five EoSM components of SDATS meet already the 2024 target level.
AFAB: Four out of five EoSM components of AFAB meet already the 2024 target level. Improvements in "Safety Risk Management" are still expected during RP3 to achieve 2024 targets.

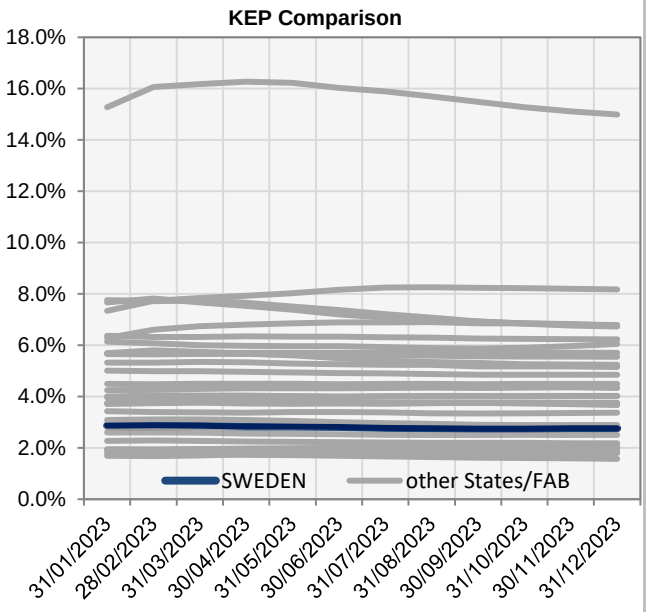
SWEDEN **ENVIRONMENT - Horizontal flight efficiency**

KEA	2020	2021	2022	2023	2024
Target	1.26%	1.05%	1.05%	1.05%	1.05%
Actual performance	1.03%	1.04%	1.70%	1.75%	



End of month indicators evolution in 2023	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	1.74%	1.76%	1.76%	1.73%	1.73%	1.73%	1.73%	1.72%	1.73%	1.74%	1.75%	1.75%
KEP	2.86%	2.88%	2.87%	2.83%	2.83%	2.81%	2.78%	2.76%	2.75%	2.75%	2.76%	2.77%
KES	2.71%	2.73%	2.73%	2.70%	2.68%	2.66%	2.62%	2.59%	2.58%	2.57%	2.57%	2.57%





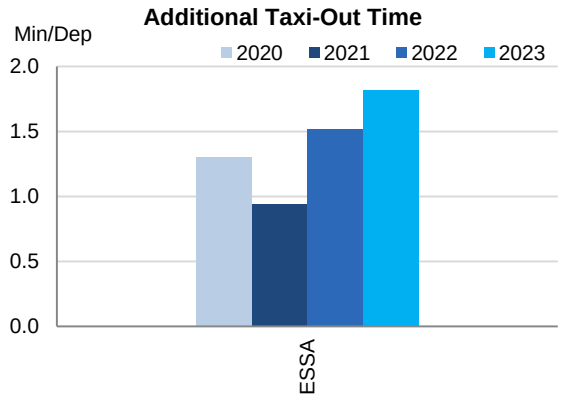
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

SWEDEN **ENVIRONMENT - Airports**

1. Overview

Sweden only has Stockholm (ESSA) airport subject to RP3 monitoring for which the APDF is successfully established and the monitoring of the environmental indicators can be performed. Traffic at this airport in 2023 was still 19% lower than the 2019 levels, but showed an increase of 11% with respect to 2022.
Stockholm had shown very good performance in terms of additional times during RP2 and RP3. In 2023 both additional times increased but remained lower than the SES average.
The share of CDO flights is relatively high compared to other airports monitored in RP3 and has decreased slightly with respect to 2022.

2. Additional Taxi-Out Time

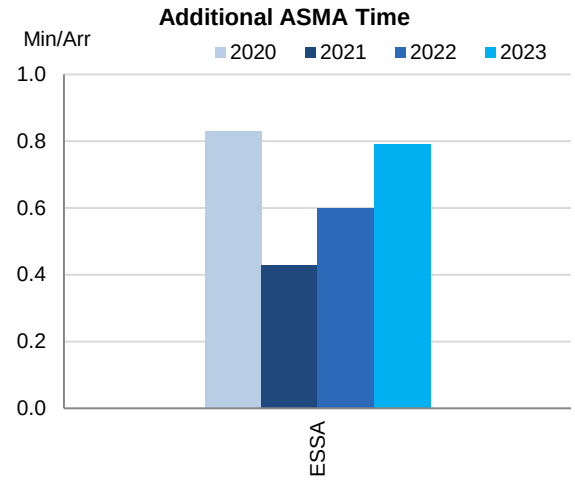


The additional taxi-out times at Stockholm increased once again in 2023 (ESSA; 2019: 2.05 min/dep.; 2020: 1.3 min/dep.; 2021: 0.94 min/dep.; 2022: 1.52 min/dep.; 2023: 1.82 min/dep.)

According to the Swedish monitoring report:
Arlanda is planned to start A-CDM validation with NMOC/EUROCONTROL by the end of this year. By this meaning; we will then start optimize the push back sequence with a pre- departure sequencer (PDS) with inputs based on local constrains at the airport (departure rate/runway maintenance etc).

The PDS will allocate a TSAT (Target Start Up Time) to every flight and hence reduce queuing and taxiway congestion. Regarding the performance aspects, these are monitored, at least, once a year through the AMR process.

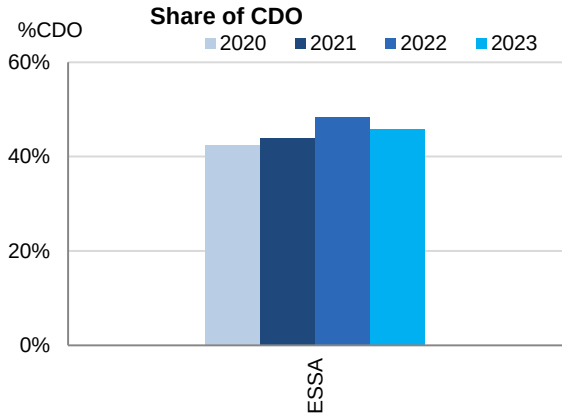
3. Additional ASMA Time



As observed for the additional taxi-out times, the additional time in the terminal area at Stockholm Arlanda increased once again in 2023 (ESSA; 2019: 1.15 min/arr.; 2020: 0.83 min/arr.; 2021: 0.43 min/arr.; 2022: 0.6 min/arr.; 2023: 0.79 min/arr.)

According to the Swedish monitoring report:
LFV and Swedavia is conducting the Swea project with the aim of modernizing traffic flows in the Stockholm area. This will result in a major redesign of traffic flows in Stockholm TMA and adjecent ACC sectors. The redesign is planned to be implemented in the fall of 2026. Parallel approaches (Established on RNP-AR + ILS) will be implemented during the spring of 2025.

4. Share of arrivals applying CDO



The share of CDO flights at Stockholm (ESSA) decreased from 48.3% to 45.8% in 2023 which is still above the overall RP3 value in 2023 (28.8%).

According to the Swedish monitoring report:
Implementation of additional RNP-AR approaches is increasing predictability for arriving traffic and hence improving vertical efficiency. In the spring of 2025 parallel approaches (Established on RNP-AR + ILS) is planned for implementation. This will hopefully improve both horizontal and vertical flight efficiency.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Stockholm/Arlanda-ESSA	1.3	0.94	1.52	1.82		0.83	0.43	0.6	0.79		43%	44%	48%	46%	

SWEDEN **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

The application of the A-FUA concept in Sweden is slightly different compared to the application in other countries due to the fact that Sweden uses PCA (Prior Coordination Area). Swedish PCAs are not defined in CACD hence PCAs will not be allocated via the AUP/UUP process. AMC Sweden has the possibility to cluster adjacent PCAs to maximize the utilisation of the airspace for the civilian and military airspace users. Therefore ATC can coordinate the passage of flights (in most cases) through active PCAs in order to achieve a more environment friendly routing of the traffic. With this methodology the environmental impact from the military dimension is very small compared to if flights always had to fly around the active area.

Military - related measures implemented or planned to improve capacity

As the capacity performance of 2023 is only 0,01 minutes delay/flight the reporting on this part is kept short. More information can be provided upon request. The military dimension has not had an impact on the capacity KPA. However the military activity is continuously increasing which affects workload on ASM level 2 and level 3.
A project is underway to realize the SWIM/ARES requirements of the CP 1 regulation with the aim of simplifying and digitizing the workflows for activation and deactivation of areas in segregated airspace. This will have a positive effect in dereasing workload in ASM level 2 and level 3.

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Sweden	10%	11%	33%	59%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Malmo	22%	22%	23%	31%	
Stockholm	21%	20%	43%	66%	

Initiatives implemented or planned to improve PI#6

The report sent in to ASM Level 1 from LFV gives the expression that there is an ambition to implement digital tools and aids to facilitate a better record keeping function regarding the usage of reserved or segregated airspace. The NSA intendes to continue to demand relevant information and statistics to be able to monitor the different PI's efficiently, but also to improve the coordination and cooperation between the NSA and the ANSP (LFV) in this regard.

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Sweden					

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Malmo					
Stockholm					

Initiatives implemented or planned to improve PI#7

LFV does not currently have measurement methods established to be able to produce a basis for the requested reporting. A Work will be initiated to be able to report this next time.

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Sweden					

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Malmo					
Stockholm					

Initiatives implemented or planned to improve PI#8

SWEDEN **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.12	0.05	0.07	0.08	0.08	
Actual performance	0.01	0.00	0.04	0.01		

NSA's assessment of capacity performance

From an operational point of view the war in Ukraine had of course continued to impact where Sweden lost a lot of the overflights. This is now a structural problem and posses great challenges in the upcoming performance planning of RP4.

Capacity has not constituted a problem. ANSPs has adapted the new flight patterns in a very efficient manner.

Monitoring process for capacity performance

SE NSA monitors through the yearly AMR process, and through the ANS performance portal. In depth analysis are carried out when considered relevant, and especially in the process of Reference period planning.

Capacity Planning

Capacity planning is well in line with the need. Recall that traffic is approx 10 percent lower than plan.

ATCO in OPS (FTE)							
Malmo ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	130	136	134	137	
Actual	130	129	130	132	123		

Stockholm ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	137	143	143	145	
Actual	134	132	136	133	131		

1 ATCO student less than planned passed the OJT (On the Job Training) - 8 ATCOs resigned.

Additional Information Related to Russia's War of Aggression Against Ukraine

There is less overflying traffic in general but new patternas and more overflying traffic in southeast Baltic due to Kalniningrad closure.

There were certain capacity issues related to new traffic patterns, but no impact on Sweden'd ability to meet the targets.

Staffing plans needed+A122 to be adapted to new patterns

Summary of capacity performance

Sweden experienced an increase in traffic from 585k flights in 2022, with 22k minutes of en route ATFM delay, to 636k flights in 2023 with just 7k minutes of en route ATFM delay.

For reference, in 2019, Sweden handled 831k flights with 35k minutes of en route ATFM delays.

En route Capacity Incentive Scheme						
LFV	2020	2021	2022	2023	2024	Observations
National Capacity target	0.12	0.05	0.07	0.08	0.08	With an actual capacity performance of 0.01 minutes per flight, against a target of 0.08, Sweden reposrts that the ANSP is due a bonus of SEK 17 180 000
Deadband +/-	-	-	-	[0.03-0.13]	[0.03-0.13]	
Actual performance	0.01	0.00	0.04	0.01		

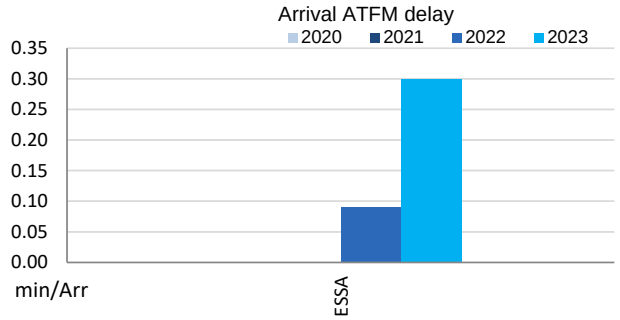
SWEDEN **CAPACITY - Airports**

1. Overview

Sweden only has Stockholm (ESSA) airport subject to RP3 monitoring for which the APDF is successfully established and the monitoring of the capacity indicators can be performed.
Traffic at this airport in 2023 was still 19% lower than the 2019 levels, but showed an increase of 11% with respect to 2022.

Average arrival ATFM delay in 2023 was 0.30 min/arr, slightly higher compared to 0.09 min/arr in 2022. The national target was not met.
ATFM slot adherence remained very high at almost 98% (2023: 97.8%; 2022: 97.8%).

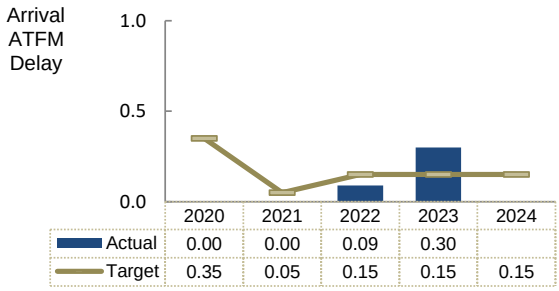
2. Arrival ATFM Delay



Average arrival ATFM delay at Stockholm in 2023 were higher than in 2022 (ESSA: 2022: 0.09 min/arr; 2023: 0.30 min/arr)
95% of these delays were attributed to Weather and 5% to Aerodrome Capacity.

According to the Swedish monitoring report, there were *no delays caused by ATC during 2023, the delays were caused by adverse weather conditions.*
The risk of weather related capacity constraints are present also for 2024.
The NSA has no in-depth analysis to provide. The NSA is aware that weather incidents have on several occasions led to severe issues. This has to be taken into consideration when applying incentive schemes for RP4.

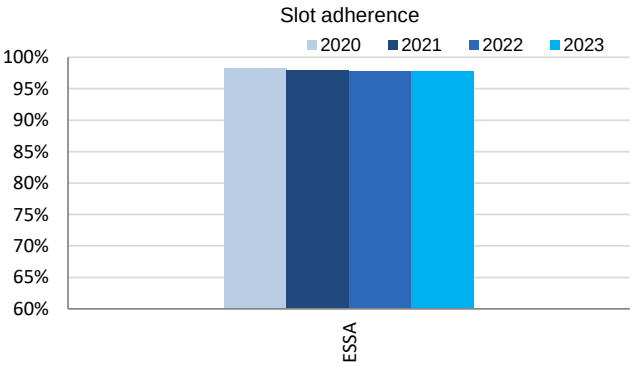
3. Arrival ATFM Delay – National Target and Incentive Scheme



	2020	2021	2022	2023	2024
Actual	0.00	0.00	0.09	0.30	
Target	0.35	0.05	0.15	0.15	0.15

The Swedish performance plan sets a national target on arrival ATFM delay for 2023 of 0.15 min/arr. This target was not met with an actual performance of 0.30 min/arr.
The NSA calculates a penalty of SEK 4 113.

4. ATFM Slot Adherence



Stockholm's ATFM slot compliance in 2023 was 97.8%, same as in 2022. With regard to the 2.2% of flights that did not adhere, 0.7% was early and 1.5% was late.

