

Annual Monitoring Report 2017

Local level View

2.0 Final

Date: 28 September 2018
(post fact-validation)



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1 Introduction

1.1.1 This report complements the Volume I report and presents some more detailed information per State or FAB. This information is structured into four main parts:

- a safety part;
- an en-route capacity part;
- an airport capacity part; and,
- a cost-efficiency part.

1.1.2 The information contained in the first three parts is self-explanatory. However, the PRU considered that the cost-efficiency part deserved a reader's guide to assist stakeholders in the reading and the understanding of PRU's analysis.

1.1.3 This reader's guide is presented in the following section.

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

2.1 Introduction

2.1.1 The objective of this section is to facilitate the understanding of the analysis made in the cost-efficiency monitoring reports at State level.

2.1.2 The source of the data used for on the cost-efficiency monitoring are the June 2018 En-route and Terminal Reporting Tables provided by the states for each CZ.

2.1.3 The analysis is structured into three main parts: en-route, terminal and gate-to-gate ANS cost-efficiency monitoring. 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 (Belgium, Italy, France and Poland) charging zones the framework is replicated for each charging zone.

2.1.4 Graphs, tables and comments are displayed into "boxes", with each box focusing on a particular aspect of the monitoring analysis. Section 2.2 below provides explanations on the content of each box constituting the en-route and the terminal analysis. Section 2.3 presents the content of the gate-to-gate analysis and of the technical notes provided at the end of the report when specific issues need to be documented.

2.2 En-route and terminal ANS analysis

1. En-route (or terminal) contextual economic information

Box 1 presents information on the State's share in SES ANS determined costs in 2017, the name of the main Air Traffic Service Provider (ATSP), FAB membership, national currency and the 2009 exchange rate against the €.

For Terminal Charging Zones (TCZs) box 1 also indicates the number of airports in the TCZ (with a classification per number of air transport movements) and whether the traffic risk sharing applies in the TCZ.

2. En-route (or terminal) DUC monitoring at Charging Zone level

Box 2 identifies whether the actual DUC 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.

It provides transparency on the different steps required to undertake the monitoring of the DUC, showing:

- the planned performance (based on RP2 PP data);
- the actual performance (based on the June 2018 Reporting Tables for the year 2017); 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 2009 prices. Planned and actual inflation indices are also shown in box 3.

3. Focus on en-route (or terminal) at State/Charging Zone level

Box 3 contains graphical summaries (right-hand side) of the differences in costs, traffic, and DUCs for all years of RP2, as well as comments (left-hand side) on the situation observed for the year 2017.

The comments provide an analysis and general conclusions on the 2017 DUC at State/Charging zone level, including:

- Comparison of actual and planned DUC, and if the actual DUC is higher than the planned DUC, comments on whether the NSA Monitoring Report provides specific information on the definition and application of corrective measures designed to rectify the situation.
- 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: whether the 2017 difference between actual and planned traffic falls within the $\pm 2\%$ dead band or the $\pm 10\%$ threshold.
- Comments on which entity is driving the difference between actual and planned costs (excluding ATSPs costs which are analysed in box 12).
- A note on the costs exempted from cost-sharing reported by the State (see box 6).

4. En-route (or terminal) traffic monitoring (Actual 2015-2019 TSUs compared to PP)

Box 4 reviews the traffic situation in the Charging Zone, comparing planned with actual values and showing how the actual trend develops over RP2. It also helps visualise (with error bars) the $\pm 2\%$ dead band and the $\pm 10\%$ threshold of the traffic risk sharing mechanism. This provides an indication on the likelihood of activation of the traffic alert mechanism during RP2.

5. En-route (or terminal) costs monitoring (2017 actuals compared to PP)

Box 5 shows a comparison between the actual and the planned costs by entity at State level and by nature at ATSP level. The comparison is made both in absolute terms (in M€₂₀₀₉) and in %. This helps identify the main elements driving the differences between the actual and the planned costs.

The upper chart shows the situation by entity (ATSP, other ANSPs, METSP, NSA/EUROCONTROL). The ATSP is the "main" ATSP of the State concerned (as identified in box 1). The other ANSPs are the other services providers in the Charging Zone, if any (e.g. MUAC in Germany, Netherlands and Belgium/Luxembourg, ITAF in Italy, etc.).

The bottom chart shows the situation for the main ATSP with a breakdown of cost differences by nature (staff, other operating costs, depreciation, cost of capital, exceptional costs and VFR exempted flights). The chart supports the analysis provided in box 12.

Both charts follow the same logic, on the left side the displayed bars for each element show the difference when the actual costs are lower than the planned and on the right side the higher than the planned. VFR exempted flights costs follow the inverse logic since these costs entail a deduction from the total cost. (e.g. lower actual VFR exempted flights costs involve a lower deduction and consequently an increase effect on the actual total cost compared with the planned)

6. En-route (or terminal) costs exempted from cost-sharing

Box 6 contains a table listing all the costs reported by the State (in the June 2018 Reporting Table) as being exempted from cost-sharing. Costs are listed by item and by entity, (in €₂₀₀₉, using the actual inflation index for 2017 as shown in box 2). 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 recovered from airspace users in future years; if costs are positive, they are to be reimbursed.

These costs will be eligible for carry-over to the following reference period(s) in part or in whole, if

deemed allowed by the European Commission (EC) after verification on the basis of the NSA report establishing and justifying these exemptions.

7. En-route (or terminal) DUC 2017 vs. 2017 unit rate charged to users

Box 7 shows all the adjustments required to calculate the Chargeable Unit Rate (CUR) starting from the DUC (in national currency in nominal terms). The bar on the left-hand side of the chart presents the 2017 DUC, and each bar moving to right shows the contribution (in nominal terms) of each adjustment to reach the 2017 CUR (the last bar on right-hand side). The rationale for the different adjustments is provided below:

- Other revenues: to reflect the fact that in some States “other revenues” (such as commercial revenues or income from grants) are deducted from the DUC to calculate the CUR.
- Inflation adjustment: to reflect the impact of a higher/lower than planned inflation index in the year “N-2”, and the subsequent charging/reimbursement to airspace users in year “N”.
- Traffic risk sharing adjustment: to reflect the gain/loss in revenues due to higher/lower traffic than planned in the year “N-2” which is reimbursed/charged to airspace users in year “N”.
- Traffic adjustment: to reflect the fact that, for the costs not subject to traffic risk sharing, over/under recoveries due to higher/lower traffic than planned in the year “N-2” are fully charged/reimbursed to airspace users in year “N”.
- Bonus/penalty: to reflect the fact that the achievement (or the failure to achieve) capacity and environment targets in year “N-2” triggers the charging of a financial bonus (or penalty) in year “N”.
- Costs exempt from cost-sharing: to reflect the elements of costs incurred by the States in RP1 (when deemed eligible) which are charged/reimbursed to airspace users in 2017.
- Over/under recovery up to 2011: to reflect the fact that over/under recoveries incurred before the introduction of the Performance Scheme are carried-over to 2017.

For the calculation of unit costs in box 7, all cost categories listed above are divided by the forecast TSUs for 2017 as laid out in the PP. Note that both the DUC and the CUR presented in this box are before the addition of the administrative unit rate for the billing and collection of route charges on a regional basis.

The right-hand side of box 7 contains a short comment on the main drivers for the difference between the DUC and the CUR.

8. En-route (or terminal) DUC 2017 vs. 2017 actual unit cost for users

Box 8 shows all the adjustments required to calculate the Actual Unit Cost for airspace Users (AUC-U) for 2017 (also referred to as the “true cost for users”) 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 2017.

The bar on the left-hand side of the chart presents the 2017 DUC and each bar moving to the right shows the contribution (in nominal terms) of each adjustment to reach the 2017 AUC-U (the last bar on right-hand side). The rationale for the different adjustments is provided below:

- Other revenues: to reflect the fact that in some States “other revenues” are deducted from the DUC to calculate the amounts charged in 2017.
- Inflation adjustment: to reflect the impact of higher/lower inflation index in year “N” which will be charged/reimbursed to airspace users in year “N+2”. Although the cash flow does not take place in year “N”, it is considered as part of the 2017 AUC-U.
- Traffic risk sharing adjustment: to reflect the gain/loss in revenues due to higher/lower traffic than planned in year “N”, which will be reimbursed/charged to airspace users in year “N+2”. Although the cash flow does not take place in year “N”, it is considered as part of the 2017 AUC-U.
- Traffic adjustment: to reflect the fact that, for the costs not subject to traffic risk sharing, over/under recoveries due to higher/lower traffic than planned in year “N” will be fully

charged/reimbursed to airspace users in year “N+2”. Although the cash flow does not take place in year “N”, it is considered as part of the 2017 AUC-U.

- **Bonus/penalty:** to reflect the fact that the achievement (or the failure to achieve) capacity and environment targets in year “N” will trigger the charging of a financial bonus (or penalty) in year “N+2”. Although the cash flow does not take place in year “N”, it is considered as part of the 2017 AUC-U.
- **Costs exempt from cost-sharing:** to reflect the elements of costs incurred in 2017 (if deemed eligible) which will be charged/reimbursed to airspace users in future Reference Period(s). Although the cash flow does not take place in year “N”, it is considered as part of the 2017 AUC-U.

For the calculation of unit costs in box 8, all cost categories listed above are divided by the actual TSUs for 2017. To assess the impact of other revenues (OR) adjustment on AUC-U, actual OR (=forecast OR as reported in the reporting tables adjusted for actual traffic) are divided by the actual TSUs, as well. Optionally forecast OR (as reported in the RTs) can be used. In that case, it is divided by the forecast TSU. The resulting adjustment is the same in both cases.

The right-hand side of box 8 contains a short comment of the main drivers for the difference between the DUC and the AUC-U.

9. Focus on ATSP: net ATSP gain/loss on en-route (or terminal) activity

Box 9 focuses on the main ATSP net gain/loss on ANS activities. A graphical illustration of this analysis is also shown on the left-hand side of box 11. The main ATSP 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 Charging Regulation.

The net gain/loss calculated in the bottom line of box 9 results from the combination of three distinct items:

1. The outcome of the cost-sharing mechanism to be retained by the ATSP (including the impact of costs exempted from cost-charging that will be recovered from or reimbursed to users, under the assumption that they will be deemed eligible by the EC).
2. The outcome of the traffic risk sharing mechanism.
3. The outcome of the financial incentive mechanism for capacity and environment targets (expressed in €2009, and in % of revenues in the year).

For the calculation of the gain/loss to be retained in respect of cost-sharing (item 1 above), the following elements are taken into account:

- The difference between determined and actual costs, using:
 - determined costs as presented in the PP for 2017 for the main ATSP, converted into €₂₀₀₉ using the inflation index of the PP (as shown in box 2); and,
 - actual 2017 costs for the main ATSP, as reported in the June 2018 Reporting Tables, converted into €₂₀₀₉ using the actual inflation index (as shown in box 2).

This calculation ensures that the inflation adjustment carried-over by ATSPs is taken into account in the cost-sharing gain/loss.

- Any amounts reported as costs exempted from cost-sharing for the ATSP, as shown in box 6, that are to be recovered from (+) reimbursed to (-) airspace users, provided they are deemed eligible by the EC.

As the confirmation by the EC of the eligibility of costs exempted from cost-sharing arising in 2017 has not yet taken place, there is uncertainty on whether the reported exemptions will be allowed or not. For this reason, the results without taking into account the costs exempted from cost-sharing is also presented in the ATSP analysis in box 12 (for those ATSPs having reported considerable exempted amounts likely to change the results significantly).

For the calculation of the gain/loss to be retained in respect of traffic risk sharing (item 2 above), the

following elements are taken into account:

- The difference in total service units (actual vs. PP) in percentage terms.
- The determined costs of the main ATSP in 2017 after deduction of costs for exempted VFR flights, as these are the basis for the calculation of the traffic risk sharing. These are expressed in €₂₀₀₉, using the 2017 actual inflation index (as shown in box 2) due to the fact that the gain/loss retained by the ATSP for the current year is an actual gain/loss, so converting this value into €₂₀₀₉ has to be done using the actual inflation rate.
- The features of traffic risk sharing mechanism: if actual traffic is $\pm 2\%$ compared to the PP, the gain/loss in revenues is borne entirely by the ATSP; between 2% and 10% (higher or lower) than the PP it is shared between the ATSP (30%) and airspace users (70%); and if the difference between actual and planned traffic exceeds $\pm 10\%$, the gain/loss relating to traffic beyond $\pm 10\%$ is entirely borne by the airspace users and has therefore no impact on the ATSP gain/loss from traffic risk sharing.

The amounts of financial incentives on capacity and environment targets (item 3 above) correspond to the amounts reported in the June 2018 Reporting Tables in respect of the performance achieved in 2017. These are expressed in €₂₀₀₉, using the 2017 actual inflation index and in % of revenues in the year. The revenues in the year are estimated by multiplying the ATSP component of the unit rate (item 5.9 in the Reporting Tables) with the actual number of TSUs in 2017, in line with the European Commission instructions.

The net gain/loss referred to in box 9 considers the total determined and actual ATSP costs and treats them as “genuine costs” although a fraction of the cost of capital corresponds to the ATSP return on equity and is a source of profit. Therefore, and as was the case in RP1 monitoring reports, the ATSP analysis is completed using the notion of estimated surplus, which is documented in box 10.

10. Focus on ATSP: En-route (or terminal) ATSP estimated surplus

Box 10 uses the notion of overall estimated surplus, and provides continuity with the analyses developed in RP1. It is important to emphasise that this analysis focuses on the ATSP results entitled to the ANS activity in the year. It is therefore different from the net accounting profit disclosed in ATSPs financial statements. Indeed, the latter include revenues from other activities (e.g. consultancy services) which are not financed through user charges, as well as revenues and costs pertaining to other years of activity.

The overall estimated surplus combines two elements:

- the main ATSP net gain/loss on ANS activities (see box 9); and
- the estimated actual surplus embedded in the cost of capital.

The estimated actual surplus embedded in the cost of capital corresponds to the return on equity, which is a source of profit. For an ATSP which is 100% financed through debt, the estimated surplus embedded in the cost of capital will be null, while for an ATSP which 100% financed through equity, the entire cost of capital will be considered as the estimated surplus.

Box 10 is structured in two parts. A first table shows how the estimated surplus embedded in the determined cost of capital is calculated, and a second table shows how the estimated surplus embedded in the actual cost of capital is calculated. In both tables, additional indicators are calculated: the estimated surplus in percent of en-route revenues and the estimated ex-ante (determined) or ex-post (actual) return on equity (in %).

The estimated surplus, when expressed in % of the revenues, can be associated to a “profit margin” generated by the ATSP with respect to the activity of the year, but it is not comparable to the profit margin that would be calculated straight from ATSPs financial statements.

The elements taken into account to calculate the estimated surplus embedded in the determined and the actual cost of capital are:

- a. The total asset base, as reported in the PP and the June 2018 Reporting Tables.

- b. The estimated proportion of financing through equity (in %), which is calculated based on information reported by ATSPs in the PP and the June 2018 Reporting Tables, with $b = (f / a - g) / (i - g)$.
- c. The estimated proportion of financing through equity (in value), with $c = a \times b$.
- d. The estimated proportion of financing through debt (in %), with $d = 1 - b$.
- e. The estimated proportion of financing through debt (in value), with $e = a \times d$.
- f. The cost of capital pre-tax (in value), as reported in the PP and in the June 2018 Reporting Tables.
- g. The average interest on debt (%), as reported in the PP and in the June 2018 Reporting Tables.
- h. The interest on debt (in value), with $h = e \times g$.
- i. The determined RoE (pre-tax) in %, as reported in the PP and in the June 2018 Reporting Tables (with the actual RoE % expected to match the determined RoE % from the PP).

The actual estimated surplus embedded in the cost of capital is then calculated as the determined RoE (pre-tax) rate multiplied by equity. Referring to the items listed above it is equal to $c \times i$.

11. Focus on ATSP: Summary of ATSP gain/loss on en-route (or terminal) activity and estimated surplus

Box 11 provides:

- On the left-hand side, a graphical summary of the ATSP net gain/loss for the year 2017 arising from variations in costs, traffic, and bonus/penalty from incentives (see box 9).
- On the right-hand side, a bar chart comparing the planned and actual overall estimated surplus, both in value (€2009) and in % of the en-route revenue (see box 10).

The notion of revenue used in box 10, 11 and 12 corresponds to the revenue arising from the activity in the year, and is different from that used when expressing the bonus/penalty from incentives (box 9) where the ATSP component of the unit rate (therefore including adjustments from previous years carry-over to 2017) is used.

12. Focus on en-route (or terminal) ATSP: General conclusions

Box 12 contains comments on the ATSP cost-efficiency performance for the year 2017. The determined and actual costs for the main ATSP include ATM, Communication, Navigation, Surveillance and MET services, if applicable. The comments mainly focus on:

- The deviation between actual and determined costs, looking at the difference per cost category (staff, other operating costs, depreciation, cost of capital and exceptional items) and using the explanations provided in the NSA Monitoring Report and in the Additional Information to the Reporting Tables).
- The presence and nature of costs exempted from cost-sharing for the ATSP.
- The financial effect of the Traffic Risk Sharing on the ATSP.
- The financial effect of incentives (bonus/penalty) on the ATSP.
- The situation in relation to the asset base and the financing structure.
- The net ATSP gain/loss for the en-route (or terminal) activities.
- The ATSP overall estimated surplus (i.e. including the surplus embedded in the cost of capital).

2.3 Gate-to-gate ANS analysis and technical notes

1. Monitoring of gate-to-gate ANS costs
Box 1 presents an aggregation of en-route and terminal costs (in € ₂₀₀₉) 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 € ₂₀₀₉ and in %).
2. Share of en-route and terminal in gate-to-gate actual costs (2017)
The right-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 left-hand side of box 2.
Technical notes on en-route and terminal information provided by the State
These notes, if any, explain specific issues affecting the analysis and possibly requiring additional information from the States to be gathered during the “fact validation”.

2.4 Monitoring of CAPEX

The objective of this section is to present factual information provided by the ANSPs in relation to their Capex investments. More precisely it shows per ANSP:

- Data from RP2 National Performance Plan related to Total Capex, Main Capex and Real Gate to Gate ANSP costs
- Actual data from the FAB Monitoring Reports related Total Capex, Main Capex and Real Gate to Gate ANSP costs
- The difference between Actual and Planned Capex data in absolute value and in percentage
- A bar chart comparing the Planned and Actual Total Capex

The planned and actual Capex data are presented in both nominal and real terms (i.e. €2009).

It should be noted that this section of the report, is a factual presentation of Capex data, and it is based on the data and information provided by Member States through their annual FAB Monitoring reports. It does not consist of an analysis of the deferment of Capex.

Annual Monitoring Report 2017
Local level view
BALTIC FAB

BALTIC FAB

Monitoring of SAFETY for 2017

Effectiveness of Safety Management							
			2015 Value	2016 Value	2017 Value	2018 Value	2019 Target
Union-wide targets	at State level	For all MOs					C
	at ANSP level	For Safety Culture MO					C
		For all other MOs					D
FAB level	States / Regulatory authorities	For all MOs	B	B	A		
	ANSPs	For Safety Culture MO	A	A	C		
	ANSPs	For all other MOs	A	A	B		

Application of the severity classification of the Risk Analysis Tool (RAT)							
Ground Score			2015 Value	2016 Value	2017 Target	2018 Value	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%		100%
	Runway Incursions (RIs)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		N/A	40%	0%		
	Runway Incursions (RIs)		N/A	41%	0%		
Overall Score			2015 Value	2016 Value	2017 Target	2018 Target	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%	>= 80%	>= 80%
	Runway Incursions (RIs)				>= 80%	>= 80%	>= 80%
	ATM Specific Occurrences (ATM-S)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	9%	0%		
	Runway Incursions (RIs)		100%	0%	25%		
	ATM Specific Occurrences (ATM-S)		100%	33%	14%		

Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)

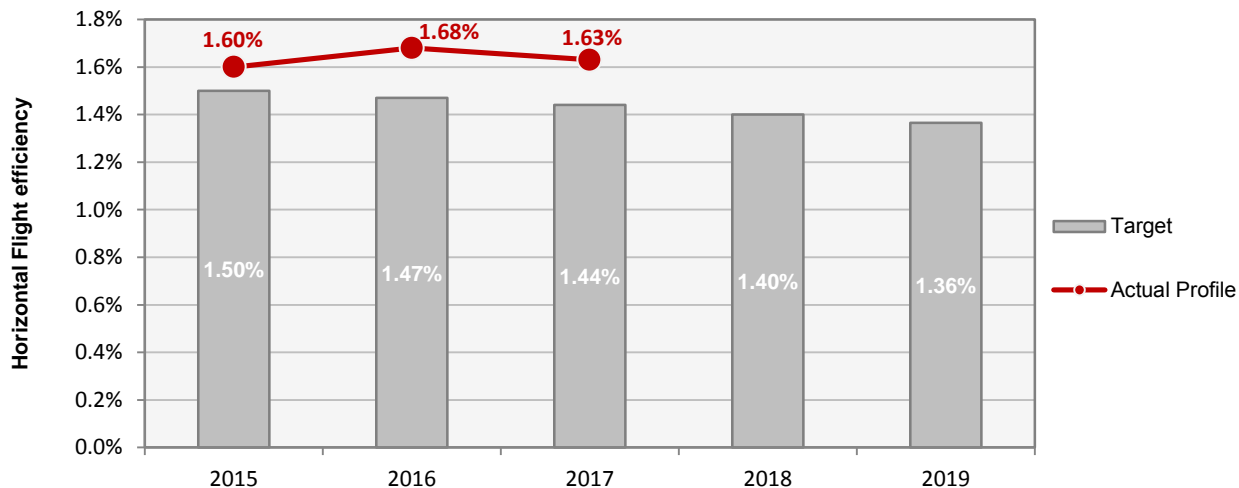
Observations

The lowest level in each EoSM-State Component/area of the States is Level A which is below the 2019 EoSM target level. Safety Policy and Objectives, and Safety Assurance are already at the 2019 EoSM target level.

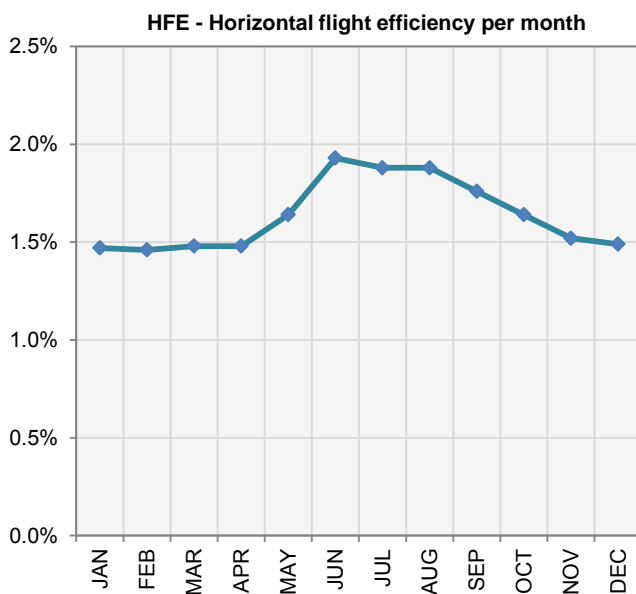
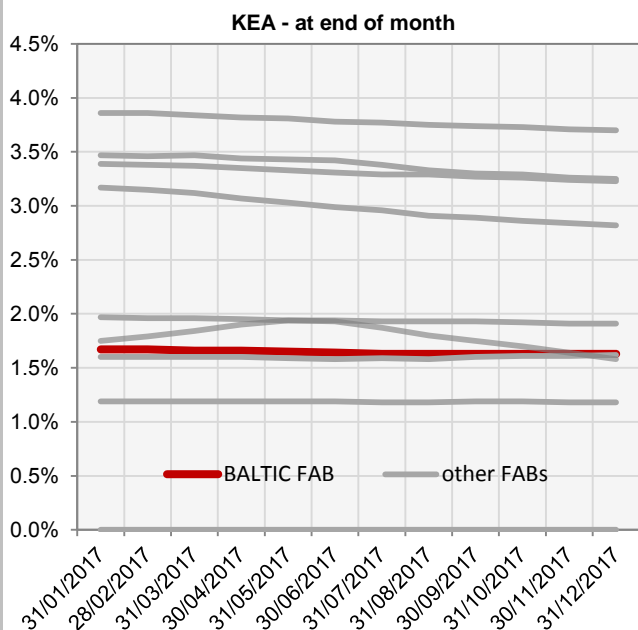
BALTIC FAB

Monitoring of ENVIRONMENT for 2017

KEA					
	2015	2016	2017	2018	2019
FAB Target	1.50%	1.47%	1.44%	1.40%	1.36%
Actual performance	1.60%	1.68%	1.63%		



Monthly KEA and HFE evolution in 2017												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA (at end of month)	1.67%	1.67%	1.66%	1.66%	1.65%	1.64%	1.63%	1.63%	1.63%	1.63%	1.63%	1.63%
HFE	1.47%	1.46%	1.48%	1.48%	1.64%	1.93%	1.88%	1.88%	1.76%	1.64%	1.52%	1.49%



HFE refers to the ratio of flown distance and achieved distance over all (portions of) trajectories in the month, while KEA is the ratio 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.

Corrective measures applied, as reported by the FAB

Most of factors which have an impact on horizontal flight efficiency are beyond the control of the air navigation service providers within BALTIC FAB. As a result the elaboration of a corrective action plan is limited. The ANSPs of BALTIC FAB have indicated the willingness to discuss the issue concerning the KEA algorithms, especially related to the factors remaining beyond their control and used in the calculation. Corrective measures could be applied by the Network Manager to mitigate negative impact of the abovementioned factors.

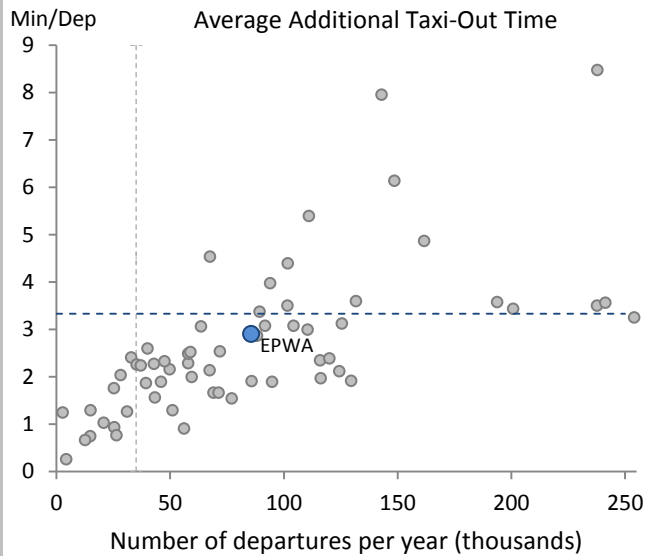
Observations

NM recommendations (ERNIP 2018, Part 2):
Initiate cross-border projects with neighbouring FABs.

1. Overview

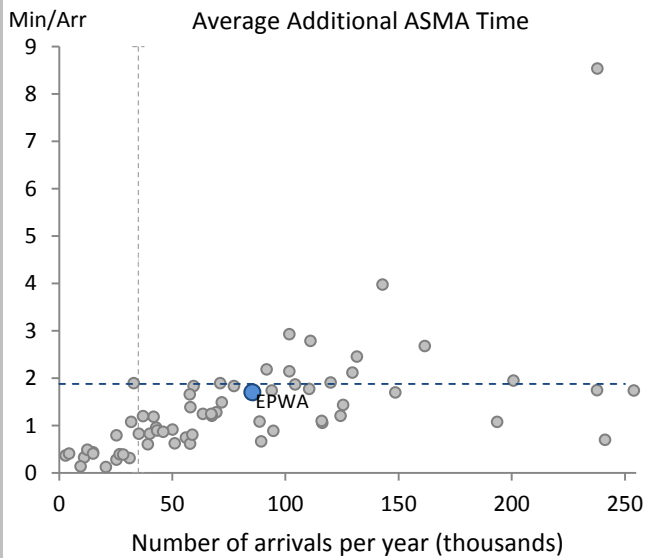
Only one airport in the Baltic FAB has established the Airport Operator Data Flow (APDF), required for the calculation of the environmental performance indicators. The FAB evaluation is therefore done on the basis of only this airport. Member States shall empower the respective airport reporting entity to establish the airport operator data flow and/or address the remaining data issues.

2. Additional Taxi-Out Time



The additional TXOT in the Baltic FAB (based only on Warsaw's performance due to the lack of data from the other airports) is slightly above the European average (RP2 available airports).

3. Additional ASMA Time



The additional ASMA time for the only airport in Baltic FAB with available data shows slightly better performance than the average of measured airports in RP2. This performance follows the general trend according to the level of traffic.

Minutes of ATFM en-route delay						
	2015	2016	2017	2018	2019	Observations
FAB Reference Value	0.21	0.21	0.21	0.22	0.22	Significant performance improvement in en-route capacity from 2016 with an increase in traffic.
FAB Target	0.21	0.21	0.21	0.22	0.22	
Actual performance	0.16	0.35	0.10			

BALTIC FAB assessment of capacity performance

The IFR movements in 2017 increased in BALTIC FAB by 5.6 % comparing to 2016. Detailed data are presented in the table below. Following experiences from summer 2016, some additional measures were implemented by PANSA during summer 2017 to improve capacity. They implemented new sectors configurations, improved rostering and shifted holidays and training to lower season months. Following the execution of the employment plan, additional ACC ATCOs were also available during summer 2017 months as compared to summer 2016. As a result of the abovementioned additional measures as well as more predictable traffic flows, PANSA met the ATFM ER capacity target in 2017.

However, to stabilize the situation in future PANSA needs to follow the execution of the capacity plan and investment plan. This will allow to meet capacity requirements resulting from increasing traffic level.

Monitoring process for capacity performance

The monitoring process was conducted continuously on the basis of data derived from Pan-European ANS Performance data repository (<http://ansperformance.eu/data/>) and information provided by Polish Air Navigation Services Agency (PANSA). Monitoring was performed on the national and FAB levels (by the Baltic FAB Strategic, Economic and Performance Committee).

Application of Corrective Measures for Capacity

N/A

Capacity Planning

The capacity planning process is based on the cycle agreed by the Network Manager and local ANSPs (including yearly meeting by representatives of NM with local ANSPs when capacity plan for local ACC is updated).

The geopolitical situation in the region and in the world, as well as the factors related to the activities of some airline companies and air navigation service providers, during the last three years showed significant changes in the structure and air traffic density with reference to assumptions for RP2, what had a significant influence on the SE Oro Navigacija performance. In 2017 air traffic in Lithuania, expressed in IFR flights, has grown by 5.23% while STATFOR baseline scenario forecast foresaw a 2.0% increase. Traffic structure: 76% overflights (5.25% increase comparing to 2016), 24% terminal flights (5.15% increase comparing to 2016). The dynamic of air traffic growth has been driven by factors, which have not been typically considered during the capacity planning process: significant increase of traffic – mainly from Russian Federation (outside of NM responsibility), bypassing Ukrainian airspace, changes of business plans of airliners. Having in mind the 2018 planned big MIL/NATO exercises in the region and foreseeing further significant traffic growth (FIFA World Championship, airliners plans for new routes opening), seeking safely and in good operational manner to cope with demand, in 4Q 2017 SE Oro Navigacija started the project on implementation of new sector in Upper airspace. SE Oro Navigacija and EUROCONTROL calculations shows that this sector will increase ACC capacity during peak hours on 33%.

Assessment of capacity performance

It is noted that, following a significant improvement in en-route capacity performance, BALTIC FAB provided a positive contribution to the Union-wide target for en-route capacity in 2017 by achieving a level of en-route capacity that surpassed the BALTIC FAB target. The evolution of traffic in BALTIC FAB is shown below and it is noticeable that traffic levels have consistently remained below the forecasted baseline scenario as calculated by STATFOR and available when the FAB performance plans and associated capacity plans were being determined. It is also noted that the Network Manager now expects BALTIC FAB to continue providing a positive contribution to the Union-wide target for each year of RP2, whereas the NOP 2017-2021 predicted a deficit in capacity performance for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – BALTIC FAB										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	820		863		926		982		1044	1106
Base	807	788	837	790	873	843	904	889	938	974
Low	794		812		825		838		853	868

En route Capacity Incentive Scheme

BALTIC FAB do not apply a FAB-wide incentive scheme but apply local / national schemes instead. These schemes are presented in the relevant national performance report.

Result of FAB Capacity Incentive Scheme

N/A

Update on Military dimension of the plan

In order to increase the FUA concept implementation in the FIR EPWW, PANSA and Air Force Military Academy, Dęblin signed on 16th May 2017 the agreement concerning the cooperation within the frame of the training of ACS OAT EPWW controllers, dedicated to the specifics of the military aircraft interceptions procedures. The training concerning the intercept procedures for 3 ACS OAT EPWW controllers in 2017 was organised.

To improve the level of ATC information exchange between AMC and military services 14 of AMS (CAT) terminals were installed in the military airports and air command and control units.

In December 2017 the meeting of PANSA and representatives of respective Polish military headquarters was held to discuss the plans of procurement of the new air traffic management system.

No big changes since end of 2016 in the Military Dimension of the plan:

- 1) On 14th June 2016 amended Letter of Agreement among NATO and ESTONIA, LATVIA and LITHUANIA on airspace management arrangements in support of the NATO air-policing mission and other air activities in the Baltic States;
- 2) On 24th September 2016 amended LoA among SE "Oro navigacija" and Lithuanian Army on airspace management arrangement, operational cooperation ensuring efficient airspace surveillance, control, defence and flight safety.

Further enhancement of FUA supporting legislation, airspace use planning, coordination and booking procedures as well as implementation of EUROOAT concept steps will be undertaken in 2018 (ref 2.2.2 c).

Observations on Military dimension of the plan

The update on the Military dimension of the plan is welcomed.

Application of FUA

FUA Concept has been fully implemented in the BALTIC FAB. Letter of Agreement signed between AMC Poland and AMC Lithuania in 2016 concerning cooperation in airspace management on pre-tactical and tactical levels has been employed and in force during the year 2017.

Additionally, the series of agreements and LoAs concerning implementation of FUA concept were signed between PANSA and Polish military authorities in 2017 (agreement between Air Operations Centre – Air Component Command and PANSA concerning utilization of the JTIDS/MIDS in Polish airspace, agreement between Air Operations Centre – Air Component Command and PANSA concerning coordination procedures of operational use LINK 16 and agreement between Military Air Traffic Service Office of the Polish Armed Forces and PANSA concerning operational use of the VHF/UHF radio stations).

Allowing to achieve the maximum benefits from more accurate ASM information sharing, the ASM LoA was signed and became effective since 26th May 2016. According to LoA, responsibility of pre-tactical and tactical coordination regarding SUA (Special Usage Area) in the airspace of common interest used for military/other airspace users activities rests on the Lithuanian side with AMC Lithuania/ACC Vilnius Supervisor, and on the Polish side with AMC Poland.

Airspace of common interest is defined as: FIR/UIR Vilnius – EY-D12, EYR9, EYR10, and temporarily established segregated areas above FL95 south of N5500 and west of E2400; FIR Warszawa – temporarily established segregated areas above FL95 north of N5330 and east of E2200.

To ensure prompt reaction to any airspace requirements, activating/deactivating or reallocating specific pre-tactical/tactical ASM scenarios and, at the same time, establishing and activating the most appropriate airspace configurations, the common ASM support system is planned to be used in the nearest future.

Observations of the Application of FUA

The update on the application of FUA within the BALTIC FAB is welcomed, in particular, the information about the introduction of an ASM support system which will hopefully enable BALTIC FAB to determine if the airspace management decisions taken provide the optimal benefit to both civil and military airspace users.

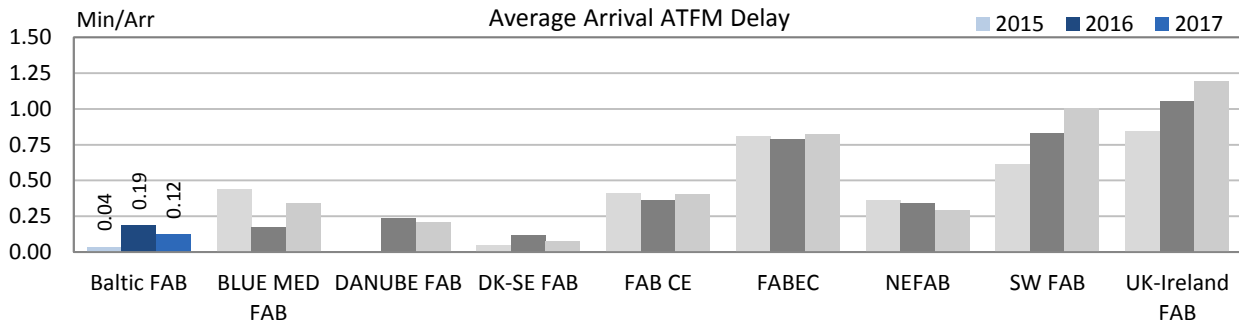
BALTIC FAB

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

Baltic FAB contributes adequately to the airport-related ANS capacity performance in Europe showing a low share of arrival ATFM delay of 0.12 min/arr. in 2017, which represents an improvement with respect to the 0.16 min/arr. observed in 2016. This achievement is despite a total traffic increase at the airports under monitoring of more than 8 % in 2017.

2. Arrival ATFM Delay



Baltic FAB shows the second best arrival ATFM delay per flight (0.12 min/arr) that is only 0.5 min/arr. above the best in class (DK-SE: 0.07 min/arr)

The main contributor to the arrival delay in the Baltic FAB is still Warszawa/Chopin, however EPWA has reduced significantly the arrival delay per flight in 2017, which translates in the improvement mentioned above.

3. Arrival ATFM Delay – National Targets and Incentive Schemes

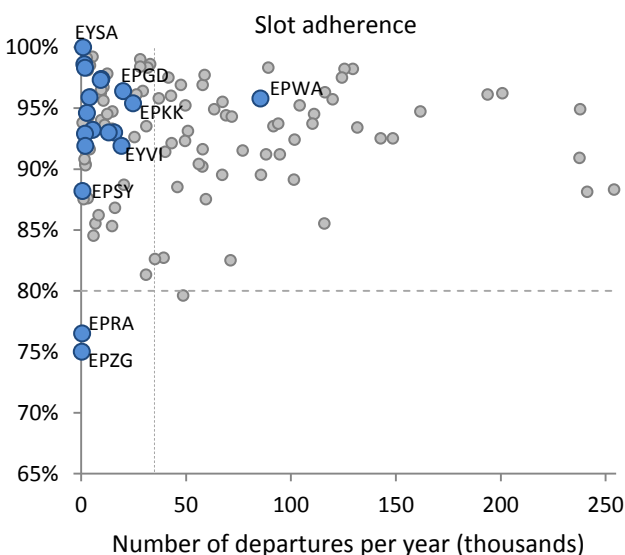
Both Poland and Lithuania have established national targets adequate to historical performance.

The national target of zero arrival ATFM delay in Lithuania has been achieved and the service provider Oro Navigacija will be receiving a bonus of 0.1% of revenue from terminal air navigation services.

Poland has also specified local targets per airport or airport group in their Performance Plan with associated thresholds for bonuses and penalties.

Penalties will be applied for the air traffic services provided at EPWA of -0.1% of revenue from terminal air navigation services. Concerning the basket that includes EPKK, EPKT, EPPO, EPGD and EPWR airports, only the last two have reached their target. As national target is not reached, no bonus applies to any airport in this basket.

4. ATFM Slot Adherence



The ATFM Slot Adherence at most airports in Baltic FAB ranges well above 90% with only 3 exceptions corresponding to minor airports with less than 1000 departures per year (EPSY, EPRA and EPZG). There is also a general improvement with respect to 2016, which has a positive effect on the network, especially taking into account that the share of regulated departures overall at Baltic FAB has slightly increased from 14.9% in 2016 to 15.7% in 2017.

5. Pre-departure Delay

The monitoring of pre-departure delay requires the implementation of the Airport Operator Data Flow and a proper reporting of delays through this data flow. With the exemption of Warszawa/Chopina (EPWA) the data flow is not established for airports in Baltic FAB. Accordingly, the indicator cannot be sufficiently monitored. Lithuania and Poland are encouraged to strengthen the effort to establish the Airport Operator Data Flow across the national airports subject to monitoring.

Annual Monitoring Report 2017
Local level view
Lithuania

LITHUANIA

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	55	C	C	C	C	B
ORO NAVIGACIJA	78	D	D	D	D	C
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	N/A	N/A				
Runway Incursions (RIs)	N/A	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	ORO NAVIGACIJA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	5	2				
Legal/Judiciary	6	1				
Occurrence reporting and Investigation	2	0				
TOTAL	13	3				
ORO NAVIGACIJA	Number of questions answered					
	YES	NO				
Policy and its implementation	11	2				
Legal/Judiciary	3	0				
Occurrence reporting and Investigation	8	0				
TOTAL	22	2				
Observations						
Only one question out of 36 in the EoS M Component/area of the State in Safety Culture does not meet the 2019 EoS M target level.						

LITHUANIA

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

At the time being the monitoring of operational ANS performance at airports in Lithuania does not cover any of the environment indicators.

The Airport Operator Data Flow is not established for any of the four Lithuanian airports subject to RP2. Concerning Vilnius, and although it was anticipated that the data flow would be established during the course of 2016, the data is still not being provided. Progress in the establishment of the data flow has been made in 2017 and it is expected to be implemented for this airport in the course of 2018. This will enable the monitoring of these performance indicators at the main Lithuanian airport EYVI.

2. Additional Taxi-Out Time

The additional taxi-out time indicator cannot be monitored at Lithuanian airports at the time being.

3. Additional ASMA Time

The additional time in the terminal airspace indicator cannot be monitored at Lithuanian airports at the time being.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Kaunas	EYKA	n/a	n/a	n/a			n/a	n/a	n/a		
Palanga	EYPA	n/a	n/a	n/a			n/a	n/a	n/a		
Šiauliai	EYSA	n/a	n/a	n/a			n/a	n/a	n/a		
Vilnius	EYVI	n/a	n/a	n/a			n/a	n/a	n/a		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.01	0.02	0.03	0.04	0.04	
Deadband +/-	$0.0 < x \leq 0.1$	0.00	0.00	0.00	0.00	
Actual performance	0.00	0.00	0.00			

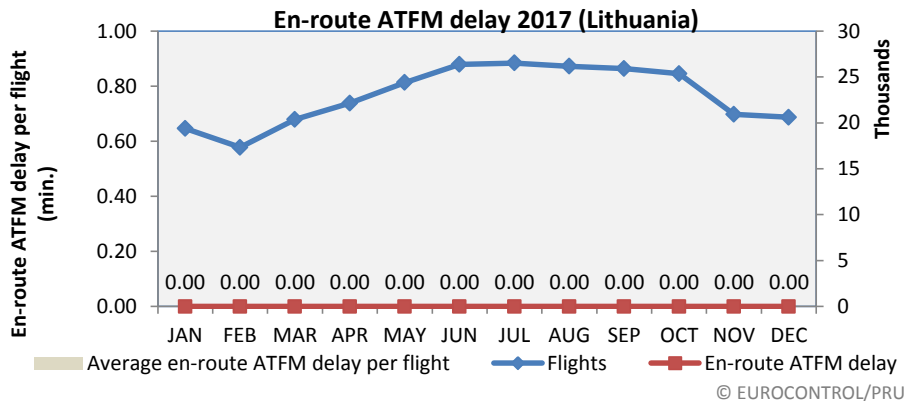
National capacity incentive scheme

Achievement of the BALTIC FAB target for en-route capacity in 2017 (0.21) makes it possible for the national ANSPs to receive incentives.

The en-route ATFM delay per flight target established for Oro Navigacija for 2017 (0.03 min/flight) was surpassed with an actual result of 0.00 min/flight.

Oro Navigacija will receive bonus 0.1% of revenue from en-route air navigation services.
 Calculation: Actual TSUs 2017 x ANSP component of the UR x 0.1% bonus = 21 723 Eur.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Lithuania)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

The ANSP in Lithuania, Oro Navigacija, has once again provided zero en-route ATFM delay in 2017, making 10 consecutive years of zero delay. Traffic levels in Lithuania have remained below those initially predicted for the baseline scenario in the STATFOR forecast available when FAB performance plans and associated capacity plans were being determined. The Network Manager notes in the latest version of the NOP 2018-2022 that, even with the implementation of a new ATM system in 2019, no capacity problems are expected in Lithuania for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Lithuania										
	2014	2015	2016	2017	2018	2019				
		actual	actual	actual	actual	actual				
High	263	280	298	313	330	348				
Base	258	257	260	289	277	308				
Low	254	262	265	269	273	277				

Planning and Effective Use of CDRs

Such data is not available at national level.

Observations on Planning and Effective Use of CDRs

It is noted that Lithuania, like many other States, is unable to monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
N/A	92%	100%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
N/A	0%	0%		

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

LITHUANIA

Monitoring of Airports Contribution to CAPACITY for 2017

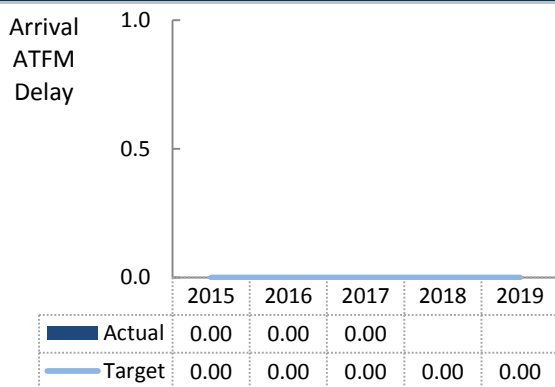
1. Overview

ANS at a total of 4 airports are subject to RP2 monitoring in Lithuania, a national target on arrival ATFM delay consistent with the level of traffic and the historic performance has been established. During RP2 so far, no capacity constraints or congestion are observed.

Lithuania contributes adequately to the Baltic FAB and European performance.

The monitoring of the pre-departure delay indicator requires the establishment of the Airport Operator Data Flow, which is not the case for any of the Lithuanian airports. Vilnius (EYVI) was already contacted in 2014, however the data flow is not yet established. Lithuania is encouraged to consider the implementation of the data flow at other airports as well.

2. Arrival ATFM Delay



Lithuania has established a national target of 0 min/arr. on arrival ATFM delay for the entire RP2.

As in previous years, no ATFM arrival delays are recorded at the Lithuanian airports in 2017. The performance on the national level and the individual local level meets the target.

The actual performance is commensurate with the level of traffic observed in Lithuania.

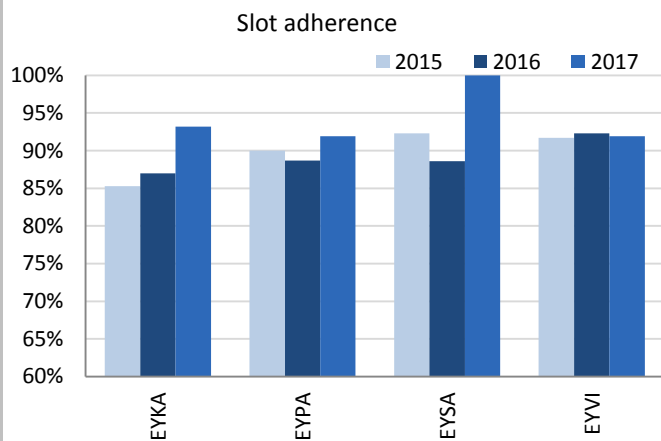
3. Arrival ATFM Delay – National Target and Incentive Scheme

The FAB performance plan refers to the fact that for all airports in Lithuania there is no risk of arrival ATFM delay identified or predicted for RP2. This is in line with the level of traffic observed.

Accordingly and for the third consecutive year in RP2, Lithuania has met the established national target on arrival ATFM delay of 0 min/arr.

The national ATC service provider Oro Navigacija is granted a bonus of 0.1% of revenue from terminal air navigation services.

4. ATFM Slot Adherence



In 2017, Lithuanian airports in general show an increase in the ATFM slot adherence in comparison to 2016, especially at EYKA and EYSA.

All four airports show a compliance with the ATFM slot window of more than 90% of the regulated flights.

5. Pre-departure Delay

The monitoring of pre-departure delay requires the implementation of the Airport Operator Data Flow. Concerning Vilnius, progress in the establishment of the data flow has been made in 2017 and it is expected to be implemented for this airport in the course of 2018. This will enable the monitoring of this performance indicator.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Kaunas	EYKA	0.00	0.00	0.00			85.3%	87.0%	93.2%			n/a	n/a	n/a		
Palanga	EYPA	0.00	0.00	0.00			90.0%	88.7%	91.9%			n/a	n/a	n/a		
Šiauliai	EYSA	0.00	0.00	0.00			92.3%	88.6%	100.0%			n/a	n/a	n/a		
Vilnius	EYVI	0.00	0.00	0.00			91.7%	92.3%	91.9%			n/a	n/a	n/a		

LITHUANIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services					
· Lithuania ECZ represents 0.3% of the SES en-route ANS determined costs in 2017					
· ATSP: Oro Navigacija					
· FAB: Baltic FAB					
· National currency: EUR					
2. En-route DUC monitoring at Charging Zone level					
Lithuania: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)	2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)	23 316 993	23 342 321	24 186 978	25 093 574	25 748 766
Inflation %	1.7%	2.2%	2.5%	2.2%	2.2%
Inflation index (100 in 2009)	112.9	115.4	118.4	121.0	123.7
Real en-route costs (EUR2009)	20 652 919	20 223 855	20 434 886	20 737 566	20 814 037
Total en-route Service Units	490 928	508 601	524 877	541 672	559 548
Real en-route unit cost per Service Unit (EUR2009)	42.07	39.76	38.93	38.28	37.20
Lithuania: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)	23 121 075	22 775 385	23 808 929		
Inflation %	-0.7%	0.7%	3.7%		
Inflation index (100 in 2009)	109.5	110.2	114.3		
Real en-route costs (EUR2009)	21 120 276	20 659 882	20 826 832		
Total en-route Service Units	492 283	507 472	540 776		
Real en-route unit cost per Service Unit (EUR2009)	42.90	40.71	38.51		
Difference between Actuals and Planned	2015	2016	2017	2018	2019
En-route costs (nominal EUR) in value	-195 918	-566 936	-378 049		
in %	-0.8%	-2.4%	-1.6%		
Inflation % in p.p.	-2.4 p.p.	-1.5 p.p.	1.2 p.p.		
Inflation index (100 in 2009) in p.p.	-3.4 p.p.	-5.2 p.p.	-4.0 p.p.		
Real en-route costs (EUR2009) in value	467 357	436 027	391 946		
in %	2.3%	2.2%	1.9%		
Total en-route Service Units in value	1 355	-1 129	15 899		
in %	0.3%	-0.2%	3.0%		
Real en-route unit cost per Service Unit (EUR2009) in value	0.83	0.95	-0.42		
in %	2.0%	2.4%	-1.1%		
3. Focus on en-route at State/Charging Zone level					
En-route unit cost					
In 2017, the actual en-route unit cost in real terms (38.51 €2009) is -1.1% lower than planned in the PP (38.93 €2009). This difference results from the combination of higher than planned TSUs (+3.0%) and higher than planned en-route costs (+1.9%, or +0.4 M€2009).					
En-route service units					
The difference between actual and planned TSUs (+3.0%) falls outside the ±2% dead band, but is inside the ±10% threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +0.4 M€2009. Considering the latest STATFOR base scenario (February 2018), actual traffic is likely to remain higher than planned until the end of RP2.					
En-route costs					
In nominal terms, actual en-route costs are -1.6% lower than planned. However, since the actual inflation index is lower than planned (-4.0 p.p.), actual en-route costs are +1.9% above the planned level when expressed in €2009.					
The higher than planned en-route costs in real terms are driven by higher costs across all the reporting entities: the ATSP, Oro Navigacija (+1.4% or some +0.3 M€2009), the MET Service Provider – LHMT (+16.1% or +0.1 M€2009) and the NSAEUROCONTROL (+3.8%, or +0.1 M€2009). Oro Navigacija being the main contributor to the en-route cost base, a detailed analysis at ATSP level is provided in box 12.					
Costs exempt from cost-sharing are reported for a total amount of -0.03 M€2009 corresponding to EUROCONTROL costs. These costs will be eligible for carry-over (reducing costs charged to airspace users) to the following reference period(s), if deemed allowed by the European Commission.					

Year	Difference (%)
2015	2.3%
2016	2.2%
2017	1.9%
2018	0%
2019	0%

Year	Difference (%)
2015	0.3%
2016	-0.2%
2017	3.0%
2018	0%
2019	0%

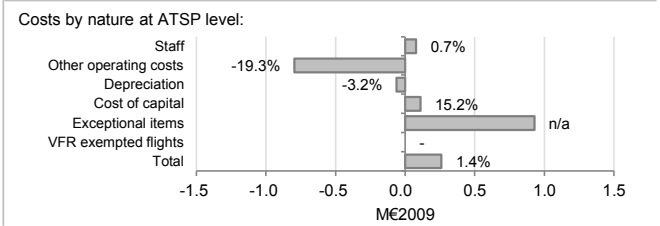
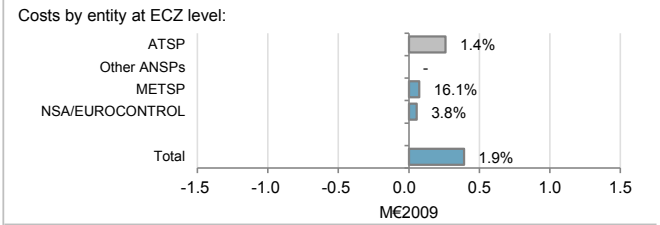
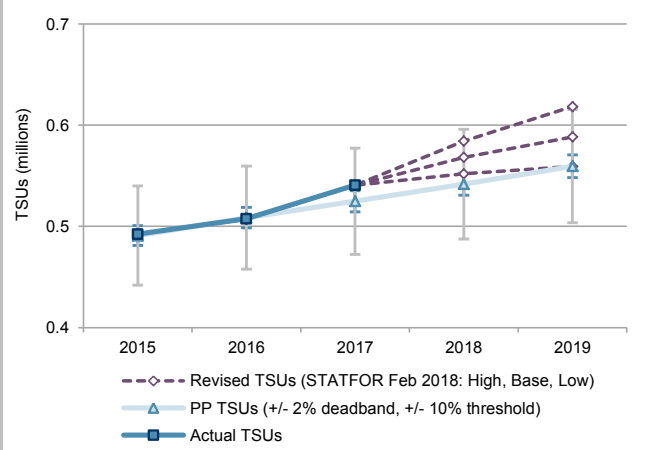
Year	En-route DUC (PP, €2009)	En-route unit costs (actual, €2009)
2015	42.07	42.90
2016	39.76	40.71
2017	38.93	38.51
2018	38.28	-
2019	37.20	-

Unit cost, €2009

LITHUANIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) 5. En-route costs monitoring (2017 actuals compared to PP)



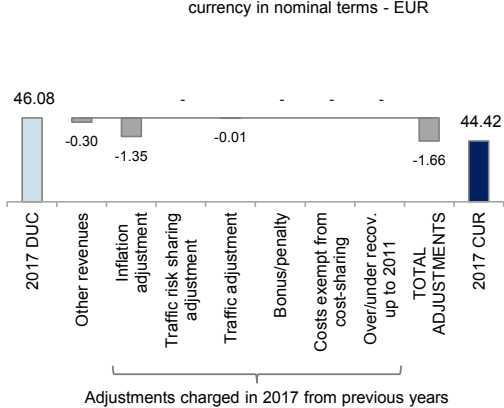
6. En-route costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	54	-195	-35		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA/EUROCONTROL	54	-195	-35		
Total costs exempt from cost sharing		54	-195	-35		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. En-route DUC 2017 vs. 2017 Unit Rate charged to users

Lithuania 2017 DUC vs. 2017 Chargeable Unit Rate (CUR) in national currency in nominal terms - EUR



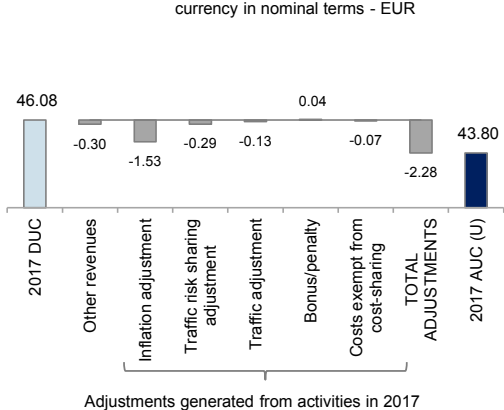
The CUR charged to airspace users in 2017 is 44.42 €. This is -3.6% lower than the nominal DUC (46.08 €).

The difference between these two figures (-1.66 €) mainly relates to:
 - the inflation adjustment (-1.35 €) which reflects the impact of a lower than planned inflation index for the year 2015, and the subsequent reimbursement to airspace users in 2017; and,
 - the deduction of other revenues (-0.30 €).

These costs and adjustments are divided by the forecast TSUs for 2017 as laid out in the RP2 performance plan.

8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users

Lithuania 2017 DUC vs. 2017 Actual Unit Cost for users in national currency in nominal terms - EUR



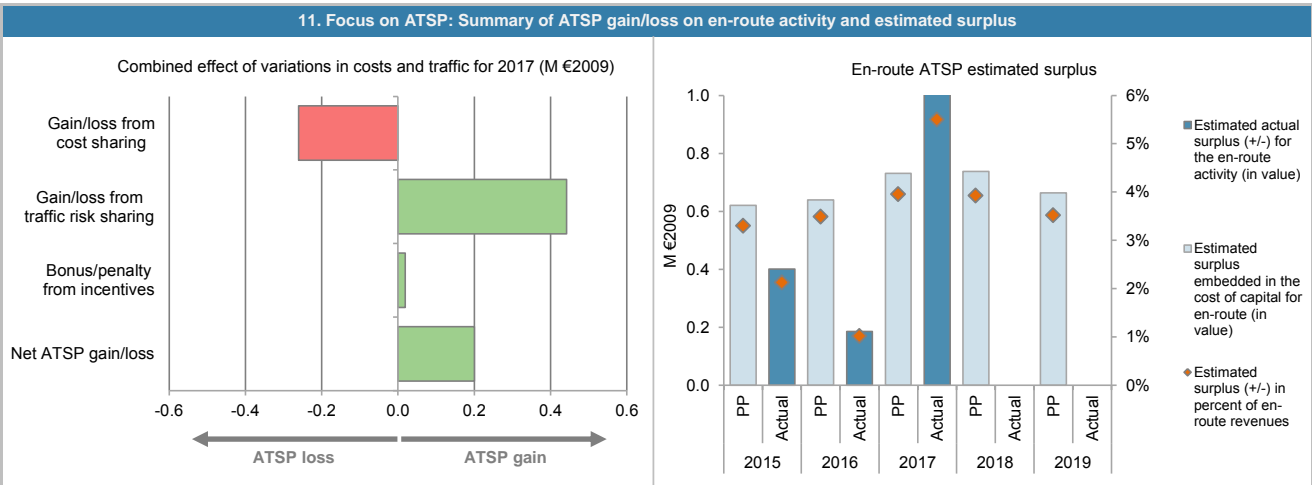
The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (43.80 €) is -5.0% lower than the nominal DUC (46.08 €). The major factors contributing to the observed difference (-2.28 €) are:
 - the inflation adjustment (-1.53 €) reflecting the impact of lower than planned inflation index in 2017, which will be reimbursed to airspace users in 2019;
 - the deduction of other revenues (-0.30 €) corresponding to income from the provision of radar information to the military as well as AIP and AIC sales and to depreciation compensation applied for postponed capex; and,
 - the traffic risk sharing adjustment (-0.29 €) reflecting the gain in revenues due to higher than planned traffic in 2017, which will be reimbursed to airspace users in 2019.

These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TSUs in 2017.

LITHUANIA: En-route ATSP (Oro Navigacija)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	18 786	18 322	18 493		
Actual costs for the ATSP	19 066	18 772	18 754		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-280	-450	-261		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-280	-450	-261		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	0.3%	-0.2%	3.0%		
Determined costs for the ATSP (PP) - based on actual inflation	19 374	19 183	19 147		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	53	-43	442		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	19		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	-227	-493	200		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	20 679	21 294	24 384	24 592	22 124
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	20 679	21 294	24 384	24 592	22 124
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	620	639	732	738	664
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	3.0%	3.0%	3.0%	3.0%	3.0%
Estimated surplus embedded in the cost of capital for en-route (in value)	620	639	732	738	664
Overall estimated surplus (+/-) for the en-route activity	620	639	732	738	664
Revenue/costs for the en-route activity	18 786	18 322	18 493	18 794	18 877
Estimated surplus (+/-) in percent of en-route revenues	3.3%	3.5%	4.0%	3.9%	3.5%
Estimated ex-ante RoE pre-tax rate (in %)	3.0%	3.0%	3.0%	3.0%	3.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	20 901	22 610	28 083		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	20 901	22 610	28 083		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	627	678	843		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	3.0%	3.0%	3.0%		
Estimated surplus embedded in the cost of capital for en-route (in value)	627	678	843		
Net ATSP gain(+)/loss(-) on en-route activity	-227	-493	200		
Overall estimated surplus (+/-) for the en-route activity	401	185	1 043		
Revenue/costs for the en-route activity	18 839	18 280	18 954		
Estimated surplus (+/-) in percent of en-route revenues	2.1%	1.0%	5.5%		
Estimated ex-post RoE pre-tax rate (in %)	1.9%	0.8%	3.7%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 Oro Navigacija en-route costs vs. PP

In 2017, Oro Navigacija actual en-route costs are +1.4% (+0.3 M€2009) higher, in real terms, than planned in the PP. Based on the Additional Information provided with the en-route Reporting Tables, the main drivers for this deviation are:

- higher staff costs (+0.7% or +0.08 M€2009). However, as highlighted in box 3, the lower actual inflation index for the year 2017 is affecting the comparison of costs in real terms. When considering nominal terms, actual staff costs are -2.8% lower than planned partly because of a reallocation of some staff costs from en-route to terminal ANS due to a faster increase in the number of terminal flights;
- lower other operating costs (-19.3% or -0.8 M€2009) mainly due to strict control of expenses and postponement of some acquisitions;
- lower depreciation costs (-3.2% or -0.06 M€2009), mainly due to delayed investment projects in relation with the new ACC and administration building;
- higher cost of capital (+15.2% or +0.1 M€2009), with more assets being allocated to the en-route asset base and a revaluation of property, plant and equipment; and,
- exceptional costs, which were not foreseen in the PP (+0.9 M€2009) also relating to the revaluation of property, plant and equipment.

Oro Navigacija net gain/loss on en-route activity in 2017

As shown in box 9, Oro Navigacija generated a net gain of +0.2 M€2009 on the en-route activity. This is a combination of three elements:

- a loss of -0.3 M€2009 arising from the cost-sharing mechanism;
- a gain of +0.4 M€2009 arising from the traffic risk-sharing mechanism; and,
- a gain of +0.02 M€2009, corresponding to a bonus eligible for payment to Oro Navigacija as part of the capacity target incentive mechanism. This amount corresponds to 0.1% of Oro Navigacija en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission as part of the compliance review of the 2019 unit rates.

Oro Navigacija overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+0.2 M€2009) and the surplus embedded in the actual cost of capital (+0.8 M€2009) amounts to +1.0 M€2009 (5.5% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 3.7%, which is slightly higher than the 3.0% planned in the PP.

LITHUANIA: Terminal charging zone

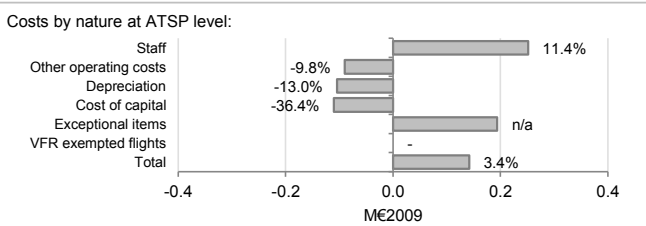
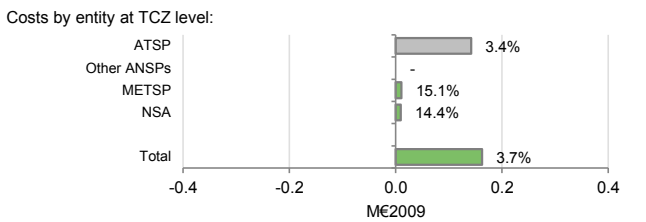
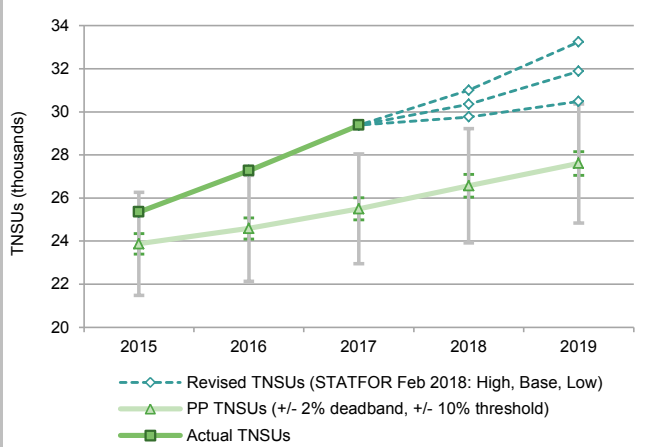
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services						
· Lithuania TCZ represents 0.4% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		No		
· ATSP: Oro Navigacija		· Airports with fewer than 70,000 IFRs ATMs:		4		
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		0		
· Number of airports in charging zone in 2017: 4,		of which:		· Airports with more than 225,000 IFRs ATMs: 0		
2. Terminal DUC monitoring at Charging Zone level						
Lithuania: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)		5 076 489	5 140 161	5 156 643	5 318 264	5 429 702
Inflation %		1.7%	2.2%	2.5%	2.2%	2.2%
Inflation index (100 in 2009)		112.9	115.4	118.4	121.0	123.7
Real terminal costs (EUR2009)		4 496 476	4 453 450	4 356 700	4 395 064	4 389 104
Total terminal Service Units		23 873	24 589	25 498	26 569	27 606
Real terminal unit cost per Service Unit (EUR2009)		188.35	181.12	170.86	165.42	158.99
Lithuania: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)		5 075 325	5 184 575	5 166 244		
Inflation %		-0.7%	0.7%	3.7%		
Inflation index (100 in 2009)		109.5	110.2	114.3		
Real terminal costs (EUR2009)		4 636 128	4 703 003	4 519 165		
Total terminal Service Units		25 346	27 269	29 385		
Real terminal unit cost per Service Unit (EUR2009)		182.91	172.47	153.79		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
Terminal costs (nominal EUR) in value		-1 164	44 414	9 601		
in %		-0.0%	0.9%	0.2%		
Inflation % in p.p.		-2.4 p.p.	-1.5 p.p.	1.2 p.p.		
Inflation index (100 in 2009) in p.p.		-3.4 p.p.	-5.2 p.p.	-4.0 p.p.		
Real terminal costs (EUR2009) in value		139 651	249 553	162 466		
in %		3.1%	5.6%	3.7%		
Total terminal Service Units in value		1 474	2 680	3 887		
in %		6.2%	10.9%	15.2%		
Real terminal unit cost per Service Unit (EUR2009) in value		-5.44	-8.65	-17.07		
in %		-2.9%	-4.8%	-10.0%		
3. Focus on terminal at State/Charging Zone level						
There is only one TCZ in Lithuania comprising 4 airports: Vilnius, Kaunas, Palanga and Siauliai.						
<p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (153.79 €2009) is -10.0% lower than planned in the PP (170.86 €2009). This difference results from the combination of higher than planned TNSUs (+15.2%) and higher actual terminal costs (+3.7%, or +162.5 K€2009).</p> <p>Terminal service units Traffic risk sharing does not apply in the TCZ. The difference between actual and planned TNSUs (+15.2%) therefore generates additional revenues, which will be fully reimbursed to airspace users.</p> <p>Terminal costs In nominal terms, actual terminal costs are +0.2% higher than planned. However, since the actual inflation index is lower than planned (-4.0 p.p.), the actual terminal costs are +3.7% above the planned level when expressed in €2009.</p> <p>The deviation between actual and planned terminal costs in real terms reflects a combination of higher costs for the ATSP – Oro Navigacija (+3.4% or +141.9 K€2009), the MET Service Provider – LHMT (+15.1% or +11 K€2009) and the NSA (+14.4% or +10 K€2009). Oro Navigacija being the main contributor to the terminal cost base, a detailed analysis at ATSP level is provided in box 12.</p> <p>There are no costs exempt from cost-sharing reported for the TCZ.</p>						

LITHUANIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

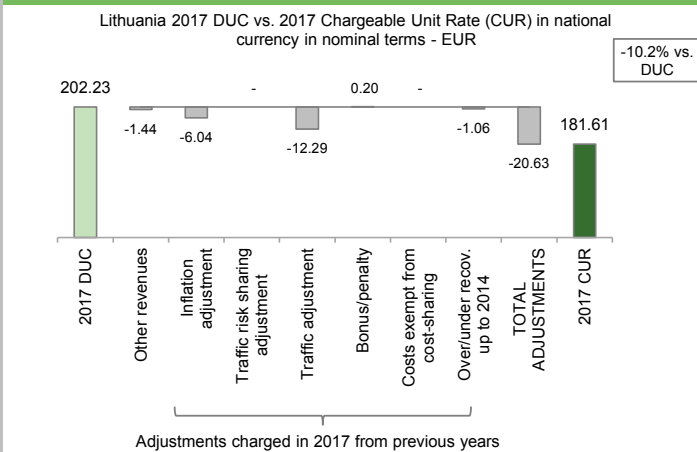


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

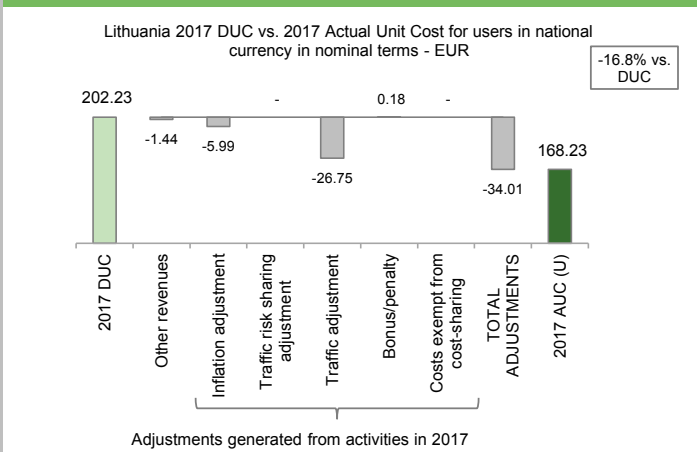
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The CUR charged to airspace users in 2017 is 181.61 €. This is -10.2% lower than the nominal DUC (202.23 €). The difference between these two figures (-20.63 €) mainly relates to:
 - the traffic adjustment (-12.29€) reflecting higher than planned TNSUs for the year 2015 and the subsequent reimbursement to airspace users in 2017; and,
 - the inflation adjustment (-6.04€) corresponding to the impact of a lower than planned inflation index in 2015 and the subsequent reimbursement to airspace users in 2017.

These costs and adjustments are divided by the forecast TNSUs for 2017 as laid out in the RP2 performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



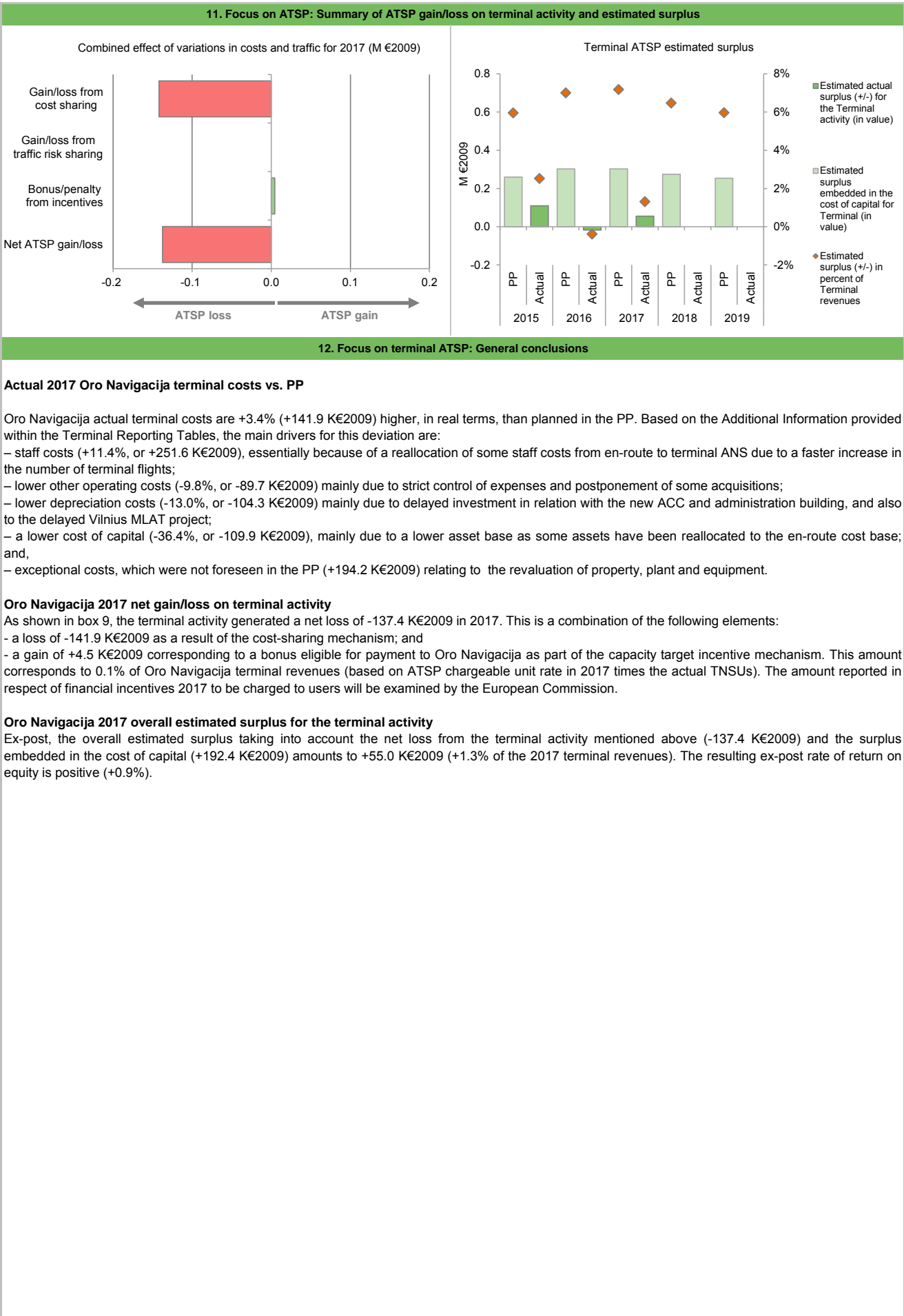
The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (168.23 €) is -16.8% lower than the nominal DUC (202.23 €). The two most important factors contributing to the observed difference are the traffic adjustment (-26.75 €) and the inflation adjustment (-5.99 €). The traffic adjustment reflects the impact of higher than planned TNSUs for 2017, while the inflation adjustment reflects the impact of a lower than planned inflation index for 2017. Both adjustments will be reimbursed to airspace users in 2019.

These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TNSUs in 2019.

LITHUANIA: Terminal ATSP (Oro Navigacija)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	4 364	4 317	4 218		
Actual costs for the ATSP	4 484	4 548	4 360		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-119	-231	-142		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-119	-231	-142		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	5	4	5		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-115	-226	-137		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	8 651	10 065	10 076	9 166	8 452
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	8 651	10 065	10 076	9 166	8 452
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	260	302	302	275	254
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	3.0%	3.0%	3.0%	3.0%	3.0%
Estimated surplus embedded in the cost of capital for terminal (in value)	260	302	302	275	254
Overall estimated surplus (+/-) for the terminal activity	260	302	302	275	254
Revenue/costs for the terminal activity	4 364	4 317	4 218	4 258	4 255
Estimated surplus (+/-) in percent of terminal revenues	5.9%	7.0%	7.2%	6.5%	6.0%
Estimated ex-ante RoE pre-tax rate (in %)	3.0%	3.0%	3.0%	3.0%	3.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	7 487	6 974	6 413		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	7 487	6 974	6 413		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	225	209	192		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	3.0%	3.0%	3.0%		
Estimated surplus embedded in the cost of capital for terminal (in value)	225	209	192		
Net ATSP gain(+)/loss(-) on terminal activity	-115	-226	-137		
Overall estimated surplus (+/-) for the terminal activity	110	-17	55		
Revenue/costs for the terminal activity	4 369	4 322	4 222		
Estimated surplus (+/-) in percent of terminal revenues	2.5%	-0.4%	1.3%		
Estimated ex-post RoE pre-tax rate (in %)	1.5%	-0.2%	0.9%		



LITHUANIA: Gate-to-gate

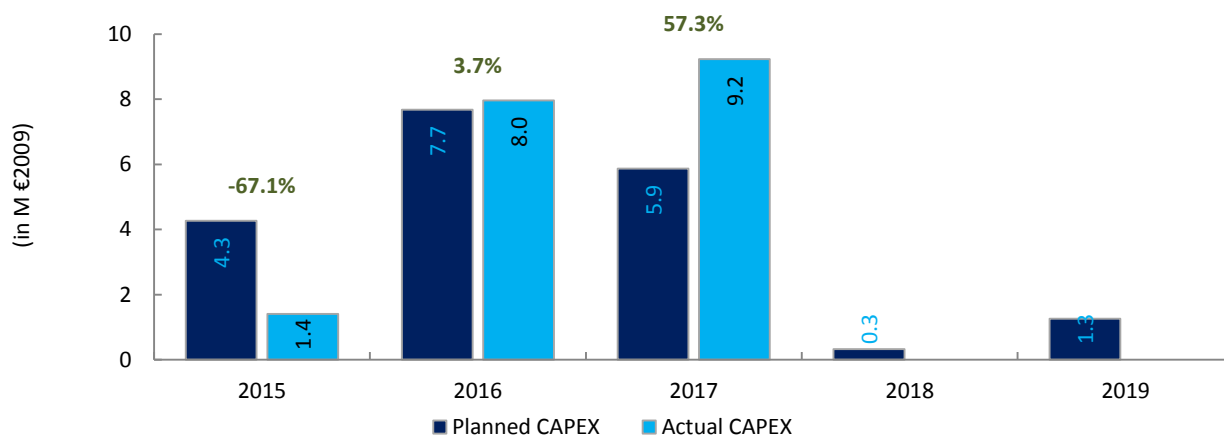
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Lithuania: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	20 652 919	20 223 855	20 434 886	20 737 566	20 814 037																																							
Real terminal costs (EUR2009)	4 496 476	4 453 450	4 356 700	4 395 064	4 389 104																																							
Real gate-to-gate costs (EUR2009)	25 149 396	24 677 305	24 791 586	25 132 629	25 203 141																																							
En-route share (%)	82.1%	82.0%	82.4%	82.5%	82.6%																																							
Lithuania: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	21 120 276	20 659 882	20 826 832																																									
Real terminal costs (EUR2009)	4 636 128	4 703 003	4 519 165																																									
Real gate-to-gate costs (EUR2009)	25 756 404	25 362 885	25 345 998																																									
En-route share (%)	82.0%	81.5%	82.2%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)	in value	607 008	685 580	554 412																																								
	in %	2.4%	2.8%	2.2%																																								
En-route share	in p.p.	-0.1 p.p.	-0.5 p.p.	-0.3 p.p.																																								
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs are +2.2% (+0.6 M€2009) higher than planned due to the combination of higher en-route costs (+1.9%, or +0.4 M€2009) and higher terminal costs (+3.7%, or +0.2 M€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (82.2%) is in line with that planned in the PP for 2017 (82.4%).</p> <p>For Oro Navigacija, the estimated gate-to-gate economic surplus in 2017 amounts to 1.1 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 4.7% of gate-to-gate ANS revenues.</p>																																												
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>82.1%</td> <td>17.9%</td> </tr> <tr> <td>Actual</td> <td>82.0%</td> <td>18.0%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>82.0%</td> <td>18.0%</td> </tr> <tr> <td>Actual</td> <td>81.5%</td> <td>18.5%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>82.4%</td> <td>17.6%</td> </tr> <tr> <td>Actual</td> <td>82.2%</td> <td>17.8%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>82.5%</td> <td>17.5%</td> </tr> <tr> <td>Actual</td> <td>82.6%</td> <td>17.4%</td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>82.6%</td> <td>17.4%</td> </tr> <tr> <td>Actual</td> <td>82.6%</td> <td>17.4%</td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	82.1%	17.9%	Actual	82.0%	18.0%	2016	Determined	82.0%	18.0%	Actual	81.5%	18.5%	2017	Determined	82.4%	17.6%	Actual	82.2%	17.8%	2018	Determined	82.5%	17.5%	Actual	82.6%	17.4%	2019	Determined	82.6%	17.4%	Actual	82.6%	17.4%
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	82.1%	17.9%																																									
	Actual	82.0%	18.0%																																									
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	Actual	82.6%	17.4%																																									
2019	Determined	82.6%	17.4%																																									
	Actual	82.6%	17.4%																																									
3. Technical notes on en-route and terminal information reported by Lithuania																																												

LITHUANIA

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: Oro Navigacija						
FAB: Baltic FAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	4.8	8.9	6.9	0.4	1.6	22.6
Main CAPEX (in nominal M)	4.2	8.7	6.4	0.1	1.2	20.7
Inflation %	1.7%	2.2%	2.5%	2.2%	2.2%	
Inflation index (100 in 2009)	112.9	115.4	118.4	121.0	123.7	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	4.3	7.7	5.9	0.3	1.3	19.4
Main CAPEX (in M €2009)	3.8	7.5	5.4	0.1	1.0	17.8
% Main of Total CAPEX	87.9%	98.3%	92.4%	15.5%	80.3%	91.7%
Real gate-to-gate ANSP costs (in M €2009)	23.2	22.6	22.7	23.1	23.1	114.7
Total CAPEX as % of Real gate-to-gate ANSP costs	18.4%	33.9%	25.9%	1.4%	5.4%	16.9%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	1.5	8.8	10.6			
Main CAPEX (in nominal M)	0.8	8.4	10.2			
Inflation %	-0.7%	0.7%	3.7%			
Inflation index (100 in 2009)	109.5	110.2	114.3			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	1.4	8.0	9.2			
Main CAPEX (in M €2009)	0.7	7.6	8.9			
% Main of Total CAPEX	50.8%	95.4%	96.4%			
Real gate-to-gate ANSP costs (in M €2009)	23.5	23.3	23.1			
Total CAPEX as % of Real gate-to-gate ANSP costs	6.0%	34.1%	40.0%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-3.3	-0.1	3.6			
Total CAPEX (in M €2009)	-2.9	0.3	3.4			
Total CAPEX (in %, M €2009)	-67.1%	3.7%	57.3%			



Annual Monitoring Report 2017
Local level view
Poland

POLAND

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	54	C	B	C	A	B
PANSA	45	B	C	B	C	C
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	0%	0%				
Runway Incursions (RIs)	0%	0%				
ATM Specific Occurrences (ATM-S)		0%				
Source of RAT data:	CAA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	7	2				
Legal/Judiciary	6	1				
Occurrence reporting and Investigation	0	2				
TOTAL	13	5				
PANSA	Number of questions answered					
	YES	NO				
Policy and its implementation	11	2				
Legal/Judiciary	3	0				
Occurrence reporting and Investigation	7	1				
TOTAL	21	3				
Observations						
<p>Two out of the four reviewed EoS components/areas of the State meet the 2019 EoS target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p> <p>Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only two are below Level C.</p> <p>Regarding the RAT application, no data for Poland have been received from the AST mechanism.</p>						

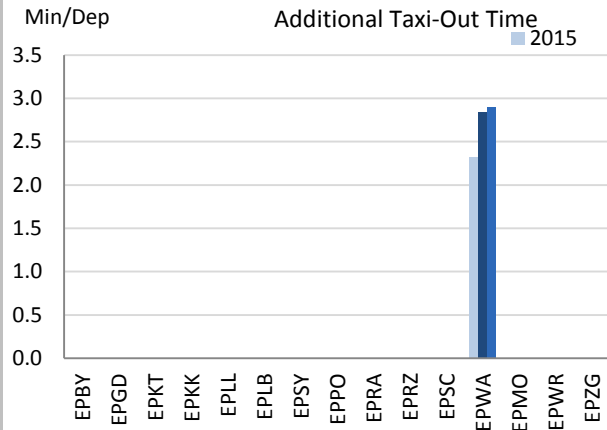
POLAND

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

Poland, as a member of the Baltic FAB, identified fifteen airports as subject to RP2 monitoring, with the last addition of EPSY in 2016 (due to inclusion in the charging zone). However, EPWA continues to be the only airport for which the Airport Operator Data Flow is established. It is strongly recommended to establish the APDF for EPKK, EPGD, EPKT, EPWR, EPPO, EPMO and EPRZ. Implementation of the APDF at EPLL, EPSC, EPBY, EPLB, EPZG, EPSY and EPRA should be considered.

2. Additional Taxi-Out Time

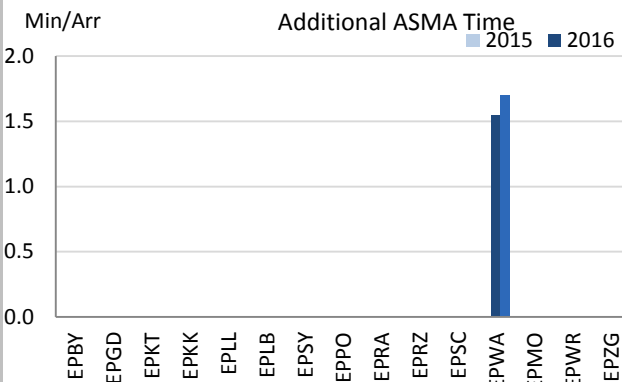


Warsaw shows a marginal increase in its additional TXOT despite an 11% increase in traffic in 2017.

The average additional taxi-out time in Warsaw for 2017 is 2.9 min/dep., below the European average (RP2 airports: 3.33 min/dep.). This figure is commensurate with the level of traffic at EPWA and in line with the trend showed by the rest of European airports.

The additional TXOT at the rest of Polish airports cannot be monitored at the time being due to the lack of data.

3. Additional ASMA Time



The additional ASMA time at Warsaw in 2017 is 1.70 min/arr., slightly below the average of the airports in RP2 (1.89 min/arr.)

This figure is commensurate with the level of traffic at EPWA and in line with the trend showed by the rest of European airports.

The additional time in the terminal airspace at the rest of Polish airports cannot be monitored at the time being due to the lack of data.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bydgoszcz	EPBY	n/a	n/a	n/a			n/a	n/a	n/a		
Gdansk	EPGD	n/a	n/a	n/a			n/a	n/a	n/a		
Katowice - Pyrzowice	EPKT	n/a	n/a	n/a			n/a	n/a	n/a		
Krakow - Balice	EPKK	n/a	n/a	n/a			n/a	n/a	n/a		
Lodz - Lublinek	EPLL	n/a	n/a	n/a			n/a	n/a	n/a		
Lublin	EPLB	n/a	n/a	n/a			n/a	n/a	n/a		
Olsztyn-Mazury	EPSY	n/a	n/a	n/a			n/a	n/a	n/a		
Poznan - Lawica	EPPO	n/a	n/a	n/a			n/a	n/a	n/a		
Radom	EPRA	n/a	n/a	n/a			n/a	n/a	n/a		
Rzeszow - Jasionka	EPRZ	n/a	n/a	n/a			n/a	n/a	n/a		
Szczecin - Goleniów	EPSC	n/a	n/a	n/a			n/a	n/a	n/a		
Warszawa/ Chopina	EPWA	2.32	2.84	2.90			n/a	1.55	1.70		
Warszawa/ Modlin	EPMO	n/a	n/a	n/a			n/a	n/a	n/a		
Wroclaw/ Strachowice	EPWR	n/a	n/a	n/a			n/a	n/a	n/a		
Zielona Gora - Babimost	EPZG	n/a	n/a	n/a			n/a	n/a	n/a		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.26	0.23	0.23	0.23	0.23	Significant improvement on 2016 en-route capacity performance.
Deadband +/-	0.15 - 0.4		0.15 - 0.3			
Actual performance	0.18	0.39	0.11			

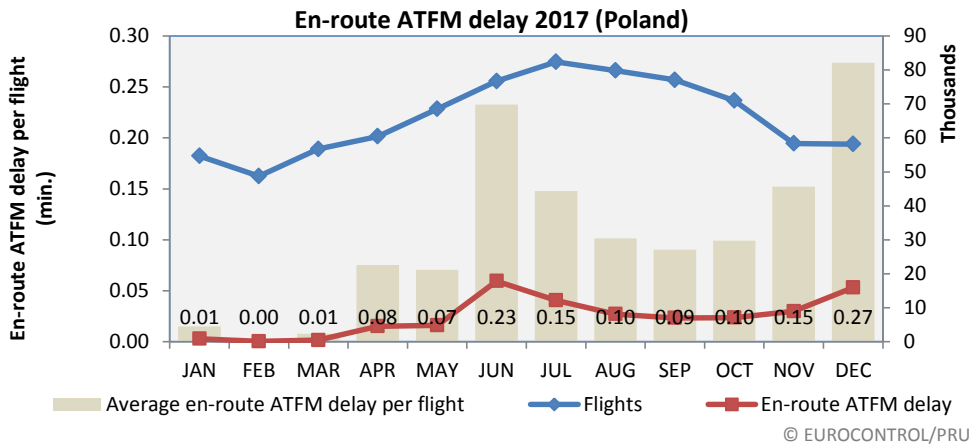
National capacity incentive scheme

Achievement of the BALTIC FAB target for en-route capacity in 2017 (0.21) makes it possible for the local ANSPs to receive incentives.

The actual en-route ATFM delay in FIR Warszawa was 0.11 min/flight. The result is better than the target given for the year 2017. As a consequence, in accordance with incentive scheme which was established, it leads to a bonus (increase of revenues) of 0.025% of en-route revenues.

The bonus is a product of unit rate applicable in 2017 (in FIR Warszawa) and actual number of en-route SU in 2017 and the indicator of 0.025%. The bonus, amounting to 198 940.69 PLN, will be settled with AUs in 2019.4

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Poland)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
2.00	1.63	1.13	0.66	0.52	0.51	0.79	0.18	0.39	0.11

The Polish ANSP, PANSa, significantly improved en-route capacity performance within the Warszawa FIR in 2017 from the previous year. Traffic levels in Poland have remained below those initially predicted for the baseline scenario in the STATFOR forecast available when FAB performance plans and associated capacity plans were being determined. It is noted that the Network Manager, having flagged a significant capacity deficit in Warsaw ACC for 2017-2019 (in NOP 2016-2021) now expects the Polish ANSP to meet capacity targets for the remainder of RP2 (see NOP 2018-2022).

EUROCONTROL 7 year forecast February 2014 – Poland									
	2014	2015	2016	2017	2018	2019			
		actual		actual		actual		actual	
High	722		764		821		871		926
Base	710	702	741	699	774	755	802	793	832
Low	699		719		731		743		756

Planning and Effective Use of CDRs

According to the information provided in the FAB monitoring report, although 22k aircraft filed via CDRs (out of a possible 184k: 12%), only 15k actually used them (8%).

Observations on Planning and Effective Use of CDRs

It is difficult to gauge any performance contribution out of these numbers. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

The data provided in the FAB monitoring report is inconsistent, since more than three times as many hours were recorded as being used than were still allocated for use three hours before time of activation. Furthermore, Poland states that it does not allocate hours for segregation or restriction of airspace after issuance of the AUP.

Observations on Effective booking procedures

No performance contribution can be derived from this data.

POLAND

Monitoring of Airports Contribution to CAPACITY for 2017

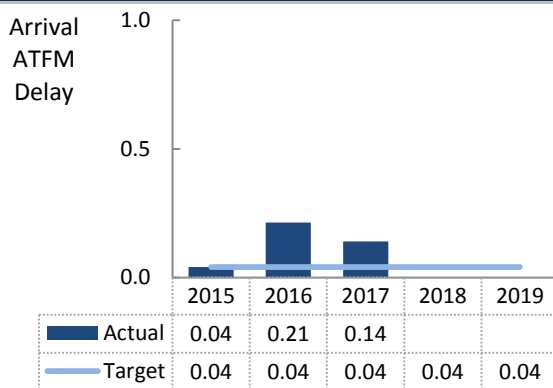
1. Overview

15 Polish airports are subject to RP2 monitoring, although Olsztyn-Mazury (EPSY) since 2016 only. Poland has established a constant national target on arrival ATFM delay of 0.04 min/arr. for RP2. Although no risk of occurrence of arrival ATFM delays during RP2 was identified, the situation deteriorated and the target was not met in both 2016 and 2017 (2015: 0.04 min/arr.; 2016: 0.21 min/arr.; 2017: 0.14 min/arr.).