5. ATC Pre-departure Delay

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Stockholm.
The annual value in did not changed much with respect to previous years but it is higher than before the pandemic (ESSA: 2019: 0.09 min/dep; 2021: 0.13 min/dep; 2022: 0.13 min/dep; 2023: 0.12 min/dep)

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time at Sweden decreased slightly in 2023 (ESSA: 2020: 8.34 min/dep.; 2021: 11.48 min/dep.; 2022: 15.14 min/dep.; 2023: 14.65 min/dep.)
According to the Swedish monitoring report: *The delays were mainly caused by adverse weather conditions.*

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Stockholm/Arlanda-ESSA	0	0	0.09	0.3		98.2%	97.9%	97.8%	97.8%		n/a	0.13	0.13	0.12		8.34	11.48	15.14	14.65	

SWEDEN: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Sweden ECZ represents 4.1% of the SES en route ANS actual costs in 2023
- National currency: SEK Exchange rates (1 EUR=) 2017: 9.63311 SEK 2023: 11.4623 SEK
- Performance Plan: RP3 draft performance plan dated 13 July 2022 and found consistent as per Commission Decision (EU) 2022/2423 of 5 December 2022

  The final version of the plan was adopted and published by Sweden in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Sweden: Data from RP3 Performance Plan	**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
En route costs (nominal SEK)	2 690 169 529	2 145 575 013	4 835 744 542	2 309 764 674	2 358 551 456	2 234 106 189
Inflation %	0.7%	1.5%		4.8%	2.2%	1.7%
Inflation index (100 in 2017)	104.5	106.0		112.4	114.9	116.9
Real en route costs (SEK2017)	2 593 079 553	2 048 853 289	4 641 932 842	2 110 148 089	2 114 368 392	1 978 523 470
Total en route service units	1 676 463	1 732 000	3 408 463	2 724 000	3 248 000	3 367 000
Real en route DUC per service unit (SEK2017)	**1 546.76**	**1 182.94**	**1 361.88**	**774.65**	**650.98**	**587.62**
Real en route DUC per service unit (€2017)	**160.57**	**122.80**	**141.38**	**80.42**	**67.58**	**61.00**
Sweden: Actual data from Reporting Tables	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
En route costs (nominal SEK)	2 690 169 529	2 088 780 547	4 778 950 076	2 374 591 342	2 814 835 827	
Inflation %	0.7%	2.7%		8.1%	5.9%	
Inflation index (100 in 2017)	104.5	107.3		116.0	122.8	
Real en route costs (SEK2017)	2 593 079 553	1 976 031 466	4 569 111 019	2 131 805 923	2 395 165 528	
Total en route service units	1 676 463	1 794 889	3 471 353	2 471 898	2 665 647	
Real en route AUC per service unit (SEK2017)	**1 546.76**	**1 100.92**	**1 316.23**	**862.42**	**898.53**	
Real en route AUC per service unit (€2017)	**160.57**	**114.29**	**136.64**	**89.53**	**93.28**	

Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
En route costs (nominal SEK)	in value	0	-56 794 466	-56 794 466	64 826 668	456 284 372	
	in %	-	-2.6%	-1.2%	+2.8%	+19.3%	
Inflation %	in p.p.	0.0 p.p.	1.2 p.p.		3.3 p.p.	3.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.3 p.p.		3.5 p.p.	7.9 p.p.	
Real en route costs (SEK2017)	in value	0	-72 821 823	-72 821 823	21 657 834	280 797 136	
	in %	-	-3.6%	-1.6%	+1.0%	+13.3%	
Total en route service units	in value	0	62 889	62 889	-252 102	-582 353	
	in %	-	+3.6%	+1.8%	-9.3%	-17.9%	
Real en route unit cost per service unit (SEK2017)	**in value**	**0.00**	**-82.02**	**-45.65**	**87.77**	**247.56**	
	in %	**-**	**-6.9%**	**-3.4%**	**+11.3%**	**+38.0%**	
Real en route unit cost per service unit (€2017)	**in value**	**0.00**	**-8.51**	**-4.74**	**9.11**	**25.70**	
	in %	**-**	**-6.9%**	**-3.4%**	**+11.3%**	**+38.0%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was +38.0% (or +247.56 SEK2017, +25.7 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TSUs (-17.9%) and significantly higher than planned en route costs in real terms (+13.3%, or +280.8 MSEK2017, +29.1 M€2017). It should be noted that actual inflation index in 2023 was +7.9 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (-17.9%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSPs and the airspace users (see the main ANSP loss in Box 11).

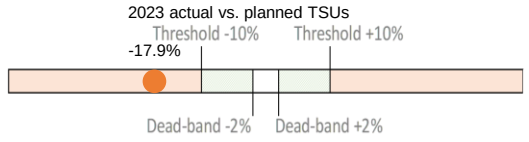
En route costs by entity

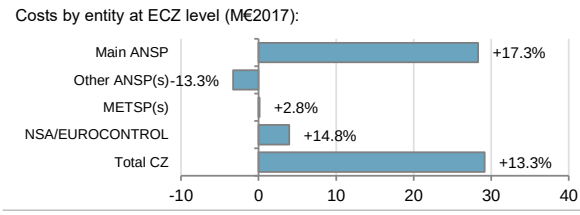
Actual real en route costs are +13.3% (+29.1 M€2017) higher than planned. This is the result of higher costs for the main ANSP, LFV (+17.3%, or +28.3 M€2017), the NSA/EUROCONTROL (+14.8%, or +4.0 M€2017) and the MET service provider (+2.8%, or +0.1 M€2017) and lower costs for the other ANSPs (ACR, ARV and SDATS, -13.3%, or -3.3 M€2017).

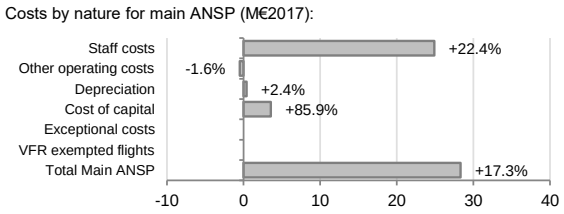
En route costs for the main ANSP (LFV) at charging zone level

Significantly higher than planned en route costs in real terms for LFV in 2023 (+17.3%, or +28.3 M€2017) result from:

- Significantly higher staff costs (+22.4%) reflecting "*higher than planned pension costs stemming from a higher indexation than anticipated*" and, to a lesser extent, higher than planned salary increases following conclusion of Swedish salary agreement valid from October 2023.
- Lower other operating costs (-1.6%) in real terms, reflecting entirely the impact of the inflation index (+7.9 p.p.) since, in nominal terms, the costs are above the plan (+5.2%), which is explained by "*inflation, energy prices, Swedish salary agreements and weaker Swedish krona*".
- Higher depreciation (+2.4%), and
- Significantly higher cost of capital (+85.9%), reflecting "*an effect of the high inflation that affects the valuation of the pension debt (that is used for financing instead of loans)*"







SWEDEN: En route charging zone

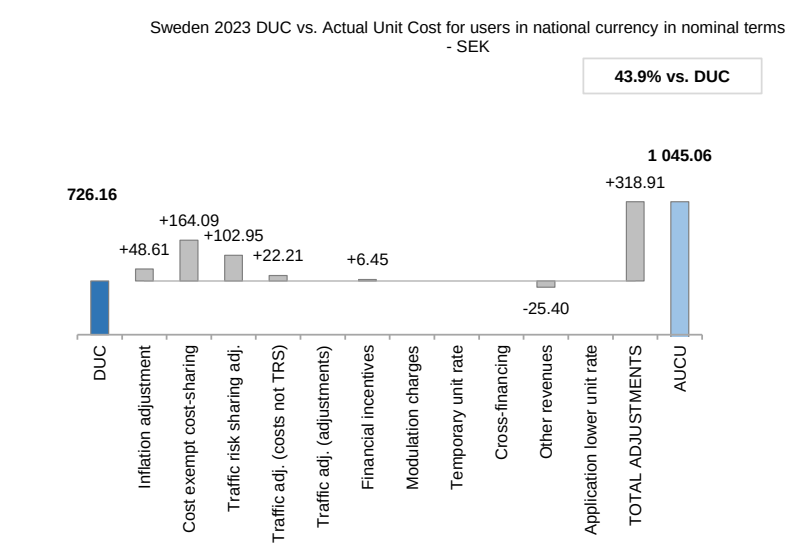
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	SEK/SU	€/SU
Initial DUC charged	726.16	63.35
DUC to be charged retroactively	0.00	0.00
DUC	**726.16**	**63.35**
Inflation adjustment	48.61	4.24
Cost exempt from cost-sharing	164.09	14.32
Traffic risk sharing adjustment	102.95	8.98
Traffic adj. (costs not TRS)	22.21	1.94
Traffic adj. (adjustments)*		
Financial incentives	6.45	0.56
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-25.40	-2.22
Application of lower unit rate	0.00	0.00
Total adjustments	318.91	27.82
AUCU	**1 045.06**	**91.17**
AUCU vs. DUC	**+43.9%**	**+43.9%**

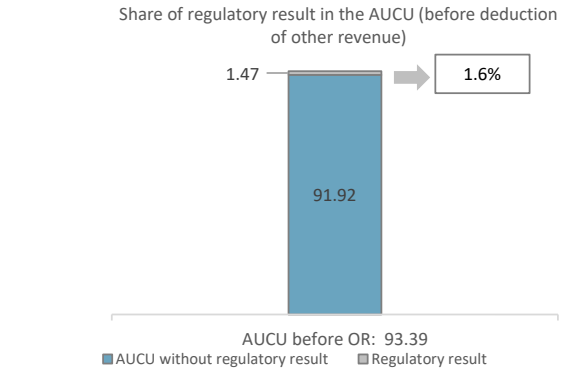
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		SEK '000	€ '000	SEK/SU	€/SU
by item	New and existing investments	16 828	1 468	6.31	0.55
	Competent authorities and qualified entities costs	11 353	990	4.26	0.37
	Eurocontrol costs	26 830	2 341	10.07	0.88
	Pension costs	380 425	33 189	142.71	12.45
	Interest on loans	1 982	173	0.74	0.06
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**437 418**	**38 161**	**164.09**	**14.32**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	SEK '000	€ '000	SEK/SU	€/SU
LFV	17 459	1 523	6.55	0.57
ACR	34 282	2 991	12.86	1.12
ARV	1 004	88	0.38	0.03
SDATS	-8 782	-766	-3.29	-0.29
METSP(s)	**SEK '000**	**€ '000**	**SEK/SU**	**€/SU**
Sweden MET	832	73	0.31	0.03
Total charging zone	44 795	3 908	16.80	1.47
Actual cost for users* **	2 853 485	248 945	1 070.47	93.39
Regulatory result (% AUCU)	1.6%	1.6%	1.6%	1.6%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (1045.06 SEK or 91.17 €) is +43.9% higher than the nominal DUC (726.16 SEK or 63.35 €). The difference between these two figures (+318.91 SEK/SU or +27.82 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+48.61 SEK/SU or +4.24 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+164.09 SEK/SU or +14.32 €/SU);
- the addition of the traffic risk sharing adjustments (+102.95 SEK/SU or +8.98 €/SU);
- the addition of the traffic adjustment (+22.21 SEK/SU or +1.94 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (+6.45 SEK/SU or +0.56 €/SU); and
- the deduction of the other revenues (-25.40 SEK/SU or -2.22 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is 1.6%.

SWEDEN: En route main ANSP (LFV) — Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: The analysis presented in this report for LFV is affected by two factors:
a) LFV reports a financing of asset base at the level of some 77% of debt in 2023, corresponding to its pension liabilities, which are remunerated at the inflation rate.
b) Information reported in the en route reporting tables for LFV also includes the costs for CNS infrastructure owned by the airport operators.

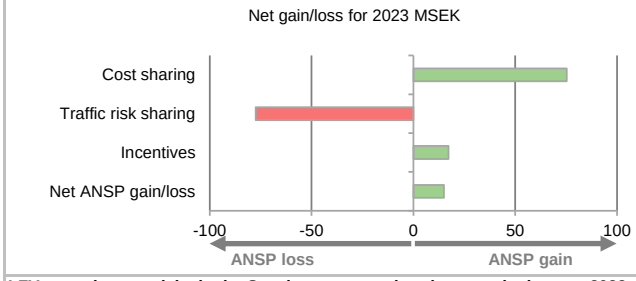
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

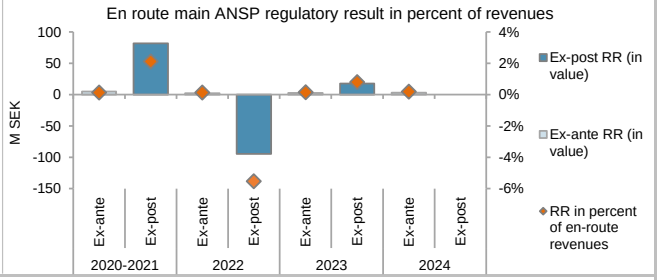
Cost sharing (SEK '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	22 181	-52 310	-435 463	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	16 997	47 933	108 979	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-32 282	-20 057	401 789	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**6 895**	**-24 434**	**75 305**	
Traffic risk sharing (SEK '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.8%	-9.3%	-17.9%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	3 774 443	1 732 115	1 760 746	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**69 642**	**-72 341**	**-77 473**	
Incentives (SEK '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**17 181**	
Net ANSP gain(+)/loss(-) on en route activity (SEK '000)	**76 537**	**-96 775**	**15 013**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**7 550**	**-9 109**	**1 310**	

12. Regulatory result (RR) for the main ANSP at charging zone level

LFV planned regulatory result (SEK '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	3 040 952	3 165 939	6 206 891	2 442 562	2 499 281	2 491 362
Proportion of financing through equity (in %)	18%	16%	17%	22%	19%	15%
RoE pre-tax rate (in %)	0.5%	0.5%	0.5%	0.4%	0.5%	0.8%
RoE (in value)	2 440	2 431	4 871	2 211	2 479	2 909
Ex-ante regulatory result (+/-) for the en route charging zone	**2 440**	**2 431**	**4 871**	**2 211**	**2 479**	**2 909**
Revenue for the en route charging zone	**2 197 449**	**1 616 030**	**3 813 479**	**1 750 189**	**1 779 074**	**1 672 504**
Ex-ante regulatory result (+/-) in percent of revenues	**0.1%**	**0.2%**	**0.1%**	**0.1%**	**0.1%**	**0.2%**
Ex-ante RoE pre-tax rate (in %)	**0.5%**	**0.5%**	**0.5%**	**0.4%**	**0.5%**	**0.8%**
LFV actual regulatory result (SEK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	3 040 952	2 432 702	5 473 653	2 372 384	1 989 308	
Proportion of financing through equity (in %)	18%	22%	20%	23%	23%	
RoE pre-tax rate (in %)	0.5%	0.5%	0.5%	0.4%	0.5%	
RoE (in value)	2 440	2 615	5 055	2 263	2 446	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	76 537	76 537	-96 775	15 013	
Ex-post regulatory result (+/-) for the en route charging zone	**2 440**	**79 152**	**81 592**	**-94 512**	**17 459**	
Revenue for the en route charging zone	**2 197 449**	**1 670 387**	**3 867 836**	**1 705 724**	**2 229 550**	
Ex-post regulatory result (+/-) in percent of revenues	**0.1%**	**4.7%**	**2.1%**	**-5.5%**	**0.8%**	
Ex-post RoE pre-tax rate (in %)	**0.5%**	**14.9%**	**7.6%**	**-17.5%**	**3.8%**	

13. Focus on the main ANSP regulatory result on en route activity





LFV net gain on activity in the Sweden en route charging zone in the year 2023

LFV reported a net gain of +15.0 MSEK, as a combination of a gain of +75.3 MSEK arising from the cost sharing mechanism, with a loss of -77.5 MSEK arising from the traffic risk sharing mechanism and a gain of +17.2 MSEK relating to financial incentives.

LFV overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+15.0 MSEK) and the actual RoE (+2.4 MSEK) amounts to +17.5 MSEK (0.8% of the en route revenues). The resulting ex-post rate of return on equity is 3.8%, which is higher than the 0.5% planned in the PP.