Both in terms of arrival ATFM delay and ATFM slot adherence, Poland contributes adequately to the Baltic FAB and European performance.

The monitoring of the pre-departure delay indicator requires the establishment of the Airport Operator Data Flow. At the time being the data flow is only established for Warszawa/Chopin (EPWA). Poland is encouraged to consider the implementation of the data flow at other airports to improve the operational performance monitoring.

2. Arrival ATFM Delay



Poland established a constant national target on arrival ATFM delay of 0.04 min/arr. for the whole reference period.

After a substantial deterioration of the performance in 2016, there is a significant improvement in 2017, although it is still missing the national target by 0.10 min/arr.

Terminal delays are generated mainly by Warszawa/Chopin (EPWA). February, April and June were the worst months in terms of arrival ATFM delay at Warsaw, with more than 0.4 min/arr delay. According to the reported regulation reasons, delays in February and June were mostly due to weather conditions and the delays in April were due to aerodrome capacity associated to runway renovations. Like in 2016, the performance is greatly affected by runway maintenance work and related reduced capacity at EPWA.

Polish NSA refers in their monitoring report to the fact that the terminal delays at Warszawa/Chopin attributable to ATC (i.e. ATC Capacity and ATC Staffing) represent less than 10% of the terminal ATFM arrival delays. This is confirmed by the reported regulation reasons. Nevertheless, there are other contributing reasons like Airspace Management and Special Events that represent another 7% of the total arrival ATFM delay.

Baltic FAB's monitoring report explains that the operational environment in Polish airspace is largely influenced by the ATFM regulations implemented in the Western Europe: the more regulations in western FIRs are applied during the day, the more complex situation in FIR Warszawa - and in particular in TMA Warszawa - is in the afternoon/evening.

In August, delays were observed also at Łódź-Lublinek (EPLL) airport, and in September minor ones at Poznań-Ławica (EPPO) airport and Katowice-Pyrzowice (EPKT) airport. However, and according to Baltic FAB, they were not related to ATC but to aerodrome disruptions (EPLL and EPKT) and aerodrome capacity (EPPO). All delays were caused either by the closure of taxiways (due to renovation process) or noise regulations.

3. Arrival ATFM Delay – National Target and Incentive Scheme

Poland has established a constant national target on arrival ATFM delay of 0.04 min/arr. for the whole reference period while the observed performance in 2017 ranges at 0.14 min/arr.

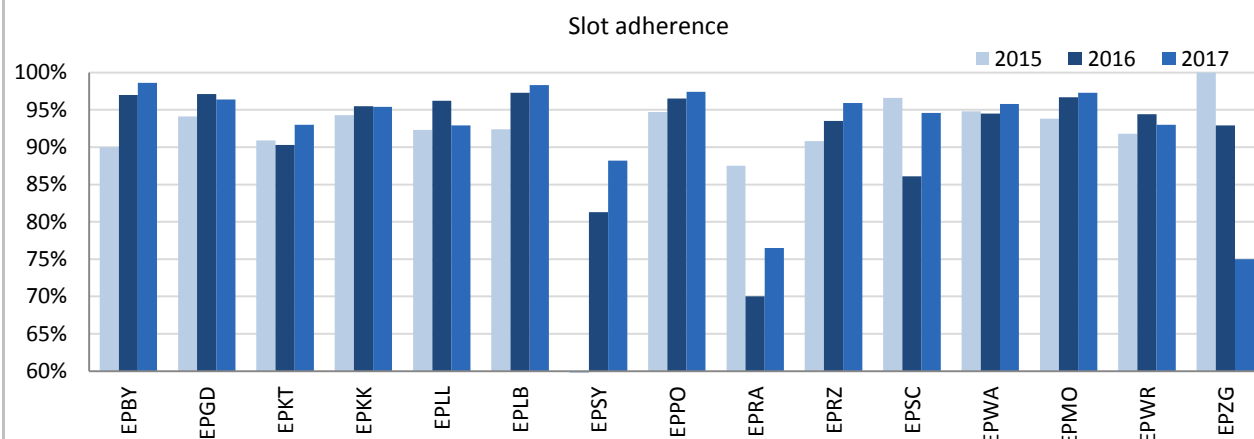
Poland has established a financial incentive scheme for terminal ATFM delay with reference to the arrival ATFM performance at airport level. This comprises an individual scheme for EPWA and a separate scheme for the five bigger regional airports (i.e. EPGD, EPKT, EPWR, EPPO and EPKK). The remaining airports are not considered within the incentive scheme due to their limited impact on the European network.

Warsaw has missed the target of 0.08 min/arr and has also exceeded the upper value of the deadband, therefore a penalty of 0.1% of the revenues from terminal services provided at EPWA will be applied.

At Krakow, Katowice and Poznan the actual observed performance falls within the deadband, so no penalties nor bonuses shall apply.

Gdansk and Wroclaw met the zero delay target, but as the terminal capacity target is missed on national level, the bonuses could not be applied.

4. ATFM Slot Adherence



The aggregated ATFM slot adherence at national level in Poland is very good with 95.5% of departures within their ATFM window and it shows a general improvement with respect to 2016. However, there are two airports: EPRA and EPZG where the ATFM slot adherence is below the minimum target of 80%. Regardless of the low level of traffic at these airports, the slot adherence should be monitored and air traffic services informed.

5. Pre-departure Delay

Warszawa/Chopina (EPWA) continues to be the only airport in Poland that has established the Airport Operator Data Flow required to monitor the pre-departure delay indicator. The indicator shows a worsening of the performance along the RP2 years with 0.47 min/dep in 2017.

6. Appendix

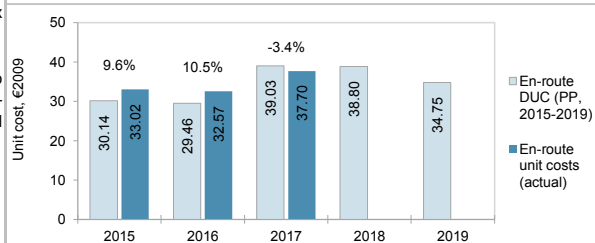
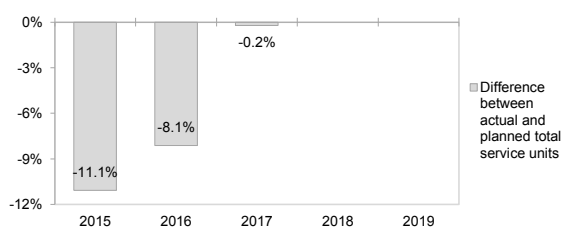
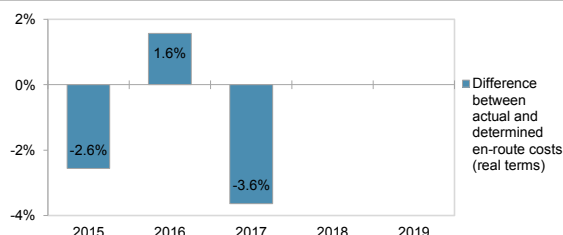
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bydgoszcz	EPBY	0.00	0.00	0.00			90.0%	97.0%	98.6%			n/a	n/a	n/a		
Gdansk	EPGD	0.00	0.00	0.00			94.1%	97.1%	96.4%			n/a	n/a	n/a		
Katowice - Pyrzowice	EPKT	0.01	0.00	0.01			90.9%	90.3%	93.0%			n/a	n/a	n/a		
Krakow - Balice	EPKK	0.21	0.05	0.01			94.3%	95.5%	95.4%			n/a	n/a	n/a		
Lodz - Lublinek	EPLL	0.00	0.04	0.14			92.3%	96.2%	92.9%			n/a	n/a	n/a		
Lublin	EPLB	0.00	0.00	0.00			92.4%	97.3%	98.3%			n/a	n/a	n/a		
Olsztyn-Mazury	EPSY		0.00	0.00				81.3%	88.2%				n/a	n/a		
Poznan - Lawica	EPPO	0.00	0.00	0.02			94.7%	96.5%	97.4%			n/a	n/a	n/a		
Radom	EPRA	0.00	0.00	0.00			87.5%	70.0%	76.5%			n/a	n/a	n/a		
Rzeszow - Jasionka	EPRZ	0.00	0.00	0.00			90.8%	93.5%	95.9%			n/a	n/a	n/a		
Szczecin - Goleniów	EPSC	0.00	0.00	0.00			96.6%	86.1%	94.6%			n/a	n/a	n/a		
Warszawa/ Chopina	EPWA	0.03	0.48	0.31			94.8%	94.5%	95.8%			0.26	0.45	0.47		
Warszawa/ Modlin	EPMO	0.00	0.00	0.00			93.8%	96.7%	97.3%			n/a	n/a	n/a		
Wroclaw/ Strachowice	EPWR	0.00	0.00	0.00			91.8%	94.4%	93.0%			n/a	n/a	n/a		
Zielona Gora - Babimost	EPZG	0.00	0.00	0.00			100.0%	92.9%	75.0%			n/a	n/a	n/a		

POLAND: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

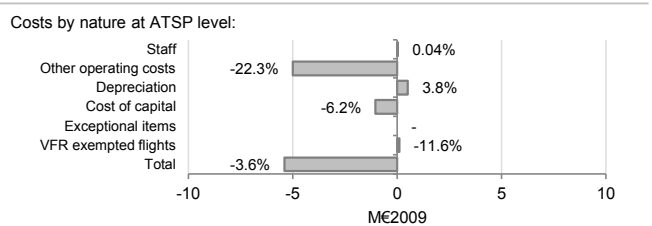
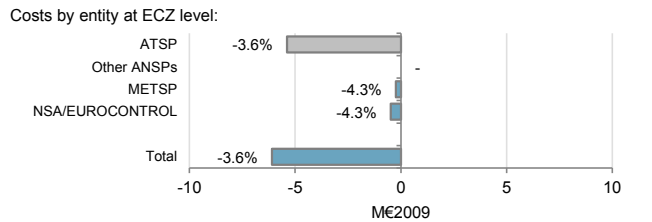
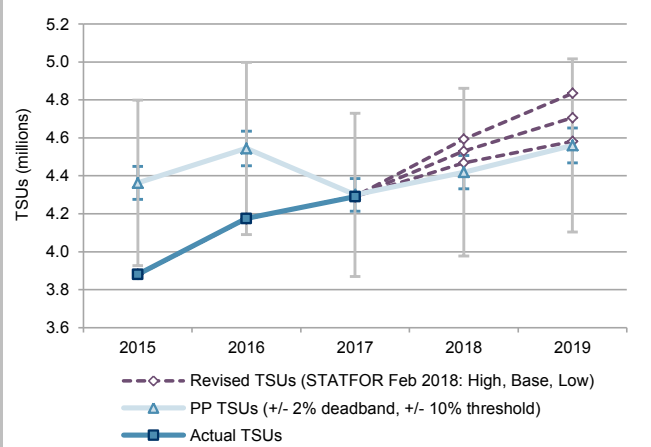
1. Contextual economic information: en-route air navigation services					
Poland ECZ represents 2.5% of the SES en-route ANS determined costs in 2017					
· ATSP: PANSA					
· FAB: Baltic FAB					
· National currency: PLN Exchange rate 2009: 1 EUR = 4.32383 PLN					
2. En-route DUC monitoring at Charging Zone level					
Poland: Data from RP2 Performance Plan (EC Decision 2017/2376 of 15 December 2017)	2015D	2016D	2017D	2018D	2019D
En-route costs (nominal PLN)	658 592 342	687 375 337	807 874 605	840 660 505	795 098 157
Inflation %	2.4%	2.5%	1.1%	1.9%	2.4%
Inflation index (100 in 2009)	115.9	118.7	111.3	113.4	116.1
Real en-route costs (PLN2009)	568 474 758	578 848 069	725 678 008	741 339 221	685 060 982
Total en-route Service Units	4 362 840	4 544 000	4 299 929	4 419 000	4 560 000
Real en-route unit cost per Service Unit (PLN2009)	130.30	127.39	168.77	167.76	150.23
Real en-route unit cost per Service Unit (EUR2009)	30.14	29.46	39.03	38.80	34.75
Poland: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
En-route costs (nominal PLN)	614 155 894	650 495 550	786 151 715		
Inflation %	-0.7%	-0.2%	1.6%		
Inflation index (100 in 2009)	110.9	110.6	112.4		
Real en-route costs (PLN2009)	553 949 301	587 902 332	699 316 075		
Total en-route Service Units	3 880 013	4 174 735	4 290 520		
Real en-route unit cost per Service Unit (PLN2009)	142.77	140.82	162.99		
Real en-route unit cost per Service Unit (EUR2009)	33.02	32.57	37.70		
Difference between Actuals and Planned	2015	2016	2017	2018	2019
En-route costs (nominal PLN)	-44 436 448	-36 879 787	-21 722 890		
	in %	-6.7%	-5.4%	-2.7%	
Inflation %	-3.1 p.p.	-2.7 p.p.	0.5 p.p.		
Inflation index (100 in 2009)	-5.0 p.p.	-8.1 p.p.	1.1 p.p.		
Real en-route costs (PLN2009)	-14 525 457	9 054 263	-26 361 933		
	in %	-2.6%	1.6%	-3.6%	
Total en-route Service Units	-482 827	-369 265	-9 409		
	in %	-11.1%	-8.1%	-0.2%	
Real en-route unit cost per Service Unit (PLN2009)	12.47	13.44	-5.77		
	in %	9.6%	10.5%	-3.4%	
Real en-route unit cost per Service Unit (EUR2009)	2.88	3.11	-1.34		
	in %	9.6%	10.5%	-3.4%	
3. Focus on en-route at State/Charging Zone level					
En-route unit cost					
In 2017, the actual en-route unit cost in real terms (37.70 €2009) is -3.4% lower than planned in the PP (39.03 €2009). This difference mainly results from lower than planned en-route costs (-3.6%, or -6.1 M€2009) while actual TSUs are almost in line with the level planned in the PP (-0.2%).					
En-route service units					
The difference between actual and planned TSUs (-0.2%) falls within the ±2% dead band foreseen in the traffic risk sharing mechanism. The resulting loss of en-route revenues (-0.3 M€2009) is therefore entirely borne by the ATSP. Considering the latest STATFOR <u>base</u> scenario (February 2018), actual traffic is likely to remain higher than planned until the end of RP2.					
En-route costs					
In nominal terms, actual en-route costs are -2.7% lower than planned. However, since the actual inflation index is higher than planned (+1.1 p.p.), actual en-route costs are -3.6% below the planned level when expressed in €2009.					
The lower than planned en-route costs in real terms are driven by lower costs across all the reporting entities: the ATSP, PANSA (-3.6% or some -5.4 M€2009), the MET Service Provider (-4.3% or -0.2 M€2009) and the NSA/EUROCONTROL (-4.3% or -0.5 M€2009). PANSA being the main contributor to the en-route cost base, a detailed analysis at ATSP level is provided in box 12.					
Costs exempt from cost-sharing are reported for a total amount of -0.5 M€2009 corresponding to EUROCONTROL costs and new cost item required by law. These costs will be eligible for carry-over (to be reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.					



POLAND: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) **5. En-route costs monitoring (2017 actuals compared to PP)**

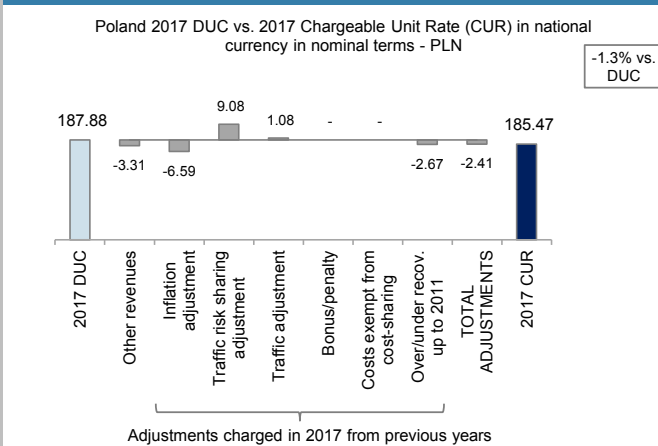


6. En-route costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	526	102	-229		
	International agreements	125	1 101	-293		
by entity	ATSP	526	102	-229		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA/EUROCONTROL	125	1 101	-293		
Total costs exempt from cost sharing		651	1 202	-521		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

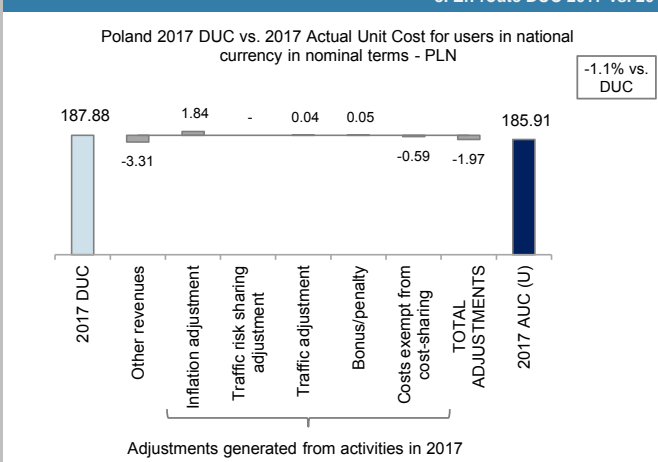
7. En-route DUC 2017 vs. 2017 Unit Rate charged to users



The CUR charged to airspace users in 2017 is 185.47 PLN. This is -1.3% lower than the nominal DUC (187.88 PLN). The difference between these two figures (-2.41 PLN) mainly relates to:
 - a traffic risk sharing adjustment (+9.08 PLN) which reflects the loss in revenues due to lower than planned traffic in 2015, which is charged to airspace users in 2017; and,
 - an inflation adjustment (-6.59 PLN) corresponding to the impact of a lower than planned inflation index for the year 2015 and the subsequent reimbursement to the airspace users in 2017.

These costs and adjustments are divided by the forecast TSUs for 2017 as laid out in the RP2 performance plan.

8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users



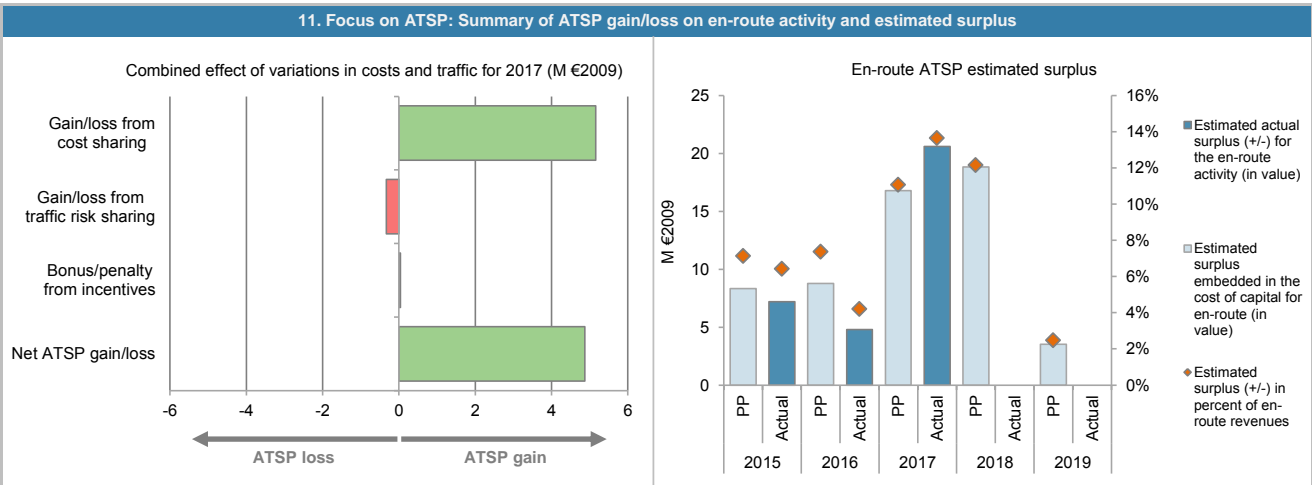
The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (185.91 PLN) is -1.1% lower than the nominal DUC (187.88 PLN). The major factors contributing to the observed difference (-1.97 PLN) are:
 - the inflation adjustment (+1.84 PLN) reflecting the impact of higher than planned inflation index in 2017, which will be charged to airspace users in 2019; and,
 - the deduction of other revenues (-3.31 PLN) mainly relating to revenues from European Union programmes.

These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TSUs in 2017.

POLAND: En-route ATSP (PANSa)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	116 939	118 981	151 522		
Actual costs for the ATSP	113 577	119 455	146 131		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	3 361	-474	5 391		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	526	102	-229		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	3 888	-373	5 162		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-11.1%	-8.1%	-0.2%		
Determined costs for the ATSP (PP) - based on actual inflation	122 165	127 693	150 053		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-5 375	-4 901	-328		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	-32	41		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	-1 488	-5 305	4 875		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	140 047	147 467	214 796	241 099	254 476
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	140 047	147 467	214 796	241 099	254 476
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	8 333	8 774	16 776	18 830	3 514
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	6.0%	6.0%	7.8%	7.8%	1.4%
Estimated surplus embedded in the cost of capital for en-route (in value)	8 333	8 774	16 776	18 830	3 514
Overall estimated surplus (+/-) for the en-route activity	8 333	8 774	16 776	18 830	3 514
Revenue/costs for the en-route activity	116 939	118 981	151 522	155 060	141 971
Estimated surplus (+/-) in percent of en-route revenues	7.1%	7.4%	11.1%	12.1%	2.5%
Estimated ex-ante RoE pre-tax rate (in %)	6.0%	6.0%	7.8%	7.8%	1.4%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	145 940	169 815	201 452		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	145 940	169 815	201 452		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	8 683	10 104	15 733		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	6.0%	6.0%	7.8%		
Estimated surplus embedded in the cost of capital for en-route (in value)	8 683	10 104	15 733		
Net ATSP gain(+)/loss(-) on en-route activity	-1 488	-5 305	4 875		
Overall estimated surplus (+/-) for the en-route activity	7 196	4 799	20 608		
Revenue/costs for the en-route activity	112 090	114 150	151 006		
Estimated surplus (+/-) in percent of en-route revenues	6.4%	4.2%	13.6%		
Estimated ex-post RoE pre-tax rate (in %)	4.9%	2.8%	10.2%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 PANSAs en-route costs vs. PP

In 2017, PANSAs actual en-route costs are -3.6% (-5.4 M€2009) lower, in real terms, than planned in the PP. Based on the Additional Information provided with the en-route Reporting Tables, this deviation results from the following changes in the different cost categories:

- staff costs slightly higher than planned due to additional bonuses for good operational performance;
- lower other operating costs (-22.3% or -5.0 M€2009) mainly due to savings on repair and maintenance costs, optimisation measures and deduction of financial income from actual costs;
- higher depreciation costs (+3.8% or +0.5 M€2009); and,
- lower cost of capital (-6.2% or -1.0 M€2009) due to a lower asset base.

PANSAs net gain/loss on en-route activity in 2017

As shown in box 9, PANSAs generated a net gain of +4.9 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +5.2 M€2009 arising from the cost-sharing mechanism;
- a loss of -0.3 M€2009 arising from the traffic risk-sharing mechanism; and,
- a gain of +0.04 M€2009, corresponding to a bonus eligible for payment to PANSAs as part of the capacity target incentive mechanism. This amount corresponds to 0.03% of PANSAs en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission as part of the compliance review of the 2019 unit rates.

PANSAs overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+4.9 M€2009) and the surplus embedded in the actual cost of capital (+15.8 M€2009) amounts to +20.6 M€2009 (13.6% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 10.2%, which is higher than the 7.8% planned in the PP.

POLAND - ZONE 1: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
Poland - Zone 1 TCZ represents 0.8% of the SES terminal ANS determined costs in 2017		Is this TCZ applying traffic risk sharing?		No	
ATSP: PANSAs		Airports with fewer than 70,000 IFRs ATMs:		0	
National currency: PLN		Airports with between 70,000 and 225,000 IFRs ATMs:		1	
Number of airports in charging zone in 2017: 1,		of which:		Airports with more than 225,000 IFRs ATMs: 0	
2. Terminal DUC monitoring at Charging Zone level					
Poland - Zone 1: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal PLN)	38 684 631	40 473 739	43 188 562	44 236 846	43 835 422
Inflation %	2.4%	2.5%	2.5%	2.5%	2.5%
Inflation index (100 in 2009)	115.9	118.7	121.7	124.8	127.9
Real terminal costs (PLN2009)	33 391 272	34 083 483	35 482 607	35 457 415	34 278 692
Total terminal Service Units	64 694	68 522	72 865	77 097	81 450
Real terminal unit cost per Service Unit (PLN2009)	516.14	497.41	486.96	459.91	420.86
Real terminal unit cost per Service Unit (EUR2009)	119.37	115.04	112.62	106.37	97.33
Poland - Zone 1: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal PLN)	40 288 789	41 483 085	39 055 461		
Inflation %	-0.7%	-0.2%	1.6%		
Inflation index (100 in 2009)	110.9	110.6	112.4		
Real terminal costs (PLN2009)	36 339 221	37 491 421	34 741 528		
Total terminal Service Units	70 718	78 789	90 729		
Real terminal unit cost per Service Unit (PLN2009)	513.86	475.85	382.91		
Real terminal unit cost per Service Unit (EUR2009)	118.84	110.05	88.56		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal PLN)	in value 1 604 158	1 009 347	-4 133 101		
	in % 4.1%	2.5%	-9.6%		
Inflation %	in p.p. -3.1 p.p.	-2.7 p.p.	-0.9 p.p.		
Inflation index (100 in 2009)	in p.p. -5.0 p.p.	-8.1 p.p.	-9.3 p.p.		
Real terminal costs (PLN2009)	in value 2 947 948	3 407 938	-741 079		
	in % 8.8%	10.0%	-2.1%		
Total terminal Service Units	in value 6 024	10 267	17 864		
	in % 9.3%	15.0%	24.5%		
Real terminal unit cost per Service Unit (PLN2009)	in value -2.28	-21.56	-104.05		
	in % -0.4%	-4.3%	-21.4%		
Real terminal unit cost per Service Unit (EUR2009)	in value -0.53	-4.99	-24.06		
	in % -0.4%	-4.3%	-21.4%		
3. Focus on terminal at State/Charging Zone level					
This analysis focuses on Poland Terminal Charging Zone 1 (Warsaw). See Note 1.					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (88.56 €2009) is -21.4% lower than planned in the PP (112.62 €2009). This difference results from the combination of higher than planned TNSUs (+24.5%) and lower actual terminal costs (-2.1%, or -0.2 M€2009).					
Terminal service units					
Traffic risk sharing does not apply in the TCZ. The difference between actual and planned TNSUs (+24.5%) therefore generates additional terminal revenues which will be fully reimbursed to airspace users. Based on the STATFOR February 2018 forecast base scenario, the TNSUs are expected to remain well above the planned values in the remaining years of RP2.					
Terminal costs					
In nominal terms, actual terminal costs are -9.6% lower than planned. However, since the actual inflation index is also lower than planned (-9.3 p.p.), the actual terminal costs are -2.1% below the planned level when expressed in €2009.					
The deviation between actual and planned terminal costs in real terms reflects a combination of lower costs for PANSAs (-4.6% or -0.4 M€2009) and the NSA (-22.7% or -0.1 M€2009); and higher costs for the MET Service Provider (+83.4% or +0.2 M€2009). PANSAs being the main contributor to the terminal cost base, a detailed analysis at ATSP level is provided in box 12.					
Costs exempt from cost-sharing are reported for a total amount of -0.01 M€2009 corresponding to new cost item required by law for PANSAs. These costs will be eligible for carry-over (reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.					

Year	Difference (%)
2015	8.8%
2016	10.0%
2017	-2.1%
2018	0%
2019	0%

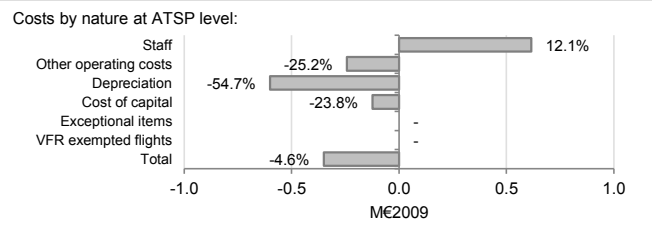
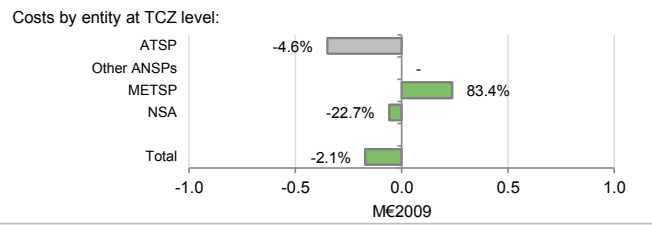
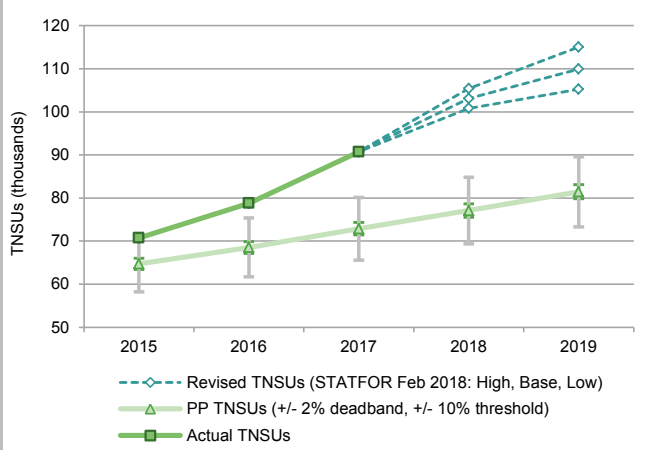
Year	Difference (%)
2015	9.3%
2016	15.0%
2017	24.5%
2018	0%
2019	0%

Year	Terminal DUC (PP, €2009)	Terminal unit costs (actual, €2009)	Difference (%)
2015	119.37	118.84	-0.4%
2016	115.04	110.05	-4.3%
2017	112.62	88.56	-21.4%
2018	106.37	97.33	
2019	97.33	97.33	

POLAND - ZONE 1: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

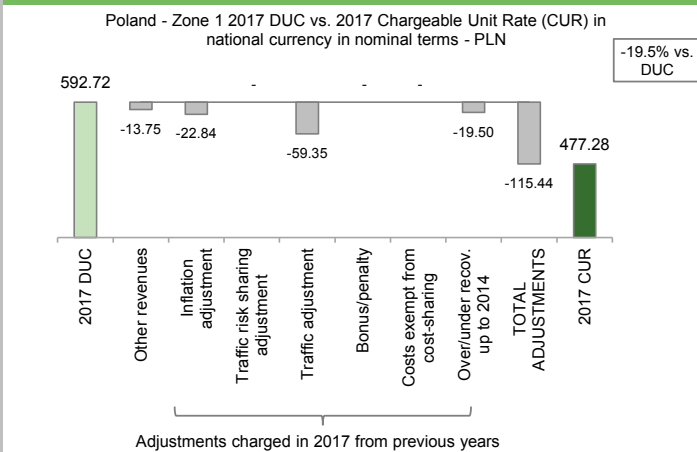


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	49	8	-13		
	International agreements	0	0	0		
by entity	ATSP	49	8	-13		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		49	8	-13		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

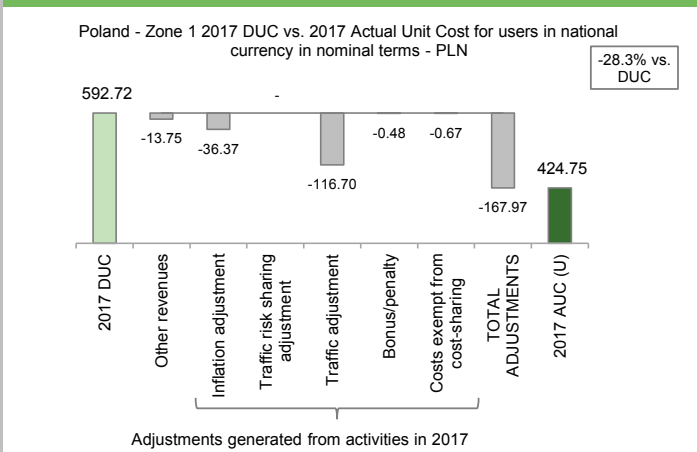


The CUR charged to airspace users in 2017 is 477.28 PLN. This is -19.5% lower than the nominal DUC (592.72 PLN). The difference between these two figures (-115.44 PLN) mainly relates to:

- the traffic adjustment (-59.35 PLN) reflecting higher than planned TNSUs for the year 2015 and the subsequent reimbursement to airspace users in 2017;
- the inflation adjustment (-22.84 PLN) corresponding to the impact of a lower than planned inflation index in 2015 and the subsequent reimbursement to airspace users in 2017.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the RP2 performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (424.75 PLN) is -28.3% lower than the nominal DUC (592.72 PLN). The two most important factors contributing to the observed difference (-167.97 PLN) are the traffic adjustment (-116.70 PLN) and the inflation adjustment (-36.37 PLN).

The traffic adjustment reflects the impact of higher than planned TNSUs for 2017, while the inflation adjustment reflects the impact of a lower than planned inflation index for 2017. Both adjustments will be reimbursed to airspace users in 2019.

These costs and adjustments (**for other revenues see Reader's Guide**) are divided by the **actual** TNSUs in 2017.

POLAND - ZONE 2: Terminal charging zone

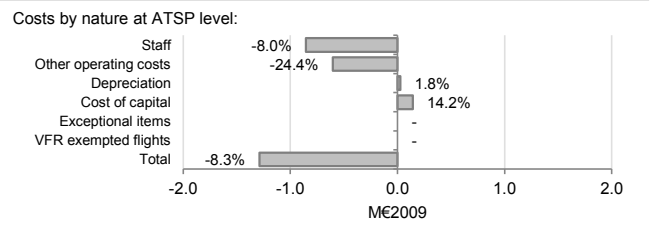
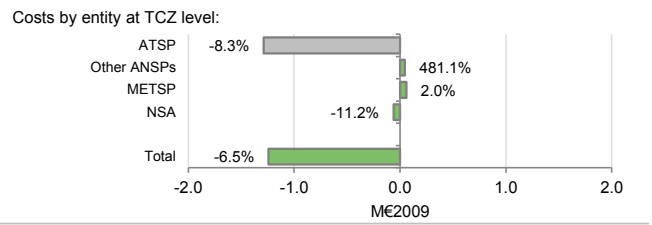
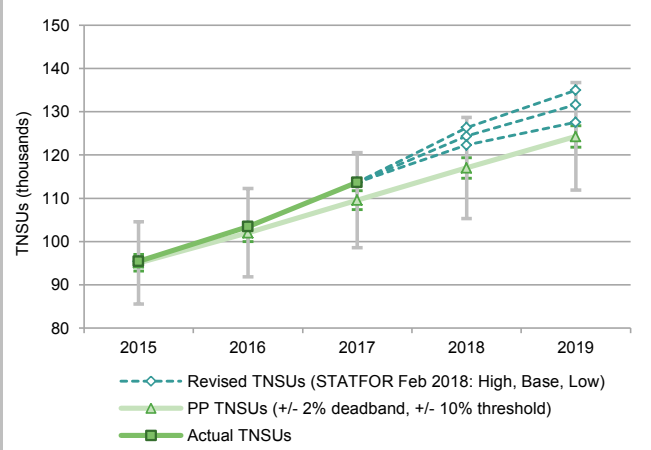
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
Poland - Zone 2 TCZ represents 1.8% of the SES terminal ANS determined costs in 2017		Is this TCZ applying traffic risk sharing?		No	
ATSP:	PANSA	Airports with fewer than 70,000 IFRs ATMs:		14	
National currency:	PLN	Airports with between 70,000 and 225,000 IFRs ATMs:		0	
Number of airports in charging zone in 2017:	14,	of which:	Airports with more than 225,000 IFRs ATMs:		0
2. Terminal DUC monitoring at Charging Zone level					
Poland - Zone 2: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal PLN)	91 615 857	97 620 964	100 827 140	103 009 775	107 437 855
Inflation %	2.38%	2.5%	2.5%	2.5%	2.5%
Inflation index (100 in 2009)	115.9	118.7	121.7	124.8	127.9
Real terminal costs (PLN2009)	79 079 726	82 207 934	82 836 974	82 566 020	84 014 912
Total terminal Service Units	95 106	102 052	109 584	117 005	124 294
Real terminal unit cost per Service Unit (PLN2009)	831.49	805.55	755.92	705.66	675.94
Real terminal unit cost per Service Unit (EUR2009)	192.31	186.30	174.83	163.20	156.33
Poland - Zone 2: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal PLN)	84 508 955	89 844 281	87 082 979		
Inflation %	-0.70%	-0.2%	1.6%		
Inflation index (100 in 2009)	110.9	110.6	112.4		
Real terminal costs (PLN2009)	76 224 420	81 199 114	77 464 090		
Total terminal Service Units	95 437	103 452	113 696		
Real terminal unit cost per Service Unit (PLN2009)	798.69	784.90	681.33		
Real terminal unit cost per Service Unit (EUR2009)	184.72	181.53	157.57		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal PLN)	-7 106 902	-7 776 683	-13 744 161		
	in %	-8.0%	-13.6%		
Inflation %	-3.1 p.p.	-2.7 p.p.	-0.9 p.p.		
Inflation index (100 in 2009)	-5.0 p.p.	-8.1 p.p.	-9.3 p.p.		
Real terminal costs (PLN2009)	-2 855 306	-1 008 821	-5 372 884		
	in %	-1.2%	-6.5%		
Total terminal Service Units	332	1 400	4 112		
	in %	1.4%	3.8%		
Real terminal unit cost per Service Unit (PLN2009)	-32.81	-20.65	-74.60		
	in %	-2.6%	-9.9%		
Real terminal unit cost per Service Unit (EUR2009)	-7.59	-4.78	-17.25		
	in %	-2.6%	-9.9%		
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Poland Terminal Charging Zone 2 comprising 14 airports: Krakow, Gdansk, Poznan, Wroclaw, Szczecin, Katowice, Lodz, Rzeszow, Zielona Gora, Bydgoszcz, Modlin, Lublin, Rادم and Olsztyn-Mazury. See Note 1.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (157.57 €2009) is -9.9% lower than planned in the PP (174.83 €2009). This difference results from the combination of higher than planned TNSUs (+3.8%) and lower actual terminal costs (-6.5%, or -5.4 M€2009).</p> <p>Terminal service units Traffic risk sharing does not apply in the TCZ. The difference between actual and planned TNSUs (+3.8%) therefore generates additional terminal revenues which will be fully reimbursed to airspace users. Based on the STATFOR February 2018 forecast baseline scenario, the TNSUs are expected to remain above the planned values in the remaining years of RP2.</p> <p>Terminal costs In nominal terms, actual terminal costs are -13.6% lower than planned. However, since the actual inflation index is also lower than planned (-9.3 p.p.), the actual terminal costs are -6.5% below the planned level when expressed in €2009. The deviation between actual and planned terminal costs in real terms reflects a combination of lower costs for PANSA (-8.3% or -1.3 M€2009) and the NSA (-11.2% or -0.1 M€2009) and higher costs for Modlin AFIS (+481.1% or +0.05 M€2009) and the MET Service Providers (+2.0% or +0.1 M€2009). PANSA being the main contributor to the terminal cost base, a detailed analysis at ATSP level is provided in box 12.</p> <p>Costs exempt from cost-sharing are reported for a total amount of -0.02 M€2009 corresponding to new cost item required by law for PANSA. These costs will be eligible for carry-over (reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.</p>					

POLAND - ZONE 2: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) **5. Terminal costs monitoring (2017 actuals compared to PP)**

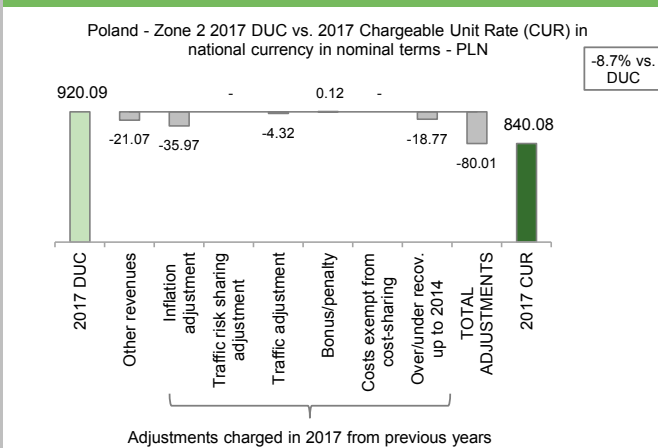


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	66	8	-16		
	International agreements	0	0	0		
by entity	ATSP	66	8	-16		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		66	8	-16		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

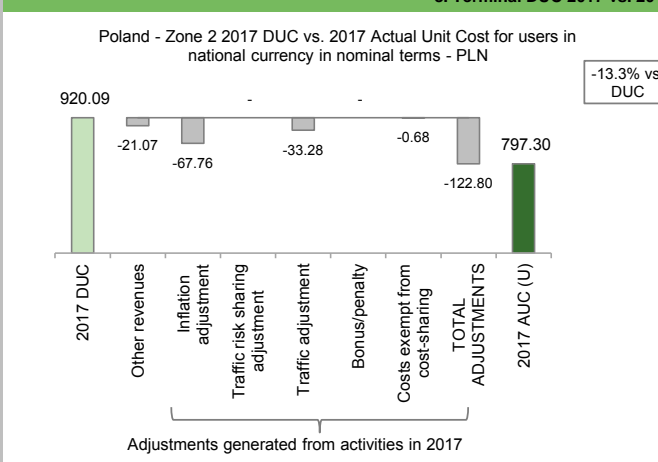


The CUR charged to airspace users in 2017 is 840.08 PLN. This is -8.7% lower than the nominal DUC (920.09 PLN). The difference between these two figures (-80.01 PLN) mainly relates to:

- the inflation adjustment (-35.97 PLN) corresponding to the impact of a lower than planned inflation index in 2015 and the subsequent reimbursement to airspace users in 2017.
- the deduction of other revenues (-21.07 PLN).

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the RP2 performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



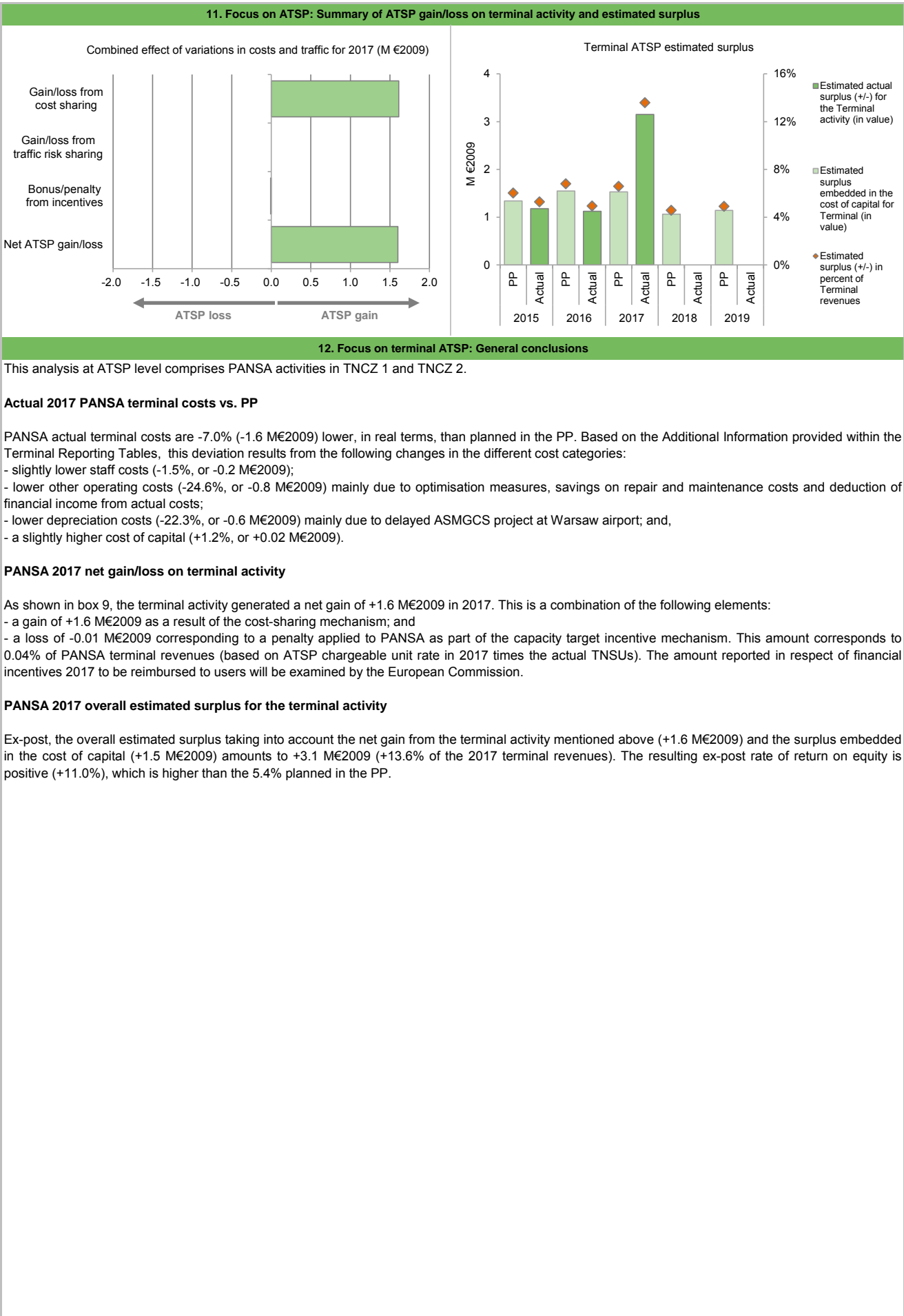
The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (797.30 PLN) is -13.3% lower than the nominal DUC (920.09 PLN). The two most important factors contributing to the observed difference (-122.80 PLN) are the inflation adjustment (-67.76 PLN) and the traffic adjustment (-33.28 PLN). The traffic adjustment reflects the impact of higher than planned TNSUs for 2017, while the inflation adjustment reflects the impact of a lower than planned inflation index for 2017. Both adjustments will be reimbursed to airspace users in 2019.

These costs and adjustments (**for other revenues see Reader's Guide**) are divided by the **actual** TNSUs in 2017.

POLAND: Terminal ATSP (PANSa)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	22 279	22 785	23 253		
Actual costs for the ATSP	22 725	23 459	21 614		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-445	-674	1 639		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	115	16	-29		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-330	-658	1 610		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	3	-17	-9		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-327	-674	1 601		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	22 504	25 990	28 178	30 583	32 419
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	22 504	25 990	28 178	30 583	32 419
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	1 339	1 546	1 529	1 063	1 143
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	6.0%	6.0%	5.4%	3.5%	3.5%
Estimated surplus embedded in the cost of capital for terminal (in value)	1 339	1 546	1 529	1 063	1 143
Overall estimated surplus (+/-) for the terminal activity	1 339	1 546	1 529	1 063	1 143
Revenue/costs for the terminal activity	22 279	22 785	23 253	23 285	23 372
Estimated surplus (+/-) in percent of terminal revenues	6.0%	6.8%	6.6%	4.6%	4.9%
Estimated ex-ante RoE pre-tax rate (in %)	6.0%	6.0%	5.4%	3.5%	3.5%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	25 319	30 172	28 524		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	25 319	30 172	28 524		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	1 506	1 795	1 548		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	6.0%	6.0%	5.4%		
Estimated surplus embedded in the cost of capital for terminal (in value)	1 506	1 795	1 548		
Net ATSP gain(+)/loss(-) on terminal activity	-327	-674	1 601		
Overall estimated surplus (+/-) for the terminal activity	1 179	1 121	3 149		
Revenue/costs for the terminal activity	22 397	22 785	23 216		
Estimated surplus (+/-) in percent of terminal revenues	5.3%	4.9%	13.6%		
Estimated ex-post RoE pre-tax rate (in %)	4.7%	3.7%	11.0%		



POLAND: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs

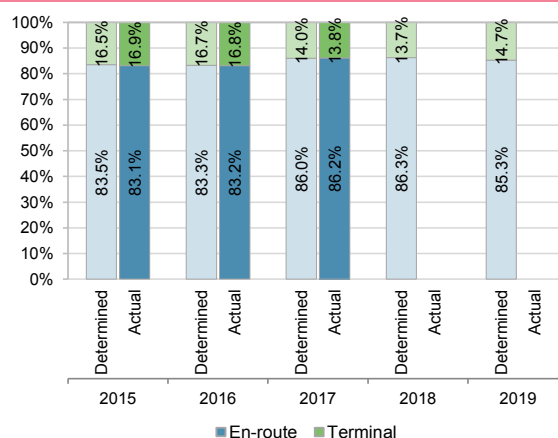
Poland: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		131 474 817	133 873 919	167 832 225	171 454 294	158 438 464
Real terminal costs (EUR2009)		26 011 892	26 895 465	27 364 531	27 296 040	27 358 523
Real gate-to-gate costs (EUR2009)		157 486 709	160 769 384	195 196 756	198 750 334	185 796 987
En-route share (%)		83.5%	83.3%	86.0%	86.3%	85.3%
Poland: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		128 115 421	135 967 957	161 735 331		
Real terminal costs (EUR2009)		26 033 318	27 450 324	25 950 516		
Real gate-to-gate costs (EUR2009)		154 148 739	163 418 281	187 685 846		
En-route share (%)		83.1%	83.2%	86.2%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	-3 337 970	2 648 897	-7 510 910		
	in %	-2.1%	1.6%	-3.8%		
En-route share	in p.p.	-0.4 p.p.	-0.1 p.p.	0.2 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs are -3.8% (-7.5 M€2009) lower than planned due to the combination of lower en-route costs (-3.6%, or -6.1 M€2009) and lower terminal costs (-5.2%, or 1.4 M€2009).

The actual share of en-route in gate-to-gate ANS costs (86.2%) is in line with that planned in the PP for 2017 (86.0%).

For PANSAs, the estimated gate-to-gate economic surplus in 2017 amounts to 23.8 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 13.6% of gate-to-gate ANS revenues.



3. Technical notes on en-route and terminal information reported by Poland

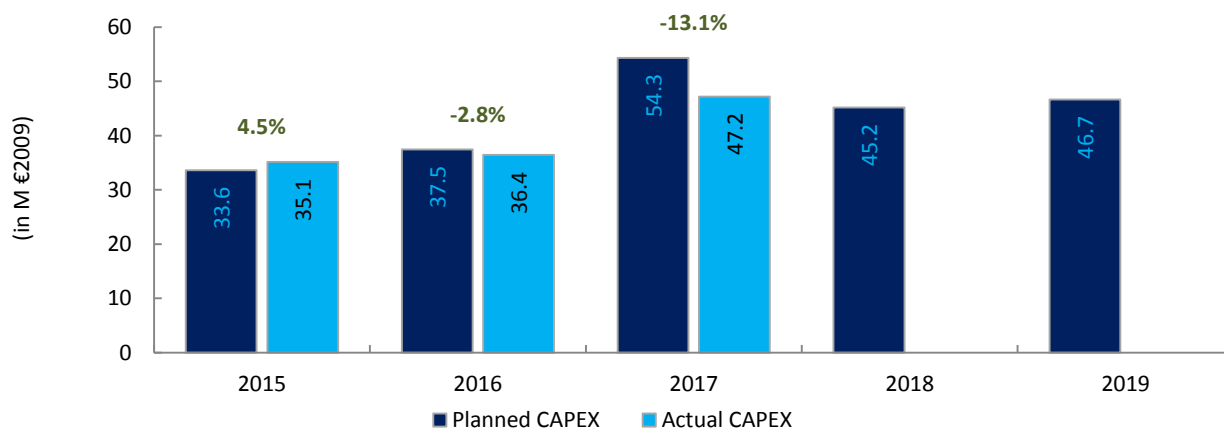
Note 1: As of 01.01.2017 until the end of RP2, Poland has decided to modify the configuration of the terminal charging zones as follows:

- Poland Terminal Charging Zone 1 dedicated to Warsaw Chopin airport; and,
- Poland Terminal Charging Zone 2 comprising 14 other airports.

POLAND

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: PANSÁ						
FAB: Baltic FAB						
Currency: PLN						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	168.5	192.4	261.6	221.6	234.1	1 078.2
Main CAPEX (in nominal M)	149.3	154.3	234.4	194.2	227.8	960.0
Inflation %	2.4%	2.5%	1.1%	1.9%	2.4%	
Inflation index (100 in 2009)	115.9	118.7	111.3	113.4	116.1	
Exchange rate 2009	4.32383	4.32383	4.32383	4.32383	4.32383	
Total CAPEX (in M €2009)	33.6	37.5	54.3	45.2	46.7	217.3
Main CAPEX (in M €2009)	29.8	30.1	48.7	39.6	45.4	193.6
% Main of Total CAPEX	88.6%	80.2%	89.6%	87.6%	97.3%	89.1%
Real gate-to-gate ANSP costs (in M €2009)	139.2	141.8	174.8	178.3	165.3	799.4
Total CAPEX as % of Real gate-to-gate ANSP costs	24.2%	26.4%	31.1%	25.3%	28.2%	27.2%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	168.5	174.3	229.5			
Main CAPEX (in nominal M)	122.5	149.3	192.6			
Inflation %	-0.7%	-0.2%	1.6%			
Inflation index (100 in 2009)	110.9	110.6	112.4			
Exchange rate 2009	4.32383	4.32383	4.32383			
Total CAPEX (in M €2009)	35.1	36.4	47.2			
Main CAPEX (in M €2009)	25.6	31.2	39.6			
% Main of Total CAPEX	72.7%	85.7%	83.9%			
Real gate-to-gate ANSP costs (in M €2009)	136.3	142.9	167.7			
Total CAPEX as % of Real gate-to-gate ANSP costs	25.8%	25.5%	28.1%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	0.0	-18.1	-32.1			
Total CAPEX (in M €2009)	1.5	-1.0	-7.1			
Total CAPEX (in %, M €2009)	4.5%	-2.8%	-13.1%			



Note: Planned and actual inflation indices used to calculate CAPEX in real terms above, are based on the en-route Reporting Tables. Following the revision of RP2 Performance Plan these data differ from terminal Reporting Tables for the years 2017-2019. For this reason, two separate inflation indices are used to calculate the gate-to-gate ANSP costs in real terms.

Annual Monitoring Report 2017
Local level view
BLUE MED FAB

BLUE MED FAB

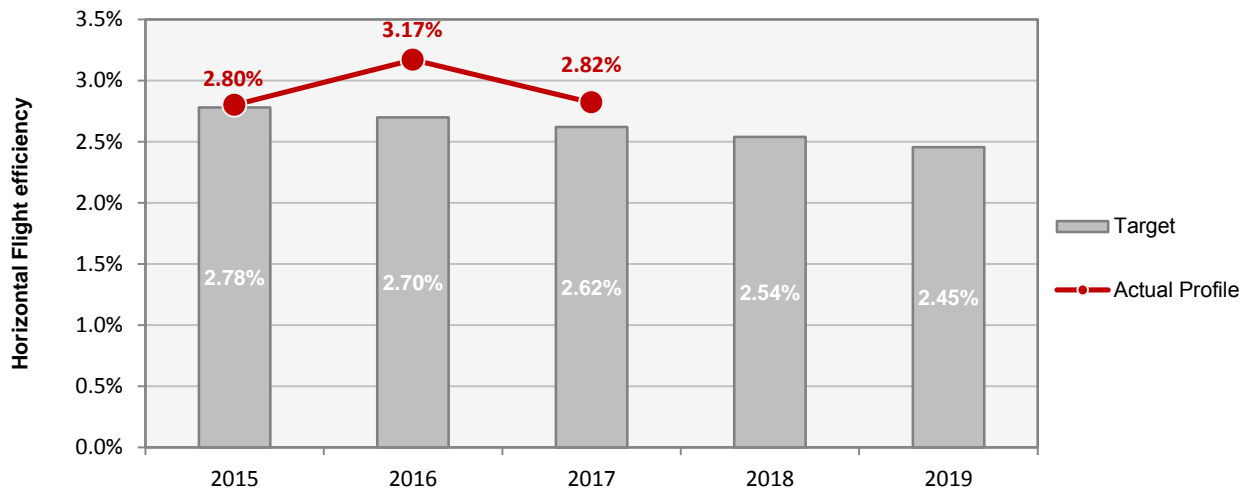
Monitoring of SAFETY for 2017

Effectiveness of Safety Management							
			2015 Value	2016 Value	2017 Value	2018 Value	2019 Target
Union-wide targets	at State level	For all MOs					C
	at ANSP level	For Safety Culture MO					C
		For all other MOs					D
FAB level	States / Regulatory authorities	For all MOs	A	B	B		
	ANSPs	For Safety Culture MO	C	C	C		
	ANSPs	For all other MOs	C	B	B		
Application of the severity classification of the Risk Analysis Tool (RAT)							
Ground Score			2015 Value	2016 Value	2017 Target	2018 Value	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%		100%
	Runway Incursions (RIs)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		88%	99%	100%		
	Runway Incursions (RIs)		95%	91%	100%		
Overall Score			2015 Value	2016 Value	2017 Target	2018 Target	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%	>= 80%	>= 80%
	Runway Incursions (RIs)				>= 80%	>= 80%	>= 80%
	ATM Specific Occurrences (ATM-S)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		12%	98%	100%		
	Runway Incursions (RIs)		26%	85%	100%		
	ATM Specific Occurrences (ATM-S)		51%	65%	97%		
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)							
Observations							
The lowest level in each EoSM Components/areas of the States is Level B which is below the 2019 EoSM target level. All components are at this level.							

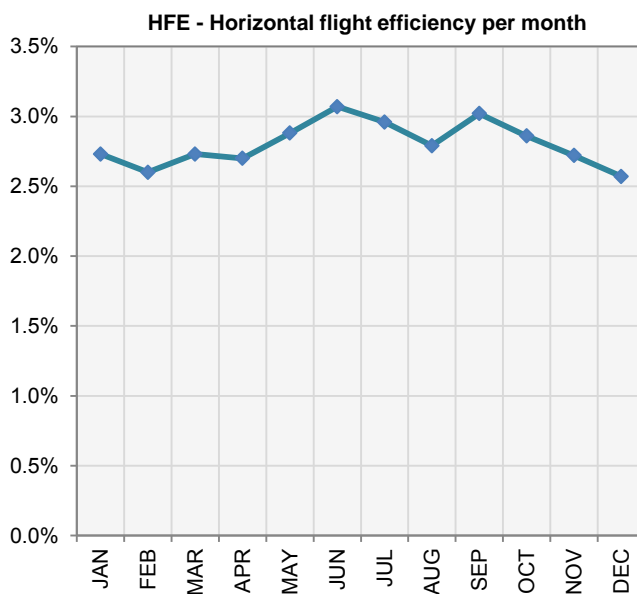
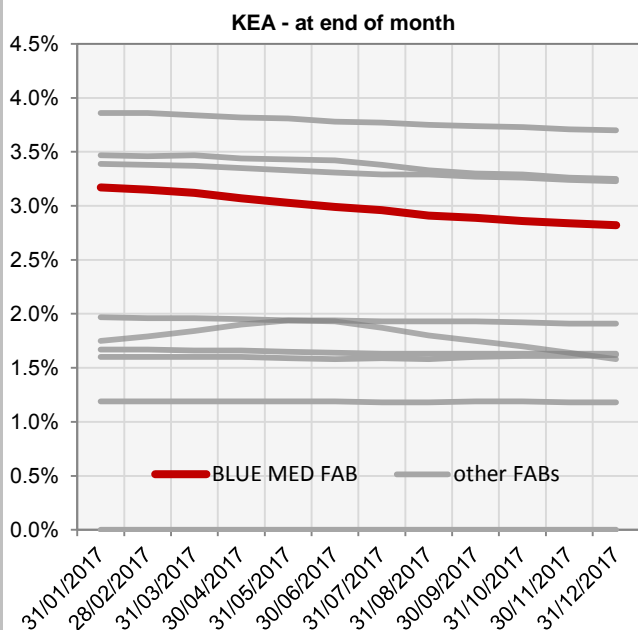
BLUE MED FAB

Monitoring of ENVIRONMENT for 2017

KEA					
	2015	2016	2017	2018	2019
FAB Target	2.78%	2.70%	2.62%	2.54%	2.45%
Actual performance	2.80%	3.17%	2.82%		



Monthly KEA and HFE evolution in 2017												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA (at end of month)	3.17%	3.15%	3.12%	3.07%	3.03%	2.99%	2.96%	2.91%	2.89%	2.86%	2.84%	2.82%
HFE	2.73%	2.60%	2.73%	2.70%	2.88%	3.07%	2.96%	2.79%	3.02%	2.86%	2.72%	2.57%



HFE refers to the ratio of flown distance and achieved distance over all (portions of) trajectories in the month, while KEA is the ratio 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.

Corrective measures applied, as reported by the FAB

Greece has already defined DCT routes while FRA is scheduled according to regulatory framework. In addition, PBN procedures are applied to Kerkira and Heraklion airports while they are going to be applied into Santorini and Mikonos airports. For the latter two, the relevant AIP publication will take place in Autumn 2018. Additionally, within the Blue GNSS project, RNP approach procedures have been validated during the period August -October 2017 for Mitilini, Thessaloniki, KoS and Ioannina TMAs and the corresponding AIP publication is planned by end 2018. Furthermore, Greece has defined a KPI (Route improvement indicator (RII) as fraction with nominator, total sum of distance route and denominator total sum of initial distance according to Flight Plan. According to the results referred to 42 DCTs within Hellas UIR, the value of RII is 1.54% representing the percentage of shortened routes as well as the corresponding impact on fuels and CO2 etc.

Furthermore, with the new DCTs implementation in Greece and Cyprus, along with the gradual implementation of multiple DCTs connecting City Pairs among airports in the BLUE MED FAB airspace and close to the boundaries lead to a 31.24 % reduction in the network, saving 564.500 NM, 3.960 tonnes of fuel and 12.500 tonnes of CO2 in the Greek airspace.

Observations

NM recommendations (ERNIP 2018, Part 2):

Cross-border FRA projects implementation must be considered for the entire BLUE MED FAB starting with FRA project for Greece together with lowering down of the FL.

The interface between BLUE MED FAB and FABEC needs to be addressed with priority.

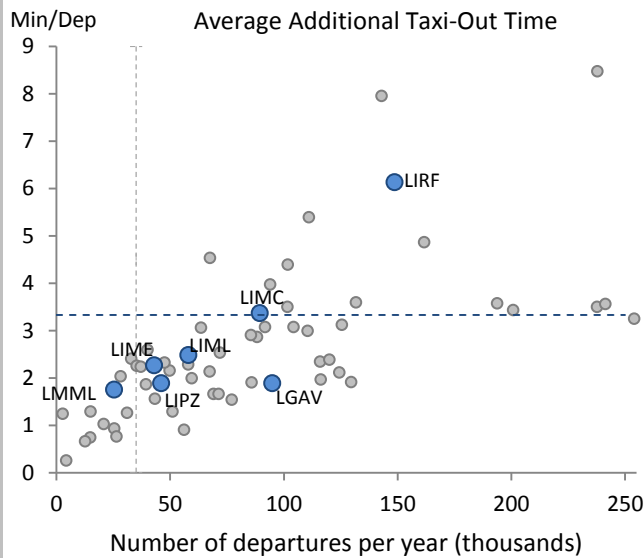
Timely implementation of projects in line with the ERNIP Part 2.

1. Overview

The Airport Operator Data Flow (APDF) is established for 7 out of the 9 airports subject to RP2 monitoring in the Blue Med FAB, with only Cypriot airports pending the implementation. The monitoring is done on the basis of the airports submitting data.

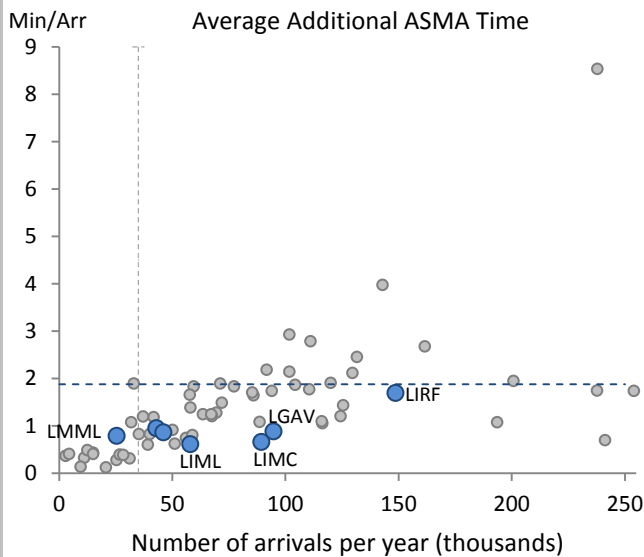
Cyprus shall empower the respective airport reporting entity to establish the airport operator data flow and/or address the remaining data issues.

2. Additional Taxi-Out Time



According to the available data, the additional taxi-out times of most airports within Blue Med FAB area are below the average of airports in RP2 (3.33 min/dep.), as it corresponds to airports with those traffic levels. On the other hand Rome Fiumicino, the busiest airport in Blue Med FAB, shows a poor performance in terms of additional TXOT, with more than 6 min/dep.

3. Additional ASMA Time



The observed additional ASMA times at available airports within the Blue Med FAB area range well below 2 minutes per arrival, even for the busier airports. While the airports under 50000 arrivals per year show a performance commensurate with the level of traffic, the busier airports show best-in-class performance for their traffic levels.

Minutes of ATFM en-route delay						Observations
	2015	2016	2017	2018	2019	
FAB Reference Value	0.17	0.18	0.18	0.18	0.18	
FAB Target	0.35	0.36	0.37	0.37	0.38	
Actual performance	0.64	0.13	0.23			

BLUE MED FAB assessment of capacity performance

The capacity performance was lower than the previous year, mainly due to the abnormally high increase of air traffic demand in some of the BLUE MED FAB States. The increase was much higher than what was predicted by STATFOR.

Greece considers that its contribution is owing to the fact that the denoted (revised) value at national level was 0.25 min/flight, whilst the average ATFM delay as recorded (and attributed to Greece) during 2017 was 0.20 min/flight.

Monitoring process for capacity performance

BLUE MED FAB ANSPs regularly discuss their capacity performance so as to mitigate any variations by applying ATFM measures in a coordinated manner.

The monitoring process at National level involved the EUROCONTROL NMIR tool which is permanently used by the corresponding local expert of HANSP for that particular reason.

Application of Corrective Measures for Capacity

BLUE MED FAB ANSPs strive to mitigate any variations to capacity performance by applying ATFM measures in a coordinated manner. A dedicated task force, with participation by all ANSPs, proposes the measures (e.g. alternative routes with lower delays) so as to achieve the best performance possible. The measures are implemented after the approval of the FAB ANSP Committee.

Capacity Planning

CYPRUS:

Air traffic volatility and abnormally high air traffic demand make it difficult for Cyprus to sustain or even improve further its capacity performance.

The mitigation measures taken in 2017 include the following:

- increase in the number of ATC staff;
- increase the sector opening times;
- application of better ATFCM techniques (although this is hindered by the frequent military activities of third countries in the region).

Assessment of capacity performance

Overall, BLUE MED FAB surpassed their adopted FAB target (0.37) but failed to meet the BLUE MED FAB reference value of 0.18 minutes per flight, by achieving a FAB performance of 0.23 minutes average ATFM delay per flight in 2017. Delays rose significantly in Cyprus and Greece and there was a slight increase in Italy.

BLUE MED FAB justify the deterioration in en-route capacity performance by stating that the traffic "increase was much higher than what was predicted by STATFOR".

When compared with the STATFOR 7-year forecast provided when the FAB performance plans were being drafted, it is evident that the actual FAB traffic was higher than forecast in 2014 but was lower than the high growth scenario for each year in RP2.

EUROCONTROL 7 year forecast February 2014 – BLUE MED FAB										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	2277		2367		2488		2596		2706	2968
Base	2246	2282	2310	2327	2387	2371	2456	2485	2524	2700
Low	2213		2247		2274		2304		2337	2413

In the Network Operations Plans 2018-2022 the Network Manager reports that the BLUE MED FAB is not expected to meet the en-route capacity performance commensurate with its reference for the remainder of RP2, primarily due to capacity shortfalls in Cyprus and to a lesser extent in Greece.

En route Capacity Incentive Scheme

No FAB-wide incentive scheme is in place. Several of the Member States have adopted national incentive schemes which are covered in the national sections.

Result of FAB Capacity Incentive Scheme

N/A

Update on Military dimension of the plan

CYPRUS:

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 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 USA Navy, Israeli Air Force, British Air Force and Turkish military forces, regularly performed operational flights and exercises throughout 2017.

The activities of the British forces were coordinated with the national authorities (AMC) and there was minimal effect on ATS. Likewise, the cooperation with the Israeli authorities is also very good and the impact on ATS is minimised.

By far the biggest problem remains with the Turkish forces which do not cooperate at all with the legal authorities of the State. The Turkish air force carried out exercises and operational flights within Nicosia FIR, at times even penetrating 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.

GREECE:

The State Level Agreement referred to establishment of BLUE MED FAB includes various elements related to civil military cooperation in general and Flexible Use of Airspace in particular. A specific Committee, the Civil Military Cooperation Committee (CMCC), which includes Civil and Military components from each State, is tasked to assist the BLUE MED Governing Board in Civil-Military Matters, and developing the various items of cooperation.

To understand the BLUE MED FAB Civil-Military environment it is important to understand that the four member States have no territorial border in common, and the respective FIRs touch each other on high seas.

Activity of CMCC permitted to achieve a first purpose related to the Air to Air Refuelling route project with the publication of a new junction corridor between Italian and Maltese route network.

In the same way, the document "Harmonization of procedures for military operations over high seas of Blue Med Airspace" it's believed to have reached a sufficient level of maturity for CMCC approval after a final discussion, for the subsequent endorsement in the BLUE MED FAB.

Concerning the Greek FUA Working group in particular, amongst the several meetings that it has joined up so far for the subject, it is worthwhile to be mentioned that in the meeting of 16-03-2017 where all the subject experts (from Civil-Military domain) participated, the following had been decided:

- 1) Creation of TANAGRA TSA for supersonic flights. This has been already established and is in operation (LG-TSA01).
- 2) Agreement in FUA ANNUAL REPORT to be addressed to EC (via HCAA/D4 Regulatory division). This has already been implemented and the relevant questionnaire has been replied.
- 3) Procedure agreement for installation of LARA TOOL. The information session has already been finalised and the implementation phase is expected after the procurement of corresponding equipment.
- 4) Preparation of agreement between ATH-MAK ACCs and MILITARY Authorities. This has been already established and is in operation.

Observations on Military dimension of the plan

The update of information, from Greece and Cyprus, regarding civil military coordination is welcomed, however it is noted that no information is provided on how civil military coordination will provide additional capacity for general air traffic.

Application of FUA

CYPRUS:

The Cyprus FUA Application Plan was adopted by the Ministerial Council on the 24th August 2008 with its Decision Number 67.662.

The definition of the national airspace policy of the Republic of Cyprus is under the responsibility of the Ministers of Foreign Affairs, Defence and Communications and Works (Art 4.1.(a) of the FUA regulation EC 2150/2005)

The application of the Strategic level, which includes all tasks in the Art.4.1, except 4.1(a), of the FUA Regulations, is under the responsibility of the High Level Airspace Management Committee (HLAMC), which consists of:

- a. Permanent Secretary of Ministry of Communications and Works (Chairman)
- b. Permanent Secretary of Ministry of Foreign Affairs
- c. Chief of National Guard
- d. Director of Civil Aviation Department
- e. Director of Minister's Staff (Ministry of Defence)

The Pre-tactical level has been implemented by the Cyprus AMC. It is staffed with civil and military personnel and is located in the DCAC HQ in Nicosia. The AMC handles all the airspace reservation requests and coordinates with the airspace users so as to achieve the optimum use of airspace and minimise the impact on civil aviation.

At tactical level, responsibility is vested in ATS Units (Nicosia ACC, Larnaca Tower and Paphos Tower) and Military Air Operation Centre.

Observations of the Application of FUA

The information from Cyprus regarding the institutional arrangements for FUA is welcomed. Information on how the BLUE MED FAB authorities determine whether or not the optimum benefit has been provided to both civil and military airspace users would be appreciated.

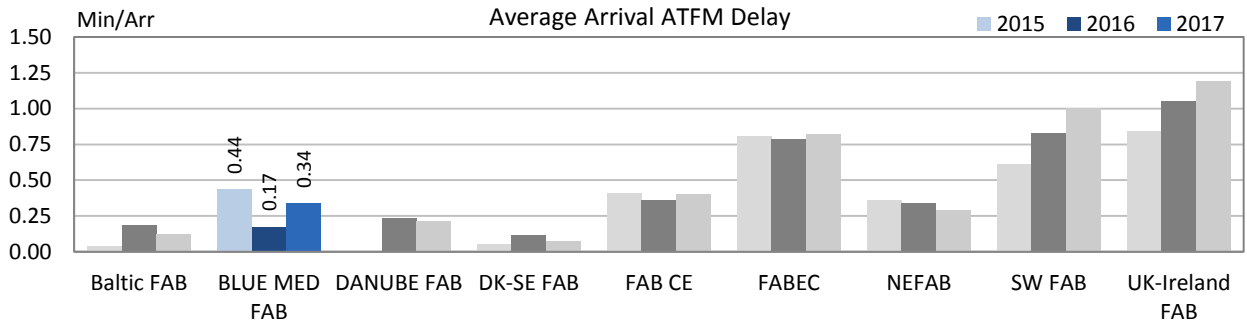
BLUE MED FAB

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

BLUE MED FAB contributes adequately to the airport-related ANS Capacity performance in Europe. In 2017, the aggregated average arrival ATFM delay per flight doubled in comparison to 2016, but it still maintains lower levels than other FABs.

2. Arrival ATFM Delay



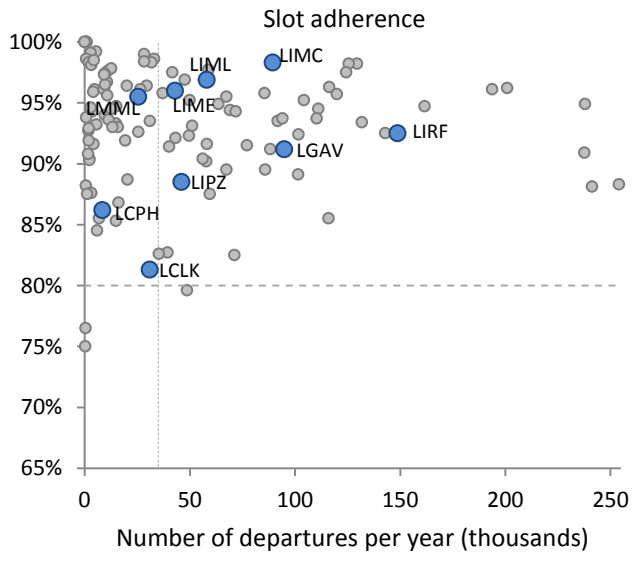
The increase of arrival ATFM delay in Athens, Rome Fiumicino, Venice, Larnaca and Paphos results in a general deterioration of performance in BLUE MED FAB with 0.34 min/arr., duplicating the delay in 2016. It is nevertheless well below the European average in 2017 (0.74 min/arr.).

3. Arrival ATFM Delay – National Targets and Incentive Schemes

Greece, Italy and Malta have established a national target on arrival ATFM delay, while Cyprus only establishes local reference values.

Malta and Greece have not established an incentive scheme. Italy applies its incentive scheme based on CRSTMP reasons and results in a bonus. Cyprus does not apply any penalty although the local targets are not met.

4. ATFM Slot Adherence



The overall performance in terms of adherence to ATFM slots shows slight improvements for BLUE MED FAB. Despite these improvements, slot compliance in Cyprus (i.e. LCLK: 81.3% and LCPH: 86.2%) remains well below 90% and some of the lowest in the monitored SES airports. Milan/Malpensa shows the best performance (LIMC: 98.3%) in 2017 for airports above 70 000 movements per year.

5. Pre-departure Delay

Italy is the main contributor to the average pre-departure delay performance within BLUE MED FAB and more specifically Rome Fiumicino and Venice with very high ATC pre-departure delay.

The monitoring of pre-departure delay requires the implementation of the Airport Operator Data Flow which is not yet established for Cyprus.

Annual Monitoring Report 2017
Local level view
Cyprus

CYPRUS

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	52	B	B	B	C	C
CYATS	58	C	C	B	C	C

Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.

Application of the severity classification of the Risk Analysis Tool (RAT)		
	RAT application (%)	
	ATM Ground	ATM Overall
Separation Minima Infringements (SMIs)	100%	100%
Runway Incursions (RIs)	N/A	N/A
ATM Specific Occurrences (ATM-S)		83%
Source of RAT data:	DCA	

Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)

Just culture		
State level	Number of questions answered	
	YES	NO
Policy and its implementation	8	1
Legal/Judiciary	6	1
Occurrence reporting and Investigation	2	0
TOTAL	16	2
CYATS	Number of questions answered	
	YES	NO
Policy and its implementation	11	2
Legal/Judiciary	2	1
Occurrence reporting and Investigation	5	3
TOTAL	18	6

Observations

Three out of the four reviewed EoS M Components/areas of the State do not meet the 2019 EoS M target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.

Out of 34 questions in Components 1-4 (not including Component - Safety Culture), six are below Level C.

CYPRUS**Monitoring of Airports Contribution to ENVIRONMENT for 2017****1. Overview**

Cyprus identified two airports, Larnaca and Paphos, as subject to RP2 monitoring. However the airport operator data flow is not established for any of them and therefore the monitoring of operational ANS performance at airports in Cyprus does not cover any of the environment indicators.

Cyprus' NSA considers Paphos should be excluded from the PP monitoring process as it has less than 70000 movements and is not the airport with the highest number of IFR air transport movements. However, being part of the Charging Zone, and as the list of monitored airports must be aligned with it, it must be included in the monitoring.

It is expected that Cyprus will establish the reporting for Larnaca in the course of 2018. This will enable the monitoring of the environmental performance indicators. Member States shall empower the respective airport reporting entity to establish the airport operator data flow and/or address the remaining data issues.

2. Additional Taxi-Out Time

Due to the lack of data, the additional taxi-out time indicator is not monitored at LCLK and LCPH at the time being

3. Additional ASMA Time

The additional time in terminal airspace (ASMA) indicator cannot be monitored at LCLK and LCPH at the time being.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Larnaca	LCLK	n/a	n/a	n/a			n/a	n/a	n/a		
Paphos	LCPH	n/a	n/a	n/a			n/a	n/a	n/a		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	1.50	1.50	1.50	1.50	1.50	
Deadband +/-	?	?	?	?	?	
Actual performance	2.47	0.63	1.11			

National capacity incentive scheme

The BLUE MED FAB 2017 monitoring report contains information regarding a national en-route capacity incentive scheme applied in Cyprus.

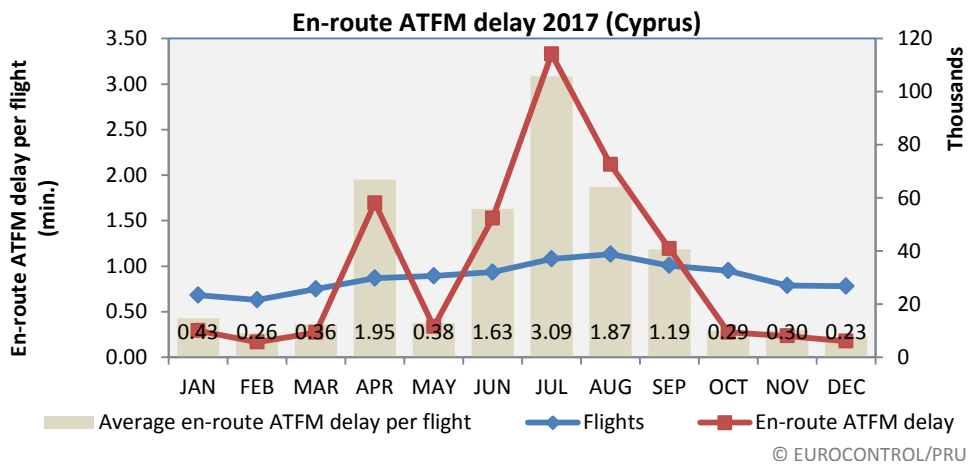
It reports a national target of 1.5 minutes delay per flight although it states that this figure has not been agreed with the EC.

It registers an actual achieved national performance value of 1.1 minutes per flight and reports that this entitles the ANSP to a bonus of 1% of the ATS turnover, equivalent to €431 000.

No details were provided about a national incentive scheme for Cyprus in the BLUE MED FAB performance plan, only vague reference to an incentive scheme being in accordance with Cyprus national law.

No financial penalties were listed in the 2015 annual monitoring report when national performance did not satisfy the adopted national target. (2015 Actual delay of 2.47 minutes per flight compared to 1.5 minutes as national target).

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Cyprus)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
2.65	2.32	3.54	1.62	1.59	2.16	1.91	2.47	0.63	1.11

The deterioration in en-route capacity performance in Cyprus for 2017 compared to 2016 is noted. Traffic levels in Cyprus during RP2 to date have remained within the forecast ranges made by STATFOR when the FAB performance plans and associated capacity plans were being determined. Cyprus remains a capacity bottleneck and, based on the current capacity plans, the Network Manager expects Cyprus to continue to create significant delays for airspace users each year of RP2.

EUROCONTROL 7 year forecast February 2014 – Cyprus										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	304		334		358		382		405	434
Base	298	304	323	319	340	322	356	360	371	391
Low	291		311		320		329		339	351

Planning and Effective Use of CDRs

Cyprus has previously reported that there are no CDRs within the national airspace.

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
N/A	98%	98%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
N/A	N/A	N/A		

Share of restricted / segregated time (via UUP process) that was actually used				
2015	2016	2017	2018	2019
N/A	5%	13%		

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

CYPRUS

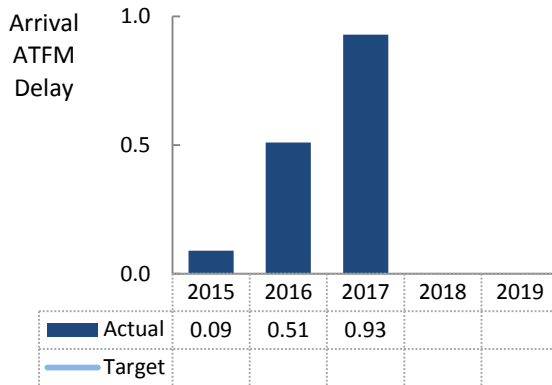
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

In Cyprus, Larnaca (LCLK) and Paphos (LCPH) are the two airports subject to RP2 monitoring. The dramatic increase of arrival ATFM delays in 2017, after an already significant increase in 2016 shows a clear deterioration of performance at Cyprus airports during RP2, associated to a total traffic increase at these airports of 21% in 2016 and 12% in 2017. Slot adherence at both airports slightly increased and stays above the minimum target of 80%.

The monitoring of pre-departure delay is not yet feasible, as for neither of the airports the Airport Operator Data Flow is established.

2. Arrival ATFM Delay



2017 shows yet again another significant increase of arrival ATFM delay at airports in Cyprus (2015: 0.09 min/arr. ; 2016: 0.51 min/arr.; 2017: 0.93 min/arr.). Both airports have contributed to this increase, however Paphos' delays (2.05 min/arr.) stand out as one of the top 5 highest arrival ATFM delays in the SES area, including the busiest airports.

All arrival regulations at both LCLK and LCPH are reportedly caused by aerodrome capacity issues (non ATC), and while in Larnaca they are more concentrated in the Summer season, in Paphos the problem extends to other months.

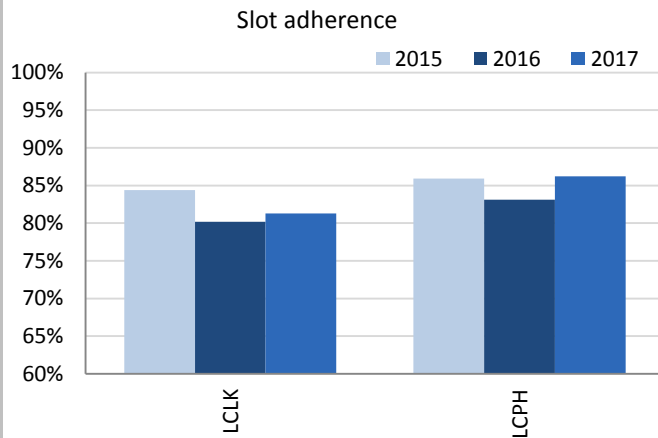
According to the BLUE MED FAB Monitoring Report, Larnaca delays have increased due to the abnormally high increase in air traffic demand. Indeed, traffic at Larnaca has increased by a factor of almost 1.5 since 2015. Traffic at Paphos on the other hand has increased by about 14% since 2015.

3. Arrival ATFM Delay – National Target and Incentive Scheme

Cyprus has not established a national target on arrival ATFM delay but local reference values for the two airports, Larnaca (LCLK) and Paphos (LCPH) are provided. These local values are not met in 2017 for either of the two airports. The BLUE MED performance plan refers to the aim that zero delays for arriving aircraft are envisaged.

In BLUE MED FAB's performance plan, Cyprus presents an incentive scheme for capacity targets, but it does not clarify to which indicator it applies. In their monitoring report, BLUE MED FAB does not apply any penalties for Cyprus concerning arrival ATFM delay.

4. ATFM Slot Adherence



Both airports show an adherence to ATFM slots ranging below the 90% threshold. Although the performance is above the required minimum of 80%, LCLK barely makes that target, and it has one of the lowest performances in the SES area. The compliance with the ATFM departure slot window should be reinforced.

5. Pre-departure Delay

The monitoring of pre-departure delay is not yet feasible, as the Airport Operator Data Flow is not established for either of the airports .

It is expected that Cyprus will establish the reporting for Larnaca in the course of 2018. This will enable the monitoring of this performance indicator. Cyprus is encouraged to consider the implementation of the data flow at Paphos also, as long as this airport is part of the RP2 performance monitoring due to the alignment with the Charging Scheme.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Larnaca	LCLK	0.03	0.30	0.63			84.4%	80.2%	81.3%			n/a	n/a	n/a		
Paphos	LCPH	0.26	1.22	2.05			85.9%	83.1%	86.2%			n/a	n/a	n/a		

CYPRUS: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services																								
<ul style="list-style-type: none"> Cyprus ECZ represents 0.8% of the SES en-route ANS determined costs in 2017 ATSP: DCAC Cyprus FAB: BLUE MED FAB National currency: EUR 																								
2. En-route DUC monitoring at Charging Zone level																								
Cyprus: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)		2015D	2016D	2017D	2018D	2019D																		
En-route costs (nominal EUR)		52 708 045	53 598 493	55 916 691	57 610 277	59 360 816																		
Inflation %		1.6%	1.7%	1.7%	1.8%	2.0%																		
Inflation index (100 in 2009)		112.9	114.8	116.8	118.9	121.3																		
Real en-route costs (EUR2009)		46 681 639	46 676 772	47 881 610	48 459 560	48 952 987																		
Total en-route Service Units		1 395 081	1 425 773	1 457 140	1 489 197	1 521 959																		
Real en-route unit cost per Service Unit (EUR2009)		33.46	32.74	32.86	32.54	32.16																		
Cyprus: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A																		
En-route costs (nominal EUR)		51 048 657	49 919 678	47 497 165																				
Inflation %		-1.5%	-1.2%	0.7%																				
Inflation index (100 in 2009)		107.8	106.5	107.3																				
Real en-route costs (EUR2009)		47 336 521	46 851 861	44 268 346																				
Total en-route Service Units		1 547 646	1 540 071	1 727 958																				
Real en-route unit cost per Service Unit (EUR2009)		30.59	30.42	25.62																				
Difference between Actuals and Planned		2015	2016	2017	2018	2019																		
En-route costs (nominal EUR)	in value	-1 659 388	-3 678 816	-8 419 526																				
	in %	-3.1%	-6.9%	-15.1%																				
Inflation %	in p.p.	-3.1 p.p.	-2.9 p.p.	-1.0 p.p.																				
Inflation index (100 in 2009)	in p.p.	-5.1 p.p.	-8.3 p.p.	-9.5 p.p.																				
Real en-route costs (EUR2009)	in value	654 882	175 089	-3 613 265																				
	in %	1.4%	0.4%	-7.5%																				
Total en-route Service Units	in value	152 565	114 298	270 818																				
	in %	10.9%	8.0%	18.6%																				
Real en-route unit cost per Service Unit (EUR2009)	in value	-2.88	-2.32	-7.24																				
	in %	-8.6%	-7.1%	-22.0%																				
3. Focus on en-route at State/Charging Zone level																								
<p>En-route unit cost In 2017, the actual en-route unit cost in real terms (25.62 €2009) is -22.0% lower than planned in the PP (32.86 €2009). This difference results from the combination of much higher than planned TSUs (+18.6%) and lower than planned en-route costs (-7.5%, or -3.6 M€2009).</p> <p>En-route service units The difference between 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 airspace users and the ATSP, the latter retaining a gain of +1.6 M€2009.</p> <p>Based on STATFOR February 2018 TSU growth scenarios, Cyprus en-route TSUs are expected to significantly exceed the +10% threshold for the remaining years of RP2 (2018-2019). It is noted that the determined TSUs underpinning the adopted RP2 cost-efficiency targets were below STATFOR February 2014 <u>low</u> TSU growth scenario for all years of RP2 (2015-2019) at the time of PP adoption. According to the additional information to the June 2018 en-route Reporting Tables "the DCAC had decided to be prudent regarding the traffic forecast because Cyprus is situated in a highly unstable region where traffic is highly sensitive to the political changes of the neighbouring countries."</p> <p>En-route costs In nominal terms, actual en-route costs are -15.1% (-8.4 M€) lower than planned. However, since the actual inflation index is also much lower than planned (-9.5 p.p.), actual en-route costs are -7.5% (-3.6 M€2009) below plans when expressed in real terms.</p> <p>The lower than planned en-route costs in real terms are mostly driven by DCAC Cyprus (-15.0%, or -5.2 M€2009) and the MET service provider (-26.1%, or -1.0 M€2009). Differently, the costs incurred by the NSA/EUROCONTROL are much higher than planned (+25.5%, or +2.5 M€2009). It is noted, that this is primarily driven by the NSA costs, which, according to the additional information to June 2018 en-route Reporting Tables, were due to "recruitment of additional staff in SAR domain" and "upgrading of SAR infrastructure and additional outsourcing costs". A detailed analysis at ATSP level is provided in box 12.</p> <p>Costs exempt from costs sharing are reported for a total amount of -0.1 M€2009 comprising the variation in EUROCONTROL costs. These costs will be eligible for carry-over (reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.</p>																								
		<table border="1"> <caption>Difference between actual and determined en-route costs (real terms)</caption> <thead> <tr> <th>Year</th> <th>Difference (%)</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>1.4%</td> </tr> <tr> <td>2016</td> <td>0.4%</td> </tr> <tr> <td>2017</td> <td>-7.5%</td> </tr> <tr> <td>2018</td> <td></td> </tr> <tr> <td>2019</td> <td></td> </tr> </tbody> </table>					Year	Difference (%)	2015	1.4%	2016	0.4%	2017	-7.5%	2018		2019							
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CYPRUS: En-route charging zone

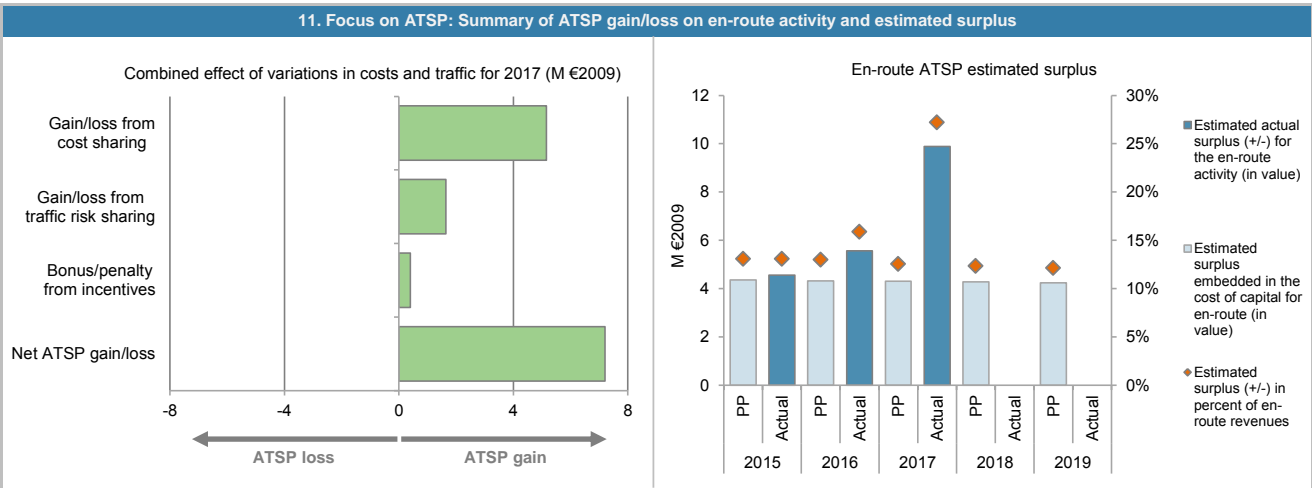
Monitoring of en-route COST-EFFICIENCY for 2017



CYPRUS: En-route ATSP (DCAC Cyprus)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	33 286	33 298	34 299		
Actual costs for the ATSP	33 990	32 741	29 142		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-704	556	5 157		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-704	556	5 157		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	10.9%	8.0%	18.6%		
Determined costs for the ATSP (PP) - based on actual inflation	34 850	35 886	37 332		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	1 533	1 365	1 643		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	351	401		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	830	2 273	7 201		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	32 241	32 252	33 222	33 594	33 907
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	32 241	32 252	33 222	33 594	33 907
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	4 353	4 323	4 301	4 276	4 242
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	13.5%	13.4%	12.9%	12.7%	12.5%
Estimated surplus embedded in the cost of capital for en-route (in value)	4 353	4 323	4 301	4 276	4 242
Overall estimated surplus (+/-) for the en-route activity	4 353	4 323	4 301	4 276	4 242
Revenue/costs for the en-route activity	33 286	33 298	34 299	34 683	35 006
Estimated surplus (+/-) in percent of en-route revenues	13.1%	13.0%	12.5%	12.3%	12.1%
Estimated ex-ante RoE pre-tax rate (in %)	13.5%	13.4%	12.9%	12.7%	12.5%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	27 553	24 508	20 764		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	27 553	24 508	20 764		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	3 720	3 285	2 688		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	13.5%	13.4%	12.9%		
Estimated surplus embedded in the cost of capital for en-route (in value)	3 720	3 285	2 688		
Net ATSP gain(+)/loss(-) on en-route activity	830	2 273	7 201		
Overall estimated surplus (+/-) for the en-route activity	4 549	5 558	9 889		
Revenue/costs for the en-route activity	34 820	35 014	36 343		
Estimated surplus (+/-) in percent of en-route revenues	13.1%	15.9%	27.2%		
Estimated ex-post RoE pre-tax rate (in %)	16.5%	22.7%	47.6%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 DCAC Cyprus en-route costs vs. PP

In 2017, DCAC Cyprus actual en-route costs are -15.0% (-5.2 M€2009) lower, in real terms, than planned in the PP. According to the additional information to the June 2018 en-route Reporting Tables, this results from the combination of:

- higher staff costs in real terms (+4.3% or +0.6 M€2009). However, due to much lower than planned inflation index (-9.5 p.p.) the staff costs are lower than planned in nominal terms (-4.1%, or -0.6 M€), which is explained by the "continuing austerity measures implemented in the entire Public Sector domain".
- lower other operating costs in real terms (-20.5% or -2.5 M€2009);
- lower depreciation costs in real (-35.7% or -1.6 M€2009) and nominal terms (-41.0%, or -2.1 M€), mainly due to postponement of some planned investments. According to the data reported in the 2017 BLUE MED FAB Monitoring Report, actual capital expenditure in nominal terms is much lower (-63.7%) than planned.
- a lower cost of capital in real (-37.5% or -1.6 M€2009) and nominal terms (-42.6%, or -2.1 M€) due to the lower than planned asset base as a result of the factors outlined above.