SWEDEN: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity

ACR planned regulatory result (SEK '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	520	1 737	2 257	2 532	2 276	1 691
Revenue for the en route charging zone	132 885	158 958	291 843	182 034	194 984	186 023
Ex-ante regulatory result (+/-) in percent of revenues	0.4%	1.1%	0.8%	1.4%	1.2%	0.9%
Ex-ante RoE pre-tax rate (in %)	6.0%	13.5%	10.5%	18.2%	14.3%	10.3%
ACR actual regulatory result (SEK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	520	28 777	29 297	26 762	34 282	
Revenue for the en route charging zone	132 885	165 561	298 446	179 073	194 799	
Ex-post regulatory result (+/-) in percent of revenues	0.4%	17.4%	9.8%	14.9%	17.6%	
Ex-post RoE pre-tax rate (in %)	6.0%	231.2%	138.4%	181.4%	151.5%	

ARV planned regulatory result (SEK '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	5 918	6 450	12 368	6 958	7 056	6 499
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
ARV actual regulatory result (SEK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	675	675	914	1 004	
Revenue for the en route charging zone	5 918	6 751	12 669	6 897	7 257	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	10.0%	5.3%	13.2%	13.8%	
Ex-post RoE pre-tax rate (in %)	0.0%	113.4%	46.6%	157.0%	164.8%	

SDATS planned regulatory result (SEK '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	697	697	1 098	927	451
Revenue for the en route charging zone	53 782	66 772	120 553	65 135	66 696	57 679
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	1.0%	0.6%	1.7%	1.4%	0.8%
Ex-ante RoE pre-tax rate (in %)	0.0%	2.2%	1.1%	3.8%	3.9%	2.8%
SDATS actual regulatory result (SEK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	574	574	-6 524	-8 782	
Revenue for the en route charging zone	53 782	66 783	120 565	62 493	67 491	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	0.9%	0.5%	-10.4%	-13.0%	
Ex-post RoE pre-tax rate (in %)	0.0%	1.7%	0.9%	-16.9%	-73.8%	

Sweden MET planned regulatory result (SEK '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	0	0	0	0	0	0
Revenue for the en route charging zone	48 904	49 900	98 804	51 264	52 708	52 991
Ex-ante regulatory result (+/-) in percent of revenues	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Sweden MET actual regulatory result (SEK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	0	-761	-761	2 079	832	
Revenue for the en route charging zone	48 904	50 292	99 196	53 134	58 174	
Ex-post regulatory result (+/-) in percent of revenues	0.0%	-1.5%	-0.8%	3.9%	1.4%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSPs

Total other ANSPs planned regulatory result (SEK '000)	2020D	2021D	2020-2021D	2022D	2023D	2024D
Ex-ante regulatory result (+/-) for the en route charging zone	520	2 433	2 954	3 631	3 203	2 142
Revenue for the en route charging zone	241 488	282 079	523 568	305 391	321 444	303 192
Ex-ante regulatory result (+/-) in percent of revenues	0.2%	0.9%	0.6%	1.2%	1.0%	0.7%
Ex-ante RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	N/A
Total other ANSPs actual regulatory result (SEK '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone	520	29 265	29 786	23 231	27 335	
Revenue for the en route charging zone	241 488	289 387	530 875	301 597	327 720	
Ex-post regulatory result (+/-) in percent of revenues	0.2%	10.1%	5.6%	7.7%	8.3%	
Ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A	N/A	N/A	

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Sweden (ACR, ARV, SDATS, Sweden MET) corresponds to 8.3% of the en route revenues. The RoE cannot be calculated for Swedish MET service provider, as its assets are entirely financed through debt.

SWEDEN: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Sweden TCZ represents 1.7% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 1 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 1
- National currency: SEK Exchange rates (1 EUR=) 2017: 9.63311 SEK 2023: 11.4623 SEK
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Sweden: Data from RP3 Performance Plan		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Terminal costs (nominal SEK)		252 628 250	189 276 363	441 904 612	200 172 902	205 638 071	208 304 348
Inflation %		0.7%	1.5%		4.8%	2.2%	1.7%
Inflation index (100 in 2017)		104.5	106.0		112.4	114.9	116.9
Real terminal costs (SEK2017)		242 281 335	178 987 820	421 269 155	179 131 197	180 624 386	180 161 203
Total terminal service units		54 147	52 000	106 147	104 000	137 000	142 000
Real terminal DUC per service unit (SEK2017)		**4 474.50**	**3 442.07**	**3 968.73**	**1 722.42**	**1 318.43**	**1 268.74**
Real terminal DUC per service unit (€2017)		**464.49**	**357.32**	**411.99**	**178.80**	**136.86**	**131.71**
Sweden: Actual data from Reporting Tables		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Terminal costs (nominal SEK)		252 628 250	189 671 860	442 300 110	198 125 364	252 380 043	
Inflation %		0.7%	2.7%		8.1%	5.9%	
Inflation index (100 in 2017)		104.5	107.3		116.0	122.8	
Real terminal costs (SEK2017)		242 281 335	177 397 868	419 679 203	172 268 313	207 374 948	
Total terminal service units		54 147	56 124	110 271	107 570	119 398	
Real terminal AUC per service unit (SEK2017)		**4 474.50**	**3 160.80**	**3 805.87**	**1 601.45**	**1 736.84**	
Real terminal AUC per service unit (€2017)		**464.49**	**328.12**	**395.08**	**166.24**	**180.30**	
Difference between Actuals and Planned		**2020**	**2021**	**2020-2021**	**2022**	**2023**	**2024**
Terminal costs (nominal SEK)	in value	0	395 497	395 497	-2 047 539	46 741 972	
	in %	-	+0.2%	+0.1%	-1.0%	+22.7%	
Inflation %	in p.p.	0.0 p.p.	1.2 p.p.		3.3 p.p.	3.7 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	1.3 p.p.		3.5 p.p.	7.9 p.p.	
Real terminal costs (SEK2017)	in value	0	-1 589 952	-1 589 952	-6 862 884	26 750 563	
	in %	-	-0.9%	-0.4%	-3.8%	+14.8%	
Total terminal service units	in value	0	4 124	4 124	3 570	-17 602	
	in %	-	+7.9%	+3.9%	+3.4%	-12.8%	
Real terminal unit cost per service unit (SEK2017)	**in value**	**0.00**	**-281.27**	**-162.86**	**-120.96**	**418.42**	
	in %	**-**	**-8.2%**	**-4.1%**	**-7.0%**	**+31.7%**	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-29.20**	**-16.91**	**-12.56**	**43.44**	
	in %	**-**	**-8.2%**	**-4.1%**	**-7.0%**	**+31.7%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +31.7% (or +418.42 SEK2017, +43.44 €2017) higher than the planned DUC. This results from the combination of significantly higher than planned terminal costs in real terms (+14.8%, or +26.8 MSEK2017, +2.8 M€2017) and significantly lower than planned TNSUs (-12.8%). It should be noted that actual inflation index in 2023 was +7.9 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-12.8%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSPs and the airspace users (see the main ANSP loss in Box 11).

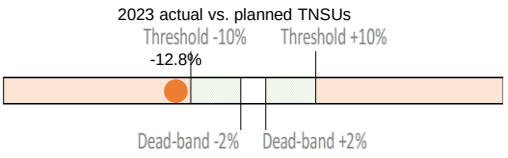
Terminal costs by entity

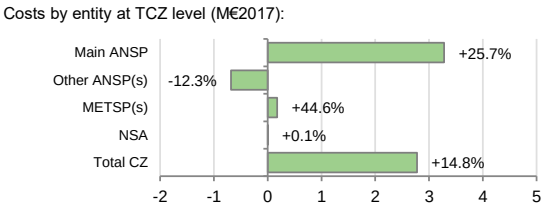
Actual real terminal costs are +14.8% (+2.8 M€2017) higher than planned. This is the result of higher costs for the main ANSP, LFV (+25.7%, or +3.3 M€2017), the MET service provider (+44.6%, or +0.2 M€2017) and the NSA (+0.1% M€2017) and lower costs for the other ANSP (SWEDAVIA, -12.3%, or -0.7 M€2017).

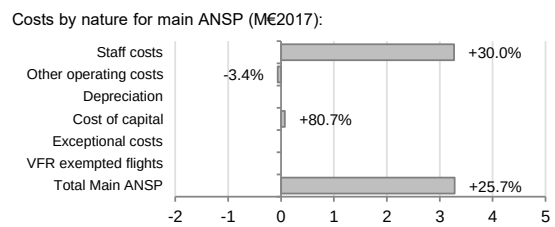
Terminal costs for the main ANSP (LFV) at charging zone level

Significantly higher than planned terminal costs in real terms for LFV in 2023 (+25.7%, or +3.3 M€2017) result from:

- Significantly higher staff costs (+30.0%), reflecting much higher pension costs.
- Lower other operating costs (-3.4%) in real terms, reflecting entirely the impact of the inflation index (+7.9 p.p.) since, in nominal terms, the costs are above the plan (+3.2%), which is explained by "*higher inflation leading to higher costs*".
- Significantly higher cost of capital (+80.7%), which is explained by "*an effect of the high inflation that affects the valuation of the pension debt (that is used for financing instead of loans)*".







SWEDEN: Terminal charging zone

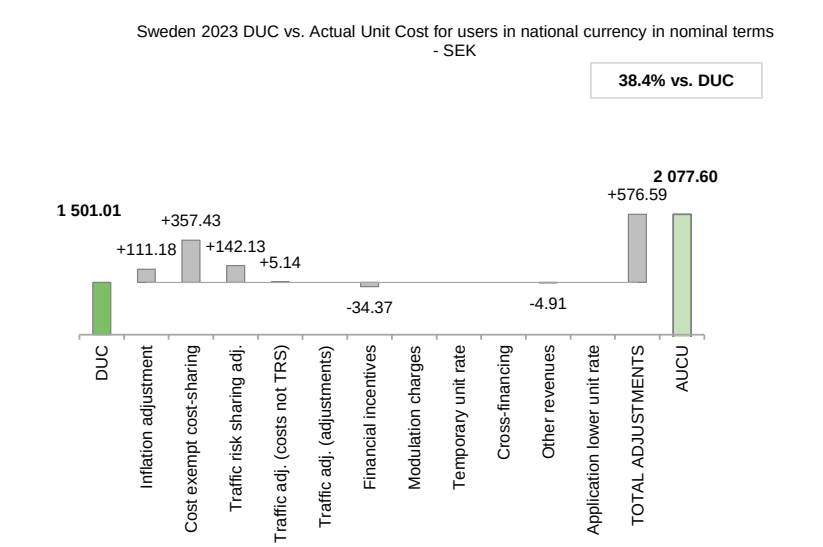
Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	SEK/SU	€/SU
Initial DUC charged	1 501.01	130.95
DUC to be charged retroactively	0.00	0.00
DUC	**1 501.01**	**130.95**
Inflation adjustment	111.18	9.70
Cost exempt from cost-sharing	357.43	31.18
Traffic risk sharing adjustment	142.13	12.40
Traffic adj. (costs not TRS)	5.14	0.45
Traffic adj. (adjustments)*		
Financial incentives	-34.37	-3.00
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	-4.91	-0.43
Application of lower unit rate	0.00	0.00
Total adjustments	576.59	50.30
AUCU	**2 077.60**	**181.26**
AUCU vs. DUC	**38.4%**	**38.4%**

* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.

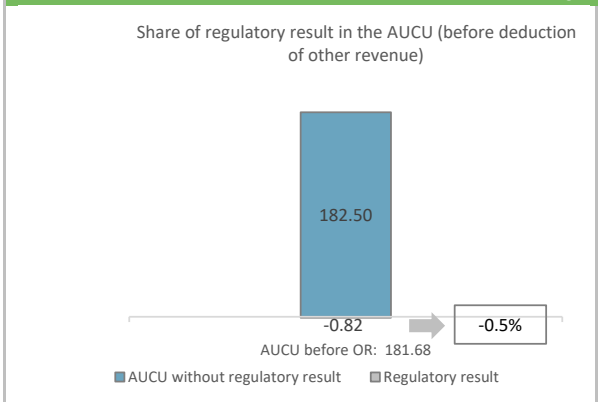
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		SEK '000	€ '000	SEK/SU	€/SU
by item	New and existing investments	-3 390	-296	-28.40	-2.48
	Competent authorities and qualified entities costs	0	0	0.00	0.00
	Eurocontrol costs	0	0	0.00	0.00
	Pension costs	46 066	4 019	385.82	33.66
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**42 676**	**3 723**	**357.43**	**31.18**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	SEK '000	€ '000	SEK/SU	€/SU
LFV	-1 681	-147	-14.08	-1.23
Swedavia	2 037	178	17.06	1.49
METSP(s)	**SEK '000**	**€ '000**	**SEK/SU**	**€/SU**
Sweden Arlanda MET	-1 479	-129	-12.39	-1.08
Total charging zone	-1 122	-98	-9.40	-0.82
Actual cost for users* **	248 647	21 693	2 082.51	181.68
Regulatory result (% AUCU)	-0.5%	-0.5%	-0.5%	-0.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (2077.60 SEK or 181.26 €) is +38.4% higher than the nominal DUC (1501.01 SEK or 130.95 €). The difference between these two figures (+576.59 SEK/SU or +50.30 €/SU) is due to:

- the positive inflation adjustment resulting from higher than planned inflation (+111.18 SEK/SU or +9.70 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (+357.43 SEK/SU or +31.18 €/SU);
- the addition of the traffic risk sharing adjustments (+142.13 SEK/SU or +12.40 €/SU);
- the addition of the traffic adjustment (+5.14 SEK/SU or +0.45 €/SU) for the costs not subject to traffic risk sharing;
- financial incentives (-34.37 SEK/SU or -3.00 €/SU); and
- the deduction of the other revenues (-4.91 SEK/SU or -0.43 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is -0.5%.

SWEDEN: Terminal main ANSP (LFV) — Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: LFV reports a financing of asset base at the level of some 78% of debt in 2023, corresponding to its pension liabilities, which are remunerated at the inflation rate.

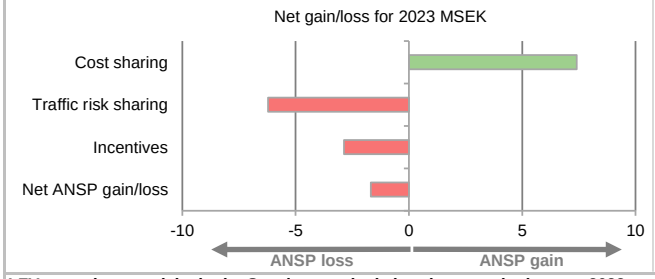
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

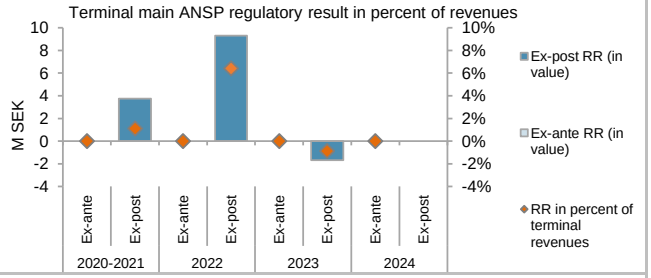
Cost sharing (SEK '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-4 588	3 417	-48 332	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	1 562	4 357	9 667	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 650	-1 865	46 066	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-4 676**	**5 910**	**7 402**	
Traffic risk sharing (SEK '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	3.9%	3.4%	-12.8%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	327 912	139 239	141 303	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**8 413**	**3 383**	**-6 217**	
Incentives (SEK '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**-2 865**	
Net ANSP gain(+)/loss(-) on terminal activity (SEK '000)	**3 737**	**9 293**	**-1 681**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**369**	**875**	**-147**	

12. Regulatory result (RR) for the main ANSP at charging zone level

LFV planned regulatory result (SEK '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	98 951	86 582	185 534	74 213	61 845	49 476
Proportion of financing through equity (in %)	17%	15%	16%	10%	7%	4%
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RoE (in value)	0	0	0	0	0	0
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**194 939**	**132 972**	**327 912**	**139 239**	**141 303**	**143 837**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
LFV actual regulatory result (SEK '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	98 951	92 767	191 718	74 213	68 029	
Proportion of financing through equity (in %)	17%	21%	19%	22%	22%	
RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%	
RoE (in value)	0	0	0	0	0	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	3 737	3 737	9 293	-1 681	
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**3 737**	**3 737**	**9 293**	**-1 681**	
Revenue for the terminal charging zone	**194 939**	**141 297**	**336 236**	**145 115**	**187 954**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**2.6%**	**1.1%**	**6.4%**	**-0.9%**	
Ex-post RoE pre-tax rate (in %)	**0.0%**	**19.1%**	**10.3%**	**56.3%**	**-11.1%**	

13. Focus on main ANSP regulatory result on terminal activity





LFV net gain on activity in the Sweden terminal charging zone in the year 2023

LFV reported a net loss of -1.7 MSEK, as a combination of a gain of +7.4 MSEK arising from the cost sharing mechanism, with a loss of -6.2 MSEK arising from the traffic risk sharing mechanism and a loss of -2.9 MSEK relating to financial incentives.