DCAC Cyprus net gain/loss on en-route activity in 2017

As shown in box 9, DCAC Cyprus generated a net gain of +7.2 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +5.2 M€2009 arising from the costs sharing mechanism;
- a gain of +1.6 M€2009 arising from the traffic risk sharing mechanism; and,
- a gain of +0.4 M€2009, corresponding to a bonus of 431 '000€ in 2017 reported for DCAC Cyprus as part of en-route capacity target incentive mechanism reported in the 2017 BLUE MED FAB Monitoring Report. This amount corresponds to 1.0% of DCAC Cyprus en-route revenues (based on the ATSP chargeable unit rate for 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission. Please also **Note 1** at the end of this Report.

DCAC Cyprus overall estimated surplus for the en-route activity

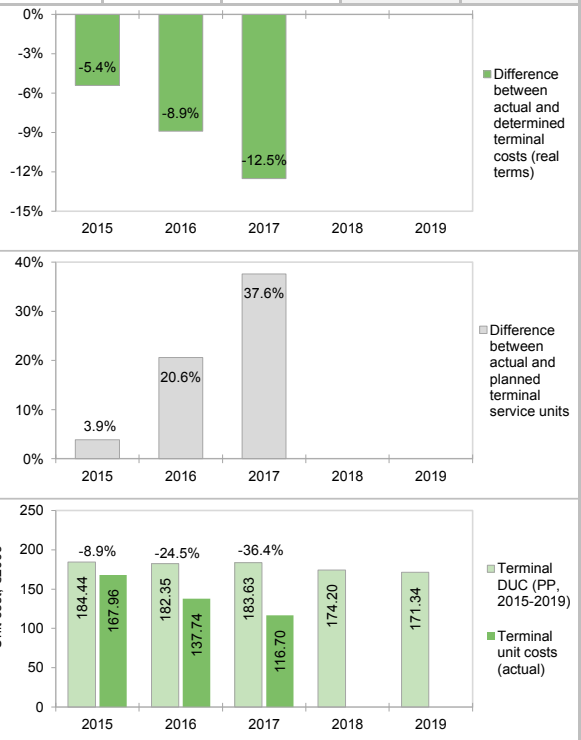
Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+7.2 M€2009) and the surplus embedded in the actual cost of capital (+2.7 M€2009) amounts to +9.9 M€2009 (27.2% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 47.6%, which is substantially higher than the 12.9% planned in the PP. The higher than planned ex-post RoE realised by DCAC Cyprus in 2017 is mostly explained by the significant gains realised from the en-route activity as a result of the cost and, to a lesser extent, traffic risk sharing mechanisms.

It is also noted that in 2017, the actual assets base in real terms (20.8 M€2009) is -37.5% lower than planned (33.2 M€2009).

CYPRUS: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

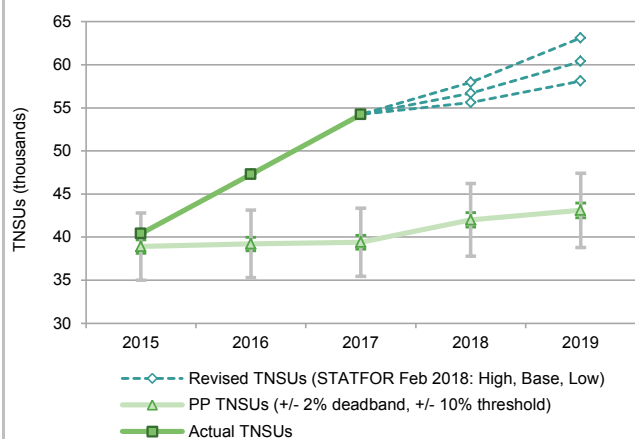
1. Contextual economic information: terminal air navigation services					
· Cyprus TCZ represents 0.7% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?	No		
· ATSP: DCAC Cyprus		· Airports with fewer than 70,000 IFRs ATMs:	2		
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:	0		
· Number of airports in charging zone in 2017: 2,	of which:	· Airports with more than 225,000 IFRs ATMs:	0		
2. Terminal DUC monitoring at Charging Zone level					
Cyprus: Data from RP2 Performance Plan	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	8 100 923	8 207 992	8 448 984	8 697 839	8 954 830
Inflation %	1.6%	1.7%	1.7%	1.8%	2.0%
Inflation index (100 in 2009)	112.9	114.8	116.8	118.9	121.3
Real terminal costs (EUR2009)	7 174 699	7 148 010	7 234 887	7 316 289	7 384 765
Total terminal Service Units	38 900	39 200	39 400	42 000	43 100
Real terminal unit cost per Service Unit (EUR2009)	184.44	182.35	183.63	174.20	171.34
Cyprus: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	7 317 736	6 937 913	6 789 761		
Inflation %	-1.5%	-1.2%	0.7%		
Inflation index (100 in 2009)	107.8	106.5	107.3		
Real terminal costs (EUR2009)	6 785 608	6 511 543	6 328 199		
Total terminal Service Units	40 399	47 274	54 225		
Real terminal unit cost per Service Unit (EUR2009)	167.96	137.74	116.70		
Difference between Actuals and Planned	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	-783 187	-1 270 080	-1 659 223		
	in %	-9.7%	-15.5%	-19.6%	
Inflation %	-3.1 p.p.	-2.9 p.p.	-1.0 p.p.		
Inflation index (100 in 2009)	-5.1 p.p.	-8.3 p.p.	-9.5 p.p.		
Real terminal costs (EUR2009)	-389 091	-636 467	-906 689		
	in %	-5.4%	-8.9%	-12.5%	
Total terminal Service Units	1 499	8 074	14 825		
	in %	3.9%	20.6%	37.6%	
Real terminal unit cost per Service Unit (EUR2009)	-16.48	-44.61	-66.92		
	in %	-8.9%	-24.5%	-36.4%	
3. Focus on terminal at State/Charging Zone level					
This analysis focuses on Cyprus Terminal Charging Zone (TCZ) comprising Larnaka (LCLK) and Pafos (LCPH) international airports. See also Note 2 at the end of this Report.					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (116.70 €2009) is -36.4% lower than planned in the PP (183.63 €2009). The difference results from significantly higher than planned TNSUs (+37.6%) and lower than planned terminal costs in real terms (-12.5%, or -0.9 M€2009).					
Terminal service units					
Traffic risk sharing mechanism does not apply in Cyprus TCZ. In 2017, the actual TNSUs in TCZ are +37.6% higher than planned in the PP. Based on the STATFOR February 2018 TNSU growth scenarios, Cyprus TNSUs are expected to abundantly exceed the TNSUs planned in the PP for the remainder of RP2. It should be noted that the forecast TNSUs selected in the RP2 PP were in line with the STATFOR February 2014 <u>low</u> TNSU growth scenario.					
Terminal costs					
In nominal terms, actual terminal costs are -19.6% (-1.7 M€) lower than planned. However, since the actual inflation index is also lower than planned (-9.5 p.p.), the actual terminal costs are -12.5% (-0.9 M€2009) below the plan when expressed in real terms.					
The difference between actual and planned terminal costs in real terms is mainly driven by lower than planned costs for DCAC Cyprus (-28.1%, or -1.2 M€2009) and MET service provider (-26.0%, or -0.2 M€2009). Differently, the costs for NSA are higher (+29.8%, or +0.6 M€2009) than planned, which, according to the additional information to June 2018 terminal Reporting Tables, is due to the "recruitment of additional staff in SAR domain" and the "upgrading of SAR infrastructure and additional outsourcing costs". A detailed analysis at ATSP level is provided in box 9.					
No costs exempt from cost sharing are reported for Cyprus TCZ.					



CYPRUS: Terminal charging zone

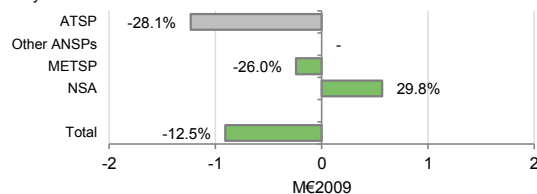
Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP)

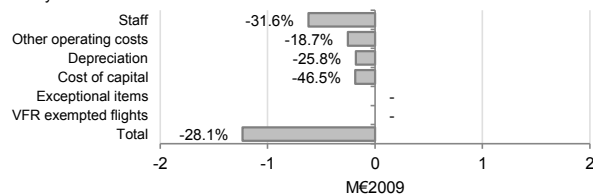


5. Terminal costs monitoring (2017 actuals compared to PP)

Costs by entity at TCZ level:



Costs by nature at ATSP level:



6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

In 2017, Cyprus did not implement a separate terminal navigation charge (TNC) unit rate for the Cyprus TCZ. See also **Note 2** at the end of this Report.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users

In 2017, Cyprus did not implement a separate terminal navigation charge (TNC) unit rate for the Cyprus TCZ. See also **Note 2** at the end of this Report.

9. Focus on terminal ATSP: General conclusions (*See Note 2)

Actual 2017 DCAC Cyprus terminal costs in TCZ vs. PP

DCAC Cyprus actual terminal costs in TCZ are -28.1% (-1.2 M€2009) lower, in real terms, than planned in the PP. According to the additional information to the June 2018 terminal Reporting Tables, this results from the combination of:

- lower staff costs (-31.6%, or -0.6 M€2009), mainly due to the "continuing austerity measures implemented in the entire Public Sector domain";
- lower other operating costs (-18.7%, or -0.3 M€2009);
- lower depreciation costs (-25.8%, or -0.2 M€2009), mainly explained by the "postponement of planned investments for later years within the Reference Period"; and,
- lower cost of capital (-46.5%, or -0.2 M€2009) as a result of the factors outlined above.

CYPRUS: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

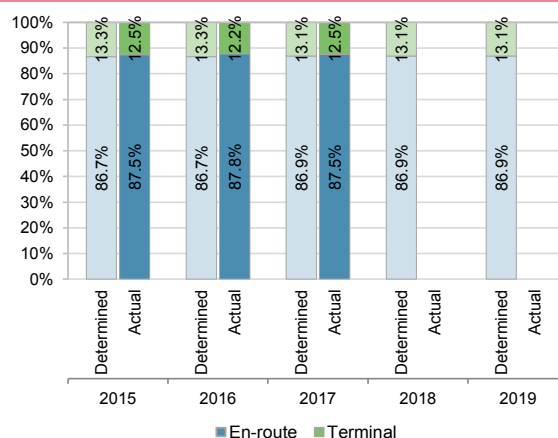
1. Monitoring of gate-to-gate ANS costs

Cyprus: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		46 681 639	46 676 772	47 881 610	48 459 560	48 952 987
Real terminal costs (EUR2009)		7 174 699	7 148 010	7 234 887	7 316 289	7 384 765
Real gate-to-gate costs (EUR2009)		53 856 338	53 824 782	55 116 498	55 775 849	56 337 752
En-route share (%)		86.7%	86.7%	86.9%	86.9%	86.9%
Cyprus: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		47 336 521	46 851 861	44 268 346		
Real terminal costs (EUR2009)		6 785 608	6 511 543	6 328 199		
Real gate-to-gate costs (EUR2009)		54 122 129	53 363 404	50 596 544		
En-route share (%)		87.5%	87.8%	87.5%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	265 791	-461 379	-4 519 953		
	in %	0.5%	-0.9%	-8.2%		
En-route share	in p.p.	0.8 p.p.	1.1 p.p.	0.6 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs are -8.2% (-4.5 M€2009) lower than planned due to the combination of lower en-route (-7.5%, or -3.6 M€2009) and terminal costs (-12.5%, or -0.9 M€2009). It is noted that in nominal terms, gate-to-gate ANS costs are -15.7% (-10.1 M€) lower than planned.

As a result, the actual share of en-route in gate-to-gate ANS costs (87.5%) is slightly higher than that planned in the PP for 2016 (86.9%).



3. Technical notes on en-route and terminal information reported by Cyprus

Note 1: A bonus of 431 '000€ for achieving the local en-route capacity target is reported for DCAC Cyprus in the 2017 BLUE MED FAB monitoring report and in the en-route Reporting Tables of June 2018. This amount corresponds to 1.0% of DCAC Cyprus en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost-bases will be examined by the European Commission.

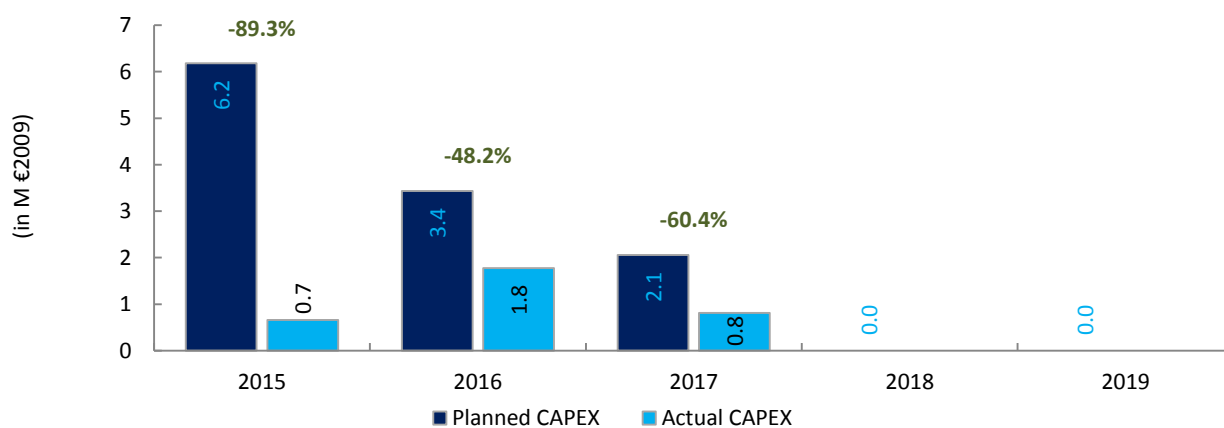
It is noted that the local en-route capacity target has not yet been endorsed by the European Commission.

Note 2: According to the information provided in the additional information to the June 2018 terminal Reporting Tables - "As far as the terminal charging zone is concerned, for the time being no terminal charge is imposed to users. The Government currently fully subsidises terminal costs". As the TANS activities are therefore fully financed through "income from other sources", the analysis of the terminal economic surplus is void. Nevertheless, the analysis at Cyprus TCZ level still looks at the deviation between the terminal actual unit cost and the terminal DUC target reported for 2017 in the RP2 PP

CYPRUS

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: DCAC Cyprus						
FAB: BLUE MED FAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	7.0	3.9	2.4	0.0	0.0	13.3
Main CAPEX (in nominal M)	7.0	3.9	2.4	0.0	0.0	13.3
Inflation %	1.6%	1.7%	1.7%	1.8%	2.0%	
Inflation index (100 in 2009)	112.9	114.8	116.8	118.9	121.3	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	6.2	3.4	2.1	0.0	0.0	11.7
Main CAPEX (in M €2009)	6.2	3.4	2.1	0.0	0.0	11.7
% Main of Total CAPEX	100.0%	100.0%	100.0%	N/A	N/A	100.0%
Real gate-to-gate ANSP costs (in M €2009)	37.6	37.6	38.7	39.1	39.5	192.6
Total CAPEX as % of Real gate-to-gate ANSP costs	16.4%	9.1%	5.3%	0.0%	0.0%	6.1%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	0.7	1.9	0.9			
Main CAPEX (in nominal M)	0.0	1.3	0.9			
Inflation %	-1.5%	-1.2%	0.7%			
Inflation index (100 in 2009)	107.8	106.5	107.3			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	0.7	1.8	0.8			
Main CAPEX (in M €2009)	0.0	1.2	0.8			
% Main of Total CAPEX	5.7%	68.9%	98.4%			
Real gate-to-gate ANSP costs (in M €2009)	38.0	36.3	32.3			
Total CAPEX as % of Real gate-to-gate ANSP costs	1.7%	4.9%	2.5%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-6.3	-2.0	-1.5			
Total CAPEX (in M €2009)	-5.5	-1.7	-1.2			
Total CAPEX (in %, M €2009)	-89.3%	-48.2%	-60.4%			



Annual Monitoring Report 2017
Local level view
Greece

GREECE

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	73	C	C	C	C	D
HANSP	75	D	D	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
			RAT application (%)			
			ATM Ground	ATM Overall		
Separation Minima Infringements (SMIs)			100%	100%		
Runway Incursions (RIs)			100%	100%		
ATM Specific Occurrences (ATM-S)				100%		
Source of RAT data:			HCAA			
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level			Number of questions answered			
			YES	NO		
Policy and its implementation			8	1		
Legal/Judiciary			4	3		
Occurrence reporting and Investigation			0	2		
TOTAL			12	6		
HANSP			Number of questions answered			
			YES	NO		
Policy and its implementation			11	2		
Legal/Judiciary			2	1		
Occurrence reporting and Investigation			8	0		
TOTAL			21	3		
Observations						
All four reviewed EoS M Components/areas of the State meet Level C.						

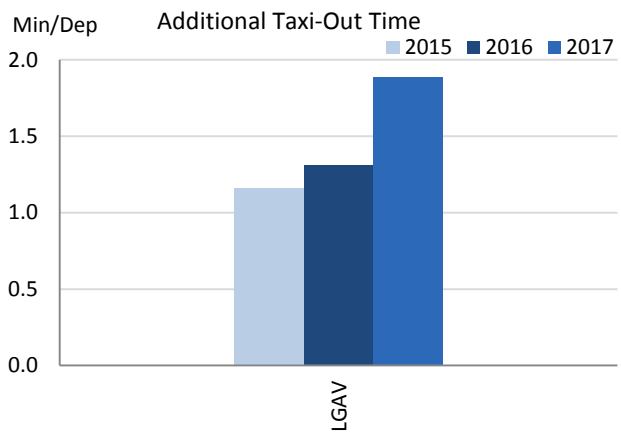
GREECE

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

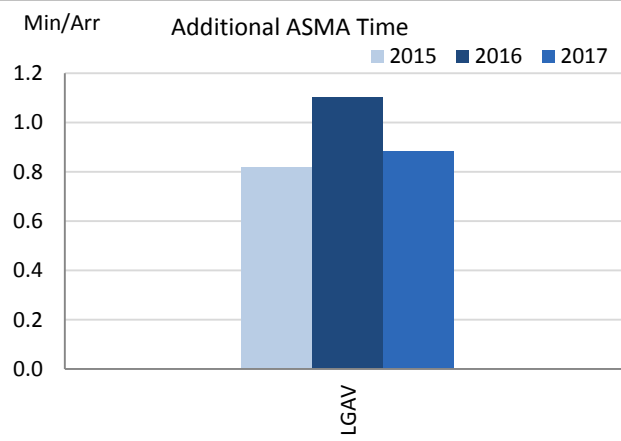
Operational ANS performance at airports is monitored for one airport in Greece (i.e. Athens (LGAV)), the only airport subject to RP2 monitoring .
 Like in previous years, Athens shows lower additional times than other airports with the same levels of traffic, contributing adequately to the European performance.

2. Additional Taxi-Out Time



Additional taxi-out times in Athens have significantly increased during 2017, mainly during the months from May to September, when the traffic levels are higher.

3. Additional ASMA Time



The average additional ASMA time for Athens in 2017 is shorter than the one shown at airports with similar number of arrivals and it also shows an improvement with respect to 2016 (i.e. LGAV: 2016: 1.10 min/arr. vs 2017: 0.88min/arr.)

4. Appendix

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

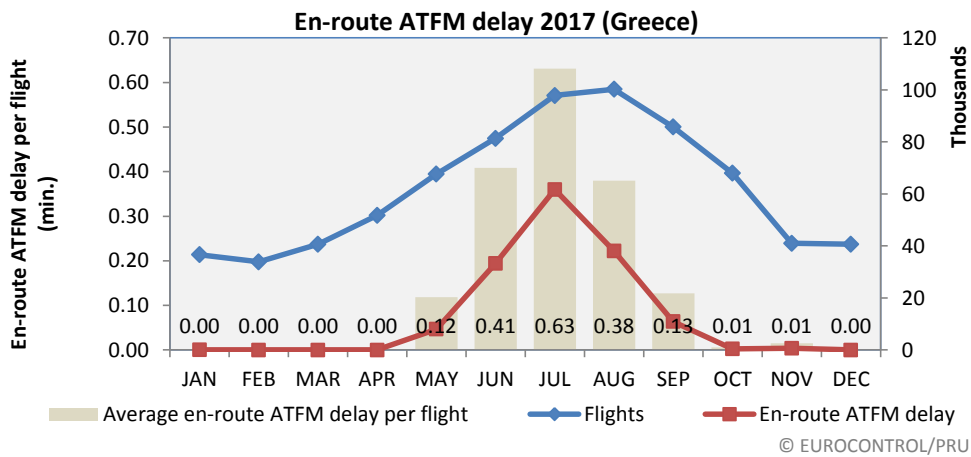
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Athens	LGAV	1.16	1.31	1.89			0.82	1.10	0.88		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.70	1.40	1.00	0.60	0.50	
Deadband +/-	N/A	N/A	N/A	N/A	N/A	
Actual performance	0.95	0.14	0.21			

National capacity incentive scheme

No national incentive scheme.

Observations regarding national capacity performance



En-route ATFM delay per flight (Greece)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1.47	1.12	1.00	2.95	0.15	0.06	0.41	0.95	0.14	0.21

En-route capacity in Greece deteriorated from 2016 levels, 0.21 minutes delay per flight compared with 0.14 for 2016. Traffic rose by 6% from 2016 levels which had dropped almost 2% from 2015. The evolution of traffic for RP2 compared to the STATFOR forecast available when the FAB performance plans, and associated capacity plans were being determined is shown below. Although 2015 traffic was higher than initially predicted, traffic levels for 2016 and 2017 remain within the limits of the predicted ranges. The Network Manager reports that Greece is expected to have a performance close to the reference values expected, if current capacity plans are maintained, for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Greece									
	2014	2015	2016	2017	2018	2019			
		actual	actual	actual	actual				
High	653	681	714	746	777	814			
Base	644	678	713	710	745	756			
Low	635	649	659	670	681	695			

Planning and Effective Use of CDRs

Greece did not provide any data on these indicators.

Observations on Planning and Effective Use of CDRs

It is noted that Greece, like many other States, is having difficulties in monitoring the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
N/A	94%	N/A		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
N/A	N/A	N/A		

Share of restricted / segregated time (via UUP process) that was actually used				
2015	2016	2017	2018	2019
N/A	100%	N/A		

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

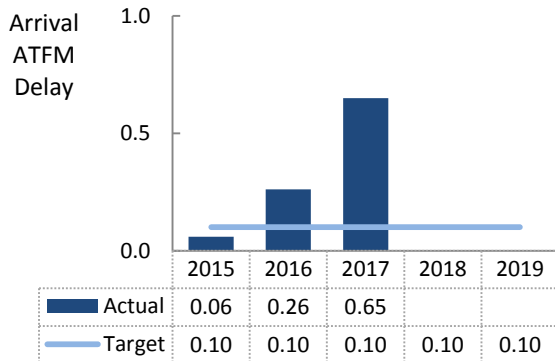
GREECE

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

In Greece, Athens (LGAV) is the only airport subject to RP2 monitoring. The national target on arrival ATFM delay coincides with the local reference value of Athens airport. A significant increase of arrival ATFM delay has been observed in 2016 and even more in 2017 (2015: 0.06 min/arr.; 2016: 0.26 min/arr.; 2017: 0.65 min/arr.)

2. Arrival ATFM Delay



Arrival ATFM delay at Athens (LGAV) increased by a factor of 2.5, reaching the 0.65 min/arr. in 2017. Like last year, this delay is concentrated in the summer months, especially July and August.

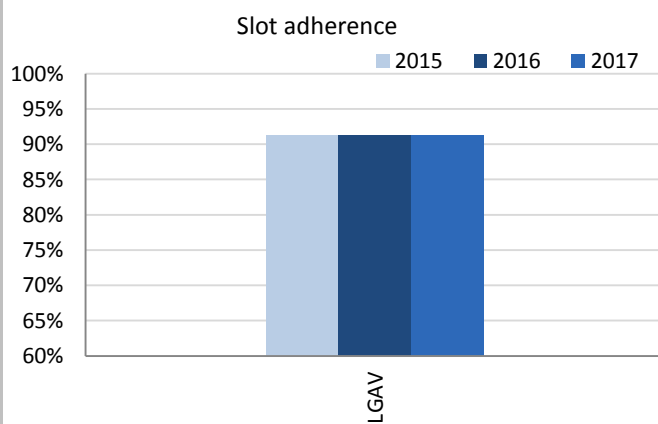
In their monitoring report, BLUE MED FAB justifies this performance and the difference of 0.55 min/arr. with respect to the target due to the following reasons: a) Increase of arrivals at 4% in comparison to 2016 and an increase of nearly 30% with respect to the beginning of RP2; b) Increase of total movements at neighbour airports that have inevitably affected the LGAV terminal area; c) Lack of additional ATCOs to accommodate increased and unforeseen traffic during the summer period; d) Difficulties in formation of flexible operational environment and in accordance with the respective circumstances, due to nature of CNS systems; e) Lack of appropriate tools like those already used in most of the European States, aiming at more fruitful cooperation with EUROCONTROL and more effective ATFM process.

3. Arrival ATFM Delay – National Target and Incentive Scheme

Greece established an ambitious local value for Athens (LGAV) of 0.10 min/arr. that was met in 2015. However, in both 2016 and 2017 the target is not met, and in the case of 2017, exceeded by a factor of 6.5.

Greece does not present an incentive scheme for terminal air navigation services.

4. ATFM Slot Adherence



Athens (LGAV) shows a stable performance in terms of compliance with ATFM slots of 91.3% in 2015 and 2016 and 91.3% in 2017.

With this performance, LGAV ranges slightly above the 90% threshold, but it still performs below the best in class airports with A similar number of movements.

5. Pre-departure Delay

Pre-departure delay at Athens has slightly decreased in 2017, mainly thanks to a reduction in April, November and December with respect to the previous year.

6. Appendix

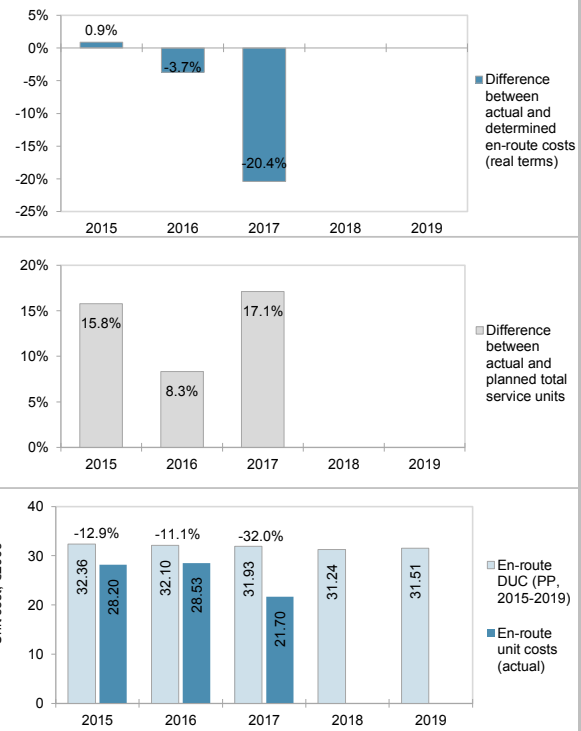
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Athens	LGAV	0.06	0.26	0.65			91.3%	91.3%	91.2%			0.54	0.75	0.67		

GREECE: En-route charging zone

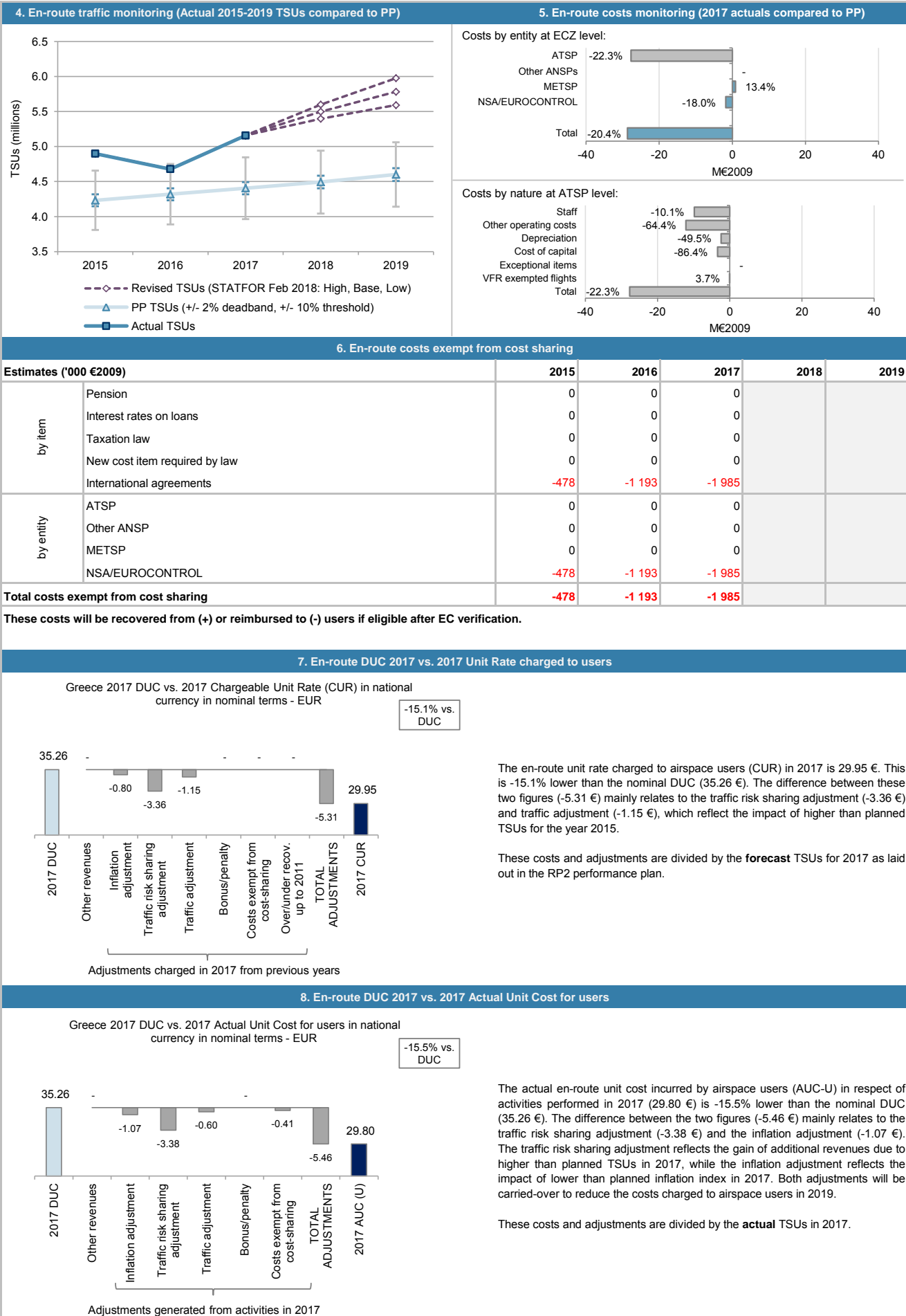
Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· Greece ECZ represents 2.3% of the SES en-route ANS determined costs in 2017						
· ATSP: HCAA						
· FAB: BLUE MED FAB						
· National currency: EUR						
2. En-route DUC monitoring at Charging Zone level						
Greece: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)		2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)		147 841 464	151 226 557	155 317 991	156 939 780	164 629 376
Inflation %		0.3%	1.1%	1.2%	1.3%	1.6%
Inflation index (100 in 2009)		107.9	109.1	110.4	111.8	113.6
Real en-route costs (EUR2009)		136 958 572	138 630 543	140 635 901	140 350 008	144 936 752
Total en-route Service Units		4 231 888	4 318 281	4 404 929	4 492 622	4 599 834
Real en-route unit cost per Service Unit (EUR2009)		32.36	32.10	31.93	31.24	31.51
Greece: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)		145 550 899	140 632 309	119 231 966		
Inflation %		-1.1%	0.0%	1.1%		
Inflation index (100 in 2009)		105.4	105.4	106.5		
Real en-route costs (EUR2009)		138 146 953	133 478 564	111 935 532		
Total en-route Service Units		4 898 818	4 678 399	5 158 194		
Real en-route unit cost per Service Unit (EUR2009)		28.20	28.53	21.70		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal EUR) in value		-2 290 565	-10 594 248	-36 086 026		
in %		-1.5%	-7.0%	-23.2%		
Inflation % in p.p.		-1.4 p.p.	-1.1 p.p.	-0.1 p.p.		
Inflation index (100 in 2009) in p.p.		-2.6 p.p.	-3.7 p.p.	-3.9 p.p.		
Real en-route costs (EUR2009) in value		1 188 381	-5 151 979	-28 700 369		
in %		0.9%	-3.7%	-20.4%		
Total en-route Service Units in value		666 930	360 118	753 265		
in %		15.8%	8.3%	17.1%		
Real en-route unit cost per Service Unit (EUR2009) in value		-4.16	-3.57	-10.23		
in %		-12.9%	-11.1%	-32.0%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (21.70 €2009) is -32.0% lower than planned in the PP (31.93 €2009). This difference results from the combination of much higher than planned TSUs (+17.1%) and significantly lower than planned en-route costs in real terms (-20.4%, or -28.7 M€2009). See also Note 1 at the end of this Report.						
En-route service units						
The difference between actual and planned TSUs (+17.1%) falls outside of the +10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP and the airspace users, the former retaining a gain of 5.7 M€2009.						
Based on the STATFOR February 2018 TSU growth scenarios, Greece en-route TSUs deviation from the RP2 forecasts is expected to abundantly exceed the +10% threshold for the remaining years of RP2 (2018-2019). It is noted that the determined TSUs underpinning the adopted RP2 cost-efficiency targets were in line with STATFOR February 2014 <u>low</u> TSU growth scenario for all years of RP2 (2015-2019).						
En-route costs						
In nominal terms, actual en-route costs are -23.2% (-36.1 M€) lower than planned in the PP. However, since the actual inflation index is also lower than planned (-3.9 p.p.), actual en-route costs are -20.4% (-28.7 M€2009) lower than planned when expressed in real terms.						
Lower than planned en-route costs in real terms are mainly driven by HCAA costs (-22.3%, or -27.7 M€2009) and, to a lesser extent, by the NSA/EUROCONTROL costs (-18.0%, or -1.8 M€2009). Differently, costs for the MET service provider are higher than planned in real terms (+13.4%, or +0.9 M€2009). A detailed analysis at ATSP level is provided in box 12.						
Costs exempt from cost sharing are reported for a total amount of -2.0 M€2009 comprising the variation in EUROCONTROL costs. These costs will be eligible for carry-over (reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.						



GREECE: En-route charging zone

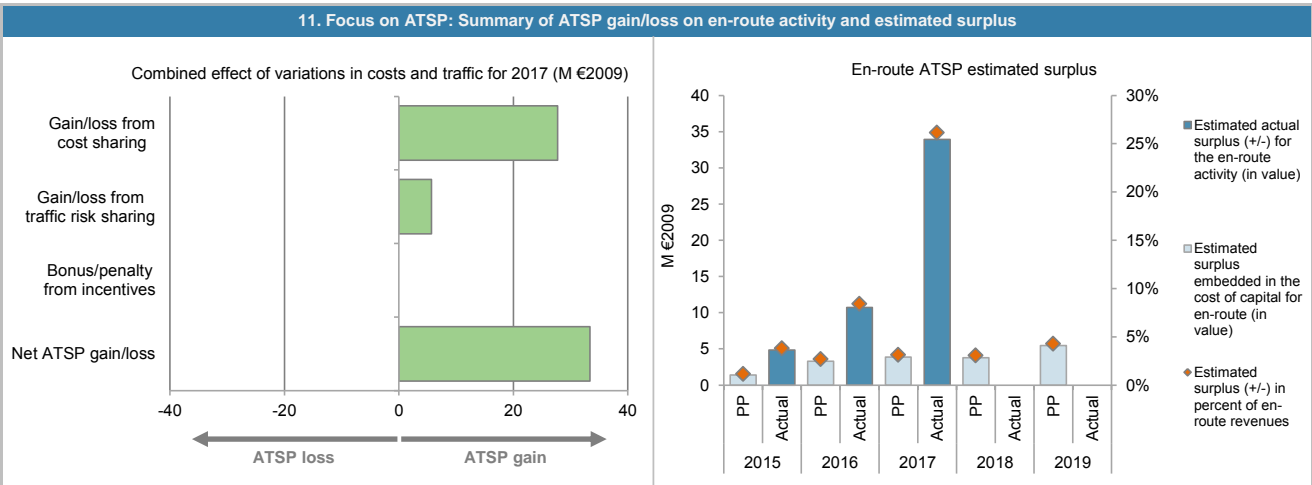
Monitoring of en-route COST-EFFICIENCY for 2017



GREECE: En-route ATSP (HCAA)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	120 824	122 261	124 133		
Actual costs for the ATSP	121 884	117 535	96 393		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-1 060	4 727	27 741		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-1 060	4 727	27 741		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	15.8%	8.3%	17.1%		
Determined costs for the ATSP (PP) - based on actual inflation	123 791	126 586	128 703		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	5 447	4 939	5 663		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	4 387	9 666	33 404		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	15 891	36 938	43 733	42 692	61 610
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	15 891	36 938	43 733	42 692	61 610
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	1 413	3 284	3 888	3 795	5 477
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	8.9%	8.9%	8.9%	8.9%	8.9%
Estimated surplus embedded in the cost of capital for en-route (in value)	1 413	3 284	3 888	3 795	5 477
Overall estimated surplus (+/-) for the en-route activity	1 413	3 284	3 888	3 795	5 477
Revenue/costs for the en-route activity	120 824	122 261	124 133	123 747	128 286
Estimated surplus (+/-) in percent of en-route revenues	1.2%	2.7%	3.1%	3.1%	4.3%
Estimated ex-ante RoE pre-tax rate (in %)	8.9%	8.9%	8.9%	8.9%	8.9%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	4 983	11 770	5 929		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	4 983	11 770	5 929		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	443	1 046	527		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	8.9%	8.9%	8.9%		
Estimated surplus embedded in the cost of capital for en-route (in value)	443	1 046	527		
Net ATSP gain(+)/loss(-) on en-route activity	4 387	9 666	33 404		
Overall estimated surplus (+/-) for the en-route activity	4 830	10 712	33 931		
Revenue/costs for the en-route activity	126 271	127 201	129 796		
Estimated surplus (+/-) in percent of en-route revenues	3.8%	8.4%	26.1%		
Estimated ex-post RoE pre-tax rate (in %)	96.9%	91.0%	572.3%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 HCAA en-route costs vs. PP

In 2017, HCAA actual en-route costs are -22.3% (-27.7 M€2009) lower, in real terms, than planned in the PP. see also **Note 1** at the end of this Report. According to the additional information to the June 2018 en-route Reporting Tables, this results from the combination of:

- lower staff costs (-10.1%, or -9.8 M€2009) in real terms, reflecting "lower payments of overtimes and benefits"; in this respect, it should be noted that the "staff costs of 32 ab initio ATCOs, recruited in November 2017, are not included in the actual cost"
- significantly lower other operating costs (-64.4%, or -12.2 M€2009) in real terms, resulting from "less payments in 2017 due to newly established procedures for HCAA, resulting from the State accounting policies". It is also noted, that "relevant significant increase in operating costs is going to be reflected in the 2019 in relation to unpaid obligations of 2017";
- significantly lower depreciation costs (-49.5%, or -2.4 M€2009) in real terms; and,
- significantly lower cost of capital (-86.4%, or -3.4 M€2009) in real terms, reflecting "the implementation of the investment plan". Based on the information provided in the BLUE MED FAB Monitoring Report 2017, the actual capex for 2017 in nominal terms is much lower (-98.5%) than planned in PP.

HCAA net gain/loss on en-route activity in 2017

As shown in box 9, HCAA generated a net gain of +33.4 M€2009 on the en-route activity in 2017. This is a combination of two elements:

- a gain of +27.7 M€2009 arising from the cost sharing mechanism (see also **Note 1** at the end of this Report); and,
- a gain of +5.7 M€2009 arising from the traffic risk sharing mechanism.

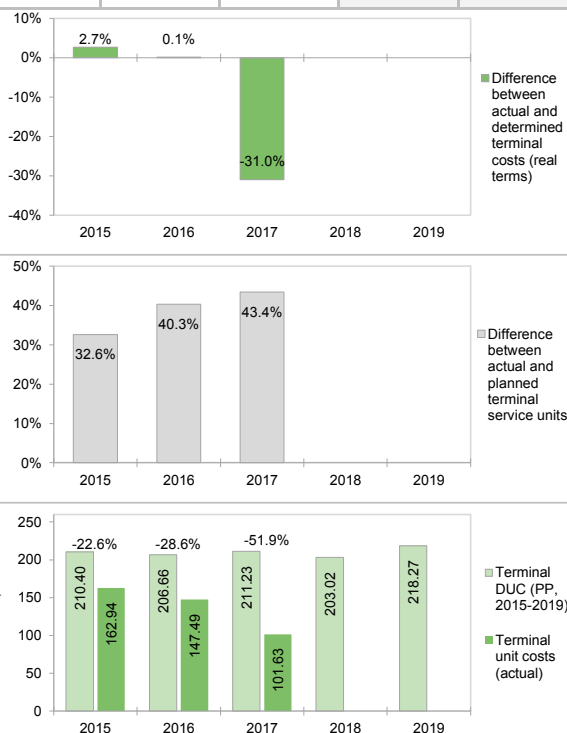
HCAA overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity (+33.4 M€2009) and the surplus embedded in the actual cost of capital (+0.5 M€2009) amounts to +33.9 M€2009 (26.1% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is +572.3%, which is significantly higher than planned in the PP (+8.9%). It is noted, that the actual asset base reported for HCAA (5.9 M€2009) is -86.4% lower than planned (43.7 M€2009) in real terms.

GREECE: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

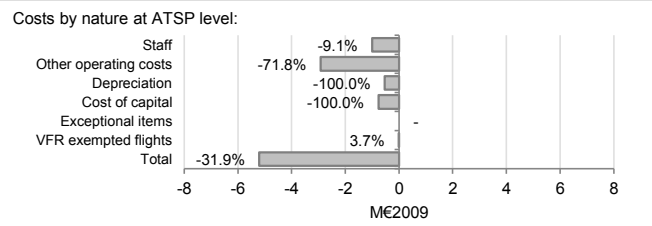
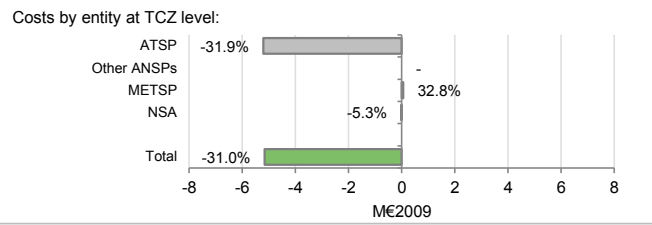
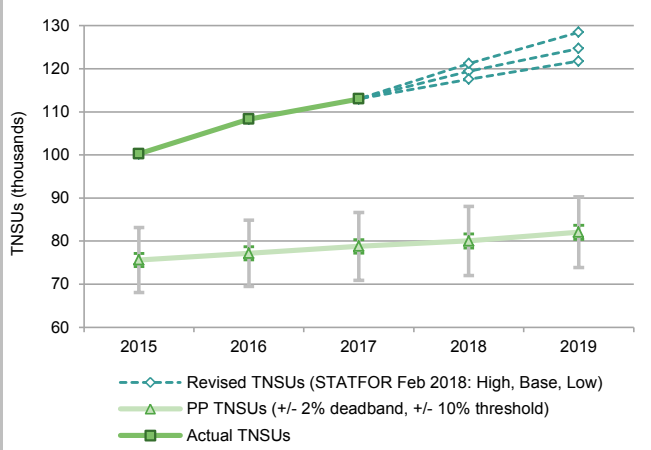
1. Contextual economic information: terminal air navigation services					
· Greece TCZ represents 1.5% of the SES terminal ANS determined costs in 2017				· Is this TCZ applying traffic risk sharing?	No
· ATSP: HCAA				· Airports with fewer than 70,000 IFRs ATMs:	0
· National currency: EUR				· Airports with between 70,000 and 225,000 IFRs ATMs:	1
· Number of airports in charging zone in 2017: 1,			of which:	· Airports with more than 225,000 IFRs ATMs:	0
2. Terminal DUC monitoring at Charging Zone level					
Greece: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	17 173 869	17 398 050	18 378 066	18 168 294	20 342 644
Inflation %	0.3%	1.1%	1.2%	1.3%	1.6%
Inflation index (100 in 2009)	107.9	109.1	110.4	111.8	113.6
Real terminal costs (EUR2009)	15 909 668	15 948 926	16 640 801	16 247 762	17 909 299
Total terminal Service Units	75 618	77 174	78 781	80 031	82 050
Real terminal unit cost per Service Unit (EUR2009)	210.40	206.66	211.23	203.02	218.27
Greece: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	17 209 550	16 828 787	12 233 143		
Inflation %	-1.1%	0.0%	1.1%		
Inflation index (100 in 2009)	105.4	105.4	106.5		
Real terminal costs (EUR2009)	16 334 127	15 972 733	11 484 533		
Total terminal Service Units	100 249	108 300	113 003		
Real terminal unit cost per Service Unit (EUR2009)	162.94	147.49	101.63		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	35 681	-569 263	-6 144 923		
	in value				
	0.2%	-3.3%	-33.4%		
	in %				
Inflation %	-1.4 p.p.	-1.1 p.p.	-0.1 p.p.		
	in p.p.				
Inflation index (100 in 2009)	-2.6 p.p.	-3.7 p.p.	-3.9 p.p.		
	in p.p.				
Real terminal costs (EUR2009)	424 460	23 808	-5 156 269		
	in value				
	2.7%	0.1%	-31.0%		
	in %				
Total terminal Service Units	24 631	31 126	34 222		
	in value				
	32.6%	40.3%	43.4%		
	in %				
Real terminal unit cost per Service Unit (EUR2009)	-47.46	-59.18	-109.60		
	in value				
	-22.6%	-28.6%	-51.9%		
	in %				
3. Focus on terminal at State/Charging Zone level					
This analysis focuses on Greece Terminal Charging Zone (TCZ) comprising only Athinaï / Eleftherios Venizelos (LGAV) airport.					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (101.63 €2009) is -51.9% lower than planned in the RP2 PP (211.23 €2009). The difference results from the combination of significantly higher than planned TNSUs (+43.4%) and much lower than planned terminal costs in real terms (-31.0%, or -5.2 M€2009).					
Terminal service units					
Greece does not apply the traffic risk sharing mechanism in its TCZ. The actual TNSUs in Greece TCZ are significantly higher (+43.4%) than planned in the RP2 PP. Based on the STATFOR February 2018 TNSU growth scenarios, Greece TNSUs are expected to abundantly exceed the TNSUs planned in the PP for the remainder of RP2 (2018-2019). It should be noted that the forecast TNSUs selected in the RP2 PP were mostly in line with the STATFOR February 2014 <u>base</u> case TNSU growth scenario at the time of PP adoption.					
Terminal costs					
In nominal terms, the actual terminal costs are lower than planned in the PP (-33.4%, or -6.1 M€). However, since the actual inflation index is also lower than planned (-3.9 p.p.), the actual terminal costs are -31.0% (-5.2 M€2009) below planned, when expressed in real terms. Lower than planned terminal costs in real terms are mainly driven by HCAA costs (-31.9%, or -5.2 M€2009) and, to a lesser extent, by the NSA costs (-5.3%, or -0.01 M€2009). Differently, the MET service provider costs are higher than planned in real terms (+32.8%, or +0.1 M€2009). A detailed analysis at ATSP level is provided in box 12.					
It is noted that Greece did not report actual terminal depreciation costs or cost of capital for 2017, while such costs were included in their 2017 determined terminal cost-base for RP2 (see also Note 2 at the end of this Report). No costs exempt from cost sharing are reported for Greece TCZ.					



GREECE: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

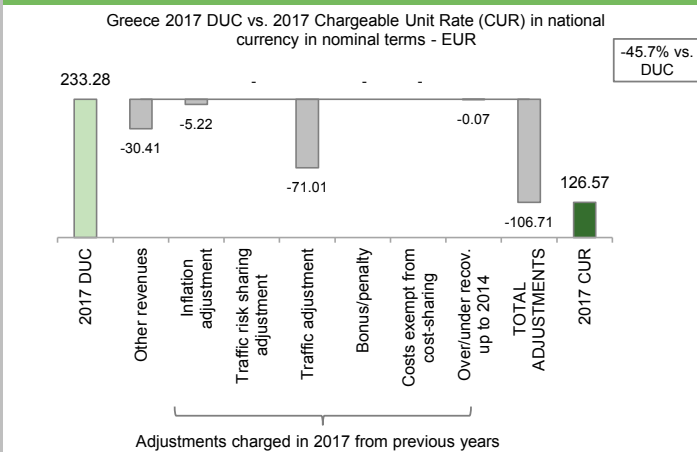


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

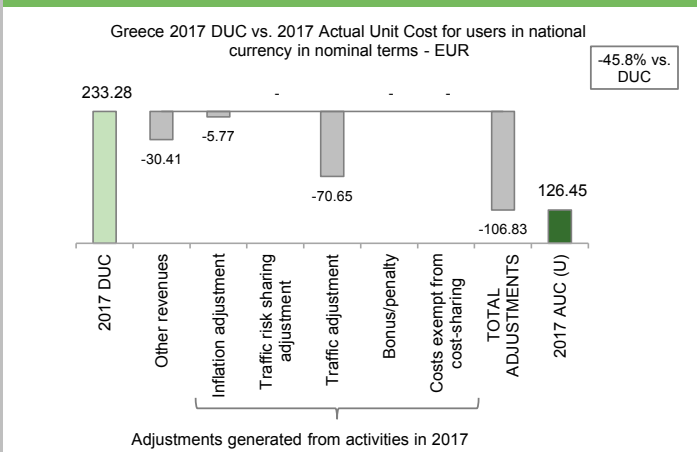
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



It is noted that Greece applied two different chargeable terminal unit rates in 2017:
 - 156,98 € for the period from 1st of January until 30th of April;
 - 116,00 € for the period of the 1st of May until the 31st of December.
 The figure for the terminal unit rate charged to airspace users (CUR) in 2017 shown in the chart (126.57 €) reflects the average chargeable unit rate throughout 2017. This is -45.7% lower than the nominal DUC (233.28 €). The difference between these two figures (-106.71 €) mainly reflects the subsidy received from the Greek Government (-30.41 €, recorded here as other revenues) intended to reduce the unit rate charged to the airspace users at Athens International Airport, and traffic adjustment (-71.01 €) which reflects the impact of significantly higher than planned TNSUs in 2015. See also **Note 3** at the end of this Report.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the RP2 performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



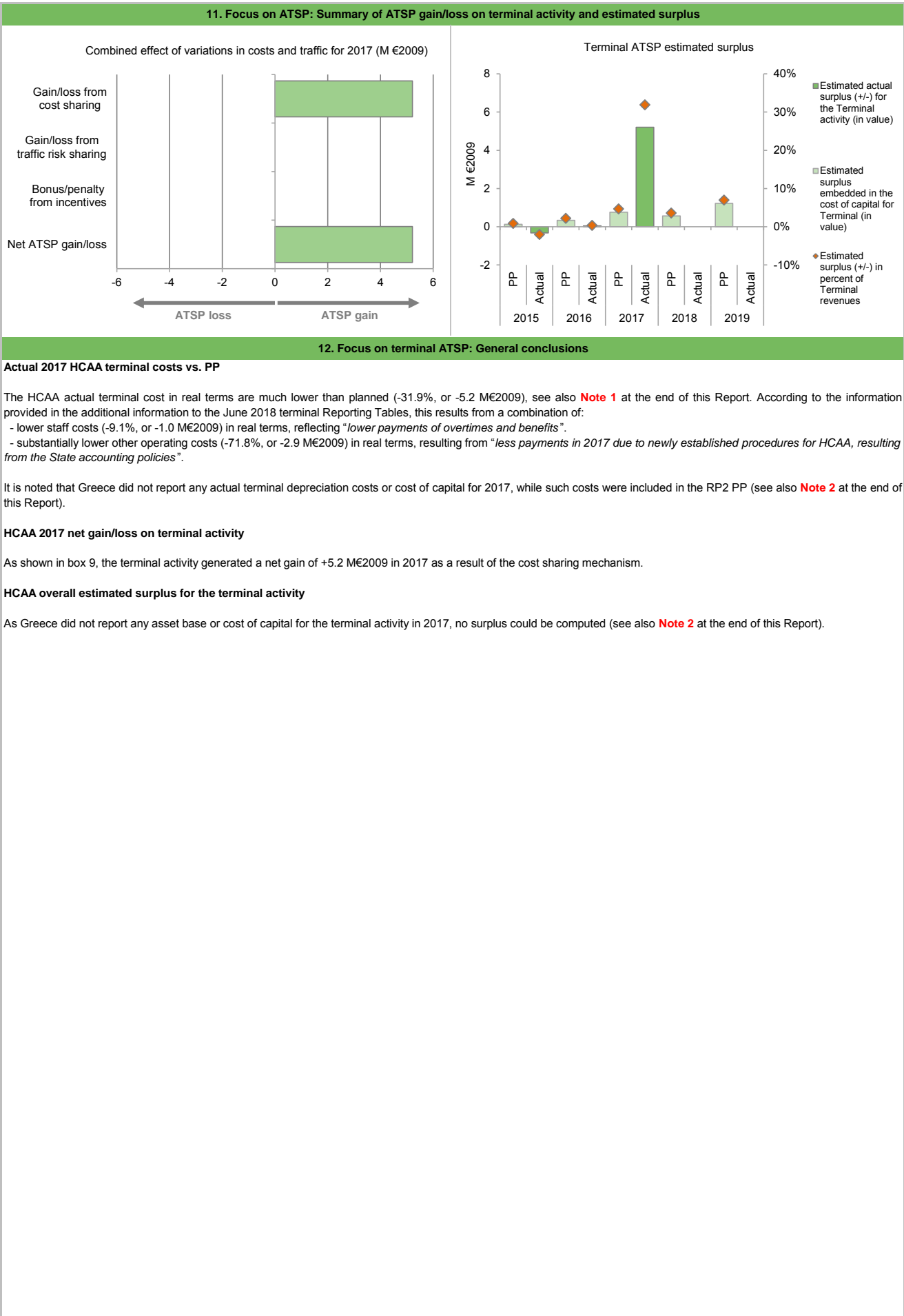
The actual terminal unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (126.45 €) is -45.8% lower than the nominal DUC (233.28 €). As explained in box 7, the values provided in this chart also reflect the average terminal unit cost incurred by airspace users throughout 2017. The major factors contributing to the observed difference (-106.83 €) are: the traffic adjustment (-70.65 €), reflecting the impact of a significantly higher than planned TNSUs in 2017, which will be carried-over to reduce the costs charged to airspace users in 2019, and other revenues (-30.41 €), which reflect a subsidy received from the Greek Government to reduce the terminal unit rate in 2017. See also **Note 3** at the end of this Report.

These costs and adjustments (for other revenues see Reader's Guide) are divided by the **actual** TNSUs in 2017.

GREECE: Terminal ATSP (HCAA)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	15 602	15 645	16 340		
Actual costs for the ATSP	15 928	15 599	11 133		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-326	46	5 208		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-326	46	5 208		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-326	46	5 208		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	1 448	3 745	8 513	6 297	13 724
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	1 448	3 745	8 513	6 297	13 724
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	129	333	757	560	1 220
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	8.9%	8.9%	8.9%	8.9%	8.9%
Estimated surplus embedded in the cost of capital for terminal (in value)	129	333	757	560	1 220
Overall estimated surplus (+/-) for the terminal activity	129	333	757	560	1 220
Revenue/costs for the terminal activity	15 602	15 645	16 340	15 951	17 617
Estimated surplus (+/-) in percent of terminal revenues	0.8%	2.1%	4.6%	3.5%	6.9%
Estimated ex-ante RoE pre-tax rate (in %)	8.9%	8.9%	8.9%	8.9%	8.9%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	0	0	0		
Estimated proportion of financing through equity (in %)	-	-	-		
Estimated proportion of financing through equity (in value)	0	0	0		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	0	0	0		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	-	-	-		
Estimated surplus embedded in the cost of capital for terminal (in value)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity	-326	46	5 208		
Overall estimated surplus (+/-) for the terminal activity	-326	46	5 208		
Revenue/costs for the terminal activity	15 602	15 645	16 340		
Estimated surplus (+/-) in percent of terminal revenues	-2.1%	0.3%	31.9%		
Estimated ex-post RoE pre-tax rate (in %)					



GREECE: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

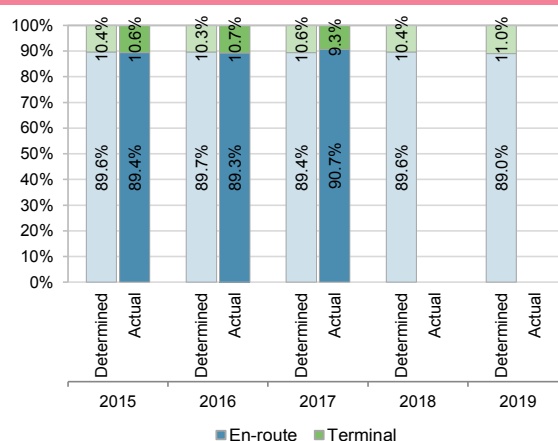
1. Monitoring of gate-to-gate ANS costs

Greece: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		136 958 572	138 630 543	140 635 901	140 350 008	144 936 752
Real terminal costs (EUR2009)		15 909 668	15 948 926	16 640 801	16 247 762	17 909 299
Real gate-to-gate costs (EUR2009)		152 868 239	154 579 468	157 276 702	156 597 770	162 846 051
En-route share (%)		89.6%	89.7%	89.4%	89.6%	89.0%
Greece: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		138 146 953	133 478 564	111 935 532		
Real terminal costs (EUR2009)		16 334 127	15 972 733	11 484 533		
Real gate-to-gate costs (EUR2009)		154 481 080	149 451 297	123 420 064		
En-route share (%)		89.4%	89.3%	90.7%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	1 612 840	-5 128 172	-33 856 638		
	in %	1.1%	-3.3%	-21.5%		
En-route share	in p.p.	-0.2 p.p.	-0.4 p.p.	1.3 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs are -21.5% (-33.9 M€2009) lower than planned due to the combination of lower en-route (-20.4%, or -28.7 M€2009) and terminal costs (-31.0%, or -5.2 M€2009). It is noted that in nominal terms, gate-to-gate ANS costs are -24.3% (-42.2 M€) lower than planned.

The actual share of en-route in gate-to-gate ANS costs (90.7%) is slightly higher than that planned in the PP for 2017 (89.4%).



3. Technical notes on en-route and terminal information reported by Greece

Note 1: in 2017, a significant variation in en-route and terminal other operating costs for the main ATSP (HCAA) has been observed between actual costs for 2016 and 2017 (-62.2% for en-route and -74.7% for terminal) and vis-à-vis the costs foreseen in the Performance Plan (-64.4% for en-route and -71.8% for terminal) in real terms. According to the additional information to the June 2018 en-route and terminal Reporting Tables, this "is a result of less payments in 2017 due to newly established procedures for HCAA, resulting from the State accounting policies. It is expected that a relevant significant increase in operating costs is going to be reflected in the 2019 reporting tables in relation to unpaid obligations of 2017."

It is understood that the observed reduction in other operating costs results from delayed payments linked to the change in accounting policies and do not reflect a genuine cost-efficiency improvement. As such, this change should be taken into account when interpreting the actual cost-efficiency performance of HCAA for 2017.

Note 2: for the 2017 terminal actual costs, Greece reported zero actual costs for depreciation, cost of capital and the ATSP's asset base (HCAA) in the June 2017 submission of terminal Reporting Tables. Based on the additional information provided with the terminal Reporting Tables this is due to:

"Regarding year 2017, no asset base and related depreciation costs are reported since all fixed assets in operation which are used for the provision of ATS in the terminal navigation charging zone have been fully depreciated and the implementation of the investment plan has been delayed due to the austerity measures and the unstable economic situation in Greece. In addition to that, HCAA does not report any net current assets for the calculation of the total asset base."

Moreover, since planned cost of capital regarding the terminal charging zone reflects the investment plan implementation as well as the CAPEX of 2017 and since no cost of capital is calculated on already depreciated assets, actual cost of capital for the year 2017 is reported as Zero."

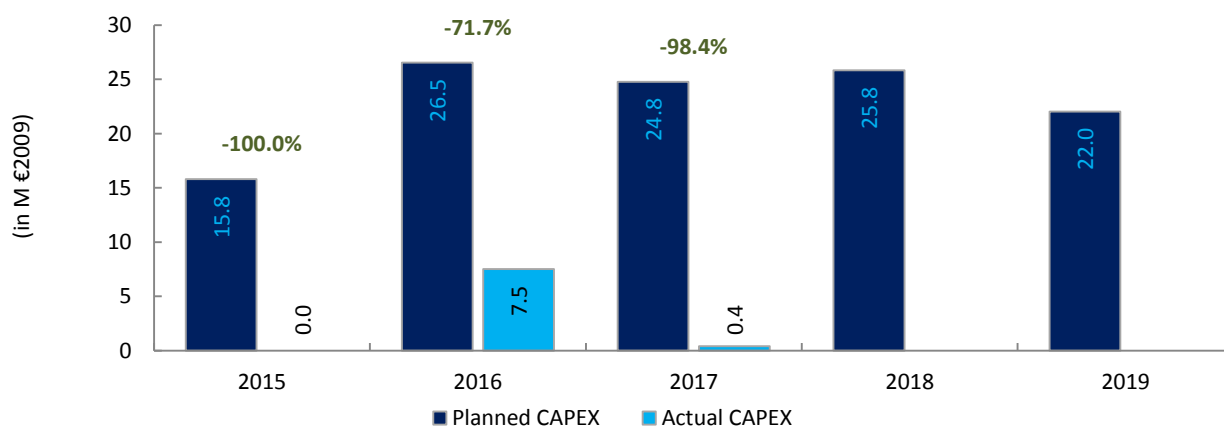
Note 3: the additional information to the June 2017 terminal Reporting Tables indicates that two separate unit rates were applied in the Greek TCZ during 2017: "the unit rate applicable for the period of the 1st of January until the 30th of April 2017 was €156.98 and the final, subsidised, unit rate applicable to Athens / Eleftherios Venizelos Airport for the period of the 1st of May until the 31st of December 2017 is €116.00."

This subsidy granted by the Greek Government resulted in a reduced terminal unit rate charged to the airspace users at Athens International Airport.

GREECE

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: HCAA						
FAB: BLUE MED FAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	17.1	29.0	27.4	28.9	25.0	127.3
Main CAPEX (in nominal M)	17.1	29.0	27.4	28.9	25.0	127.3
Inflation %	0.3%	1.1%	1.2%	1.3%	1.6%	
Inflation index (100 in 2009)	107.9	109.1	110.4	111.8	113.6	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	15.8	26.5	24.8	25.8	22.0	115.0
Main CAPEX (in M €2009)	15.8	26.5	24.8	25.8	22.0	115.0
% Main of Total CAPEX	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Real gate-to-gate ANSP costs (in M €2009)	136.4	137.9	140.5	139.7	145.9	700.4
Total CAPEX as % of Real gate-to-gate ANSP costs	11.6%	19.3%	17.6%	18.5%	15.1%	16.4%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	0.0	7.9	0.4			
Main CAPEX (in nominal M)	0.0	6.6	0.4			
Inflation %	-1.1%	0.0%	1.1%			
Inflation index (100 in 2009)	105.4	105.4	106.5			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	0.0	7.5	0.4			
Main CAPEX (in M €2009)	0.0	6.2	0.4			
% Main of Total CAPEX		82.7%	100.0%			
Real gate-to-gate ANSP costs (in M €2009)	137.8	133.1	107.5			
Total CAPEX as % of Real gate-to-gate ANSP costs	0.0%	5.6%	0.4%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-17.1	-21.0	-26.9			
Total CAPEX (in M €2009)	-15.8	-19.0	-24.4			
Total CAPEX (in %, M €2009)	-100.0%	-71.7%	-98.4%			



Annual Monitoring Report 2017
Local level view
Italy

ITALY

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	66	C	D	C	C	B
ENAV	76	D	D	D	D	C
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	ENAV					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	6	3				
Legal/Judiciary	5	2				
Occurrence reporting and Investigation	2	0				
TOTAL	13	5				
ENAV	Number of questions answered					
	YES	NO				
Policy and its implementation	12	1				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	7	1				
TOTAL	21	3				
Observations						
Only one question out of 36 in the EoSM Component/area of the State in Safety Culture does not meet the 2019 EoSM target level.						

ITALY

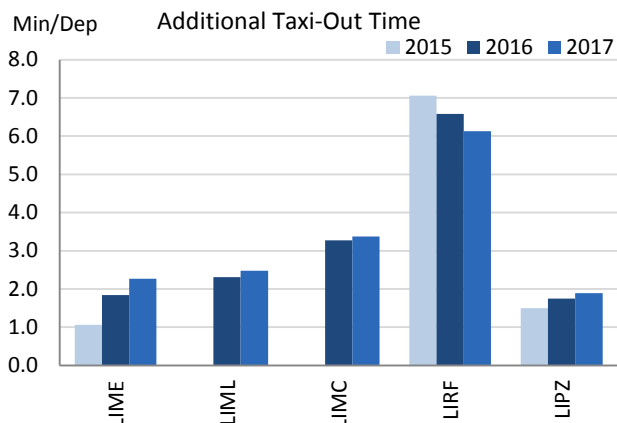
Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

Italy identified five airports as subject to RP2 monitoring. In 2016 the APDF was finally correctly established and the environmental indicators can be analysed for all five airports.

As seen in previous years, Italian airports contribute to the European performance with additional times below the European averages, except for additional taxi-out times at Rome Fiumicino ranging above 6 minutes.

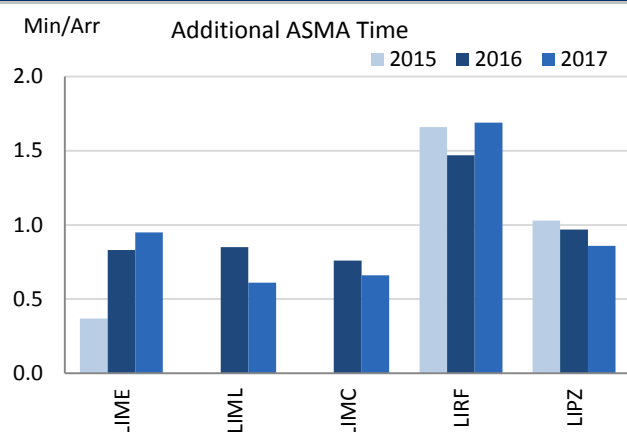
2. Additional Taxi-Out Time



Rome Fiumicino, the main driver for Italian performance, has reduced its additional TXOT (i.e. LIRF: 2016: 6.58 min/arr. vs 2017: 6.13 min/arr.) but nevertheless these are the third highest additional taxi-out times in the SES area.

The rest of Italian airports have slightly increased their additional taxi-out times with respect to 2016, but still show a performance commensurate with their level of traffic.

3. Additional ASMA Time



In terms of additional ASMA times, following the performance of previous years Italian airports are consistently well below the average for RP2 airports and in Fiumicino's case, show best in class performance.

The additional times in the terminal area have been reduced at LIML, LIMC and LIPZ in 2017.

On the other hand, LIME and LIRF have worsened the performance with respect to 2016.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bergamo	LIME	1.06	1.84	2.27			0.37	0.83	0.95		
Milan/ Linate	LIML	n/a	2.31	2.48			n/a	0.85	0.61		
Milan/ Malpensa	LIMC	n/a	3.27	3.37			n/a	0.76	0.66		
Rome/Fiumicino	LIRF	7.06	6.58	6.13			1.66	1.47	1.69		
Venice	LIPZ	1.50	1.75	1.89			1.03	0.97	0.86		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.09	0.10	0.11	0.11	0.11	
Deadband +/-	0.00	0.00	0.00	0.00	0.00	
Actual performance	0.01	0.00	0.01			

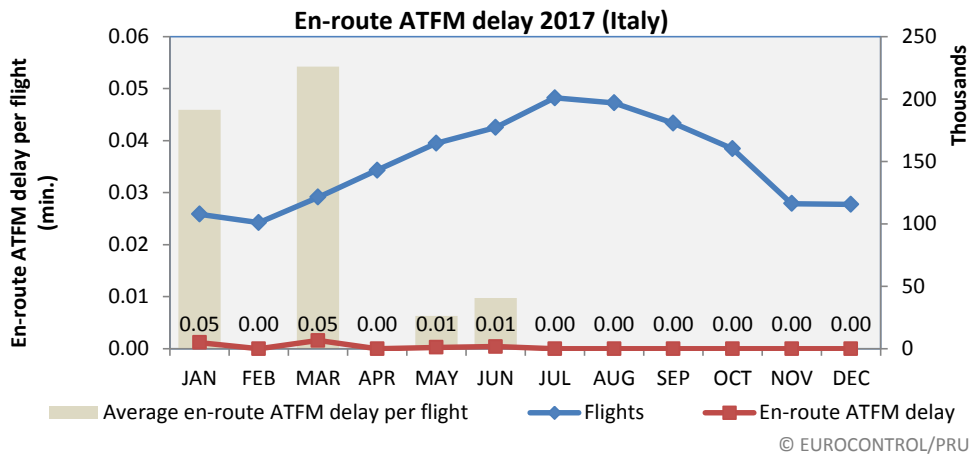
National capacity incentive scheme

No information regarding the national en-route capacity incentive scheme was provided in the operations section of the BLUE MED FAB monitoring report. However, in the reporting tables for economic regulation, the following is reported:

For what concerns en-route, the incentive scheme relates to the Capacity KPI “The average minutes of en route ATFM delay per flight”. It takes into consideration the reference values provided by NM and PRB as adequate contribution (based on NOP, LSSIP Italy, Capacity Plans), specifically 0.11 min/flight in 2017 and is symmetrical and incremental. It takes into account all en-route ATFM delay causes excluding exceptional events and has a maximum level at 1% of the revenue from en-route ANS.

For 2017, ENAV has achieved a level of delay of 0.009 min/flight. According to the applied scheme the level of bonus recognised to ENAV is of 6.2mIn€ in the measure of the 1% of en-route revenues. Such bonus will be recovered in 2019 (year n+2).

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Italy)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.05	0.01	0.01	0.01	0.00	0.00	0.02	0.01	0.00	0.01

En-route capacity performance in Italy in 2017 resulted in negligible ATFM delay for airspace users, continuing the excellent performance for previous years. Traffic levels for Italy have remained within the ranges forecast by STATFOR when the FAB performance plans, and associated capacity plans were being determined. For RP2, traffic evolution has been lower than the predicted baseline scenario for Italy. The Network Manager, in the latest NOP 2018 - 2022, states that Italy is expected to provide similar capacity performance for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Italy										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	1683		1746		1831		1903		1978	2058
Base	1661	1680	1706	1696	1757	1734	1801	1786	1845	1897
Low	1638		1661		1674		1690		1708	1728

Planning and Effective Use of CDRs

Italy did not provide any data on this indicator.

Observations on Planning and Effective Use of CDRs

It is noted that Italy, like many other States, is unable to monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
N/A	N/A	56%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
N/A	N/A	0%		

Procedure 3 is not applicable within the State.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

ITALY

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

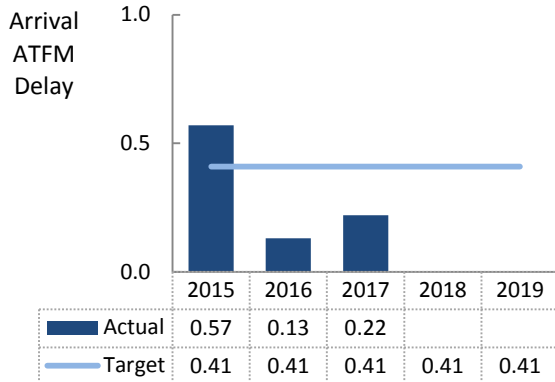
A total of 5 Italian airports are subject to RP2 monitoring. A national target is set for all causes with a local breakdown for all the airports.

In average, traffic levels at these airports have not changed in 2017. On the other hand at local level there is a traffic increase of 7-8% at Bergamo and Malpensa, while there is a decrease of 5% approx. at Rome Fiumicino.

The terminal ATFM delays, after the reduction observed in 2016, have increased for all airports in 2017.

Slot adherence is higher than 90% and improving year on year. In terms of ATC pre-departure delay, Italian airports show low performance compared to the rest of Europe.

2. Arrival ATFM Delay



After the significant improvement in terms of arrival ATFM delay in 2016 driven by the performance at Rome/Fiumicino, in 2017 the ATFM terminal delays have almost doubled.

The delay increase is observed at all 5 airports including LIRF, despite the reduction in traffic at this airport, where the biggest delays concentrated in the months of January and February.

Despite this increase, Rome Fiumicino still shows low arrival ATFM delay compared to other airports with similar number of movements.

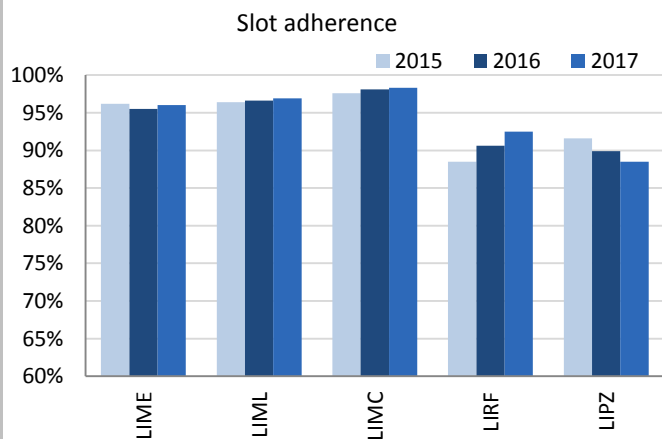
3. Arrival ATFM Delay – National Target and Incentive Scheme

The actual national performance on arrival ATFM delay (0.22 min/arr.) ranges well below the established national target of 0.41 min/arr. in 2017.

At local level LIPZ is the only airport that does not meet its target (0.40 min/arr.) with a performance of 0.45 min/arr.)

Italy presents an incentive scheme based on the arrival ATFM delay per flight including only CRSTMP causes. The target for reasons attributable to ENAV is 0.02 min/flight, which was met with a result of 0.01 min/flight as reported in the reasons for regulations. Accordingly, ENAV will receive a bonus of 0.2% of terminal ANS revenues.

4. ATFM Slot Adherence



On average, adherence to ATFM slots in Italy has slightly improved in 2017.

Slot adherence improved for the second year in a row at Rome/Fiumicino (2015: 88.5%; 2016: 90.5%; 2017: 92.5%) by approximately 2% while a decrease of compliance with the ATFM slot has been observed again at Venice where the performance does not reach 90% (2015: 91.6%; 2016: 89.9%; 2017: 88.5%)

Milan airports and Bergamo show best-in-class performance, above 95% of ATFM slot compliance.

5. Pre-departure Delay

The monitoring of pre-departure delay is enabled at all Italian airports and is based exclusively on data reported by the airports through the Airport Operator Data Flow. The share of unexplained delay at LIML (almost 40% each month) needs to be monitored, as the indicator is only calculated provided the share of unexplained delay does not exceed a certain threshold.

Pre-departure delay at Rome/Fiumicino improved again significantly from 2.35 min/arr. in 2016 to 1.79 min/arr. in 2017. Despite this improvement Fiumicino remains, together with Venice, second and third airport in the SES performance scheme with the highest pre-departure delay.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bergamo	LIME	0.03	0.01	0.05			96.2%	95.5%	96.0%			0.73	0.74	0.98		
Milan/ Linate	LIML	0.06	0.02	0.10			96.4%	96.6%	96.9%			n/a	0.39	0.27		
Milan/ Malpensa	LIMC	0.02	0.02	0.03			97.6%	98.1%	98.3%			n/a	0.48	0.58		
Rome/Fiumicino	LIRF	1.22	0.23	0.36			88.5%	90.6%	92.5%			3.03	2.35	1.79		
Venice	LIPZ	0.39	0.27	0.45			91.6%	89.9%	88.5%			1.57	1.54	1.77		

ITALY: En-route charging zone

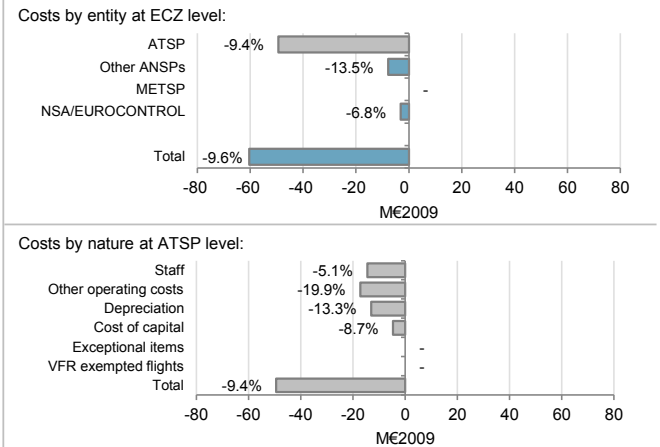
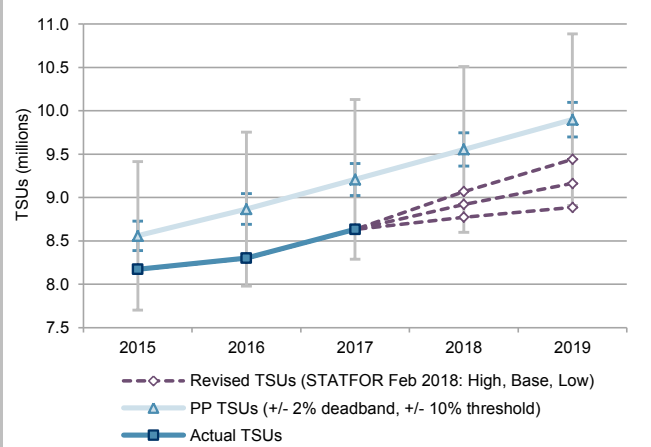
Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
<ul style="list-style-type: none"> Italy ECZ represents 10.2% of the SES en-route ANS determined costs in 2017 ATSP: ENAV FAB: BLUE MED FAB National currency: EUR 						
2. En-route DUC monitoring at Charging Zone level						
Italy: Data from RP2 Performance Plan (EC Decision 2016/599 of 15 April 2016)	2015D	2016D	2017D	2018D	2019D	
En-route costs (nominal EUR)	674 742 285	693 557 255	711 992 044	710 883 664	707 016 612	
Inflation %	1.0%	1.1%	1.3%	1.5%	1.6%	
Inflation index (100 in 2009)	110.8	112.0	113.5	115.2	117.0	
Real en-route costs (EUR2009)	609 005 804	619 176 790	627 477 336	617 241 895	604 216 765	
Total en-route Service Units	8 557 964	8 866 051	9 207 393	9 553 591	9 897 521	
Real en-route unit cost per Service Unit (EUR2009)	71.16	69.84	68.15	64.61	61.05	
Italy: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
En-route costs (nominal EUR)	644 872 816	637 727 794	629 970 988			
Inflation %	0.1%	-0.1%	1.3%			
Inflation index (100 in 2009)	109.8	109.7	111.1			
Real en-route costs (EUR2009)	587 471 424	581 543 938	567 098 230			
Total en-route Service Units	8 171 509	8 299 670	8 631 816			
Real en-route unit cost per Service Unit (EUR2009)	71.89	70.07	65.70			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
En-route costs (nominal EUR)	-29 869 469	-55 829 462	-82 021 055			
	in %	-4.4%	-8.0%	-11.5%		
Inflation %	-0.9 p.p.	-1.2 p.p.	0.0 p.p.			
Inflation index (100 in 2009)	-1.0 p.p.	-2.4 p.p.	-2.4 p.p.			
Real en-route costs (EUR2009)	-21 534 381	-37 632 852	-60 379 106			
	in %	-3.5%	-6.1%	-9.6%		
Total en-route Service Units	-386 455	-566 380	-575 577			
	in %	-4.5%	-6.4%	-6.3%		
Real en-route unit cost per Service Unit (EUR2009)	0.73	0.23	-2.45			
	in %	1.0%	0.3%	-3.6%		
3. Focus on en-route at State/Charging Zone level						
<p>En-route unit cost In 2017, the actual en-route unit cost in real terms (65.70 €2009) is -3.6% lower than planned in the PP (68.15 €2009). This difference is primarily due to the significantly lower than planned costs in real terms (-9.6%, or -60.4 M€2009), which offset the impact of lower than planned TSUs (-6.3%). It is noted that this is the first year within RP2 in which Italy has achieved its en-route cost-efficiency target. In this respect, the BLUE MED FAB 2017 Monitoring Report indicates that "in 2017 Italy has expressed significant effort in terms of cost containment actions [...] and despite the inflation effect, and the traffic effect, [...] has achieved the target for cost efficiency."</p> <p>En-route service units The difference between actual and planned TSUs (-6.3%) falls outside the ±2% dead band, but is inside the -10% threshold foreseen in the traffic risk-sharing mechanism. The resulting loss of en-route revenues is therefore shared between the ATSP and the airspace users, with the loss borne by the ATSP amounting to -17.1 M€2009. According to the additional information provided in June 2018 en-route Reporting Tables, the lower than planned TSUs were primarily due to the fact that "Italy is still paying, in the overall traffic result, the first two years of the Reference Period which have seen the air transport market negatively impacted by the socio-political crisis of the North African countries (with particular reference to the effects deriving from the closure of the Libyan airspace) as well as the situation of Alitalia, facing its organisational and operational restructuring". According to STATFOR February 2018 base TSU growth scenario, the en-route TSUs for Italy are expected to remain well below the planned level, although still within the -10% threshold, for the remainder of RP2 (2018-2019).</p> <p>En-route costs In nominal terms, actual en-route costs are -11.5% (-82.0 M€) lower than planned. However, since the actual inflation index is also lower than planned (-2.4 p.p.), actual en-route costs are -9.6% (-60.4 M€2009) below plans when expressed in real terms. All the entities included in the en-route charging zone contributed to the lower than planned cost in real terms: ENAV (-9.4%, or -49.4 M€2009), ITAF (-13.5%, or -7.9 M€2009) and NSA/EUROCONTROL (-6.8%, or -3.1 M€2009). A detailed analysis at ATSP level is provided in box 12. Costs exempt from cost-sharing are reported for a total amount of -4.1 M€2009 comprising only the variation in EUROCONTROL costs. These costs will be eligible for carry-over (reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.</p>						

ITALY: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) 5. En-route costs monitoring (2017 actuals compared to PP)

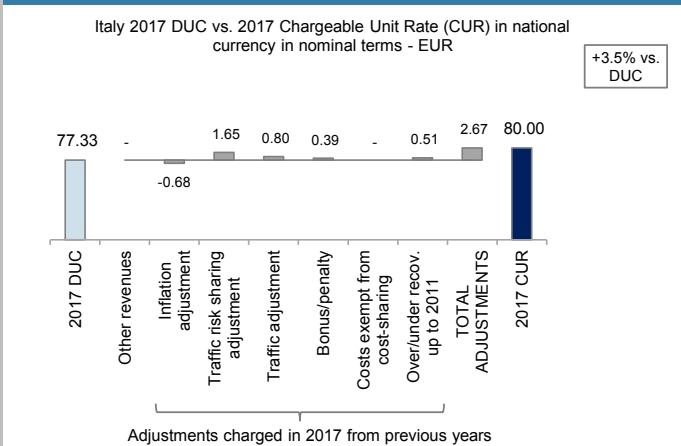


6. En-route costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	-169	-2	-4 136		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA/EUROCONTROL	-169	-2	-4 136		
Total costs exempt from cost sharing		-169	-2	-4 136		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. En-route DUC 2017 vs. 2017 Unit Rate charged to users

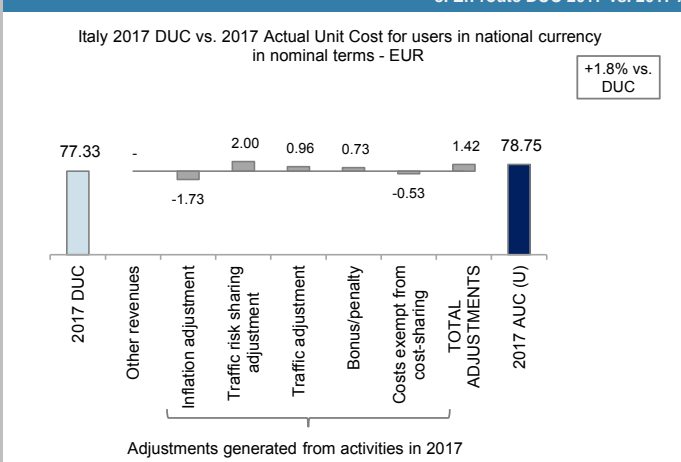


The en-route unit rate charged to airspace users (CUR) in 2017 is 80.00 €. This is +3.5% higher than the nominal DUC (77.33 €). The difference between these two figures (+2.67 €) derives from the combination of the following adjustments:

- inflation adjustment (-0.68 €), reflecting the impact of lower actual inflation index than planned in 2015;
- traffic risk sharing (+1.65 €) and traffic (+0.80 €) adjustments, both of which reflect the impact of lower than planned TSUs in 2015;
- a bonus for performance related to the en-route capacity incentive scheme for the year 2014 (+0.39 €);
- an under-recovery for a period before the beginning of RP1 (+0.51 €). This amount also includes carry-overs related in part to the temporary application of a lower unit rate in 2015, which was retroactively revised in application of the European Commission Implementing Decision No. 2016/599.

These costs and adjustments are divided by the forecast TSUs for 2017 as laid out in the performance plan.

8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users



The actual en-route unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (78.75 €) is +1.8% (or +1.42 €) higher than the nominal DUC (77.33 €). The most important factors contributing to the observed difference are: the traffic risk sharing adjustment (+2.00 €) and traffic adjustment (+0.96 €), which are partly offset by the inflation adjustment (-1.73 €). Traffic risk sharing and traffic adjustments reflect the loss of revenues due to lower than planned TSUs in 2017, which will be charged to airspace users in 2019, whereas the inflation adjustment reflects the impact of lower than planned inflation index in 2017 to be reimbursed to the airspace users in 2019.

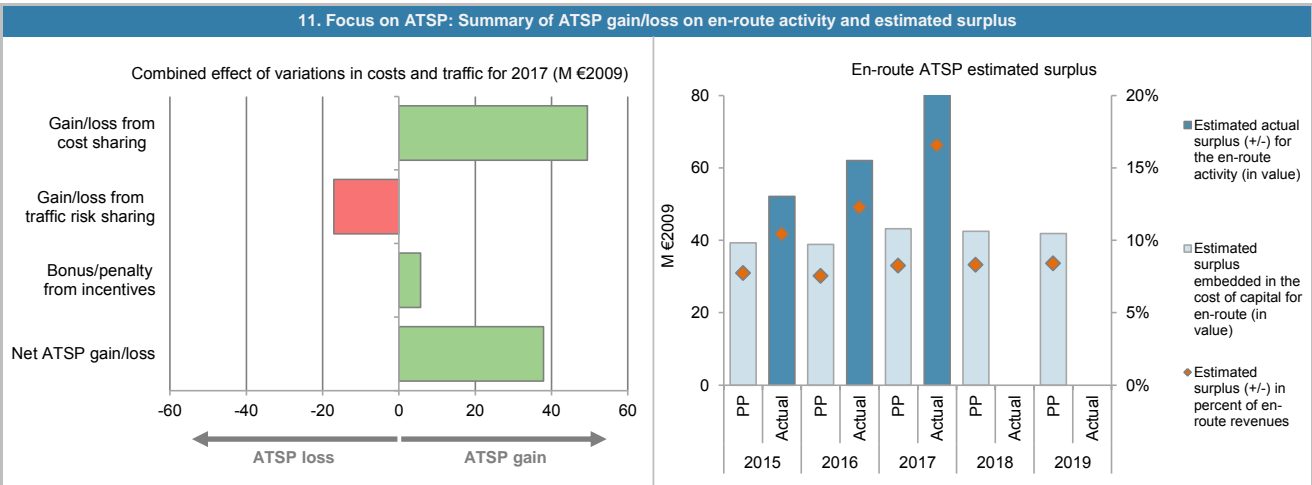
It is also noted that Italy has reported a performance bonus for achieving local en-route capacity target under the capacity incentive scheme for en-route activity in 2017 (+0.73 €). The inclusion of this bonus in a chargeable cost-base will be examined by the European Commission. See also Note 1 at the end of this Report.