LFV overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-1.7 MSEK) amounts to -1.7 MSEK (-1.2% of the terminal revenues), as the RoE for LFV has been set to zero. The resulting ex-post rate of return on equity is negative (-11.1%).

SWEDEN: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Swedavia planned regulatory result (SEK '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	2 378	2 686	5 064	3 314	3 741	4 185
Revenue for the terminal charging zone	52 847	51 689	104 536	56 130	59 559	59 623
Ex-ante regulatory result (+/-) in percent of revenues	4.5%	5.2%	4.8%	5.9%	6.3%	7.0%
Ex-ante RoE pre-tax rate (in %)	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Swedavia actual regulatory result (SEK '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	2 378	9 976	12 354	3 334	2 037	
Revenue for the terminal charging zone	52 847	55 550	108 398	58 303	55 326	
Ex-post regulatory result (+/-) in percent of revenues	4.5%	18.0%	11.4%	5.7%	3.7%	
Ex-post RoE pre-tax rate (in %)	9.0%	35.3%	22.6%	11.9%	7.7%	
Sweden Arlanda MET planned regulatory result (SEK '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	65	127	192	148	128	108
Revenue for the terminal charging zone	4 481	4 182	8 663	4 363	4 326	4 384
Ex-ante regulatory result (+/-) in percent of revenues	1.4%	3.0%	2.2%	3.4%	3.0%	2.5%
Ex-ante RoE pre-tax rate (in %)	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Sweden Arlanda MET actual regulatory result (SEK '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	65	-10	55	-41	-1 479	
Revenue for the terminal charging zone	4 481	3 478	7 958	4 236	4 918	
Ex-post regulatory result (+/-) in percent of revenues	1.4%	-0.3%	0.7%	-1.0%	-30.1%	
Ex-post RoE pre-tax rate (in %)	9.0%	-1.2%	3.5%	-4.7%	-61.5%	
Total other ANSPs planned regulatory result (SEK '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	2 443	2 814	5 256	3 462	3 869	4 294
Revenue for the terminal charging zone	57 328	55 871	113 199	60 493	63 885	64 007
Ex-ante regulatory result (+/-) in percent of revenues	4.3%	5.0%	4.6%	5.7%	6.1%	6.7%
Ex-ante RoE pre-tax rate (in %)	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Total other ANSPs actual regulatory result (SEK '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	2 443	9 966	12 409	3 293	559	
Revenue for the terminal charging zone	57 328	59 028	116 356	62 539	60 243	
Ex-post regulatory result (+/-) in percent of revenues	4.3%	16.9%	10.7%	5.3%	0.9%	
Ex-post RoE pre-tax rate (in %)	9.0%	34.3%	22.1%	11.4%	1.9%	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Sweden (Swedavia, Sweden Arlanda MET) corresponds to 0.9% of the terminal revenues. The ex-post RoE 1.9% is lower than planned 9.0%.

SWEDEN: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Sweden

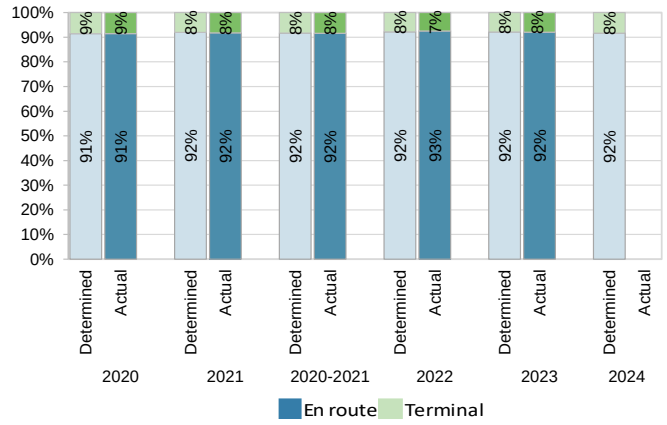
Terminal charging zone 1: Sweden

Sweden: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	269 184 049	212 688 663	481 872 712	219 051 593	219 489 697	205 387 821
Real terminal costs (€2017)	25 150 895	18 580 481	43 731 376	18 595 365	18 750 371	18 702 289
Real gate-to-gate costs (€2017)	294 334 944	231 269 144	525 604 088	237 646 958	238 240 068	224 090 109
En route share (%)	91.5%	92.0%	91.7%	92.2%	92.1%	91.7%

Sweden: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	269 184 049	205 129 129	474 313 178	221 299 863	248 638 864	
Real terminal costs (€2017)	25 150 895	18 415 431	43 566 325	17 882 938	21 527 310	
Real gate-to-gate costs (€2017)	294 334 944	223 544 560	517 879 503	239 182 801	270 166 174	
En route share (%)	91.5%	91.8%	91.6%	92.5%	92.0%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	0	-7 724 585	-7 724 585	1 535 844	31 926 107	
	in %	0.0%	-3.3%	-1.5%	0.6%	13.4%	
En route share	in p.p.	0.0 p.p.	-0.2 p.p.	-0.1 p.p.	0.3 p.p.	-0.1 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are +13.4% (+31.9 M€2017) higher than planned, as en route costs are higher than planned by +29.1 M€2017 and terminal costs are higher than planned by +2.8 M€2017.

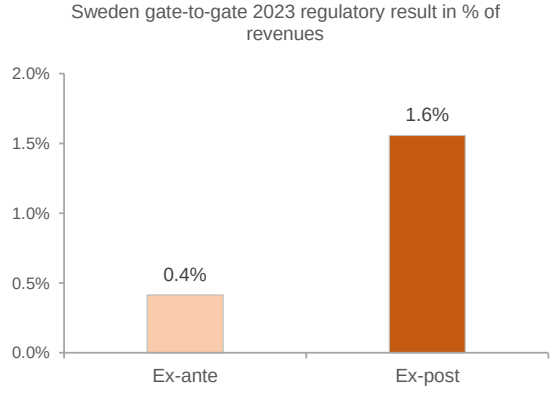
The actual share of en route in gate-to-gate ANS costs (92%) is slightly lower than planned in the PP for 2023 (92.1%).

3. Gate-to-gate regulatory result (RR) 2023

In SEK '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
LFV	2 479	1 920 377	0.1%		15 778	2 417 504	0.7%	
ACR	2 276	194 984	1.2%		34 282	194 799	17.6%	
ARV	0	7 056	0.0%		1 004	7 257	13.8%	
SDATS	927	66 696	1.4%		-8 782	67 491	-13.0%	
Swedavia	3 741	59 559	6.3%		2 037	55 326	3.7%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Sweden MET	0	52 708	0.0%		832	58 174	1.4%	
Sweden Arlanda MET	128	4 326	3.0%		-1 479	4 918	-30.1%	
Total	**9 551**	**2 305 707**	**0.4%**		**43 672**	**2 805 467**	**1.6%**	

For the ANSPs providing services in the en route and terminal charging zones of Sweden covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to +43.7 MSEK (+44.8 MSEK for en route and -1.1 MSEK for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to 1.6% of gate-to-gate ANS revenues.

This is higher than the return planned for the year (0.4% of gate-to-gate revenues).



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Annual Monitoring Report 2023

Local level view

SWITZERLAND

SWITZERLAND **Monitoring of SAFETY for 2023**

Effectiveness of Safety Management						
	Score	**Safety Culture**	**Safety Policy and Objectives**	**Safety Risk Management**	**Safety Assurance**	**Safety Promotion**
Skyguide	93	C	C	C	C	C
Note: EoSM questionnaire has been updated in RP3 using CANSO Standard of Excellence as the basis, maturity levels of study areas and calculation of the score have been updated too. A direct comparison with maturity levels and scoring of EoSM used RP2 is not advisable.						

Observations

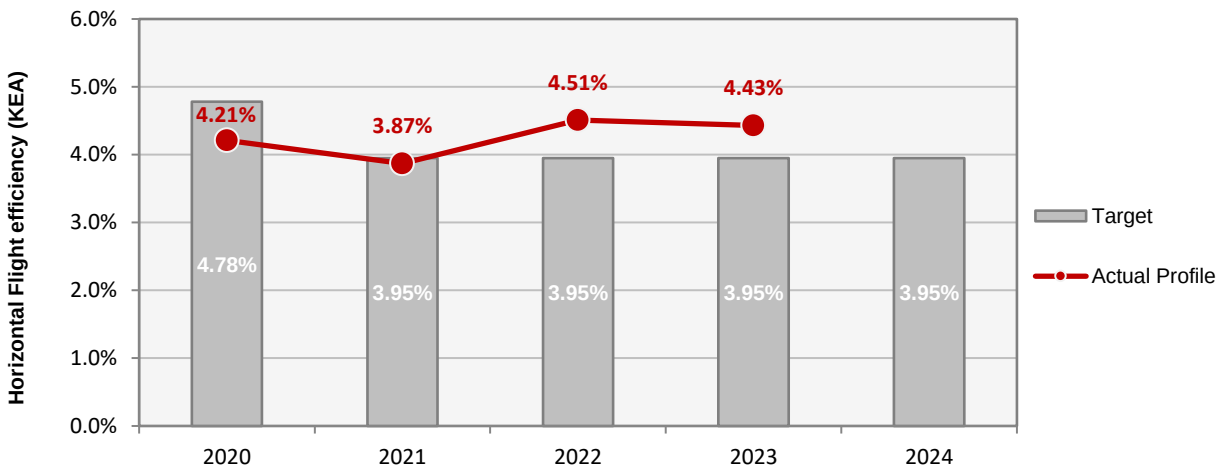
Four out of five EoSM components of the ANSP meet the RP3 target level. Only the component "Safety Risk Management" is below 2024 target level, requiring improvement of a single question during RP3.

SWITZERLAND

ENVIRONMENT - Horizontal flight efficiency

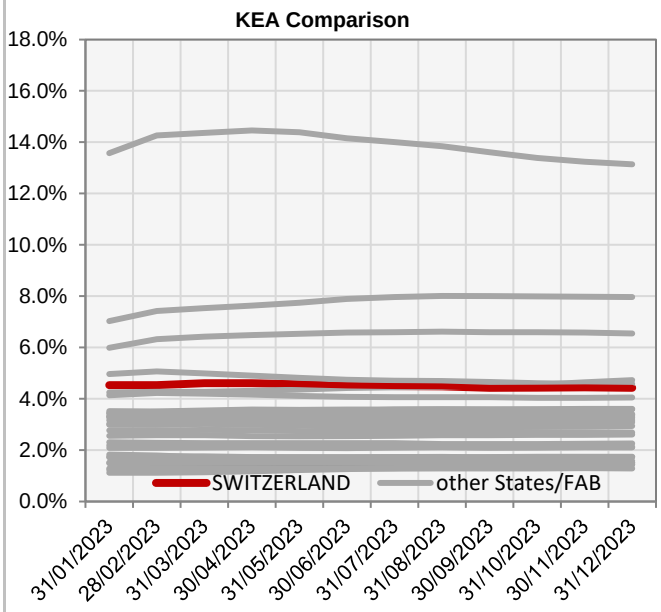
KEA

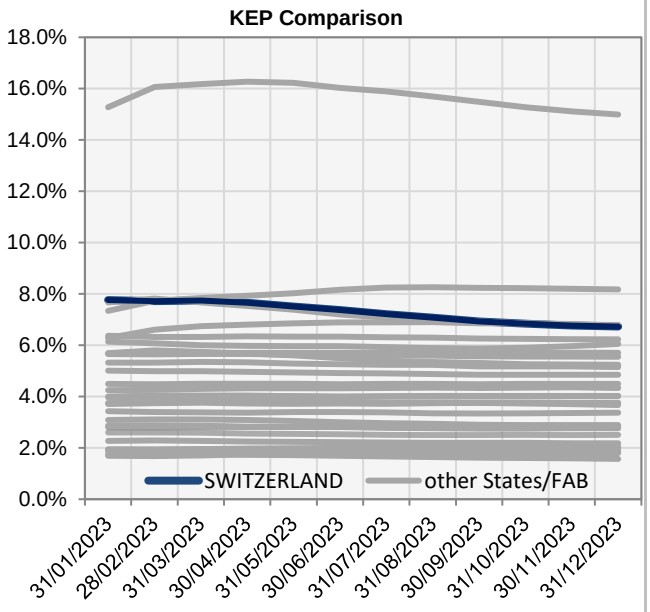
	2020	2021	2022	2023	2024
Target	4.78%	3.95%	3.95%	3.95%	3.95%
Actual performance	4.21%	3.87%	4.51%	4.43%	



End of month indicators evolution in 2023

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA	4.53%	4.54%	4.61%	4.61%	4.57%	4.52%	4.50%	4.48%	4.43%	4.44%	4.45%	4.43%
KEP	7.76%	7.72%	7.74%	7.66%	7.51%	7.37%	7.21%	7.07%	6.93%	6.84%	6.77%	6.73%
KES	7.30%	7.25%	7.26%	7.18%	7.03%	6.89%	6.74%	6.61%	6.47%	6.40%	6.33%	6.30%





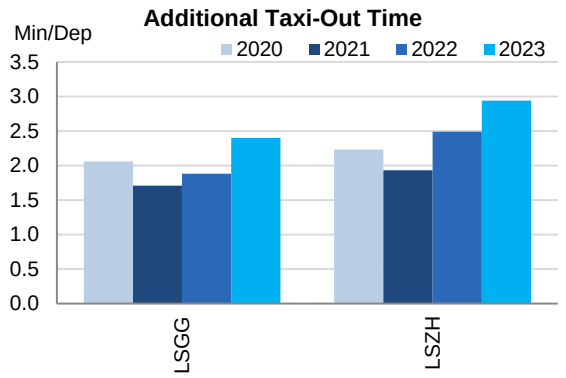
The indicators are the ratio of flown distance and achieved distance over all (portions of) trajectories over a one year rolling window, excluding the ten best and ten worst days. The rolling window stops at the last day of the month.

SWITZERLAND **ENVIRONMENT - Airports**

1. Overview

Switzerland identifies its two main airports Zurich (LSZH) and Geneva (LSGG) as subject to RP3 monitoring. Both airports have a fully implemented data flow that allows the proper monitoring of environmental indicators.
Traffic in 2023 at these two airports was still 9% lower than in 2019, but 12% higher than in 2021.
Additional times have deteriorated at both Swiss airports under monitoring, however they are still below the 2019 values
The shares of CDO flights are still below the overall RP3 value in 2023 (28.8%).

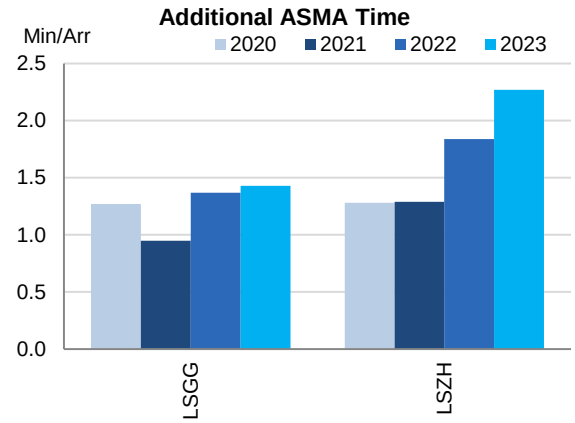
2. Additional Taxi-Out Time



Additional taxi-out times at both Swiss airports increased in 2023. In particular Zurich (LSZH; 2019: 3,65 min/dep; 2020: 2,23 min/dep.; 2021: 1,93 min/dep.; 2022: 2,49 min/dep.; 2023: 2,94 min/dep.) exceeded the SES average of 2.81 min/dep.

According to the Swiss monitoring report: *Ground efficiency suffered from traffic increased during summer 2023. Further improvements will stem from CP1 Airport Operation Plan deployment. It should be noted that taxi-out time depends on weather conditions, especially when de-icing is required.*

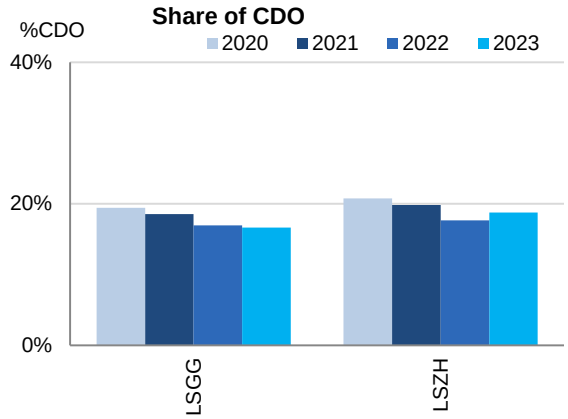
3. Additional ASMA Time



Additional times in the terminal area increased mainly at Zurich (LSZH; 2019: 2.91 min/arr.; 2020: 1.28 min/arr.; 2021: 1.29 min/arr.; 2022: 1.84 min/arr; 2023: 2.27 min/arr) resulted in the highest additional time among the SES monitored airports in 2023, even if its performance was still better than in 2019.

According to the Swiss monitoring report: *Efficiency within the last 40NM (additional time in descent flight phase) around LSZH and LSGG decreased in 2023 due to traffic increase. XMAN and Leading Optimised Runway Delivery (LORD) projects should help improving performance.*

4. Share of arrivals applying CDO



The share of CDO flights have increased by 1.1 percentage points for Zurich and decreased 0.3 percentage points for Geneva. Both airports have shares of CDO flights which are below the overall RP3 value in 2023 (28.8%).
For Zurich, the share of CDO flight is lower from March to October.

According to the Swiss monitoring report: *Vertical flight efficiency from Top of Descent remained stable in 2023 despite traffic increase. CDOs can be flown only when traffic is reduced.*
Skyguide was audited in 2023 and 2024 by CANSO for CCO/CDO practices in ZRH and GVA as part of its GreenATM accreditation. Room for improvement is identified and corrective actions will be taken.

5. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Additional taxi-out time					Additional ASMA time					Share of arrivals applying CDO				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Geneva-LSGG	2.06	1.71	1.88	2.4		1.27	0.95	1.37	1.43		19%	19%	17%	17%	
Zurich-LSZH	2.23	1.93	2.49	2.94		1.28	1.29	1.84	2.27		21%	20%	18%	19%	

SWITZERLAND **ENVIRONMENT - Military dimension**

Update on Military dimension of the plan

"For obvious flight safety reasons, military activities must be segregated from civil flows which has an impact on both horizontal (HFE) and vertical flight efficiency (VFE).
Because ASM manageable areas form an integral part of the nominal system, military airspace reservations shall be considered as part of the performance baseline rather than a key factor degrading environmental KPIs.
As a result of implementation of the FUA concept the impact of military activities using Restricted Airspace -RSA on civil performance is highly minored when associated with an efficient ASM process:

- At strategic level (HLAPB) by designing areas in accordance with A-FUA concept (MVPA/VGA structures), especially for congested airspaces.

- At pre-tactical level (AMC), by managing these areas in a dynamic way, with an associated level 2 CDM process, validated by HLAPB.

- At tactical level (ACC/Regional Military Control Centre) by activating/deactivating areas as close as possible to actual use and allowing crossing or direct routes when possible (in accordance with TRA status), with an associated level 3 CDM process validated by HLAPB.

- At each level, HLAPB, AMC or ACC/Regional Military Control Centre, a key factor of efficiency is a trust-driven civil-military cooperation. As a counterpart, AOs and CFSPs must be reactive and take efficiently into account available or released airspaces. At last, ANSP have also to adapt the route network to create more DCTs within military areas.

Finally, local circumstances (e.g. constrained airspace, proximity of international hubs, etc….) as well as a large number of military missions that differ from one State to another must be taken into account. Therefore, airspace needs (e.g. airspace requirements for the 5th generation fighters) and related ASM procedures of the States differ and standardized objectives cannot be defined."

Military - related measures implemented or planned to improve capacity

"FABEC States are working on mid-term improvements regarding implementation of ASM level 1, 2, and 3 procedures. Some local initiatives regarding ASM/ATFCM convergence, like the traffic Light Scheme concept in France are promoted at FABEC level, as well as at ECAC level in the EUROCONTROL OEP framework.

Another major improvement is the interconnection of the existing ASM tools (e.g. LARA, STANLY_ACOS) at FABEC Level, to enhance regional coordination among FABEC AMCs as well as with the NM. "

PI#6 Effective use of reserved or segregated airspace - national level

Ratio PI#6	2020	2021	2022	2023	2024
Switzerland	92%	90%	92%	91%	

PI#6 Effective use of reserved or segregated airspace (per ACC)

Ratio PI#6	2020	2021	2022	2023	2024
Geneva	92%	91%	92%	93%	
Zurich	91%	90%	92%	90%	

Initiatives implemented or planned to improve PI#6

"Remark
The Rolling UUP and Procedure 3 were introduced in Switzerland on 01.01.2016.

Monitoring of effectiveness
Since introduction of Rolling UUP and Procedure 3 in 2016, the PI#6 ratio improved and remained high and stable over years implying more reliable flight planning possibilities by AUs across Swiss airspace.

Ongoing national civil-military initiatives
Additional improvements are foreseen at the mid/long term such as introduction of VPA, improved CDM-ATFCM, improved civ-mil ASM Tools, etc. that shall give even more direct routing options to the Airspace Users. In addition, CH NSA is in the process of defining specific national PIs and/or ""Use cases"" in order to better assess (and improve, if necessary) the effectiveness of national FUA processes."

PI#7 Rate of planning via available airspace structures - national level

Ratio PI#7	2020	2021	2022	2023	2024
Switzerland	78%	81%	81%	76%	

PI#7 Rate of planning via available airspace structures (per ACC)

Ratio PI#7	2020	2021	2022	2023	2024
Geneva	86%	86%	85%	81%	
Zurich	75%	79%	78%	74%	

Initiatives implemented or planned to improve PI#7

"Remark
In the figures provided by Eurocontrol (PRISMIL) until 2021 (included), there was no way of knowing whether the flights that filed through the available RSA are indeed a subset of the flights that could have filed through the available RSA. This correction is now available and has been computed retroactively for all years.

Ongoing national civil-military initiatives
Promoting a more proactive flight planning process (considering the last published airspace status) by the Airspace Users. Additional improvements are foreseen at the mid/long term such as introduction of VPA, improved CDM-ATFCM, improved civ-mil ASM Tools, etc. that shall give even more direct routing options to the Airspace Users.

Monitoring of effectiveness
Military mission planning remained stable at a high level over years implying more reliable flight planning by AUs across Swiss airspace. CH NSA is in the process of defining specific national PIs and/or ""Use cases"" in order to better assess (and improve, if necessary) the effectiveness of national FUA processes."

PI#8 Rate of using available airspace structures - national level

Ratio PI#8	2020	2021	2022	2023	2024
Switzerland	57%	63%	63%	61%	

PI#8 Rate of using available airspace structures (per ACC)

Ratio PI#8	2020	2021	2022	2023	2024
Geneva	63%	67%	70%	68%	
Zurich	54%	61%	59%	59%	

Initiatives implemented or planned to improve PI#8

"Remark
In the figures provided by Eurocontrol (PRISMIL) until 2021 (included), there was no way of knowing whether the flights that flew through the available RSA are indeed a subset of the flights that could have filed through the available RSA. This correction is now available and has been computed retroactively for all years.

Ongoing national civil-military initiatives
Promoting a more proactive flight planning process (considering the last published airspace status) by the Airspace Users. Additional improvements are foreseen at the mid/long term such as introduction of VPA, improved CDM-ATFCM, improved civ-mil ASM Tools, etc. that shall give even more direct routing options to the Airspace Users.

Monitoring of effectiveness
Military mission planning remained stable at a high level over years implying more reliable flight planning by AUs across Swiss airspace. CH NSA is in the process of defining specific national PIs and/or ""Use cases"" in order to better assess (and improve, if necessary) the effectiveness of national FUA processes."

SWITZERLAND **CAPACITY - En-route**

Minutes of ATFM en-route delay						
	2020	2021	2022	2023	2024	Observations
National Target	0.47	0.12	0.19	0.19	0.19	The value for en route ATFM delay per flight presented here is subsequent to the NM post operations delay attribution process.
Actual performance	0.04	0.05	0.21	0.13		

NSA's assessment of capacity performance

2023 en-route capacity target set in the Swiss National performance plan was met (total ATFM-Delay per flight : 0.13 min/fl., 0.06 min. below the target). The CRSTMP ATFM delay per flight target was achieved as well, so a bonus is applied in 2023 for the en-route part.

Monitoring process for capacity performance

The monitoring for en-route capacity performance is carried out under the auspices of the FABEC Financial and Performance Committee (FPC), counterpart of the European Commission at the States side, consulting and reporting to FABEC Council as appropriate.

On a monthly basis and through the AFG/PMWG (ANSP FABEC Group / Performance Management Group) the ANSPs collectively submit a report to the FPC, based on PRU available data, consolidated and analysed, on their joint progress in achieving the national target set and reference or indicative values and on the results and analysis of the en- route capacity achievement.

In case the national target set and/or the annual/reference values are threatened not to be met, AFG/PMG is asked to propose to FPC possible corrective measures which the ANSPs determine fit to react to the weaker performance at national and/or ACC level, in order to remedy the situation.

The FPC analyses the reports, assesses the actions considered by the ANSPs together with the necessity of appropriate measures to be taken by the States or the NSAs and makes an advice to the proposals, made by the AFG/PMWG, to the FABEC Council for such appropriate measures, after consultation with the AFG/PMWG. The potential corrective measures take into account the seriousness of the risk of not meeting the targets set and/or the annual/reference values.

The Swiss NSA has periodical meetings with its ANSPs. - The Swiss NSA is regularly provided with various reports, analysis and data such as FABEC monthly capacity reports (including Skyguide data), Skyguide reports, PRU dahboards which enable to closely monitor the performance evolution.

Capacity Planning

In 2023, Skyguide achieved its en-route ATFM delay per flight target.
Traffic increased by 12.7% in 2023 vs. 2022 whereas the en-route ATFM delay decreased by 51.4% compared to one year earlier. The post-ops adjustment process was applied and allowed for re-attributing 5098 minutes of CRSTMP delay to DFS and 10338 minutes of non-CRSTMP delay to DFS as well.

ATCO in OPS (FTE)							
Geneva ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	122	129	124	120	
Actual	118	121	118	111	115		

Zurich ACC	2019	2020	2021	2022	2023	2024	Observations
Planned (Perf Plan)	-	-	113	113	112	109	
Actual	121	113	118	117	125		

These figures are based on a financial view. However, the 1st of January 2024 Skyguide implemented a new ERP. Unfortunately it led to change the process of collecting financial data, hence, it is not possible anymore to check if those values are in line with the way Skyguide provided data for 2022. In 2024, Skyguide will use the same file as for this report and for RP4, it will be used the operational view for which there are some automated ways to retrieve part of these figures (it will be more efficient and a lot less time consuming).

Information Relating to Significant Risks for Capacity Performance in Remainder of RP3

A resilience technical programme was launched at Skyguide end of 2022. It has been officially closed in 2024, however, certain corrective measures have not been implemented yet, and during the first semester of 2024, to support these measures, a uniform decrease of capacity was applied in both Geneva and Zurich ACC (-20%) leading to generate unusual high ATFM delays. This capacity reduction should be applied until beginning of July in Zurich ACC and June in Geneva ACC.

Summary of capacity performance

Switzerland experienced an increase in traffic from 1 042k flights in 2022, with 242k minutes of en route ATFM delay, to 1 092k flights in 2023 with 155k minutes of en route ATFM delay.

There were an additional 15k minutes of delay originating in Switzerland that were re-attributed to DFS via the NM post operations delay attribution process, according to the NMB agreement for eNM/S23 measures, to ameliorate capacity shortfalls in Karlsruhe UAC.

En route Capacity Incentive Scheme

Skyguide	2020	2021	2022	2023	2024	Observations
CRSTMP Capacity target	-	-	-	0.13	-	Switzerland uses an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The national target was set at 0.13 minutes per flight and the actual performance is reported as 0.07 minutes per flight (CRSTMP only). This results in a reported bonus of CHF 780 390
Deadband +/-	-	-	-	0.03		
Actual performance	-	-	-	0.07		

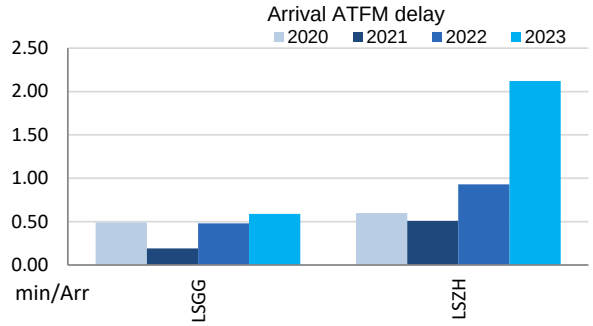
SWITZERLAND **CAPACITY - Airports**

1. Overview

Switzerland identifies its two main airports Zurich (LSZH) and Geneva (LSGG) as subject to RP3 monitoring. Both airports have a fully implemented data flow that allows the proper monitoring of the pre-departure delays.
Traffic in 2023 at these two airports was still 9% lower than in 2019, but 12% higher than in 2021.

Average arrival ATFM delays in 2023 was 1.5 min/arr, compared to 0.74 min/arr in 2022. The national target was not met.
ATFM slot adherence was very similar to the previous year (2023: 95.7%; 2022: 95.6%).

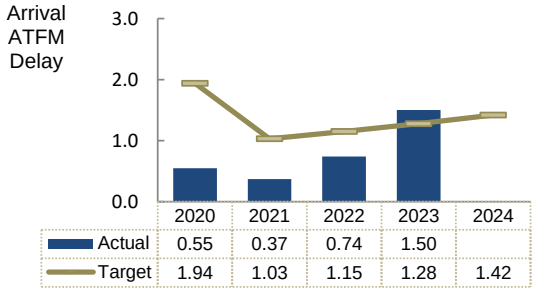
2. Arrival ATFM Delay



ATFM delays at both Swiss airports increased in 2023, especially in Zurich (LSZH: 2019: 1.99 min/arr.; 2020: 0.60 min/arr.; 2021: 0.51 min/arr.; 2022: 0.93 min/arr.; 2023: 2.12 min/arr.)
65% of these delays at Swiss airports were attributed to weather and 23% to aerodrome capacity issues.