These costs and adjustments are divided by the actual TSUs for 2017.

ITALY: En-route ATSP (ENAV)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	508 717	516 644	523 252		
Actual costs for the ATSP	487 764	482 739	473 875		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	20 953	33 905	49 377		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	20 953	33 905	49 377		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-4.5%	-6.4%	-6.3%		
Determined costs for the ATSP (PP) - based on actual inflation	500 771	514 683	521 266		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-13 795	-17 069	-17 073		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	5 260	5 418	5 640		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	12 418	22 253	37 944		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	973 075	962 488	950 136	936 095	921 353
Estimated proportion of financing through equity (in %)	70.0%	70.0%	70.0%	70.0%	70.0%
Estimated proportion of financing through equity (in value)	681 153	673 742	665 095	655 266	644 947
Estimated proportion of financing through debt (in %)	30.0%	30.0%	30.0%	30.0%	30.0%
Estimated proportion of financing through debt (in value)	291 923	288 746	285 041	280 828	276 406
Cost of capital pre-tax (in value)	49 984	49 440	53 558	52 766	51 935
Average interest on debt (in %)	3.7%	3.7%	3.7%	3.7%	3.7%
Interest on debt (in value)	10 655	10 539	10 404	10 250	10 089
Determined RoE pre-tax rate (in %)	5.8%	5.8%	6.5%	6.5%	6.5%
Estimated surplus embedded in the cost of capital for en-route (in value)	39 329	38 901	43 154	42 516	41 846
Overall estimated surplus (+/-) for the en-route activity	39 329	38 901	43 154	42 516	41 846
Revenue/costs for the en-route activity	508 717	516 644	523 252	511 500	497 949
Estimated surplus (+/-) in percent of en-route revenues	7.7%	7.5%	8.2%	8.3%	8.4%
Estimated ex-ante RoE pre-tax rate (in %)	5.8%	5.8%	6.5%	6.5%	6.5%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	982 145	983 128	802 883		
Estimated proportion of financing through equity (in %)	70.0%	70.0%	90.0%		
Estimated proportion of financing through equity (in value)	687 502	688 190	722 595		
Estimated proportion of financing through debt (in %)	30.0%	30.0%	10.0%		
Estimated proportion of financing through debt (in value)	294 644	294 939	80 288		
Cost of capital pre-tax (in value)	50 450	50 501	48 900		
Average interest on debt (in %)	3.7%	3.7%	2.5%		
Interest on debt (in value)	10 754	10 765	2 015		
Determined RoE pre-tax rate (in %)	5.8%	5.8%	6.5%		
Estimated surplus embedded in the cost of capital for en-route (in value)	39 696	39 735	46 884		
Net ATSP gain(+)/loss(-) on en-route activity	12 418	22 253	37 944		
Overall estimated surplus (+/-) for the en-route activity	52 114	61 989	84 828		
Revenue/costs for the en-route activity	500 182	504 993	511 819		
Estimated surplus (+/-) in percent of en-route revenues	10.4%	12.3%	16.6%		
Estimated ex-post RoE pre-tax rate (in %)	7.6%	9.0%	11.7%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 ENAV en-route costs vs. PP

In 2017, ENAV actual en-route costs are -9.4% (-49.4 M€2009) lower, in real terms, than planned in the PP. According to the additional information to the June 2018 en-route Reporting Tables, this results from a combination of:

- lower staff costs (-5.1%, or -14.5 M€2009) resulting from the combination of management actions put in place already in 2015 and 2016, the positive effect of which continued also in 2017, and further extraordinary actions put in place in 2017. The latter specifically refer to: i) a reduction in the group headcount, which has contributed to the decrease of fixed remuneration; ii) an increase in the variable component of remuneration on account of overtime on the operating line linked to increased ATCO personnel training for the implementation of the free route platform; iii) a reduction of social security costs; and iv) a minor use of incentives paid to employees and executives who left in 2017.
- significantly lower other operating costs (-19.9%, or -17.2 M€2009), primarily driven by "lower purchasing costs due to more effective spare parts management; optimisation of maintenance costs; reduction in telecommunications, utilities and insurance costs";
- lower depreciation costs (-13.3%, or -13.0 M€2009), mainly driven by the reduction of costs obtained from the suppliers, in particular for implementation of activities and equipment for air traffic control, already observed in 2016.
- lower cost of capital (-8.7%, or -4.7 M€2009) resulting from the combined effect of lower than planned actual asset base and higher than planned average rate of cost of capital. For the latter it is noted that although the average interest rate on debts is lower than planned, due to a different gearing between equity and debt compared to the plan (increased proportion of financing through equity), the average rate of cost of capital is higher than planned.

ENAV net gain/loss on en-route activity in 2017

As shown in box 9, ENAV generated a net gain of +37.9 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +49.4 M€2009 arising from the cost sharing mechanism;
- a loss of -17.1 M€2009 arising from the traffic risk sharing mechanism; and,
- a gain of +5.6 M€2009 (or +6.3 M€ in nominal terms), corresponding to a bonus for ENAV as part of the en-route capacity target incentive mechanism. This amount corresponds to 1.08% of ENAV en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission. See also **Note 1** at the end of this Report.

ENAV overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+37.9 M€2009) and the surplus embedded in the actual cost of capital (+46.9 M€2009) amounts to +84.8 M€2009 (16.6% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 11.7%, which is higher than the 6.5% planned in the RP2 PP.

It is also noted that the actual gearing between equity and debt financing reported by ENAV in 2017 differs from the ratios planned in the PP for the year 2017. As already indicated in the analysis on cost of capital above, due to this change, the actual weighted average rate of cost of capital (6.1%) is higher than foreseen in the PP (5.6%).

ITALY - ZONE 1: Terminal charging zone

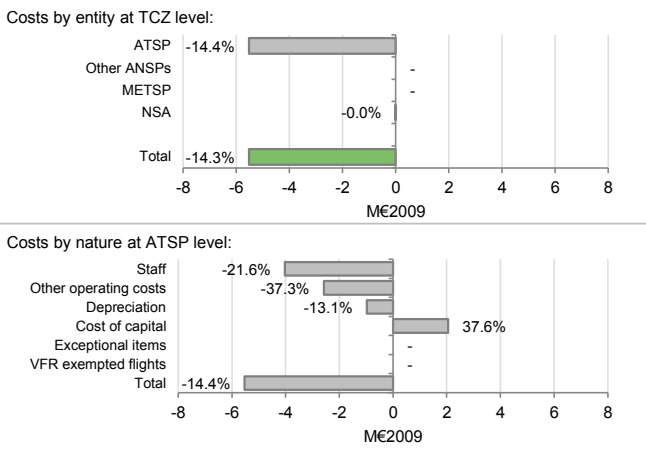
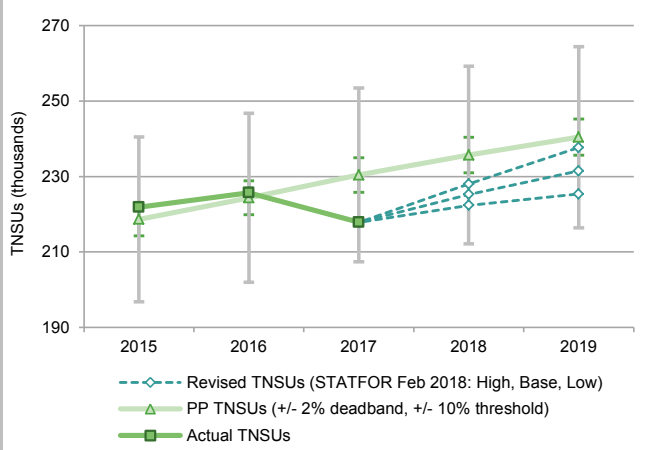
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services						
· Italy - Zone 1 TCZ represents 3.6% of the SES terminal ANS determined costs in 2017					· Is this TCZ applying traffic risk sharing?	Yes
· ATSP: ENAV					· Airports with fewer than 70,000 IFRs ATMs:	0
· National currency: EUR					· Airports with between 70,000 and 225,000 IFRs ATMs:	0
· Number of airports in charging zone in 2017: 1,	of which:				· Airports with more than 225,000 IFRs ATMs:	1
2. Terminal DUC monitoring at Charging Zone level						
Italy - Zone 1: Data from RP2 Performance Plan	2015D	2016D	2017D	2018D	2019D	
Terminal costs (nominal EUR)	42 696 901	43 687 670	43 890 827	44 785 896	45 542 237	
Inflation %	1.0%	1.1%	1.3%	1.5%	1.6%	
Inflation index (100 in 2009)	110.8	112.0	113.5	115.2	117.0	
Real terminal costs (EUR2009)	38 537 174	39 002 391	38 680 909	38 886 435	38 920 419	
Total terminal Service Units	218 658	224 343	230 401	235 700	240 414	
Real terminal unit cost per Service Unit (EUR2009)	176.24	173.85	167.89	164.98	161.89	
Italy - Zone 1: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
Terminal costs (nominal EUR)	36 422 803	35 874 570	36 830 898			
Inflation %	0.1%	-0.1%	1.3%			
Inflation index (100 in 2009)	109.8	109.7	111.1			
Real terminal costs (EUR2009)	33 180 738	32 714 019	33 155 078			
Total terminal Service Units	221 862	225 695	217 830			
Real terminal unit cost per Service Unit (EUR2009)	149.56	144.95	152.21			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
Terminal costs (nominal EUR)	in value		-6 274 098	-7 813 100	-7 059 929	
	in %		-14.7%	-17.9%	-16.1%	
Inflation %	in p.p.		-0.9 p.p.	-1.2 p.p.	0.0 p.p.	
Inflation index (100 in 2009)	in p.p.		-1.0 p.p.	-2.4 p.p.	-2.4 p.p.	
Real terminal costs (EUR2009)	in value		-5 356 436	-6 288 373	-5 525 831	
	in %		-13.9%	-16.1%	-14.3%	
Total terminal Service Units	in value		3 203	1 352	-12 570	
	in %		1.5%	0.6%	-5.5%	
Real terminal unit cost per Service Unit (EUR2009)	in value		-26.69	-28.90	-15.68	
	in %		-15.1%	-16.6%	-9.3%	
3. Focus on terminal at State/Charging Zone level						
<p>This analysis focuses on Italy Terminal Charging Zone 1 (TCZ 1) comprising only Roma Fiumicino (LIRF) airport. An analysis of TCZ 2 comprising Milano/Malpensa (LIMC), Bergamo/Orio al Serio (LIME), Milano/Linate (LIML) and Venezia/Tessera (LIPZ) airports is provided separately.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (152.21 €2009) is -9.3% lower than planned in the PP (167.89 €2009). This difference results from a combination of significantly lower than planned terminal costs in real terms (-14.3%, or -5.5 M€2009) and lower than planned TNSUs (-5.5%).</p> <p>Terminal service units Traffic risk sharing applies in TCZ 1. The difference between actual and planned TNSUs (-5.5%) 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 ATSP and the airspace users, with the loss borne by the ATSP amounting to -1.1 M€2009. According to the additional information provided along the June 2018 terminal Reporting Tables, actual TNSUs in TCZ1 "suffered specifically from the Alitalia situation, recording a reduction in activities in 2017 of -3.8% in service units", it is noted that the TNSUs generated by Alitalia in Roma Fiumicino airport comprised around 42% in 2017. It is noted that, based STATFOR February 2018 base TNSU growth scenario, actual TNSUs in TCZ1 are expected to remain below the lower limit of the ±2% dead band, but within the -10% threshold foreseen in the traffic risk sharing mechanism, for the rest of RP2 (2018-2019).</p> <p>Terminal costs In nominal terms, the 2017 actual terminal costs are -16.1% (-7.1 M€) lower than planned. However, since the actual inflation index is also lower than planned (-2.4 p.p.), actual terminal costs are -14.3% below plans (-5.5 M€2009) when expressed in real terms. The deviation between 2017 actual and planned terminal costs in real terms for TCZ1 is driven by lower costs for ENAV (-14.4%, or -5.5 M€2009), while the costs for NSA are in line with the plan when expressed in real term, although they are slightly lower than planned (-2.1%) when expressed in nominal terms. A detailed analysis at ATSP level is provided in box 12. No costs exempt from cost sharing are reported for Italian TCZ 1.</p>						

ITALY - ZONE 1: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

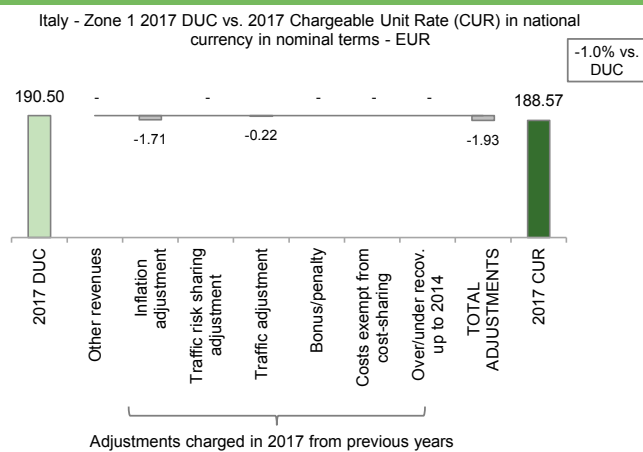


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

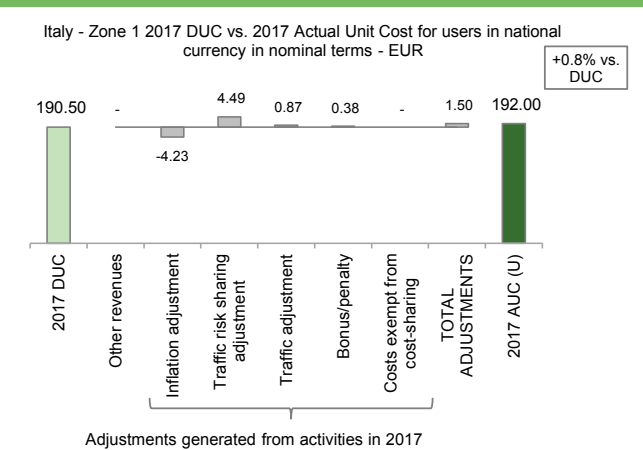
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The terminal unit rate charged to airspace users (CUR) in 2017 is 188.57 €. This is -1.0% lower than the nominal DUC (190.50 €). The difference between these two figures (-1.93 €) relates to the inflation adjustment (-1.71 €) and the traffic adjustment (-0.22 €), both reflecting the impact of over-recoveries generated in 2015 resulting from the lower than planned actual inflation index and higher than planned TNSUs in TCZ1 respectively.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual terminal unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (192.00 €) is +0.8% higher than the nominal DUC (190.50 €). The factors contributing to the observed difference (+1.50 €) are the traffic risk sharing (+4.49 €) and the traffic (+0.87 €) adjustments, both reflecting the impact of lower than planned TNSUs in 2017, both of which will be carried over and recovered from the users in 2019. This is slightly balanced by the inflation adjustment (-4.23 €), reflecting the impact of a lower than planned inflation index for the year 2017 to be carried-over to reduce the costs charged to airspace users in 2019. Additionally, ENAV recorded a bonus for performance in TCZ1 in 2017 related to the terminal capacity incentive scheme (+0.38 €). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission. See also **Note 2** at the end of this Report.

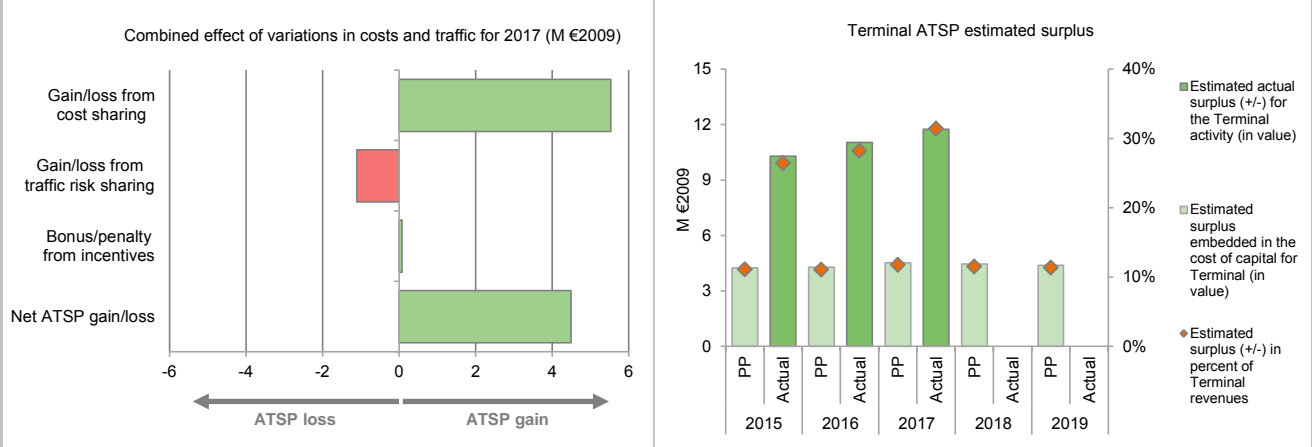
These costs and adjustments are divided by the **actual** TNSUs for 2017.

ITALY: Terminal ATSP (ENAV) Italy - Zone 1

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	38 350	38 813	38 489		
Actual costs for the ATSP	32 992	32 523	32 964		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	5 357	6 290	5 526		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	5 357	6 290	5 526		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	1.5%	0.6%	-5.5%		
Determined costs for the ATSP (PP) - based on actual inflation	35 838	36 707	36 401		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	525	221	-1 105		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	126	154	74		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	6 008	6 666	4 494		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	79 306	78 443	80 342	79 154	77 908
Estimated proportion of financing through equity (in %)	70.0%	70.0%	70.0%	70.0%	70.0%
Estimated proportion of financing through equity (in value)	55 514	54 910	56 239	55 408	54 536
Estimated proportion of financing through debt (in %)	30.0%	30.0%	30.0%	30.0%	30.0%
Estimated proportion of financing through debt (in value)	23 792	23 533	24 103	23 746	23 372
Cost of capital pre-tax (in value)	4 964	5 219	5 457	5 376	5 291
Average interest on debt (in %)	3.0%	4.0%	3.9%	3.9%	3.9%
Interest on debt (in value)	714	941	940	926	912
Determined RoE pre-tax rate (in %)	7.7%	7.8%	8.0%	8.0%	8.0%
Estimated surplus embedded in the cost of capital for terminal (in value)	4 250	4 278	4 517	4 450	4 380
Overall estimated surplus (+/-) for the terminal activity	4 250	4 278	4 517	4 450	4 380
Revenue/costs for the terminal activity	38 350	38 813	38 489	38 694	38 729
Estimated surplus (+/-) in percent of terminal revenues	11.1%	11.0%	11.7%	11.5%	11.3%
Estimated ex-ante RoE pre-tax rate (in %)	7.7%	7.8%	8.0%	8.0%	8.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	80 045	80 125	100 360		
Estimated proportion of financing through equity (in %)	70.0%	70.0%	90.0%		
Estimated proportion of financing through equity (in value)	56 031	56 087	90 324		
Estimated proportion of financing through debt (in %)	30.0%	30.0%	10.0%		
Estimated proportion of financing through debt (in value)	24 013	24 037	10 036		
Cost of capital pre-tax (in value)	5 010	5 331	7 506		
Average interest on debt (in %)	3.0%	4.0%	2.5%		
Interest on debt (in value)	720	961	252		
Determined RoE pre-tax rate (in %)	7.7%	7.8%	8.0%		
Estimated surplus embedded in the cost of capital for terminal (in value)	4 290	4 370	7 254		
Net ATSP gain(+)/loss(-) on terminal activity	6 008	6 666	4 494		
Overall estimated surplus (+/-) for the terminal activity	10 298	11 035	11 748		
Revenue/costs for the terminal activity	39 000	39 189	37 458		
Estimated surplus (+/-) in percent of terminal revenues	26.4%	28.2%	31.4%		
Estimated ex-post RoE pre-tax rate (in %)	18.4%	19.7%	13.0%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

ENAV 2017 actual terminal costs in TCZ 1

ENAV 2017 actual terminal costs in TCZ 1 are -14.4% lower in real terms (-5.5 M€2009) than planned in the PP. According to the additional information to the June 2018 terminal Reporting Tables, this results from a combination of:

- lower staff costs (-21.6%, or -4.0 M€2009). As noted for the en-route charging zone, this is mainly the combined result of management actions put in place already in 2015 and 2016, which had a positive affect also in 2017, and additional extraordinary actions in 2017 including the decrease of fixed remuneration following a reduction in the Group headcount, an increase in the variable component of remuneration for operational staff involved in the implementation of the free route platform, the reduction in of social security costs and lower use of incentives to employees and executives who left in 2017.
- significantly lower other operating costs (-37.3%, or -2.6 M€2009), primarily explained by "lower purchasing costs due to more effective spare parts management; optimisation of maintenance costs; reduction in telecommunications, utilities and insurance costs";
- lower depreciation costs (-13.1%, or -1.0 M€2009), mainly due to a "reduction on costs for the implementation activities of plans and equipment for air traffic control from the supplier companies";
- significantly higher cost of capital (+37.6%, or +2.0 M€2009) due to the combination of higher than planned actual asset base and higher than planned average rate of cost of capital. For the latter it is noted that although the average interest rate on debts is lower than planned, due to a different gearing between equity and debt as compared to the plan (increased proportion of financing through equity), the average rate of cost of capital is higher.

No description of the main drivers for the deviation between actual and determined costs is provided individually for each TCZ in the additional information to June 2018 terminal Reporting Tables. Only a consolidated description for the variation in costs for ENAV, aggregating both TCZs, is reported in the additional information to June 2018 terminal Reporting Tables. The drivers noted above are therefore not necessarily directly related to the activity of ENAV in this particular TCZ.

ENAV 2017 net gain/loss on terminal activity in TCZ 1

As shown in box 9, the terminal activity in TCZ 1 generated a net gain of +4.5 M€2009 in 2017. This is a combination of three elements:

- a gain of +5.5 M€2009 as a result of the cost sharing mechanism;
- a loss of -1.1 M€2009 as a result of the traffic risk sharing mechanism; and
- a gain of +0.1 M€2009 (or 82 '000€ in nominal terms), corresponding to a bonus for ENAV as part of the terminal capacity target incentive mechanism. The inclusion of this bonus in the chargeable cost base will be examined by the European Commission. See also **Note 2** at the end of this Report.

ENAV overall estimated surplus for the terminal activity in TCZ 1

Ex-post, the overall estimated surplus taking into account the net gain from the terminal activity in TCZ 1 mentioned above (+4.5 M€2009) and the surplus embedded in the cost of capital (+7.3 M€2009) amounts to +11.7 M€2009 (approximately 31.4% of the 2017 terminal revenues in TCZ 1). The resulting ex-post rate of return on equity is 13.0%, which is higher than the 8.0% planned in the PP for the TCZ 1.

It is also noted that the actual gearing between equity and debt financing reported by ENAV in 2017 differs from the ratio planned in the PP for the year 2017. As already indicated in the analysis on cost of capital above, due to this change, the actual weighted average cost of capital (7.5%) is higher than foreseen in the PP (6.8%).

ITALY - ZONE 2: Terminal charging zone

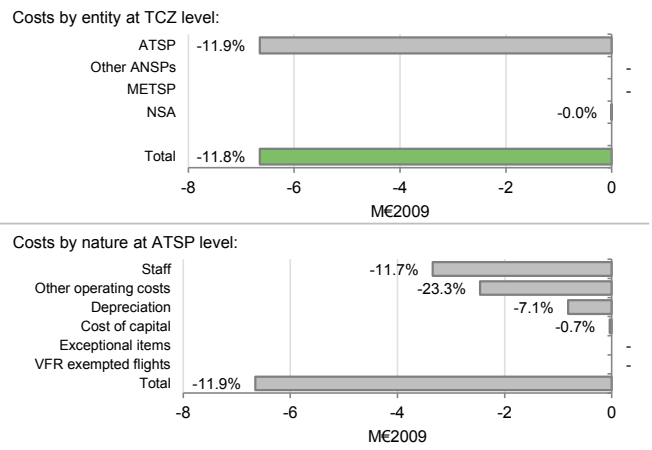
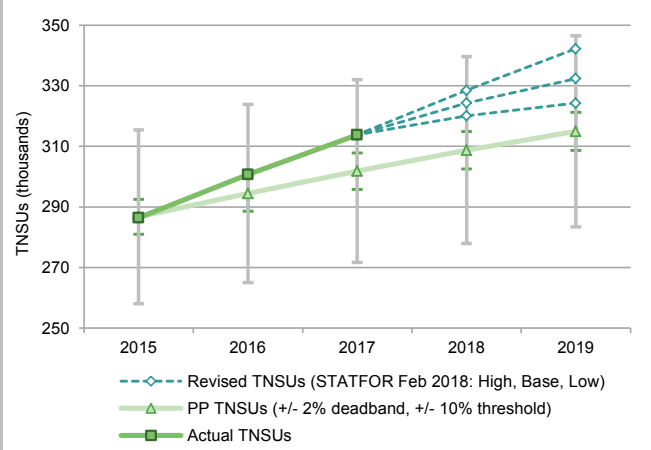
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Italy - Zone 2 TCZ represents 5.2% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		No	
· ATSP:	ENAV	· Airports with fewer than 70,000 IFRs ATMs:		0	
· National currency:	EUR	· Airports with between 70,000 and 225,000 IFRs ATMs:		4	
· Number of airports in charging zone in 2017:	4,	of which:	· Airports with more than 225,000 IFRs ATMs:	0	
2. Terminal DUC monitoring at Charging Zone level					
Italy - Zone 2: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	61 479 947	63 501 025	63 881 934	65 032 915	65 952 563
Inflation %	1.03%	1.1%	1.3%	1.5%	1.6%
Inflation index (100 in 2009)	110.8	112.0	113.5	115.2	117.0
Real terminal costs (EUR2009)	55 490 290	56 690 865	56 299 036	56 466 398	56 363 094
Total terminal Service Units	286 726	294 467	301 829	308 771	314 947
Real terminal unit cost per Service Unit (EUR2009)	193.53	192.52	186.53	182.87	178.96
Italy - Zone 2: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	53 228 033	54 136 477	55 151 947		
Inflation %	0.10%	-0.1%	1.3%		
Inflation index (100 in 2009)	109.8	109.7	111.1		
Real terminal costs (EUR2009)	48 490 101	49 367 051	49 647 638		
Total terminal Service Units	286 465	300 714	313 846		
Real terminal unit cost per Service Unit (EUR2009)	169.27	164.17	158.19		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	in value -8 251 914	in value -9 364 547	in value -8 729 987		
	in % -13.4%	in % -14.7%	in % -13.7%		
Inflation %	in p.p. -0.9 p.p.	in p.p. -1.2 p.p.	in p.p. 0.0 p.p.		
Inflation index (100 in 2009)	in p.p. -1.0 p.p.	in p.p. -2.4 p.p.	in p.p. -2.4 p.p.		
Real terminal costs (EUR2009)	in value -7 000 188	in value -7 323 814	in value -6 651 398		
	in % -12.6%	in % -12.9%	in % -11.8%		
Total terminal Service Units	in value -261	in value 6 247	in value 12 016		
	in % -0.1%	in % 2.1%	in % 4.0%		
Real terminal unit cost per Service Unit (EUR2009)	in value -24.26	in value -28.35	in value -28.33		
	in % -12.5%	in % -14.7%	in % -15.2%		
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Italy Terminal Charging Zone 2 (TCZ 2) comprising Milano/Malpensa (LIMC), Bergamo/Orio al Serio (LIME), Milano/Linate (LIML) and Venezia/Tessera (LIPZ) airports.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (158.19 €2009) is -15.2% lower than planned in the PP (186.53 €2009). This difference results from a combination of significantly lower than planned terminal costs in real terms (-11.8%, or -6.7 M€2009) and higher than planned TNSUs (+4.0%).</p> <p>Terminal service units The traffic risk sharing does not apply in TCZ 2. The difference between actual and planned TNSUs (+4.0%) generates a gain of terminal revenues (+2.3 M€2009) which will be carried-over and reimbursed to the airspace users in 2019.</p> <p>It is noted that, based on STATFOR February 2018 TNSU growth scenarios, the actual TNSUs are expected to remain just above the upper limit of the ±2% dead band, although still within the +10% threshold, for the rest of RP2 (2018-2019).</p> <p>Terminal costs In nominal terms, actual terminal costs in TCZ 2 are -13.7% (or -8.7 M€) lower than planned. However, since the actual inflation index is also lower than planned (-2.4 p.p.) the actual terminal costs are -11.8% (-6.7 M€2009) below plans when expressed in real terms.</p> <p>The deviation between 2017 actual and planned terminal costs in real terms reflects the deviation for ENAV (-11.9%, or -6.7 M€2009), while the NSA costs are in line with the plan when expressed in real term, although they are slightly lower than planned (-2.1%) when expressed in nominal terms. A detailed analysis at ATSP level is provided in box 12.</p> <p>No costs exempt from cost-sharing are reported for the TCZ 2.</p>					

ITALY - ZONE 2: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

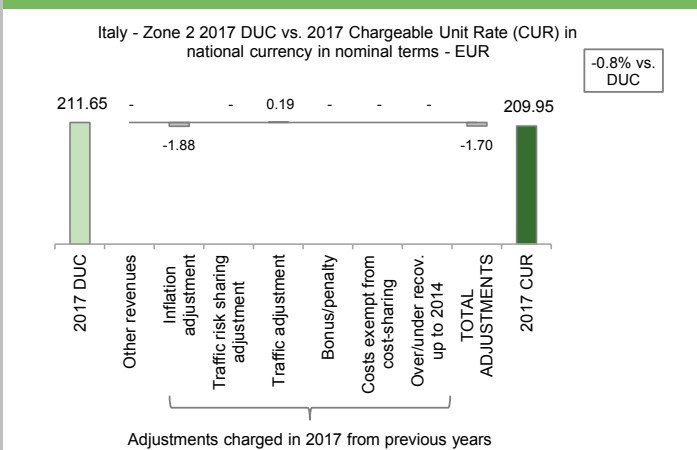


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

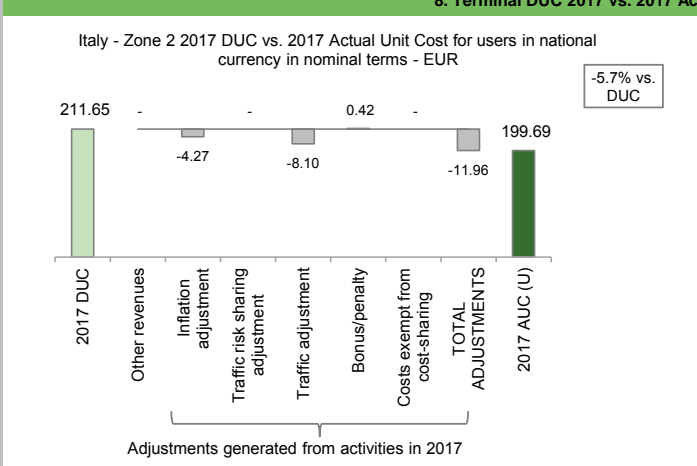
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The terminal unit rate charged to airspace users (CUR) in 2017 is 209.95 €. This is -0.8% lower than the nominal DUC (211.65 €). The difference between these two figures (-1.70 €) derives from the combination of the inflation adjustment (-1.88 €), reflecting the impact of lower than planned inflation index in 2015, and the traffic adjustment (+0.19 €), reflecting the impact of lower than planned TNSUs in 2015.

These costs and adjustments are divided by the forecast TNSUs for 2017.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual terminal unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (199.69 €) is -5.7% lower than the nominal DUC (211.65 €). The most important factors contributing to the observed difference (-11.96 €) are the inflation adjustment (-4.27 €) and the traffic adjustment (-8.10 €). The inflation adjustment corresponds to the impact of a lower than planned inflation index for the year 2017, which will be carried-over to reduce the costs charged to airspace users in 2019. The traffic adjustment reflects the impact of higher than planned TNSUs in 2017, which will be carried over to reduce costs charged to airspace users in 2019. These adjustments are slightly balanced by a bonus for performance recorded for ENAV in 2017 (+0.42 €) related to a terminal capacity incentive scheme. The inclusion of this bonus in the chargeable cost-base will be examined by the European Commission. See also Note 2 at the end of this Report.

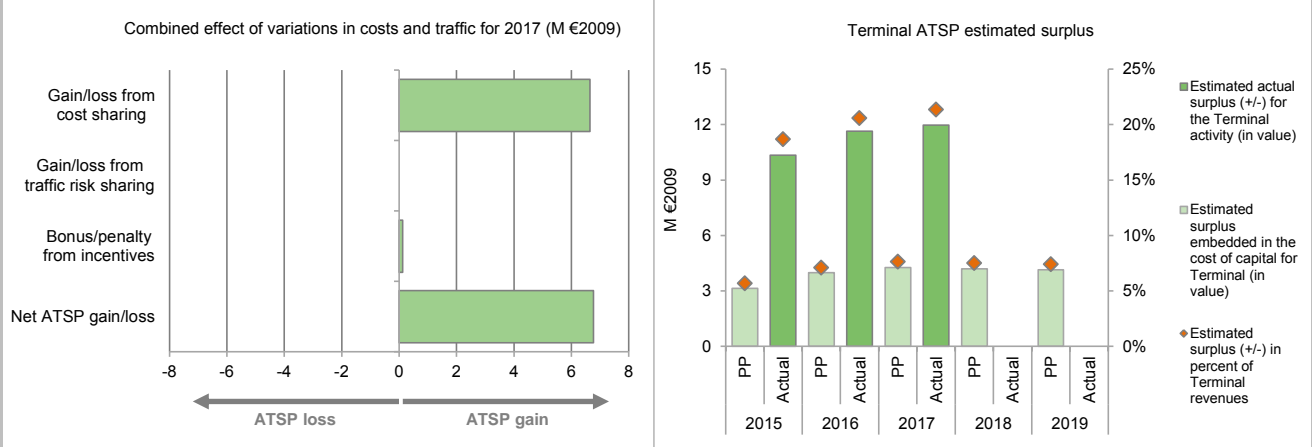
These costs and adjustments are divided by the actual TNSUs for 2017.

ITALY: Terminal ATSP (ENAV) Italy - Zone 2

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	55 198	56 396	56 001		
Actual costs for the ATSP	48 197	49 070	49 350		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	7 002	7 327	6 651		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	7 002	7 327	6 651		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	178	239	118		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	7 180	7 566	6 769		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	104 216	103 082	105 578	104 018	102 380
Estimated proportion of financing through equity (in %)	70.0%	70.0%	70.0%	70.0%	70.0%
Estimated proportion of financing through equity (in value)	72 951	72 158	73 905	72 812	71 666
Estimated proportion of financing through debt (in %)	30.0%	30.0%	30.0%	30.0%	30.0%
Estimated proportion of financing through debt (in value)	31 265	30 925	31 673	31 205	30 714
Cost of capital pre-tax (in value)	4 068	5 226	5 498	5 416	5 331
Average interest on debt (in %)	3.0%	4.0%	3.9%	3.9%	3.9%
Interest on debt (in value)	938	1 237	1 235	1 217	1 198
Determined RoE pre-tax rate (in %)	4.3%	5.5%	5.8%	5.8%	5.8%
Estimated surplus embedded in the cost of capital for terminal (in value)	3 130	3 989	4 262	4 199	4 133
Overall estimated surplus (+/-) for the terminal activity	3 130	3 989	4 262	4 199	4 133
Revenue/costs for the terminal activity	55 198	56 396	56 001	56 167	56 065
Estimated surplus (+/-) in percent of terminal revenues	5.7%	7.1%	7.6%	7.5%	7.4%
Estimated ex-ante RoE pre-tax rate (in %)	4.3%	5.5%	5.8%	5.8%	5.8%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	105 188	105 293	100 360		
Estimated proportion of financing through equity (in %)	70.0%	70.0%	90.0%		
Estimated proportion of financing through equity (in value)	73 631	73 705	90 324		
Estimated proportion of financing through debt (in %)	30.0%	30.0%	10.0%		
Estimated proportion of financing through debt (in value)	31 556	31 588	10 036		
Cost of capital pre-tax (in value)	4 105	5 338	5 461		
Average interest on debt (in %)	3.0%	4.0%	2.5%		
Interest on debt (in value)	947	1 264	252		
Determined RoE pre-tax rate (in %)	4.3%	5.5%	5.8%		
Estimated surplus embedded in the cost of capital for terminal (in value)	3 159	4 074	5 209		
Net ATSP gain(+)/loss(-) on terminal activity	7 180	7 566	6 769		
Overall estimated surplus (+/-) for the terminal activity	10 339	11 640	11 979		
Revenue/costs for the terminal activity	55 376	56 635	56 119		
Estimated surplus (+/-) in percent of terminal revenues	18.7%	20.6%	21.3%		
Estimated ex-post RoE pre-tax rate (in %)	14.0%	15.8%	13.3%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 ENAV terminal costs in TCZ 2 vs. PP

ENAV actual terminal costs in TCZ 2 are -11.9% (-6.7 M€2009) lower, in real terms, than planned in the PP. According to the additional information provided in the June 2018 terminal Reporting Tables, this results from a combination of:

- lower staff costs (-11.7%, or -3.3 M€2009). As for TCZ1, this is the result of different management actions put in place in 2015 and 2016 and further reinforced by additional effort in 2017 as specified in box 12 for TCZ1.
- significantly lower other operating costs (-23.3%, or -2.5 M€2009), primarily justified by "lower purchasing costs due to more effective spare parts management; optimisation of maintenance costs; reduction in telecommunications, utilities and insurance costs".
- lower depreciation costs (-7.1%, or -0.8 M€2009), mainly due to a "reduction on costs for the implementation activities of plans and equipment for air traffic control from the supplier companies".
- slightly lower cost of capital (-0.7%, or -0.04 M€2009) due to the combined effect of lower than planned actual asset base and slightly higher than planned average rate of cost of capital. For the latter it is noted that although the average interest rate on debts is lower than planned, due to a different gearing between equity and debt as compared to the plan (increased proportion of financing through equity), the average rate of cost of capital is higher.

No description of the main drivers for the deviation between actual and determined costs is provided individually for each TCZ in the additional information to June 2018 terminal Reporting Tables. Only a consolidated description for the variation in costs for ENAV, aggregating both TCZs, is reported in the additional information to June 2018 terminal Reporting Tables. The drivers noted above are therefore not necessarily directly related to the activity of ENAV in this particular TCZ.

ENAV 2017 net gain/loss on terminal activity in TCZ 2

As shown in box 9, the terminal activity in TCZ 2 generated a net gain of some +6.8 M€2009 in 2017. This is a combination of two elements:

- a gain of +6.7 M€2009 as a result of the cost sharing mechanism; and,
- a gain of +0.1 M€2009 (or 131 '000€ in nominal terms), corresponding to a bonus for ENAV as part of the terminal capacity target incentive mechanism. The inclusion of this bonus in the chargeable cost base will be examined by the European Commission. See also **Note 2** at the end of this Report.

ENAV overall estimated surplus for the terminal activity in TCZ 2

Ex-post, the overall estimated surplus taking into account the net gain from the terminal activity in TCZ 2 mentioned above (+6.8 M€2009) and the surplus embedded in the cost of capital (+5.2 M€2009) amounts to +12.0 M€2009 (approximately 21.3% of the 2017 terminal revenues in TCZ 2). The resulting ex-post rate of return on equity is 13.3%, which is much higher than the 5.8% planned in the PP for the TCZ 2.

It is also noted that the actual gearing between equity and debt financing reported by ENAV in 2017 differs from the ratio planned in the PP for the year 2017. As already indicated in the analysis on cost of capital above, due to this change, the actual weighted average cost of capital (5.4%) is higher than foreseen in the PP (5.2%).

ITALY: Gate-to-gate

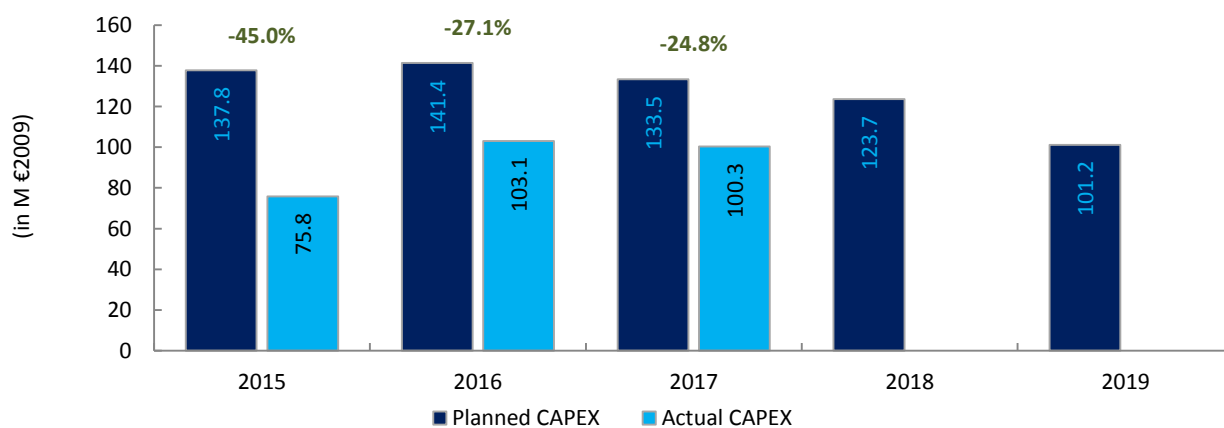
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Italy: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	609 005 804	619 176 790	627 477 336	617 241 895	604 216 765																																							
Real terminal costs (EUR2009)	94 027 463	95 693 256	94 979 945	95 352 833	95 283 514																																							
Real gate-to-gate costs (EUR2009)	703 033 268	714 870 046	722 457 281	712 594 727	699 500 279																																							
En-route share (%)	86.6%	86.6%	86.9%	86.6%	86.4%																																							
Italy: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	587 471 424	581 543 938	567 098 230																																									
Real terminal costs (EUR2009)	81 670 839	82 081 069	82 802 716																																									
Real gate-to-gate costs (EUR2009)	669 142 263	663 625 007	649 900 946																																									
En-route share (%)	87.8%	87.6%	87.3%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	-33 891 005	-51 245 039	-72 556 335																																									
in %	-4.8%	-7.2%	-10.0%																																									
En-route share																																												
in p.p.	1.2 p.p.	1.0 p.p.	0.4 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs are -10.0% (or -72.6 M€2009) lower than planned, in real terms, due to reductions in en-route ANS costs (-9.6%, or -60.4 M€2009) and terminal ANS costs for TCZ1 (-14.3%, or -5.5 M€2009) and TCZ2 (-11.8%, or -6.7 M€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (87.3%) is broadly in line with the plan (86.9%).</p> <p>For ENAV, the estimated gate-to-gate economic surplus in 2017 amounts to 108.6 M€2009 (see the three "boxes 10" for a detailed analysis at charging zone level), corresponding to 17.9% of gate-to-gate ANS revenues.</p>																																												
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>86.6%</td> <td>13.4%</td> </tr> <tr> <td>Actual</td> <td>87.8%</td> <td>12.2%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>86.6%</td> <td>13.4%</td> </tr> <tr> <td>Actual</td> <td>87.6%</td> <td>12.4%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>86.9%</td> <td>13.1%</td> </tr> <tr> <td>Actual</td> <td>87.3%</td> <td>12.7%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>86.6%</td> <td>13.4%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>86.4%</td> <td>13.6%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	86.6%	13.4%	Actual	87.8%	12.2%	2016	Determined	86.6%	13.4%	Actual	87.6%	12.4%	2017	Determined	86.9%	13.1%	Actual	87.3%	12.7%	2018	Determined	86.6%	13.4%	Actual			2019	Determined	86.4%	13.6%	Actual		
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	86.6%	13.4%																																									
	Actual	87.8%	12.2%																																									
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	Actual																																											
2019	Determined	86.4%	13.6%																																									
	Actual																																											
3. Technical notes on en-route and terminal information reported by Italy																																												
<p>Note 1: A bonus of 6 265 '000€ for achieving the local en-route capacity target is reported for ENAV in the BLUE MED FAB 2017 Monitoring Report and in the submission of June 2018 en-route Reporting Tables. This amount corresponds to 1.08% of ENAV en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost-base will be examined by the European Commission.</p> <p>It is also noted that these bonuses are not recorded in the capacity incentive section of the BLUE MED FAB 2017 Monitoring Report, while they are provided in the June 2018 submission of en-route Reporting Tables.</p> <p>Note 2: Bonuses of 82 '000€ for TCZ1 and 131 '000€ for TCZ2 for achieving the respective local terminal ANS capacity targets are reported for ENAV (see capacity section for complete information). These amounts correspond to 0.2% of ENAV terminal revenues for both TCZ1 and TCZ2 (based on the ATSP chargeable unit rate in 2017 times the actual TNSUs). The inclusion of these bonuses in the chargeable cost-bases will be examined by the European Commission.</p> <p>It is also noted that these bonuses are not recorded in the capacity incentive section of the BLUE MED FAB 2017 Monitoring Report, while they are provided in the June 2018 submission of terminal Reporting Tables.</p>																																												

ITALY

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: ENAV						
FAB: BLUE MED FAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	152.6	158.4	151.4	142.4	118.4	723.3
Main CAPEX (in nominal M)	41.6	75.4	75.7	60.2	40.3	293.2
Inflation %	1.0%	1.1%	1.3%	1.5%	1.6%	
Inflation index (100 in 2009)	110.8	112.0	113.5	115.2	117.0	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	137.8	141.4	133.5	123.7	101.2	637.5
Main CAPEX (in M €2009)	37.6	67.3	66.7	52.2	34.5	258.3
% Main of Total CAPEX	27.3%	47.6%	50.0%	42.2%	34.1%	40.5%
Real gate-to-gate ANSP costs (in M €2009)	602.3	611.9	617.7	606.4	592.7	3 031.0
Total CAPEX as % of Real gate-to-gate ANSP costs	22.9%	23.1%	21.6%	20.4%	17.1%	21.0%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	83.2	113.1	111.4			
Main CAPEX (in nominal M)	24.1	53.7	50.0			
Inflation %	0.1%	-0.1%	1.3%			
Inflation index (100 in 2009)	109.8	109.7	111.1			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	75.8	103.1	100.3			
Main CAPEX (in M €2009)	22.0	48.9	45.0			
% Main of Total CAPEX	29.0%	47.5%	44.8%			
Real gate-to-gate ANSP costs (in M €2009)	569.0	564.3	556.2			
Total CAPEX as % of Real gate-to-gate ANSP costs	13.3%	18.3%	18.0%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-69.5	-45.3	-40.0			
Total CAPEX (in M €2009)	-62.0	-38.3	-33.2			
Total CAPEX (in %, M €2009)	-45.0%	-27.1%	-24.8%			



Annual Monitoring Report 2017
Local level view
Malta

MALTA

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	52	C	C	C	B	C
MATS	85	D	D	D	D	C
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
			RAT application (%)			
			ATM Ground	ATM Overall		
Separation Minima Infringements (SMIs)			100%	100%		
Runway Incursions (RIs)			100%	100%		
ATM Specific Occurrences (ATM-S)				100%		
Source of RAT data:			Transport Malta			
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level			Number of questions answered			
			YES	NO		
Policy and its implementation			9	0		
Legal/Judiciary			7	0		
Occurrence reporting and Investigation			2	0		
TOTAL			18	0		
MATS			Number of questions answered			
			YES	NO		
Policy and its implementation			12	1		
Legal/Judiciary			2	1		
Occurrence reporting and Investigation			6	2		
TOTAL			20	4		
Observations						
<p>One component (Safety Promotion) out of the four reviewed EoS M Components/areas of the State does not meet the 2019 EoS M target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p> <p>Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only three are below Level C.</p>						

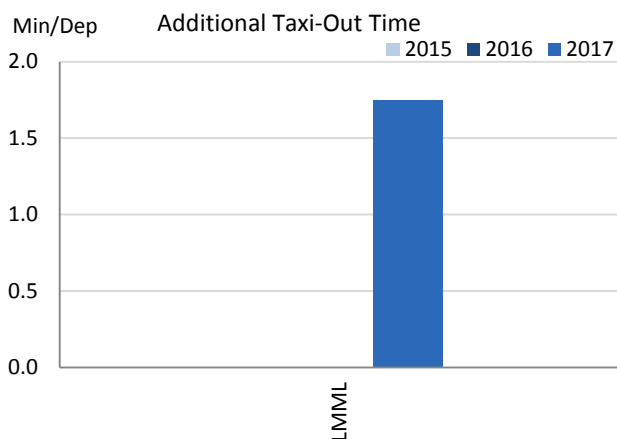
MALTA

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

Malta (LMML), after having reporting data issues in the past that prevented the calculation of the additional taxi-out times, has now solved the problems and both environmental indicators can be properly monitored in 2017.

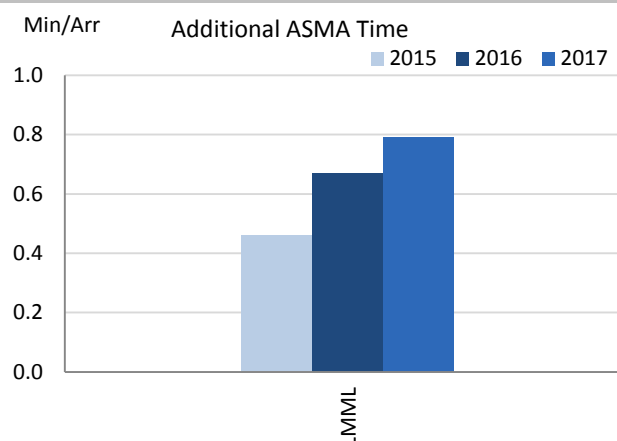
2. Additional Taxi-Out Time



The average additional taxi-out time in Malta for 2017 is 1.75 min/dep., well below the European average (RP2 airports: 3.33 min/dep.). Nevertheless this figure is slightly higher than other airports in RP2 with similar traffic figures.

The performance does not seem affected by the seasonality of the airport, but is slowly worsening in the second part of 2017.

3. Additional ASMA Time



Additional time in the terminal area at Malta has increased again in 2017 (by 18%) with respect to the previous year, maybe associated to the 14% traffic growth in 2017. As it happens with the taxi-out, the performance does not suffer from the seasonality, having actually the longest additional ASMA times in the winter months.

4. Appendix

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

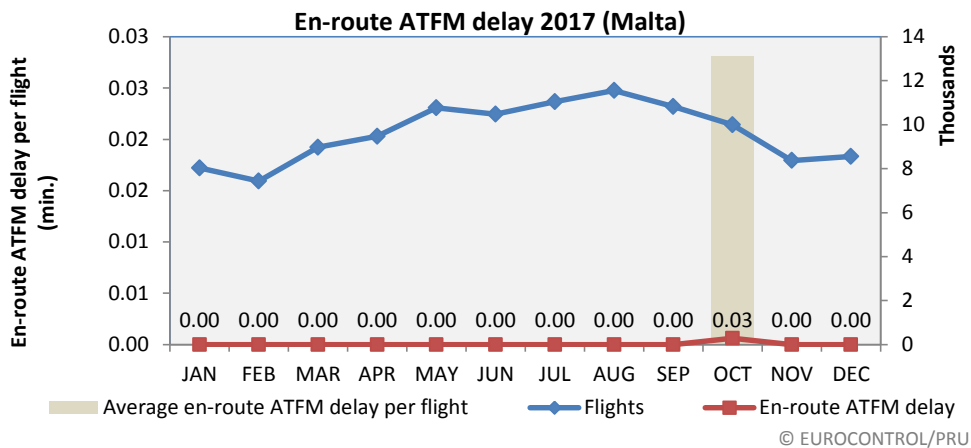
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Malta	LMML	n/a	n/a	1.75			0.46	0.67	0.79		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.01	0.02	0.02	0.02	0.02	
Deadband +/-	N/A	N/A	N/A	N/A	N/A	
Actual performance	0.00	0.00	0.00			

National capacity incentive scheme

Malta did not present an en-route capacity incentive scheme in the BLUE MED performance plan.

Observations regarding national capacity performance



En-route ATFM delay per flight (Malta)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

En-route capacity performance in Malta in 2017 resulted in negligible ATFM delay for airspace users, continuing the excellent performance for previous years. It is noted that the traffic evolution for Malta has been lower than initially forecast by STATFOR when the FAB performance plans and associated capacity plans were being determined. In light of the evolution of traffic and the existing capacity plans, it is expected that Malta will be able to deliver similar capacity performance for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Malta										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	120		130		140		149		159	171
Base	118	102	126	102	133	110	139	116	145	152
Low	116		122		125		129		132	136

Planning and Effective Use of CDRs

Malta has stated previously that there are no CDRs in Maltese airspace.

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Malta does not have defence aircraft. Furthermore the territory of Malta is small and no airspace dedicated to the military exists. FUA principles apply over the high seas with foreign military forces either through direct coordination or through established agreements. The Commission confirmed on 27.09.2013 that Article 4 (1) of Regulation EC No 2150/2005 is not applicable to states that do not have defence aircraft.

Observations on Effective booking procedures

Historically, Malta has stated that military operations and training does not impact either ATC capacity or available route options for GAT traffic.

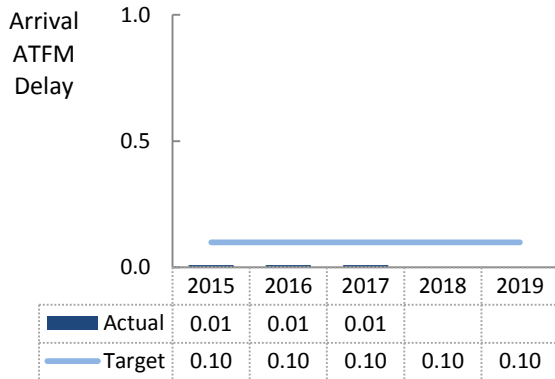
MALTA

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

Malta (LMML) is the only airport subject to RP2 monitoring. The national target on arrival ATFM delay is fully met with a negligible local share of arrival ATFM delay (i.e. 0.01 min/arr. in 2015, 2016 and 2017). LMML ranges in the group of best-in-class with a level of ATFM slot adherence of above 95%. Pre-departure delay is similar to last year with 0.17 min/dep. in 2017. Malta contributes adequately to the BLUE MED FAB and European performance.

2. Arrival ATFM Delay



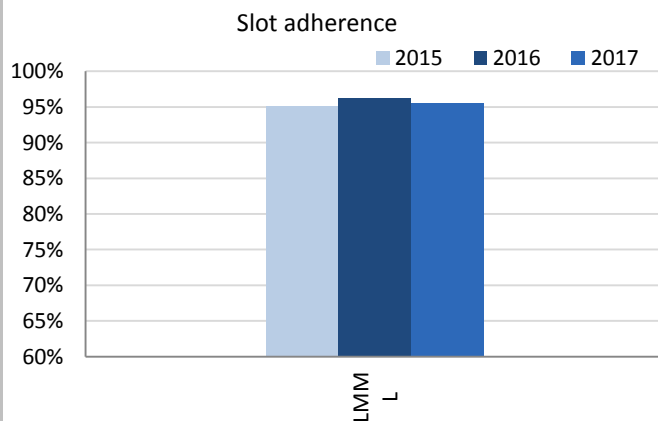
Once again, Malta shows a constant performance in terms of arrival ATFM delay during RP2. The observed average arrival ATFM accounts for a negligible value of 0.01 min/arr. The actual performance ranges well below the established national target (i.e. 0.10 min/arr., constant across RP2).

3. Arrival ATFM Delay – National Target and Incentive Scheme

Within BLUE MED FAB, Malta has established a constant national target on arrival ATFM delay that has been fully met each year in RP2. This target is in line with the historical performance observed before the start of RP2 and allows for operational variability.

Malta has not established an incentive scheme for the national target on arrival ATFM delay.

4. ATFM Slot Adherence



Although there is a slight decrease of ATFM slot adherence, Malta remains within best-in-class, above 95% compliance.

5. Pre-departure Delay

ATC pre-departure delay at Malta airport in 2017 is at the same level as in 2016, and it is commensurate with the level of traffic observed.

Nonetheless, the ATC pre-departure delay indicator is based exclusively on data reported by the airports through the Airport Operator Data Flow and is only calculated provided a minimum data quality. In the case of LMML the share of unexplained delay is very high and some months above the acceptable level so it needs to be monitored.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Malta	LMML	0.01	0.01	0.01			95.1%	96.3%	95.5%			0.08	0.16	0.17		

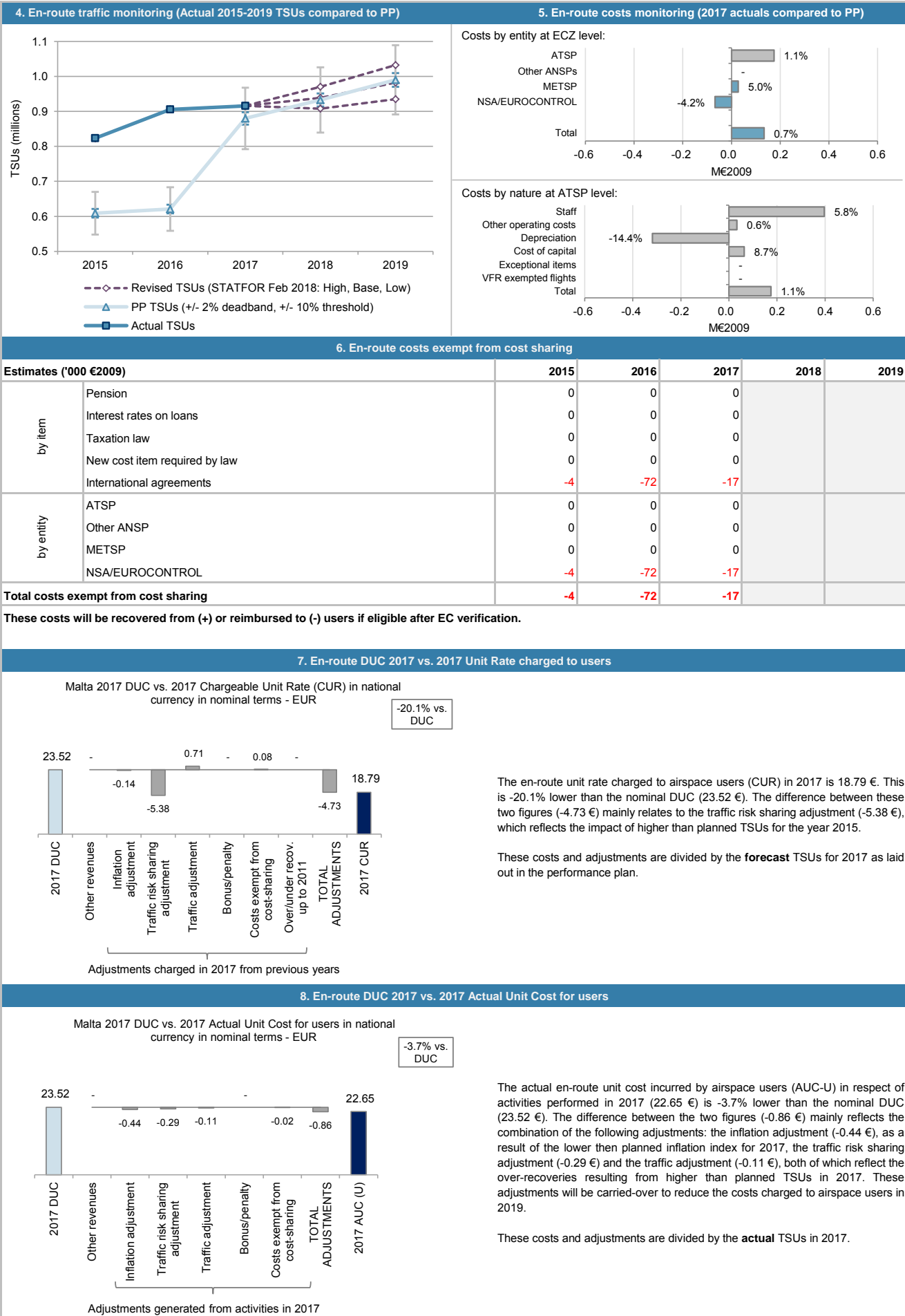
MALTA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
<ul style="list-style-type: none"> Malta ECZ represents 0.3% of the SES en-route ANS determined costs in 2017 ATSP: MATS FAB: BLUE MED FAB National currency: EUR 						
2. En-route DUC monitoring at Charging Zone level						
Malta: Data from RP2 Performance Plan (EC Decision 2017/2376 of 15 December 2017)		2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)		17 736 060	19 082 057	20 694 940	21 720 523	22 752 314
Inflation %		1.7%	1.8%	1.7%	1.7%	1.7%
Inflation index (100 in 2009)		111.9	114.0	115.9	117.9	119.9
Real en-route costs (EUR2009)		15 844 908	16 745 957	17 857 802	18 429 483	18 982 242
Total en-route Service Units		609 000	621 000	880 000	933 000	990 000
Real en-route unit cost per Service Unit (EUR2009)		26.02	26.97	20.29	19.75	19.17
Malta: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)		16 845 837	18 130 096	20 442 642		
Inflation %		1.2%	0.9%	1.3%		
Inflation index (100 in 2009)		111.2	112.2	113.6		
Real en-route costs (EUR2009)		15 153 971	16 163 775	17 991 619		
Total en-route Service Units		823 344	905 497	915 945		
Real en-route unit cost per Service Unit (EUR2009)		18.41	17.85	19.64		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal EUR)	in value	-890 223	-951 961	-252 298		
	in %	-5.0%	-5.0%	-1.2%		
Inflation %	in p.p.	-0.5 p.p.	-0.9 p.p.	-0.4 p.p.		
Inflation index (100 in 2009)	in p.p.	-0.8 p.p.	-1.8 p.p.	-2.3 p.p.		
Real en-route costs (EUR2009)	in value	-690 937	-582 183	133 817		
	in %	-4.4%	-3.5%	0.7%		
Total en-route Service Units	in value	214 344	284 497	35 945		
	in %	35.2%	45.8%	4.1%		
Real en-route unit cost per Service Unit (EUR2009)	in value	-7.61	-9.12	-0.65		
	in %	-29.3%	-33.8%	-3.2%		
3. Focus on en-route at State/Charging Zone level						
<p>En-route unit cost In 2017, the actual en-route unit cost in real terms (19.64 €2009) is -3.2% lower than planned in the PP (20.29 €2009). This difference results from the combination of higher than planned TSUs (+4.1%) and slightly higher than planned en-route costs in real terms (+0.7%, or +0.1 M€2009), although costs are lower than planned when expressed in nominal terms (-1.2%, or -0.3 M€). See Note 1 at the end of this Report.</p> <p>En-route service units The difference between actual and planned TSUs (+4.1%) falls outside the ±2% dead band, but is inside the ±10% threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of additional en-route revenues is therefore shared between the ATSP and the airspace users, the former retaining a gain of 0.4 M€2009. According to STATFOR February 2017 <u>base</u> TSU growth scenario, the en-route TSUs for Malta are expected to stay within the ±2% dead band foreseen in the traffic risk-sharing mechanism for the remainder of RP2 (2018-2019). It is noted that the determined TSUs underpinning the adopted RP2 cost efficiency targets for 2015-2016 were significantly below STATFOR February 2014 <u>low</u> TSU growth scenario, while the TSUs selected for the revised PP (2017-2019) are in line with STATFOR February 2016 <u>base</u> TSU growth scenario.</p> <p>En-route costs In nominal terms, actual en-route costs are -1.2% (-0.3 M€) lower than planned. However, since the actual inflation index is also lower than planned (-2.3 p.p.), actual en-route costs are +0.7% (+0.1 M€2009) above the plan when expressed in real terms. The higher than planned en-route costs in real terms are primarily driven by higher costs for MATS (+1.1%, or +0.2 M€2009) and the MET service provider (+5.0%, or +0.03 M€2009), while the NSA/EUROCONTROL costs are -4.2% below the plan (-0.1 M€2009). It is noted that higher than planned real en-route costs for MATS result from lower than planned inflation index, as actual costs are lower than planned in nominal terms (-0.9%, or -0.2 M€). A detailed analysis at ATSP level is provided in box 12. Costs exempt from cost-sharing are reported for a total amount of -0.02 M€2009 comprising only the variation in EUROCONTROL costs. These costs will be eligible for carry-over (reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.</p>						

MALTA: En-route charging zone

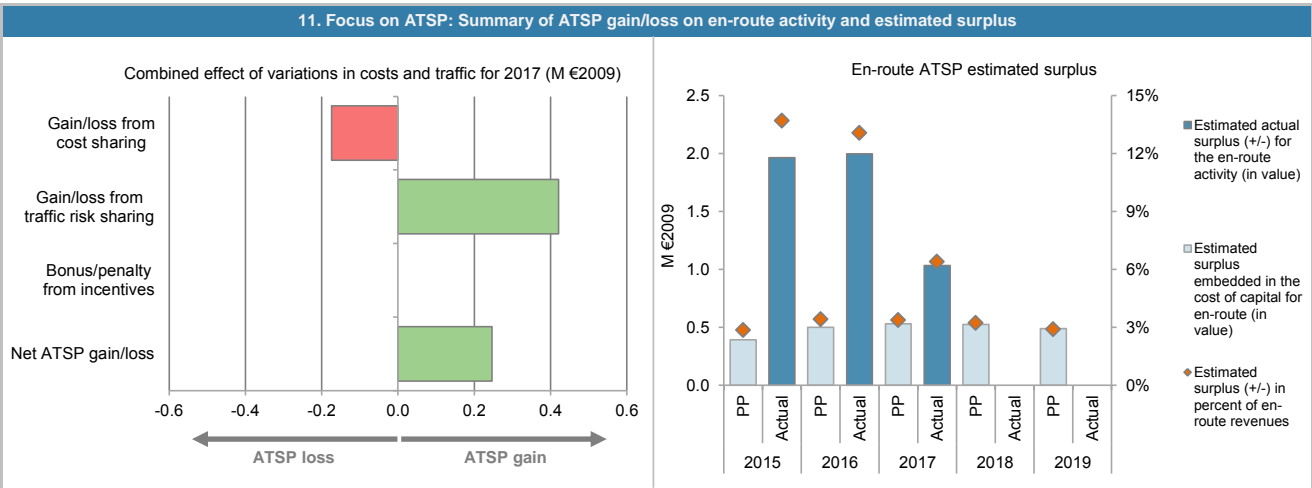
Monitoring of en-route COST-EFFICIENCY for 2017



MALTA: En-route ATSP (MATS)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	13 734	14 616	15 712		
Actual costs for the ATSP	13 120	14 061	15 887		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	614	555	-174		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	614	555	-174		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	35.2%	45.8%	4.1%		
Determined costs for the ATSP (PP) - based on actual inflation	13 830	14 849	16 026		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	609	653	421		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	1 223	1 209	246		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	9 037	10 721	11 457	11 410	10 563
Estimated proportion of financing through equity (in %)	62.6%	62.3%	57.8%	55.1%	56.2%
Estimated proportion of financing through equity (in value)	5 656	6 677	6 618	6 290	5 931
Estimated proportion of financing through debt (in %)	37.4%	37.7%	42.2%	44.9%	43.8%
Estimated proportion of financing through debt (in value)	3 380	4 044	4 838	5 121	4 632
Cost of capital pre-tax (in value)	526	661	722	728	673
Average interest on debt (in %)	4.0%	4.0%	4.0%	4.0%	4.0%
Interest on debt (in value)	135	162	194	205	185
Determined RoE pre-tax rate (in %)	6.9%	7.5%	8.0%	8.3%	8.2%
Estimated surplus embedded in the cost of capital for en-route (in value)	391	499	529	523	488
Overall estimated surplus (+/-) for the en-route activity	391	499	529	523	488
Revenue/costs for the en-route activity	13 734	14 616	15 712	16 272	16 809
Estimated surplus (+/-) in percent of en-route revenues	2.8%	3.4%	3.4%	3.2%	2.9%
Estimated ex-ante RoE pre-tax rate (in %)	6.9%	7.5%	8.0%	8.3%	8.2%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	10 716	10 526	9 830		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	10 716	10 526	9 830		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	740	786	785		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	6.9%	7.5%	8.0%		
Estimated surplus embedded in the cost of capital for en-route (in value)	740	786	785		
Net ATSP gain(+)/loss(-) on en-route activity	1 223	1 209	246		
Overall estimated surplus (+/-) for the en-route activity	1 963	1 995	1 032		
Revenue/costs for the en-route activity	14 343	15 270	16 133		
Estimated surplus (+/-) in percent of en-route revenues	13.7%	13.1%	6.4%		
Estimated ex-post RoE pre-tax rate (in %)	18.3%	19.0%	10.5%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 MATS en-route costs vs. PP

In 2017, MATS actual en-route costs are +1.1% (+0.2 M€2009) higher, in real terms, than planned in the PP. However, this is mainly due to the lower than planned inflation index (-2.3 p.p.), as actual en-route costs are lower than planned in nominal terms (-0.9%, or -0.2 M€). According to the additional information to the June 2018 en-route Reporting Tables, this results from the combination of:

- higher staff costs (+5.8%, or +0.4 M€2009), mainly due to "unplanned overtime to cope with the additional traffic";
- higher other operating costs (+0.6%, or +0.03 M€2009) in real terms, although these are lower than planned when expressed in nominal terms (-1.4%, or -0.1 M€) resulting from "the implementation of cost saving measures";
- lower depreciation costs (-14.4%, or -0.3 M€2009), explained by "delays in the implementation of the planned CAPEX programme"; and,
- higher cost of capital (+8.7%, or +0.1 M€2009) resulting from the fact that, differently from what planned in the PP, MATS's actual capital structure relies entirely on equity financing and thus is calculated using a higher weighted average costs of capital compared to the plan, which included some financing through debt at a lower rate (interest rate on debt of 4.0%) compared to the rate of return on equity (i.e. 7.5%).

MATS net gain/loss on en-route activity in 2017

As shown in box 9, MATS generated a net gain of +0.2 M€2009 on the en-route activity in 2017. This is a combination of two elements:

- a loss of -0.2 M€2009 arising from the cost-sharing mechanism; and,
- a gain of +0.4 M€2009 arising from the traffic risk-sharing mechanism.

MATS overall estimated surplus for the en-route activity

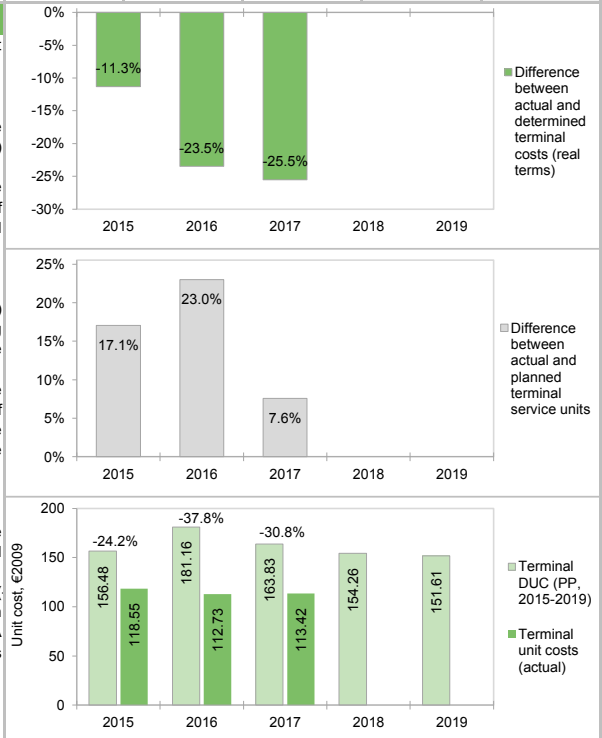
Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+0.2 M€2009) and the surplus embedded in the actual cost of capital (+0.8 M€2009) amounts to +1.0 M€2009 (6.4% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 10.5%, which is higher than the 8.0% planned in the PP.

It is also noted that the actual gearing between equity and debt financing reported by MATS differs from the ratios planned in the PP. As already indicated in the analysis on cost of capital above, due to this change, the actual cost of capital is calculated entirely based on return of equity (7.5%), while a geared asset-base was foreseen in the plan including an average rate of interest on debt (4.0%).

MALTA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

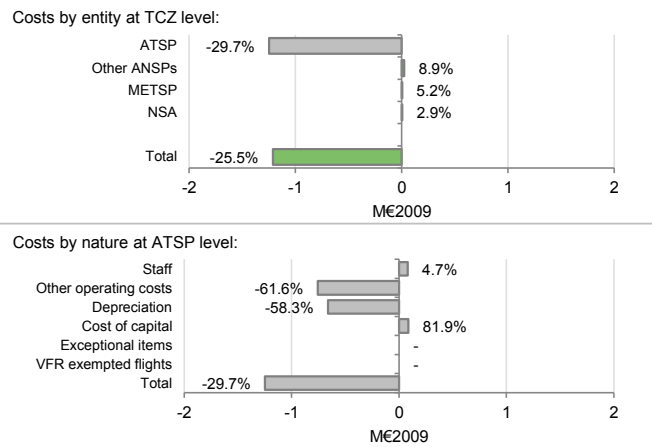
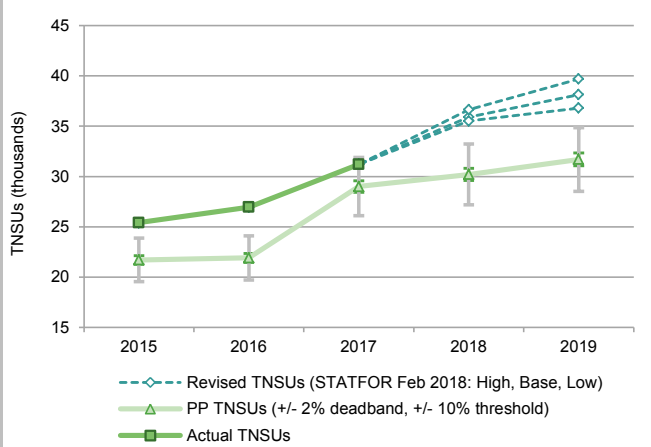
1. Contextual economic information: terminal air navigation services					
· Malta TCZ represents 0.4% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes	
· ATSP: MATS		· Airports with fewer than 70,000 IFRs ATMs:		1	
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		0	
· Number of airports in charging zone in 2017: 1,		of which:		· Airports with more than 225,000 IFRs ATMs: 0	
2. Terminal DUC monitoring at Charging Zone level					
Malta: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	3 800 840	4 520 832	5 505 759	5 490 582	5 760 674
Inflation %	1.7%	1.8%	1.7%	1.7%	1.7%
Inflation index (100 in 2009)	111.9	114.0	115.9	117.9	119.9
Real terminal costs (EUR2009)	3 395 566	3 967 374	4 750 956	4 658 663	4 806 127
Total terminal Service Units	21 700	21 900	29 000	30 200	31 700
Real terminal unit cost per Service Unit (EUR2009)	156.48	181.16	163.83	154.26	151.61
Malta: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	3 347 230	3 405 338	4 020 892		
Inflation %	1.2%	0.9%	1.3%		
Inflation index (100 in 2009)	111.2	112.2	113.6		
Real terminal costs (EUR2009)	3 011 060	3 036 008	3 538 797		
Total terminal Service Units	25 400	26 933	31 200		
Real terminal unit cost per Service Unit (EUR2009)	118.55	112.73	113.42		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	in value -453 610	in value -1 115 494	in value -1 484 867		
	in % -11.9%	in % -24.7%	in % -27.0%		
Inflation %	in p.p. -0.5 p.p.	in p.p. -0.9 p.p.	in p.p. -0.4 p.p.		
Inflation index (100 in 2009)	in p.p. -0.8 p.p.	in p.p. -1.8 p.p.	in p.p. -2.3 p.p.		
Real terminal costs (EUR2009)	in value -384 506	in value -931 366	in value -1 212 159		
	in % -11.3%	in % -23.5%	in % -25.5%		
Total terminal Service Units	in value 3 700	in value 5 033	in value 2 200		
	in % 17.1%	in % 23.0%	in % 7.6%		
Real terminal unit cost per Service Unit (EUR2009)	in value -37.93	in value -68.43	in value -50.40		
	in % -24.2%	in % -37.8%	in % -30.8%		
3. Focus on terminal at State/Charging Zone level					
This analysis focuses on Malta Terminal Charging Zone (TCZ) comprising only Malta international airport (LMML). See also Note 1 at the end of this Report.					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (113.42 €2009) is -30.8% lower than planned in the PP (163.83 €2009). This difference is driven by a combination of higher than planned TNSUs (+7.6%) and significantly lower than planned actual terminal costs in real terms (-25.5%, or -1.2 M€2009). It is noted, that according to the additional information to June 2018 terminal Reporting Tables and the BLUE MED FAB 2017 Monitoring Report, the above-mentioned difference partly results from the use of different allocation keys to distribute costs between en-route and terminal charging zones as compared to the allocation planned in the PP (see also the analysis for Malta at gate-to-gate level).					
Terminal service units					
Traffic risk sharing applies in Malta TCZ. The difference between actual and planned TNSUs (+7.6%) falls outside the ±2% dead band, but is inside the ±10% threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of additional terminal revenues is shared between the ATSP and the airspace users, the former retaining a gain of +0.2 M€2009. According to STATFOR February 2017 TNSU growth scenarios, the terminal TNSUs for Malta are expected exceed the +10% threshold foreseen in the traffic risk-sharing mechanism for the remainder of RP2 (2018-2019). It is noted that the determined TNSUs chosen in the adopted PP for 2015-2016 were below the STATFOR February 2014 <u>low</u> TNSU growth scenario, while the TNSUs selected for the revised PP (2017-2019) are in line with STATFOR February 2016 <u>base</u> TNSU growth scenario.					
Terminal costs					
In nominal terms, actual terminal costs are -27.0% (-1.5 M€) lower than planned. However, since the actual inflation index is also lower than planned (-2.3 p.p.), the difference between actual and determined terminal costs falls to -25.5% (-1.2 M€2009) when expressed in real terms. The variation in terminal costs in real terms is driven by significantly lower than planned costs for MATS (-29.7%, or -1.2 M€2009), while the actual costs for the other service provider MIA are slightly higher than planned (+8.9%, or +0.02 M€2009). Differently, actual costs for the MET service provider and the NSA are broadly in line with the plan (+5.2% and +2.9% respectively). A detailed analysis at ATSP level is provided in box 12. There are no costs exempt from cost-sharing reported for Malta TCZ.					



MALTA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

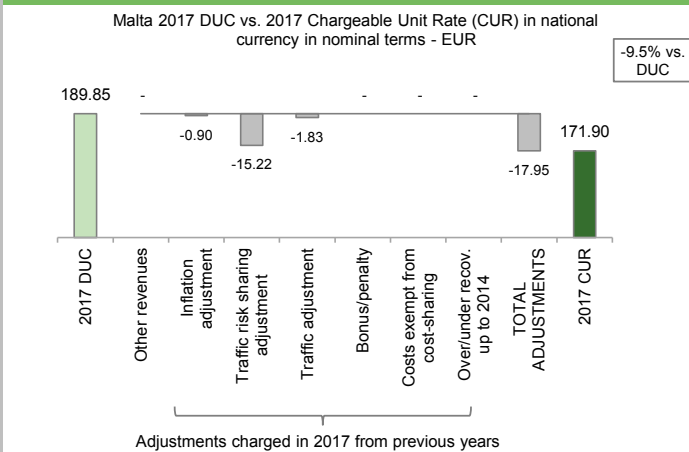


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

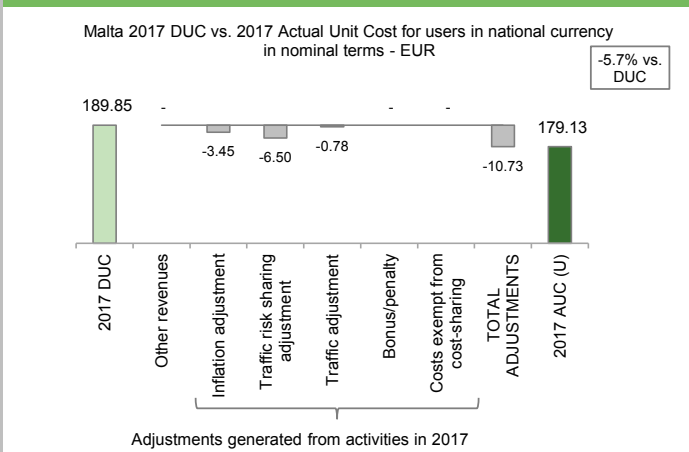
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The unit rate charged to airspace users in 2017 is 171.90 €. This is lower (-9.5%) than the nominal DUC (189.85 €). This difference between these two figures (-17.95 €) mainly relates to the traffic risk sharing (-15.22 €) and the traffic (-1.83 €) adjustments, which reflects the impact of significantly higher than planned TNSUs for the year 2015.

These costs and adjustments are divided by the forecast TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



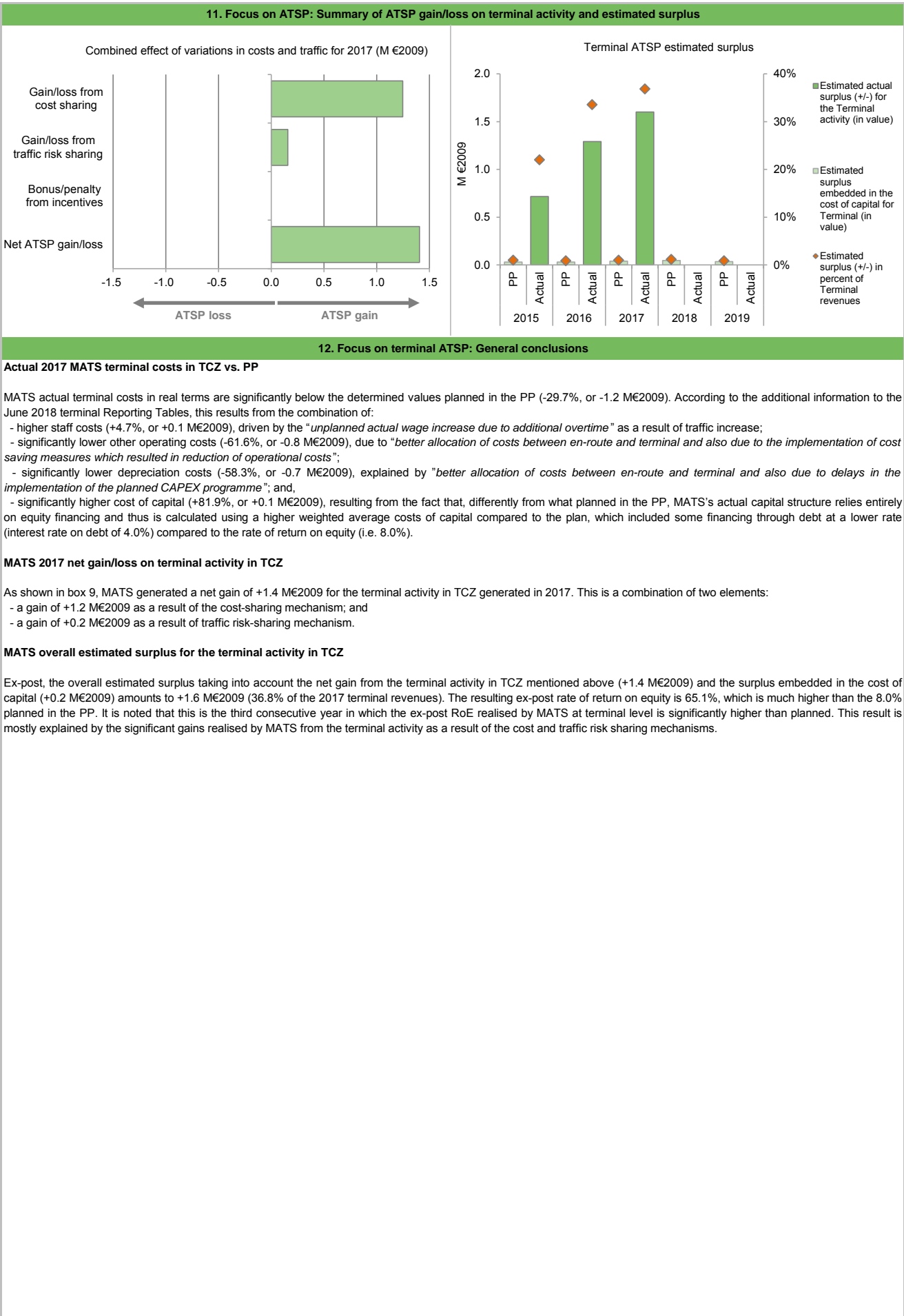
The actual terminal unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (179.13 €) is -5.7% lower than the nominal DUC (189.85 €). The factors contributing to the observed difference (-10.73 €) are the inflation adjustment (-3.45 €), which reflect the impact of lower than planned inflation index for 2017, the traffic risk sharing adjustment (-6.50 €) and the traffic adjustment (-0.78 €), which correspond to the impact of higher than planned TNSUs for the year 2017, and the forthcoming reimbursement to airspace users in 2019.

These costs and adjustments are divided by the actual TNSUs in 2017.

MALTA: Terminal ATSP (MATS)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	3 118	3 690	4 193		
Actual costs for the ATSP	2 750	2 739	2 946		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	368	951	1 247		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	368	951	1 247		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	17.1%	23.0%	7.6%		
Determined costs for the ATSP (PP) - based on actual inflation	3 139	3 749	4 277		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	138	165	157		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	506	1 116	1 404		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	1 655	2 111	2 196	2 115	2 061
Estimated proportion of financing through equity (in %)	25.7%	19.5%	22.9%	26.5%	20.8%
Estimated proportion of financing through equity (in value)	426	411	504	560	428
Estimated proportion of financing through debt (in %)	74.3%	80.5%	77.1%	73.5%	79.2%
Estimated proportion of financing through debt (in value)	1 230	1 701	1 692	1 555	1 633
Cost of capital pre-tax (in value)	79	99	108	109	101
Average interest on debt (in %)	4.0%	4.0%	4.0%	4.0%	4.0%
Interest on debt (in value)	49	68	68	62	65
Determined RoE pre-tax rate (in %)	6.9%	7.5%	8.0%	8.3%	8.2%
Estimated surplus embedded in the cost of capital for terminal (in value)	29	31	40	47	35
Overall estimated surplus (+/-) for the terminal activity	29	31	40	47	35
Revenue/costs for the terminal activity	3 118	3 690	4 193	4 102	4 261
Estimated surplus (+/-) in percent of terminal revenues	0.9%	0.8%	1.0%	1.1%	0.8%
Estimated ex-ante RoE pre-tax rate (in %)	6.9%	7.5%	8.0%	8.3%	8.2%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	3 023	2 360	2 457		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	3 023	2 360	2 457		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	209	176	196		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	6.9%	7.5%	8.0%		
Estimated surplus embedded in the cost of capital for terminal (in value)	209	176	196		
Net ATSP gain(+)/loss(-) on terminal activity	506	1 116	1 404		
Overall estimated surplus (+/-) for the terminal activity	715	1 292	1 601		
Revenue/costs for the terminal activity	3 256	3 855	4 350		
Estimated surplus (+/-) in percent of terminal revenues	22.0%	33.5%	36.8%		
Estimated ex-post RoE pre-tax rate (in %)	23.7%	54.8%	65.1%		



MALTA: Gate-to-gate

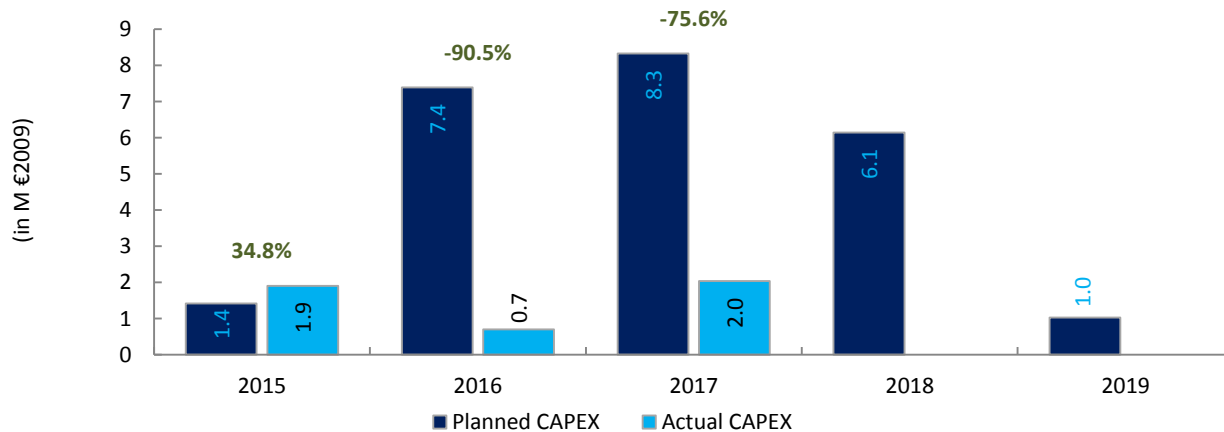
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Malta: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	15 844 908	16 745 957	17 857 802	18 429 483	18 982 242																																							
Real terminal costs (EUR2009)	3 395 566	3 967 374	4 750 956	4 658 663	4 806 127																																							
Real gate-to-gate costs (EUR2009)	19 240 474	20 713 331	22 608 758	23 088 146	23 788 369																																							
En-route share (%)	82.4%	80.8%	79.0%	79.8%	79.8%																																							
Malta: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	15 153 971	16 163 775	17 991 619																																									
Real terminal costs (EUR2009)	3 011 060	3 036 008	3 538 797																																									
Real gate-to-gate costs (EUR2009)	18 165 031	19 199 783	21 530 417																																									
En-route share (%)	83.4%	84.2%	83.6%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	-1 075 443	-1 513 549	-1 078 342																																									
in %	-5.6%	-7.3%	-4.8%																																									
En-route share																																												
in p.p.	1.1 p.p.	3.3 p.p.	4.6 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs in real terms are -4.8% (-1.1 M€2009) lower than planned due to the combination of slightly higher than planned en-route costs (+0.7%, or +0.1 M€2009) and significantly lower than planned terminal costs (-25.5%, or -1.2 M€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (83.6%) is higher than planned in the PP for 2017 (79.0%).</p> <p>For MATS, the estimated gate-to-gate economic surplus in 2017 amounts to +2.6 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 12.9% of gate-to-gate ANS revenues.</p>																																												
<table border="1"> <caption>Data for Figure 2: Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>82.4%</td> <td>17.6%</td> </tr> <tr> <td>Actual</td> <td>83.4%</td> <td>16.6%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>80.8%</td> <td>19.2%</td> </tr> <tr> <td>Actual</td> <td>84.2%</td> <td>15.8%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>79.0%</td> <td>21.0%</td> </tr> <tr> <td>Actual</td> <td>83.6%</td> <td>16.4%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>79.8%</td> <td>20.2%</td> </tr> <tr> <td>Actual</td> <td>79.8%</td> <td>20.2%</td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>79.8%</td> <td>20.2%</td> </tr> <tr> <td>Actual</td> <td>79.8%</td> <td>20.2%</td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	82.4%	17.6%	Actual	83.4%	16.6%	2016	Determined	80.8%	19.2%	Actual	84.2%	15.8%	2017	Determined	79.0%	21.0%	Actual	83.6%	16.4%	2018	Determined	79.8%	20.2%	Actual	79.8%	20.2%	2019	Determined	79.8%	20.2%	Actual	79.8%	20.2%
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	82.4%	17.6%																																									
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	Actual	79.8%	20.2%																																									
3. Technical notes on en-route and terminal information reported by Malta																																												
<p>Note 1: Malta has revised their RP2 en-route cost-efficiency targets for the years 2017 to 2019. The figures shown in this report reflect: i) the <u>initial</u> adopted Performance Plan (EC Decision 2015/348 of 2 March 2015) for the years 2015 and 2016; and ii) the <u>revised</u> Performance Plan (EC Decision 2017/2376 of 15 December 2017) for the years 2017 to 2019.</p> <p>A similar revision was also done for the terminal determined unit costs in Malta terminal charging zone for the period 2017 to 2019</p>																																												

MALTA

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: MATS						
FAB: BLUE MED FAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	1.6	8.4	9.7	7.2	1.2	28.1
Main CAPEX (in nominal M)	1.6	8.4	9.7	7.2	1.2	28.1
Inflation %	1.7%	1.8%	1.7%	1.7%	1.7%	
Inflation index (100 in 2009)	111.9	114.0	115.9	117.9	119.9	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	1.4	7.4	8.3	6.1	1.0	24.3
Main CAPEX (in M €2009)	1.4	7.4	8.3	6.1	1.0	24.3
% Main of Total CAPEX	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Real gate-to-gate ANSP costs (in M €2009)	16.9	18.3	19.9	20.4	21.1	96.5
Total CAPEX as % of Real gate-to-gate ANSP costs	8.4%	40.3%	41.8%	30.2%	4.9%	25.2%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	2.1	0.8	2.3			
Main CAPEX (in nominal M)	1.9	0.8	2.3			
Inflation %	1.2%	0.9%	1.3%			
Inflation index (100 in 2009)	111.2	112.2	113.6			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	1.9	0.7	2.0			
Main CAPEX (in M €2009)	1.7	0.7	2.0			
% Main of Total CAPEX	90.8%	100.0%	100.0%			
Real gate-to-gate ANSP costs (in M €2009)	15.9	16.8	18.8			
Total CAPEX as % of Real gate-to-gate ANSP costs	12.0%	4.2%	10.8%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	0.5	-7.6	-7.3			
Total CAPEX (in M €2009)	0.5	-6.7	-6.3			
Total CAPEX (in %, M €2009)	34.8%	-90.5%	-75.6%			



Annual Monitoring Report 2017
Local level view
DANUBE FAB

DANUBE FAB

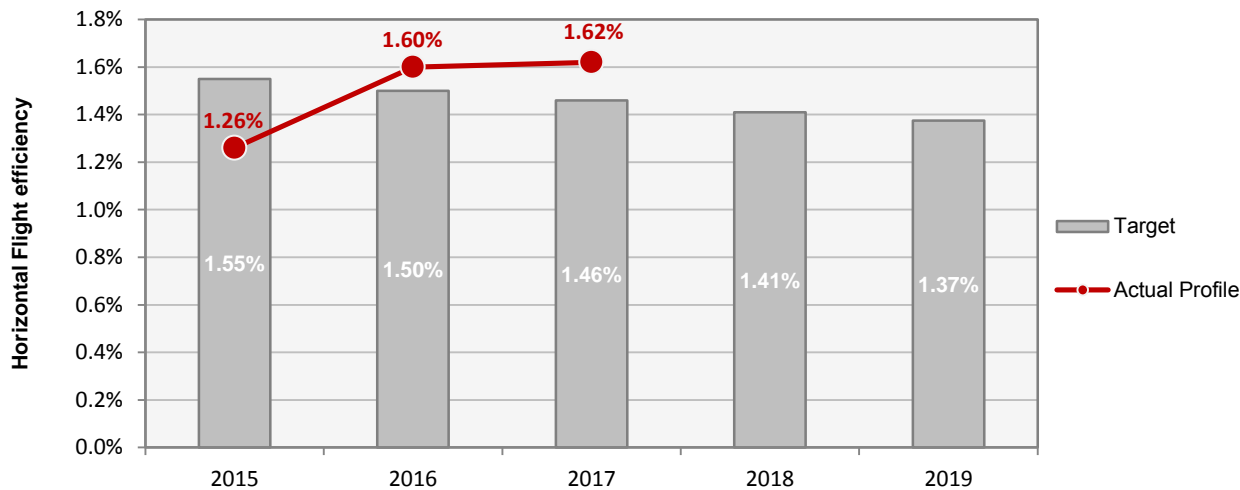
Monitoring of SAFETY for 2017

Effectiveness of Safety Management							
			2015 Value	2016 Value	2017 Value	2018 Value	2019 Target
Union-wide targets	at State level	For all MOs					C
	at ANSP level	For Safety Culture MO					C
		For all other MOs					D
FAB level	States / Regulatory authorities	For all MOs	B	B	B		
	ANSPs	For Safety Culture MO	C	D	D		
	ANSPs	For all other MOs	C	C	D		
Application of the severity classification of the Risk Analysis Tool (RAT)							
Ground Score			2015 Value	2016 Value	2017 Target	2018 Value	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%		100%
	Runway Incursions (RIs)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	100%	100%		
	Runway Incursions (RIs)		100%	N/A	N/A		
Overall Score			2015 Value	2016 Value	2017 Target	2018 Target	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%	>= 80%	>= 80%
	Runway Incursions (RIs)				>= 80%	>= 80%	>= 80%
	ATM Specific Occurrences (ATM-S)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	100%	100%		
	Runway Incursions (RIs)		100%	N/A	N/A		
	ATM Specific Occurrences (ATM-S)		100%	100%	100%		
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)							
Observations							
The lowest level in the EoSM Components/areas of the States is Level B which is below the 2019 EoSM target level. Safety Risk Management is already at the 2019 EoSM target level.							