According to the Swiss monitoring report:
In 2023, delays were due to Aerodrome Capacity (31%), Weather (29%), Staffing (18%), Industrial Action (non-ATC) (13%), ATC-Capacity (4%), Other (3%, activists on RWY) and Accident (2%) in Geneva.
Delays were due to Weather (73%), Aerodrome Capacity (20%), Environmental issues (3%), Equipment (non-ATC) (1%), Special Event (1%), Equipment (ATC) (1%) and Airspace Management (1%) in Zurich.
As 94% of the delays are due to regulations that are not under Skyguide's control, and as the CRSTMP target was just achieved, the situation is assessed as good.

3. Arrival ATFM Delay – National Target and Incentive Scheme

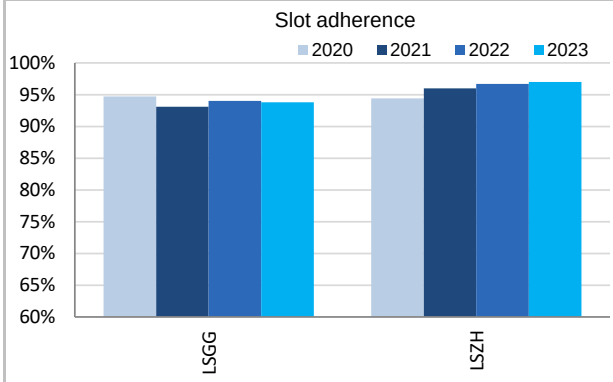


	2020	2021	2022	2023	2024
Actual	0.55	0.37	0.74	1.50	
Target	1.94	1.03	1.15	1.28	1.42

The Swiss performance plan sets a national target on arrival ATFM delay for 2023 of 1.28 min/arr. This target was not met, with an actual performance of 1.5 min/arr. The incentive scheme uses modulated pivot values limited to CRSTMP delay causes. According to the Swiss monitoring report, this pivot value for CRSTMP is 0.09 min/arr in 2023 and based on the attribution of the regulation reason, the actual CRSTMP value for 2023 was 0.09 min/arr, which falls within the deadband.

According to the Swiss monitoring report:
Skyguide just achieved its CRSTMP target: the target was set at 0.09 min/flt and the actual value is 0.09 min/flt and didn't achieve the total ATFM ARR delay per ARR movement target: the target was set at 1.28 min/flt and the actual value is 1.50 min/flt. This is mainly due to Weather and aerodrome capacity regulations.
With respect to the total Arrival ATFM delay, 94% of the ATFM delays were due to reasons not under managerial control (Weather, Aerodrome capacity, Environmental issues, etc.). Therefore, no specific measure is required.

4. ATFM Slot Adherence



On average, these airports showed a 95,7% adherence to ATFM slots, similar to the performance in 2022 (95.6%). With regard to the 4.3% of flights that did not adhere, 2.9% was early and 1.4% was late.
According to the Swiss monitoring report:
National level and main national individual airports involved are above the 80% threshold of compliance and is close to 2022 achievement.

5. ATC Pre-departure Delay

The performance at both Swiss airports in terms of ATC pre-departure delay deteriorated in 2023. At Zurich (LSZH; 2019: 1.63 min/dep.; 2020: 0.52 min/dep.; 2021: 0.39 min/dep.; 2022: 0.71 min/dep.; 2023: 1.13 min/dep.) it was still better than in 2019.
At Geneva (LSGG: 2019: 0.36 min/dep.; 2022: 0.32 min/dep.; 2023: 0.52 min/dep.) on the other hand, performance is worse than in 2019.

According to the Swiss monitoring report: *2023 actual performance is worse than 2022 (and 2021 or 2020), which is fully in line with the traffic increase at both airports. Traffic increased by 15% in 2023 vs 2022 at Zurich Airport and by 7% at Geneva Airport, but traffic levels remained lower than 2019, however, traffic predictability and traffic volatility were 2 factors playing a key role in generating delay at departure. No particular issues have been identified and no specific measures have been implemented in 2023 in relation to this PI.*

6. All Causes Pre-departure Delay

The total (all causes) delay in the actual off block time at both Geneva and Zurich increased again in 2023 (LSZH: 2020: 7.55 min/dep.; 2021: 9.66 min/dep.;2022: 15.82 min/dep.; 2023: 19.85 min/dep.; LSGG: 2020: 8.46 min/dep.; 2021: 9.03 min/dep.; 2022: 15.12 min/dep.; 2023: 16.42 min/dep.).

According to the Swiss monitoring report: *With the increase of traffic at airports (+15% at LSZH and +6% at LSGG), the indicator 'average time of all cause departure delay per flight' deteriorated in 2023 compared with 2022. At ANSP level, we are not in a position to explain all delays reasons, and more particularly the non-ATFM delays.*

7. Appendix

n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport Name	Avg arrival ATFM delay					Slot adherence					ATC pre-departure delay					All Causes Pre-departure Delay				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Geneva-LSGG	0.49	0.19	0.48	0.59		94.7%	93.1%	94.0%	93.8%		n/a	n/a	0.32	0.52		8.46	9.03	15.12	16.42	
Zurich-LSZH	0.6	0.51	0.93	2.12		94.4%	96.0%	96.7%	97.0%		52.0%	39.0%	71.0%	113.0%		7.55	9.66	15.82	19.85	

SWITZERLAND: En route charging zone

Monitoring of en route COST-EFFICIENCY for 2023

1. Contextual economic information: en route air navigation services

- Switzerland ECZ represents 3.0% of the SES en route ANS actual costs in 2023
- National currency: CHF Exchange rates (1 EUR=) 2017: 1.11124 CHF 2023: 0.971299 CHF
- Performance Plan: RP3 draft performance plan dated 04 November 2022 and found consistent as per Commission Decision (EU) 2023/178 of 14 December 2022
  The final version of the plan was adopted and published by Switzerland in accordance with Article 16 (a) of Regulation (EU) 2019/317

2. Monitoring of the en route determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. En route actual unit cost (AUC) vs. en route determined unit cost (DUC)

Switzerland: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
En route costs (nominal CHF)	161 562 792	188 122 841	349 685 633	185 025 300	178 132 412	177 797 629
Inflation %	0.0%	0.1%		0.3%	0.8%	0.9%
Inflation index (100 in 2017)	101.3	101.4		101.7	102.5	103.4
Real en route costs (CHF2017)	160 013 873	186 104 662	346 118 535	182 630 797	174 728 056	173 137 254
Total en route service units	650 488	879 000	1 529 488	1 593 957	1 688 954	1 810 951
Real en route DUC per service unit (CHF2017)	**245.99**	**211.72**	**226.30**	**114.58**	**103.45**	**95.61**
Real en route DUC per service unit (€2017)	**221.37**	**190.53**	**203.64**	**103.11**	**93.10**	**86.04**

Switzerland: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
En route costs (nominal CHF)	184 908 005	174 890 014	359 798 018	187 151 456	213 597 245	
Inflation %	0.0%	0.5%		2.7%	2.3%	
Inflation index (100 in 2017)	101.3	101.8		104.6	107.0	
Real en route costs (CHF2017)	183 058 673	172 471 948	355 530 622	180 631 817	202 239 714	
Total en route service units	650 488	897 288	1 547 776	1 544 718	1 594 656	
Real en route AUC per service unit (CHF2017)	**281.42**	**192.21**	**229.70**	**116.94**	**126.82**	
Real en route AUC per service unit (€2017)	**253.25**	**172.97**	**206.71**	**105.23**	**114.13**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
En route costs (nominal CHF)	in value	23 345 213	-13 232 828	10 112 385	2 126 156	35 464 832	
	in %	+14.4%	-7.0%	+2.9%	+1.1%	+19.9%	
Inflation %	in p.p.	0.0 p.p.	0.4 p.p.		2.4 p.p.	1.5 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.4 p.p.		2.9 p.p.	4.5 p.p.	
Real en route costs (CHF2017)	in value	23 044 801	-13 632 714	9 412 086	-1 998 980	27 511 658	
	in %	+14.4%	-7.3%	+2.7%	-1.1%	+15.7%	
Total en route service units	in value	0	18 288	18 288	-49 239	-94 298	
	in %	-	+2.1%	+1.2%	-3.1%	-5.6%	
Real en route unit cost per service unit (CHF2017)	**in value**	**35.43**	**-19.51**	**3.41**	**2.36**	**23.37**	
	in %	**+14.4%**	**-9.2%**	**+1.5%**	**+2.1%**	**+22.6%**	
Real en route unit cost per service unit (€2017)	**in value**	**31.88**	**-17.56**	**3.07**	**2.12**	**21.03**	
	in %	**+14.40%**	**-9.2%**	**+1.5%**	**+2.1%**	**+22.6%**	

4. Focus on en route DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the en route AUC was +22.6% (or +23.37 CHF2017, +21.03 €2017) higher than the planned DUC. This results from the combination of significantly higher than planned en route costs in real terms (+15.7%, or +27.5 MCHF2017, +24.8 M€2017) and significantly lower than planned TSUs (-5.6%).

En route service units

The difference between actual and planned TSUs (-5.6%) falls outside the ±2% dead band, but does not exceed the ±10% threshold. The resulting loss of revenue is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

En route costs by entity

Actual real en route costs are +15.7% (+24.8 M€2017) higher than planned. This is the result of higher costs for the main ANSP, Skyguide (+18.0%, or +24.8 M€2017) and the MET service provider (+1.3%, or +0.1 M€2017), while the NSA/EUROCONTROL costs are lower (-1.0%, or -0.1 M€2017) than planned.

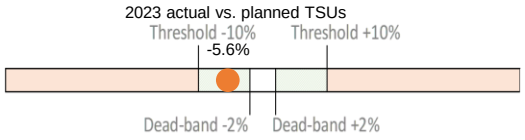
En route costs for the main ANSP (Skyguide) at charging zone level

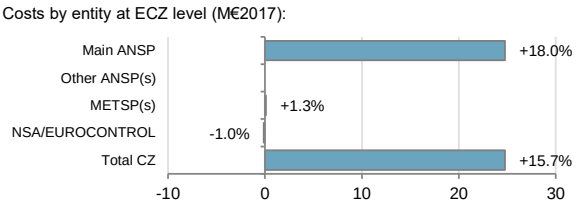
Significantly higher than planned en route costs in real terms for Skyguide in 2023 (+18.0%, or +24.8 M€2017). However, the differences by nature of costs are distorted by two factors:

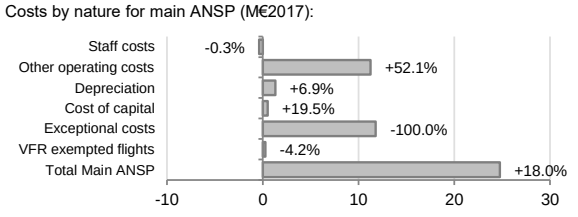
a) The overall reported costs in each cost item are netted by the financing of the services provided by Skyguide outside the Swiss FIR;

b) Skyguide's costs include significant amounts linked to the additional costs caused by the change in the capitalisation rule in 2023 (+11.8 M€2017). However, in order for this amount not to be billed to airspace users, it has also been reported as negative exceptional item in the determined costs, but not in the actual costs (-100% of negative exceptional costs, or +11.8 M€2017). Other desviations result from:

- Slightly lower staff costs (-0.3%);
- Significantly higher other operating costs (+52.1%), due to higher purchased services and products than planned, primarily due to Skyguide's response to a 22% increase in technical incidents over the last three years.
- Significantly higher depreciation (+6.9%);
- Significantly higher cost of capital (+19.5%).







SWITZERLAND: En route charging zone

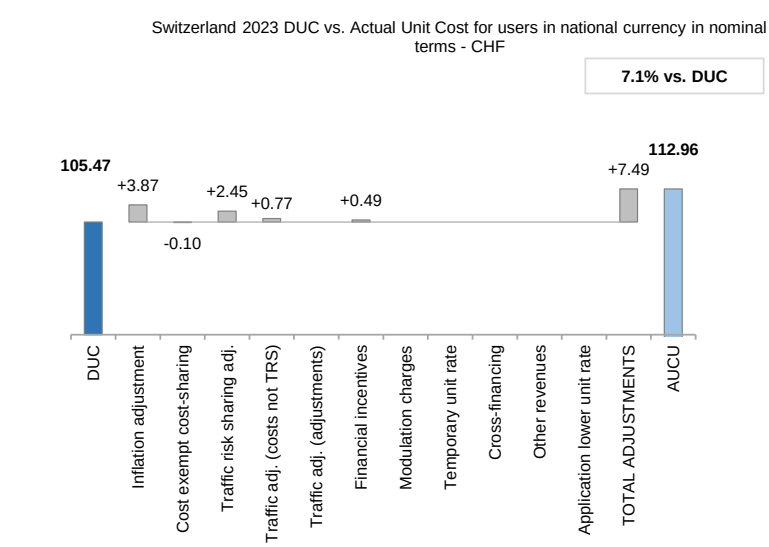
Monitoring of en route COST-EFFICIENCY for 2023

5. Monitoring of the en route actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. En route actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	CHF/SU	€/SU
Initial DUC charged	105.47	108.59
DUC to be charged retroactively	0.00	0.00
DUC	**105.47**	**108.59**
Inflation adjustment	3.87	3.98
Cost exempt from cost-sharing	-0.10	-0.10
Traffic risk sharing adjustment	2.45	2.53
Traffic adj. (costs not TRS)	0.77	0.79
Traffic adj. (adjustments)*		
Financial incentives	0.49	0.50
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	0.00	0.00
Application of lower unit rate	0.00	0.00
Total adjustments	7.49	7.71
AUCU	**112.96**	**116.29**
AUCU vs. DUC	**+7.1%**	**+7.1%**

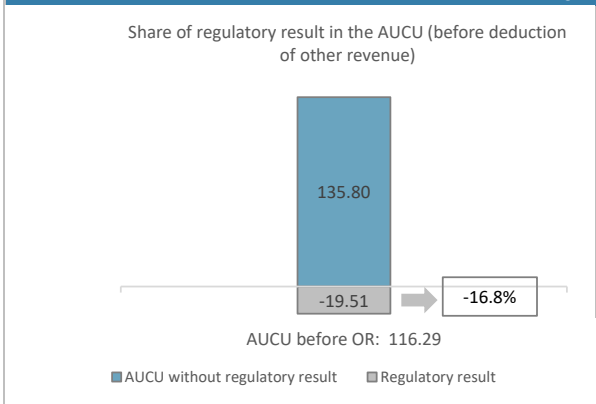
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. En route costs exempt from cost sharing

		CHF '000	€ '000	CHF/SU	€/SU
by item	New and existing investments	-25	-26	-0.02	-0.02
	Competent authorities and qualified entities costs	0	0	0.00	0.00
	Eurocontrol costs	-129	-132	-0.08	-0.08
	Pension costs	0	0	0.00	0.00
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-154**	**-159**	**-0.10**	**-0.10**

Source: These data are taken from the June 2024 en route Reporting Tables (for Eurocontrol costs and costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. En route regulatory result at charging zone level



ANSP(S)	CHF '000	€ '000	CHF/SU	€/SU
Skyguide	-30 079	-30 968	-18.86	-19.42
METSP(s)	**CHF '000**	**€ '000**	**CHF/SU**	**€/SU**
Switzerland MET	-147	-152	-0.09	-0.10
Total charging zone	-30 226	-31 119	-18.95	-19.51
Actual cost for users* **	180 127	185 449	112.96	116.29
Regulatory result (% AUCU)	-16.8%	-16.8%	-16.8%	-16.8%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on en route AUCU monitoring at charging zone level

The actual en route unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (112.96 CHF or 116.29 €) is +7.1% higher than the nominal DUC (105.47 CHF or 108.59 €). The difference between these two figures (+7.49 CHF/SU or +7.71 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+3.87 CHF/SU or +3.98 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-0.10 CHF/SU or -0.10 €/SU);
- the addition of the traffic risk sharing adjustments (+2.45 CHF/SU or +2.53 €/SU);
- the addition of the traffic adjustment (+0.77 CHF/SU or +0.79 €/SU) for the costs not subject to traffic risk sharing; and
- financial incentives (+0.49 CHF/SU or +0.50 €/SU).