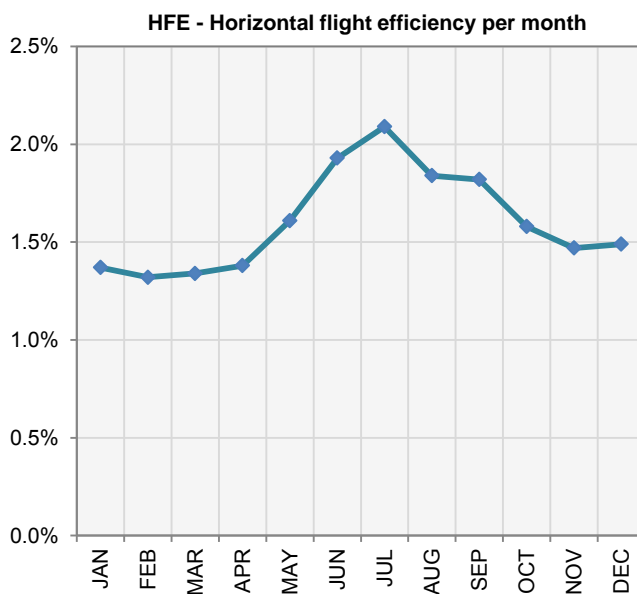
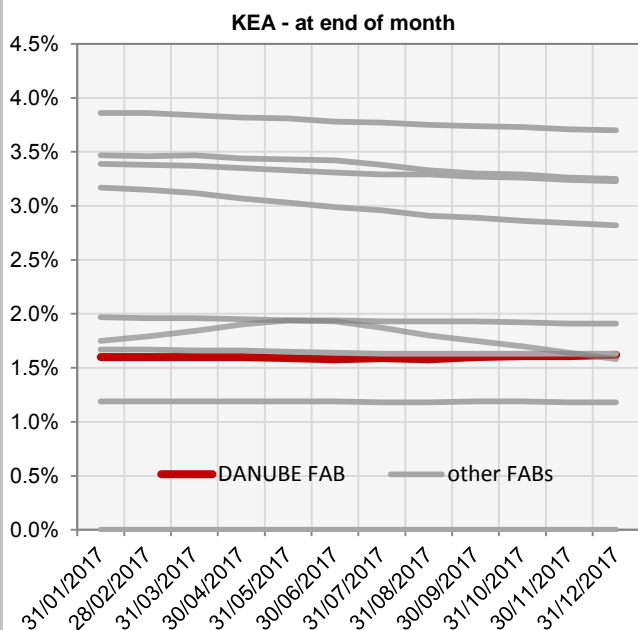
DANUBE FAB

Monitoring of ENVIRONMENT for 2017

KEA					
	2015	2016	2017	2018	2019
FAB Target	1.55%	1.50%	1.46%	1.41%	1.37%
Actual performance	1.26%	1.60%	1.62%		



Monthly KEA and HFE evolution in 2017												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA (at end of month)	1.60%	1.60%	1.60%	1.60%	1.59%	1.58%	1.59%	1.58%	1.60%	1.61%	1.61%	1.62%
HFE	1.37%	1.32%	1.34%	1.38%	1.61%	1.93%	2.09%	1.84%	1.82%	1.58%	1.47%	1.49%



HFE refers to the ratio of flown distance and achieved distance over all (portions of) trajectories in the month, while KEA is the ratio 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.

DANUBE FAB**Monitoring of ENVIRONMENT for 2017****Corrective measures applied, as reported by the FAB**

Corrective measures are not possible as the factors leading to deterioration are not under FAB control.

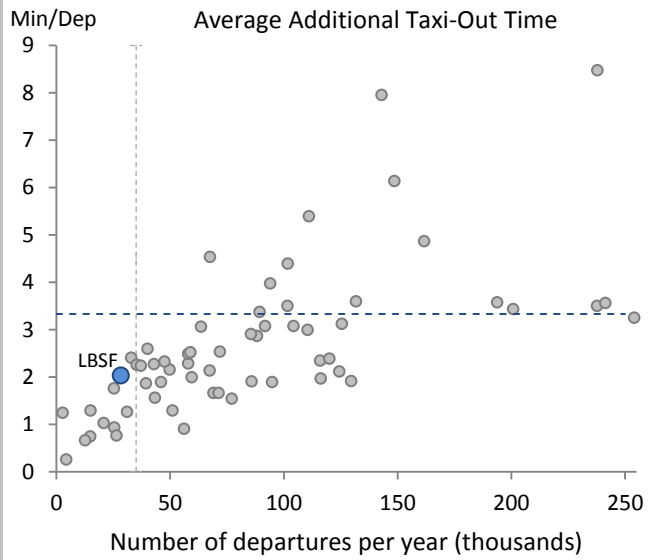
Observations

NM recommendations (ERNIP 2018, Part 2):
Implementation of cross-border FRA H24, with adjacent FABs/ACCs is recommended.

1. Overview

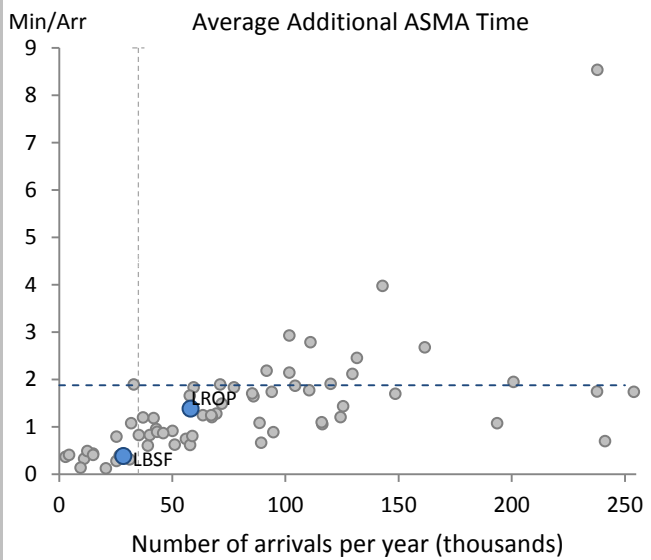
According to the available data, airports in the Danube FAB contribute adequately to the European performance with low levels of additional times in line with the general performance for airports with those levels of traffic. In order to monitor the performance at Romanian airports, it is necessary to properly establish the Airport Operator Data Flow and/or address the remaining data issues.

2. Additional Taxi-Out Time



Like in 2015 and 2016, the only airport in the Danube FAB for which the additional TXOT can be monitored is Sofia. The additional taxi-out time at LBSF is well below the average for airports in RP2, but in 2017 its performance is slightly above the general trend based on its traffic levels.

3. Additional ASMA Time



The monitored airports in the Danube FAB show additional times in the terminal area well below the RP2 average. This performance is commensurate with their levels of traffic.

DANUBE FAB

Monitoring of CAPACITY for 2017

Minutes of ATFM en-route delay										
	2015	2016	2017	2018	2019	Observations				
FAB Reference Value	0.04	0.04	0.04	0.05	0.06					
FAB Target	0.03	0.03	0.03	0.03	0.04					
Actual performance	0.03	0.00	0.01							
DANUBE FAB assessment of capacity performance										
With this regards the reported delay figure for Bulgaria in 2017 is 0.00. Also, for Romania, the target is achieved.										
Monitoring process for capacity performance										
<p>REPUBLIC OF BULGARIA:</p> <p>Use of occupancy counts for family (group) sectors Sofia and Varna.</p> <p>Monitor the route network and sectorisation change's needs, as outgrowth of the continuous increase of numbers of aircraft and followed up by:</p> <ul style="list-style-type: none"> • Evaluation of sector capacities; • Evaluation of sector configurations and opening schemes; • Evaluation of human resources. <p>ROMANIA:</p> <p>Monitoring is done through continuous checks of the PRU data portal (http://ansperformance.eu/data/performancearea/) to verify that the values are within limits and the discrepancies between the values pertaining to the past year and those of the current year are not following an ascending trend.</p>										
Application of Corrective Measures for Capacity										
The DANUBE FAB report contains the list of corrective measures applied in Bulgaria for 2016.										
Capacity Planning										
According to Annex 5 of NOP for Bulgaria. The capacity planning need has been duly reflected by carrying out the en-route planning process together with NM, required by NMF IR.										
Assessment of capacity performance										
DANUBE FAB has provided excellent en-route capacity performance in 2017 with a marginal increase in delays of 0.01 minutes per flight over 2016 levels (zero delay) whilst handling an additional 5% traffic from 2016. DANUBE FAB provided a positive contribution to network performance in 2017. The DANUBE FAB has been accommodating traffic levels higher than predicted in the STATFOR forecast that was available when the FAB performance plans and associated capacity plans were being drawn up in 2014, for each year of RP2 to date. The fact that DANUBE FAB has been accommodating such levels of traffic, each year, whilst simultaneously providing a positive contribution to the network is recognised and appreciated. The Network Manager does not expect DANUBE FAB to experience capacity shortfall for the remainder of RP2 despite high traffic growth and the developments regarding the new Istanbul airport operations.										
EUROCONTROL 7 year forecast February 2014 – DANUBE										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	804		846		893		941		982	1038
Base	793	829	825	895	858	905	892	951	917	960
Low	782		802		820		839		858	882
En route Capacity Incentive Scheme										
DANUBE FAB does not apply a FAB-wide en-route capacity incentive scheme. Instead, both Member States apply local incentive schemes which are contained in the relevant national section that follows.										
Result of FAB Capacity Incentive Scheme										
N/A										
Update on Military dimension of the plan										
DANUBE FAB did not provide any information in this section but referred to the section on FUA.										
Observations on Military dimension of the plan										
Nil										

Application of FUA

DANUBE FAB:

All details of the FUA concept application are available in the national LSSIP report that will shortly be put forward in coming months for 2017 to update 2016.

Coordination at DANUBE FAB level is carried out through the DANUBE FAB Policy Body and the set of procedures adopted by the DANUBE FAB Strategy and planning standing committee, consequently endorsed by DANUBE FAB Governing Council. Overall, amongst other FUA requirements, rules and procedures have been set to undertake necessary arrangements in terms of Cross-Border Sectors operations, the latter can be evidenced through the Cross-Border Sectors implementation (DF1 and DF2). However, it should duly be noted that civil and military stakeholders do not have the same business objectives.

REPUBLIC OF BULGARIA:

ASMA Level 1, the expectations from ATM are not the same because security and defence needs prevail over commercial ones. The Performance IR also recognizes to date this essential requirement in compliance with the Regulation (EC) No 549/2004 and Chicago Convention.

Pre-tactical ASM Level 2 is managed at national level, on a common basis being stem from Network ASM functions and coordinated between DANUBE FAB States to implement successfully the free route airspace projects.

The Bulgarian NSA, BULATSA along with military representatives (relevant bodies, depending on a particular case) in close cooperation are working on tools and procedures to enable enhanced coordination between civil and military units. For 2017, several amendments to procedures and legal acts have taken place.

Tactical ASM Level 3, all operations for a day are being conducted on the AUP or the AAUP's basis, building on coordination procedures and booking principles. Daily operations are supported by the different and various means (telephone lines, the surveillance data and its presentation, LARA, etc.).

ROMANIA:

No new information was provided by Romania.

Observations of the Application of FUA

The additional information regarding the application of FUA in DANUBE FAB and specifically Bulgaria is welcomed however, it is noted that the LSSIP reports are not made public by EASA. Furthermore, no information is provided on how the Member States assess whether or not the airspace has actually been managed to provide the optimum benefits for all airspace users.

DANUBE FAB

Monitoring of Airports Contribution to CAPACITY for 2017

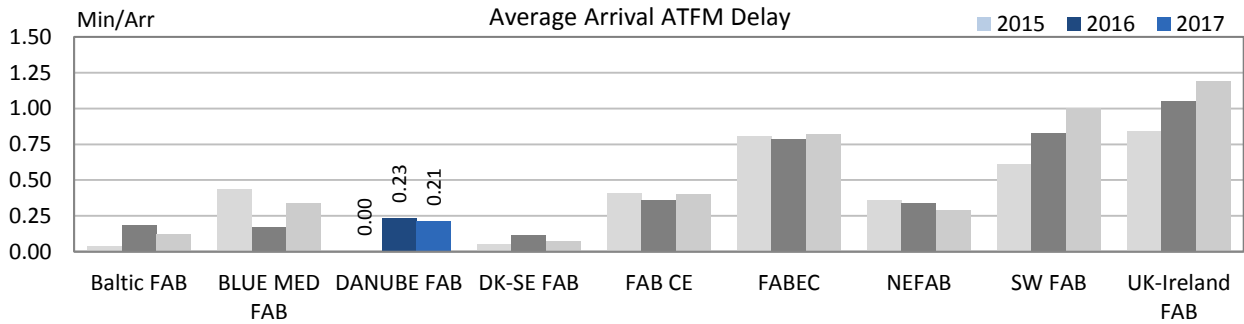
1. Overview

The scope of the DANUBE FAB performance plan comprises the terminal air navigation services at one airport in Bulgaria and two airports in Romania.

The ANS Capacity performance in terms of arrival ATFM delay is driven by the issues at Bucharest/Otopeni (LROP) airport, while there are no registered delays at Sofia (LBSF) or Bucharest/Baneasa (LRBS).

Across Europe, DANUBE FAB still remains in the best-in-class group and adequately contributes to the European ANS Capacity performance.

2. Arrival ATFM Delay



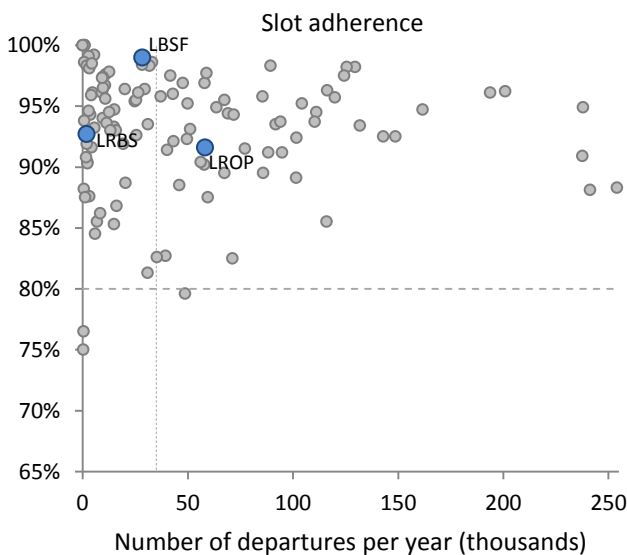
Arrival ATFM delay in 2017 again reflects the capacity issues at LROP resulting from works on the airport's airside infrastructure (LROP: 2015: 0.00 min/arr.; 2016: 0.35 min/arr.; 2017: 0.32 min/arr.)

3. Arrival ATFM Delay – National Targets and Incentive Schemes

The DANUBE FAB performance plan establishes a national target on arrival ATFM delay with a breakdown per airport for both States, Bulgaria and Romania. The targets are consistent with the observed historical performance and the plan suggests no capacity constraints for arriving traffic under the projected traffic conditions for RP2.

The FAB DANUBE performance plan presents an incentive scheme for the national targets on arrival ATFM delay for Bulgaria and Romania. The performance in Bulgaria meets the target but no bonus is established (it is comprised within the deadband). In Romania, the actual performance in 2017 is significantly lower than the target but the incentive scheme is based on CRSTMP reasons only and according to it the value falls within the deadband, so no penalty is applied.

4. ATFM Slot Adherence



Across DANUBE FAB, the slot adherence ranges well above 90%. Slot adherence at Sofia (LBSF) ranges in the best-in-class group.

There is no significant change in the slot adherence with respect to 2016.

5. Pre-departure Delay

In DANUBE FAB the monitoring of pre-departure delay is only possible in Bulgaria, where the level of accrued delay is minimal. At Romanian airports, data quality and availability issues do not allow for the analysis of this indicator.

Annual Monitoring Report 2017
Local level view
Bulgaria

BULGARIA

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	47	B	C	B	B	C
BULATSA	92	D	E	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	N/A	N/A				
Runway Incursions (RIs)	N/A	N/A				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	BULATSA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	9	0				
Legal/Judiciary	5	2				
Occurrence reporting and Investigation	2	0				
TOTAL	16	2				
BULATSA	Number of questions answered					
	YES	NO				
Policy and its implementation	13	0				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	6	2				
TOTAL	21	3				
Observations						
<p>Three out of the four reviewed EoS M Components/areas of the State do not meet the 2019 EoS M target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p> <p>Out of 34 questions in Components 1-4 (not including Component - Safety Culture), seven are below Level C.</p>						

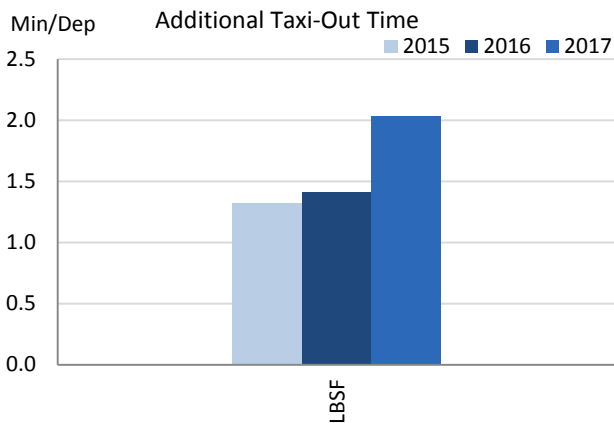
BULGARIA

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

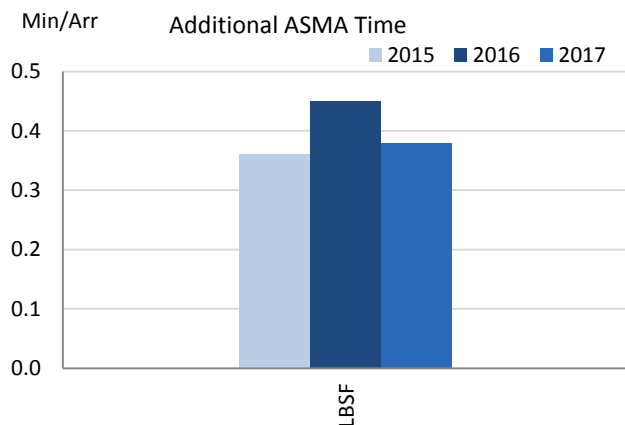
Bulgaria has identified one airport, Sofia (LBSF) as subject to RP2 monitoring, for which the APDF is well established. While the additional time in the terminal area is commensurate with the traffic levels and shows an improvement in 2017, the taxi-out performance does not show the same trend and additional TXOT sits in the upper values for airports in its category. Traffic increased at Sofia airport by 12% compared to 2016.

2. Additional Taxi-Out Time



The additional taxi-out time in Sofia in 2017 (2.03 min/arr.) has drastically increased with respect to 2016 (+44%). These longer times are mainly observed in January 2017.

3. Additional ASMA Time



The additional time in the terminal area of Sofia, that was already marginal, has slightly decreased in 2017, especially in the months of May and June. It is one of the lowest additional ASMA times shown amongst the monitored airports across Europe.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Sofia	LBSF	1.32	1.41	2.03			0.36	0.45	0.38		

BULGARIA

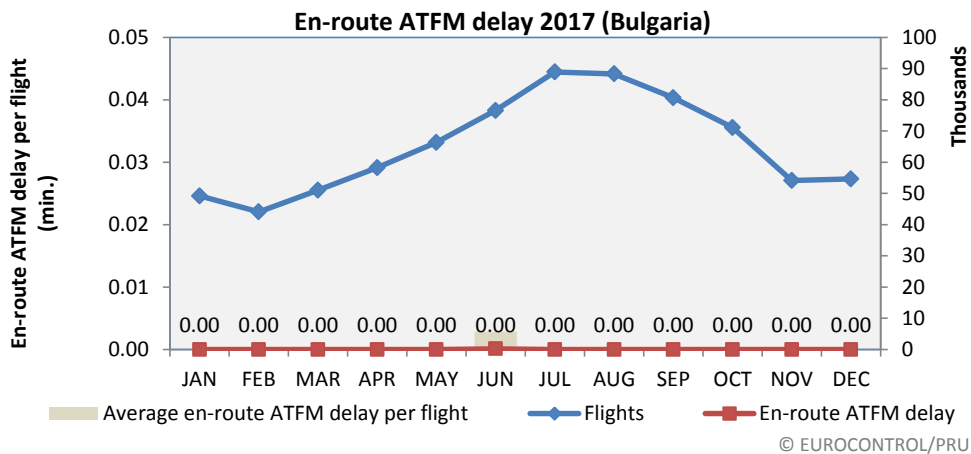
Monitoring of CAPACITY for 2017

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.05	0.05	0.05	0.06	0.07	
Deadband +/-	0.02 - 0.05		0.02 - 0.06			
Actual performance	0.01	0.01	0.00			

National capacity incentive scheme

As per the incentive scheme envisaged in the initially approved PP for RP2, the amount of the bonus is 0.02% of the annual en-route revenue, which is reported to be 173 909k BGN for 2017: giving an actual bonus of 34 782 BGN for 2017.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Bulgaria)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.01	0.01	0.00

En-route capacity performance in Bulgaria has been excellent in 2017 with zero average delay per flight. Traffic levels rose by just over 3% following a slight dip in traffic in 2016. It is noted that Bulgaria has been handling traffic levels above the high forecast predicted by STATFOR when the FAB performance plan and associated capacity plans were being drawn up in advance of RP2. The annual traffic levels for 2015, 2016 and 2017 are all above the expected high forecast for the end of RP2, and yet Bulgaria has provided excellent capacity performance in each year to date. The DANUBE FAB Monitoring Report warns that Bulgaria expects capacity problems due in part to the operation of the new Istanbul airport and high traffic levels in general. However, this cautious view does not appear to be shared by the Network Manager who is confident that no capacity problems will exist in Bulgaria for the remainder of RP2 so long as the current capacity plans are implemented as planned.

EUROCONTROL 7 year forecast February 2014 – Bulgaria									
	2014	2015	2016	2017	2018	2019			
		actual		actual		actual		actual	
High	580		617		650		686		713
Base	572	683	601	767	626	758	652	783	669
Low	564		585		599		614		628

Planning and Effective Use of CDRs

Bulgaria did not provide any data on this indicator.

Observations on Planning and Effective Use of CDRs

It is noted that Bulgaria, like many other States, is unable to monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
29%	37%	29%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
0%	0%	0%		

Procedure 3 is not applicable within the State.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

BULGARIA

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

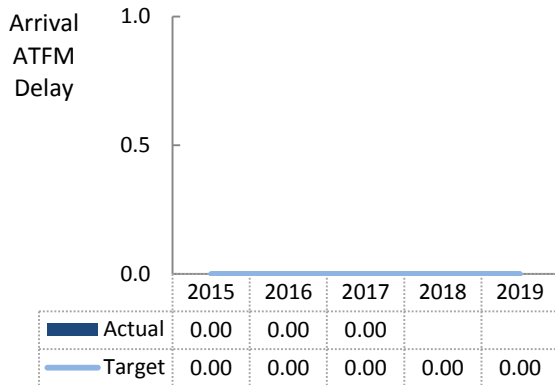
In Bulgaria, only ANS performance at Sofia (LBSF) airport is subject to RP2 Monitoring. The national target on arrival ATFM delay of 0 min/arr. is fully met once more in 2017. The actual performance in terms of arrival ATFM delay ranges within the incentive deadband and results in no financial incentive.

Next to the excellent performance in terms of arrival ATFM delay, Bulgaria shows a high level of compliance with ATFM slots and a negligible amount of pre-departure delay. These levels represent best-in-class performance across Europe.

The local performance is commensurate with the traffic and shows no congestion of capacity constraints.

Bulgaria adequately contributes to the DANUBE FAB and European ANS Capacity-related performance.

2. Arrival ATFM Delay



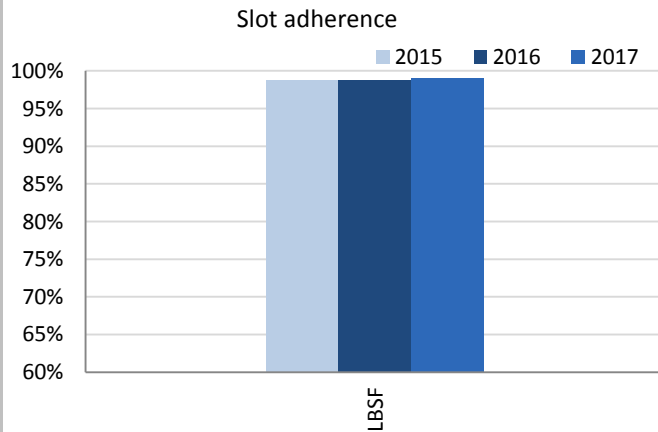
Since the beginning of RP2, including 2017, the recorded arrival ATFM delay for Sofia (LBSF) is zero. This achieved performance is commensurate with the level of air traffic. The constant national target of 0.00 min/arr. is fully met for 2015, 2016 and 2017.

3. Arrival ATFM Delay – National Target and Incentive Scheme

Bulgaria has established a national target on arrival ATFM delay (0.0 min/arr.) which is met in 2017.

The DANUBE FAB PP presents an incentive scheme for Bulatsa that does not contemplate any incentives for meeting the zero delay target. Therefore no bonuses are applied.

4. ATFM Slot Adherence



Compliance with ATFM slots at LBSF has slightly improved and it reaches 99% in 2017 which reflects best-in-class performance across Europe.

5. Pre-departure Delay

In 2017, and despite a slight increase, a negligible share of pre-departure delay has been accrued at Sofia (LBSF).

6. Appendix

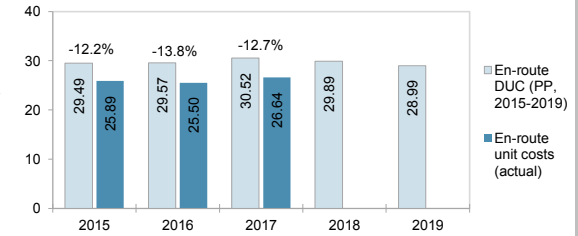
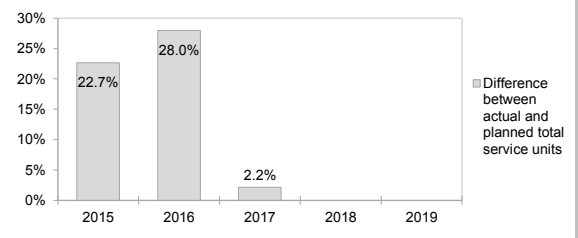
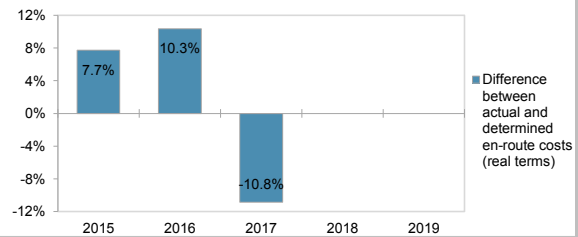
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Sofia	LBSF	0.00	0.00	0.00			98.8%	98.8%	99.0%			0.04	0.03	0.08		

BULGARIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· Bulgaria ECZ represents 1.6% of the SES en-route ANS determined costs in 2017						
· ATSP: BULATSA						
· FAB: DANUBE FAB						
· National currency: BGN Exchange rate 2009: 1 EUR = 1.9553 BGN						
2. En-route DUC monitoring at Charging Zone level						
Bulgaria: Data from RP2 PP (EC Decision 2017/2376 of 15 December 2017)	2015D	2016D	2017D	2018D	2019D	
En-route costs (nominal BGN)	166 771 377	172 805 739	219 350 068	228 283 095	232 773 544	
Inflation %	0.9%	1.8%	1.1%	1.2%	1.4%	
Inflation index (100 in 2009)	110.1	112.1	106.9	108.1	109.7	
Real en-route costs (BGN2009)	151 495 007	154 219 178	205 254 233	211 080 244	212 260 655	
Total en-route Service Units	2 627 000	2 667 000	3 439 000	3 611 824	3 745 039	
Real en-route unit cost per Service Unit (BGN2009)	57.67	57.82	59.68	58.44	56.68	
Real en-route unit cost per Service Unit (EUR2009)	29.49	29.57	30.52	29.89	28.99	
Bulgaria: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
En-route costs (nominal BGN)	173 870 778	178 955 967	194 762 951			
Inflation %	-1.1%	-1.3%	1.2%			
Inflation index (100 in 2009)	106.6	105.2	106.4			
Real en-route costs (BGN2009)	163 171 301	170 155 585	182 989 369			
Total en-route Service Units	3 222 750	3 412 754	3 513 254			
Real en-route unit cost per Service Unit (BGN2009)	50.63	49.86	52.09			
Real en-route unit cost per Service Unit (EUR2009)	25.89	25.50	26.64			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
En-route costs (nominal BGN)	in value	7 099 402	6 150 228	-24 587 117		
	in %	4.3%	3.6%	-11.2%		
Inflation %	in p.p.	-2.0 p.p.	-3.1 p.p.	0.1 p.p.		
Inflation index (100 in 2009)	in p.p.	-3.5 p.p.	-6.9 p.p.	-0.4 p.p.		
Real en-route costs (BGN2009)	in value	11 676 294	15 936 406	-22 264 865		
	in %	7.7%	10.3%	-10.8%		
Total en-route Service Units	in value	595 750	745 754	74 254		
	in %	22.7%	28.0%	2.2%		
Real en-route unit cost per Service Unit (BGN2009)	in value	-7.04	-7.97	-7.60		
	in %	-12.2%	-13.8%	-12.7%		
Real en-route unit cost per Service Unit (EUR2009)	in value	-3.60	-4.07	-3.89		
	in %	-12.2%	-13.8%	-12.7%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (52.09 BGN2009 or 26.64 €2009) is -12.7% lower than planned in the PP (59.68 BGN2009 or 30.52 €2009). This difference results from the combination of slightly higher than planned TSUs (+2.2%) and much lower than planned en-route costs in real terms (-10.8%, or -22.3 MBGN2009). See Note 1 at the end of this Report.						
En-route service units						
The difference between actual and planned TSUs (+2.2%) 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 ATSP and the airspace users, with the ATSP retaining an amount of +1.9 M€2009 (+3.7 MBGN2009). According to STATFOR February 2018 <u>base</u> TSU growth scenario, the en-route TSUs for Bulgaria are expected to exceed the ±2% dead band, but stay within the +10% threshold foreseen in the traffic risk-sharing mechanism for the remainder of RP2. It is noted that the determined TSUs underpinning the en-route cost-efficiency targets in the revised PP (2017-2019) were mostly in line with STATFOR February 2016 <u>base</u> TSU growth scenario.						
En-route costs						
In nominal terms, actual en-route costs are -11.2% (-24.6 MBGN) lower than planned. However, since the actual inflation index is slightly lower than planned (-0.4 p.p.), actual en-route costs are -10.8% (-22.3 MBGN2009 or -11.4 M€2009) below plans when expressed in real terms. The lower than planned en-route costs in real terms are driven by lower costs across all reporting entities, with BULATSA (-11.1%, or -11.0 M€2009) being the main contributor, while the costs for NSAVEUROCONTROL are -6.5% (-0.4 M€2009) lower than planned. A detailed analysis at ATSP level is provided in box 12. Costs exempt from cost-sharing are reported for a total amount of -0.3 M€2009 comprising -0.6 M€2009 for unforeseen changes in national taxation law and +0.3 M€2009 for the variation in EUROCONTROL costs. These costs will be eligible for carry-over (reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.						



BULGARIA: En-route charging zone

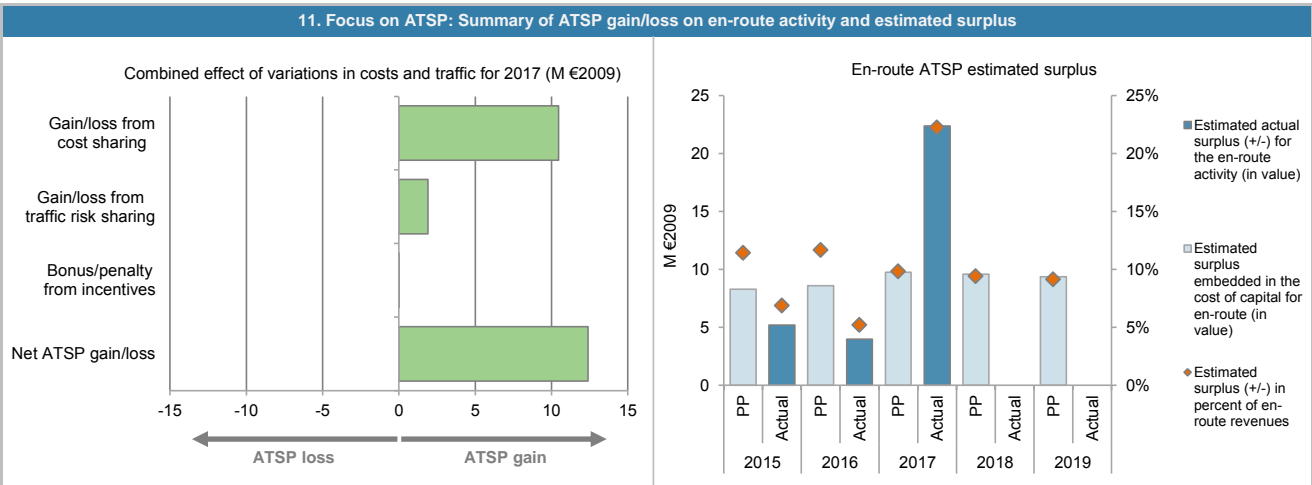
Monitoring of en-route COST-EFFICIENCY for 2017



BULGARIA: En-route ATSP (BULATSA)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	72 403	73 634	99 263		
Actual costs for the ATSP	79 219	81 994	88 248		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-6 816	-8 360	11 015		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-113	-349	-557		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-6 929	-8 709	10 458		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	22.7%	28.0%	2.2%		
Determined costs for the ATSP (PP) - based on actual inflation	68 806	72 165	93 271		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	3 027	3 175	1 910		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	9	9	17		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	-3 892	-5 526	12 385		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	118 036	122 591	139 148	136 924	133 706
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	118 036	122 591	139 148	136 924	133 706
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	8 263	8 581	9 740	9 585	9 359
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	7.0%	7.0%	7.0%	7.0%	7.0%
Estimated surplus embedded in the cost of capital for en-route (in value)	8 263	8 581	9 740	9 585	9 359
Overall estimated surplus (+/-) for the en-route activity	8 263	8 581	9 740	9 585	9 359
Revenue/costs for the en-route activity	72 403	73 634	99 263	102 109	102 589
Estimated surplus (+/-) in percent of en-route revenues	11.4%	11.7%	9.8%	9.4%	9.1%
Estimated ex-ante RoE pre-tax rate (in %)	7.0%	7.0%	7.0%	7.0%	7.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	129 575	135 770	142 514		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	129 575	135 770	142 514		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	9 070	9 504	9 976		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	7.0%	7.0%	7.0%		
Estimated surplus embedded in the cost of capital for en-route (in value)	9 070	9 504	9 976		
Net ATSP gain(+)/loss(-) on en-route activity	-3 892	-5 526	12 385		
Overall estimated surplus (+/-) for the en-route activity	5 178	3 978	22 361		
Revenue/costs for the en-route activity	75 327	76 469	100 633		
Estimated surplus (+/-) in percent of en-route revenues	6.9%	5.2%	22.2%		
Estimated ex-post RoE pre-tax rate (in %)	4.0%	2.9%	15.7%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 BULATSA en-route costs vs. PP

In 2017, BULATSA actual en-route costs are -11.1% (-11.0 M€2009) lower, in real terms, than planned in the PP. According to the additional information to the June 2018 en-route Reporting Tables, this results from a combination of:

- lower staff costs (-6.9%, or -4.5 M€2009), mainly driven by the fact some of the ATCOs initially recruited to be employed in ACC were finally employed at TWR working position and this "resulted in underspending of en-route staff costs versus the plan". Additionally "lower social security costs, since there were no changes in the maximum social security income as well as in the social security rate as planned"
- much lower other operating costs (-31.4%, or -4.1 M€2009), primarily explained by lower costs for materials (i.e. power supply, heating and spare parts) and lower costs for external services.
- lower depreciation costs (-23.8%, or -2.7 M€2009), mainly resulting from delays in the investment programme, in particular during 2015 and 2016. Based on the information provided in the DANUBE FAB Monitoring Report 2017, the actual capex for 2017 in nominal terms is -4.5% lower than planned in PP.
- higher cost of capital (+2.4%, or +0.2 M€2009), which, since BULATSA is entirely financed through equity, is driven by higher than planned en-route asset base in real terms (+2.4%, or +3.4 M€2009).

BULATSA net gain/loss on en-route activity in 2017

As shown in box 9, BULATSA generated a net gain of +12.4 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +10.5 M€2009 arising from the cost sharing mechanism;
- a gain of +1.9 M€2009 arising from the traffic risk sharing mechanism; and
- a gain of +0.02 M€2009 (or +35 '000BGN in nominal terms), corresponding to a bonus for BULATSA as part of the en-route capacity target incentive mechanism. This amount corresponds to 0.02% of BULATSA en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission. See also **Note 2** at the end of this Report.

The gain from cost sharing mentioned above (+10.5 M€2009) includes amounts reported by BULATSA for costs exempt from cost sharing (-0.6 M€2009). Should these costs not be deemed eligible by the European Commission, BULATSA would record a net gain of +12.9 M€2009 for the en-route activity in 2017.

BULATSA overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+12.4 M€2009) and the surplus embedded in the actual cost of capital (+10.0 M€2009) amounts to +22.4 M€2009 (22.2% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 15.7%, which is much higher than the 7.0% planned in the PP.

BULGARIA: Terminal charging zone

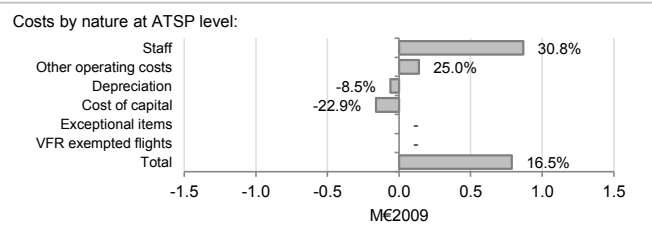
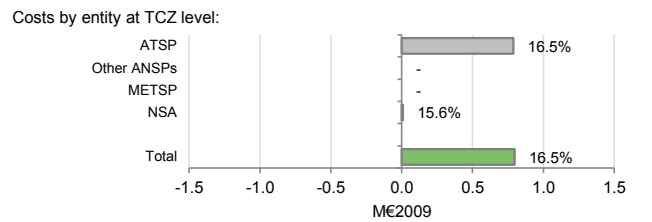
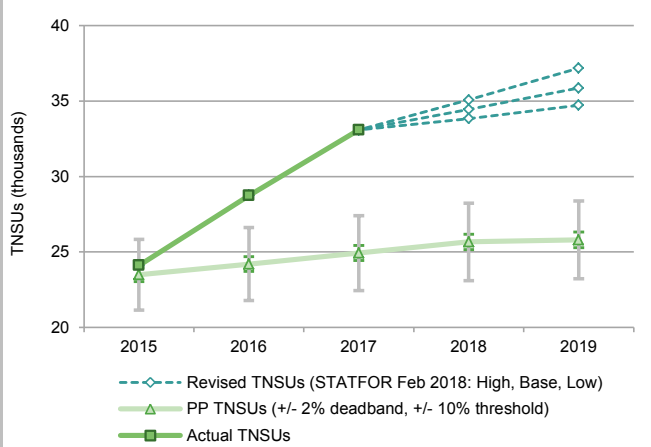
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Bulgaria TCZ represents 0.4% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes	
· ATSP:	BULATSA	· Airports with fewer than 70,000 IFRs ATMs:		1	
· National currency:	BGN	· Airports with between 70,000 and 225,000 IFRs ATMs:		0	
· Number of airports in charging zone in 2017:	1,	of which:	· Airports with more than 225,000 IFRs ATMs:	0	
2. Terminal DUC monitoring at Charging Zone level					
Bulgaria: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal BGN)	10 590 551	10 725 206	10 795 526	10 687 693	10 572 836
Inflation %	0.9%	1.8%	2.2%	2.2%	2.2%
Inflation index (100 in 2009)	110.1	112.1	114.5	117.0	119.6
Real terminal costs (BGN2009)	9 620 450	9 571 629	9 426 992	9 131 927	8 839 324
Total terminal Service Units	23 487	24 191	24 917	25 665	25 800
Real terminal unit cost per Service Unit (BGN2009)	409.61	395.66	378.33	355.82	342.61
Real terminal unit cost per Service Unit (EUR2009)	209.49	202.35	193.49	181.98	175.22
Bulgaria: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal BGN)	10 387 116	10 154 849	11 690 297		
Inflation %	-1.1%	-1.3%	1.2%		
Inflation index (100 in 2009)	106.6	105.2	106.4		
Real terminal costs (BGN2009)	9 747 924	9 655 471	10 983 609		
Total terminal Service Units	24 103	28 729	33 092		
Real terminal unit cost per Service Unit (BGN2009)	404.44	336.08	331.91		
Real terminal unit cost per Service Unit (EUR2009)	206.84	171.88	169.75		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal BGN)	-203 435	-570 357	894 771		
	in %				
	-1.9%	-5.3%	8.3%		
Inflation %	-2.0 p.p.	-3.1 p.p.	-1.0 p.p.		
Inflation index (100 in 2009)	-3.5 p.p.	-6.9 p.p.	-8.1 p.p.		
Real terminal costs (BGN2009)	127 475	83 843	1 556 617		
	in %				
	1.3%	0.9%	16.5%		
Total terminal Service Units	616	4 538	8 175		
	in %				
	2.6%	18.8%	32.8%		
Real terminal unit cost per Service Unit (BGN2009)	-5.18	-59.58	-46.42		
	in %				
	-1.3%	-15.1%	-12.3%		
Real terminal unit cost per Service Unit (EUR2009)	-2.65	-30.47	-23.74		
	in %				
	-1.3%	-15.1%	-12.3%		
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Bulgaria Terminal Charging Zone (TCZ) comprising only Sofia airport (LBSF).</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (331.91 BGN2009 or 169.75 €2009) is -12.3% lower than planned in the PP (378.33 BGN2009 or 193.49 €2009). This difference results from a combination of significantly higher than planned TNSUs (+32.8%) and higher than planned terminal costs in real terms (+16.5%, or +1.6 MBGN2009).</p> <p>Terminal service units The traffic risk sharing mechanism applies in Bulgaria's TCZ. The difference between actual and planned TNSUs (+32.8%) falls well outside the +10% threshold foreseen in the traffic risk-sharing mechanism. Therefore the gain of additional terminal revenues is shared between the airspace users and the ATSP, with the latter retaining an amount of +0.2 M€2009. Based on the information provided in the DANUBE FAB Monitoring Report 2017 "traffic growth has been driven by the low cost airlines, which have been expanding their operations from/to LBSF". According to STATFOR February 2018 TNSU growth scenarios, the TNSUs for Bulgaria are expected to abundantly exceed the +10% threshold for the remainder of RP2 (2018-2019). It should be noted that the forecast TNSUs selected in the RP2 PP were mostly in line with STATFOR February 2014 low TNSU growth scenario.</p> <p>Terminal costs In nominal terms, the actual terminal costs are +8.3% (+0.9 MBGN) higher than planned. However, since the actual inflation index is significantly lower than planned (-8.1 p.p.) the actual terminal costs are +16.5% higher than planned (+1.6 MBGN2009 or +0.8 M€2009) when expressed in real terms. The higher than planned terminal costs, in real terms, are mainly driven by higher costs for BULATSA (+16.5%, or +0.8 M€2009) and, to a lesser extent, the NSA (+15.6%, or +0.01 M€2009). A detailed analysis at ATSP level is provided in box 12. Costs exempt from cost-sharing for Bulgaria TCZ are reported for an amount of -0.03 M€2009 (-0.06 MBGN2009) related to the unforeseen changes in the national taxation law. These costs will be eligible for carry-over (reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.</p>					

BULGARIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) **5. Terminal costs monitoring (2017 actuals compared to PP)**

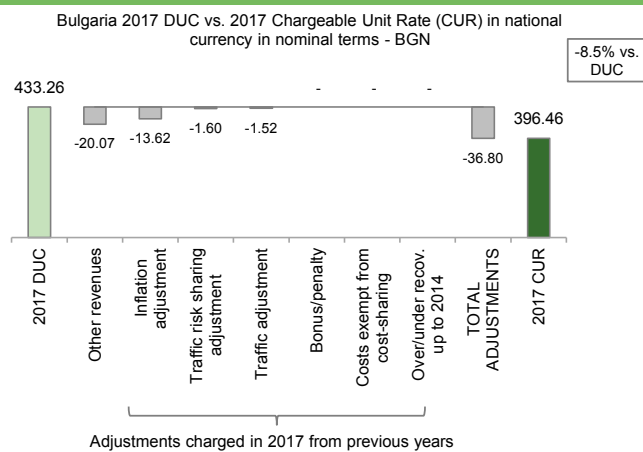


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	-7	-20	-32		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	-7	-20	-32		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		-7	-20	-32		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

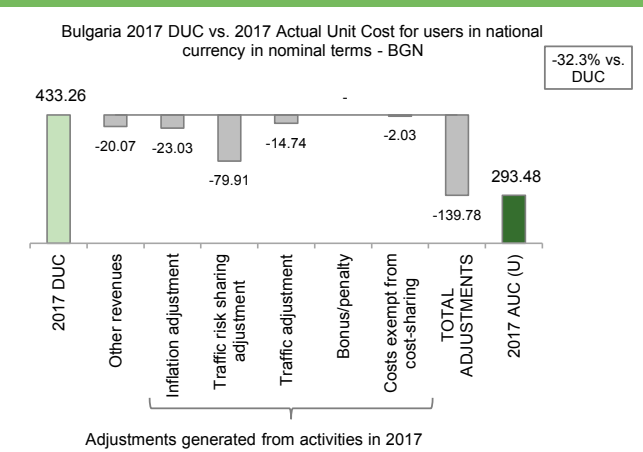
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The terminal unit rate charged to airspace users (CUR) in 2017 is 396.46 BGN. This is -8.5% lower than the nominal DUC (433.26 BGN). The difference between these two figures (-36.80 BGN) mainly relates to adjustment for other revenues (-20.07 BGN) which, according to the additional information to the June 2018 terminal Reporting Tables, derive from "financial income, provision of services to third parties, sale of assets, etc." and the inflation adjustment (-13.62 BGN), reflecting the impact of much lower than planned inflation index in 2015.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the RP2 performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual terminal unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (293.48 BGN) is -32.3% lower than the nominal DUC (433.26 BGN). The most important factors contributing to the observed difference (-139.78 BGN) are: other revenues (-20.07 BGN) (see box 7 above for details), the inflation adjustment (-23.03 BGN) and the traffic risk-sharing adjustment (-79.91 BGN). The inflation adjustment corresponds to the impact of a lower than planned inflation index for the year 2017 while the traffic risk-sharing adjustment reflects the impact of significantly higher than planned TNSUs in 2017. Both adjustments will be carried over to reduce costs charged to airspace users in 2019.

These costs and adjustments (**for other revenues see Reader's Guide**) are divided by the **actual** TNSUs in 2017.

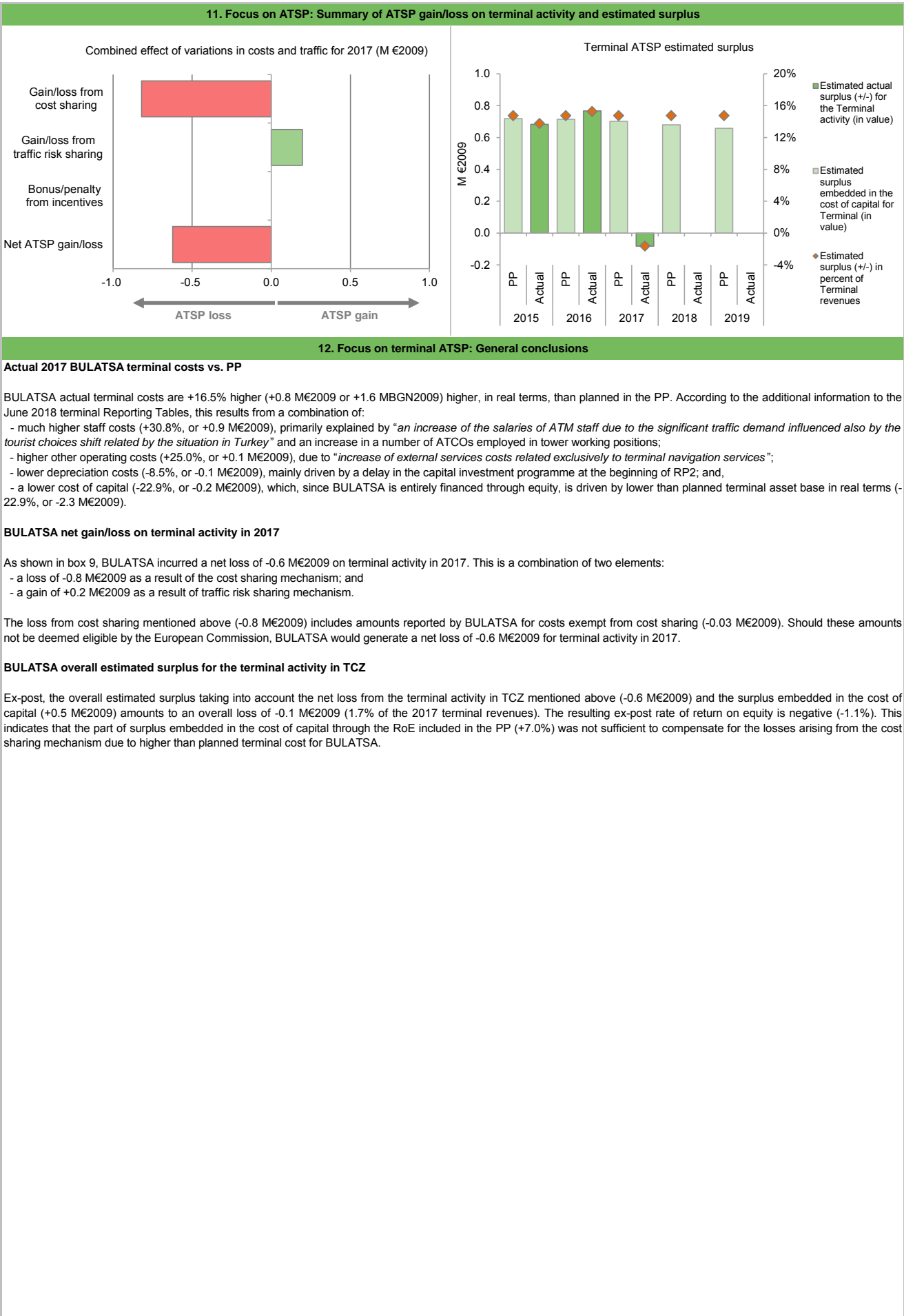
BULGARIA: Terminal ATSP (BULATSA)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	4 876	4 848	4 771		
Actual costs for the ATSP	4 943	4 896	5 559		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-67	-48	-788		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-7	-20	-32		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-74	-68	-820		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	2.6%	18.8%	32.8%		
Determined costs for the ATSP (PP) - based on actual inflation	4 390	4 500	4 473		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	96	198	197		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	22	130	-624		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	10 260	10 200	10 038	9 715	9 393
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	10 260	10 200	10 038	9 715	9 393
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	718	714	703	680	658
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	7.0%	7.0%	7.0%	7.0%	7.0%
Estimated surplus embedded in the cost of capital for terminal (in value)	718	714	703	680	658
Overall estimated surplus (+/-) for the terminal activity	718	714	703	680	658
Revenue/costs for the terminal activity	4 876	4 848	4 771	4 617	4 464
Estimated surplus (+/-) in percent of terminal revenues	14.7%	14.7%	14.7%	14.7%	14.7%
Estimated ex-ante RoE pre-tax rate (in %)	7.0%	7.0%	7.0%	7.0%	7.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	9 439	9 093	7 742		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	9 439	9 093	7 742		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	661	637	542		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	7.0%	7.0%	7.0%		
Estimated surplus embedded in the cost of capital for terminal (in value)	661	637	542		
Net ATSP gain(+)/loss(-) on terminal activity	22	130	-624		
Overall estimated surplus (+/-) for the terminal activity	683	767	-82		
Revenue/costs for the terminal activity	4 966	5 026	4 935		
Estimated surplus (+/-) in percent of terminal revenues	13.8%	15.3%	-1.7%		
Estimated ex-post RoE pre-tax rate (in %)	7.2%	8.4%	-1.1%		

BULGARIA: Terminal ATSP (BULATSA)

Monitoring of terminal COST-EFFICIENCY for 2017



BULGARIA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Bulgaria: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	77 479 163	78 872 387	104 973 269	107 952 869	108 556 567																																							
Real terminal costs (EUR2009)	4 920 191	4 895 223	4 821 251	4 670 345	4 520 700																																							
Real gate-to-gate costs (EUR2009)	82 399 354	83 767 610	109 794 520	112 623 214	113 077 266																																							
En-route share (%)	94.0%	94.2%	95.6%	95.9%	96.0%																																							
Bulgaria: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	83 450 775	87 022 751	93 586 339																																									
Real terminal costs (EUR2009)	4 985 386	4 938 102	5 617 352																																									
Real gate-to-gate costs (EUR2009)	88 436 161	91 960 853	99 203 691																																									
En-route share (%)	94.4%	94.6%	94.3%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	6 036 807	8 193 243	-10 590 829																																									
in %	7.3%	9.8%	-9.6%																																									
En-route share																																												
in p.p.	0.3 p.p.	0.5 p.p.	-1.3 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs in real terms are -9.6% (-10.6 M€2009) lower than planned, which is primarily driven by lower than planned en-route costs (-10.8%, or -11.4 M€2009), while terminal costs are higher than planned (+16.5%, or +0.8 M€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (94.3%) is slightly lower than that planned in the PP for 2017 (95.6%).</p> <p>For BULATSA, the estimated gate-to-gate economic surplus in 2017 amounts to 22.3 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 21.1% of gate-to-gate ANS revenues.</p>																																												
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>94.0%</td> <td>6.0%</td> </tr> <tr> <td>Actual</td> <td>94.4%</td> <td>5.6%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>94.2%</td> <td>5.8%</td> </tr> <tr> <td>Actual</td> <td>94.6%</td> <td>5.4%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>95.6%</td> <td>4.4%</td> </tr> <tr> <td>Actual</td> <td>94.3%</td> <td>5.7%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>95.9%</td> <td>4.1%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>96.0%</td> <td>4.0%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	94.0%	6.0%	Actual	94.4%	5.6%	2016	Determined	94.2%	5.8%	Actual	94.6%	5.4%	2017	Determined	95.6%	4.4%	Actual	94.3%	5.7%	2018	Determined	95.9%	4.1%	Actual			2019	Determined	96.0%	4.0%	Actual		
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	94.0%	6.0%																																									
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2017	Determined	95.6%	4.4%																																									
	Actual	94.3%	5.7%																																									
2018	Determined	95.9%	4.1%																																									
	Actual																																											
2019	Determined	96.0%	4.0%																																									
	Actual																																											
3. Technical notes on en-route and terminal information reported by Bulgaria																																												
<p>Note 1: Bulgaria has revised their RP2 en-route cost-efficiency targets for the years 2017 to 2019. The figures shown in this report reflect: i) the <u>initial adopted</u> Performance Plan (EC Decision 2015/348 of 2 March 2015) for the years 2015 and 2016; and ii) the <u>revised</u> Performance Plan (EC Decision 2017/2376 of 15 December 2017) for the years 2017 to 2019.</p> <p>It should be noted that the revision only refers to en-route DUC for the years 2017-2019 and does not affect the terminal DUC for the Bulgarian terminal charging zone.</p> <p>Note 2: A bonus of 34 782 BGN for achieving the local en-route capacity target in 2017 is reported for BULATSA in the 2017 DANUBE FAB monitoring report. It is noted, that this amount is not recorded in the June 2018 submission of the en-route Reporting Tables, since, according to the additional information to the en-route Reporting Tables:</p> <p><i>"Further to that and to the 2015 PRB Annual monitoring report, BULATSA should receive a bonus of BGN 19,339. The calculations for 2016 also show a bonus achieved to the amount of BGN 17,813. However, in previous statements made by Bulgaria, such bonuses will be rewarded after consultations with the airspace users. In view of that and taking into account the EC letter dated 25 October 2016, ref. MOVE/E3/AZ-hb Ares (2016) 6621262, Bulgaria would prefer to award the said bonus, after the FAB en-route capacity incentive schemes are brought in line with article 12 of the performance regulation and article 15 of the charging regulation. Subsequently the bonus for 2015 and 2016 will be consulted and forwarded to next years from the reference period and would be subject to the fulfilment of the statement of the EC letter. The same is to be done for 2017."</i></p> <p>With respect to the bonus for 2015, it should be noted that an amount of 38 678 BGN was recorded in the DANUBE FAB 2015 Monitoring Report. However, this is different from the amount reported in the additional information to the June 2018 en-route Reporting Tables (see extract above).</p> <p>For the purpose of consistency, the above mentioned bonuses stemming from the en-route capacity incentive scheme of 19 339 BGN for 2015, 17 813 BGN for 2017 and 34 782 BGN for 2018 are included in this en-route cost-efficiency monitoring analysis. In particular, this affects the values presented in box 8 for 2017 actual unit cost incurred by the users, box 9 for ATSP gain/loss on en-route activity and box 10 for en-route ATSP estimated surplus.</p>																																												

BULGARIA

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: BULATSA						
FAB: DANUBE FAB						
Currency: BGN						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	27.2	51.0	24.9	39.6	32.8	175.5
Main CAPEX (in nominal M)	25.7	39.7	12.5	26.7	24.7	129.2
Inflation %	0.9%	1.8%	1.1%	1.2%	1.4%	
Inflation index (100 in 2009)	110.1	112.1	106.9	108.1	109.7	
Exchange rate 2009	1.9553	1.9553	1.9553	1.9553	1.9553	
Total CAPEX (in M €2009)	12.6	23.3	11.9	18.7	15.3	81.9
Main CAPEX (in M €2009)	11.9	18.1	6.0	12.6	11.5	60.2
% Main of Total CAPEX	94.2%	77.8%	50.3%	67.3%	75.3%	73.5%
Real gate-to-gate ANSP costs (in M €2009)	77.3	78.5	104.0	106.7	107.1	473.6
Total CAPEX as % of Real gate-to-gate ANSP costs	16.4%	29.7%	11.4%	17.6%	14.3%	17.3%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	27.5	32.4	23.7			
Main CAPEX (in nominal M)	21.4	22.9	14.6			
Inflation %	-1.1%	-1.3%	1.2%			
Inflation index (100 in 2009)	106.6	105.2	106.4			
Exchange rate 2009	1.9553	1.9553	1.9553			
Total CAPEX (in M €2009)	13.2	15.8	11.4			
Main CAPEX (in M €2009)	10.3	11.1	7.0			
% Main of Total CAPEX	77.7%	70.6%	61.6%			
Real gate-to-gate ANSP costs (in M €2009)	84.2	86.9	93.8			
Total CAPEX as % of Real gate-to-gate ANSP costs	15.7%	18.1%	12.2%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	0.3	-18.6	-1.1			
Total CAPEX (in M €2009)	0.6	-7.5	-0.5			
Total CAPEX (in %, M €2009)	4.5%	-32.3%	-4.1%			

Year	Planned CAPEX	Actual CAPEX	Change (%)
2015	12.6	13.2	4.5%
2016	23.3	15.8	-32.3%
2017	11.9	11.4	-4.1%
2018	18.7	18.7	0%
2019	15.3	15.3	0%

Note: Planned and actual inflation indices used to calculate CAPEX in real terms above, are based on the en-route Reporting Tables. Following the revision of RP2 Performance Plan these data differ from terminal Reporting Tables for the years 2017-2019. For this reason, two separate inflation indices are used to calculate the gate-to-gate ANSP costs in real terms.

Annual Monitoring Report 2017
Local level view
Romania

ROMANIA

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	56	B	C	C	B	B
ROMATSA	84	D	D	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	N/A	N/A				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	CIAS					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	9	0				
Legal/Judiciary	3	4				
Occurrence reporting and Investigation	2	0				
TOTAL	14	4				
ROMATSA	Number of questions answered					
	YES	NO				
Policy and its implementation	11	2				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	6	2				
TOTAL	19	5				
Observations						
Two out of the four reviewed EoS M Components/areas of the State meet the 2019 EoS M target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.						
Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only three are below Level C.						

ROMANIA

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

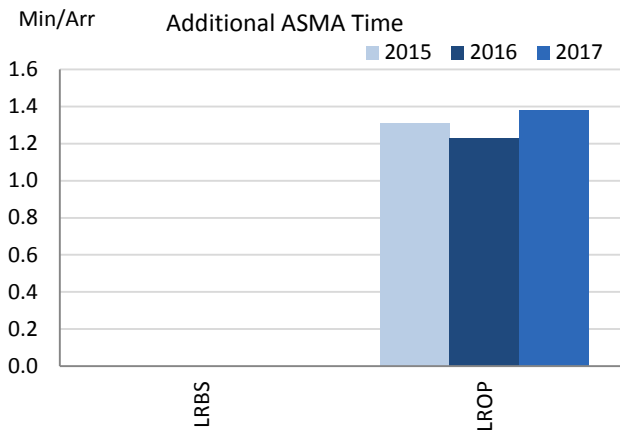
Romania, as a member of the Danube FAB, has identified two airports as subject to RP2 monitoring. However currently the only available data concerning environment indicators are the ASMA times for Bucharest/Otopeni.

Member States shall empower the respective airport reporting entity to establish the Airport Operator Data Flow and/or address the remaining data issues.

2. Additional Taxi-Out Time

The additional taxi-out time indicator cannot be monitored at LRBS at the time being due to the lack of data. Submitted data for the monitoring of LROP does not allow for the taxi times calculation due to data quality issues.

3. Additional ASMA Time



The average additional ASMA times at Otopeni airport has gone up to 1.38 min/arr. in 2017. The increase is mainly noticed during the summer months. This performance is commensurate with the level of traffic

4. Appendix

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

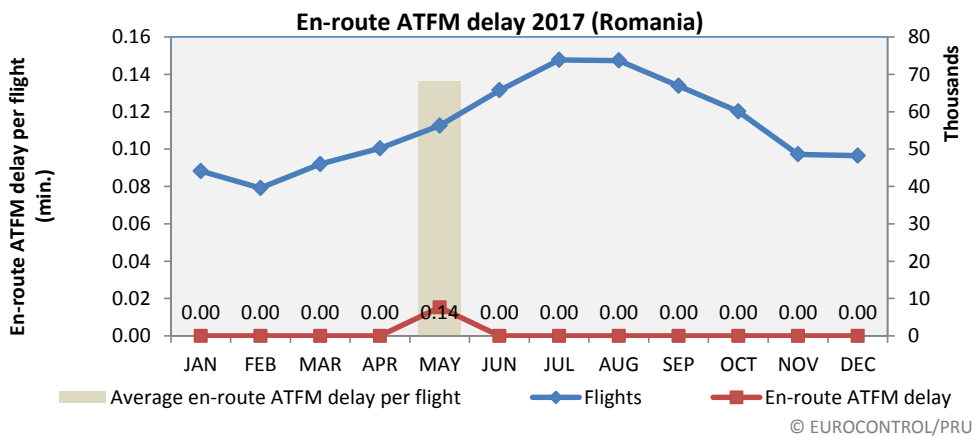
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bucharest/ Băneasa	LRBS	n/a	n/a	n/a			n/a	n/a	n/a		
Bucharest/ Otopeni	LROP	n/a	n/a	n/a			1.31	1.23	1.38		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.00	0.00	0.00	0.00	0.00	Romania's incentive scheme does not include bonuses, only penalties if the performance targets are missed.
Deadband +/-	0.05	0.05	0.05	0.05	0.05	
Actual performance	0.03	0.00	0.01			

National capacity incentive scheme

Romania did not achieve the national target for en-route capacity performance in 2017 of 0.00 minutes of en-route delay due to delays attributed to ATC disruption in May 2017. However, Romania's national en-route performance remained within the deadband of 0.05 minutes, therefore no penalties are due.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Romania)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.01

Romania provided excellent en-route capacity performance in 2017 with an average delay of 0.01 minutes per flight, resulting primarily from a spell of ATC disruption in May 2017. Traffic levels rose again by 8% following a drop in 2016. Romania has been handling higher levels of traffic than forecast in the high traffic scenario from the STATFOR forecast that was available when the FAB performance plans and associated capacity plans were being drawn up for RP2. In the latest version of the Network Operations Plan (NOP 2018-2022) the Network Manager predicts that no capacity problems will arise in Romania for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Romania									
	2014	2015	2016	2017	2018	2019			
		actual	actual	actual	actual				
High	542		574	607	641	672	710		
Base	535	598	559	582	605	624	652		
Low	527		544	556	568	581	597		

Planning and Effective Use of CDRs

Romania did not provide any data on this indicator

Observations on Planning and Effective Use of CDRs

It is noted that Romania, like many other States, is unable to monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
68%	70%	84%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
13%	4%	4%		

Procedure 3 is not applicable within the State.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

ROMANIA

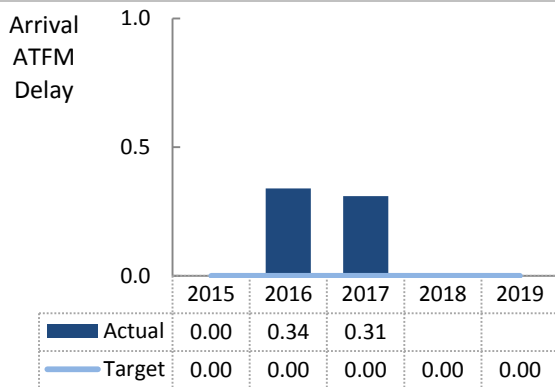
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

In Romania, ANS at Bucharest/Baneasa (LRBS) and Bucharest/Otopeni (LROP) are subject to RP2 monitoring. Romania has established a constant national target on arrival ATFM delay across the whole reference period (0.00 min/arr.) In 2017, in line with the performance of 2016, the achieved arrival ATFM delay exceeds considerably the target but no associated financial penalty is applied.

Slot adherence at Romanian airports remain above 90%. Monitoring of pre-departure delay in 2017 is not possible due to the absence of data (LRBS) or data quality issues (LROP). The Airport Operator Data Flow is not yet established for LRBS.

2. Arrival ATFM Delay



Bucharest/Otopeni is the main driver of Romanian performance. After the significant increase in 2016 of arrival ATFM delay (LROP: 2015: 0.00 min/arr. vs 2016: 0.35 min/arr.), in 2017 the level of delays has not changed (0.32 min/arr.).

The majority of this arrival ATFM delay at LROP was accrued during July and October 2017 (JUL: 1.06 min/arr. and OCT: 0.76 min/arr.).

The current national average for arrival ATFM delay ranges with 0.31 min/arr., well above the established target of 0.00 min/arr.

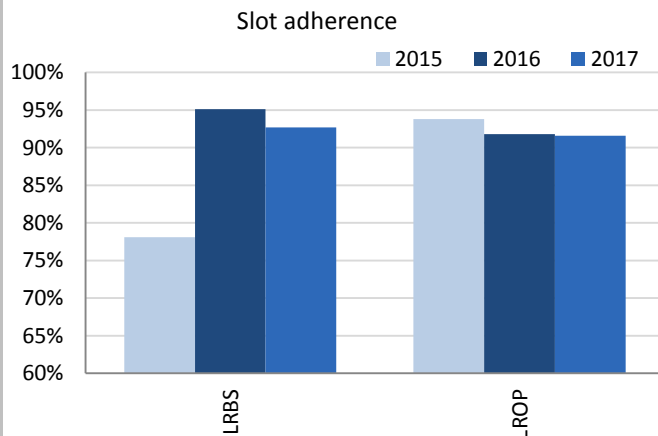
DANUBE FAB explains in its monitoring report that the terminal target was not met in 2017 due to infrastructure issues at LROP (maintenance works at runways, taxiways and aprons) followed by traffic regularisation actions, by case. Corrective measures have been applied: Romanian CAA has restricted the operation of the A/C with superior code letter (B747) on the airport.

3. Arrival ATFM Delay – National Target and Incentive Scheme

Romania has established a national target on arrival ATFM delay.

The DANUBE FAB PP presents an incentive scheme based on CRSTMP reasons. Although the achieved performance (all reasons) (2017: 0.31 min/arr.) does not meet the target (i.e. 0.00 min/arr.), the actual value associated to CRSTMP reasons only falls within the deadband of the incentive scheme.

4. ATFM Slot Adherence



The compliance with ATFM slots in Romania sits above 90%.

After the significant improvement at Bucharest/Baneasa in 2016 (LRBS, 2015: 78.1% vs 2016: 95.1%), a slight deterioration is observed in 2017 (92.7%).

The compliance at Bucharest/Otopeni (LROP) is similar to 2016 (LROP, 2016: 91.8% vs 2016: 91.6%).

5. Pre-departure Delay

The ATC pre-departure delay indicator is based exclusively on data reported by the airports through the Airport Operator Data Flow and is only calculated provided a minimum data quality. In the case of LROP the share of unexplained delay is above the acceptable limit and it does not allow the calculation of the indicator.

The reporting in the first months of 2018 shows an improvement in the data quality and it should be monitored.

6. Appendix

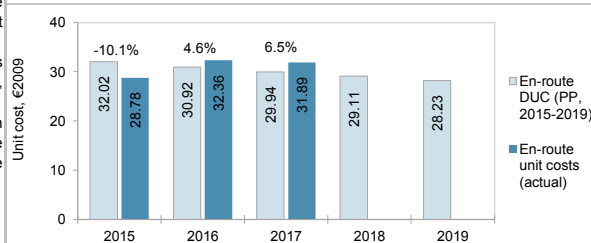
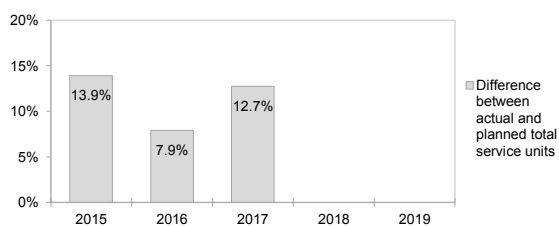
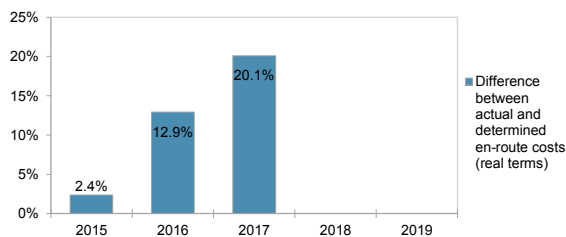
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bucharest/ Băneasa	LRBS	0.00	0.00	0.00			78.1%	95.1%	92.7%			n/a	n/a	n/a		
Bucharest/ Otopeni	LROP	0.00	0.35	0.32			93.8%	91.8%	91.6%			n/a	n/a	n/a		

ROMANIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

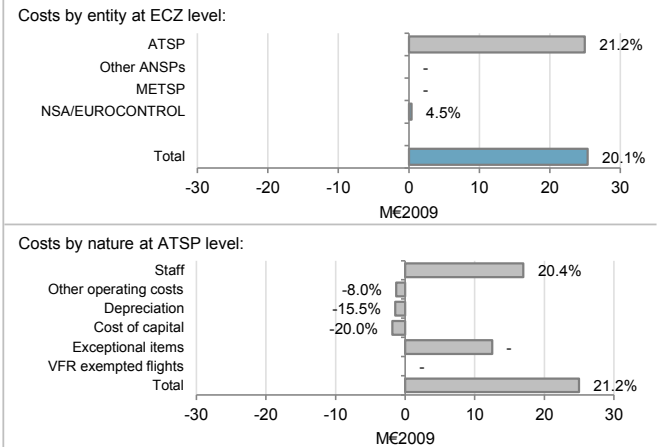
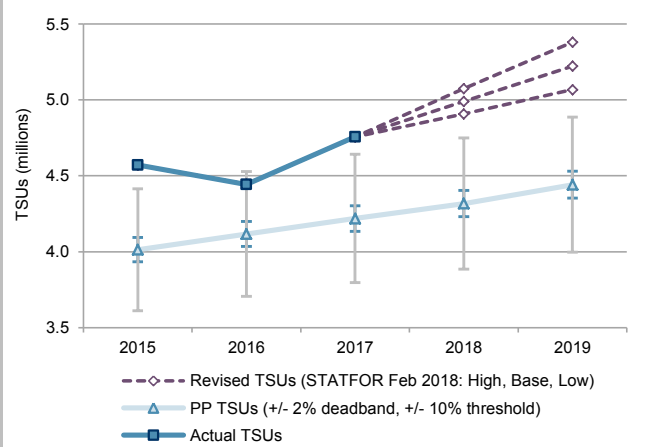
1. Contextual economic information: en-route air navigation services						
· Romania ECZ represents 2.1% of the SES en-route ANS determined costs in 2017						
· ATSP: ROMATSA						
· FAB: DANUBE FAB						
· National currency: RON Exchange rate 2009: 1 EUR = 4.23303 RON						
2. En-route DUC monitoring at Charging Zone level						
Romania: Data from RP2 Performance Plan	(*See Note 1)	2015D	2016D	2017D	2018D	2019D
En-route costs (nominal RON)		690 507 397	704 650 329	718 659 958	735 119 853	753 216 461
Inflation %		3.1%	3.0%	2.8%	2.8%	2.7%
Inflation index (100 in 2009)		126.9	130.7	134.4	138.2	141.9
Real en-route costs (RON2009)		543 963 841	538 937 162	534 681 066	532 030 334	530 795 951
Total en-route Service Units		4 012 887	4 117 019	4 219 063	4 317 155	4 441 542
Real en-route unit cost per Service Unit (RON2009)		135.55	130.90	126.73	123.24	119.51
Real en-route unit cost per Service Unit (EUR2009)		32.02	30.92	29.94	29.11	28.23
Romania: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal RON)		673 646 297	728 174 165	776 680 739		
Inflation %		-0.4%	-1.1%	1.1%		
Inflation index (100 in 2009)		121.0	119.6	121.0		
Real en-route costs (RON2009)		556 843 745	608 611 836	642 090 888		
Total en-route Service Units		4 570 684	4 442 936	4 756 852		
Real en-route unit cost per Service Unit (RON2009)		121.83	136.98	134.98		
Real en-route unit cost per Service Unit (EUR2009)		28.78	32.36	31.89		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal RON)	in value	-16 861 100	23 523 837	58 020 780		
	in %	-2.4%	3.3%	8.1%		
Inflation %	in p.p.	-3.5 p.p.	-4.1 p.p.	-1.7 p.p.		
	in p.p.	-6.0 p.p.	-11.1 p.p.	-13.4 p.p.		
Real en-route costs (RON2009)	in value	12 879 904	69 674 674	107 409 822		
	in %	2.4%	12.9%	20.1%		
Total en-route Service Units	in value	557 797	325 917	537 789		
	in %	13.9%	7.9%	12.7%		
Real en-route unit cost per Service Unit (RON2009)	in value	-13.72	6.08	8.25		
	in %	-10.1%	4.6%	6.5%		
Real en-route unit cost per Service Unit (EUR2009)	in value	-3.24	1.44	1.95		
	in %	-10.1%	4.6%	6.5%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (134.98 RON2009 or 31.89 €2009) is +6.5% higher than planned in the PP (126.73 RON2009 or 29.94 €2009). The difference results from the combination of higher than planned TSUs (+12.7%) and significantly higher than planned en-route costs in real terms (+20.1%, or +107.4 MRON2009).						
No specific corrective measures are reported in the DANUBE FAB Monitoring Report for 2017. However, it is indicated that "Romania registered significant deviations from the inflation assumptions included in the Performance Plan [...]. These deviations have contributed to the deterioration of inflation index and consequently the actual cost expressed in real terms artificially increased by 20.1%. Considering that the actual cost in 2017 would have been the same as the planned cost in the approved PP RP2, the effect of inflation index on cost expressed in real terms would lead to an artificial 11.1% cost increase". See also Note 1 at the end of this Report.						
En-route service units						
The difference between actual and planned TSUs (+12.7%) exceed the +10% threshold foreseen in the traffic risk sharing mechanism. The resulting additional en-route revenues are therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +5.4 M€2009.						
Based on the STATFOR February 2018 TSU growth scenarios, the actual en-route TSUs for Romania are expected to remain above the +10% threshold for the rest of RP2. The TSUs selected in the PP are based on STATFOR February 2014 low TSU growth scenario for all years of RP2.						
En-route costs						
In nominal terms, actual en-route costs are +8.1% (+58.0 MRON) higher than planned. However, since the actual inflation index is significantly lower than planned (-13.4 p.p.), actual en-route costs result +20.1% (+107.4 MRON2009 or +25.4 M€2009) higher than the plan when expressed in real terms.						
The higher than planned en-route costs, in real terms, are primarily driven by significantly higher costs for ROMATSA (+21.2%, or +25.0 M€2009) and by higher costs for the NSA/EUROCONTROL (+4.5%, or +0.4 M€2009). A detailed analysis at ATSP level is provided in box 12.						
Costs exempt from cost sharing are reported for a total amount of +6.2 M€2009 (+31.6 MRON in nominal terms) comprising +6.7 M€2009 relating to pension costs and -0.5 M€2009 relating to the variation in EUROCONTROL costs. These costs will be eligible for carry-over (charged to airspace users) to the following reference period(s), if deemed allowed by the European Commission.						



ROMANIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) 5. En-route costs monitoring (2017 actuals compared to PP)

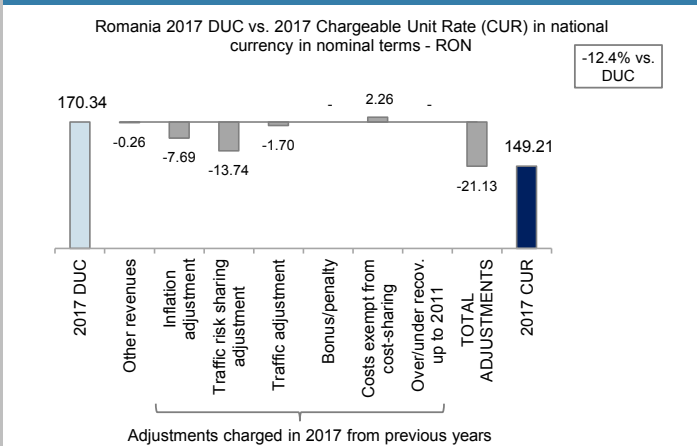


6. En-route costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	438	6 653		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	27	128	-489		
by entity	ATSP	0	438	6 653		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA/EUROCONTROL	27	128	-489		
Total costs exempt from cost sharing		27	566	6 164		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

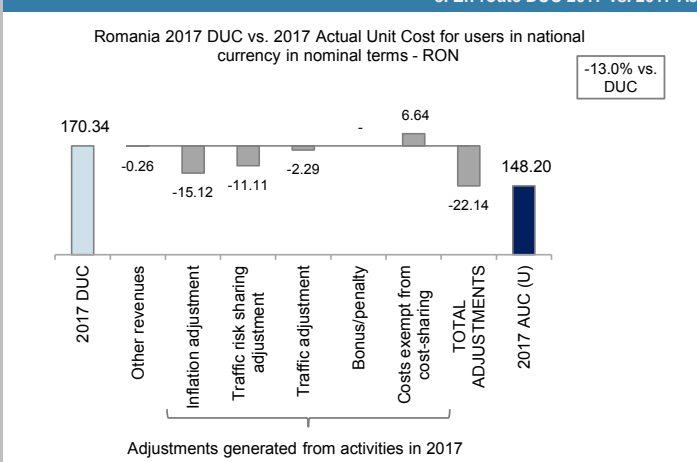
7. En-route DUC 2017 vs. 2017 Unit Rate charged to users



The en-route unit rate charged to airspace users (CUR) in 2017 is 149.21 RON. This is -12.4% lower than the nominal DUC (170.34 RON). The difference between these two figures (-21.13 RON) mainly reflect the inflation adjustment (-7.69 RON), which reflects the impact of lower than planned inflation index for the year 2015, and traffic risk sharing adjustment (-13.74 RON) which reflects the impact of higher than planned TSUs for the year 2015. These are slightly balanced by an adjustment (+2.26 RON) related to cost exempt from cost sharing stemming from RP1.

These costs and adjustments are divided by the forecast TSUs for 2017 as laid out in the performance plan.

8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users



The actual en-route unit cost incurred by airspace users (AUC-U) in respect of activities in 2017 (148.20 RON) is -13.0% lower than the nominal DUC (170.34 RON). The most important factors contributing to this difference (-22.14 RON) are: the inflation adjustment (-15.12 RON), which reflects the impact of significantly lower than planned inflation index in 2017 and traffic risk sharing adjustment (-11.11 RON), reflecting the impact of significantly higher than planned TSUs in 2017. These over-recoveries will be carried-over to reduce the costs charged to airspace users in 2019. This is slightly balanced by and adjustment for costs exempt from cost sharing of +6.64 RON (see box 3 for details).

These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TSUs in 2017.

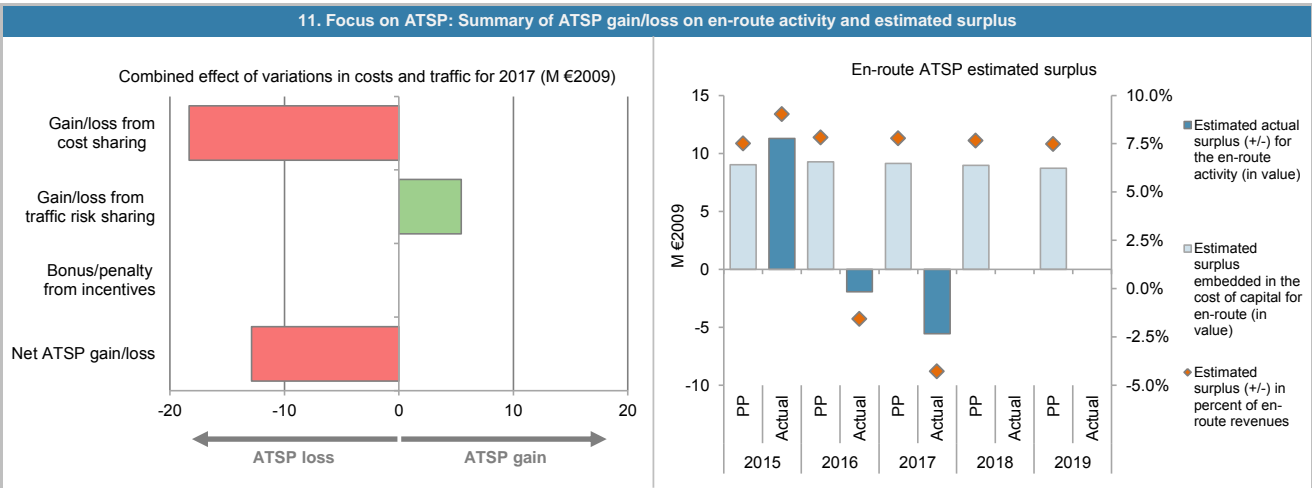
ROMANIA: En-route ATSP (ROMATSA)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	119 885	118 602	117 543		
Actual costs for the ATSP	122 482	134 180	142 518		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-2 597	-15 579	-24 975		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	438	6 653		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-2 597	-15 140	-18 323		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	13.9%	7.9%	12.7%		
Determined costs for the ATSP (PP) - based on actual inflation	119 127	122 737	123 687		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	5 242	4 633	5 442		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	2 644	-10 507	-12 881		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	136 694	137 931	134 442	130 613	126 103
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	136 694	137 931	134 442	130 613	126 103
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	9 008	9 275	9 140	8 960	8 714
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	6.6%	6.7%	6.8%	6.9%	6.9%
Estimated surplus embedded in the cost of capital for en-route (in value)	9 008	9 275	9 140	8 960	8 714
Overall estimated surplus (+/-) for the en-route activity	9 008	9 275	9 140	8 960	8 714
Revenue/costs for the en-route activity	119 885	118 602	117 543	116 890	116 563
Estimated surplus (+/-) in percent of en-route revenues	7.5%	7.8%	7.8%	7.7%	7.5%
Estimated ex-ante RoE pre-tax rate (in %)	6.6%	6.7%	6.8%	6.9%	6.9%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	131 269	127 296	107 592		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	131 269	127 296	107 592		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	8 651	8 560	7 315		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	6.6%	6.7%	6.8%		
Estimated surplus embedded in the cost of capital for en-route (in value)	8 650	8 560	7 315		
Net ATSP gain(+)/loss(-) on en-route activity	2 644	-10 507	-12 881		
Overall estimated surplus (+/-) for the en-route activity	11 294	-1 947	-5 566		
Revenue/costs for the en-route activity	125 126	123 673	129 638		
Estimated surplus (+/-) in percent of en-route revenues	9.0%	-1.6%	-4.3%		
Estimated ex-post RoE pre-tax rate (in %)	8.6%	-1.5%	-5.2%		

ROMANIA: En-route ATSP (ROMATSA)

Monitoring of en-route COST-EFFICIENCY for 2017



12. Focus on en-route ATSP: General conclusions

Actual 2017 ROMATSA en-route costs vs. PP

In 2017, ROMATSA actual en-route costs in real terms are +21.2% (+25.0 M€2009) higher than planned. This results from the combination of:

- significantly higher staff costs (+20.4%, or +17.0 M€2009);
- lower other operating costs (-8.0%, or -1.3 M€2009);
- lower depreciation costs (-15.5%, or -1.4 M€2009);
- a lower cost of capital (-20.0%, or -1.8 M€2009), which, since ROMATSA is financed entirely through equity, results from lower than planned en-route asset base in real terms (-20.0%, or -26.8 M€2009); and,
- exceptional item costs (12.5 M€2009 in real or 64.0 MRON in nominal terms), which were not foreseen in the RP2 PP.

No drivers underlying the deviation of 2017 actual costs outlined above are provided in the additional information to June 2018 en-route Reporting Tables or in the DANUBE FAB 2017 Monitoring Report. Similarly, no information provided on the nature of the actual exceptional costs (64.0 MRON). It is noted, that these costs were reported to result from "increase in the provisions for employee benefits" in the additional information to the 2016 June and November en-route Reporting Tables referring to the actual data for the year 2015.

ROMATSA net gain/loss on en-route activity in 2017

As shown in box 9, ROMATSA generated a net loss of -12.9 M€2009 on the en-route activity. This is a combination of two elements:

- a loss of -18.3 M€2009 arising from the cost sharing mechanism; and,
- a gain of +5.4 M€2009 arising from the traffic risk sharing mechanism.

The loss from cost sharing mentioned above (-18.3 M€2009) includes amounts reported by ROMATSA for costs exempt from cost sharing (+6.7 M€2009). Should these costs not be deemed eligible by the European Commission, ROMATSA would incur a net loss of -19.5 M€2009 for the en-route activity in 2017.

ROMATSA overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net loss from the en-route activity mentioned above (-12.9 M€2009) and the surplus embedded in the actual cost of capital (+7.3 M€2009) amounts to an overall loss of -5.6 M€2009 (4.3% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is negative (5.2%). This indicates that the part of surplus embedded in the cost of capital through the RoE included in the PP (+6.8%) was not sufficient to compensate for the losses arising from the cost sharing mechanism due to higher than planned en-route costs for ROMATSA. It is noted that this is the second consecutive year in which ROMATSA realised a negative estimated surplus, after the -1.9 M€2009 recorded in 2016.