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is -16.8%.

SWITZERLAND: En route main ANSP (Skyguide) Monitoring of en route COST-EFFICIENCY for 2023

10. Monitoring of the en route ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: Ex-post RR does not take into account the application of lower unit rates as per Art. 29.6 in 2022 (loss in revenues for Skyguide corresponds to -5.3 MCHF).

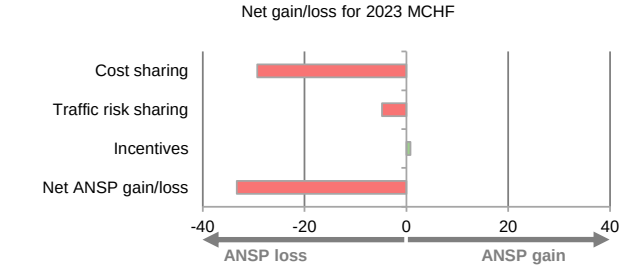
11. Net gain/loss for the main ANSP for the en route activity at charging zone level

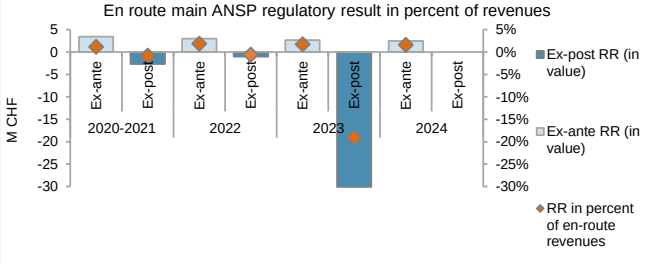
Cost sharing (CHF '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	-10 309	-755	-35 088	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	604	3 868	5 784	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-215	-3 071	0	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**-9 920**	**42**	**-29 304**	
Traffic risk sharing (CHF '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	1.2%	-3.1%	-5.6%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	309 093	163 252	156 079	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**3 696**	**-3 798**	**-4 799**	
Incentives (CHF '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**780**	
Net ANSP gain(+)/loss(-) on en route activity (CHF '000)	**-6 224**	**-3 756**	**-33 323**	
Net ANSP gain(+)/loss(-) on en route activity (€ '000)	**-5 759**	**-3 738**	**-34 308**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Skyguide planned regulatory result (CHF '000) from RP3 PP	2020D	2021D	2020-2021D	2022D	2023D	2024D
Total asset base	147 653	130 663	278 316	130 292	116 062	105 902
Proportion of financing through equity (in %)	47%	22%	35%	18%	23%	29%
RoE pre-tax rate (in %)	2.8%	5.1%	3.5%	12.9%	9.9%	8.1%
RoE (in value)	1 939	1 500	3 439	2 968	2 661	2 443
Ex-ante regulatory result (+/-) for the en route charging zone	**1 939**	**1 500**	**3 439**	**2 968**	**2 661**	**2 443**
Revenue for the en route charging zone	**141 816**	**167 277**	**309 093**	**163 252**	**156 079**	**155 395**
Ex-ante regulatory result (+/-) in percent of revenues	**1.4%**	**0.9%**	**1.1%**	**1.8%**	**1.7%**	**1.6%**
Ex-ante RoE pre-tax rate (in %)	**2.8%**	**5.1%**	**3.5%**	**12.9%**	**9.9%**	**8.1%**
Skyguide actual regulatory result (CHF '000)	**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Total asset base	147 653	126 571	274 224	118 692	138 679	
Proportion of financing through equity (in %)	47%	33%	40%	35%	40%	
RoE pre-tax rate (in %)	2.8%	3.8%	3.2%	6.6%	5.8%	
RoE (in value)	1 939	1 606	3 545	2 760	3 244	
Net ANSP gain(+)/loss(-) for the en route charging zone	0	-6 224	-6 224	-3 756	-33 323	
Ex-post regulatory result (+/-) for the en route charging zone (see Note 1)	**1 939**	**-4 619**	**-2 679**	**-996**	**-30 079**	
Revenue for the en route charging zone	**165 162**	**148 017**	**313 178**	**160 251**	**157 843**	
Ex-post regulatory result (+/-) in percent of revenues (see Note 1)	**1.2%**	**-3.1%**	**-0.9%**	**-0.6%**	**-19.1%**	
Ex-post RoE pre-tax rate (in %)	**2.8%**	**-11.1%**	**-2.4%**	**-2.4%**	**-54.1%**	

13. Focus on the main ANSP regulatory result on en route activity





Skyguide net gain on activity in the Switzerland en route charging zone in the year 2023

Skyguide reported a net loss of -33.3 MCHF, as a combination of a loss of -29.3 MCHF arising from the cost sharing mechanism, with a loss of -4.8 MCHF arising from the traffic risk sharing mechanism and a gain of +0.8 MCHF relating to financial incentives.

Skyguide overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net loss from the en route activity mentioned above (-33.3 MCHF) and the actual RoE (+3.2 MCHF) amounts to -30.1 MCHF (-19.1% of the en route revenues). The resulting ex-post rate of return on equity is -54.1%.

SWITZERLAND: Other en route ANSPs/METSPs

Monitoring of en route COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for en route activity							
Switzerland MET planned regulatory result (CHF '000)		**2020D**	**2021D**	**2020-2021D**	**2022D**	**2023D**	**2024D**
Ex-ante regulatory result (+/-) for the en route charging zone		**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the en route charging zone		**8 475**	**8 476**	**16 951**	**8 977**	**8 977**	**8 977**
Ex-ante regulatory result (+/-) in percent of revenues		**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	
Switzerland MET actual regulatory result (CHF '000)		**2020A**	**2021A**	**2020-2021A**	**2022A**	**2023A**	**2024A**
Ex-post regulatory result (+/-) for the en route charging zone		**0**	**57**	**57**	**-250**	**-147**	
Revenue for the en route charging zone		**8 475**	**8 511**	**16 986**	**9 225**	**9 335**	
Ex-post regulatory result (+/-) in percent of revenues		**0.0%**	**0.7%**	**0.3%**	**-2.7%**	**-1.6%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**		

Total other ANSP overall regulatory results (RR) for the en route activity

Ex-post, the overall RR for the other ANSPs in the en route charging zone for Switzerland (Meteosuisse) corresponds to -1.6% of the en route revenues. The RoE cannot be calculated for Meteosuisse, as it does not report equity.

SWITZERLAND: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2023

1. Contextual economic information: terminal air navigation services

- Switzerland TCZ represents 8.5% of the SES terminal ANS actual costs in 2023
- Number of airports in charging zone in 2023: 2 of which:
  - Airports with fewer than 80,000 IFR mvmts: 0
  - Airports with more than 80,000 IFR mvmts: 2
- National currency: CHF Exchange rates (1 EUR=) 2017: 1.11124 CHF 2023: 0.971299 CHF
- Performance Plan: See item 1 for the en route charging zone(s).

2. Monitoring of the terminal determined unit cost (DUC) at charging zone level

The **Determined Unit Cost (DUC)** is the cost per service unit, at which the service is planned to be provided during the year. The **Actual Unit Cost (AUC)** reflects the cost per service unit, at which the service has actually been provided during the year.

The monitoring of the DUC / AUC is carried out in national currency in real terms, at 2017 prices.

3. Terminal actual unit cost (AUC) vs. terminal determined unit cost (DUC)

Switzerland: Data from RP3 Performance Plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Terminal costs (nominal CHF)	99 524 185	109 930 021	209 454 206	105 207 116	104 121 837	105 326 817
Inflation %	0.0%	0.1%		0.3%	0.8%	0.9%
Inflation index (100 in 2017)	101.3	101.4		101.7	102.5	103.4
Real terminal costs (CHF2017)	98 540 501	108 730 912	207 271 413	103 867 436	102 170 228	102 622 408
Total terminal service units	111 807	128 000	239 807	245 791	267 772	279 762
Real terminal DUC per service unit (CHF2017)	**881.34**	**849.46**	**864.32**	**422.59**	**381.56**	**366.82**
Real terminal DUC per service unit (€2017)	**793.11**	**764.43**	**777.80**	**380.28**	**343.36**	**330.10**

Switzerland: Actual data from Reporting Tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Terminal costs (nominal CHF)	99 524 185	101 058 818	200 583 003	98 227 665	123 104 126	
Inflation %	0.0%	0.5%		2.7%	2.3%	
Inflation index (100 in 2017)	101.3	101.8		104.6	107.0	
Real terminal costs (CHF2017)	98 540 501	99 651 423	198 191 924	94 932 284	116 578 314	
Total terminal service units	111 807	128 412	240 219	229 487	266 428	
Real terminal AUC per service unit (CHF2017)	**881.34**	**776.03**	**825.05**	**413.67**	**437.56**	
Real terminal AUC per service unit (€2017)	**793.11**	**698.35**	**742.45**	**372.26**	**393.76**	

Difference between Actuals and Planned		2020	2021	2020-2021	2022	2023	2024
Terminal costs (nominal CHF)	in value	0	-8 871 203	-8 871 203	-6 979 451	18 982 289	
	in %	-	-8.1%	-4.2%	-6.6%	+18.2%	
Inflation %	in p.p.	0.0 p.p.	0.4 p.p.		2.4 p.p.	1.5 p.p.	
Inflation index (100 in 2017)	in p.p.	0.0 p.p.	0.4 p.p.		2.9 p.p.	4.5 p.p.	
Real terminal costs (CHF2017)	in value	0	-9 079 489	-9 079 489	-8 935 152	14 408 086	
	in %	-	-8.4%	-4.4%	-8.6%	+14.1%	
Total terminal service units	in value	0	412	412	-16 304	-1 344	
	in %	-	+0.3%	+0.2%	-6.6%	-0.5%	
Real terminal unit cost per service unit (CHF2017)	**in value**	**0.00**	**-73.43**	**-39.28**	**-8.91**	**56.00**	
	in %	**-**	**-8.6%**	**-4.5%**	**-2.1%**	**+14.7%**	
Real terminal unit cost per service unit (€2017)	**in value**	**0.00**	**-66.08**	**-35.35**	**-8.02**	**50.40**	
	in %	**-**	**-8.6%**	**-4.5%**	**-2.1%**	**+14.7%**	

4. Focus on terminal DUC monitoring at charging zone level

AUC vs. DUC

In 2023, the terminal AUC was +14.7% (or +56 CHF2017, +50.4 €2017) higher than the planned DUC. This results from the combination of significantly higher than planned terminal costs in real terms (+14.1%, or +14.4 MCHF2017, +13.0 M€2017) and slightly lower than planned TNSUs (-0.5%).

Terminal service units

The difference between actual and planned TNSUs (-0.5%) falls inside the ±2% dead band. Hence loss of terminal revenues is borne by the ANSPs (see items 10 to 14).

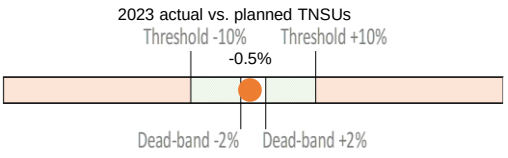
Terminal costs by entity

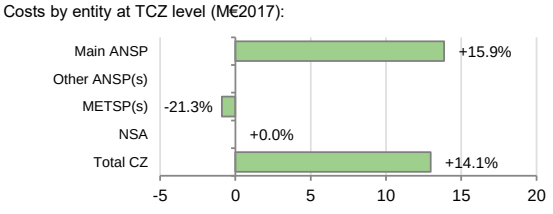
Actual real terminal costs are +14.1% (+13.0 M€2017) higher than planned. This is the result of higher costs for the main ANSP, Skyguide (+15.9%, or +13.9 M€2017) and lower costs for the MET service provider (-21.3%, or -0.9 M€2017).

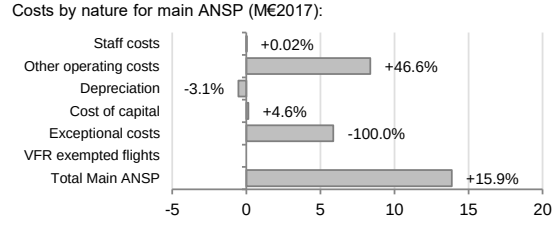
Terminal costs for the main ANSP (Skyguide) at charging zone level

Significantly higher than planned terminal costs in real terms for Skyguide in 2023 (+15.9%, or +13.9 M€2017). However, the differences by nature of costs are distorted by the fact that the Skyguide's costs include significant amounts linked to the additional costs caused by the change in the capitalisation rule in 2023 (+5.9 M€2017). However, in order for this amount not to be billed to airspace users, it has also been reported as negative exceptional item in the determined costs, but not in the actual costs (-100% of negative exceptional costs, or +5.9 M€2017). Other deviations result from:

- Significantly higher other operating costs (+46.6%),due to higher purchased services and products than planned, primarily due to Skyguide's response to a 22% increase in technical incidents over the last three years. In the short term, Skyguide increased spending to enhance technical systems. Additionally, Skyguide faces compliance issues and substantial backlog in various areas, including technical systems and infrastructure, necessitating additional costs;
- Lower depreciation (-3.1%); and,
- Higher cost of capital (+4.6%), mainly due to a higher fixed asset base and equity ratio;







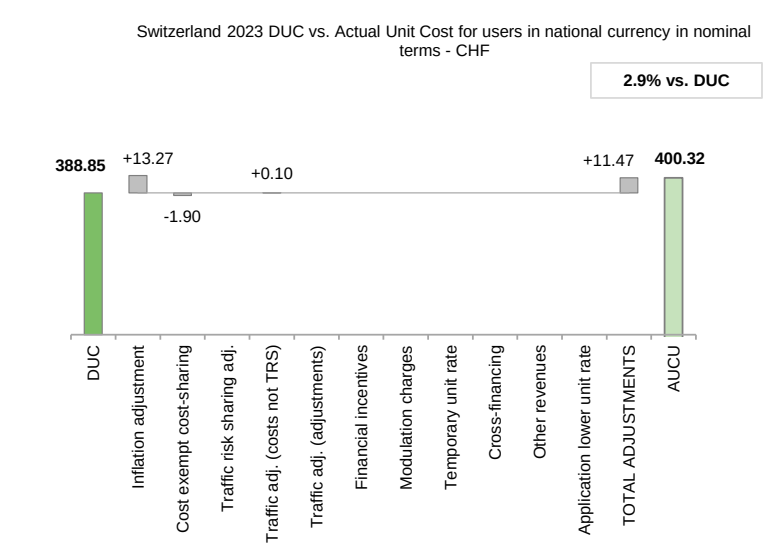
SWITZERLAND: Terminal charging zone — Monitoring of terminal COST-EFFICIENCY for 2023

5. Monitoring of the terminal actual unit cost for users (AUCU) at charging zone level

The **Actual Unit Cost for Users (AUCU)** reflects the price per service unit that is charged *in fine* to users for the services provided in the year. It corresponds to the sum of the DUC for the year and of the different adjustments stemming from that year.

The monitoring of the AUCU is carried out in national currency in nominal terms.

6. Terminal actual unit cost for users (AUCU) at charging zone level



Components of the AUCU	CHF/SU	€/SU
Initial DUC charged	388.85	400.34
DUC to be charged retroactively	0.00	0.00
DUC	**388.85**	**400.34**
Inflation adjustment	13.27	13.66
Cost exempt from cost-sharing	-1.90	-1.96
Traffic risk sharing adjustment	0.00	0.00
Traffic adj. (costs not TRS)	0.10	0.10
Traffic adj. (adjustments)*		
Financial incentives	0.00	0.00
Modulation of charges	0.00	0.00
Temporary UR**		
Cross-financing	0.00	0.00
Other revenues	0.00	0.00
Application of lower unit rate	0.00	0.00
Total adjustments	11.47	11.81
AUCU	**400.32**	**412.14**
AUCU vs. DUC	**2.9%**	**2.9%**

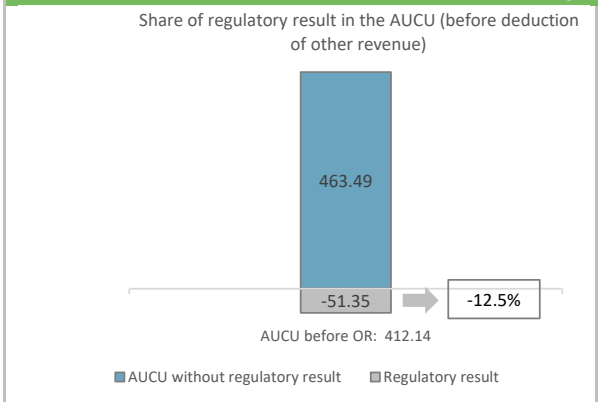
* The traffic adjustment on adjustments is not considered to avoid double counting, as the related adjustments have already been taken into account in full in the AUCU for the current year or previous years.
** The difference in revenue due to the application of the temporary unit rates in 2023, if applicable, is already reflected in the DUC (part to be charged retroactively) and is therefore not considered in the total adjustments, in order to avoid double counting.

7. Terminal costs exempt from cost sharing

		CHF '000	€ '000	CHF/SU	€/SU
by item	New and existing investments	-506	-521	-1.90	-1.96
	Competent authorities and qualified entities costs	0	0	0.00	0.00
	Eurocontrol costs	0	0	0.00	0.00
	Pension costs	0	0	0.00	0.00
	Interest on loans	0	0	0.00	0.00
	Changes in law	0	0	0.00	0.00
Total costs exempt from cost sharing		**-506**	**-521**	**-1.90**	**-1.96**

Source: These data are taken from the June 2024 terminal Reporting Tables (for costs of competent authorities and qualified entities) and from the "NSA Report on the verification of cost risk sharing for the year 2023" submitted in accordance with Article 28 (7) of Regulation (EU) 2019/317 (for ANSPs costs).

8. Terminal regulatory result at charging zone level



ANSP(S)	CHF '000	€ '000	CHF/SU	€/SU
Skyguide	-14 300	-14 723	-53.67	-55.26
METSP(s)	**CHF '000**	**€ '000**	**CHF/SU**	**€/SU**
Switzerland-MET	1 011	1 041	3.80	3.91
Total charging zone	-13 289	-13 682	-49.88	-51.35
Actual cost for users* **	106 655	109 807	400.32	412.14
Regulatory result (% AUCU)	-12.5%	-12.5%	-12.5%	-12.5%

*** before deduction of other revenues, as is the case for the regulatory results (see items 10 to 14)

9. Focus on terminal AUCU monitoring at charging zone level

The actual terminal unit cost incurred by airspace users (AUCU) in respect of activities performed in 2023 (400.32 CHF or 412.14 €) is +2.9% higher than the nominal DUC (388.85 CHF or 400.34 €). The difference between these two figures (+11.47 CHF/SU or +11.81 €/SU) is due to:
- the positive inflation adjustment resulting from higher than planned inflation (+13.27 CHF/SU or +13.66 €/SU);
- the impact of adjustments resulting from the costs exempted from cost-sharing mechanism (-1.90 CHF/SU or -1.96 €/SU); and
- the addition of the traffic adjustment (+0.10 CHF/SU or +0.10 €/SU) for the costs not subject to traffic risk sharing.

The share of the regulatory result (see items 10 to 14) in the AUCU (before the deduction of other revenues) is -12.5%.

SWITZERLAND: Terminal main ANSP (Skyguide) Monitoring of terminal COST-EFFICIENCY for 2023

10. Monitoring of the terminal ANSPs regulatory results (RR)

The **Regulatory Result (RR)** corresponds to the revenues generated by the activities of the year, that exceed the direct and indirect operating costs of an ANSP, and so provide for a reasonable return on assets to contribute towards necessary capital improvements. The notion of RR focuses on the ANSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ANSPs financial statements. Also, it does not take into account any opportunity cost.
The RR, when expressed in percentage of the revenues, can be associated to a "margin" generated by the ANSP with respect to the activity of the year, but it is not comparable to the margin that would be calculated straight from ANSPs financial statements.
- Ex-ante, the RR is equal to the RoE (in value) included in the determined cost of capital.
- Ex-post, the RR is the sum of the RoE (in value) in the actual cost of capital and the net gain/loss resulting from risk sharing and incentives generated from that year.

The **net gain/loss** calculated in box 11 results from the combination of three distinct items: a) the outcome of the cost-sharing mechanism to be retained by the ANSP (including the impact of costs exempted from cost-sharing and of the inflation adjustment); b) the outcome of the traffic risk sharing mechanism; and c) the outcome of the financial incentive mechanism for capacity and environment targets.
The monitoring of the RR is carried out in national currency in nominal terms.

Note 1: Ex-post RR does not take into account the application of lower unit rates as per Art. 29.6 in 2022 (loss in revenues for Skyguide corresponds to -0.8 MCHF).

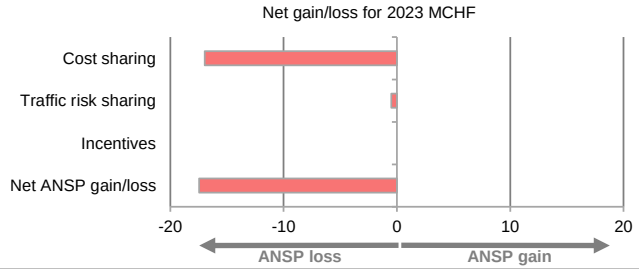
11. Net gain/loss for the main ANSP for the terminal activity at charging zone level

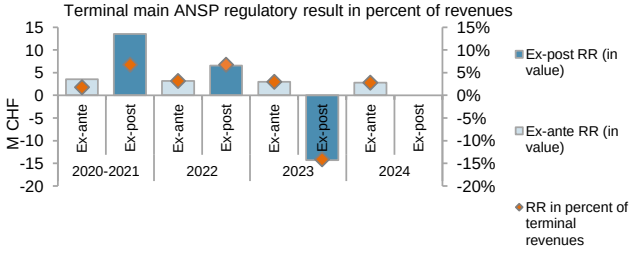
Cost sharing (CHF '000)	2020-2021	2022	2023	2024
Difference in costs: gain (+)/Loss (-) retained/borne by the ANSP	8 887	6 113	-19 846	
Inflation adjustment to be recovered from (+) or reimbursed to (-) users	361	2 170	3 330	
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	408	-1 290	-449	
Gain (+)/Loss (-) to be retained by the ANSP in respect of cost sharing	**9 656**	**6 994**	**-16 964**	
Traffic risk sharing (CHF '000)	**2020-2021**	**2022**	**2023**	**2024**
Difference in total service units (actual vs PP) %	0.2%	-6.6%	-0.5%	
Determined costs subject to traffic risk sharing for the ANSP (PP)	199 482	99 876	98 791	
Gain (+)/Loss (-) to be retained by the ANSP in respect of traffic risk sharing	**343**	**-3 386**	**-496**	
Incentives (CHF '000)	**2020-2021**	**2022**	**2023**	**2024**
Gain (+)/Loss (-) to be retained by the ANSP in respect of incentives (bonus/penalty)	**0**	**0**	**0**	
Net ANSP gain(+)/loss(-) on terminal activity (CHF '000)	**9 999**	**3 608**	**-17 460**	
Net ANSP gain(+)/loss(-) on terminal activity (€ '000)	**9 251**	**3 590**	**-17 976**	

12. Regulatory result (RR) for the main ANSP at charging zone level

Skyguide planned regulatory result (CHF '000) from RP3 PP	2020	2021	2020-2021D	2022	2023	2024
Total asset base	142 645	143 487	286 132	138 028	129 237	120 278
Proportion of financing through equity (in %)	47%	22%	35%	18%	23%	29%
RoE pre-tax rate (in %)	2.8%	5.1%	3.6%	12.9%	9.9%	8.1%
RoE (in value)	1 874	1 647	3 521	3 144	2 963	2 775
Ex-ante regulatory result (+/-) for the terminal charging zone	**1 874**	**1 647**	**3 521**	**3 144**	**2 963**	**2 775**
Revenue for the terminal charging zone	**94 537**	**104 944**	**199 482**	**99 876**	**98 791**	**99 996**
Ex-ante regulatory result (+/-) in percent of revenues	**2.0%**	**1.6%**	**1.8%**	**3.1%**	**3.0%**	**2.8%**
Ex-ante RoE pre-tax rate (in %)	**2.8%**	**5.1%**	**3.6%**	**12.9%**	**9.9%**	**8.1%**
Skyguide actual regulatory result (CHF '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Total asset base	142 645	131 200	273 845	127 135	135 151	
Proportion of financing through equity (in %)	47%	33%	40%	35%	40%	
RoE pre-tax rate (in %)	2.8%	3.8%	3.2%	6.6%	5.8%	
RoE (in value)	1 874	1 664	3 538	2 956	3 160	
Net ANSP gain(+)/loss(-) for the terminal charging zone	0	9 999	9 999	3 608	-17 460	
Ex-post regulatory result (+/-) for the terminal charging zone (see Note 1)	**1 874**	**11 663**	**13 537**	**6 564**	**-14 300**	
Revenue for the terminal charging zone	**94 537**	**106 056**	**200 593**	**97 371**	**101 176**	
Ex-post regulatory result (+/-) in percent of revenues (see Note 1)	**2.0%**	**11.0%**	**6.7%**	**6.7%**	**-14.1%**	
Ex-post RoE pre-tax rate (in %)	**2.8%**	**26.9%**	**12.3%**	**14.6%**	**-26.4%**	

13. Focus on main ANSP regulatory result on terminal activity





Skyguide net gain on activity in the Switzerland terminal charging zone in the year 2023

Skyguide reported a net loss of -17.5 MCHF, as a combination of a loss of -17.0 MCHF arising from the cost sharing mechanism, with a loss of -0.5 MCHF arising from the traffic risk sharing mechanism.

Skyguide overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-17.5 MCHF) and the actual RoE (+3.2 MCHF) amounts to -14.3 MCHF (-14.1% of the terminal revenues). The resulting ex-post rate of return on equity is -26.4%.

SWITZERLAND: Other terminal ANSPs/METSPs

Monitoring of terminal COST-EFFICIENCY for 2023

14. Other ANSP(s) / METSP(s) regulatory results for terminal activity						
Switzerland-MET planned regulatory result (CHF '000)	**2020**	**2021**	**2020-2021D**	**2022**	**2023**	**2024**
Ex-ante regulatory result (+/-) for the terminal charging zone	**0**	**0**	**0**	**0**	**0**	**0**
Revenue for the terminal charging zone	**4 554**	**4 554**	**9 108**	**4 824**	**4 824**	**4 824**
Ex-ante regulatory result (+/-) in percent of revenues	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**	**0.0%**
Ex-ante RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**
Switzerland-MET actual regulatory result (CHF '000)	**2020**	**2021**	**2020-2021A**	**2022**	**2023**	**2024**
Ex-post regulatory result (+/-) for the terminal charging zone	**0**	**3**	**3**	**975**	**1 011**	
Revenue for the terminal charging zone	**4 554**	**4 573**	**9 127**	**4 932**	**4 972**	
Ex-post regulatory result (+/-) in percent of revenues	**0.0%**	**0.1%**	**0.0%**	**19.8%**	**20.3%**	
Ex-post RoE pre-tax rate (in %)	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	

Total other ANSP overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR for the other ANSPs in the terminal charging zone for Switzerland (Meteosuisse) corresponds to 20.3% of the terminal revenues. The RoE cannot be calculated for Meteosuisse, as it does not report equity.

SWITZERLAND: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2023

1. Monitoring of gate-to-gate ANS costs

Charging zones concerned:

En route charging zone 1: Switzerland

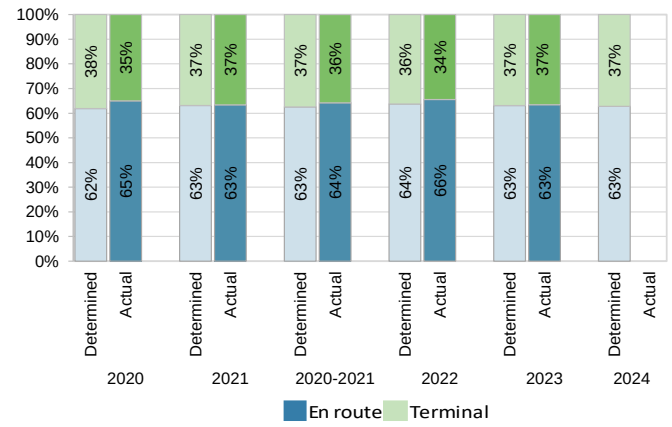
Terminal charging zone 1: Switzerland

Switzerland: data from RP3 performance plan	2020D	2021D	2020-2021D	2022D	2023D	2024D
Real en route costs (€2017)	143 995 782	167 474 769	311 470 551	164 348 653	157 237 011	155 805 455
Real terminal costs (€2017)	88 676 165	97 846 470	186 522 635	93 469 850	91 942 540	92 349 455
Real gate-to-gate costs (€2017)	232 671 946	265 321 239	497 993 186	257 818 503	249 179 551	248 154 910
En route share (%)	61.9%	63.1%	62.5%	63.7%	63.1%	62.8%

Switzerland: actual data from reporting tables	2020A	2021A	2020-2021A	2022A	2023A	2024A
Real en route costs (€2017)	164 733 697	155 206 749	319 940 446	162 549 780	181 994 631	
Real terminal costs (€2017)	88 676 165	89 675 878	178 352 043	85 429 146	104 908 313	
Real gate-to-gate costs (€2017)	253 409 861	244 882 628	498 292 489	247 978 925	286 902 944	
En route share (%)	65.0%	63.4%	64.2%	65.5%	63.4%	

Difference between actuals and planned (actuals vs. PP)		2020	2021	2020-2021	2022	2023	2024
Real gate-to-gate costs (€2017)	in value	20 737 915	-20 438 612	299 303	-9 839 578	37 723 394	
	in %	8.9%	-7.7%	0.1%	-3.8%	15.1%	
En route share	in p.p.	3.1 p.p.	0.3 p.p.	1.7 p.p.	1.8 p.p.	0.3 p.p.	

2. Share of en route and terminal in gate-to-gate actual costs (2023)



In 2023, actual gate-to-gate ANS costs are +15.1% (+37.7 M€2017) higher than planned, as en route costs are higher than planned by +24.8 M€2017 and terminal costs are higher than planned by +13.0 M€2017.

The actual share of en route in gate-to-gate ANS costs (63.4%) is slightly higher than planned in the PP for 2023 (63.1%).

3. Gate-to-gate regulatory result (RR) 2023

In CHF '000	Ex-ante				Ex-post			
ANSP(S)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Skyguide	5 623	254 870	2.2%		-44 379	259 020	-17.1%	
METSP(s)	**RR**	**Revenues**	**RR % revenues**		**RR**	**Revenues**	**RR % revenues**	
Switzerland MET	0	13 800	0.0%		864	14 307	6.0%	
Total	**5 623**	**268 670**	**2.1%**		**-43 515**	**273 327**	**-15.9%**	

For the ANSPs providing services in the en route and terminal charging zones of Switzerland covered by the SES performance scheme, the ex-post gate-to-gate regulatory result in 2023 amounts to -43.5 MCHF (-30.2 MCHF for en route and -13.3 MCHF for terminal - see boxes 10 to 14 for the detailed analysis at charging zones level), corresponding to -15.9% of gate-to-gate ANS revenues.