ROMANIA: Terminal charging zone

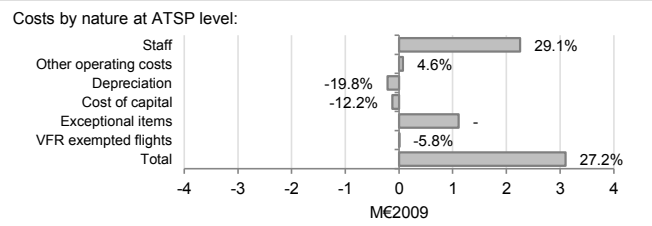
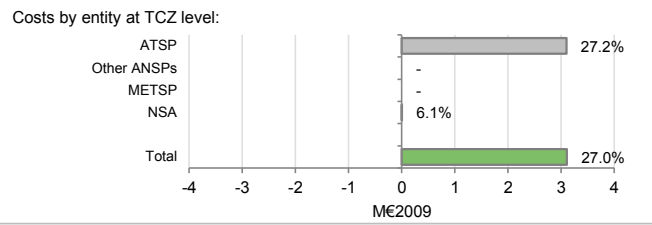
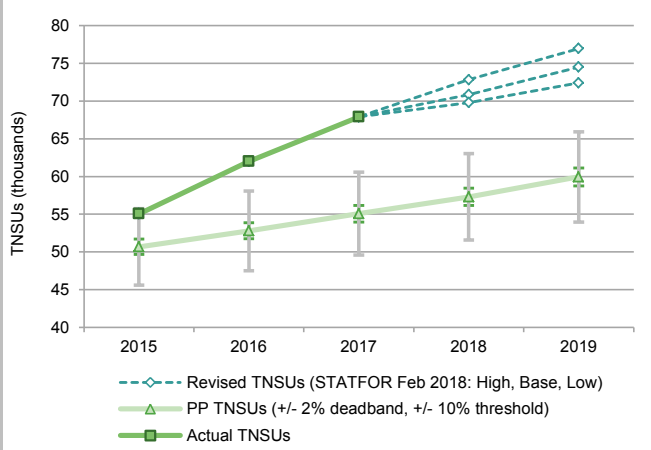
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services						
· Romania TCZ represents 1.1% of the SES terminal ANS determined costs in 2017					· Is this TCZ applying traffic risk sharing?	No
· ATSP: ROMATSA					· Airports with fewer than 70,000 IFRs ATMs:	1
· National currency: RON					· Airports with between 70,000 and 225,000 IFRs ATMs:	1
· Number of airports in charging zone in 2017: 2,	of which:				· Airports with more than 225,000 IFRs ATMs:	0
2. Terminal DUC monitoring at Charging Zone level						
Romania: Data from RP2 Performance Plan	2015D	2016D	2017D	2018D	2019D	
Terminal costs (nominal RON)	57 805 814	61 551 138	65 441 925	67 976 072	69 682 160	
Inflation %	3.1%	3.0%	2.8%	2.8%	2.7%	
Inflation index (100 in 2009)	126.9	130.7	134.4	138.2	141.9	
Real terminal costs (RON2009)	45 537 923	47 076 109	48 688 615	49 196 511	49 105 417	
Total terminal Service Units	50 670	52 793	55 069	57 299	59 938	
Real terminal unit cost per Service Unit (RON2009)	898.72	891.71	884.14	858.60	819.28	
Real terminal unit cost per Service Unit (EUR2009)	212.31	210.66	208.87	202.83	193.54	
Romania: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
Terminal costs (nominal RON)	61 953 225	71 379 012	74 801 753			
Inflation %	-0.4%	-1.1%	1.1%			
Inflation index (100 in 2009)	121.0	119.6	121.0			
Real terminal costs (RON2009)	51 211 245	59 658 958	61 839 469			
Total terminal Service Units	55 050	62 012	67 912			
Real terminal unit cost per Service Unit (RON2009)	930.27	962.05	910.58			
Real terminal unit cost per Service Unit (EUR2009)	219.77	227.27	215.11			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
Terminal costs (nominal RON)	4 147 411	9 827 874	9 359 829			
	in %	7.2%	16.0%	14.3%		
Inflation %	-3.5 p.p.	-4.1 p.p.	-1.7 p.p.			
Inflation index (100 in 2009)	-6.0 p.p.	-11.1 p.p.	-13.4 p.p.			
Real terminal costs (RON2009)	5 673 322	12 582 849	13 150 854			
	in %	12.5%	26.7%	27.0%		
Total terminal Service Units	4 380	9 219	12 843			
	in %	8.6%	17.5%	23.3%		
Real terminal unit cost per Service Unit (RON2009)	31.55	70.34	26.44			
	in %	3.5%	7.9%	3.0%		
Real terminal unit cost per Service Unit (EUR2009)	7.45	16.62	6.25			
	in %	3.5%	7.9%	3.0%		
3. Focus on terminal at State/Charging Zone level						
<p>This analysis focuses on Romanian Terminal Charging Zone (TCZ) comprising Bucuresti / Henri Coanda (LROP) and Bucuresti / Baneasa-Aurel Vlaicu (LRBS) airports.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (910.58 RON2009 or 215.11 €2009) is +3.0% higher than planned in the PP (884.14 RON2009 or 208.87 €2009). This difference results from significantly higher than planned TNSUs (+23.3%), which were more than compensated by +27.0%, higher than planned terminal costs in real terms (+13.2 MRON2009 or +3.1 M€2009).</p> <p>No specific corrective measures are reported in the DANBUBE FAB Monitoring Report for 2017. However, it is indicated that "Romania registered significant deviations from the inflation assumptions included in the Performance Plan [...]. These deviations have contributed to the deterioration of inflation index and consequently the actual cost expressed in real terms artificially increased by 25.7%". See also Note 1 at the end of this Report.</p> <p>Terminal service units The traffic risk sharing mechanism does not apply to Romania TCZ. The difference between actual and planned TNSUs (+23.3%) generates a gain of terminal revenues (+11.2 MRON2009) which will be carried-over and reimbursed to the airspace users in 2019. Based on the STATFOR February 2018 TNSU growth scenarios, actual TNSUs are expected to significantly exceed the TNSUs planned in the PP for Romania TCZ for the remainder of RP2 (2018-2019). It should be noted that the forecast TNSUs selected in the adopted RP2 PP were in line with the STATFOR February 2014 <u>base</u> case TNSU growth scenario.</p> <p>Terminal costs In nominal terms, the actual terminal costs are +14.3% (+9.4 MRON) higher than planned. However, since the actual inflation index is significantly lower than planned (-13.4 p.p.), actual en-route costs are +27.0% (+13.2 MRON2009 or +3.1 M€2009) above plans when expressed in real terms.</p> <p>The deviation between 2017 actual and planned terminal costs in real terms mainly reflects the deviation for ROMATSA (+27.2%, or +3.1 M€2009), while the difference in NSA costs, has a relatively small impact in absolute value (+6.1%, or +0.03 M€2009). It is noted that the NSA costs are slightly lower than planned (-4.5%) in nominal terms, however, due to much lower than planned inflation index, appear higher when expressed in real terms. A detailed analysis at ATSP level is provided in box 12.</p> <p>Costs exempt from cost-sharing for Romania TCZ are reported for an amount of +0.3M€2009 (+1.6 MRON in nominal terms) relating to pension costs. These costs will be eligible for carry-over (charged to airspace users) to the following reference period(s), if deemed allowed by the European Commission.</p>						

ROMANIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

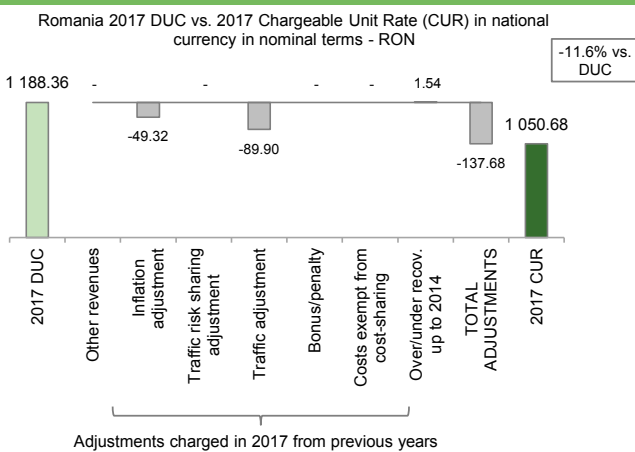


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	56	317		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	56	317		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
	Total costs exempt from cost sharing	0	56	317		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

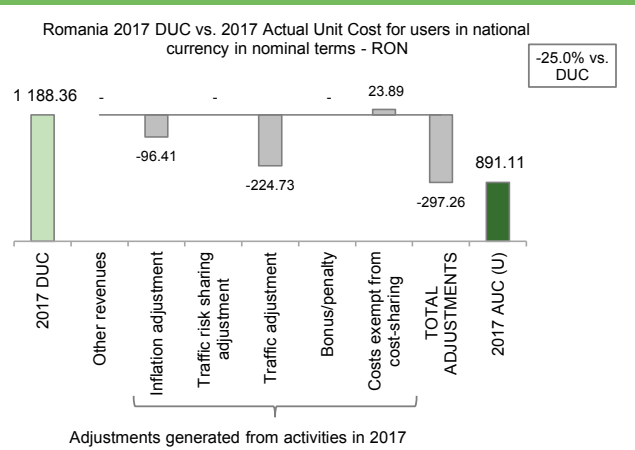
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The terminal unit rate charged to airspace users (CUR) in 2017 is 1050.68 RON. This is -11.6% lower than the nominal DUC (1188.36 RON). The difference between these two figures (-137.68 RON) primarily relates to the inflation adjustment (-49.32 RON), reflecting the impact of lower than planned inflation index in 2015, and the traffic adjustment (-89.90 RON), which reflect the impact of higher actual TNSUs than planned in 2015 and the forthcoming reimbursement to airspace users in the current year.

These costs and adjustments are divided by the forecast TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



Box 8. Terminal DUC 2017 vs. 2017 actual unit cost for users
The actual terminal unit cost incurred by the airspace users (AUC-U) in respect of activities performed in 2017 (891.11 RON) is -25.0% lower than the nominal DUC (1188.36 RON). The three factors contributing to the observed difference (-297.26 RON) are: the inflation adjustment (-96.41 RON), which corresponds to the impact of a significantly lower than planned inflation index for the year 2017, the traffic adjustment (-224.73 RON), which reflects higher than planned TNSUs for the year 2017 and the adjustment for costs exempt from cost sharing (+23.89). Whilst the first two adjustments, reflecting over-recoveries in 2017, will be carried-over to reduce the costs charged to airspace users in 2019, the adjustment for cost exempt from cost sharing will be eligible for carry-over (charged to airspace users) to the following reference period(s), if deemed allowed by the European Commission.

These costs and adjustments are divided by the actual TNSUs in 2017.

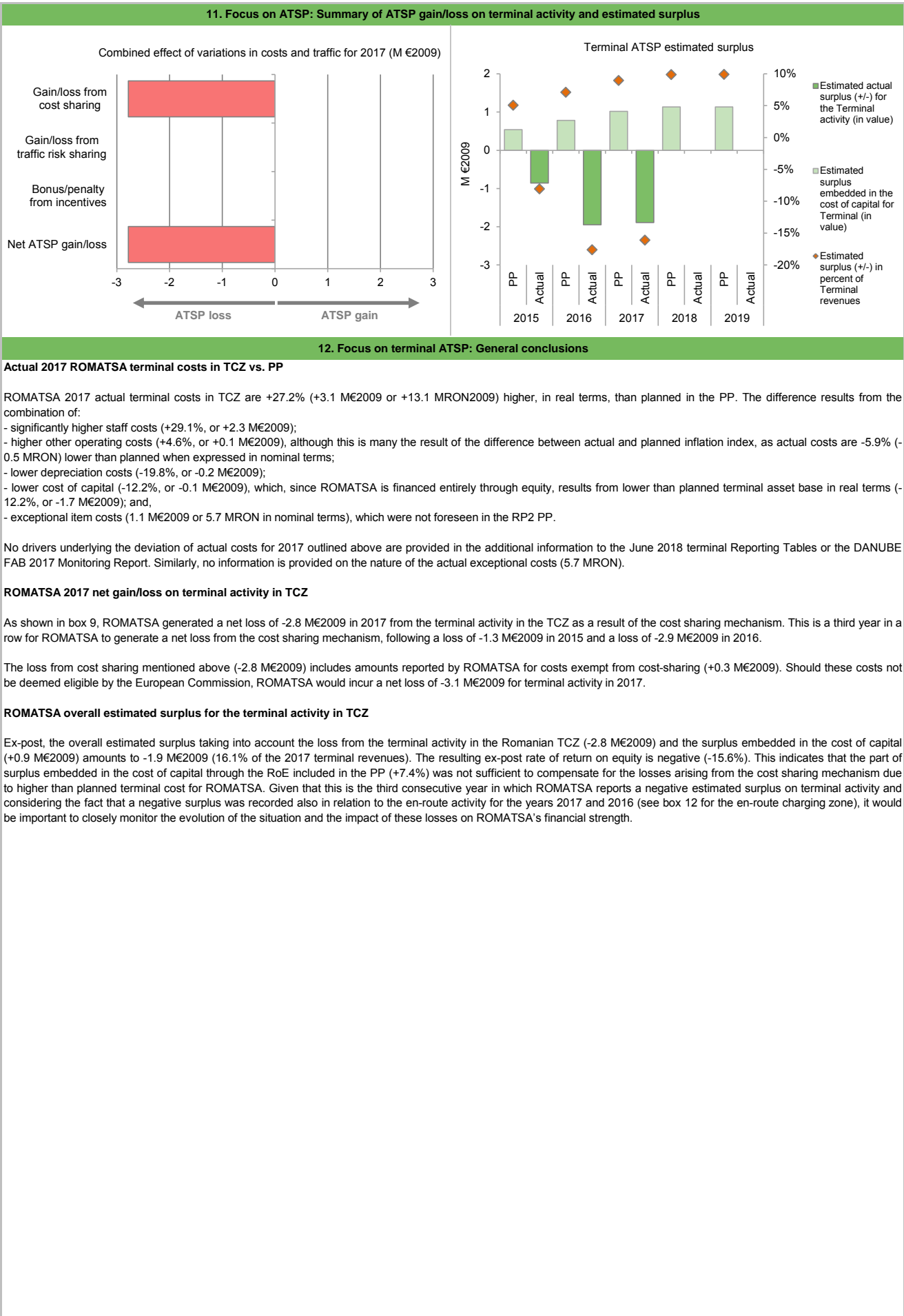
ROMANIA: Terminal ATSP (ROMATSA)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	10 641	11 005	11 386		
Actual costs for the ATSP	11 975	13 966	14 486		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-1 334	-2 962	-3 100		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	56	317		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-1 334	-2 905	-2 783		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-1 334	-2 905	-2 783		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	7 869	10 850	13 805	15 203	15 154
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	7 869	10 850	13 805	15 203	15 154
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	538	780	1 018	1 134	1 135
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	6.8%	7.2%	7.4%	7.5%	7.5%
Estimated surplus embedded in the cost of capital for terminal (in value)	538	780	1 018	1 134	1 135
Overall estimated surplus (+/-) for the terminal activity	538	780	1 018	1 134	1 135
Revenue/costs for the terminal activity	10 641	11 005	11 386	11 506	11 485
Estimated surplus (+/-) in percent of terminal revenues	5.1%	7.1%	8.9%	9.9%	9.9%
Estimated ex-ante RoE pre-tax rate (in %)	6.8%	7.2%	7.4%	7.5%	7.5%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	6 945	13 292	12 125		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	6 945	13 292	12 125		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	474	955	894		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	6.8%	7.2%	7.4%		
Estimated surplus embedded in the cost of capital for terminal (in value)	475	955	894		
Net ATSP gain(+)/loss(-) on terminal activity	-1 334	-2 905	-2 783		
Overall estimated surplus (+/-) for the terminal activity	-860	-1 950	-1 888		
Revenue/costs for the terminal activity	10 641	11 061	11 703		
Estimated surplus (+/-) in percent of terminal revenues	-8.1%	-17.6%	-16.1%		
Estimated ex-post RoE pre-tax rate (in %)	-12.4%	-14.7%	-15.6%		

ROMANIA: Terminal ATSP (ROMATSA)

Monitoring of terminal COST-EFFICIENCY for 2017



ROMANIA: Gate-to-gate

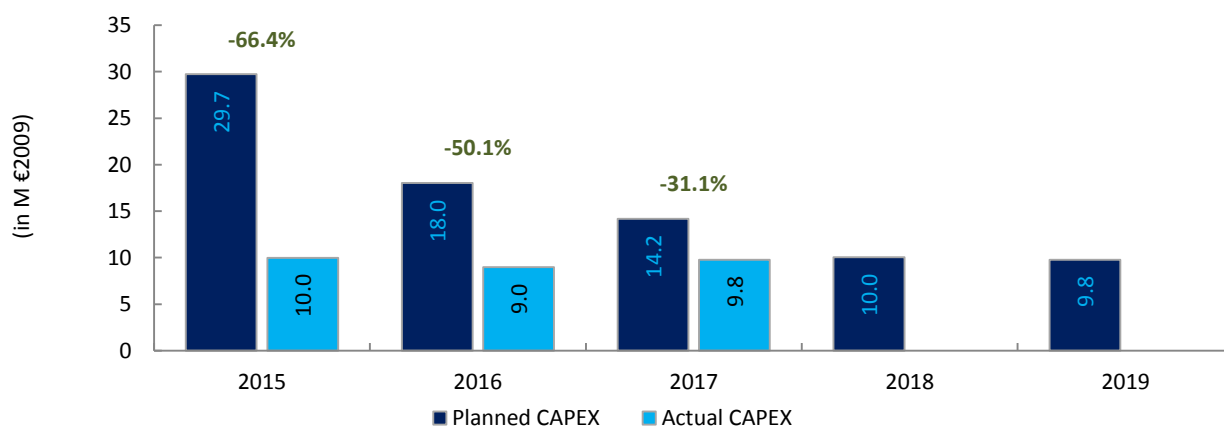
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Romania: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	128 504 603	127 317 114	126 311 665	125 685 463	125 393 855																																							
Real terminal costs (EUR2009)	10 757 760	11 121 138	11 502 072	11 622 056	11 600 536																																							
Real gate-to-gate costs (EUR2009)	139 262 364	138 438 251	137 813 736	137 307 519	136 994 391																																							
En-route share (%)	92.3%	92.0%	91.7%	91.5%	91.5%																																							
Romania: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	131 547 318	143 776 878	151 685 882																																									
Real terminal costs (EUR2009)	12 098 011	14 093 677	14 608 795																																									
Real gate-to-gate costs (EUR2009)	143 645 330	157 870 555	166 294 677																																									
En-route share (%)	91.6%	91.1%	91.2%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	4 382 966	19 432 303	28 480 941																																									
in %	3.1%	14.0%	20.7%																																									
En-route share																																												
in p.p.	-0.7 p.p.	-0.9 p.p.	-0.4 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017 actual gate-to-gate ANS costs in real terms are +20.7% (+28.5 M€2009) higher than planned due for the fact that both en-route costs (+20.1%, or +25.4 M€2009) and terminal costs (+27.0% or +3.1 M€2009) are significantly higher than foreseen in PP.</p> <p>The actual share of en-route in gate-to-gate ANS costs (91.2%) is broadly in line with plan (91.7%).</p> <p>For ROMATSA, the estimated gate-to-gate economic surplus in 2017 is negative (-7.5 M€2009 or 5.3% of gate-to-gate ANS revenues) (see boxes 10 for the detailed analysis at charging zone level).</p>																																												
<table border="1"> <caption>Data for Figure 2: Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>92.3%</td> <td>7.7%</td> </tr> <tr> <td>Actual</td> <td>91.6%</td> <td>8.4%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>92.0%</td> <td>8.0%</td> </tr> <tr> <td>Actual</td> <td>91.1%</td> <td>8.9%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>91.7%</td> <td>8.3%</td> </tr> <tr> <td>Actual</td> <td>91.2%</td> <td>8.8%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>91.5%</td> <td>8.5%</td> </tr> <tr> <td>Actual</td> <td>91.5%</td> <td>8.5%</td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>91.5%</td> <td>8.5%</td> </tr> <tr> <td>Actual</td> <td>91.5%</td> <td>8.5%</td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	92.3%	7.7%	Actual	91.6%	8.4%	2016	Determined	92.0%	8.0%	Actual	91.1%	8.9%	2017	Determined	91.7%	8.3%	Actual	91.2%	8.8%	2018	Determined	91.5%	8.5%	Actual	91.5%	8.5%	2019	Determined	91.5%	8.5%	Actual	91.5%	8.5%
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	92.3%	7.7%																																									
	Actual	91.6%	8.4%																																									
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2018	Determined	91.5%	8.5%																																									
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2019	Determined	91.5%	8.5%																																									
	Actual	91.5%	8.5%																																									
3. Technical notes on en-route and terminal information reported by Romania																																												
<p>Note 1: In 2017, Romania has submitted a request to the European Commission to revise their RP2 en-route cost-efficiency targets and terminal DUC for the years 2018 to 2019. Pending the approval from the European Commission, the figures shown in this report reflect the <u>adopted</u> Performance Plan (EC Decision 2015/348 of 2 March 2015).</p>																																												

ROMANIA

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: ROMATSA						
FAB: DANUBE FAB						
Currency: RON						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	159.7	99.7	80.7	58.7	58.7	457.7
Main CAPEX (in nominal M)	108.3	35.2	38.4	15.2	0.0	197.1
Inflation %	3.1%	3.0%	2.8%	2.8%	2.7%	
Inflation index (100 in 2009)	126.9	130.7	134.4	138.2	141.9	
Exchange rate 2009	4.23303	4.23303	4.23303	4.23303	4.23303	
Total CAPEX (in M €2009)	29.7	18.0	14.2	10.0	9.8	81.8
Main CAPEX (in M €2009)	20.2	6.4	6.7	2.6	0.0	35.9
% Main of Total CAPEX	67.8%	35.3%	47.5%	25.8%	0.0%	43.9%
Real gate-to-gate ANSP costs (in M €2009)	130.5	129.6	128.9	128.4	128.0	645.5
Total CAPEX as % of Real gate-to-gate ANSP costs	22.8%	13.9%	11.0%	7.8%	7.6%	12.7%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	51.2	45.6	50.1			
Main CAPEX (in nominal M)	18.4	17.6	40.0			
Inflation %	-0.4%	-1.1%	1.1%			
Inflation index (100 in 2009)	121.0	119.6	121.0			
Exchange rate 2009	4.23303	4.23303	4.23303			
Total CAPEX (in M €2009)	10.0	9.0	9.8			
Main CAPEX (in M €2009)	3.6	3.5	7.8			
% Main of Total CAPEX	36.0%	38.6%	80.0%			
Real gate-to-gate ANSP costs (in M €2009)	134.5	148.1	157.0			
Total CAPEX as % of Real gate-to-gate ANSP costs	7.4%	6.1%	6.2%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-108.6	-54.2	-30.7			
Total CAPEX (in M €2009)	-19.7	-9.0	-4.4			
Total CAPEX (in %, M €2009)	-66.4%	-50.1%	-31.1%			



Annual Monitoring Report 2017
Local level view
DK-SE FAB

DK-SE FAB

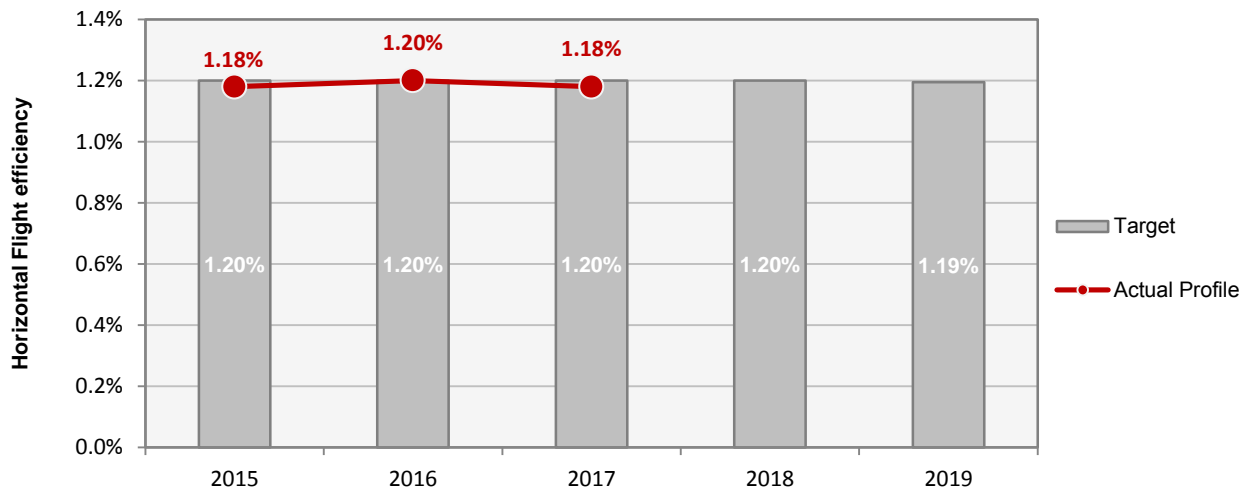
Monitoring of SAFETY for 2017

Effectiveness of Safety Management							
			2015 Value	2016 Value	2017 Value	2018 Value	2019 Target
Union-wide targets	at State level	For all MOs					C
	at ANSP level	For Safety Culture MO					C
		For all other MOs					D
FAB level	States / Regulatory authorities	For all MOs	A	A	A		
	ANSPs	For Safety Culture MO	D	D	D		
	ANSPs	For all other MOs	C	C	C		
Application of the severity classification of the Risk Analysis Tool (RAT)							
Ground Score			2015 Value	2016 Value	2017 Target	2018 Value	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%		100%
	Runway Incursions (RIs)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		67%	100%	100%		
	Runway Incursions (RIs)		100%	100%	100%		
Overall Score			2015 Value	2016 Value	2017 Target	2018 Target	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%	>= 80%	>= 80%
	Runway Incursions (RIs)				>= 80%	>= 80%	>= 80%
	ATM Specific Occurrences (ATM-S)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		57%	100%	100%		
	Runway Incursions (RIs)		75%	100%	100%		
	ATM Specific Occurrences (ATM-S)		100%	100%	100%		
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)							
Observations							
The lowest level in the EoS M Components/areas of the States is Level A which is below the 2019 EoS M target level. None of the components are already at the 2019 EoS M target level.							

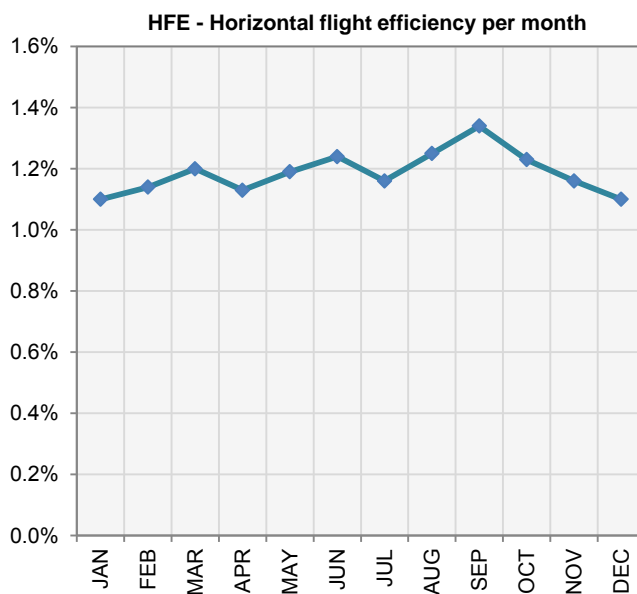
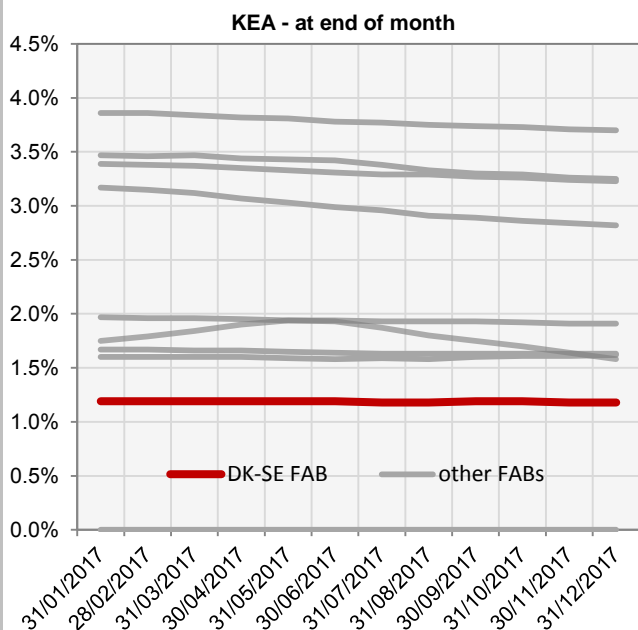
DK-SE FAB

Monitoring of ENVIRONMENT for 2017

KEA					
	2015	2016	2017	2018	2019
FAB Target	1.20%	1.20%	1.20%	1.20%	1.19%
Actual performance	1.18%	1.20%	1.18%		



Monthly KEA and HFE evolution in 2017												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA (at end of month)	1.19%	1.19%	1.19%	1.19%	1.19%	1.19%	1.18%	1.18%	1.19%	1.19%	1.18%	1.18%
HFE	1.10%	1.14%	1.20%	1.13%	1.19%	1.24%	1.16%	1.25%	1.34%	1.23%	1.16%	1.10%



HFE refers to the ratio of flown distance and achieved distance over all (portions of) trajectories in the month, while KEA is the ratio 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.

DK-SE FAB**Monitoring of ENVIRONMENT for 2017**

Corrective measures applied, as reported by the FAB
N/A. (The FAB is meeting the target)
Observations
NM recommendations (ERNIP 2018, Part 2): Expand cross-border operations within Borealis project and in the future with FABEC.

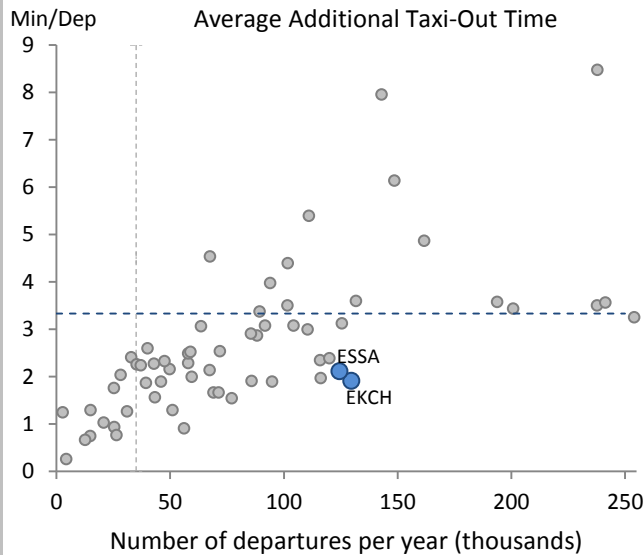
1. Overview

DK-SE FAB is monitored for RP2 at the two main national airports: Copenhagen/Kastrup and Stockholm/Arlanda. Both airports have a fully implemented Airport Operator Data Flow and show very similar performance regarding additional taxi-out times, well below the averages for airports under RP2 monitoring.

In terms of additional ASMA times, Stockholm (ESSA) shows best-in-class performance while some longer times are observed at Copenhagen (EKCH).

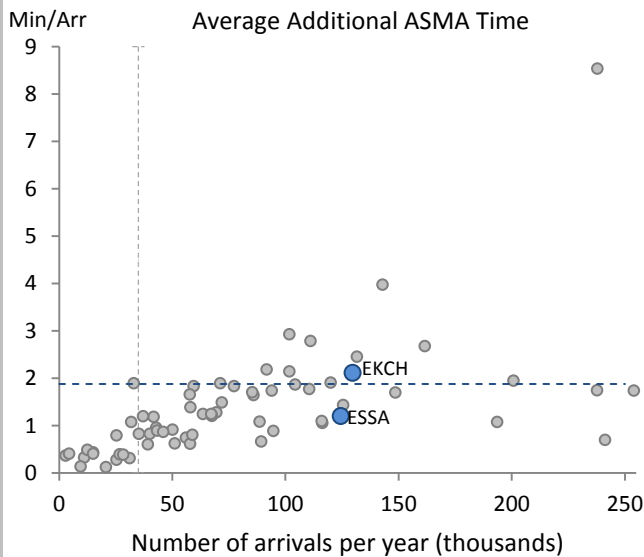
DK-SE FAB contributes remarkably to the airport-related ANS Capacity performance in Europe.

2. Additional Taxi-Out Time



The additional taxi-out times at both Copenhagen and Stockholm/Arlanda airports show, for the third year in a row, the best performance for airports with a yearly traffic around or above 250000 flights.

3. Additional ASMA Time



The observed additional ASMA times at the airports within the DK-SE FAB are in line or below those at similar airports in terms of movements.

Minutes of ATFM en-route delay						Observations
	2015	2016	2017	2018	2019	
FAB Reference Value	0.10	0.10	0.10	0.09	0.09	
FAB Target	0.10	0.10	0.10	0.09	0.09	
Actual performance	0.01	0.05	0.02			

DK-SE FAB assessment of capacity performance

No justification required.

Monitoring process for capacity performance

The en-route ATFM delay per flight is monitored during the reference period using PRU website Pan-European ANS Performance repository.

Application of Corrective Measures for Capacity

N/A

Capacity Planning

The capacity planning is consistent with required performance.

Assessment of capacity performance

It is noted that the DK-SE FAB provided a positive contribution to the Union-wide en-route capacity performance in 2017. The evolution of traffic in DK-SE FAB is shown below and it is noticeable that traffic levels have consistently remained below the forecasted baseline scenario as calculated by STATFOR and available when the FAB performance plans and associated capacity plans were being determined. The DK-SE FAB is expected, by the Network Manager, to provide sufficient capacity to meet the requirements every year in RP2.

EUROCONTROL 7 year forecast February 2014 – DK SE FAB										
	2014	2015	2016	2017	2018	2019				
		actual	actual	actual	actual	actual				
High	1034		1072	1118	1156		1196	1236		
Base	1023	1005	1052	1082	1105	1061	1130	1155		
Low	1012		1029	1036	1044		1052	1060		

En route Capacity Incentive Scheme

A FAB-wide incentive scheme was applicable for en-route capacity performance. The bonuses and penalties are as illustrated below.

	2015	2016	2017	2018	2019
0,00	0,50%	0,50%	0,50%	0,50%	0,50%
0,01	0,25%	0,25%	0,25%	0,25%	0,25%
0,02					
0,03					
0,04					
0,05	Dead band	Dead band	Dead band	Dead band	Dead band
0,06					
0,07					
0,08					
0,09				Target	Target
0,10	Target	Target	Target		
0,11					
0,12					
0,13				Dead band	Dead band
0,14	Dead band	Dead band	Dead band		
0,15					
0,16					
0,17				-0,25%	-0,25%
0,18				-0,50%	-0,50%
0,19	-0,25%	-0,25%	-0,25%		
0,20	-0,50%	-0,50%	-0,50%		

Result of FAB Capacity Incentive Scheme

The verified actual value of the FAB en-route capacity performance was 0.02 minutes delay per flight which falls within the deadband of the FAB-wide incentive scheme. Therefore, even though the FAB en-route capacity performance was better than the FAB target, and provided a positive contribution to the Union-wide target, no bonus will be applicable to the ANSPs in the DK-SE FAB for 2017 performance.

Update on Military dimension of the plan

Denmark:

FUA is fully implemented in Denmark thus it is very hard to increase the capacity further.

Sweden:

FUA has been implemented in Sweden since 1978, before the concept was defined on European level and the benefit is already achieved, therefore it is very hard to increase the capacity further. Sweden have an implemented extended FUA that does not limit the capacity.

In spite of the increase in amount of multinational military exercises in Swedish FIR there is still a limited impact on civil traffic flows.

Observations on Military dimension of the plan

The update on the Military Dimension of the Plan is welcomed.

Application of FUA

DENMARK:

FUA is fully implemented in Denmark, thus it is very hard to increase capacity any further.

SWEDEN:

FUA has been implemented in Sweden since 1978, before the concept was defined on European level and the benefit is already achieved, therefore it is very hard to increase the capacity further. Sweden have an implemented extended FUA that does not limit the capacity.

Observations of the Application of FUA

The established FUA situation in both Denmark and Sweden is noted.

DK-SE FAB

Monitoring of Airports Contribution to CAPACITY for 2017

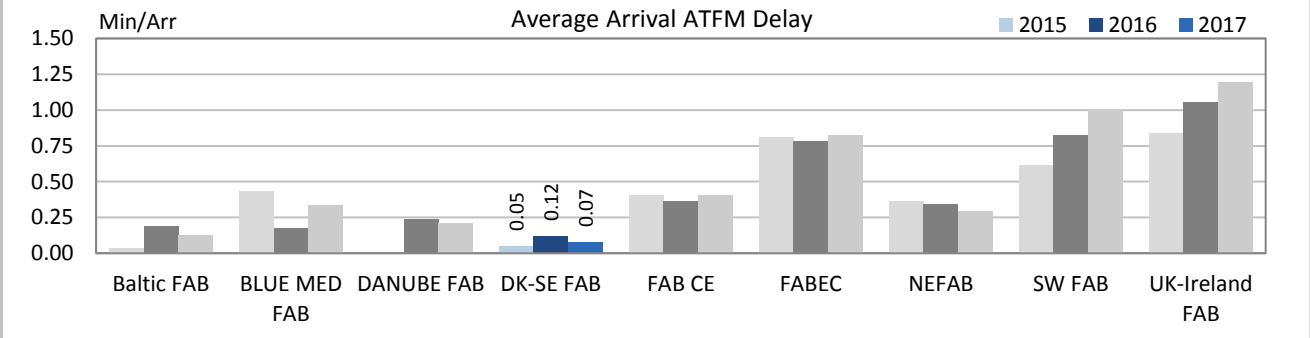
1. Overview

DK-SE FAB contributes adequately to the airport-related ANS Capacity performance in Europe. The observed performance in 2015, 2016 and 2017 range within the best-in-class category.

The services at both airports, Copenhagen (EKCH) and Stockholm/Arlanda (ESSA) accrue an average arrival ATFM delay of 0.07 min/arr. in 2017 and they are both best-in-class airports in Europe around 250 000 movements per year or above. Equally both airports range above 95% in terms of ATFM slot adherence and accrue only negligible pre-departure delay.

Considering the level of traffic in Denmark and Sweden, both around 250 000 flights in 2017, DK-SE FAB certainly serves as a benchmark for airport-related ANS Capacity contributions across Europe at airports around and below that level of traffic.

2. Arrival ATFM Delay



While traffic levels on average at both airports did not change significantly, DK-SE FAB performance in terms of arrival ATFM delay improved in 2017 (i.e. 0.07 min/arr.) in comparison with 2016 (i.e. 0.12 min/arr.) Once more the achieved performance by DK-SE FAB is best-in-class.

3. Arrival ATFM Delay – National Targets and Incentive Schemes

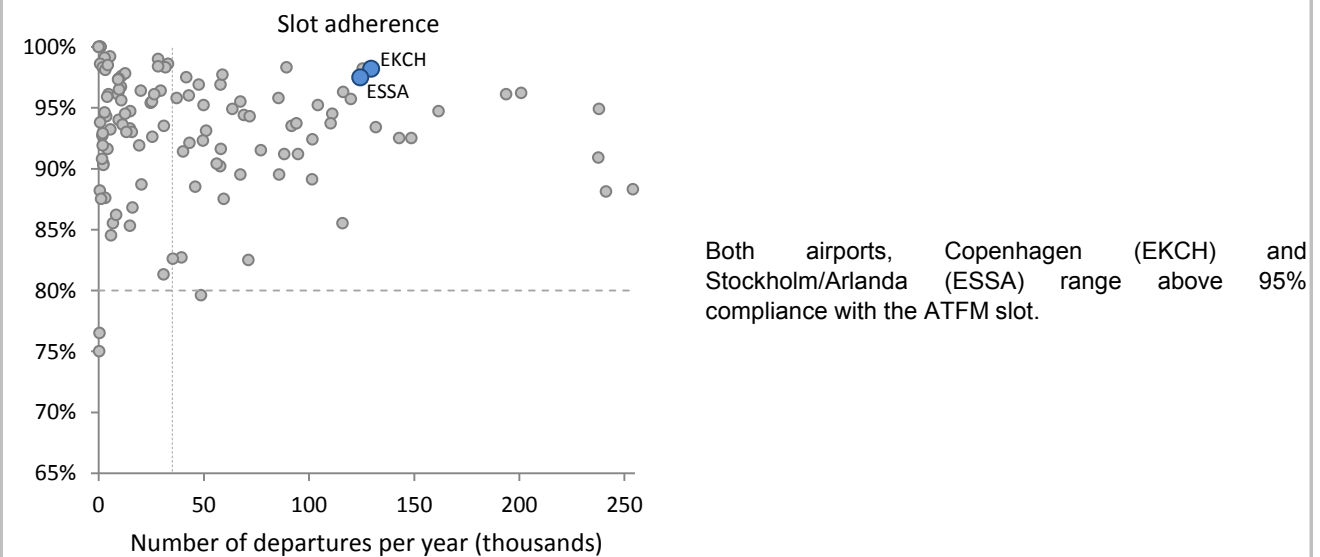
The DK-SE FAB performance plan sets a national target on arrival ATFM delay for each of the states with a breakdown per airport for each of the years of the reference period. For both states, the national target on arrival ATFM delay is consistent with the observed historical performance.

The Danish target is challenging, setting the target value at 50% of the historical performance.

Sweden sets an upper bound in line with the maximum of arrival ATFM delay observed throughout the recent years.

The DK-SE FAB performance plan presents no incentive schemes for the national targets on arrival ATFM delay.

4. ATFM Slot Adherence



5. Pre-departure Delay

There is only a negligible share of pre-departure delay accrued within DK-SE FAB in the three past years of RP2.

Annual Monitoring Report 2017
Local level view
Denmark

DENMARK

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	47	B	C	B	A	B
NAVIAIR	87	D	E	D	C	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	CAA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	4	5				
Legal/Judiciary	5	2				
Occurrence reporting and Investigation	2	0				
TOTAL	11	7				
NAVIAIR	Number of questions answered					
	YES	NO				
Policy and its implementation	9	4				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	6	2				
TOTAL	17	7				
Observations						
<p>Three out of the four reviewed EoSM Components/areas of the State does not meet the 2019 EoSM target level "C". After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by EASA Standardisation team.</p> <p>Out of 34 questions in Components 1-4 (not including Component - Safety Culture), five are below Level C.</p>						

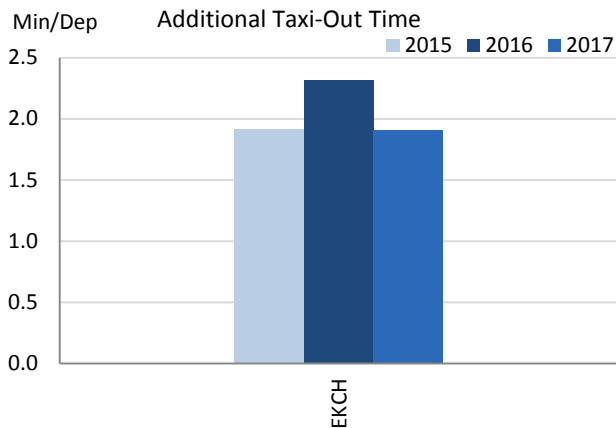
DENMARK

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

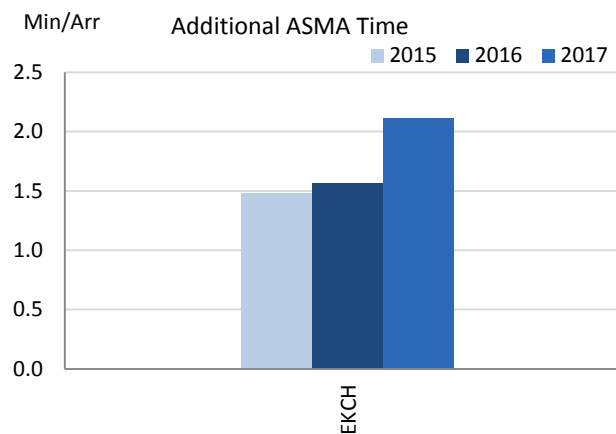
Denmark only has Copenhagen/Kastrup (EKCH) airport subject to RP2 monitoring for which the APDF is successfully established. The overall environmental ANS performance at EKCH, especially thanks to the low additional taxi-out times, is excellent.

2. Additional Taxi-Out Time



Additional taxi-out times in Copenhagen, after the increase last year, have gone back to the 2015 values. This improvement in performance can be observed throughout the entire year, but it is especially high in January 2017 (compared to the peak in January 2016).

3. Additional ASMA Time



Despite a reduction in traffic of 2%, additional times in the terminal area of Copenhagen suffered a significant increase in 2017, along the whole year.

According to the NSA, historically the approach speed has been high in EKCH. However some airlines opt for lower speeds during approach (with reference to fuel savings, environment, and company policy). This could have an effect on the ASMA-metric, but is likely not because of any deterioration rather than optimization of other areas than fastest approach.

4. Appendix

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

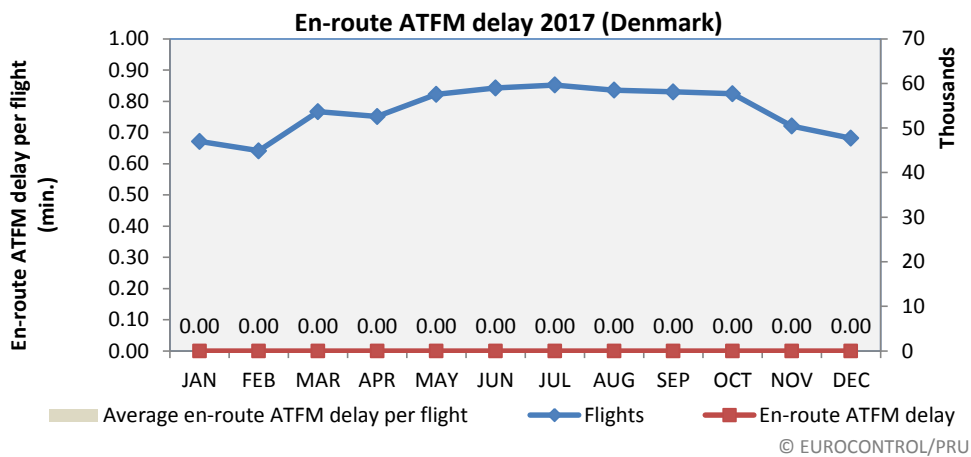
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Copenhagen/ Kastrup	EKCH	1.92	2.32	1.91			1.48	1.56	2.11		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	N/A	N/A	N/A	N/A	N/A	FAB-wide incentive scheme in place.
Deadband +/-						
Actual performance	0.00	0.00	0.00			

National capacity incentive scheme

N/A

Observations regarding national capacity performance



En-route ATFM delay per flight (Denmark)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1.91	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00

Denmark continues to provide excellent en-route capacity performance in 2017. Traffic levels in Denmark have remained below those initially predicted for the baseline scenario in the STATFOR forecast available when FAB performance plans and associated capacity plans were being determined. The Network Manager, in the latest NOP 2018 - 2022, states that Denmark is expected to provide similar capacity performance for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Denmark									
	2014	2015	2016	2017	2018	2019			
		actual	actual	actual	actual				
High	638	662	688	710	734	757			
Base	632	619	667	681	696	711			
Low	624	635	639	643	648	653			

Planning and Effective Use of CDRs

Routing via CDR is expected to be decreasing due to Free Route Airspace implementation.

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
89%	24%	27%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
23%	8%	4%		

Procedure 3 is not applicable within the State.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

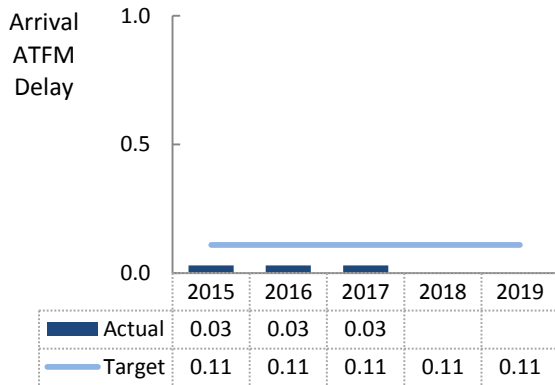
DENMARK

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

In Denmark, ANS at Copenhagen (EKCH) airport are subject to RP2 monitoring. The actual performance observed in all years of RP2 fully meets the established national target on arrival ATFM delay. The local performance is amongst the best-in-class and shows no capacity-related constraints. Denmark adequately contributes to the DK-SE FAB and European ANS Capacity performance.

2. Arrival ATFM Delay



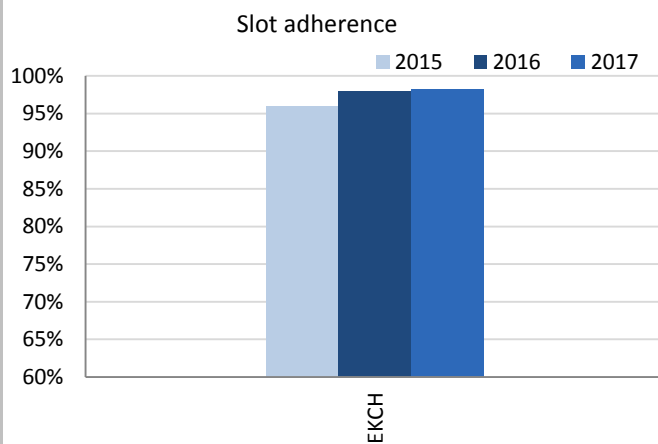
The actual performance in terms of arrival ATFM delay at Copenhagen/Kastrup (EKCH) has remained constant throughout RP2 so far. The achieved performance fully meets the national target.

3. Arrival ATFM Delay – National Target and Incentive Scheme

Denmark established a challenging national target on arrival ATFM delay at the level of approximately 50% of the average performance observed throughout the years preceding RP2.

No incentive scheme is established. Although a reference is provided in the supporting documentation that the establishment of an incentive scheme for terminal ANS might be reviewed in 2017, nothing in this regard is presented in the DK-SE FAB monitoring report.

4. ATFM Slot Adherence



The compliance with the ATFM slots slightly increased once more in 2017 and reaches 98.2%. This best-in-class performance adds positively to the predictability in the network.

5. Pre-departure Delay

Despite the progressive increase in pre-departure delay (2015: 0.03 min/dep.; 2016: 0.07 min/dep.; 2017: 0.09 min/dep.), Copenhagen/Kastrup (EKCH) shows only a negligible share of pre-departure delay compared to other European airports. Most of the ATC pre-departure delay is accrued in February.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Copenhagen/ Kastrup	EKCH	0.03	0.03	0.03			95.9%	97.9%	98.2%			0.03	0.07	0.09		

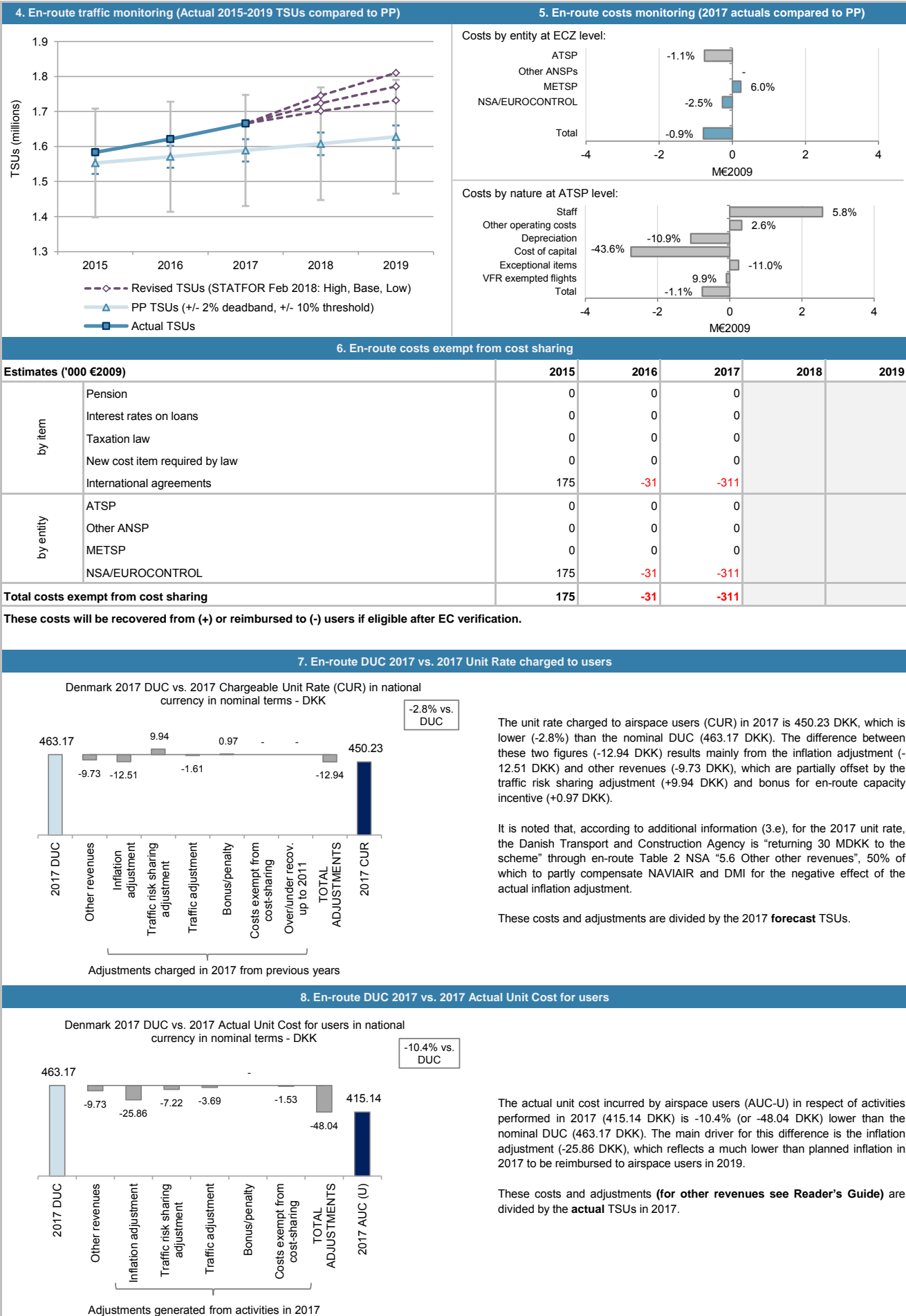
DENMARK: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
Denmark ECZ represents 1.4% of the SES en-route ANS determined costs in 2017						
· ATSP: NAVIAIR						
· FAB: DK-SE FAB						
· National currency: DKK Exchange rate 2009: 1 EUR = 7.44337 DKK						
2. En-route DUC monitoring at Charging Zone level						
Denmark: Data from	(EC Decision 2017/2376 of 15 December 2017)	2015D	2016D	2017D	2018D	2019D
En-route costs (nominal DKK)		726 872 134	724 495 393	735 983 926	749 032 040	750 157 741
Inflation %		1.8%	2.2%	2.2%	2.2%	2.2%
Inflation index (100 in 2009)		111.6	114.1	116.6	119.1	121.8
Real en-route costs (DKK2009)		651 263 654	635 160 606	631 342 985	628 704 443	616 095 213
Total en-route Service Units		1 553 000	1 571 000	1 589 000	1 608 000	1 628 000
Real en-route unit cost per Service Unit (DKK2009)		419.36	404.30	397.32	390.99	378.44
Real en-route unit cost per Service Unit (EUR2009)		56.34	54.32	53.38	52.53	50.84
Denmark: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal DKK)		719 545 995	695 318 991	686 419 641		
Inflation %		0.2%	0.0%	1.1%		
Inflation index (100 in 2009)		108.56	108.56	109.75		
Real en-route costs (DKK2009)		662 830 597	640 513 192	625 435 508		
Total en-route Service Units		1 583 445	1 621 145	1 665 678		
Real en-route unit cost per Service Unit (DKK2009)		418.60	395.10	375.48		
Real en-route unit cost per Service Unit (EUR2009)		56.24	53.08	50.45		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal DKK)	in value	-7 326 139	-29 176 402	-49 564 285		
	in %	-1.0%	-4.0%	-6.7%		
Inflation %	in p.p.	-1.6 p.p.	-2.2 p.p.	-1.1 p.p.		
Inflation index (100 in 2009)	in p.p.	-3.1 p.p.	-5.5 p.p.	-6.8 p.p.		
Real en-route costs (DKK2009)	in value	11 566 943	5 352 586	-5 907 478		
	in %	1.8%	0.8%	-0.9%		
Total en-route Service Units	in value	30 445	50 145	76 678		
	in %	2.0%	3.2%	4.8%		
Real en-route unit cost per Service Unit (DKK2009)	in value	-0.76	-9.20	-21.84		
	in %	-0.2%	-2.3%	-5.5%		
Real en-route unit cost per Service Unit (EUR2009)	in value	-0.10	-1.24	-2.93		
	in %	-0.2%	-2.3%	-5.5%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (50.45 €2009) is lower (-5.5%) than the en-route DUC target (53.38 €2009). This difference results from the combination of higher than planned TSUs (+4.8%) and lower than planned real en-route costs (-0.9%, or -0.8 M€2009), although in nominal terms the costs are (-6.7%) lower than planned (see En-route costs section below).						
En-route service units						
The difference between actual and planned TSUs (+4.8%) is outside the ±2% dead-band but within the ±10% alert threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues is therefore shared between airspace users and the ATSP (NAVIAIR), the latter retaining +2.1 M€2009.						
The TSUs forecasts underpinning the adopted RP2 en-route DUC targets were in line with the STATFOR February 2014 <u>low</u> case forecast scenario. However, Denmark pointed out that the 2017 actual TSUs were below the STATFOR February 2014 <u>base</u> case forecast scenario. Considering the latest STATFOR February 2018 TSUs forecasts, it appears that actual TSUs are very likely to remain higher than planned for the remaining of RP2.						
En-route costs						
In nominal terms, the 2017 actual en-route costs are -6.7% lower than planned. However, since the actual inflation and the resulting 2017 inflation index is much lower than planned (-6.8 p.p.), the 2017 actual en-route costs are merely -0.9% lower than planned in real terms (-0.8 M€2009).						
The lower than planned en-route costs in real terms are driven by the ATSP-NAVIAIR (-1.1%, or -0.8 M€2009) and NSA/EUROCONTROL costs (-2.5% or -0.3 M€2009), while the MET provider-DMI records higher than planned en-route costs in real terms (+6.0%, or +0.2 M€2009). NAVIAIR remains the main contributor to the en-route cost base, a detailed analysis for Naviair (at ATSP level) is provided in box 12.						
2017 costs exempt from cost-sharing are reported for a total amount of -0.3 M€2009 corresponding to lower than planned EUROCONTROL costs. This amount will be carried-over (reimbursed to airspace users) to the following reference period(s), if deemed eligible by the European Commission.						

DENMARK: En-route charging zone

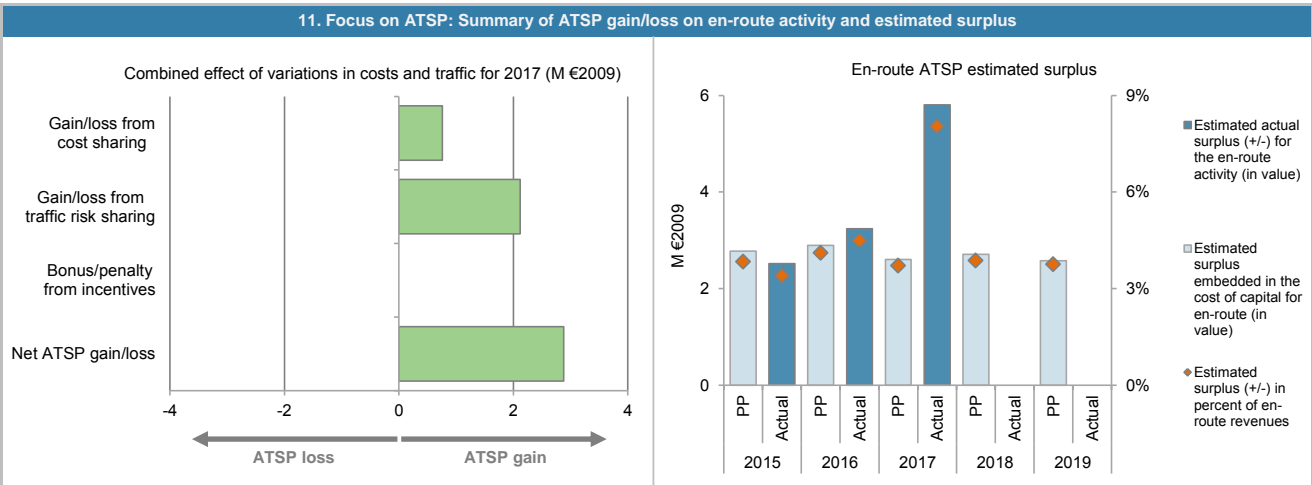
Monitoring of en-route COST-EFFICIENCY for 2017



DENMARK: En-route ATSP (NAVIAR)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	72 364	70 391	70 121		
Actual costs for the ATSP	74 365	71 764	69 362		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-2 001	-1 373	759		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-2 001	-1 373	759		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	2.0%	3.2%	4.8%		
Determined costs for the ATSP (PP) - based on actual inflation	74 399	73 963	74 481		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	1 459	1 744	2 121		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	190	0	0		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	-353	371	2 880		
	<i>*see Note 1</i>				
10. Focus on ATSP: En-route ATSP estimated surplus *					
<small>* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.</small>					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	162 405	160 889	159 999	160 494	160 817
Estimated proportion of financing through equity (in %)	34.2%	36.0%	32.6%	33.7%	32.0%
Estimated proportion of financing through equity (in value)	55 546	57 849	52 092	54 147	51 526
Estimated proportion of financing through debt (in %)	65.8%	64.0%	67.4%	66.3%	68.0%
Estimated proportion of financing through debt (in value)	106 859	103 040	107 907	106 347	109 291
Cost of capital pre-tax (in value)	7 372	6 499	6 273	6 004	5 746
Average interest on debt (in %)	4.3%	3.5%	3.4%	3.1%	2.9%
Interest on debt (in value)	4 595	3 606	3 669	3 297	3 169
Determined RoE pre-tax rate (in %)	5.0%	5.0%	5.0%	5.0%	5.0%
Estimated surplus embedded in the cost of capital for en-route (in value)	<i>*see Note 2</i>	2 892	2 605	2 707	2 576
Overall estimated surplus (+/-) for the en-route activity	2 777	2 892	2 605	2 707	2 576
Revenue/costs for the en-route activity	72 364	70 391	70 121	70 039	68 601
Estimated surplus (+/-) in percent of en-route revenues	3.8%	4.1%	3.7%	3.9%	3.8%
Estimated ex-ante RoE pre-tax rate (in %)	5.0%	5.0%	5.0%	5.0%	5.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	150 659	149 569	159 393		
Estimated proportion of financing through equity (in %)	38.1%	38.3%	36.7%		
Estimated proportion of financing through equity (in value)	57 412	57 340	58 493		
Estimated proportion of financing through debt (in %)	61.9%	61.7%	63.3%		
Estimated proportion of financing through debt (in value)	93 247	92 229	100 901		
Cost of capital pre-tax (in value)	7 067	5 542	3 541		
Average interest on debt (in %)	4.5%	2.9%	0.6%		
Interest on debt (in value)	4 196	2 675	616		
Determined RoE pre-tax rate (in %)	5.0%	5.0%	5.0%		
Estimated surplus embedded in the cost of capital for en-route (in value)	<i>*see Note 2</i>	2 867	2 925		
Net ATSP gain(+)/loss(-) on en-route activity	-353	371	2 880		
Overall estimated surplus (+/-) for the en-route activity	2 518	3 238	5 805		
Revenue/costs for the en-route activity	74 012	72 135	72 242		
Estimated surplus (+/-) in percent of en-route revenues	3.4%	4.5%	8.0%		
Estimated ex-post RoE pre-tax rate (in %)	4.4%	5.6%	9.9%		
	<i>*see Notes 1-2</i>				



12. Focus on en-route ATSP: General conclusions

Actual 2017 NAVIAIR en-route costs vs. PP

In 2017, NAVIAIR actual en-route costs, in real terms, are -1.1% (-0.8 M€2009) lower than planned. Based on the June 2018 Reporting Tables, this results from the combination of:

- Higher than planned staff costs in real terms (+5.8%, or +2.6 M€2009). However, as highlighted in box 3, the lower than planned inflation index (-6.8 p.p.) is an important factor affecting the comparison in real terms. In nominal terms, the staff costs for NAVIAIR are (-0.4%) lower than planned, reported to be "on par with plans".
- Higher than planned other operating costs in real terms (+2.6%, or +0.3 M€2009). However, again the lower than planned inflation index (-6.8 p.p.) is an important factor. In nominal terms, the "other operating costs" are lower than planned (-3.4%), reported to be mainly due to "Lower administrative costs for NUAC HB".
- Lower than planned depreciation costs (-10.9%, or -1.1 M€2009), "Lower investment level – note however that current yearly CAPEX spending is on par with the RP2-plan. Furthermore deviations in depreciation caused by funding is incorporated into the unit rate for the years 2016&2017 to the benefit of the users."
- Lower cost of capital (-43.6%, or -2.7 M€2009), due to lower payment of interests to the State. "Lower cost of capital due to repayments during RP2 on the subordinated loan to the State/Owner."
- Lower than planned revenue recorded as (negative) exceptional costs (-11.0%), resulting in actual costs in this category being +0.2 M€2009 higher than planned. This deviation is due to "Lower investment activity leading to less activation of costs".

According to Additional Information (ref. 2.c) provided with the June 2018 Reporting Tables, actual costs are netted off by the income from off shore activities in the North Sea, income from the training facility Entry Point North, as well as from the EU TEN-T funding. This could influence the cost risk sharing. See **Note 2**.

NAVIAIR net gain/loss on en-route activity in 2017

As shown in box 9, NAVIAIR generated a net gain of +2.9 M€2009 on the en-route activity. This is a combination of two elements:

- a gain of +0.8 M€2009 arising from the cost-sharing mechanism; and,
- a gain of +2.1 M€2009 arising from the traffic risk-sharing mechanism.

It is noted that "In 2017 the performance by the Danish/Swedish FAB does not qualify for a bonus nor a penalty to be reflected in the 2019 unit rate" (Additional information 2d). And in the Monitoring report: "The incentive scheme for capacity has for 2017 not been activated because the performance has been within the limits of the dead-band."

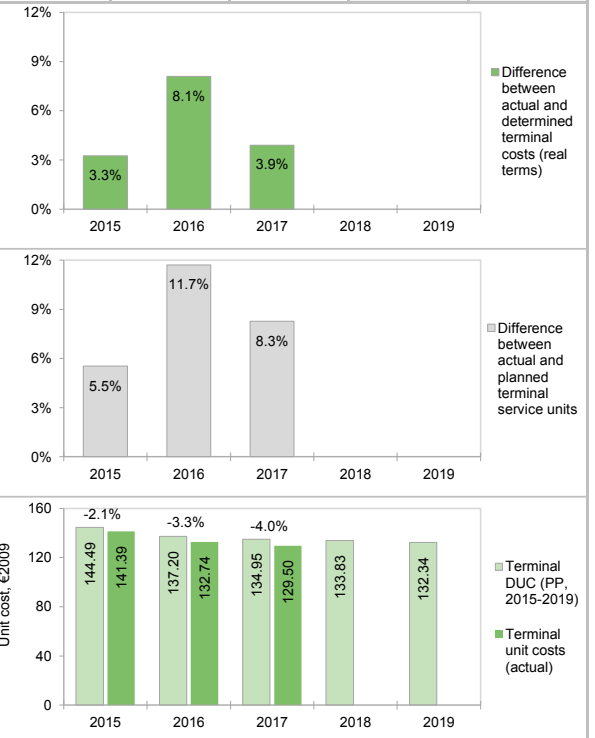
NAVIAIR overall estimated surplus for the en-route activity

Ex-post, the 2017 overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+2.9 M€2009) and the surplus embedded in the actual cost of capital (+2.9 M€2009) amounts to +5.8 M€2009 (8.0% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 9.9%, which is higher than the 5.0% planned in the PP. See also **Notes 1** and **2** at the end of this report.

DENMARK: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

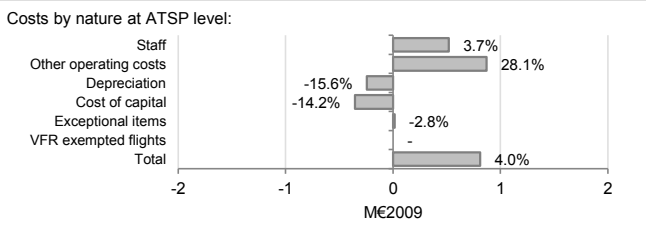
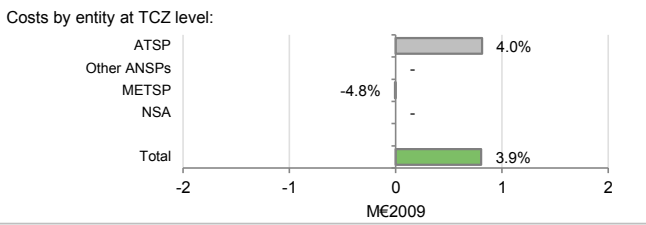
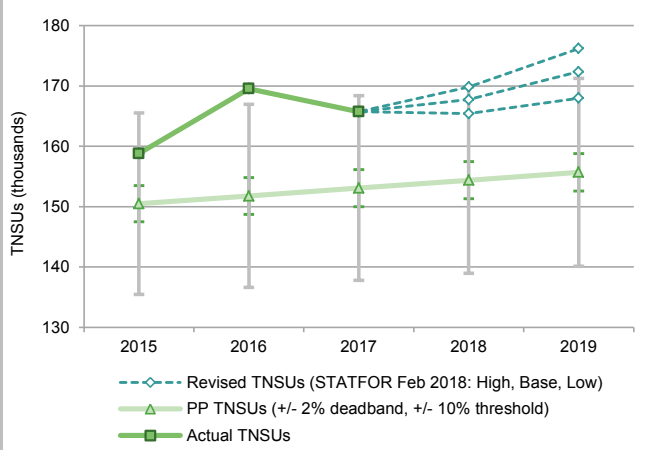
1. Contextual economic information: terminal air navigation services					
Denmark TCZ represents 1.9% of the SES terminal ANS determined costs in 2017		Is this TCZ applying traffic risk sharing?		Yes	
ATSP: NAVIAIR		Airports with fewer than 70,000 IFRs ATMs:		0	
National currency: DKK		Airports with between 70,000 and 225,000 IFRs ATMs:		0	
Number of airports in charging zone in 2017: 1,		of which:		Airports with more than 225,000 IFRs ATMs: 1	
2. Terminal DUC monitoring at Charging Zone level					
Denmark: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal DKK)	180 631 201	176 790 835	179 242 261	183 226 026	186 756 637
Inflation %	1.8%	2.2%	2.2%	2.2%	2.2%
Inflation index (100 in 2009)	111.6	114.1	116.6	119.1	121.8
Real terminal costs (DKK2009)	161 842 132	154 991 426	153 757 902	153 791 841	153 380 900
Total terminal Service Units	150 479	151 768	153 069	154 381	155 704
Real terminal unit cost per Service Unit (DKK2009)	1 075.51	1 021.24	1 004.50	996.18	985.08
Real terminal unit cost per Service Unit (EUR2009)	144.49	137.20	134.95	133.83	132.34
Denmark: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal DKK)	181 422 000	181 867 000	175 324 000		
Inflation %	0.2%	0.0%	1.1%		
Inflation index (100 in 2009)	108.6	108.6	109.8		
Real terminal costs (DKK2009)	167 122 121	167 532 045	159 747 549		
Total terminal Service Units	158 800	169 561	165 730		
Real terminal unit cost per Service Unit (DKK2009)	1 052.41	988.03	963.90		
Real terminal unit cost per Service Unit (EUR2009)	141.39	132.74	129.50		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal DKK)	790 799	5 076 165	-3 918 261		
	in %	0.4%	2.9%	-2.2%	
Inflation %	-1.6 p.p.	-2.2 p.p.	-1.1 p.p.		
Inflation index (100 in 2009)	-3.1 p.p.	-5.5 p.p.	-6.8 p.p.		
Real terminal costs (DKK2009)	5 279 988	12 540 620	5 989 647		
	in %	3.3%	8.1%	3.9%	
Total terminal Service Units	8 321	17 793	12 661		
	in %	5.5%	11.7%	8.3%	
Real terminal unit cost per Service Unit (DKK2009)	in value	-23.11	-33.20	-40.60	
	in %	-2.1%	-3.3%	-4.0%	
Real terminal unit cost per Service Unit (EUR2009)	in value	-3.10	-4.46	-5.45	
	in %	-2.1%	-3.3%	-4.0%	
3. Focus on terminal at State/Charging Zone level					
This analysis focuses on Denmark Terminal Charging Zone (TCZ) comprising only Copenhagen airport to which the traffic risk sharing mechanism applies.					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (129.50 €2009) is -4.0% lower than planned (134.95 €2009). This difference results from the combination of higher than planned terminal costs in real terms (+3.9%, or +6.0 MDKK2009, or +0.8 M€2009) and higher than planned TNSUs (+8.3%). However, as highlighted in box 3, the lower than planned inflation index (-6.8 p.p.) is an important factor affecting the comparison in real terms. In nominal terms, the total Terminal ANS costs are -2.2% lower than planned in 2017.					
Terminal service units					
The difference between actual and planned TNSUs (+8.3%) is outside the ±2% dead-band but within the ±10% alert threshold foreseen in the traffic risk-sharing mechanism. The resulting additional terminal revenues are therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to 0.8 M€2009.					
Based on the STATFOR February 2018 traffic forecast, the level of TNSUs for Denmark TCZ is expected to remain substantially higher than planned for the remaining years of RP2. It is noteworthy that the TNSUs forecast selected for RP2 was rather prudent since it was between STATFOR (February 2014) <u>low</u> and <u>base</u> case scenarios.					
Terminal costs					
In nominal terms, the 2017 actual terminal costs are -2.2% lower than planned. However, since the 2017 actual inflation index is also lower than planned (-6.8 p.p.), the actual terminal costs are +3.9% higher than planned in real terms (+0.8 M€2009).					
The higher than planned terminal costs in real terms are entirely driven by higher costs for NAVIAIR (+4.0%, or +0.8 M€2009), while DMI actual costs are lower than planned (-4.8%, or -0.01 M€2009). NAVIAIR being the main contributor to the terminal cost base, a detailed analysis at ATSP level is provided in box 12.					
There are no costs exempt from cost-sharing reported for the Denmark TCZ in 2017.					



DENMARK: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) **5. Terminal costs monitoring (2017 actuals compared to PP)**

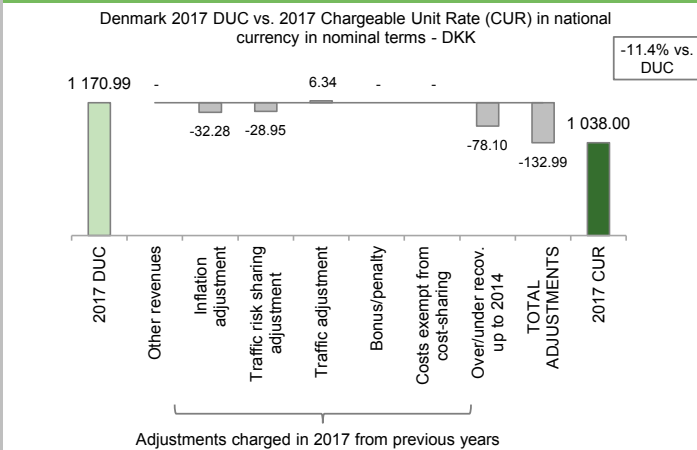


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

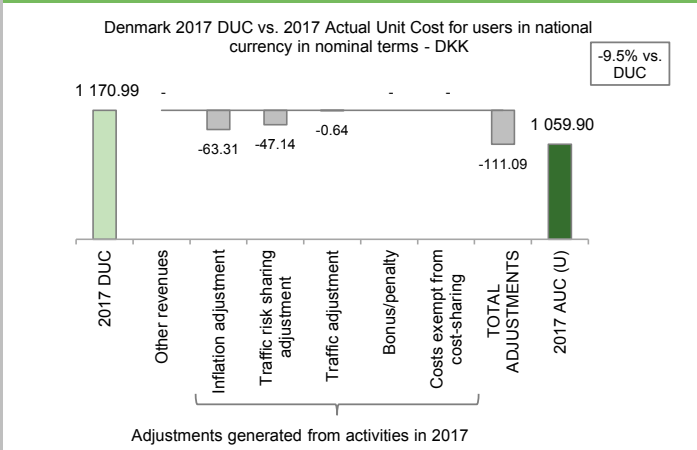
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The terminal unit rate charged to airspace users (CUR) in 2017 is 1 038.00 DKK. This is -11.4% lower than the nominal terminal DUC (1 170.99 DKK). The difference between these two figures (-132.99 DKK) relates to inflation adjustment (-32.28 DKK), traffic risk-sharing adjustment (-28.95 DKK) and over-recoveries from previous years up to 2014 carried-over to 2017 (-78.10 DKK).

These costs and adjustments are divided by the **forecast** TNSUs for 2017.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



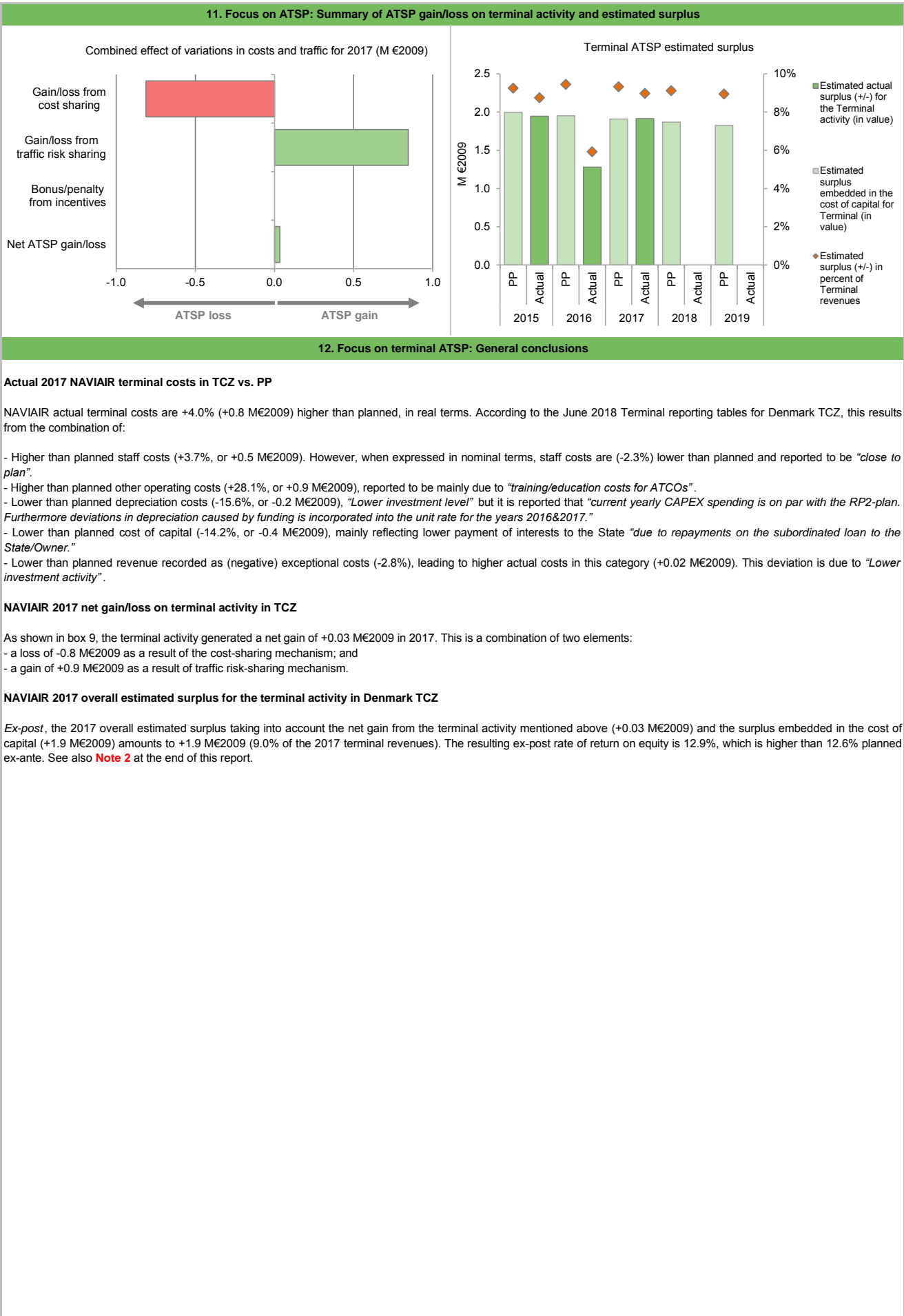
The terminal actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (1 059.90 DKK) is -9.5% lower than the nominal terminal DUC (1 170.99 DKK). The two most important factors contributing to the observed difference (-111.09 DKK) are the inflation adjustment (-63.31 DKK), which corresponds to the impact of a lower than planned inflation index in 2017, and the traffic risk sharing adjustment (-47.14 DKK) reflecting the gain in revenues due to higher than planned traffic in 2017. These adjustments will be reimbursed to airspace users in 2019.

These costs and adjustments are divided by the **actual** TNSUs in 2017.

DENMARK: Terminal ATSP (NAVIAR)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	21 588	20 671	20 508		
Actual costs for the ATSP	22 314	22 369	21 320		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-726	-1 698	-812		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-726	-1 698	-812		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	5.5%	11.7%	8.3%		
Determined costs for the ATSP (PP) - based on actual inflation	22 195	21 720	21 784		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	679	956	846		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-47	-743	34		
	<i>*see Note 1</i>				
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	25 448	25 211	25 071	25 149	25 199
Estimated proportion of financing through equity (in %)	62.0%	61.2%	60.2%	58.7%	57.4%
Estimated proportion of financing through equity (in value)	15 769	15 430	15 097	14 772	14 454
Estimated proportion of financing through debt (in %)	38.0%	38.8%	39.8%	41.3%	42.6%
Estimated proportion of financing through debt (in value)	9 679	9 781	9 974	10 376	10 745
Cost of capital pre-tax (in value)	2 813	2 574	2 497	2 409	2 325
Average interest on debt (in %)	8.5%	6.4%	5.9%	5.2%	4.6%
Interest on debt (in value)	818	622	587	541	497
Determined RoE pre-tax rate (in %)	12.6%	12.6%	12.6%	12.6%	12.6%
Estimated surplus embedded in the cost of capital for terminal (in value)	<i>*see Note 2</i>	1 952	1 910	1 869	1 828
Overall estimated surplus (+/-) for the terminal activity	<i>*see Note 1</i>	1 952	1 910	1 869	1 828
Revenue/costs for the terminal activity	21 588	20 671	20 508	20 516	20 464
Estimated surplus (+/-) in percent of terminal revenues	9.2%	9.4%	9.3%	9.1%	8.9%
Estimated ex-ante RoE pre-tax rate (in %)	12.6%	12.6%	12.6%	12.6%	12.6%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	26 082	22 342	23 279		
Estimated proportion of financing through equity (in %)	60.4%	71.6%	63.9%		
Estimated proportion of financing through equity (in value)	15 755	15 988	14 878		
Estimated proportion of financing through debt (in %)	39.6%	28.4%	36.1%		
Estimated proportion of financing through debt (in value)	10 327	6 355	8 401		
Cost of capital pre-tax (in value)	2 726	2 451	2 143		
Average interest on debt (in %)	7.1%	6.7%	3.1%		
Interest on debt (in value)	733	429	261		
Determined RoE pre-tax rate (in %)	12.6%	12.6%	12.6%		
Estimated surplus embedded in the cost of capital for terminal (in value)	<i>*see Note 2</i>	2 022	1 882		
Net ATSP gain(+)/loss(-) on terminal activity	-47	-743	34		
Overall estimated surplus (+/-) for the terminal activity	<i>*see Notes 1-2</i>	1 280	1 916		
Revenue/costs for the terminal activity	22 267	21 627	21 354		
Estimated surplus (+/-) in percent of terminal revenues	8.7%	5.9%	9.0%		
Estimated ex-post RoE pre-tax rate (in %)	12.4%	8.0%	12.9%		



DENMARK: Gate-to-gate

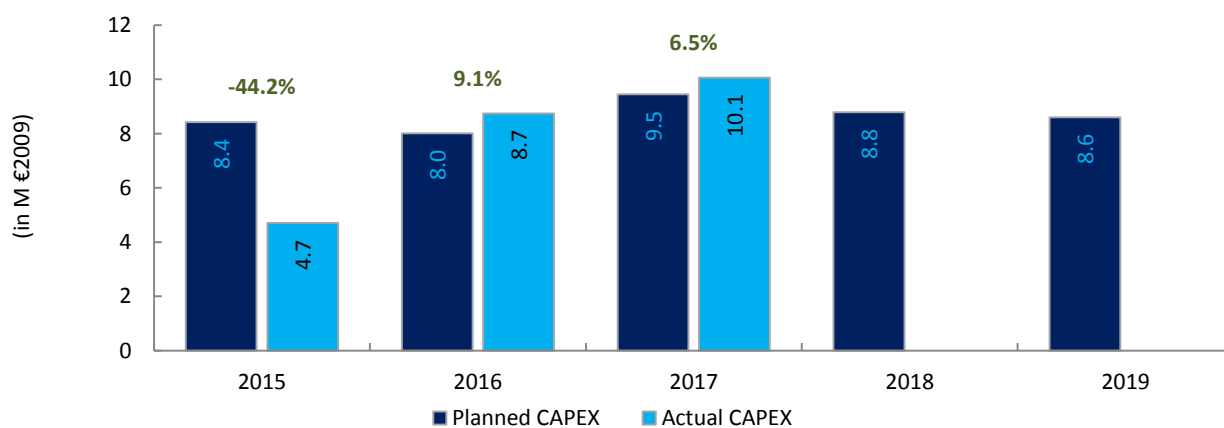
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Denmark: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	87 495 806	85 332 397	84 819 509	84 465 026	82 771 005																																							
Real terminal costs (EUR2009)	21 743 126	20 822 749	20 657 028	20 661 588	20 606 379																																							
Real gate-to-gate costs (EUR2009)	109 238 932	106 155 146	105 476 537	105 126 614	103 377 383																																							
En-route share (%)	80.1%	80.4%	80.4%	80.3%	80.1%																																							
Denmark: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	89 049 798	86 051 505	84 025 852																																									
Real terminal costs (EUR2009)	22 452 481	22 507 553	21 461 723																																									
Real gate-to-gate costs (EUR2009)	111 502 279	108 559 058	105 487 576																																									
En-route share (%)	79.9%	79.3%	79.7%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	2 263 347	2 403 912	11 039																																									
in %	2.1%	2.3%	0.01%																																									
En-route share																																												
in p.p.	-0.2 p.p.	-1.1 p.p.	-0.8 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs are close to plans (+0.01%, or +0.01 M€2009) resulting from the combination of lower than planned en-route costs (-0.9%, or -0.8 M€2009) and higher than planned terminal costs (+3.9%, or +0.8 M€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (79.7%) is -0.8 p.p. lower than planned (80.4%).</p> <p>For NAVIAIR, the estimated gate-to-gate economic surplus in 2017 amounts to +7.7 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 8.2% of gate-to-gate ANS revenues. See also Notes 1 and 2 at the end of this report.</p>																																												
<table border="1"> <caption>Data for Figure 2: Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>80.1%</td> <td>19.9%</td> </tr> <tr> <td>Actual</td> <td>79.9%</td> <td>20.1%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>80.4%</td> <td>19.6%</td> </tr> <tr> <td>Actual</td> <td>79.3%</td> <td>20.7%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>80.4%</td> <td>19.6%</td> </tr> <tr> <td>Actual</td> <td>79.7%</td> <td>20.3%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>80.3%</td> <td>19.7%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>80.1%</td> <td>19.9%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	80.1%	19.9%	Actual	79.9%	20.1%	2016	Determined	80.4%	19.6%	Actual	79.3%	20.7%	2017	Determined	80.4%	19.6%	Actual	79.7%	20.3%	2018	Determined	80.3%	19.7%	Actual			2019	Determined	80.1%	19.9%	Actual		
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	80.1%	19.9%																																									
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	Actual																																											
3. Technical notes on en-route and terminal information reported by Denmark																																												
Note 1: Reporting of 2015-2017 actual costs																																												
<p>Denmark reports in the June 2018 en-route Reporting Tables (see Additional Information 2.c) that actual costs are netted-off by the income from off shore activities in the North Sea, income from the training facility Entry Point North, as well as from EU TEN-T funding. Denmark clarified during the validation of June 2017 Reporting Tables that back in 2014 the determined costs were netted-off by corresponding estimated amounts. These issues, which affect actual costs and possibly the cost sharing for Denmark, are addressed through the assessment of the compliance of the unit rates process.</p>																																												
Note 2: Naviair capital structure																																												
<p>There is an inconsistency in the assumptions for the calculation of the cost of capital between en-route and terminal activities (in respect of the proportion of financing through equity and the interest rates on debts). This may affect the calculation of the surplus embedded in the cost of capital and the assessment of the Naviair overall estimated surplus on the en-route and terminal activity calculated in box 10.</p> <p>According to the June 2018 Reporting Tables, Naviair does not split the balance sheet based on the various cost bases, and there is no specific capital structure for en-route and terminal activities. Moreover, Naviair cost of capital is the combined amount of return on equity, interest payment on debt, and the deduction of capitalisation of interim interest.</p>																																												

DENMARK

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: NAVIAIR						
FAB: DK-SE FAB						
Currency: DKK						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	70.0	68.0	82.0	78.0	78.0	376.0
Main CAPEX (in nominal M)	70.0	68.0	82.0	78.0	78.0	376.0
Inflation %	1.8%	2.2%	2.2%	2.2%	2.2%	
Inflation index (100 in 2009)	111.6	114.1	116.6	119.1	121.8	
Exchange rate 2009	7.44337	7.44337	7.44337	7.44337	7.44337	
Total CAPEX (in M €2009)	8.4	8.0	9.5	8.8	8.6	43.3
Main CAPEX (in M €2009)	8.4	8.0	9.5	8.8	8.6	43.3
% Main of Total CAPEX	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Real gate-to-gate ANSP costs (in M €2009)	94.0	91.1	90.6	90.6	89.1	455.3
Total CAPEX as % of Real gate-to-gate ANSP costs	9.0%	8.8%	10.4%	9.7%	9.7%	9.5%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	38.0	70.6	82.2			
Main CAPEX (in nominal M)	38.0	70.6	82.2			
Inflation %	0.2%	0.0%	1.1%			
Inflation index (100 in 2009)	108.6	108.6	109.8			
Exchange rate 2009	7.44337	7.44337	7.44337			
Total CAPEX (in M €2009)	4.7	8.7	10.1			
Main CAPEX (in M €2009)	4.7	8.7	10.1			
% Main of Total CAPEX	100.0%	100.0%	100.0%			
Real gate-to-gate ANSP costs (in M €2009)	96.7	94.1	90.7			
Total CAPEX as % of Real gate-to-gate ANSP costs	4.9%	9.3%	11.1%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-32.0	2.6	0.2			
Total CAPEX (in M €2009)	-3.7	0.7	0.6			
Total CAPEX (in %, M €2009)	-44.2%	9.1%	6.5%			



Annual Monitoring Report 2017
Local level view
Sweden

SWEDEN

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	52	A	B	C	B	B
LFV NUAC	79	D	D	D	C	D

Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.

Application of the severity classification of the Risk Analysis Tool (RAT)		
	RAT application (%)	
	ATM Ground	ATM Overall
Separation Minima Infringements (SMIs)	100%	100%
Runway Incursions (RIs)	100%	100%
ATM Specific Occurrences (ATM-S)		100%
Source of RAT data:	STA	

Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)

Just culture		
State level	Number of questions answered	
	YES	NO
Policy and its implementation	6	1
Legal/Judiciary	5	2
Occurrence reporting and Investigation	2	0
TOTAL	13	3
LFV	Number of questions answered	
	YES	NO
Policy and its implementation	11	2
Legal/Judiciary	2	1
Occurrence reporting and Investigation	6	2
TOTAL	19	5

Observations

Three out of the four reviewed EoS M Components/areas of the State do not meet the 2019 EoS M target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.

Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only four are below Level C.

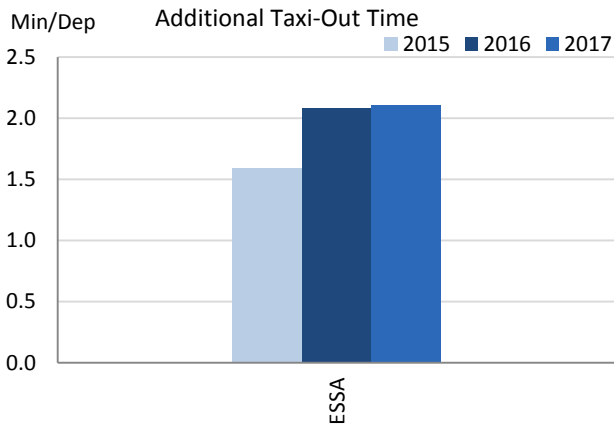
SWEDEN

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

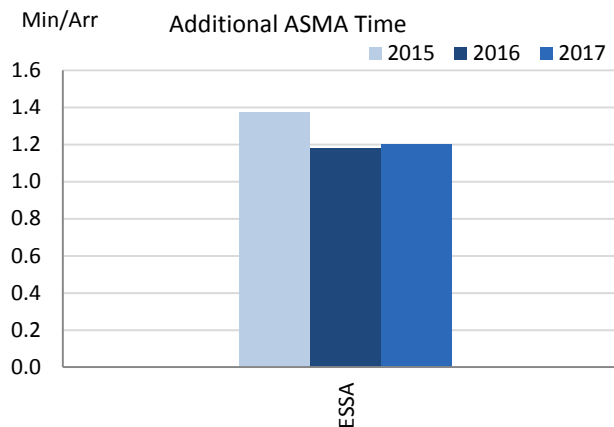
Stockholm/Arlanda (ESSA) is the only Swedish airport subject to RP2 monitoring. The APDF is successfully established and the data shows a remarkable performance at ESSA, being one of the best-in-class for airports with that level of traffic (nearly 250000 flights per year). Both environmental indicators have suffered negligible increase despite a traffic growth of 6%.

2. Additional Taxi-Out Time



The additional taxi-out time in Stockholm Arlanda is 2.11 min/arr., only 0.03 min/arr. more than last year. The indicator for ESSA sits in the lower part of the scatter plot that relates the performance regarding additional taxi-out time to the traffic levels for all airports in RP2. The performance at Stockholm is also better than the average for all monitored RP2 airports (3.33 min/dep.).

3. Additional ASMA Time



The additional time in the terminal area at Stockholm Arlanda is 1.2 min/arr., only 0.02 min/arr. more than last year. The indicator for ESSA is, like the additional taxi-out time, lower than most of the airports in its range of yearly movements, and well below the RP2 average (1.89 min/arr.).

4. Appendix

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

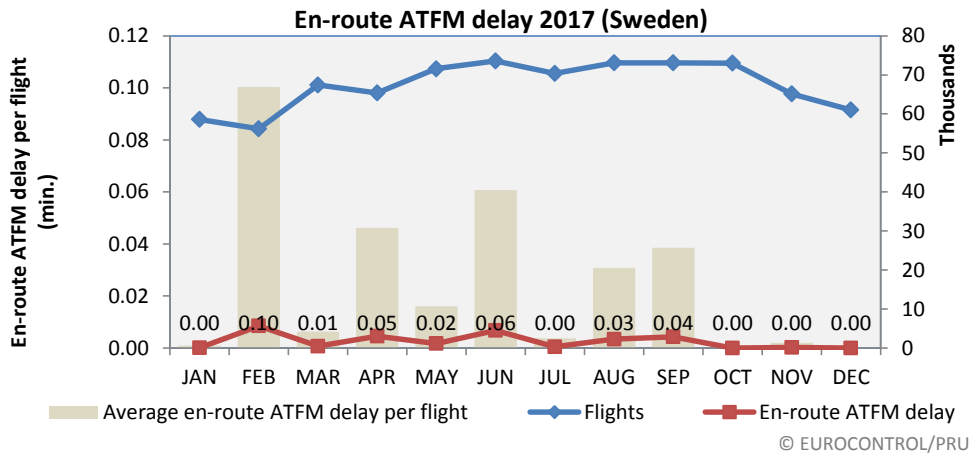
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Stockholm/ Arlanda	ESSA	1.59	2.08	2.11			1.37	1.18	1.20		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	N/A	N/A	N/A	N/A	N/A	FAB-wide incentive scheme in place.
Deadband +/-						
Actual performance	0.02	0.07	0.03			

National capacity incentive scheme

N/A

Observations regarding national capacity performance



En-route ATFM delay per flight (Sweden)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.11	0.03	0.16	0.11	0.04	0.03	0.03	0.02	0.07	0.03

Sweden continues to satisfy the national contribution required to meet the FAB target for en-route capacity in 2017. Traffic levels in Sweden have remained within those initially predicted in the STATFOR forecast available when FAB performance plans and associated capacity plans were being determined.

EUROCONTROL 7 year forecast February 2014 – Sweden									
	2014	2015	2016	2017	2018	2019			
	actual	actual	actual	actual					
High	745	776	813	843	875	907			
Base	737	761	784	802	822	841	739	751	808
Low	728	743	750	756	763	770			

Planning and Effective Use of CDRs

Sweden did not provide any data on this indicator.

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
86%	99%	78%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
0%	1%	3%		

Procedure 3 is not applicable within the State.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

SWEDEN

Monitoring of Airports Contribution to CAPACITY for 2017

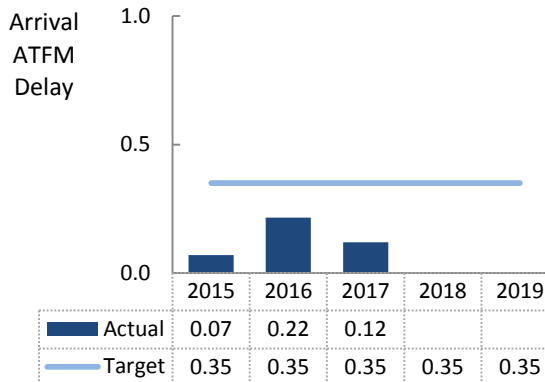
1. Overview

In Sweden, ANS at Stockholm/Arlanda (ESSA) airport are subject to RP2 monitoring. In terms of arrival ATFM delay the performance along RP2 meets the established constant target although some variations are observed in the reached level of delays.

With a traffic increase of 6% in 2017, the local performance remains amongst the best-in-class and shows no capacity-related constraints.

Sweden adequately contributes to the DK-SE FAB and European ANS Capacity performance.

2. Arrival ATFM Delay



In 2016, the arrival ATFM delay in ESSA suffered an important increase due to two specific technical occurrences.

In 2017, and despite a traffic increase of 6%, a reduction in the terminal ATFM delay is observed, once again placing ESSA in the group of best-in-class airports with a yearly movement above 225 000 flights.

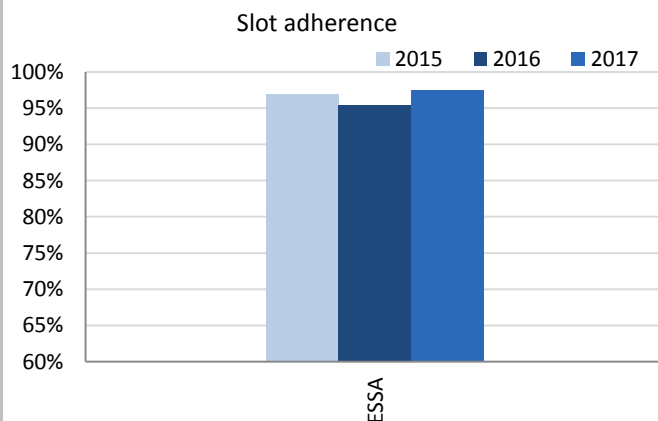
The actual performance exceeds the established national target. It must be noted that this target has been established as an upper bound in line with the maximum arrival ATFM delay observed throughout the years preceding RP2.

3. Arrival ATFM Delay – National Target and Incentive Scheme

Sweden established a national target on arrival ATFM delay based on an upper bound of the maximum arrival ATFM delay observed throughout the years preceding RP2. This target has been met every year of RP2 so far.

No incentive scheme is established. A reference is provided in the supporting documentation that the establishment of an incentive scheme for terminal ANS may be reviewed in 2017, but nothing is presented in the DK-SE monitoring report.

4. ATFM Slot Adherence



Slot adherence at Stockholm/Arlanda (ESSA), after a reduction in 2016, has improved again and it reaches 97.5% in 2017.

Stockholm/Arlanda ranges in the group of best-in-class performers across Europe.

5. Pre-departure Delay

Pre-departure delay at ESSA has increased again in 2017, reaching 0.12 min/dep.

In 2016 the increased value was driven by the performance in May, when there was a spike in the pre-departure delay. In a similar way, 2017's performance is driven by a clear peak observed in August.

Sweden is monitoring the development.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Stockholm/ Arlanda	ESSA	0.07	0.22	0.12			96.9%	95.4%	97.5%			0.04	0.09	0.12		

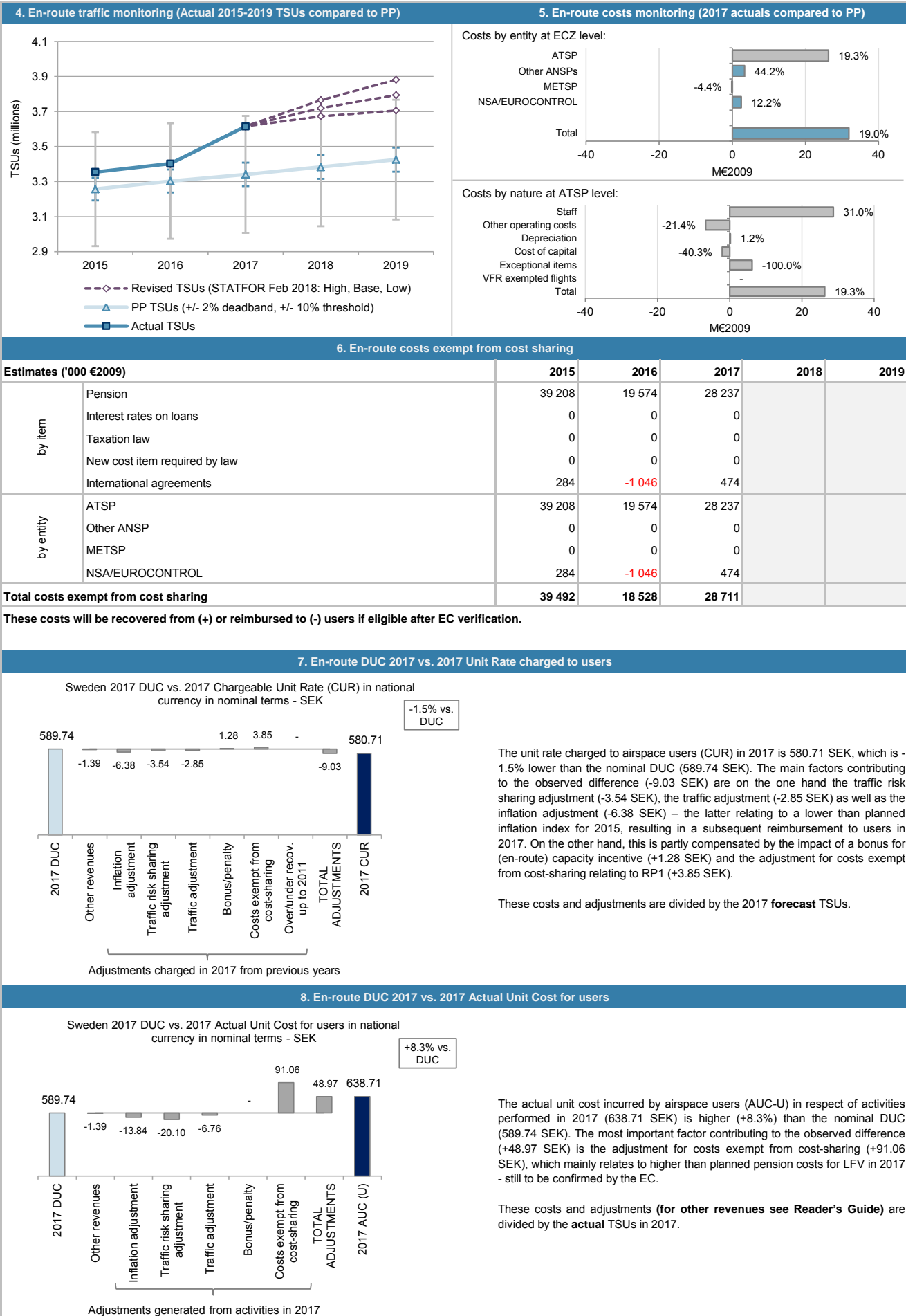
SWEDEN: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services																								
· Sweden ECZ represents 2.7% of the SES en-route ANS determined costs in 2017																								
· ATSP: Lfv																								
· FAB: DK-SE FAB																								
· National currency: SEK Exchange rate 2009: 1 EUR = 10.6102 SEK																								
2. En-route DUC monitoring at Charging Zone level																								
Sweden: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)	2015D	2016D	2017D	2018D	2019D																			
En-route costs (nominal SEK)	1 951 544 485	1 974 263 091	1 970 314 688	1 964 628 986	1 958 887 595																			
Inflation %	1.6%	2.4%	2.1%	2.0%	2.0%																			
Inflation index (100 in 2009)	106.1	108.6	110.9	113.1	115.4																			
Real en-route costs (SEK2009)	1 840 204 091	1 817 994 673	1 777 040 937	1 737 169 570	1 698 130 296																			
Total en-route Service Units	3 257 000	3 303 000	3 341 000	3 383 000	3 425 000																			
Real en-route unit cost per Service Unit (SEK2009)	565.00	550.41	531.89	513.50	495.80																			
Real en-route unit cost per Service Unit (EUR2009)	53.25	51.88	50.13	48.40	46.73																			
Sweden: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A																			
En-route costs (nominal SEK)	2 373 538 863	2 103 180 988	2 286 059 042																					
Inflation %	0.7%	1.1%	1.9%																					
Inflation index (100 in 2009)	104.9	106.0	108.1																					
Real en-route costs (SEK2009)	2 262 850 219	1 983 284 204	2 115 541 574																					
Total en-route Service Units	3 354 938	3 401 901	3 615 171																					
Real en-route unit cost per Service Unit (SEK2009)	674.48	582.99	585.18																					
Real en-route unit cost per Service Unit (EUR2009)	63.57	54.95	55.15																					
Difference between Actuals and Planned	2015	2016	2017	2018	2019																			
En-route costs (nominal SEK)	421 994 378	128 917 896	315 744 354																					
	in %	21.6%	6.5%	16.0%																				
Inflation %	-0.9 p.p.	-1.3 p.p.	-0.2 p.p.																					
Inflation index (100 in 2009)	-1.2 p.p.	-2.6 p.p.	-2.8 p.p.																					
Real en-route costs (SEK2009)	422 646 128	165 289 531	338 500 637																					
	in %	23.0%	9.1%	19.0%																				
Total en-route Service Units	97 938	98 901	274 171																					
	in %	3.0%	3.0%	8.2%																				
Real en-route unit cost per Service Unit (SEK2009)	109.48	32.59	53.30																					
	in %	19.4%	5.9%	10.0%																				
Real en-route unit cost per Service Unit (EUR2009)	10.32	3.07	5.02																					
	in %	19.4%	5.9%	10.0%																				
3. Focus on en-route at State/Charging Zone level																								
<p>En-route unit cost</p> <p>In 2017, the actual en-route unit cost in real terms (585.18 SEK2009, or 55.15 €2009) is +10.0% higher than the DUC target (531.89 SEK2009, or 50.13 €2009). This difference results from the combination of significantly higher than planned en-route costs in real terms (+19.0%, or +338.5 MSEK2009, or +31.9 M€2009) and higher than planned TSUs (+8.2%).</p> <p>It should be noted that the large deviation in en-route costs is mainly driven by significantly higher than planned Lfv pension costs reported as costs exempt from cost-sharing.</p> <p>Excluding this impact, the actual en-route unit cost in real terms would be 502.31 SEK2009, which is -5.6% lower than the 2017 DUC target.</p> <p>En-route service units</p> <p>The difference between actual and planned TSUs (+8.2%) falls outside the ±2% dead-band, but within the ±10% alert threshold foreseen in the traffic risk-sharing mechanism. The resulting additional en-route revenues relating to traffic risk sharing are therefore shared between the main en-route ATSP (Lfv) and the airspace users, with the gain retained by Lfv amounting to +5.3 M€2009.</p> <p>Considering the STATFOR February 2018 TSUs forecasts, it appears that the TSUs are very likely to remain significantly higher than planned throughout RP2 in all forecast scenarios. It is noteworthy that the TSUs forecasts underpinning the en-route DUC targets were in line with the STATFOR February 2014 TSUs <u>low</u> case forecast scenario.</p> <p>En-route costs</p> <p>In nominal terms, actual en-route costs are +16.0% higher than planned. However, since the actual inflation index is lower than foreseen (-2.8 p.p.), the actual en-route costs are +19.0% higher than planned when expressed in €2009.</p> <p>The higher than planned en-route costs in real terms (338.5 MSEK2009 or 31.9 M€2009) are mainly driven by the main ATSP-Lfv (+19.3%, or +26.3 M€2009). Actual costs are also higher than planned for other ANSPs (+44.2%, or +3.3 M€2009) and the NSA/EUROCONTROL (+12.2%, or +2.4 M€2009), while lower than planned actual costs are observed for the MET service provider (-4.4%, or -0.2 M€2009). A detailed analysis of the main en-route ATSP (Lfv) costs is provided below in Box 12.</p> <p>The 2017 costs exempt from cost-sharing are reported for a total amount of +28.7 M€2009 relating to Lfv pension costs (+28.2 M€2009) and EUROCONTROL costs (+0.5 M€2009), the latter due to differences in exchange rates since 2017 actual EUROCONTROL costs are lower than planned. These costs will be carried-over (charged to airspace users) to the following reference period(s), if deemed eligible by the European Commission.</p>																								
<table border="1"> <caption>Difference between actual and determined en-route costs (real terms)</caption> <thead> <tr> <th>Year</th> <th>Difference (%)</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>23.0%</td> </tr> <tr> <td>2016</td> <td>9.1%</td> </tr> <tr> <td>2017</td> <td>19.0%</td> </tr> <tr> <td>2018</td> <td></td> </tr> <tr> <td>2019</td> <td></td> </tr> </tbody> </table>							Year	Difference (%)	2015	23.0%	2016	9.1%	2017	19.0%	2018		2019							
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Year	En-route DUC (PP, €2009)	En-route unit costs (actual, €2009)																						
2015	53.25	63.57																						
2016	51.88	54.95																						
2017	50.13	55.15																						
2018	48.40																							
2019	46.73																							

SWEDEN: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017



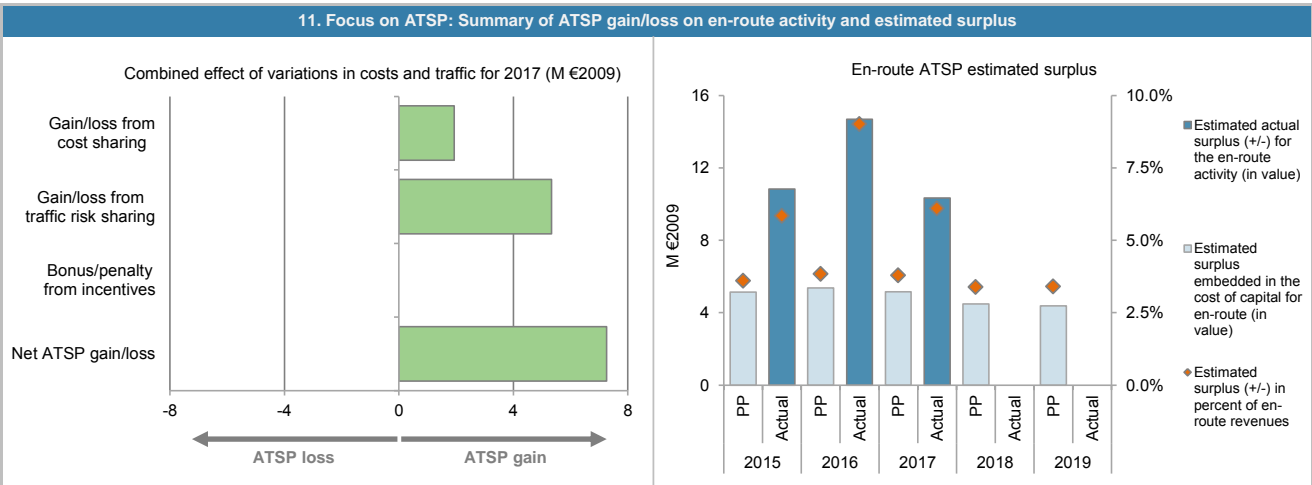
SWEDEN: En-route ATSP (LFV)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	142 525	140 007	136 052		
Actual costs for the ATSP	178 067	151 533	162 360		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-35 542	-11 526	-26 308		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	39 208	19 574	28 237		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	3 666	8 048	1 930		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	3.0%	3.0%	8.2%		
Determined costs for the ATSP (PP) - based on actual inflation	142 582	141 910	138 139		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	3 282	3 261	5 335		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	362	0	0		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	7 310	11 309	7 264		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	143 708	127 587	116 010	105 112	102 862
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	143 708	127 587	116 010	105 112	102 862
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	5 135	5 373	5 152	4 479	4 375
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	3.6%	4.2%	4.4%	4.3%	4.3%
Estimated surplus embedded in the cost of capital for en-route (in value)	5 135	5 373	5 152	4 479	4 375
Overall estimated surplus (+/-) for the en-route activity	5 135	5 373	5 152	4 479	4 375
Revenue/costs for the en-route activity	142 525	140 007	136 052	132 252	128 529
Estimated surplus (+/-) in percent of en-route revenues	3.6%	3.8%	3.8%	3.4%	3.4%
Estimated ex-ante RoE pre-tax rate (in %)	3.6%	4.2%	4.4%	4.3%	4.3%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	112 788	107 724	98 309		
Estimated proportion of financing through equity (in %)	*see Note 1	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	112 788	107 724	98 309		
Estimated proportion of financing through debt (in %)	*see Note 1	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	3 516	3 367	3 074		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	*see Note 1	3.1%	3.1%		
Estimated surplus embedded in the cost of capital for en-route (in value)	3 516	3 367	3 074		
Net ATSP gain(+)/loss(-) on en-route activity	7 310	11 309	7 264		
Overall estimated surplus (+/-) for the en-route activity	10 826	14 676	10 338		
Revenue/costs for the en-route activity	185 377	162 842	169 624		
Estimated surplus (+/-) in percent of en-route revenues	5.8%	9.0%	6.1%		
Estimated ex-post RoE pre-tax rate (in %)	9.6%	13.6%	10.5%		

SWEDEN: En-route ATSP (LFV)

Monitoring of en-route COST-EFFICIENCY for 2017



12. Focus on en-route ATSP: General conclusions

Actual 2017 LFV en-route costs vs. PP

In 2017, LFV actual en-route costs, in real terms, are significantly higher than planned (+19.3%, or +26.3 M€2009), see also **Note 2**. Based on the June 2018 en-route Reporting Tables, the observed deviation results from the combination of:

- Significantly higher than planned staff costs (+31.0%, or +28.7 M€2009), mainly due to higher pension costs driven by a lower discount rate than assumed in the Performance Plan for RP2. The difference between the actual and planned pension costs is reported as costs exempt from cost-sharing (see Box 6).
- Significantly lower than planned other operating costs (-21.4%, or -6.7 M€2009), mainly reflecting the cost-cutting measures implemented by LFV, including lower ATCOs training costs, lower maintenance costs and lower SESAR-costs.
- Higher than planned depreciation costs (+1.2%, or +0.2 M€2009), "which is mainly a result of changed depreciation periods after an inventory."
- Significantly lower than planned cost of capital (-40.3%, or -2.1 M€2009), reflecting a lower than planned asset base (-15.3%, or -17.7 M€2009), as well as the use of a lower than planned RoE rate (3.1% instead of 4.4%) to compute actual cost of capital. See also **Note 1**.

It is also noteworthy that a deduction of -6.2 M€2009 was foreseen in the PP as (negative) exceptional costs for LFV, reflecting a "top-down" approach used by Sweden to ensure that each party in Sweden en-route cost-base contributes to the objective of cost-efficiency. This deduction also contributes to the observed deviation between LFV actual and determined costs in 2017.

LFV net gain/loss on en-route activity in 2017

As shown in box 9, LFV generated a net gain of +7.3 M€2009 on the en-route activity, assuming the costs exempt from cost-sharing are allowed by the European Commission, or a net loss of -21.0 M€2009 otherwise. This is a combination of two elements:

- a gain of +1.9 M€2009 arising from the cost-sharing mechanism, taking into account the 2017 costs exempt from cost sharing as disclosed in the Reporting Tables (+28.2 M€2009), or a loss of -26.3 M€2009 otherwise; and,
- a gain of +5.3 M€2009 arising from the traffic risk-sharing mechanism.

According to the NSA Monitoring Report, the en-route capacity performance in 2017 remained within the dead-band and therefore no bonus is foreseen.

LFV overall 2017 estimated surplus for the en-route activity (see Note 2)

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+7.3 M€2009) and the surplus embedded in the actual cost of capital (+3.1 M€2009) amounts to +10.4 M€2009 (6.1% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 10.5%, which is higher than the 4.4% planned for 2017.

Excluding the effect of the costs exempt from cost-sharing, LFV would incur a negative surplus of -17.9 M€2009 in 2017 or 12.7% of the 2017 en-route revenue in absolute terms.

SWEDEN: Terminal charging zone

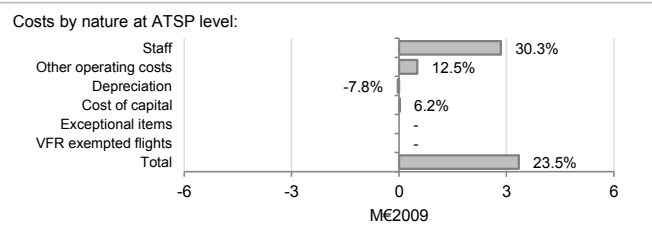
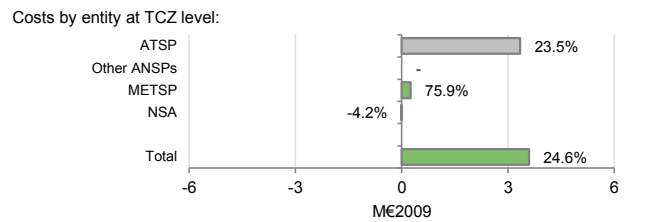
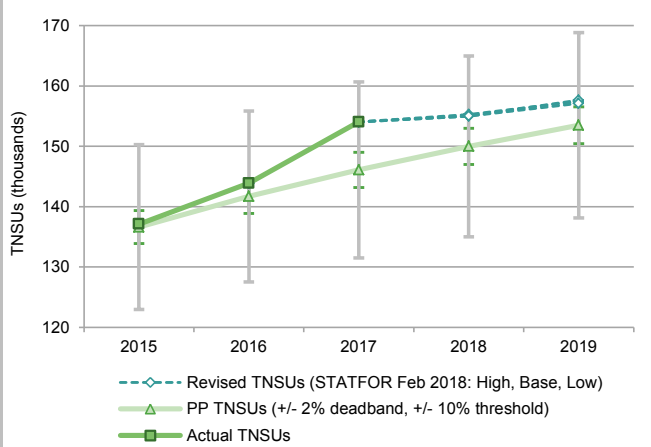
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Sweden TCZ represents 1.4% of the SES terminal ANS determined costs in 2017			· Is this TCZ applying traffic risk sharing?	No	
· ATSP: Lfv			· Airports with fewer than 70,000 IFRs ATMs:	0	
· National currency: SEK			· Airports with between 70,000 and 225,000 IFRs ATMs:	1	
· Number of airports in charging zone in 2017: 1,		of which:	· Airports with more than 225,000 IFRs ATMs:	0	
2. Terminal DUC monitoring at Charging Zone level					
Sweden: Data from RP2 Performance Plan	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal SEK)	169 678 803	170 109 786	172 098 429	175 956 588	178 967 182
Inflation %	1.6%	2.4%	2.1%	2.0%	2.0%
Inflation index (100 in 2009)	106.1	108.6	110.9	113.1	115.4
Real terminal costs (SEK2009)	159 998 211	156 645 123	155 216 806	155 584 812	155 143 968
Total terminal Service Units	136 600	141 700	146 100	150 000	153 500
Real terminal unit cost per Service Unit (SEK2009)	1 171.29	1 105.47	1 062.40	1 037.23	1 010.71
Real terminal unit cost per Service Unit (EUR2009)	110.39	104.19	100.13	97.76	95.26
Sweden: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal SEK)	207 983 086	196 748 751	208 932 322		
Inflation %	0.7%	1.1%	1.9%		
Inflation index (100 in 2009)	104.9	106.0	108.1		
Real terminal costs (SEK2009)	198 283 912	185 532 625	193 348 030		
Total terminal Service Units	137 100	143 900	154 056		
Real terminal unit cost per Service Unit (SEK2009)	1 446.27	1 289.32	1 255.05		
Real terminal unit cost per Service Unit (EUR2009)	136.31	121.52	118.29		
Difference between Actuals and Planned	2015	2016	2017	2018	2019
Terminal costs (nominal SEK)	38 304 283	26 638 965	36 833 893		
	in value				
	in %				
Inflation %	-0.9 p.p.	-1.3 p.p.	-0.2 p.p.		
	in p.p.				
Inflation index (100 in 2009)	-1.2 p.p.	-2.6 p.p.	-2.8 p.p.		
	in p.p.				
Real terminal costs (SEK2009)	38 285 701	28 887 502	38 131 224		
	in value				
	in %				
Total terminal Service Units	500	2 200	7 956		
	in value				
	in %				
Real terminal unit cost per Service Unit (SEK2009)	274.98	183.85	192.65		
	in value				
	in %				
Real terminal unit cost per Service Unit (EUR2009)	25.92	17.33	18.16		
	in value				
	in %				
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Sweden Terminal Charging Zone (TCZ) comprising only Stockholm-Arlanda airport for which no traffic risk sharing applies.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (1 255.05 SEK2009, or 118.29 €2009) is +18.1% higher than the 2017 DUC target (1 062.40 SEK2009, or 100.13 €2009). This difference results from the combination of significantly higher than planned terminal costs in real terms (+24.6%, or +38.1 MSEK2009, or +3.6 ME2009) and higher than planned TNSUs (+5.4%).</p> <p>As for en-route, the large deviation in terminal costs is mainly driven by significantly higher than planned Lfv pension costs reported as costs exempt from cost-sharing.</p> <p>Excluding this impact, the actual terminal unit cost in real terms would be 1 051.62 SEK2009, which is -1.0% below the 2017 DUC target.</p> <p>Terminal service units The traffic risk sharing mechanism does not apply in the Sweden TCZ. The difference between actual and planned TNSUs (+5.4%) therefore generates additional terminal revenues, which will be fully reimbursed to airspace users in 2019.</p> <p>Terminal costs In nominal terms, the 2017 actual terminal costs are +21.4% higher than planned. However, since the 2017 actual inflation index is lower than planned (-2.8 p.p.), the actual terminal costs are +24.6% higher than planned in real terms.</p> <p>The higher than planned 2017 terminal costs, in real terms, are mainly driven by the ATSPs (Lfv and Swedavia, +23.5%, or +3.3 ME2009). Actual costs are also higher than planned for the MET SP (+75.9%, or +0.3 ME2009), while actual NSA costs are lower than planned (-4.2%, or -0.002 ME2009). A detailed analysis of the ATSPs (Lfv and Swedavia) costs is provided in box 12.</p> <p>Costs exempt from cost-sharing are reported for an amount of +3.0 ME2009 in 2017 corresponding to Lfv pension costs. These costs will be carried-over (charged to airspace users) to the following reference period(s), if deemed eligible by the European Commission.</p>					

SWEDEN: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) **5. Terminal costs monitoring (2017 actuals compared to PP)**



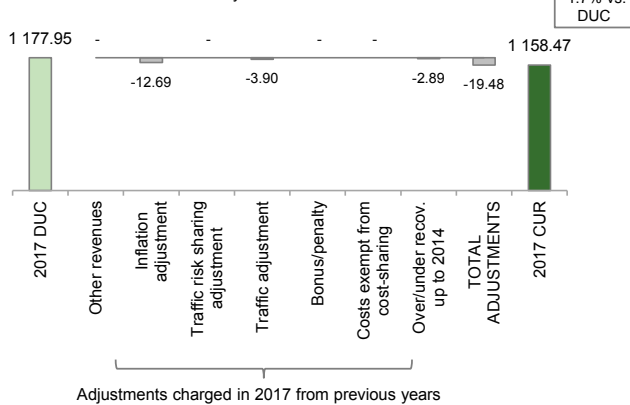
6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	3 449	2 008	2 954		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	3 449	2 008	2 954		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		3 449	2 008	2 954		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

Sweden 2017 DUC vs. 2017 Chargeable Unit Rate (CUR) in national currency in nominal terms - SEK

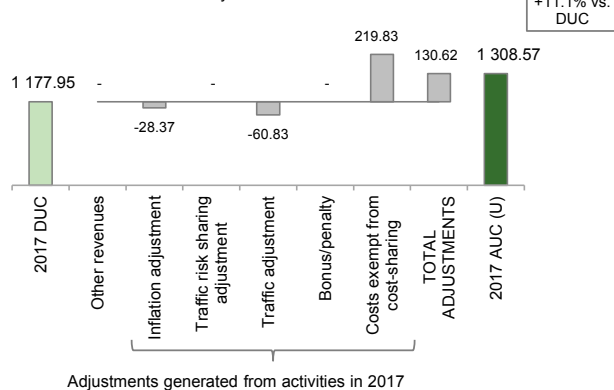


The unit rate charged to airspace users (CUR) in 2017 is 1 158.47 SEK, which is -1.7% lower than the nominal DUC (1 177.95 SEK). The difference between these two figures (-19.48 SEK) relates mainly to the inflation adjustment (-12.69 SEK), which reflects lower than planned inflation index for 2015 resulting in a subsequent reimbursement to airspace users in 2017.

These costs and adjustments are divided by the 2017 forecast TNSUs.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users

Sweden 2017 DUC vs. 2017 Actual Unit Cost for users in national currency in nominal terms - SEK



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (1 308.57 SEK) is +11.1% higher than the nominal DUC (1 177.95 SEK). The observed difference (+130.62 SEK) is driven by the adjustment for costs exempt from cost-sharing (+219.83 SEK) reflecting entirely higher than planned pension costs for LFV in 2017. This is partially offset by the inflation adjustment (-28.37 SEK) and traffic adjustment (-60.83 SEK).

These costs and adjustments are divided by the actual TNSUs in 2017.

SWEDEN: Terminal ATSP (LFV)

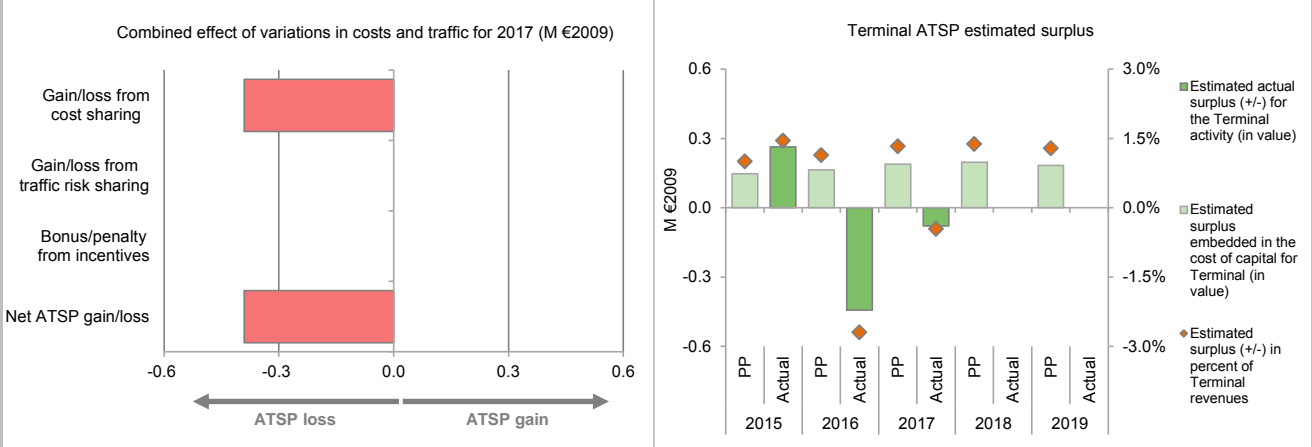
Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	14 731	14 382	14 262		
Actual costs for the ATSP	18 173	17 073	17 607		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-3 442	-2 691	-3 345		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	3 449	2 008	2 954		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	7	-683	-391		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	7	-683	-391		
	<i>*see Note 2</i>				
10. Focus on ATSP: Terminal ATSP estimated surplus *					
<small>* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.</small>					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	4 588	4 764	4 974	5 078	4 613
Estimated proportion of financing through equity (in %)	27.7%	29.7%	32.9%	33.5%	34.4%
Estimated proportion of financing through equity (in value)	1 273	1 416	1 639	1 701	1 586
Estimated proportion of financing through debt (in %)	72.3%	70.3%	67.1%	66.5%	65.6%
Estimated proportion of financing through debt (in value)	3 316	3 348	3 335	3 377	3 027
Cost of capital pre-tax (in value)	263	281	306	314	289
Average interest on debt (in %)	3.5%	3.5%	3.5%	3.5%	3.5%
Interest on debt (in value)	116	117	117	118	106
Determined RoE pre-tax rate (in %)	11.5%	11.5%	11.5%	11.5%	11.5%
Estimated surplus embedded in the cost of capital for terminal (in value)	147	163	189	196	183
Overall estimated surplus (+/-) for the terminal activity	147	163	189	196	183
<i>*see Note 2</i>					
Revenue/costs for the terminal activity	14 731	14 382	14 262	14 294	14 242
Estimated surplus (+/-) in percent of terminal revenues	1.0%	1.1%	1.3%	1.4%	1.3%
Estimated ex-ante RoE pre-tax rate (in %)	11.5%	11.5%	11.5%	11.5%	11.5%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	4 682	4 034	3 298		
Estimated proportion of financing through equity (in %)	47.4%	51.5%	81.9%		
Estimated proportion of financing through equity (in value)	2 220	2 079	2 701		
Estimated proportion of financing through debt (in %)	52.6%	48.5%	18.1%		
Estimated proportion of financing through debt (in value)	2 462	1 955	597		
Cost of capital pre-tax (in value)	342	308	325		
Average interest on debt (in %)	3.5%	3.5%	2.2%		
Interest on debt (in value)	86	68	13		
Determined RoE pre-tax rate (in %)	11.5%	11.5%	11.5%		
Estimated surplus embedded in the cost of capital for terminal (in value)	256	240	312		
Net ATSP gain(+)/loss(-) on terminal activity	7	-683	-391		
Overall estimated surplus (+/-) for the terminal activity	263	-443	-79		
<i>*see Note 2</i>					
Revenue/costs for the terminal activity	18 180	16 390	17 216		
Estimated surplus (+/-) in percent of terminal revenues	1.4%	-2.7%	-0.5%		
Estimated ex-post RoE pre-tax rate (in %)	11.8%	-21.3%	-2.9%		

SWEDEN: Terminal ATSP (LFV)

Monitoring of terminal COST-EFFICIENCY for 2017

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 ATSPs (LFV and Swedavia) terminal costs vs. PP

The actual terminal costs for ATSPs (LFV and Swedavia), in real terms, are significantly higher than planned in 2017 (+23.5%, or +3.3 M€2009). This difference results from the combination of:

- Significantly higher than planned staff costs (+30.3%, or +2.8 M€2009). As for en-route, this difference is mainly due to higher than planned pension costs for LFV, which are reported as costs exempt from cost-sharing (see Box 6);
- Higher than planned other operating costs (+12.5%, or +0.5 M€2009) reflecting entirely higher than planned other operating costs for Swedavia (+22.2%, or +0.5 M€2009), while other operating costs for LFV are slightly below plans (-0.2%);
- Lower than planned depreciation costs (-7.8%, or -0.03 M€2009); and,
- Higher than planned cost of capital (+6.2%, or +0.02 M€2009).

It is noteworthy that no capital related costs (depreciation and cost of capital) are reported for LFV in the terminal Reporting Tables. These costs are fully borne by the airport operator (Swedavia, see also **Note 2**) owning the CNS infrastructure used by LFV to provide terminal ANS.

According to the June 2018 terminal Reporting Tables "Swedavia's determined costs contain a calculation error which make the comparison of actual costs and determined costs by each row in the table below not applicable for RP2. The actual costs 2017 were higher than the determined costs. Among other things due to operational cost of procedures and power supply."

ATSPs (LFV and Swedavia) 2017 net gain/loss on terminal activity

As shown in box 9 above, the terminal activity generated a net loss of -0.4 M€2009 in 2017 as a result of the cost sharing mechanism, assuming the reported costs exempt from cost-sharing are deemed eligible by the European Commission. Otherwise, the ATSPs would incur a net loss of -3.3 M€2009.

According to the NSA Monitoring Report, no capacity incentive is applied in relation to Terminal Capacity.

ATSPs (LFV and Swedavia) 2017 overall estimated surplus for the terminal activity (see **Note 2)**

Ex-post, the 2017 overall estimated surplus for ATSPs (LFV and Swedavia), taking into account the net loss from the terminal activity mentioned above (-0.4 M€2009) and the surplus embedded in the cost of capital (+0.3 M€2009), amounts to -0.1 M€2009. This implies a negative surplus (0.5% of the 2017 terminal revenues in absolute terms) and a negative ex-post RoE (-2.9%) in 2017. This indicates that the surplus embedded in the actual cost of capital through the return on equity was not sufficient to compensate for the losses arising from the higher than planned actual costs.

Excluding the costs exempt from cost sharing, the ATSPs would incur even larger negative surplus of -3.0 M€2009 in 2017 or 21.3% of the 2017 terminal revenues in absolute terms.

Finally, considering the fact that LFV does not report any cost of capital (i.e. there is no surplus embedded in the cost of capital), the 2017 overall economic surplus for LFV (excluding Swedavia's part) is equal to the net loss of -0.2 M€2009, as shown in the table below.

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	10 498	10 299	10 299		
Actual costs for the ATSP	13 895	12 389	13 500		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-3 397	-2 091	-3 201		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	3 449	2 008	2 954		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	52	-83	-247		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bon	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	52	-83	-247		

SWEDEN: Gate-to-gate

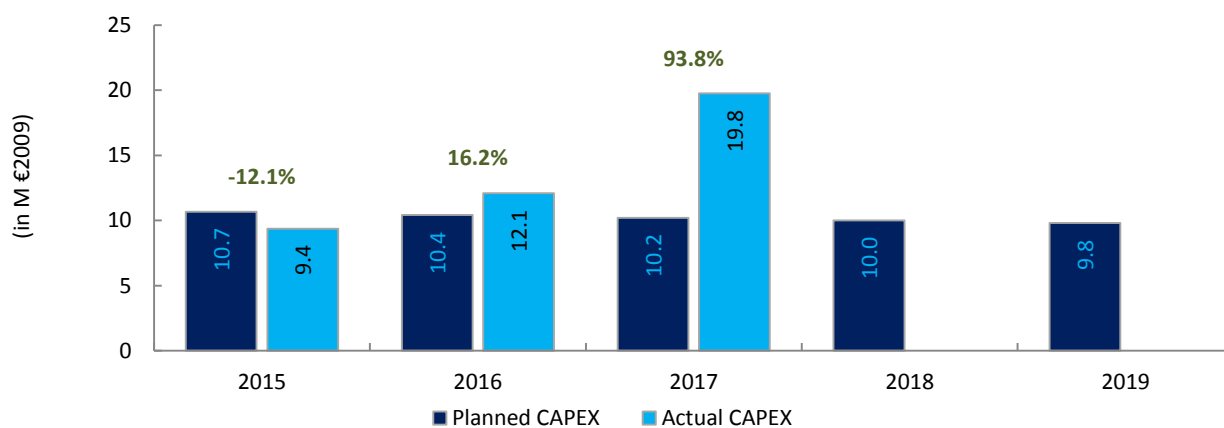
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Sweden: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	173 437 267	171 344 053	167 484 207	163 726 374	160 046 964																																							
Real terminal costs (EUR2009)	15 079 660	14 763 635	14 629 018	14 663 702	14 622 153																																							
Real gate-to-gate costs (EUR2009)	188 516 927	186 107 688	182 113 225	178 390 076	174 669 117																																							
En-route share (%)	92.0%	92.1%	92.0%	91.8%	91.6%																																							
Sweden: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	213 271 212	186 922 415	199 387 530																																									
Real terminal costs (EUR2009)	18 688 047	17 486 251	18 222 845																																									
Real gate-to-gate costs (EUR2009)	231 959 259	204 408 666	217 610 375																																									
En-route share (%)	91.9%	91.4%	91.6%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)	in value	43 442 332	18 300 978	35 497 150																																								
	in %	23.0%	9.8%	19.5%																																								
En-route share	in p.p.	-0.1 p.p.	-0.6 p.p.	-0.3 p.p.																																								
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs are significantly higher than planned (+19.5, or +35.5 M€2009) due to higher than planned actual costs in both en-route (+19.0%, or +31.9 M€2009) and terminal ANS activities (+24.6%, or +3.6 M€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (91.6%) is very close to plans (-0.3 p.p.) for 2017 (92.0%).</p> <p>For LFV (see Note 2), the estimated gate-to-gate economic surplus in 2017 amounts to +10.3 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 5.5% of gate-to-gate revenues.</p>																																												
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>92.0%</td> <td>8.0%</td> </tr> <tr> <td>Actual</td> <td>91.9%</td> <td>8.1%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>92.1%</td> <td>7.9%</td> </tr> <tr> <td>Actual</td> <td>91.4%</td> <td>8.6%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>92.0%</td> <td>8.0%</td> </tr> <tr> <td>Actual</td> <td>91.6%</td> <td>8.4%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>91.8%</td> <td>8.2%</td> </tr> <tr> <td>Actual</td> <td>91.6%</td> <td>8.4%</td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>91.6%</td> <td>8.4%</td> </tr> <tr> <td>Actual</td> <td>91.6%</td> <td>8.4%</td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	92.0%	8.0%	Actual	91.9%	8.1%	2016	Determined	92.1%	7.9%	Actual	91.4%	8.6%	2017	Determined	92.0%	8.0%	Actual	91.6%	8.4%	2018	Determined	91.8%	8.2%	Actual	91.6%	8.4%	2019	Determined	91.6%	8.4%	Actual	91.6%	8.4%
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	92.0%	8.0%																																									
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	Actual	91.6%	8.4%																																									
2019	Determined	91.6%	8.4%																																									
	Actual	91.6%	8.4%																																									
3. Technical notes on en-route and terminal information reported by Sweden																																												
Note 1: ATSP return on equity (RoE) and cost of capital																																												
<p>In preparing this report, some 'adjustments' were made to the en-route data disclosed by Sweden relating to the LFV cost of capital. According to the Additional Information provided with the June 2018 en-route Reporting Tables "LFV has no financing through loans, the debt consists of the pensions debt. The used interest for this equals inflation in our wacc-calculations." On the other hand, it is noted that the asset base does not include the pension debt. To reflect this, the table in box 10 has been amended, by changing the actual proportion of financing through equity to 100% and aligning the actual RoE pre-tax rate (in %) with the WACC pre-tax rate (in %).</p> <p>It is to be noted that the actual en-route cost of capital reported for LFV is calculated using a lower RoE pre-tax rate (3.1%) compared to the planned one (4.4%, see also Note 2 below).</p>																																												
Note 2: ATSP costs reported in en-route and terminal Reporting Tables																																												
<p>In the en-route Reporting Tables, the data provided for the ATSPs (LFV and ACR) include also the costs relating to the CNS infrastructure owned by the airport operators. This reporting impairs the analysis of the overall estimated en-route surplus for LFV calculated in box 10. For compliance with the charging regulation, it is required to present separately the costs of the different ATSPs and other entities (i.e. here the airport operators).</p> <p>In the terminal Reporting Tables, the costs of the main terminal ATSP (LFV) and airport operator (Swedavia) are presented separately. For monitoring purposes, the overall estimated terminal surplus for ATSPs (LFV and Swedavia) is presented in box 10, while the estimation of LFV surplus is provided in box 12.</p>																																												

SWEDEN

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: LFV						
FAB: DK-SE FAB						
Currency: SEK						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	120.0	120.0	120.0	120.0	120.0	600.0
Main CAPEX (in nominal M)	110.0	101.0	66.0	60.0	55.0	392.0
Inflation %	1.6%	2.4%	2.1%	2.0%	2.0%	
Inflation index (100 in 2009)	106.1	108.6	110.9	113.1	115.4	
Exchange rate 2009	10.6102	10.6102	10.6102	10.6102	10.6102	
Total CAPEX (in M €2009)	10.7	10.4	10.2	10.0	9.8	51.1
Main CAPEX (in M €2009)	9.8	8.8	5.6	5.0	4.5	33.6
% Main of Total CAPEX	91.7%	84.2%	55.0%	50.0%	45.8%	65.9%
Real gate-to-gate ANSP costs (in M €2009)	157.3	154.4	150.3	146.5	142.8	751.3
Total CAPEX as % of Real gate-to-gate ANSP costs	6.8%	6.7%	6.8%	6.8%	6.9%	6.8%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	104.3	136.2	226.7			
Main CAPEX (in nominal M)	47.9	89.4	134.6			
Inflation %	0.7%	1.1%	1.9%			
Inflation index (100 in 2009)	104.9	106.0	108.1			
Exchange rate 2009	10.6102	10.6102	10.6102			
Total CAPEX (in M €2009)	9.4	12.1	19.8			
Main CAPEX (in M €2009)	4.3	7.9	11.7			
% Main of Total CAPEX	45.9%	65.6%	59.4%			
Real gate-to-gate ANSP costs (in M €2009)	196.2	168.6	180.0			
Total CAPEX as % of Real gate-to-gate ANSP costs	4.8%	7.2%	11.0%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-15.7	16.2	106.7			
Total CAPEX (in M €2009)	-1.3	1.7	9.6			
Total CAPEX (in %, M €2009)	-12.1%	16.2%	93.8%			



Annual Monitoring Report 2017
Local level view
FAB CE

FAB CE

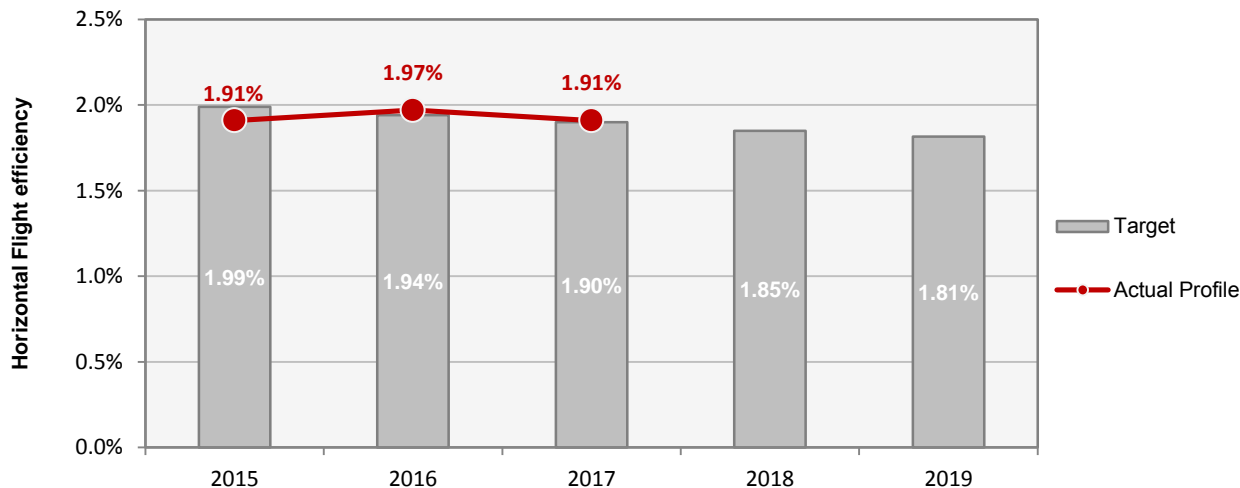
Monitoring of SAFETY for 2017

Effectiveness of Safety Management							
			2015 Value	2016 Value	2017 Value	2018 Value	2019 Target
Union-wide targets	at State level	For all MOs					C
	at ANSP level	For Safety Culture MO					C
		For all other MOs					D
FAB level	States / Regulatory authorities	For all MOs	B	B	B		
	ANSPs	For Safety Culture MO	C	D	D		
	ANSPs	For all other MOs	C	C	C		
Application of the severity classification of the Risk Analysis Tool (RAT)							
Ground Score			2015 Value	2016 Value	2017 Target	2018 Value	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%		100%
	Runway Incursions (RIs)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	100%	96%		
	Runway Incursions (RIs)		100%	100%	100%		
Overall Score			2015 Value	2016 Value	2017 Target	2018 Target	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%	>= 80%	>= 80%
	Runway Incursions (RIs)				>= 80%	>= 80%	>= 80%
	ATM Specific Occurrences (ATM-S)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	100%	97%		
	Runway Incursions (RIs)		95%	100%	100%		
	ATM Specific Occurrences (ATM-S)		91%	85%	100%		
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)							
Observations							
The lowest level in all EoS M Component/area of the States is Level B which is below the 2019 EoS M target level. All components are at this level. Safety Policy and Objectives is already at the 2019 EoS M target level.							

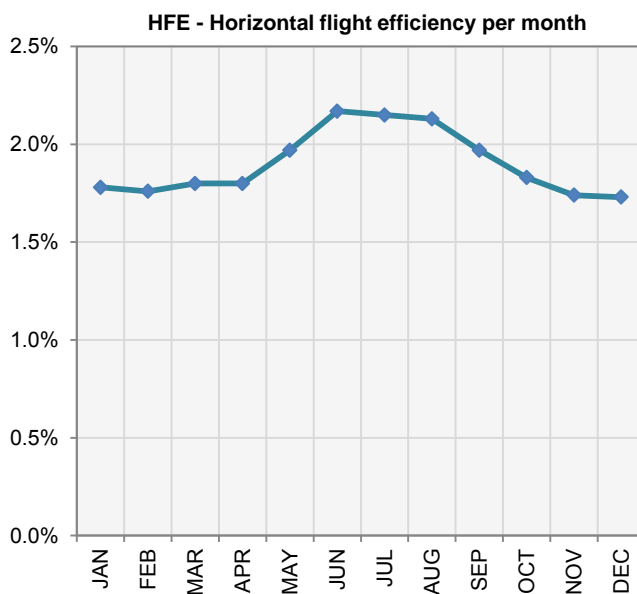
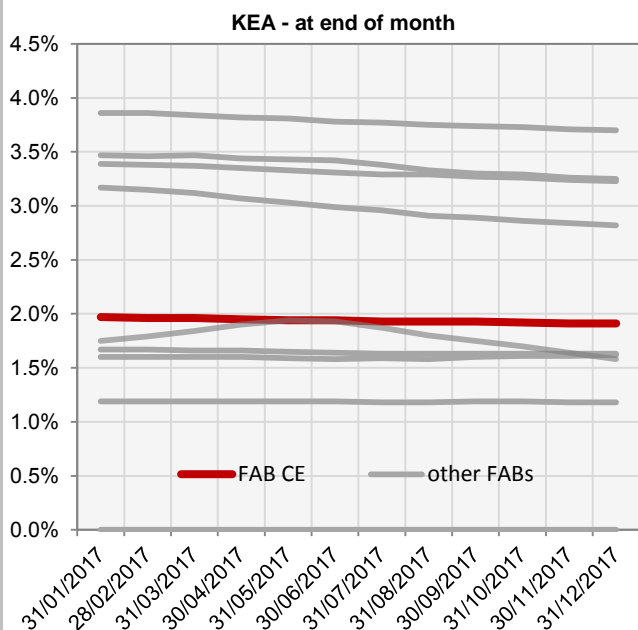
FAB CE

Monitoring of ENVIRONMENT for 2017

KEA					
	2015	2016	2017	2018	2019
FAB Target	1.99%	1.94%	1.90%	1.85%	1.81%
Actual performance	1.91%	1.97%	1.91%		



Monthly KEA and HFE evolution in 2017												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA (at end of month)	1.97%	1.96%	1.96%	1.95%	1.94%	1.94%	1.93%	1.93%	1.93%	1.92%	1.91%	1.91%
HFE	1.78%	1.76%	1.80%	1.80%	1.97%	2.17%	2.15%	2.13%	1.97%	1.83%	1.74%	1.73%



HFE refers to the ratio of flown distance and achieved distance over all (portions of) trajectories in the month, while KEA is the ratio 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.

Corrective measures applied, as reported by the FAB

Any corrective measures are applied as necessary during the review process performed annually for regular updates of the FAB CE Network Operations Plan and the FAB CE Airspace Plan. The two documents are annually updated and the FAB CE operational experts are currently preparing updated 2018 issues of both documents. The network and sector design principles and criteria are compliant to the principles and criteria outlined in the European Route Network Improvement Plan (ERNIP) developed by EUROCONTROL.

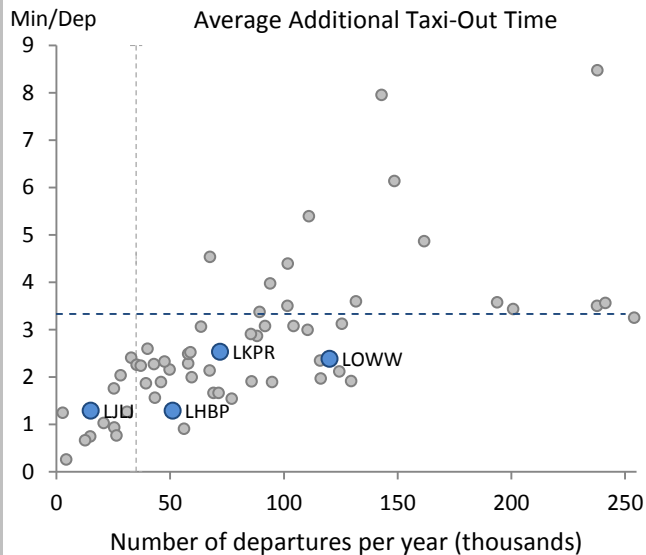
Observations

NM recommendations (ERNIP 2018, Part 2):
Maintain current implementation plans in FAB CE, including cross-border plans.

1. Overview

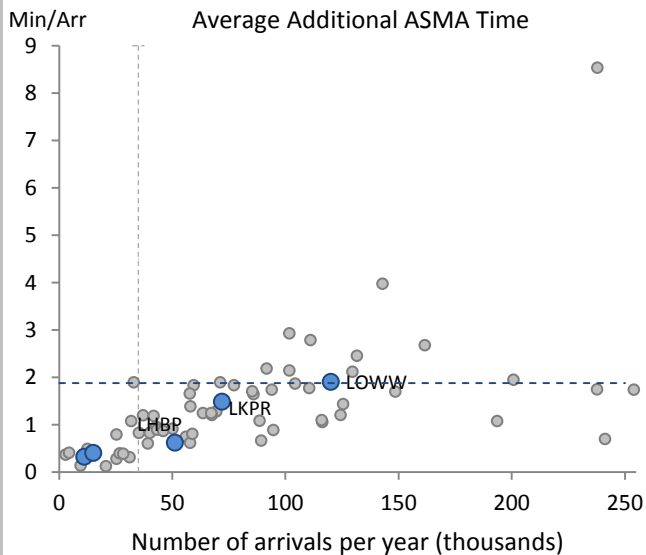
There are 16 airports in FAB CE under RP2 monitoring. Nevertheless, the monitoring of 12 of them cannot be performed due to the lack of data. Only 4 airports have properly established the Airport Operator Data Flow. The performance of these few airports that can be monitored show values in line with the European trend.

2. Additional Taxi-Out Time



Available data only allows for calculation of additional taxi-out times at Vienna (LOWW), Prague (LKPR), Budapest (LHBP) and Ljubljana (LJI). All of them show performances below the RP2 average.

3. Additional ASMA Time



The additional ASMA times at available airports in FAB CE are commensurate with the level of traffic.

Minutes of ATFM en-route delay						Observations
	2015	2016	2017	2018	2019	
FAB Reference Value	0.30	0.29	0.29	0.29	0.29	
FAB Target	0.29	0.29	0.28	0.28	0.27	
Actual performance	0.21	0.08	0.18			

FAB CE assessment of capacity performance

FAB CE met and exceeded its en-route capacity target achieving 0.18 minutes. All states met or exceeded their capacity targets in spite of significant traffic increase in some states (notably in Hungary) and in spite of experiencing extremely significant weather delays paired with significant traffic increase in case of Austria. The overall performance of all FAB CE states can be described as sustainably meeting the targets, without any major disruptions or industrial actions respectively.

Monitoring process for capacity performance

The FAB CE monitoring process is established through the FAB CE Network OPS Group (FNOGP) responsible for the development and annual maintenance of the FAB CE Network Operations Plan (FNOP), in line with the European Network Operations Plan (process coordinated and managed by the Network Manager, and the Network Manager reports to the member states via the Single Sky Committee) and European Performance Scheme, satisfying FAB CE operational needs. The FNOP includes and considers ANSP strategic operational planning issues, State strategic operational planning (National Performance Plans), and contributes to the FAB CE Performance Plan and its coordination and validation.

Application of Corrective Measures for Capacity

Any corrective measures are applied as necessary during the review process performed annually for regular updates of the FAB CE Network Operations Plan and the FAB CE Airspace Plan.

Capacity Planning

Planned capacity enhancement measures of individual States are listed in detail in the European Network Operations Plan 2018-2019/22, as well as in the national LSSIPs (chapter 2) and updated version of the FAB CE Network Operations Plan 2018.

Assessment of capacity performance

It is noted that, despite a deterioration in en-route performance from 2016, FAB CE provided a positive contribution to the Union-wide target for en-route capacity in 2017 by achieving a level of en-route capacity performance that surpassed the FAB CE target. Traffic levels in FAB CE rose by 4,5% on 2016 levels. The evolution of traffic in FAB CE is shown below and it is noticeable that although traffic levels were above the high scenario in 2014 and 2015, they remain below the forecasted high scenario for 2016 and 2017, as calculated by STATFOR and available when the FAB performance plans and associated capacity plans were being determined. It is also noted that the Network Manager expects FAB CE to continue providing a positive contribution to the Union-wide target for 2018 although expects capacity problems in 2019, mainly due to airspace reorganisation and system implementation in Prague ACC.

EUROCONTROL 7 year forecast February 2014 – FAB CE										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	1917		1994		2104		2201		2300	2402
Base	1889	1928	1942	2001	2008	2060	2067	2153	2122	2190
Low	1861		1889		1912		1936		1962	1991

En route Capacity Incentive Scheme

Annex E of the revised FAB CE performance plan, submitted in July 2015, contained details of the en-route capacity incentive scheme to be implemented within FAB CE during RP2. The incentive scheme would be based upon both FAB-wide and national performance levels according to the formula:

Bonus/Penalty = FAB PONDER x NATIONAL ANSP ELEMENT x 0.5% ANSP EN-ROUTE REVENUE.

In cases where the FAB capacity performance is better than the FAB target, then ONLY bonuses would be paid - no penalty would apply even if the local ANSP performed worse than the national target. (Vice versa, if FAB capacity performance was worse than the FAB target, then only penalties would be paid - no bonuses even if the local ANSP performed better than the national target.)

Compliance Issues Regarding FAB Capacity Incentive Scheme

A compliance issue relating to the en-route capacity incentive scheme proposed in the FAB CE revised performance plan has been noted, in the assessment of the RP2 FAB Performance Plans - FAB CE. The compliance issue concerned the fact that the ANSP contribution was not consistent with the FAB targets or the FAB reference value.

The FAB CE monitoring report stated that no compliance issues were addressed.

Result of FAB Capacity Incentive Scheme

The FAB CE reports that the actual FAB delay of 0.18 minutes per flight instead of the FAB target of 0.28 minutes per flight, results in a FAB PONDER of 25% to be applied for the five States that surpassed their national capacity target, by at least the 3pp deadband: Croatia, Czech Republic, Hungary, Slovakia and Slovenia. Neither penalties nor bonuses will be applied to Austria which, although achieving its national target, did not exceed the deadband. Further details of capacity-related bonuses are presented in the national reports following.

Update on Military dimension of the plan

The development of the concepts for the flexible utilisation and dynamic airspace management, civil/military cooperation and dynamic ATFCM processes, procedures and systems are ongoing within the framework of DAM/STAM projects.

On FAB CE level the individual States are implementing strategic CIV-MIL planning to identify and agree on the applicable airspace structures to be used in ASM processes and the principles applied in the use of the areas. Implementation of – or changes to – areas which have been identified as being of common interest to other FAB CE States (near-border areas affecting traffic flows and traffic delivery across FAB CE borders) should be communicated between the impacted FAB CE States to establish high level procedures in managing the affected traffic flows with minimum impact to the airspace users. Procedures to be applied in the use of the areas on tactical level should be disseminated to impacted FAB CE States for information.

Large scale exercises having network-wide impact are communicated and coordinated well in advance between the FAB CE States to enable common planning of rerouting and capacity balancing scenarios with close Network Manager cooperation/coordination.

It is recognized that the definition and design of military areas, and buffers/separation rules associated thereto is purely a State issue. The complete harmonization of military airspace design remains unlikely. However, the buffers/separation applied by the neighbouring States around the military areas is of interest to neighbouring States, as well as in the interest of FAB CE level network.

The FAB CE States are encouraged to implement the military areas in modular fashion when applicable/practicable to be able to apply different airspace utilisation options on pre-tactical/tactical level which optimise the airspace available for the military mission while minimising the impact on the network.

JCMACC is going to work with other FAB CE bodies on further methodology in harmonization of airspace design.

Observations on Military dimension of the plan

The update of information regarding civil military cooperation and coordination is appreciated.

Application of FUA

Application of ASM, FUA concept and decision related thereto remain as national issues in FAB CE, although increased information sharing and harmonization in the operational procedures applied to manage airspaces affecting other FAB CE States is proposed. It is recognised that ASM and the use of military areas are issues of national sovereignty and the ASM related procedures proposed in the Airspace Plan are not intended to breach that sovereignty but to enable more proactive planning of FAB CE airspace utilisation. However, enhanced information exchange related to national ASM processes on all levels will enable a more optimum use of FAB CE airspace and reduce the need for ad hoc coordination on tactical level in the future.

All FAB CE states have fully operational Airspace Management Cells (AMC) in accordance with the Commission Regulation (EC) No 2150/2005 (Bosnia and Herzegovina is going to introduce AMC by the end of 2018. However, Bosnia and Herzegovina is not part of the SES Performance Scheme). Croatia is the first to implement the AMC Portal, a unique airspace management solution operationally used in the Republic of Croatia from 1st of June 2017. The AMC Portal is a web-based airspace management tool, developed by Croatia Control. It provides relevant information to all airspace users in real time and enables direct communication between all airspace users and the ASM organization. By providing targeted information, it gives users the opportunity of making reservations of airspace by directly submitting a request and communicating with the ASM organization.

The Flexible Use of Airspace in FAB CE states is implemented in line with the following principles:

FUA LEVEL 1 - High-level airspace policy body (HLAPB), consisting of civil and military representatives on the state level. HLAPB executes the strategic level of FUA. It formalised the national decision making process by issuing a Protocol of National High-Level Airspace Policy Body (i.e. airspace charter), which executed FUA principles in accordance with provision of the regulation and also takes into account the needs of all airspaces users. It also ensures annual reporting in accordance with the regulation. States national regulations on FUA provided legal basis for establishment of HLAPB in the AMC and also committed the AMC to provide expert support to the HLAPB.

FUA LEVEL 2 - AMC executes the Level 2 of FUA task. There is no joint (cross-border) AMC established within the FAB CE.

FUA LEVEL 3 - FUA Level 3 in accordance with art. 6 of FUA regulation is performed by the ANSPs and MIL (separated, collocated or integrated) units. Civil-military coordination procedures are in place. Military contribution and consideration of military interests in operational FAB CE projects (e.g. CEF financed Free Route study) have been provided. Standard operating procedures are developed for usage, activation and deactivation of military modular areas. Bookings for SUA are based on FUA principles. There are established procedures for avoiding traffic peaks, but still enabling military priorities when necessary. For military mission effectiveness ad-hoc airspace reservation procedures are in place.

Observations of the Application of FUA

The update of information about the HLAPB is welcomed, taking into account the needs of all airspace users in FUA level 1. It is also noted that in FUA level 3 there are established procedures for avoiding traffic peaks but still enabling military priorities when necessary. Sharing information on how this is accomplished could be beneficial to many other States seeking to optimise the management of airspace for the benefit of all airspace users.

FAB CE

Monitoring of Airports Contribution to CAPACITY for 2017

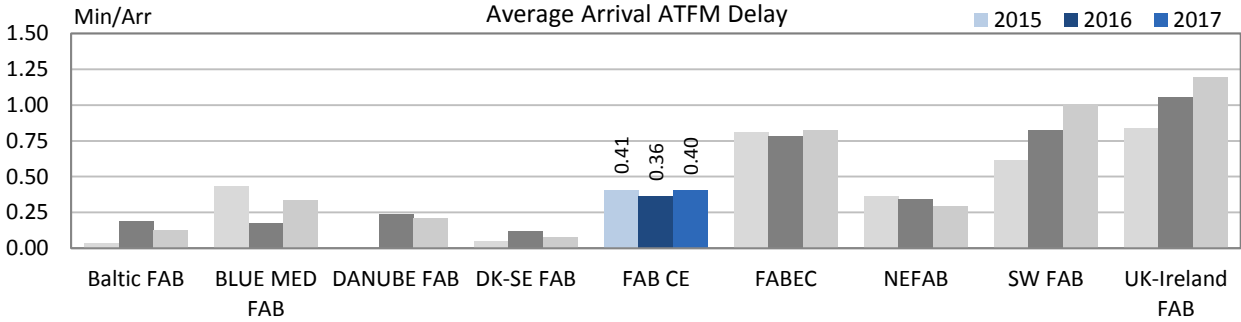
1. Overview

FAB CE contributes adequately to the airport-related ANS Capacity performance in Europe. The FAB aggregated average of arrival ATFM delay, despite a slight increase of 0.04 min/arr. in 2017, still ranges well below the European average (0.74 min/arr.).

The overall performance of the airports in FAB CE is driven primarily by Vienna (LOWW) and to a lesser extent by Prague (LKPR) and Budapest (LHBP)

The ANS performance at other FAB CE airports is commensurate with the level of traffic and shows no specific capacity constraint. These airports accrue negligible arrival ATFM delay and most of them demonstrate a best-in-class compliance with ATFM slots.

2. Arrival ATFM Delay



Across Europe, FAB CE achieves a good performance in terms of arrival ATFM delay of 0.40 min/arr. in 2017.

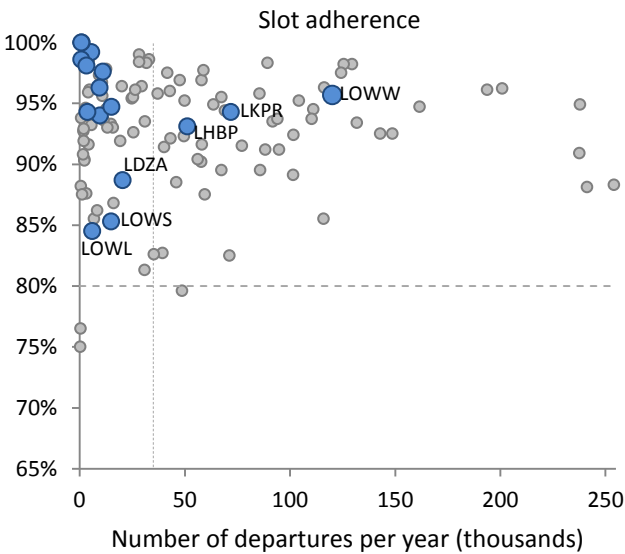
3. Arrival ATFM Delay – National Targets and Incentive Schemes

The plan sets a national target on arrival ATFM delay with a breakdown for each of the major airports per FAB CE Member State. For Austria, a challenging target has been established entailing an improvement of 0.5 minutes per arrival as of 2016.

All 6 states in the FAB have met their target on arrival ATFM delay in 2015, 2016 and 2017.

The FAB CE performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for FAB CE Member States.

4. ATFM Slot Adherence



There is a varied performance in terms of adherence to ATFM slots. While the majority range around and above 95%, the observed performance at Linz (LOWL), Salzburg (LOWS) and Zagreb (LDZA) differs significantly from the better performing services at the other airports.

5. Pre-departure Delay

Across FAB CE the implementation of the Airport Operator Data Flow is still limited. FAB CE is encouraged to strengthen the effort to ensure the timely implementation and consistency of monitoring of pre-departure delay.

Annual Monitoring Report 2017
Local level view
Austria

AUSTRIA

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	66	C	C	C	C	C
Austro Control	91	D	E	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	N/A	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	AustroControl					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	8	1				
Legal/Judiciary	6	1				
Occurrence reporting and Investigation	2	0				
TOTAL	16	2				
Austro Control	Number of questions answered					
	YES	NO				
Policy and its implementation	13	0				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	6	2				
TOTAL	21	3				
Observations						
All four reviewed EoS M Components/areas of the State meet Level C.						

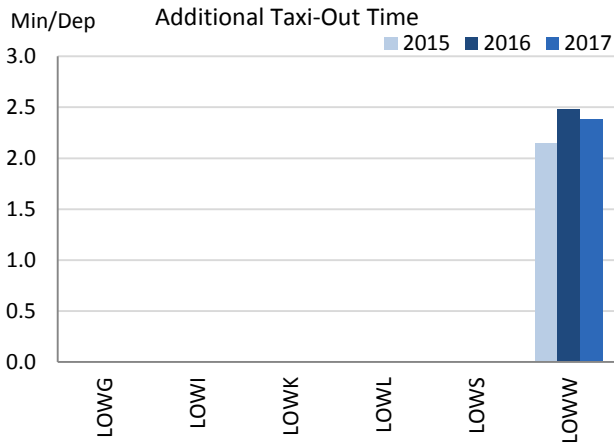
AUSTRIA

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

Austria identified six airports as subject to RP2 monitoring. However there is only data available from Vienna (LOWW) as the rest of airports have not yet established the Airport Operator Data Flow. Vienna's performance is commensurate to its number of movements, which has remained at the same level since 2015. The rest of Austrian airports should implement the APDF for an adequate monitoring.

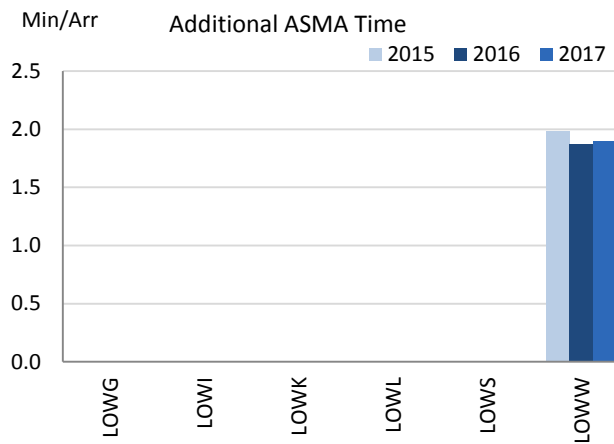
2. Additional Taxi-Out Time



Average additional taxi-out time at Vienna in 2017 has slightly decreased thanks mainly to the minimum impact on the operations during November and December, compared to the previous year 2016.

The additional TXOT in LOWW in 2017 is 2.38 min/dep., one minute less than the average of the RP2 monitored airports.

3. Additional ASMA Time



Additional times in the terminal airspace for LOWW remain below 2 min/arr. and very close to the European average (i.e. 2017: LOWW: 1.90 min/arr. vs RP2 airports: 1.89 min/arr.).

4. Appendix

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

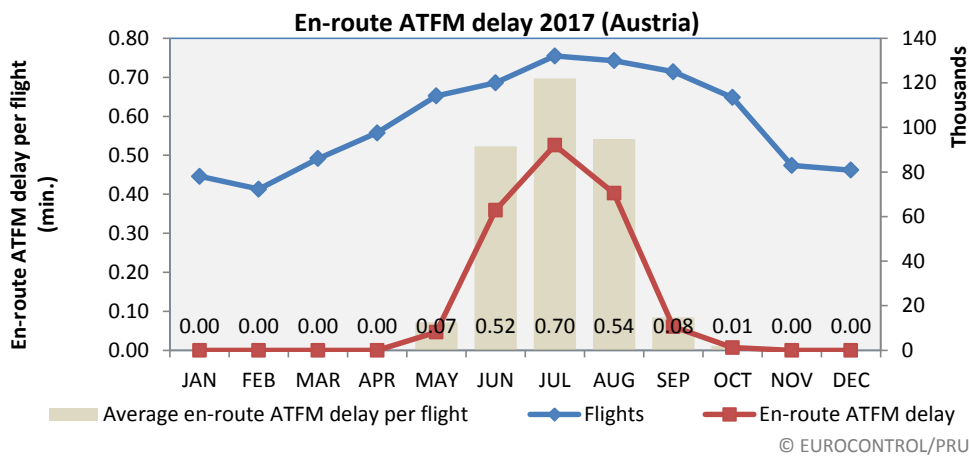
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Graz	LOWG	n/a	n/a	n/a			n/a	n/a	n/a		
Innsbruck	LOWI	n/a	n/a	n/a			n/a	n/a	n/a		
Klagenfurt	LOWK	n/a	n/a	n/a			n/a	n/a	n/a		
Linz	LOWL	n/a	n/a	n/a			n/a	n/a	n/a		
Salzburg	LOWS	n/a	n/a	n/a			n/a	n/a	n/a		
Vienna	LOWW	2.15	2.48	2.38			1.98	1.87	1.90		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.21	0.21	0.20	0.19	0.19	FAB CE reports national performance for Austria according to the Vienna FIR, consistent with the FAB CE performance plan.
Deadband +/-	0.03	0.03	0.03	0.03	0.03	
Actual performance	0.06	0.05	0.20			

National capacity incentive scheme

Although FAB CE surpassed the FAB target and Austria met the national target, the capacity performance (0.20) fell within the deadband (+/- 0.03 minutes) of the target, therefore no bonus is due to Austrocontrol.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Austria)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1.10	0.97	1.23	0.18	0.13	0.21	0.02	0.06	0.05	0.20

Even though 2017 saw a significant deterioration of en-route capacity performance in Austria (0.20 minutes delay per flight) compared to 2016 (0.05 minutes delay per flight), Austria was still able to meet its national target. Traffic levels rose by almost 5% from 2016 levels, but remains within the predicted high traffic forecast from STATFOR in February 2014 when the performance plans and associated capacity plans were being determined. FAB CE flag "extremely significant weather delays paired with significant traffic increase in case of Austria" in the FAB report. In the latest version of the Network Operations Plan, the Network Manager warns about potential capacity shortfalls in Vienna ACC for the remainder of RP2. In the same report, the Network Manager also highlights the significant capacity shortfalls expected in Karlsruhe UAC south sectors which are responsible for providing ANS over a significant portion of the Vienna FIR.

EUROCONTROL 7 year forecast February 2014 – Austria									
	2014	2015	2016	2017	2018	2019			
		actual	actual	actual	actual				
High	1132	1183	1242	1293	1346	1397			
Base	1116	1153	1168	1218	1248	1284	1152	1232	
Low	1099	1121	1132	1143	1157	1172			

Planning and Effective Use of CDRs

Not applicable since AIRAC Nov 2016, Austria has declared Free Route Airspace from GND-UNL.

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
70%	74%	70%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
N/A	N/A	N/A		

Procedure 3 is not applicable within the State.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

AUSTRIA

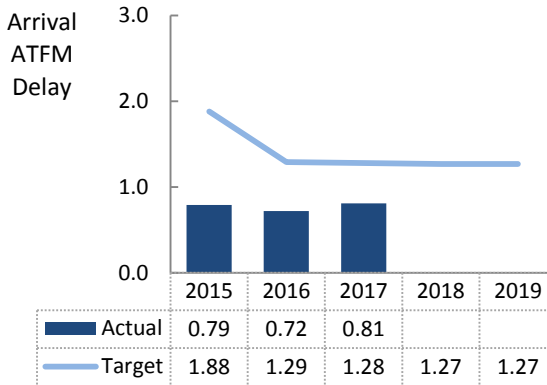
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

In Austria, ANS at a total of 6 airports is subject to RP2 monitoring. Austria established a national target on arrival ATFM delay. The level of arrival ATFM delays have marginally increased in 2017 but the national target is once more fully met. Austria has not established an incentive scheme for the national target.

The adherence to ATFM slots has improved and in 2017 the average slot adherence at Austrian airports was close to 95%. To ensure the consistent monitoring of pre-departure delay, Austria is encouraged to strengthen the level of implementation of the Airport Operator Data Flow across the airports. The flow is currently only implemented for LOWW.

2. Arrival ATFM Delay



The national average of arrival ATFM delay has increased slightly in 2017 (2016: 0.72 min/arr. vs 2017: 0.81 min/arr.).

The major driver for the national arrival ATFM performance is Vienna airport (LOWW). LOWW has increased slightly its average arrival ATFM delay (2016: 0.96 min/arr. vs 2017: 1.08 min/arr.) rising the national value to 0.81 min/arr. in 2017.

However the national target for 2017 was met.

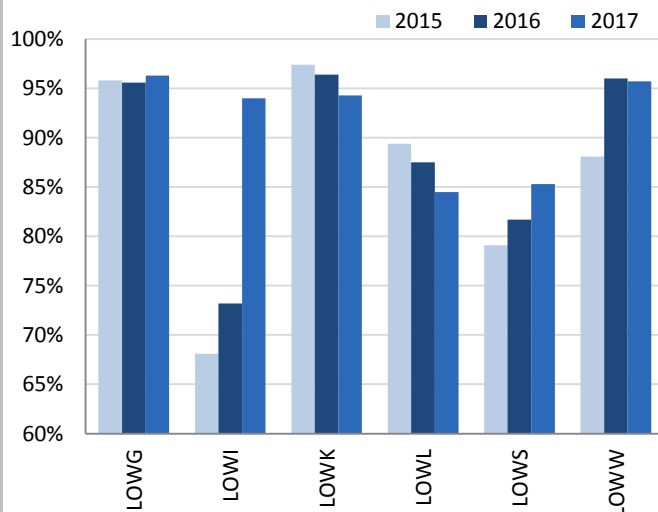
3. Arrival ATFM Delay – National Target and Incentive Scheme

The FAB CE performance plan sets a national target on arrival ATFM delay for Austria. This target was met in every year of the RP2 so far.

The performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for Austria, so no bonuses apply.

4. ATFM Slot Adherence

Slot adherence



2017 has seen a great improvement in the compliance with the ATFM slots at Innsbruck (LOWI: 2016: 73.2%; 2016: 94.0%), and also to a lesser degree at Salzburg (LOWS: 2016: 81.7%; 2016: 85.3%). These improvements have raised the compliance at national level and contributed positively to the predictability of the network.

The performance at Linz, on the other hand, has decreased for the second year in a row and sits now below 85%.

5. Pre-departure Delay

The Airport Operator Data Flow is currently only established for Vienna (LOWW). To ensure consistency of the reporting, Austria shall encourage and empower the respective airport operator reporting entities to implement the Airport Operator Data Flow.

The observed performance at LOWW improved slightly in 2017 to 1.07 min/dep. (2016: 1.16 min/dep.).

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Graz	LOWG	0.00	0.00	0.00			95.8%	95.6%	96.3%			n/a	n/a	n/a		
Innsbruck	LOWI	0.01	0.05	0.22			68.1%	73.2%	94.0%			n/a	n/a	n/a		
Klagenfurt	LOWK	0.00	0.00	0.00			97.4%	96.4%	94.3%			n/a	n/a	n/a		
Linz	LOWL	0.00	0.00	0.00			89.4%	87.5%	84.5%			n/a	n/a	n/a		
Salzburg	LOWS	0.07	0.12	0.05			79.1%	81.7%	85.3%			n/a	n/a	n/a		
Vienna	LOWW	1.06	0.96	1.08			88.1%	96.0%	95.7%			1.00	1.16	1.07		

AUSTRIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
<ul style="list-style-type: none"> · Austria ECZ represents 2.8% of the SES en-route ANS determined costs in 2017 · ATSP: Austro Control · FAB: FAB CE · National currency: EUR 						
2. En-route DUC monitoring at Charging Zone level						
Austria: Data from RP2 Performance Plan (EC Decision 2016/599 of 15 April 2016)		2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)		188 243 000	194 934 000	204 696 000	209 564 000	207 200 000
Inflation %		1.7%	1.7%	1.7%	1.7%	1.7%
Inflation index (100 in 2009)		114.2	116.1	118.1	120.1	122.1
Real en-route costs (EUR2009)		164 901 573	167 908 470	173 369 786	174 525 859	169 672 673
Total en-route Service Units		2 693 000	2 777 000	2 850 000	2 928 000	3 014 000
Real en-route unit cost per Service Unit (EUR2009)		61.23	60.46	60.83	59.61	56.29
Austria: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)		177 369 528	185 344 157	187 301 607		
Inflation %		0.8%	1.0%	2.2%		
Inflation index (100 in 2009)		113.1	114.3	116.8		
Real en-route costs (EUR2009)		156 763 660	162 189 938	160 374 611		
Total en-route Service Units		2 739 285	2 749 863	2 973 819		
Real en-route unit cost per Service Unit (EUR2009)		57.23	58.98	53.93		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal EUR)	in value	-10 873 472	-9 589 843	-17 394 393		
	in %	-5.8%	-4.9%	-8.5%		
Inflation %	in p.p.	-0.9 p.p.	-0.7 p.p.	0.5 p.p.		
Inflation index (100 in 2009)	in p.p.	-1.0 p.p.	-1.8 p.p.	-1.3 p.p.		
Real en-route costs (EUR2009)	in value	-8 137 913	-5 718 531	-12 995 175		
	in %	-4.9%	-3.4%	-7.5%		
Total en-route Service Units	in value	46 285	-27 137	123 819		
	in %	1.7%	-1.0%	4.3%		
Real en-route unit cost per Service Unit (EUR2009)	in value	-4.01	-1.48	-6.90		
	in %	-6.5%	-2.5%	-11.3%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (53.93 €2009) is -11.3% lower than planned in the PP (60.83 €2009). This difference results from the combination of higher than planned TSUs (+4.3%) and lower than planned en-route costs in real terms (-7.5%, or -13.0 M€2009).						
En-route service units						
The difference between actual and planned TSUs (+4.3%) falls outside the ±2% dead band, but is inside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP and the airspace users, the former retaining a gain of +4.0 M€2009 in respect of the traffic risk sharing.						
Based on the STATFOR February 2018 <u>base</u> TSU growth scenario, the actual TSUs deviation from the RP2 forecasts is expected to exceed the upper limit of the ±2% dead band but remain within the +10% threshold for the remaining years of RP2 (2018-2019).						
En-route costs						
In nominal terms, actual en-route costs are -8.5% (-17.4 M€) lower than planned. However, since the actual inflation index is also lower than planned (-1.3 p.p.), actual en-route costs are -7.5% (-13.0 M€2009) below the planned level when expressed in real terms.						
The lower than planned en-route costs in real terms are driven by reductions across all the reporting entities: Austro Control (-5.4%, or -7.9 M€2009), the MET service provider (-25.7%, or -3.8 M€2009) and the NSA/EUROCONTROL (-11.0%, or -1.2 M€2009). A detailed analysis at ATSP level is provided in box 12.						
Costs exempt from cost-sharing are reported for a total amount of +2.5 M€2009 relating to the variation in pension costs (+3.6 M€2009) and EUROCONTROL costs (-1.1 M€2009). These costs will be eligible for carry-over (charged to airspace users) to the following reference period(s), if deemed eligible by the European Commission.						

Year	Difference (%)
2015	-4.9%
2016	-3.4%
2017	-7.5%

Year	Difference (%)
2015	1.7%
2016	-1.0%
2017	4.3%

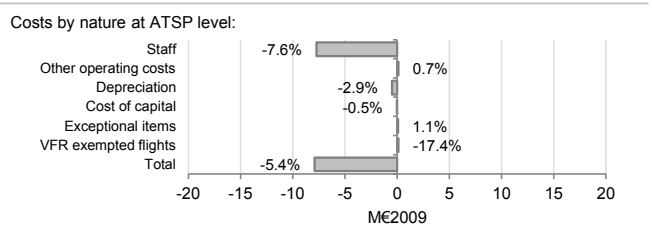
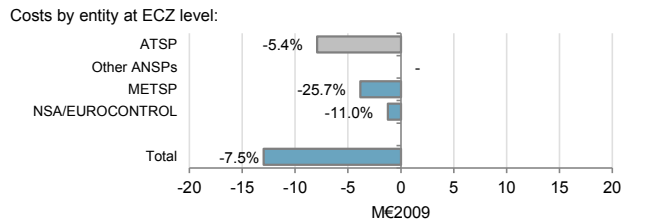
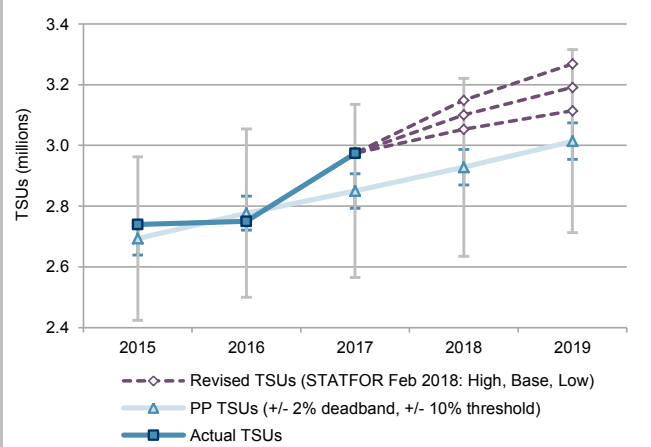
Year	En-route DUC (PP, €2009)	En-route unit costs (actual, €2009)
2015	61.23	61.23
2016	60.46	58.98
2017	60.83	53.93
2018	59.61	
2019	56.29	

Unit cost, €2009

AUSTRIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) **5. En-route costs monitoring (2017 actuals compared to PP)**

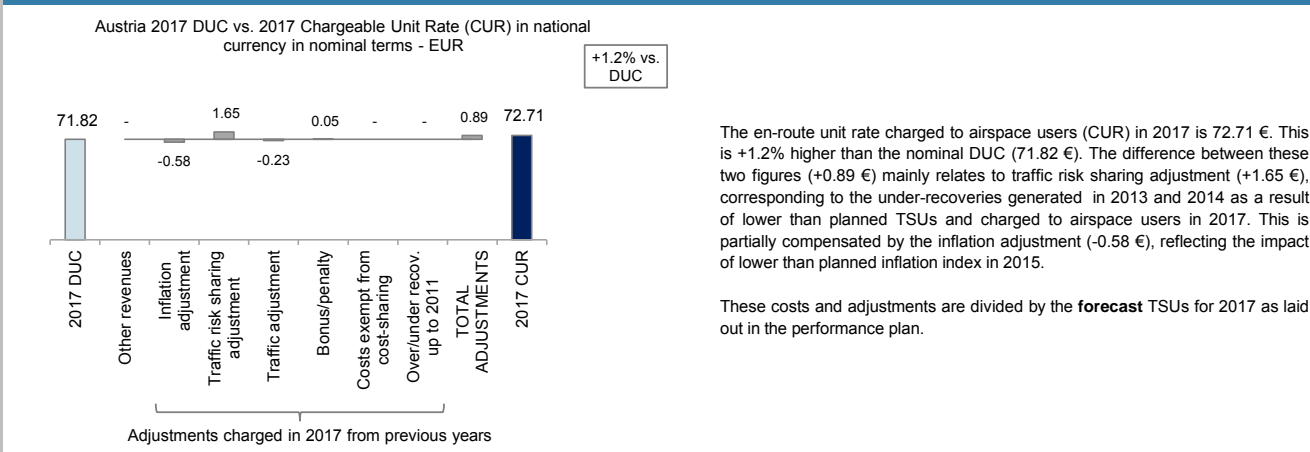


6. En-route costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	-4 591	6 078	3 600		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	-42	-349	-1 138		
by entity	ATSP	-4 591	6 078	3 600		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA/EUROCONTROL	-42	-349	-1 138		
Total costs exempt from cost sharing		-4 633	5 729	2 462		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

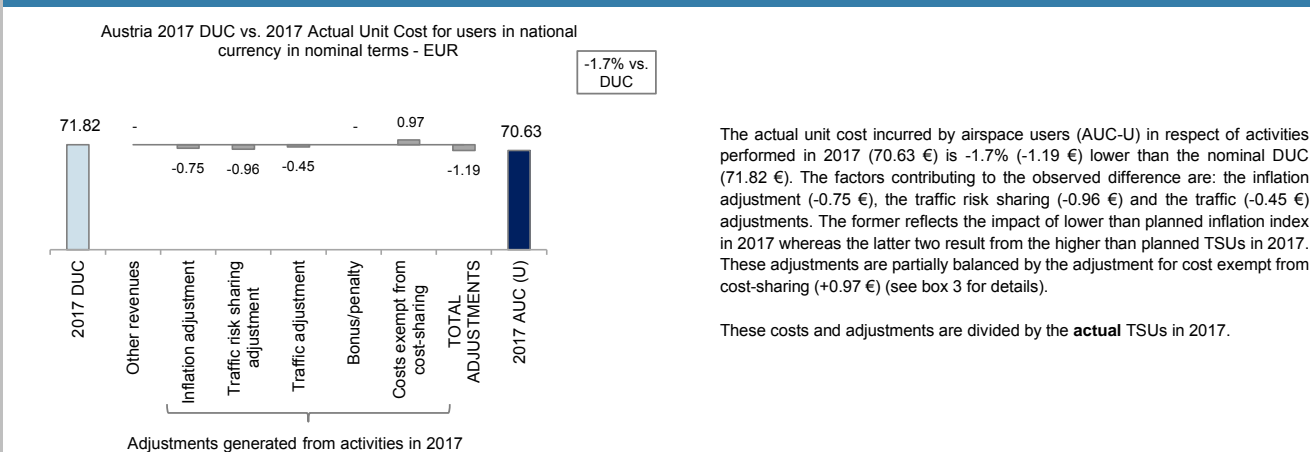
7. En-route DUC 2017 vs. 2017 Unit Rate charged to users



The en-route unit rate charged to airspace users (CUR) in 2017 is 72.71 €. This is +1.2% higher than the nominal DUC (71.82 €). The difference between these two figures (+0.89 €) mainly relates to traffic risk sharing adjustment (+1.65 €), corresponding to the under-recoveries generated in 2013 and 2014 as a result of lower than planned TSUs and charged to airspace users in 2017. This is partially compensated by the inflation adjustment (-0.58 €), reflecting the impact of lower than planned inflation index in 2015.

These costs and adjustments are divided by the **forecast** TSUs for 2017 as laid out in the performance plan.

8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users



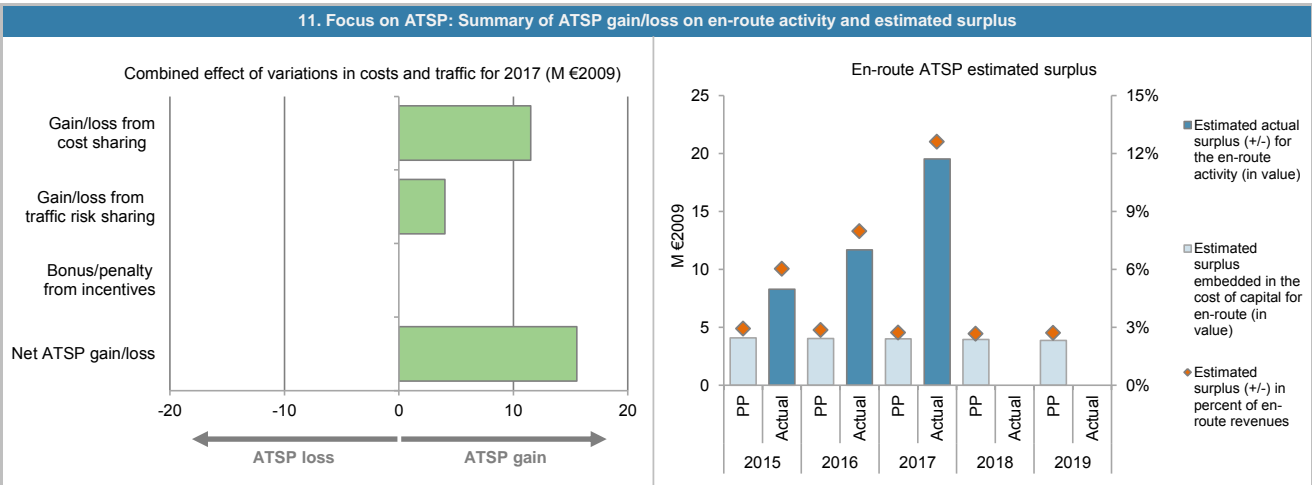
The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (70.63 €) is -1.7% (-1.19 €) lower than the nominal DUC (71.82 €). The factors contributing to the observed difference are: the inflation adjustment (-0.75 €), the traffic risk sharing (-0.96 €) and the traffic (-0.45 €) adjustments. The former reflects the impact of lower than planned inflation index in 2017 whereas the latter two result from the higher than planned TSUs in 2017. These adjustments are partially balanced by the adjustment for cost exempt from cost-sharing (+0.97 €) (see box 3 for details).

These costs and adjustments are divided by the **actual** TSUs in 2017.

AUSTRIA: En-route ATSP (Austro Control)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	139 252	141 598	147 184		
Actual costs for the ATSP	133 108	139 005	139 274		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	6 144	2 593	7 911		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-4 591	6 078	3 600		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	1 554	8 671	11 510		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	1.7%	-1.0%	4.3%		
Determined costs for the ATSP (PP) - based on actual inflation	140 496	143 853	148 796		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	2 415	-1 406	4 022		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	127	337	0		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	4 095	7 603	15 533		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	101 595	100 801	99 772	98 292	96 669
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	101 595	100 801	99 772	98 292	96 669
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	4 064	4 032	3 991	3 932	3 867
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	4.0%	4.0%	4.0%	4.0%	4.0%
Estimated surplus embedded in the cost of capital for en-route (in value)	4 064	4 032	3 991	3 932	3 867
Overall estimated surplus (+/-) for the en-route activity	4 064	4 032	3 991	3 932	3 867
Revenue/costs for the en-route activity	139 252	141 598	147 184	148 168	143 170
Estimated surplus (+/-) in percent of en-route revenues	2.9%	2.8%	2.7%	2.7%	2.7%
Estimated ex-ante RoE pre-tax rate (in %)	4.0%	4.0%	4.0%	4.0%	4.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	104 379	102 024	99 324		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	104 379	102 024	99 324		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	4 175	4 081	3 973		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	4.0%	4.0%	4.0%		
Estimated surplus embedded in the cost of capital for en-route (in value)	4 175	4 081	3 973		
Net ATSP gain(+)/loss(-) on en-route activity	4 095	7 603	15 533		
Overall estimated surplus (+/-) for the en-route activity	8 270	11 684	19 506		
Revenue/costs for the en-route activity	137 203	146 608	154 806		
Estimated surplus (+/-) in percent of en-route revenues	6.0%	8.0%	12.6%		
Estimated ex-post RoE pre-tax rate (in %)	7.9%	11.5%	19.6%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 Austro Control en-route costs vs. PP

In 2017, Austro Control actual en-route costs are -5.4% (-7.9 M€2009) lower, in real terms, than planned in the PP. According to the additional information to the June 2018 en-route Reporting Tables, this results from the combination of:

- lower staff costs (-7.6% or -7.7 M€2009), mainly due to "costs containment (collective bargaining nearly at actual inflation rate)" and "reduction of human resources due to ATCO staffing";
- slightly higher other operating costs (+0.7% or +0.1 M€2009), although this is mainly due to the lower than planned inflation index (-1.3 p.p.), as actual costs are -0.4% (-0.1 M€) when expressed in nominal terms;
- lower depreciation costs (-2.9% or -0.5 M€2009);
- slightly lower cost of capital (-0.5% or -0.02 M€2009); and,
- slightly higher exceptional items (+1.1% or +0.1 M€2009), although these are in line with the plan when expressed in nominal terms. It is understood that the exceptional item costs result from the abolition of the corridor method in the field of social capital according to IFRS (IAS19).

Austro Control net gain/loss on en-route activity in 2017

As shown in box 9, Austro Control generated a net gain of +15.5 M€2009 on the en-route activity in 2017. This is a combination of two elements:

- a gain of +11.5 M€2009 arising from the cost sharing mechanism; and
- a gain of +4.0 M€2009 arising from the traffic risk sharing mechanism.

The gain from cost sharing mentioned above (+11.5 M€2009) includes amounts reported by Austro Control for costs exempt from cost sharing (+3.6 M€2009). Should these costs not be deemed eligible by the European Commission, Austro Control would generate a net gain of +11.9 M€2009 for the en-route activity in 2017.

Austro Control overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+15.5 M€2009) and the surplus embedded in the actual cost of capital (+4.0 M€2009) amounts to +19.5 M€2009 (12.6% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 19.6%, which is significantly higher than the 4.0% planned in the PP.

AUSTRIA: Terminal charging zone

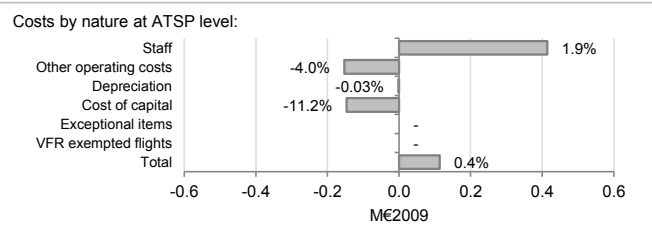
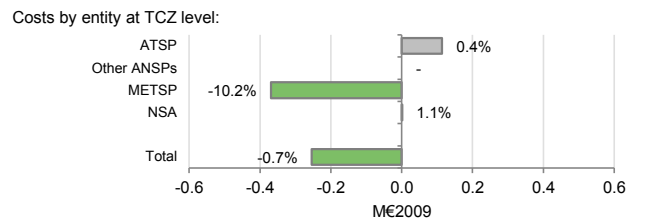
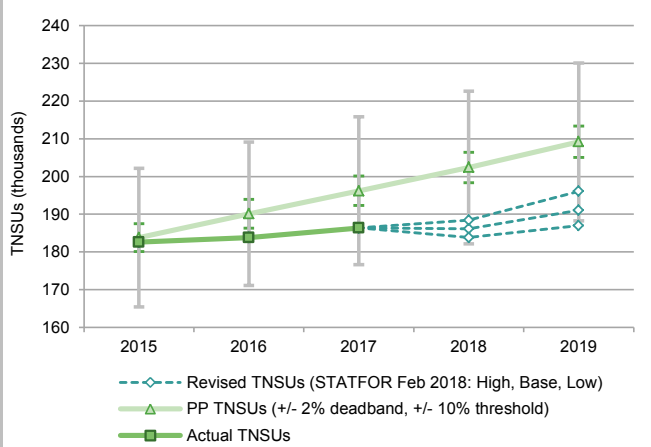
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Austria TCZ represents 3.3% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes	
· ATSP: Austro Control		· Airports with fewer than 70,000 IFRs ATMs:		5	
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		0	
· Number of airports in charging zone in 2017: 6,		of which:		· Airports with more than 225,000 IFRs ATMs: 1	
2. Terminal DUC monitoring at Charging Zone level					
Austria: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	39 907 000	40 897 000	42 355 000	43 033 000	43 359 000
Inflation %	1.7%	1.7%	1.7%	1.7%	1.7%
Inflation index (100 in 2009)	114.2	116.1	118.1	120.1	122.1
Real terminal costs (EUR2009)	34 958 681	35 227 065	35 873 086	35 838 079	35 505 972
Total terminal Service Units	183 800	190 100	196 200	202 400	209 200
Real terminal unit cost per Service Unit (EUR2009)	190.20	185.31	182.84	177.07	169.72
Austria: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	36 870 804	39 327 723	41 599 715		
Inflation %	0.8%	1.0%	2.2%		
Inflation index (100 in 2009)	113.1	114.3	116.8		
Real terminal costs (EUR2009)	32 587 346	34 414 686	35 619 225		
Total terminal Service Units	182 586	183 801	186 361		
Real terminal unit cost per Service Unit (EUR2009)	178.48	187.24	191.13		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)					
in value	-3 036 196	-1 569 277	-755 285		
in %	-7.6%	-3.8%	-1.8%		
Inflation %					
in p.p.	-0.9 p.p.	-0.7 p.p.	0.5 p.p.		
Inflation index (100 in 2009)					
in p.p.	-1.0 p.p.	-1.8 p.p.	-1.3 p.p.		
Real terminal costs (EUR2009)					
in value	-2 371 335	-812 379	-253 861		
in %	-6.8%	-2.3%	-0.7%		
Total terminal Service Units					
in value	-1 214	-6 299	-9 839		
in %	-0.7%	-3.3%	-5.0%		
Real terminal unit cost per Service Unit (EUR2009)					
in value	-11.72	1.93	8.29		
in %	-6.2%	1.0%	4.5%		
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Austria TCZ comprising 6 airports: Wien-Schwechat (LOWW), Linz (LOWL), Salzburg (LOWS), Innsbruck (LOWI), Graz (LOWG) and Klagenfurt (LOWK) airports.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (191.13 €2009) is +4.5% higher than planned in the PP (182.84 €2009). This difference results from a combination of slightly lower than planned terminal costs in real terms (-0.7%, or -0.3 M€2009) and TNSUs (-5.0%).</p> <p>In terms of corrective measures for Austria TCZ, the FAB CE 2017 Monitoring Report states: "Austria has been able to lower costs by -1.8%. [...] Overall trend for RP2 is showing that parts of the traffic decrease can be compensated by cost savings which are less effective for terminal services than en-route services due to unit size and operational requirements on airports [...]. Further analysis on cost containment has been initiated."</p> <p>Terminal service units Traffic risk sharing applies in Austria TCZ. The difference between actual and planned TNSUs (-5.0%) falls outside the ±2% dead band, but does not exceed the -10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ATSP and the airspace users, with the loss borne by the ATSP amounting to -0.9 M€2009. It is noted that, based on STATFOR February 2018 <u>base</u> TNSU growth scenario, actual TNSUs in TCZ are expected to remain below the lower limit of the ±2% dead band, but should not exceed the -10% threshold foreseen in the traffic risk sharing mechanism, for the rest of RP2 (2018-2019). It is noted that the TNSUs selected in the PP were in line with STAFOR September 2014 <u>base</u> TNSU growth scenario.</p> <p>Terminal costs In nominal terms, the 2017 actual terminal costs are -1.8% (-0.8 M€) lower than planned. However, since the actual inflation index is also lower than planned (-1.3 p.p.), actual terminal costs are -0.7% below plans (-0.3 M€2009) when expressed in real terms. The deviation between 2017 actual and planned terminal costs in real terms for TCZ is primarily driven by lower costs for the MET service provider (-10.2%, or -0.4 M€2009), while the costs are higher for Austro Control (+0.4%, or +0.1 M€2009) and for the NSA costs in real terms are mostly in line with the plan (+1.1%). It is noted that in nominal terms the cost for Austro Control are below the plan (-0.7%, or -0.3 M€). A detailed analysis at ATSP level is provided in box 12. Costs exempt from cost-sharing are reported for a total amount of +0.8 M€2009 comprising only the variation in pension costs. These costs will be eligible for carry-over (charged to airspace users) to the following reference period(s), if deemed allowed by the European Commission.</p>					

AUSTRIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

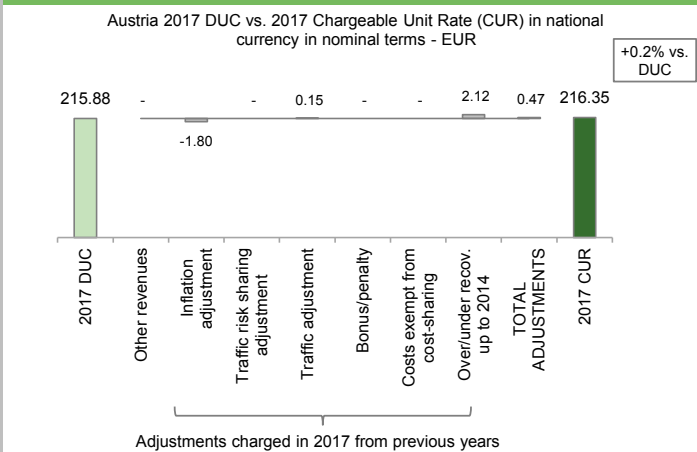


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	-1 017	1 348	798		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	-1 017	1 348	798		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		-1 017	1 348	798		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

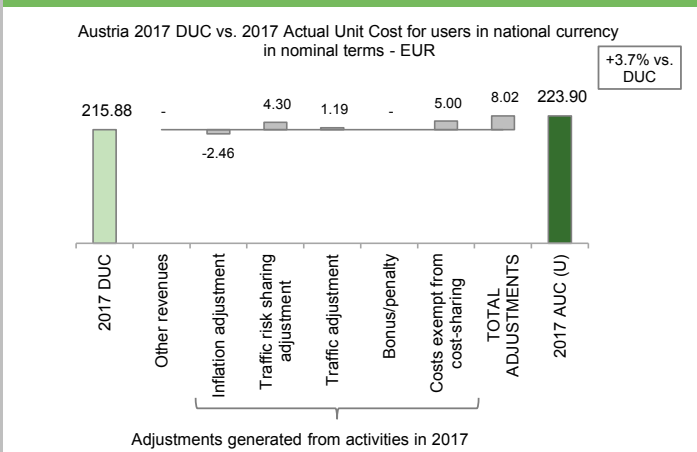
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The terminal unit rate charged to airspace users (CUR) in 2017 is 216.35 €. This is +0.2% higher than the nominal DUC (215.88 €). The difference between these two figures (+0.47 €) mainly relates to the cumulative under-recovery carried-over from RP1 (+2.12 €) which, according to the additional information to June 2018 Terminal Reporting tables, reflect part of the actuarial losses recorded in 2013 due to the change in IFRS principles related to accounting for employee benefits (corridor method under IAS19 is no longer permitted). This is slightly compensated by the inflation adjustment (-1.80 €), reflecting the impact of lower than planned inflation index in 2015.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



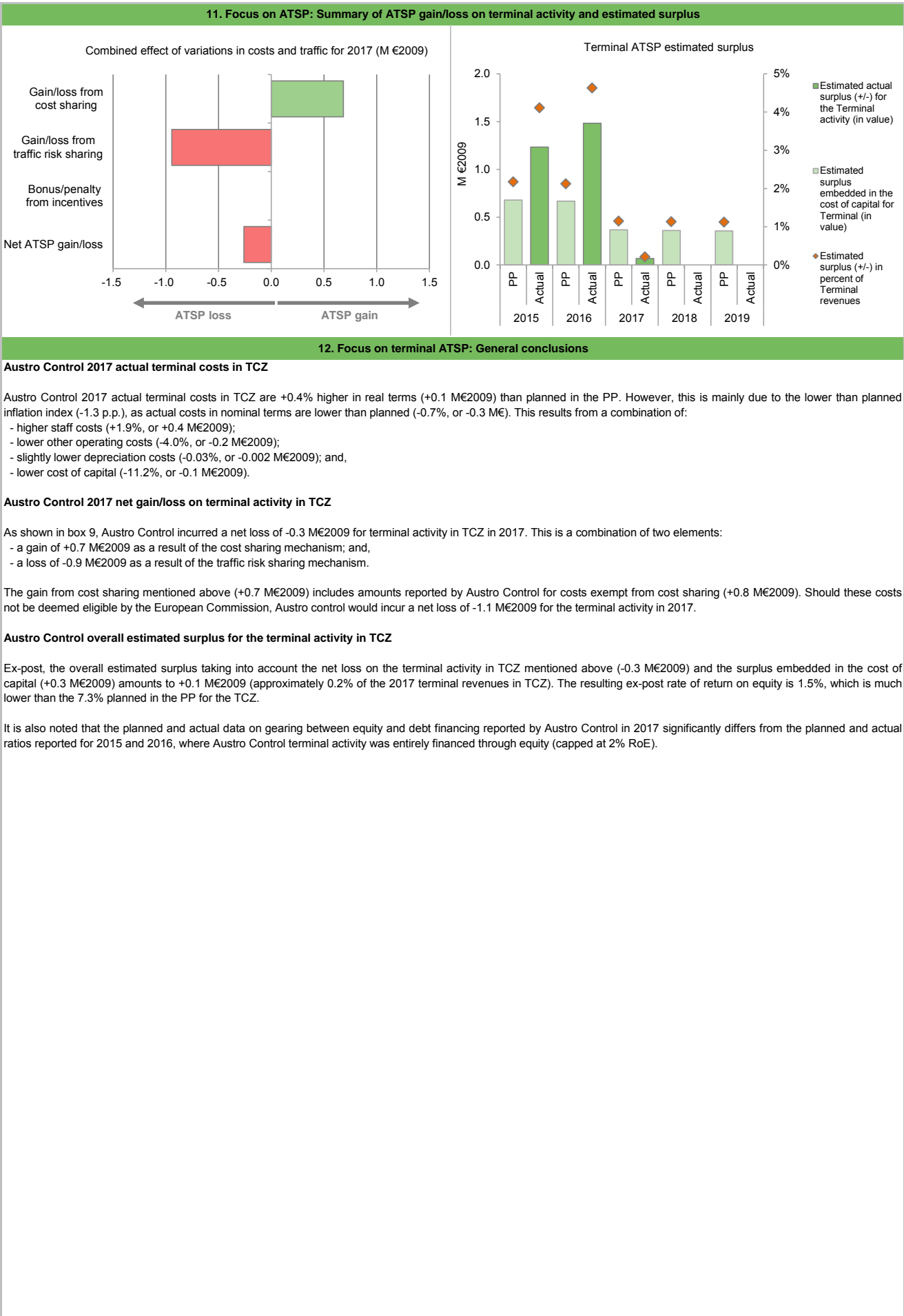
The actual terminal unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (223.90 €) is +3.7% higher than the nominal DUC (215.88 €). The most important factors contributing to the observed difference (+8.02 €) are: the traffic risk sharing (+4.30 €) and the traffic (+1.19 €) adjustments, both reflecting the impact of lower than planned TNSUs in 2017, and an adjustment for costs exempt from cost sharing (+5.00 €) (see box 3 for details). These were slightly compensated by the inflation adjustment (-2.46 €), which reflects the impact of lower than planned inflation index in 2017.

These costs and adjustments are divided by the **actual** TNSUs for 2017.

AUSTRIA: Terminal ATSP (Austro Control)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	31 251	31 502	32 138		
Actual costs for the ATSP	29 324	31 110	32 252		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	1 928	392	-114		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 017	1 348	798		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	910	1 740	684		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-0.7%	-3.3%	-5.0%		
Determined costs for the ATSP (PP) - based on actual inflation	31 530	32 003	32 490		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-208	-766	-944		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	702	973	-259		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	33 945	33 378	32 714	32 167	31 629
Estimated proportion of financing through equity (in %)	100.0%	100.0%	15.4%	15.4%	15.4%
Estimated proportion of financing through equity (in value)	33 945	33 378	5 033	4 949	4 866
Estimated proportion of financing through debt (in %)	0.0%	0.0%	84.6%	84.6%	84.6%
Estimated proportion of financing through debt (in value)	0	0	27 681	27 218	26 763
Cost of capital pre-tax (in value)	679	668	1 309	1 287	1 265
Average interest on debt (in %)	0.0%	0.0%	3.4%	3.4%	3.4%
Interest on debt (in value)	0	0	941	925	910
Determined RoE pre-tax rate (in %)	2.0%	2.0%	7.3%	7.3%	7.3%
Estimated surplus embedded in the cost of capital for terminal (in value)	679	668	367	361	355
Overall estimated surplus (+/-) for the terminal activity	679	668	367	361	355
Revenue/costs for the terminal activity	31 251	31 502	32 138	32 118	31 805
Estimated surplus (+/-) in percent of terminal revenues	2.2%	2.1%	1.1%	1.1%	1.1%
Estimated ex-ante RoE pre-tax rate (in %)	2.0%	2.0%	7.3%	7.3%	7.3%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	26 555	25 514	29 048		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	15.4%		
Estimated proportion of financing through equity (in value)	26 555	25 514	4 469		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	84.6%		
Estimated proportion of financing through debt (in value)	0	0	24 579		
Cost of capital pre-tax (in value)	531	510	1 162		
Average interest on debt (in %)	0.0%	0.0%	3.4%		
Interest on debt (in value)	0	0	836		
Determined RoE pre-tax rate (in %)	2.0%	2.0%	7.3%		
Estimated surplus embedded in the cost of capital for terminal (in value)	531	510	326		
Net ATSP gain(+)/loss(-) on terminal activity	702	973	-259		
Overall estimated surplus (+/-) for the terminal activity	1 233	1 484	67		
Revenue/costs for the terminal activity	30 026	32 083	31 992		
Estimated surplus (+/-) in percent of terminal revenues	4.1%	4.6%	0.2%		
Estimated ex-post RoE pre-tax rate (in %)	4.6%	5.8%	1.5%		



AUSTRIA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs

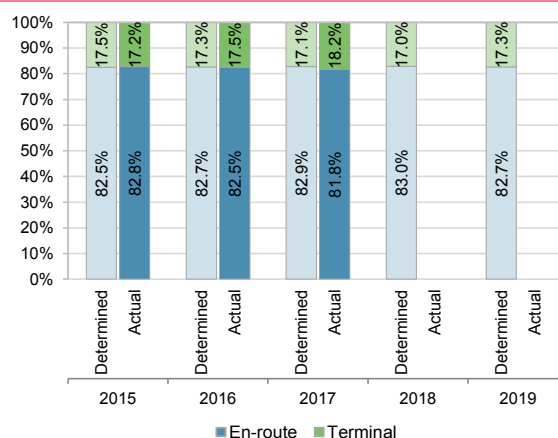
Austria: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		164 901 573	167 908 470	173 369 786	174 525 859	169 672 673
Real terminal costs (EUR2009)		34 958 681	35 227 065	35 873 086	35 838 079	35 505 972
Real gate-to-gate costs (EUR2009)		199 860 254	203 135 535	209 242 872	210 363 938	205 178 645
En-route share (%)		82.5%	82.7%	82.9%	83.0%	82.7%
Austria: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		156 763 660	162 189 938	160 374 611		
Real terminal costs (EUR2009)		32 587 346	34 414 686	35 619 225		
Real gate-to-gate costs (EUR2009)		189 351 006	196 604 624	195 993 837		
En-route share (%)		82.8%	82.5%	81.8%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	-10 509 249	-6 530 910	-13 249 036		
	in %	-5.3%	-3.2%	-6.3%		
En-route share	in p.p.	0.3 p.p.	-0.2 p.p.	-1.0 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs are -6.3% (or -13.2 M€2009) lower than planned, in real terms, due to reductions in en-route ANS costs (-7.5%, or -13.0 M€2009) and terminal ANS costs (-0.7%, or -0.3 M€2009).

The actual share of en-route in gate-to-gate ANS costs (81.8%) is lower than foreseen in the plan (82.9%) for 2017.

For Austro Control, the estimated gate-to-gate economic surplus in 2017 amounts to 19.6 M€2009 (see the three "boxes 10" for a detailed analysis at charging zone level), corresponding to 10.5% of gate-to-gate ANS revenues.

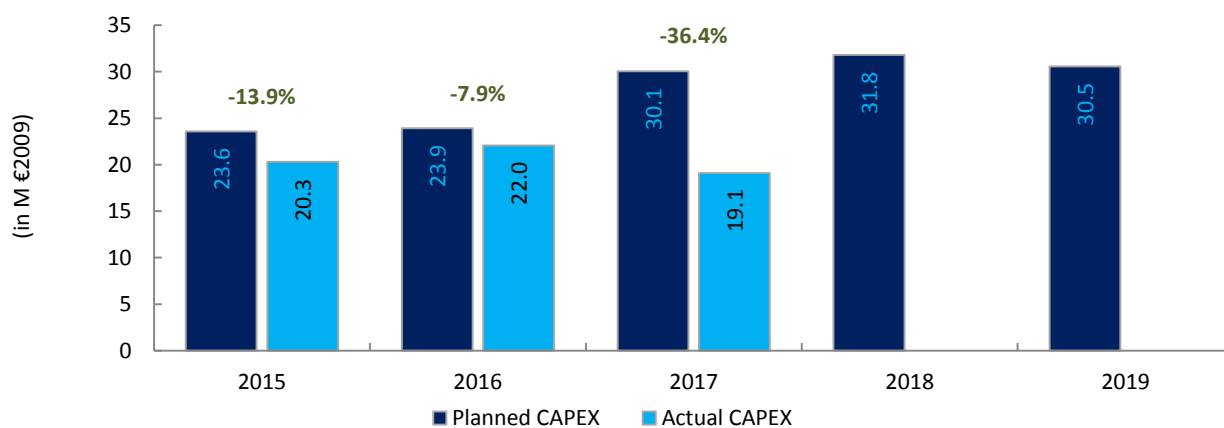


3. Technical notes on en-route and terminal information reported by Austria

AUSTRIA

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: Austro Control						
FAB: FAB CE						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	26.9	27.8	35.5	38.2	37.3	165.6
Main CAPEX (in nominal M)	23.1	20.7	30.5	33.4	33.3	140.9
Inflation %	1.7%	1.7%	1.7%	1.7%	1.7%	
Inflation index (100 in 2009)	114.2	116.1	118.1	120.1	122.1	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	23.6	23.9	30.1	31.8	30.5	139.9
Main CAPEX (in M €2009)	20.3	17.8	25.8	27.8	27.2	118.9
% Main of Total CAPEX	85.9%	74.5%	85.9%	87.4%	89.2%	85.0%
Real gate-to-gate ANSP costs (in M €2009)	170.5	173.1	179.3	180.3	175.0	878.2
Total CAPEX as % of Real gate-to-gate ANSP costs	13.8%	13.8%	16.8%	17.6%	17.5%	15.9%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	23.0	25.2	22.3			
Main CAPEX (in nominal M)	19.2	22.1	19.3			
Inflation %	0.8%	1.0%	2.2%			
Inflation index (100 in 2009)	113.1	114.3	116.8			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	20.3	22.0	19.1			
Main CAPEX (in M €2009)	17.0	19.3	16.6			
% Main of Total CAPEX	83.6%	87.7%	86.6%			
Real gate-to-gate ANSP costs (in M €2009)	162.4	170.1	171.5			
Total CAPEX as % of Real gate-to-gate ANSP costs	12.5%	13.0%	11.1%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-4.0	-2.6	-13.2			
Total CAPEX (in M €2009)	-3.3	-1.9	-10.9			
Total CAPEX (in %, M €2009)	-13.9%	-7.9%	-36.4%			



Annual Monitoring Report 2017
Local level view
Croatia

CROATIA

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	55	C	C	B	C	B
Croatia Control	85	D	D	D	C	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	N/A	N/A				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	TAIA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	6	3				
Legal/Judiciary	5	2				
Occurrence reporting and Investigation	2	0				
TOTAL	13	5				
Croatia Control	Number of questions answered					
	YES	NO				
Policy and its implementation	12	1				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	6	2				
TOTAL	20	4				
Observations						
One component (Safety Assurance) out of the four reviewed EoS M Components/areas of the State does not meet the 2019 EoS M target Level C. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.						
Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only one is below Level C.						

CROATIA**Monitoring of Airports Contribution to ENVIRONMENT for 2017****1. Overview**

Initially 2 Croatian airports, Zagreb and Lucko, were subject to RP2 monitoring. In 2016 Lucko was removed from the list leaving only the main national airport Zagreb.

Zagreb implemented the Airport Operator Data Flow, necessary for the proper monitoring of the terminal and airports performance, in August 2017. However, the annual value for an indicator is only computed when the dataset is considered to be complete (i.e. ≥ 10 valid months of data in the year).

The annual monitoring of the environmental indicators will be possible at Zagreb as of 2018.

2. Additional Taxi-Out Time

Due to the lack of data, the additional taxi-out time cannot be monitored at LDZA.

3. Additional ASMA Time

Due to the lack of data, the additional ASMA time cannot be monitored at LDZA.

4. Appendix

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

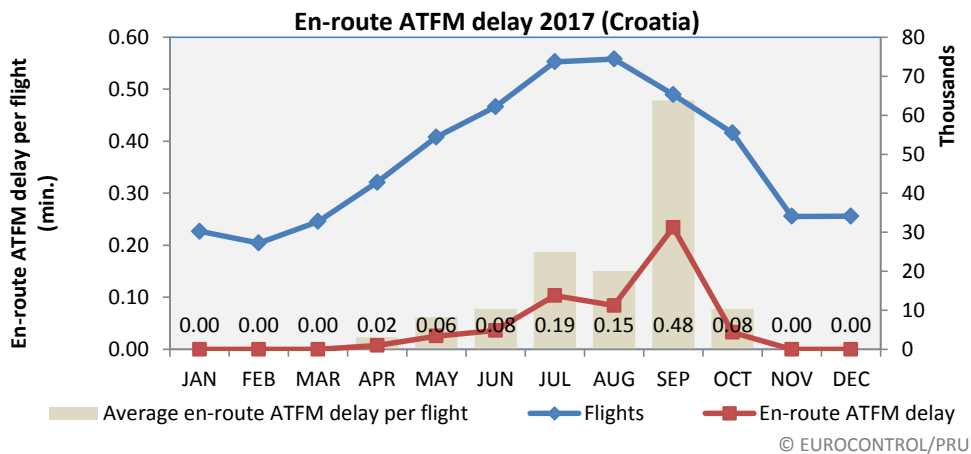
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Zagreb	LDZA	n/a	n/a	n/a			n/a	n/a	n/a		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.23	0.22	0.21	0.21	0.19	
Deadband +/-	0.03	0.03	0.03	0.03	0.03	
Actual performance	0.54	0.04	0.12			

National capacity incentive scheme

Bonus/Penalty = FAB PONDER (25%) x NATIONAL ANSP ELEMENT x 0.5% ANSP EN ROUTE REVENUE.
 The FAB CE monitoring report states that the actual national delay in Croatia was 0.12 min/flight instead of the national target of 0.21 min/flight, a percentage deviation of 43%, results in a NATIONAL ANSP ELEMENT of 43%. Therefore the national en-route capacity incentive for Croatia = 25% x 43% x 0.5% of en-route revenue of CroatiaControl = 307 840.01 HRK

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Croatia)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1.96	0.67	1.03	0.52	0.26	0.09	0.31	0.54	0.04	0.12

Even though 2017 saw a deterioration of en-route capacity performance in Croatia (0.12 minutes delay per flight) compared to 2016 (0.04 minutes delay per flight), Croatia was still able to meet its national target. Traffic levels rose by almost 9% from 2016 levels, but remains within the predicted high traffic forecast from STATFOR in February 2014 when the performance plans and associated capacity plans were being determined. The Network Manager does not expect any capacity shortfall in Croatia for the remainder of RP2, according to the latest version of the NOP.

EUROCONTROL 7 year forecast February 2014 – Croatia										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	519		544		573		599		625	654
Base	511	520	530	535	548	540	565	587	580	600
Low	503		515		522		530		538	548

Planning and Effective Use of CDRs

Not applicable due to the reason that there are no CDRs in Croatian airspace.

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
97%	86%	90%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
<1%	<1%	1%		

Share of restricted / segregated time (via UUP process) that was actually used				
2015	2016	2017	2018	2019
100%	100%	100%		

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

CROATIA

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

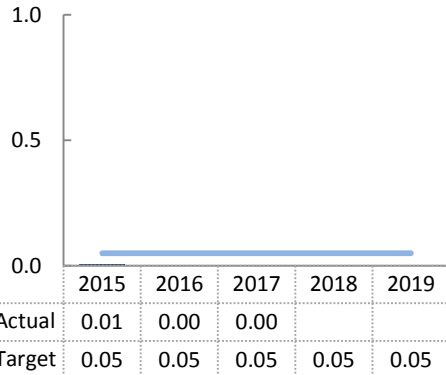
In Croatia, as of 2016 only ANS at Zagreb (LDZA) are subject to RP2 monitoring. The observed performance is commensurate with the level of traffic experienced.

Croatia has established a national target on arrival ATFM delay that was fully met in 2015, 2016 and 2017.

Zagreb implemented the Airport Operator Data Flow, necessary for the proper monitoring of the terminal and airports performance, in August 2017. However, the annual value for an indicator is only computed when the dataset is considered to be complete (i.e. ≥ 10 valid months of data in the year).

2. Arrival ATFM Delay

Arrival
ATFM
Delay



Croatia has established a national target on arrival ATFM delay of 0.05 min/arr. for the whole reference period.

The achieved performance remained stable with zero arrival ATFM delay in 2016 and 2017, demonstrating the absence of capacity constraints at LDZA.

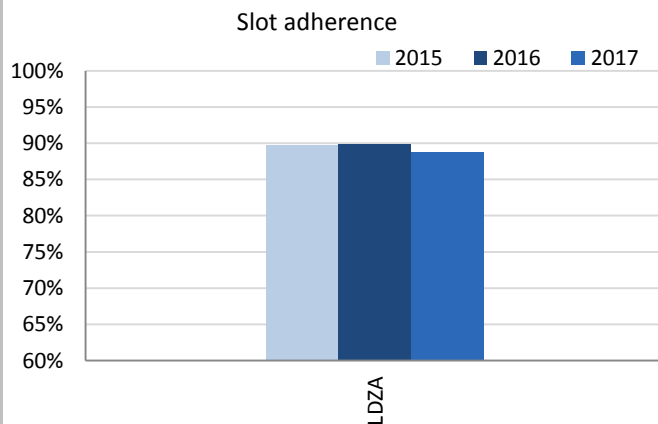
The national target is fully met.

3. Arrival ATFM Delay – National Target and Incentive Scheme

The FAB CE performance plan sets a national target on arrival ATFM delay for Croatia.

The FAB CE performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for Croatia.

4. ATFM Slot Adherence



The adherence to ATFM slots at Zagreb has slightly decreased in 2017 but it remains above the critical value of 85%. In comparison with other European airports experiencing a similar traffic share, LDZA shows a lower performance.

In March 2017, a new passenger terminal of Zagreb International Airport was opened. Due to this fact, new operational procedures were introduced regarding aircraft handling. Adjustment to the new operational circumstances contributed to the above stated results.

5. Pre-departure Delay

The indicator ATC pre-departure delay depends on the Airport Operator Data Flow. As mentioned above, the calculation of the annual value is only possible when the available data covers at least 10 months in the year. As the data provision for Zagreb covers only from August 2017 onwards, no annual figure for ATC pre-departure delay for 2017 can be computed.

6. Appendix

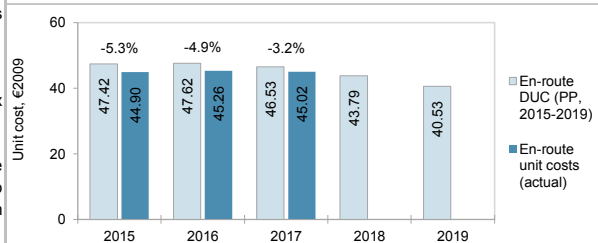
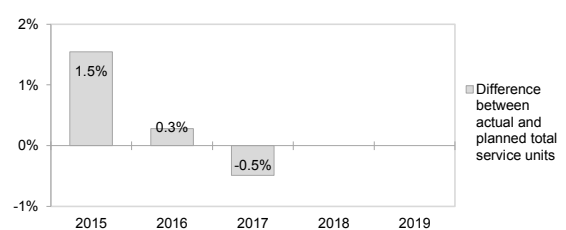
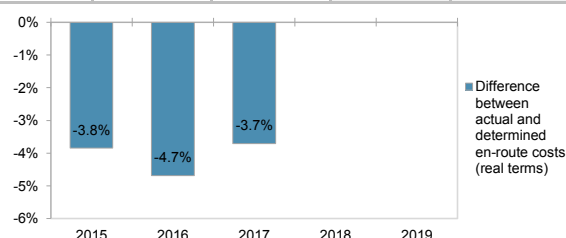
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Zagreb	LDZA	0.01	0.00	0.00			89.7%	89.9%	88.7%			n/a	n/a	n/a		

CROATIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

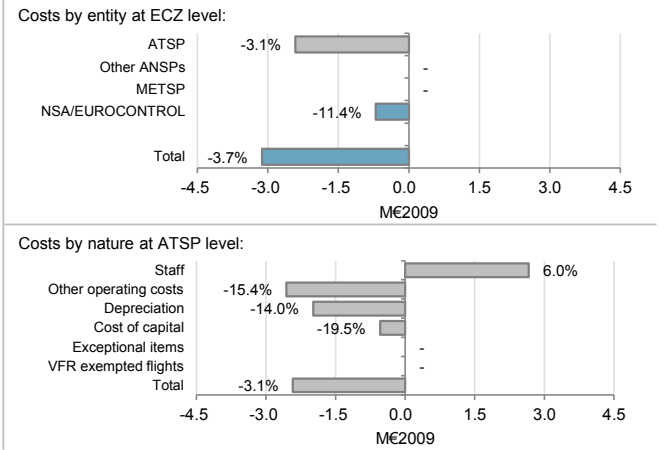
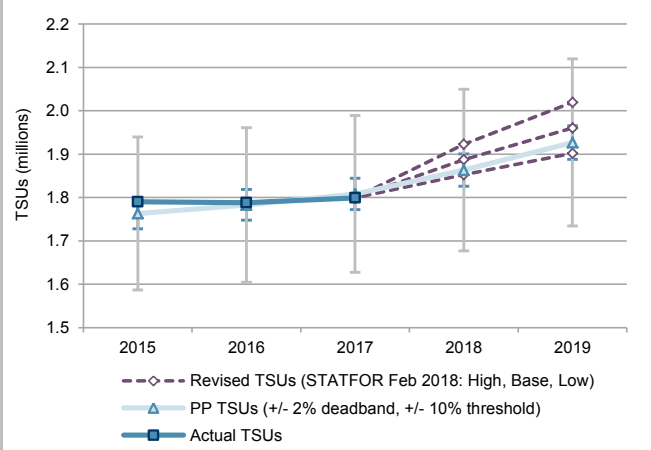
1. Contextual economic information: en-route air navigation services						
· Croatia ECZ represents 1.4% of the SES en-route ANS determined costs in 2017						
· ATSP: Croatia Control						
· FAB: FAB CE						
· National currency: HRK Exchange rate 2009: 1 EUR = 7.33804 HRK						
2. En-route DUC monitoring at Charging Zone level						
Croatia: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)	2015D	2016D	2017D	2018D	2019D	
En-route costs (nominal HRK)	670 066 531	687 516 987	691 440 691	687 394 177	674 346 800	
Inflation %	0.2%	1.0%	1.5%	2.5%	2.5%	
Inflation index (100 in 2009)	109.2	110.4	112.0	114.8	117.7	
Real en-route costs (HRK2009)	613 414 184	622 991 131	617 287 272	598 707 050	573 017 597	
Total en-route Service Units	1 763 000	1 783 000	1 808 000	1 863 185	1 926 787	
Real en-route unit cost per Service Unit (HRK2009)	347.94	349.41	341.42	321.34	297.40	
Real en-route unit cost per Service Unit (EUR2009)	47.42	47.62	46.53	43.79	40.53	
Croatia: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
En-route costs (nominal HRK)	644 631 574	645 102 631	654 094 149			
Inflation %	-0.3%	-0.6%	1.3%			
Inflation index (100 in 2009)	109.3	108.6	110.0			
Real en-route costs (HRK2009)	589 828 471	593 822 416	594 372 343			
Total en-route Service Units	1 790 210	1 787 992	1 799 166			
Real en-route unit cost per Service Unit (HRK2009)	329.47	332.12	330.36			
Real en-route unit cost per Service Unit (EUR2009)	44.90	45.26	45.02			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
En-route costs (nominal HRK)	-25 434 957	-42 414 356	-37 346 542			
	in %	-3.8%	-6.2%	-5.4%		
Inflation %	-0.5 p.p.	-1.6 p.p.	-0.2 p.p.			
Inflation index (100 in 2009)	0.1 p.p.	-1.7 p.p.	-2.0 p.p.			
Real en-route costs (HRK2009)	-23 585 713	-29 168 716	-22 914 930			
	in %	-3.8%	-4.7%	-3.7%		
Total en-route Service Units	27 210	4 992	-8 834			
	in %	1.5%	0.3%	-0.5%		
Real en-route unit cost per Service Unit (HRK2009)	-18.46	-17.29	-11.06			
	in %	-5.3%	-4.9%	-3.2%		
Real en-route unit cost per Service Unit (EUR2009)	-2.52	-2.36	-1.51			
	in %	-5.3%	-4.9%	-3.2%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, Croatia's actual real en-route unit cost (330.36 HRK2009 or 45.02 €2009) is -3.2% lower than planned in the PP (341.42 HRK2009 or 46.53 €2009). This difference results from lower than planned en-route costs (by -3.7%, or -3.1 M€2009) and slightly lower than planned TSUs than the planned figure (by -0.5%).						
En-route service units						
The difference between actual and planned TSUs (-0.5%) is within the ±2% dead band foreseen in the traffic risk sharing mechanism. The resulting loss of en-route revenue relating to traffic risk sharing is therefore fully borne by the ATSP (-0.4 M€2009).						
The planned TSUs for the remaining years of the RP are close to STATFOR February 2018 <u>low</u> case scenario.						
En-route costs						
The actual en-route costs are -3.7% lower than planned in real terms (-5.4% lower in nominal terms as the actual inflation index for 2017 is -2.0 p.p. below the economic assumption in the plan).						
The lower than planned en-route costs in real terms are driven by reductions across all the reporting entities: Croatia Control (CCL) (-3.1% or -2.4 M€2009) and NSA/EUROCONTROL (-11.4% or -0.7 M€2009). CCL being the main contributor, a detailed analysis at ATSP level is provided in box 12.						
The NSA costs are lower than planned, both in respect of operating costs as a result of "savings and rationalization plan" and in respect of investment costs as the two planned RP2 capex projects have not yet materialised in 2017.						
Costs exempt from cost sharing are reported for a total amount of -0.32 M€2009 for the difference in EUROCONTROL costs. These costs will be eligible for carry-over (reimbursed to airspace users) in the following reference period(s), if deemed allowed by the European Commission.						



CROATIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) 5. En-route costs monitoring (2017 actuals compared to PP)

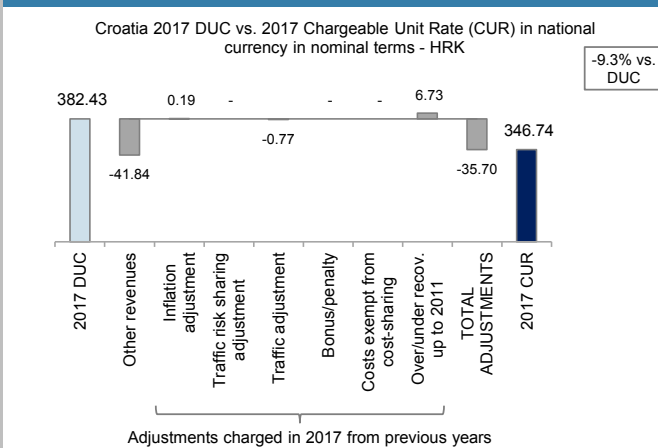


6. En-route costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	-20	67	-321		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA/EUROCONTROL	-20	67	-321		
Total costs exempt from cost sharing		-20	67	-321		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

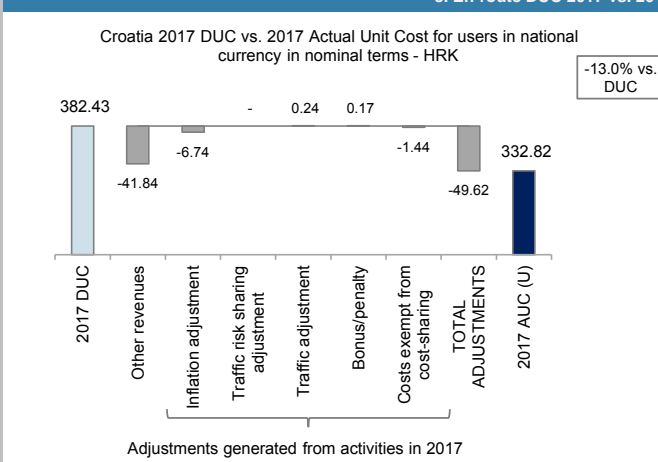
7. En-route DUC 2017 vs. 2017 Unit Rate charged to users



The CUR charged to airspace users in 2017 was 346.74 HRK. This is significantly lower (by -9.3%) than the nominal DUC (382.43 HRK). The difference between these two figures is mainly due to the fact that the DC and the DUC for Croatia include costs relating to the services provided by CCL in the airspace of Bosnia and Herzegovina, whereas the amounts relating to these services are deducted as other revenues for the calculation of the CUR, in order to avoid double charging as these are already charged to users through the unit rate of Bosnia and Herzegovina (see Note 1).

These costs and adjustments are divided by the forecast TSUs for 2017 as laid out in the performance plan.

8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users



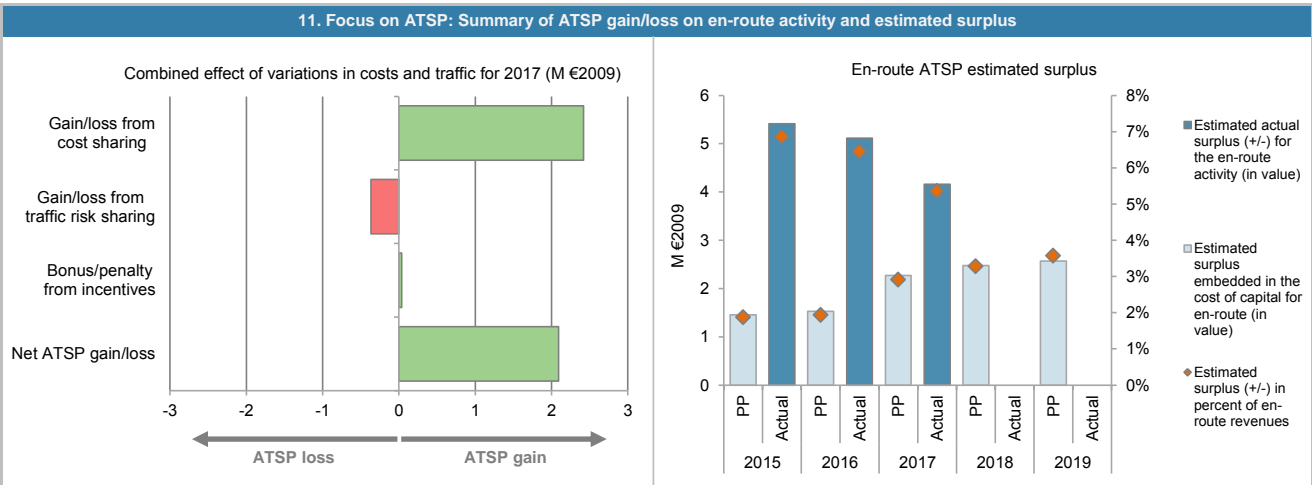
The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (332.82 HRK) is also significantly lower (by -13.0%) than the nominal DUC (382.43 HRK). This difference is also mainly due to the deduction of other revenues relating to the provision of services in the Bosnia and Herzegovina (BiH) airspace (-41.84 HRK/SU, see item 7 above).

These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TSUs in 2017.

CROATIA: En-route ATSP (Croatia Control)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	77 773	78 951	77 953		
Actual costs for the ATSP	74 864	75 529	75 535		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	2 909	3 422	2 418		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	2 909	3 422	2 418		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	1.5%	0.3%	-0.5%		
Determined costs for the ATSP (PP) - based on actual inflation	73 265	75 582	74 758		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	1 131	212	-365		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	152	38		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	4 040	3 785	2 091		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	73 705	69 855	64 242	57 466	51 076
Estimated proportion of financing through equity (in %)	57.7%	61.9%	66.8%	71.3%	76.4%
Estimated proportion of financing through equity (in value)	42 525	43 240	42 916	40 974	39 023
Estimated proportion of financing through debt (in %)	42.3%	38.1%	33.2%	28.7%	23.6%
Estimated proportion of financing through debt (in value)	31 180	26 614	21 325	16 492	12 053
Cost of capital pre-tax (in value)	2 185	2 148	2 768	2 860	2 852
Average interest on debt (in %)	2.3%	2.3%	2.3%	2.3%	2.3%
Interest on debt (in value)	727	620	497	384	281
Determined RoE pre-tax rate (in %)	3.4%	3.5%	5.3%	6.0%	6.6%
Estimated surplus embedded in the cost of capital for en-route (in value)	1 458	1 528	2 271	2 476	2 572
Overall estimated surplus (+/-) for the en-route activity	1 458	1 528	2 271	2 476	2 572
Revenue/costs for the en-route activity	77 773	78 951	77 953	75 442	71 962
Estimated surplus (+/-) in percent of en-route revenues	1.9%	1.9%	2.9%	3.3%	3.6%
Estimated ex-ante RoE pre-tax rate (in %)	3.4%	3.5%	5.3%	6.0%	6.6%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	66 166	58 867	55 072		
Estimated proportion of financing through equity (in %)	60.6%	64.0%	70.9%		
Estimated proportion of financing through equity (in value)	40 097	37 658	39 055		
Estimated proportion of financing through debt (in %)	39.4%	36.0%	29.1%		
Estimated proportion of financing through debt (in value)	26 069	21 209	16 018		
Cost of capital pre-tax (in value)	1 733	1 595	2 227		
Average interest on debt (in %)	1.4%	1.2%	1.0%		
Interest on debt (in value)	359	264	161		
Determined RoE pre-tax rate (in %)	3.4%	3.5%	5.3%		
Estimated surplus embedded in the cost of capital for en-route (in value)	1 375	1 331	2 067		
Net ATSP gain(+)/loss(-) on en-route activity	4 040	3 785	2 091		
Overall estimated surplus (+/-) for the en-route activity	5 415	5 116	4 158		
Revenue/costs for the en-route activity	78 904	79 314	77 626		
Estimated surplus (+/-) in percent of en-route revenues	6.9%	6.5%	5.4%		
Estimated ex-post RoE pre-tax rate (in %)	13.5%	13.6%	10.6%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 CCL en-route costs vs. PP

In 2017, CCL's real actual en-route costs are -3.1% (-2.4 M€2009) lower than planned in the PP. This results from the combination of:

- higher staff costs (+6.0% or +2.7 M€2009), as a "result of significantly improved operational capacity";
- lower other operating costs (-15.4% or -2.6 M€2009), "due to savings realised in external services consumed, delayed spending in maintenance and spare parts following the delay in certain CAPEX projects, and decreased level of asset written offs";
- lower depreciation costs (-14.0% or -2.0 M€2009), mainly due to the postponement of some CAPEX projects in the previous years of RP2; and
- lower cost of capital (-19.5% or -0.5 M€2009), as a the asset base is lower than planned due to postponed projects in the previous years of RP2 and as a result of lower interest on debt than planned.

CCL net gain/loss on en-route activity in 2017

As shown in box 9, CCL generated a net gain of +2.1 M€2009 on the 2017 en-route activity. This is a combination of three elements:

- a gain of +2.4 M€2009 arising from the cost-sharing mechanism;
- a loss of -0.4 M€2009 arising from the traffic risk sharing mechanism; and
- a gain of +0.04 M€2009, corresponding to a bonus to CCL as part of the capacity target incentive mechanism. This amount corresponds to 0.1% of CCL en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs).

The amounts reported in respect of financial incentives 2017, to be charged or reimbursed to users, will be examined by the European Commission.

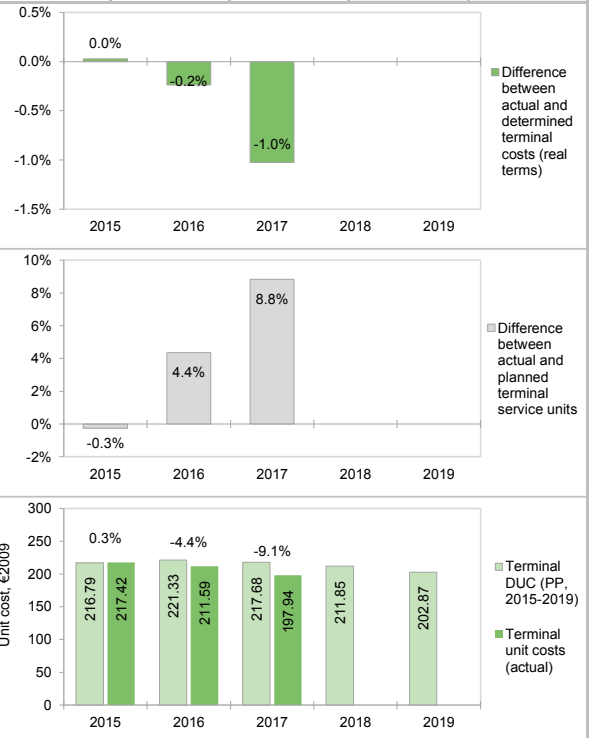
CCL overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+2.1 M€2009) and the surplus embedded in the actual cost of capital (+2.1 M€2009) amounts to +4.2 M€2009 (5.4% of the 2017 en-route revenues vs. 2.9% in the performance plan). The resulting ex-post rate of return on equity is 10.6%, which is significantly higher than the 5.3% planned. (see note 2).

CROATIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

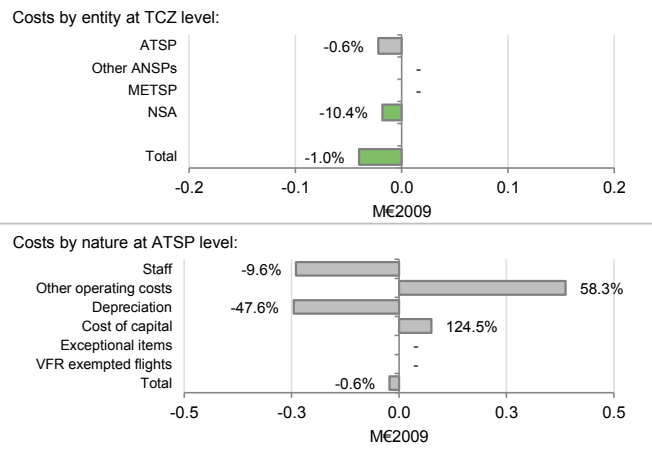
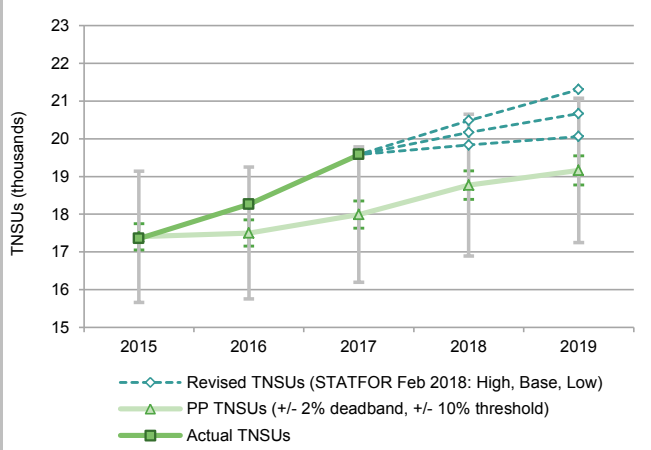
1. Contextual economic information: terminal air navigation services					
· Croatia TCZ represents 0.4% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes	
· ATSP: Croatia Control		· Airports with fewer than 70,000 IFRs ATMs:		1	
· National currency: HRK		· Airports with between 70,000 and 225,000 IFRs ATMs:		0	
· Number of airports in charging zone in 2017: 1,		of which:		· Airports with more than 225,000 IFRs ATMs: 0	
2. Terminal DUC monitoring at Charging Zone level					
Croatia: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal HRK)	30 236 645	31 366 706	32 186 136	33 503 704	33 569 846
Inflation %	0.2%	1.0%	1.5%	2.5%	2.5%
Inflation index (100 in 2009)	109.2	110.4	112.0	114.8	117.7
Real terminal costs (HRK2009)	27 680 217	28 422 832	28 734 340	29 181 079	28 525 549
Total terminal Service Units	17 400	17 500	17 989	18 771	19 162
Real terminal unit cost per Service Unit (HRK2009)	1 590.82	1 624.16	1 597.34	1 554.59	1 488.65
Real terminal unit cost per Service Unit (EUR2009)	216.79	221.33	217.68	211.85	202.87
Croatia: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal HRK)	30 261 203	30 803 249	31 297 535		
Inflation %	-0.3%	-0.6%	1.3%		
Inflation index (100 in 2009)	109.3	108.6	110.0		
Real terminal costs (HRK2009)	27 688 558	28 354 651	28 439 926		
Total terminal Service Units	17 355	18 262	19 580		
Real terminal unit cost per Service Unit (HRK2009)	1 595.42	1 552.65	1 452.49		
Real terminal unit cost per Service Unit (EUR2009)	217.42	211.59	197.94		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal HRK)	in value 24 557	-563 457	-888 600		
	in % 0.1%	-1.8%	-2.8%		
Inflation %	in p.p. -0.5 p.p.	-1.6 p.p.	-0.2 p.p.		
Inflation index (100 in 2009)	in p.p. 0.1 p.p.	-1.7 p.p.	-2.0 p.p.		
Real terminal costs (HRK2009)	in value 8 341	-68 181	-294 414		
	in % 0.0%	-0.2%	-1.0%		
Total terminal Service Units	in value -45	762	1 591		
	in % -0.3%	4.4%	8.8%		
Real terminal unit cost per Service Unit (HRK2009)	in value 4.61	-71.51	-144.85		
	in % 0.3%	-4.4%	-9.1%		
Real terminal unit cost per Service Unit (EUR2009)	in value 0.63	-9.75	-19.74		
	in % 0.3%	-4.4%	-9.1%		
3. Focus on terminal at State/Charging Zone level					
This analysis focuses on Croatia Terminal Charging zone comprising Zagreb/Pleso airport (including Zagreb/Lucko airfield).					
Terminal unit cost					
In 2017, the real actual terminal unit cost (1 452.49 HRK2009 or 197.94 €2009) is lower (-9.1%) than the 2017 terminal DUC set in the PP (1 597.34 HRK2009 or 217.68 €2009), as the real terminal costs are slightly lower to the planned figures (-1.0%), while the number of terminal service units is +8.8% higher than planned.					
Terminal service units					
Traffic risk sharing applies in the TCZ. The difference between actual and planned TNSUS (+8.8%) falls outside the ±2% dead band, but is inside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting additional terminal revenue is therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +0.1 M€2009.					
Based on STATFOR February 2018, TNSUs are expected to remain significantly above the planned values in the remaining years of the RP.					
Terminal costs					
The actual terminal costs are -1.0% lower than planned in real terms (-2.8% lower in nominal terms as the actual inflation index for 2017 is -2.0 p.p. below the economic assumption in the plan).					
The lower than planned terminal costs in real terms are driven by reductions across all the reporting entities: Croatia Control (CCL) (-0.6% or -0.02 M€2009) and NSA (-10.4% or -0.02 M€2009).					
There are no costs exempted from cost-sharing reported for the TCZ.					



CROATIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

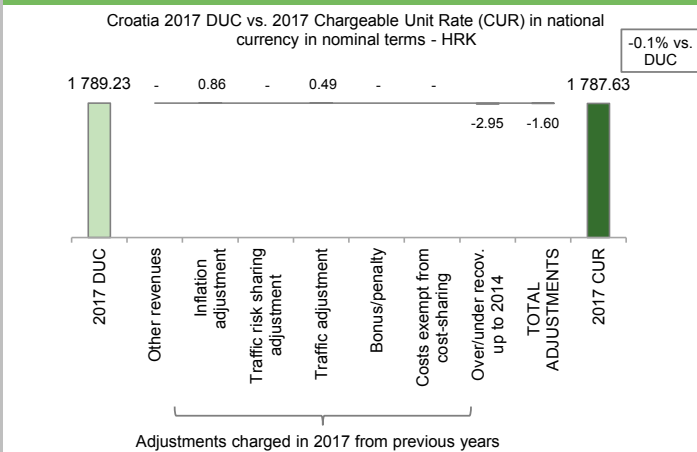


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

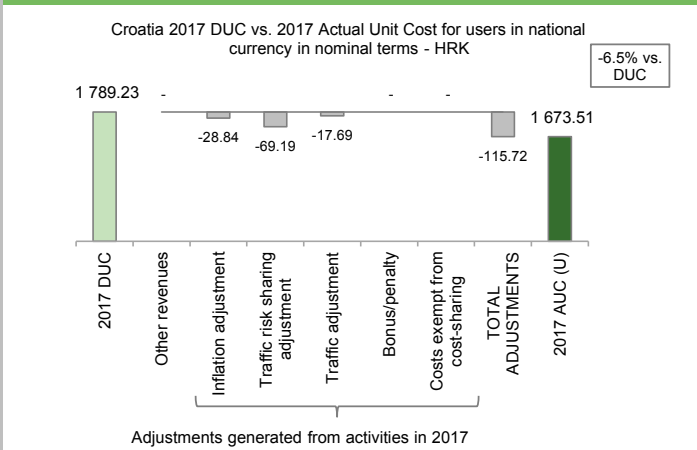
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The CUR charged to airspace users in 2017 was 1 787.63 HRK. This is almost (0.1%) equal to the nominal DUC (1 789.23 HRK). The marginal difference between these two figures (-1.60 HRK) is due to over-recoveries incurred up to 2014.

These costs and adjustments are divided by the forecast TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (1 673.51 HRK) is -6.5% lower than the nominal DUC (1 789.23 HRK). The difference between these two figures (-115.72 HRK) is due to the 2017 inflation and traffic adjustments.

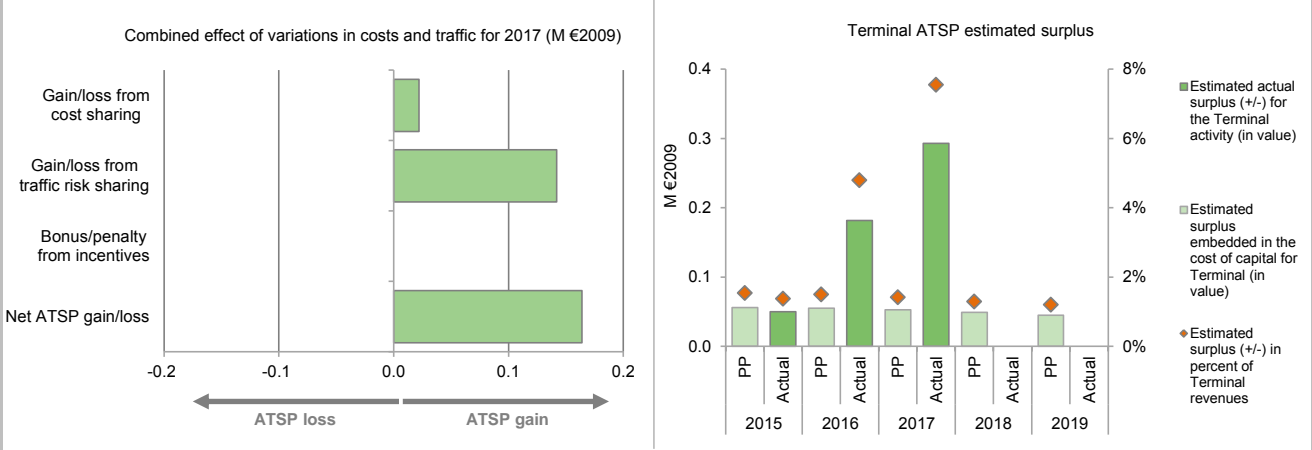
These costs and adjustments are divided by the actual TNSUs in 2017.

CROATIA: Terminal ATSP (Croatia Control)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	3 646	3 695	3 742		
Actual costs for the ATSP	3 671	3 713	3 720		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-25	-18	22		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-25	-18	22		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-0.3%	4.4%	8.8%		
Determined costs for the ATSP (PP) - based on actual inflation	3 348	3 447	3 501		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-9	93	142		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-34	75	164		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	1 180	1 118	1 028	920	817
Estimated proportion of financing through equity (in %)	57.7%	61.9%	66.8%	71.3%	76.4%
Estimated proportion of financing through equity (in value)	681	692	687	656	625
Estimated proportion of financing through debt (in %)	42.3%	38.1%	33.2%	28.7%	23.6%
Estimated proportion of financing through debt (in value)	499	426	341	264	193
Cost of capital pre-tax (in value)	67	65	61	55	49
Average interest on debt (in %)	2.3%	2.3%	2.3%	2.3%	2.3%
Interest on debt (in value)	12	10	8	6	4
Determined RoE pre-tax rate (in %)	8.2%	8.0%	7.7%	7.5%	7.2%
Estimated surplus embedded in the cost of capital for terminal (in value)	56	55	53	49	45
Overall estimated surplus (+/-) for the terminal activity	56	55	53	49	45
Revenue/costs for the terminal activity	3 646	3 695	3 742	3 810	3 727
Estimated surplus (+/-) in percent of terminal revenues	1.5%	1.5%	1.4%	1.3%	1.2%
Estimated ex-ante RoE pre-tax rate (in %)	8.2%	8.0%	7.7%	7.5%	7.2%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	1 675	2 082	2 375		
Estimated proportion of financing through equity (in %)	60.6%	64.0%	70.9%		
Estimated proportion of financing through equity (in value)	1 015	1 332	1 684		
Estimated proportion of financing through debt (in %)	39.4%	36.0%	29.1%		
Estimated proportion of financing through debt (in value)	660	750	691		
Cost of capital pre-tax (in value)	92	116	136		
Average interest on debt (in %)	1.4%	1.2%	1.0%		
Interest on debt (in value)	9	9	7		
Determined RoE pre-tax rate (in %)	8.2%	8.0%	7.7%		
Estimated surplus embedded in the cost of capital for terminal (in value)	83	106	129		
Net ATSP gain(+)/loss(-) on terminal activity	-34	75	164		
Overall estimated surplus (+/-) for the terminal activity	50	182	293		
Revenue/costs for the terminal activity	3 637	3 789	3 884		
Estimated surplus (+/-) in percent of terminal revenues	1.4%	4.8%	7.5%		
Estimated ex-post RoE pre-tax rate (in %)	4.9%	13.6%	17.4%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 CCL costs vs. PP

CCL's real actual terminal costs are slightly lower (by -0.6% or -0.02 M€2009) than planned in the PP.

CCL 2017 net gain/loss on terminal activity

As shown in box 9, the terminal activity of the TCZ generated a net gain of +0.16 M€2009 in 2017. This is a combination of two elements:

- a gain of +0.02 M€2009 as a result of the cost-sharing mechanism; and,
- a gain of +0.14 M€2009 as a result of traffic risk-sharing mechanism.

CCL 2017 overall estimated surplus for the terminal activity

Ex-post, the overall estimated surplus taking into account the net gain from the terminal activity in Croatia TCZ mentioned above (+0.16M€2009) and the surplus embedded in the cost of capital (+0.13 M€2009) amounts to +0.29 M€2009 (7.5% of the 2017 terminal revenues vs. 1.4% in the PP). The resulting ex-post rate of return on equity is 17.4%, which is higher than the 7.7% planned in the PP. (see note 2).

CROATIA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Croatia: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	83 593 737	84 898 846	84 121 546	81 589 505	78 088 644																																							
Real terminal costs (EUR2009)	3 772 154	3 873 355	3 915 806	3 976 686	3 887 353																																							
Real gate-to-gate costs (EUR2009)	87 365 891	88 772 201	88 037 352	85 566 191	81 975 997																																							
En-route share (%)	95.7%	95.6%	95.6%	95.4%	95.3%																																							
Croatia: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	80 379 566	80 923 846	80 998 788																																									
Real terminal costs (EUR2009)	3 773 291	3 864 063	3 875 684																																									
Real gate-to-gate costs (EUR2009)	84 152 857	84 787 909	84 874 472																																									
En-route share (%)	95.5%	95.4%	95.4%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	-3 213 034	-3 984 292	-3 162 880																																									
in %	-3.7%	-4.5%	-3.6%																																									
En-route share																																												
in p.p.	-0.2 p.p.	-0.2 p.p.	-0.1 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
In 2017, actual gate-to-gate ANS costs are -3.6% (-3.2 M€2009) lower than planned, mainly due to lower en-route costs.																																												
The actual share of en-route in gate-to-gate ANS costs (95.4%) is in line with that planned in the PP for 2017 (95.6%).																																												
For CCL, the estimated gate-to-gate economic surplus in 2017 amounts to 4.5 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 5.5% of gate-to-gate ANS revenues.																																												
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>95.7%</td> <td>4.3%</td> </tr> <tr> <td>Actual</td> <td>95.5%</td> <td>4.5%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>95.6%</td> <td>4.4%</td> </tr> <tr> <td>Actual</td> <td>95.4%</td> <td>4.6%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>95.6%</td> <td>4.4%</td> </tr> <tr> <td>Actual</td> <td>95.4%</td> <td>4.6%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>95.4%</td> <td>4.6%</td> </tr> <tr> <td>Actual</td> <td>95.4%</td> <td>4.6%</td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>95.3%</td> <td>4.7%</td> </tr> <tr> <td>Actual</td> <td>95.3%</td> <td>4.7%</td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	95.7%	4.3%	Actual	95.5%	4.5%	2016	Determined	95.6%	4.4%	Actual	95.4%	4.6%	2017	Determined	95.6%	4.4%	Actual	95.4%	4.6%	2018	Determined	95.4%	4.6%	Actual	95.4%	4.6%	2019	Determined	95.3%	4.7%	Actual	95.3%	4.7%
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	95.7%	4.3%																																									
	Actual	95.5%	4.5%																																									
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	Actual	95.4%	4.6%																																									
2019	Determined	95.3%	4.7%																																									
	Actual	95.3%	4.7%																																									

3. Technical notes on en-route and terminal information reported by Croatia

Note 1: ANS provision in Sarajevo FIR (Bosnia and Herzegovina - BiH)

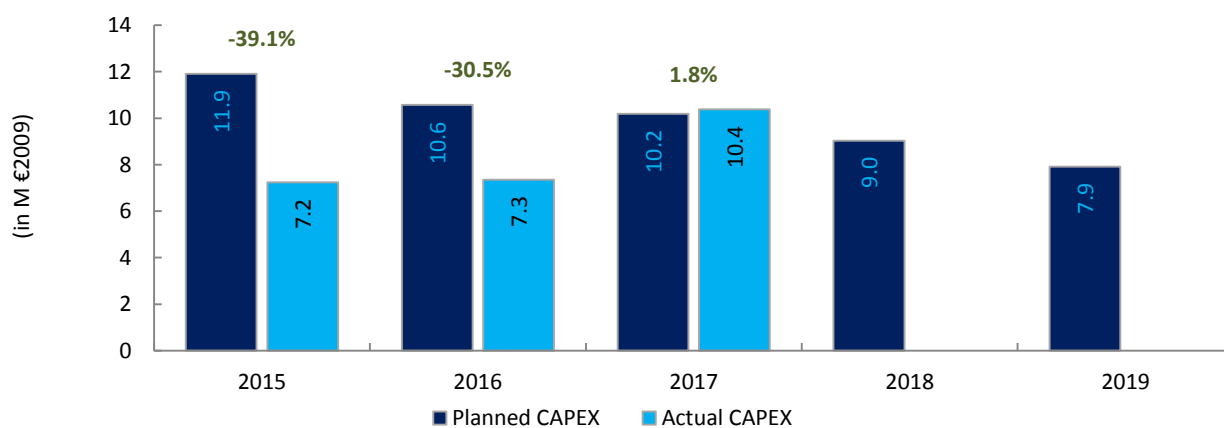
Croatia's determined and actual en-route costs for RP2 include costs for services provided by CCL in Sarajevo FIR (Bosnia and Herzegovina - BiH). In agreement with the European Commission, Croatia committed to deduct the income received for the services provided to the Sarajevo FIR (Bosnia and Herzegovina - BiH) as 'other revenues' in the Croatian cost base to avoid double charging. This ensures that these amounts are only charged once (through the BiH unit rate, outside the SES area).

Note 2: As indicated in the additional information of the June 2018 Reporting tables, "Implied RoE% planned/charged for PP 2017D represents a part of eligible PP 2017D RoE, recalculated down in order to fit in the chargeable (i.e. implied) CoC% for PP 2017D."

CROATIA

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: Croatia Control						
FAB: FAB CE						
Currency: HRK						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	95.4	85.6	83.7	76.0	68.3	409.1
Main CAPEX (in nominal M)	75.8	69.3	67.5	63.3	56.6	332.4
Inflation %	0.2%	1.0%	1.5%	2.5%	2.5%	
Inflation index (100 in 2009)	109.2	110.4	112.0	114.8	117.7	
Exchange rate 2009	7.33804	7.33804	7.33804	7.33804	7.33804	
Total CAPEX (in M €2009)	11.9	10.6	10.2	9.0	7.9	49.6
Main CAPEX (in M €2009)	9.5	8.6	8.2	7.5	6.6	40.3
% Main of Total CAPEX	79.4%	81.0%	80.6%	83.2%	82.8%	81.2%
Real gate-to-gate ANSP costs (in M €2009)	81.4	82.6	81.7	79.3	75.7	400.7
Total CAPEX as % of Real gate-to-gate ANSP costs	14.6%	12.8%	12.5%	11.4%	10.5%	12.4%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	58.1	58.6	83.8			
Main CAPEX (in nominal M)	41.5	45.3	69.2			
Inflation %	-0.3%	-0.6%	1.3%			
Inflation index (100 in 2009)	109.3	108.6	110.0			
Exchange rate 2009	7.33804	7.33804	7.33804			
Total CAPEX (in M €2009)	7.2	7.3	10.4			
Main CAPEX (in M €2009)	5.2	5.7	8.6			
% Main of Total CAPEX	71.3%	77.3%	82.6%			
Real gate-to-gate ANSP costs (in M €2009)	78.5	79.2	79.3			
Total CAPEX as % of Real gate-to-gate ANSP costs	9.2%	9.3%	13.1%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-37.3	-27.0	0.1			
Total CAPEX (in M €2009)	-4.7	-3.2	0.2			
Total CAPEX (in %, M €2009)	-39.1%	-30.5%	1.8%			



Annual Monitoring Report 2017
Local level view
Czech Republic

CZECH REPUBLIC

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	79	C	C	B	D	D
ANS CR	83	D	E	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
			RAT application (%)			
			ATM Ground	ATM Overall		
Separation Minima Infringements (SMIs)			100%	100%		
Runway Incursions (RIs)			100%	100%		
ATM Specific Occurrences (ATM-S)				100%		
Source of RAT data:			UZPLN			
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level			Number of questions answered			
			YES	NO		
Policy and its implementation			5	4		
Legal/Judiciary			6	1		
Occurrence reporting and Investigation			2	0		
TOTAL			13	5		
ANS CR			Number of questions answered			
			YES	NO		
Policy and its implementation			13	0		
Legal/Judiciary			2	1		
Occurrence reporting and Investigation			7	1		
TOTAL			22	2		
Observations						
<p>Only one question out of 36 in the EoS Component/area of the State in Safety Culture does not meet the 2019 EoS target level. After verification some answers were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p>						

CZECH REPUBLIC

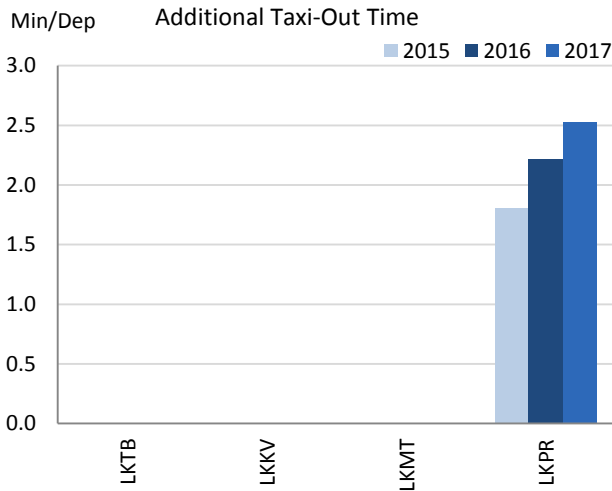
Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

There are four airports in Czech Republic subject to RP2 monitoring. Nevertheless, the airport operator data flow is only established for Prague. The implementation of the APDF at the rest of Czech airports is required to be able to monitor the performance.

The indicators show that Prague performs in line with the general European trend, although both indicators have worsened, following a 9% traffic growth.

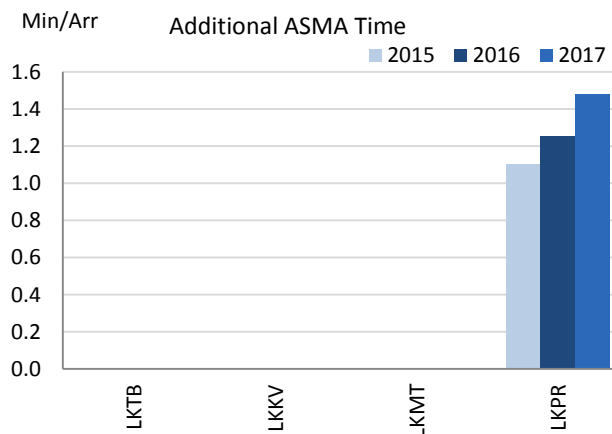
2. Additional Taxi-Out Time



There is a 14% increase of the additional taxi-out times at Prague airport with respect to 2016. According to Czech NSA, this is due to longer traffic peaks and an effort to maximize runway throughput. Prague is an A-CDM implemented airport.

The longer taxi-out times are observed mainly during January and December, and to a lesser extent throughout the entire year.

3. Additional ASMA Time



In a very similar evolution to the additional taxi-out times, the average additional time in the terminal area of Prague has increased by 18%, reaching 1.48 min/arr.

According to Czech NSA, this increase is due to longer traffic peaks that result in aircraft flying the STAR for a longer time in an effort to maximize runway throughput.

On the other hand, the performance is very similar to last year's on a monthly basis, with only April and October showing longer additional times in the approach.

4. Appendix

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

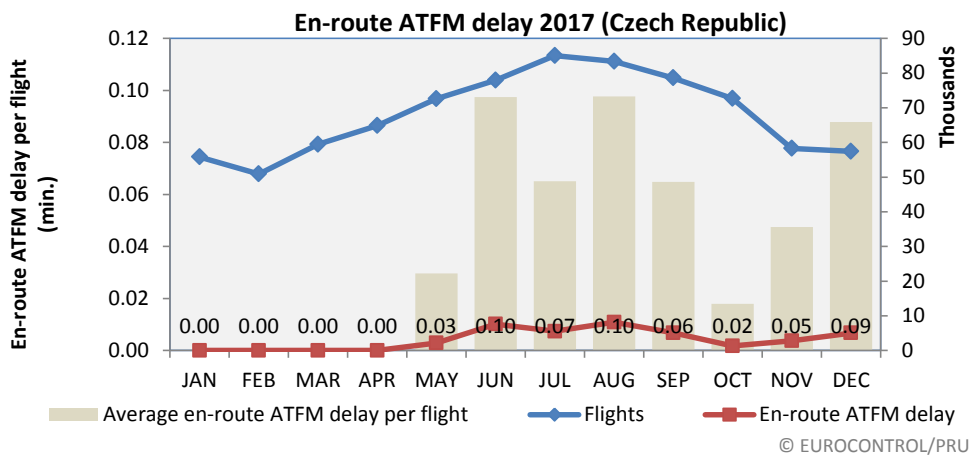
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Brno-Tuřany	LKTB	n/a	n/a	n/a			n/a	n/a	n/a		
Karlovy Vary	LKKV	n/a	n/a	n/a			n/a	n/a	n/a		
Ostrava	LKMT	n/a	n/a	n/a			n/a	n/a	n/a		
Prague	LKPR	1.81	2.22	2.53			1.10	1.25	1.48		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.09	0.10	0.09	0.10	0.10	
Deadband +/-	0.03	0.03	0.03	0.03	0.03	
Actual performance	0.01	0.01	0.05			

National capacity incentive scheme

FAB CE exceeded its target by 36% which results in a 'ponder' value of 25%. The Czech Republic exceeded its target by 44%. The en-route revenue of ANS CR in 2017 was 2 785 469k CZK (excluding exempted flights). The applied formula is 25% x 44% x 0.5% x en-route revenue which gives the bonus of 1 547 482.78 CZK.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Czech Republic)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.44	0.29	0.15	0.01	0.00	0.04	0.01	0.01	0.01	0.05

Even though 2017 saw a deterioration of en-route capacity performance in the Czech Republic (0.05 minutes delay per flight) compared to 2016 (0.01 minutes delay per flight), the Czech Republic was still able to meet its national target. Traffic levels rose by 2.5% from 2016 levels, but remains within the predicted high traffic forecast from STATFOR in February 2014 when the performance plans and associated capacity plans were being determined. (It is noted that when traffic rose above the predicted high traffic scenarios in 2015 and 2016, en route performance was excellent). The Network Manager, in the latest version of the NOP, warns about expected capacity shortfalls in Prague ACC during 2018 and 2019 because of an airspace reorganisation project and the implementation of a new AM system, both of which are expected to lead to reductions in available capacity.

EUROCONTROL 7 year forecast February 2014 – Czech Republic									
	2014	2015	2016	2017	2018	2019			
		actual		actual		actual		actual	
High	702	739	784	823	864	905			
Base	692	700	746	770	791	817			
Low	682	699	709	719	728	738			

Planning and Effective Use of CDRs

No data was provided by Czech Republic.

Observations on Planning and Effective Use of CDRs

It is noted that the Czech Republic, like many other States, does not monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
41%	39%	45%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
N/A	N/A	N/A		

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

CZECH REPUBLIC

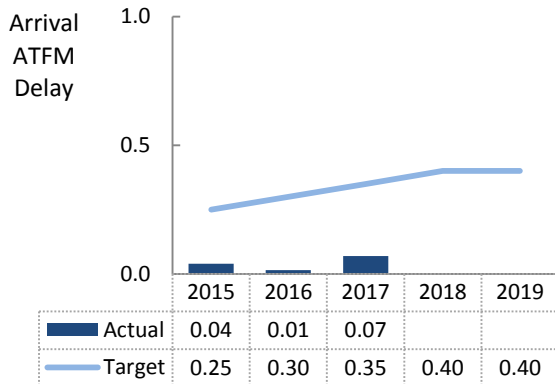
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

ANS at a total of 4 airports are subject to RP2 monitoring in the Czech Republic. A national target on arrival ATFM has been established. Arrival ATFM delay has increased in 2017 but remains very low and well below the target. The compliance with ATFM slots continues to range within the top class across Europe. Pre-departure delay can only be monitored at the time being for Prague (LKPR).

The Airport Operator Data Flow is currently only established for LKPR. The Czech Republic may consider the establishment of the data flow for the other airports.

2. Arrival ATFM Delay



With a 9% traffic increase in 2017 with respect to 2016, the arrival ATFM delay has increased from 0.01 in 2016 to 0.07 in 2017.

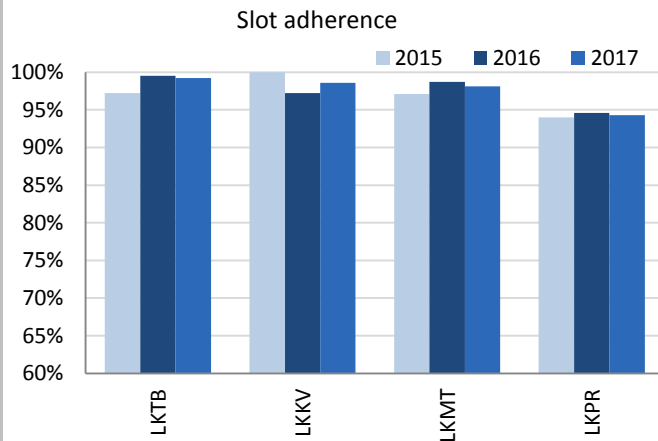
Despite this increase, the national performance fully meets the target in all years of RP2 so far.

3. Arrival ATFM Delay – National Target and Incentive Scheme

The FAB CE performance plan sets a national target for arrival ATFM delay for the Czech Republic.

The FAB CE performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for the Czech Republic.

4. ATFM Slot Adherence



Slot adherence at Czech airports is quite stable across RP2 years. The performance at Prague (LKPR) ranges for another year just below the 95% threshold which is exceeded by all other airports. This national outcome is amongst the best-in-class across Europe.

It is noteworthy that this also applies for the smaller airports in terms of traffic well below 10 000 movements a year. This is not common across Europe.

5. Pre-departure Delay

Pre-departure delay increased slightly in 2017 (0.55 min/dep.) in comparison to 2016 (0.53 min/dep.) at Prague (LKPR). This is reported to be linked with the higher traffic (although the monthly trend does not follow the traffic trend) and the introduction of ACDM at LKPR (i.e. it is preferred that A/C occupy more time on apron than on TWY, which would further reduce the RWY capacity during traffic peaks)

To ensure the consistency of the monitoring, Czech Republic may consider the establishment of the data flow for the other airports.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Brno-Tuřany	LKTB	0.00	0.00	0.00			97.2%	99.5%	99.2%			n/a	n/a	n/a		
Karlovy Vary	LKKV	0.00	0.00	0.00			100.0%	97.2%	98.6%			n/a	n/a	n/a		
Ostrava	LKMT	0.00	0.00	0.00			97.1%	98.7%	98.1%			n/a	n/a	n/a		
Prague	LKPR	0.04	0.02	0.08			94.0%	94.6%	94.3%			0.36	0.53	0.55		

CZECH REPUBLIC: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services					
· Czech Republic ECZ represents 1.7% of the SES en-route ANS determined costs in 2017					
· ATSP: ANS CR					
· FAB: FAB CE					
· National currency: CZK Exchange rate 2009: 1 EUR = 26.4147 CZK					
2. En-route DUC monitoring at Charging Zone level					
Czech Republic: Data from RP2 Performance Plan(EC Decision 2015/348 of 2 March 2015)	2015D	2016D	2017D	2018D	2019D
En-route costs (nominal CZK)	3 022 287 900	3 087 882 700	3 126 037 100	3 149 817 800	3 102 014 900
Inflation %	1.9%	2.0%	2.0%	2.0%	2.0%
Inflation index (100 in 2009)	111.5	113.7	116.0	118.3	120.7
Real en-route costs (CZK2009)	2 710 775 667	2 715 303 433	2 694 955 079	2 662 212 166	2 570 401 338
Total en-route Service Units	2 548 000	2 637 000	2 717 000	2 795 000	2 881 000
Real en-route unit cost per Service Unit (CZK2009)	1 063.88	1 029.69	991.89	952.49	892.19
Real en-route unit cost per Service Unit (EUR2009)	40.28	38.98	37.55	36.06	33.78
Czech Republic: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
En-route costs (nominal CZK)	2 845 608 972	3 074 649 841	3 263 571 568		
Inflation %	0.3%	0.6%	2.4%		
Inflation index (100 in 2009)	109.5	110.2	112.8		
Real en-route costs (CZK2009)	2 598 187 485	2 790 570 169	2 892 613 899		
Total en-route Service Units	2 531 815	2 737 047	2 823 895		
Real en-route unit cost per Service Unit (CZK2009)	1 026.22	1 019.56	1 024.33		
Real en-route unit cost per Service Unit (EUR2009)	38.85	38.60	38.78		
Difference between Actuals and Planned	2015	2016	2017	2018	2019
En-route costs (nominal CZK) in value	-176 678 928	-13 232 859	137 534 468		
in %	-5.8%	-0.4%	4.4%		
Inflation % in p.p.	-1.6 p.p.	-1.4 p.p.	0.4 p.p.		
Inflation index (100 in 2009) in p.p.	-2.0 p.p.	-3.5 p.p.	-3.2 p.p.		
Real en-route costs (CZK2009) in value	-112 588 182	75 266 735	197 658 819		
in %	-4.2%	2.8%	7.3%		
Total en-route Service Units in value	-16 185	100 047	106 895		
in %	-0.6%	3.8%	3.9%		
Real en-route unit cost per Service Unit (CZK2009) in value	-37.67	-10.14	32.45		
in %	-3.5%	-1.0%	3.3%		
Real en-route unit cost per Service Unit (EUR2009) in value	-1.43	-0.38	1.23		
in %	-3.5%	-1.0%	3.3%		
3. Focus on en-route at State/Charging Zone level					
En-route unit cost					
In 2017, the actual real en-route unit cost (1 024.33 CZK2009 or 38.78 €2009) is +3.3% higher than planned in the PP (991.89 CZK2009 or 37.55 €2009). This difference results from the combination of higher than planned TSUs (+3.9%) and higher than planned en-route costs (+7.3%, or +7.5 M€2009).					
En-route service units					
The difference between actual and planned TSUs (+3.9%) falls outside the ±2% dead band but is inside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting additional en-route revenue is therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +2.4 M€2009.					
Based on the STATFOR February 2018 forecast, TSUs are forecast to remain above planned values in the remaining years of RP2.					
En-route costs					
In nominal terms, actual en-route costs are +4.4% higher than planned. However, since the actual inflation index is lower to what was planned (-3.2 p.p.), actual en-route costs are +7.3% higher than planned, when expressed in real terms.					
The higher than planned en-route costs, in real terms, are driven by higher actual costs across all the reporting entities: ANS CR (+6.4% or +5.8 M€2009), NSAEUROCONTROL (+14.9% or +1.4M€2009) and METSP (CHMI) (+14.0% or +0.3 M€2009). A detailed analysis for ANS CR, being the main contributor, is provided in Box 12.					
Costs exempt from cost-sharing are reported for a total amount of -1.0 M€2009 in respect of the difference in Eurocontrol costs, to be reimbursed to airspace users in the following reference period(s), if deemed allowed by the European Commission.					

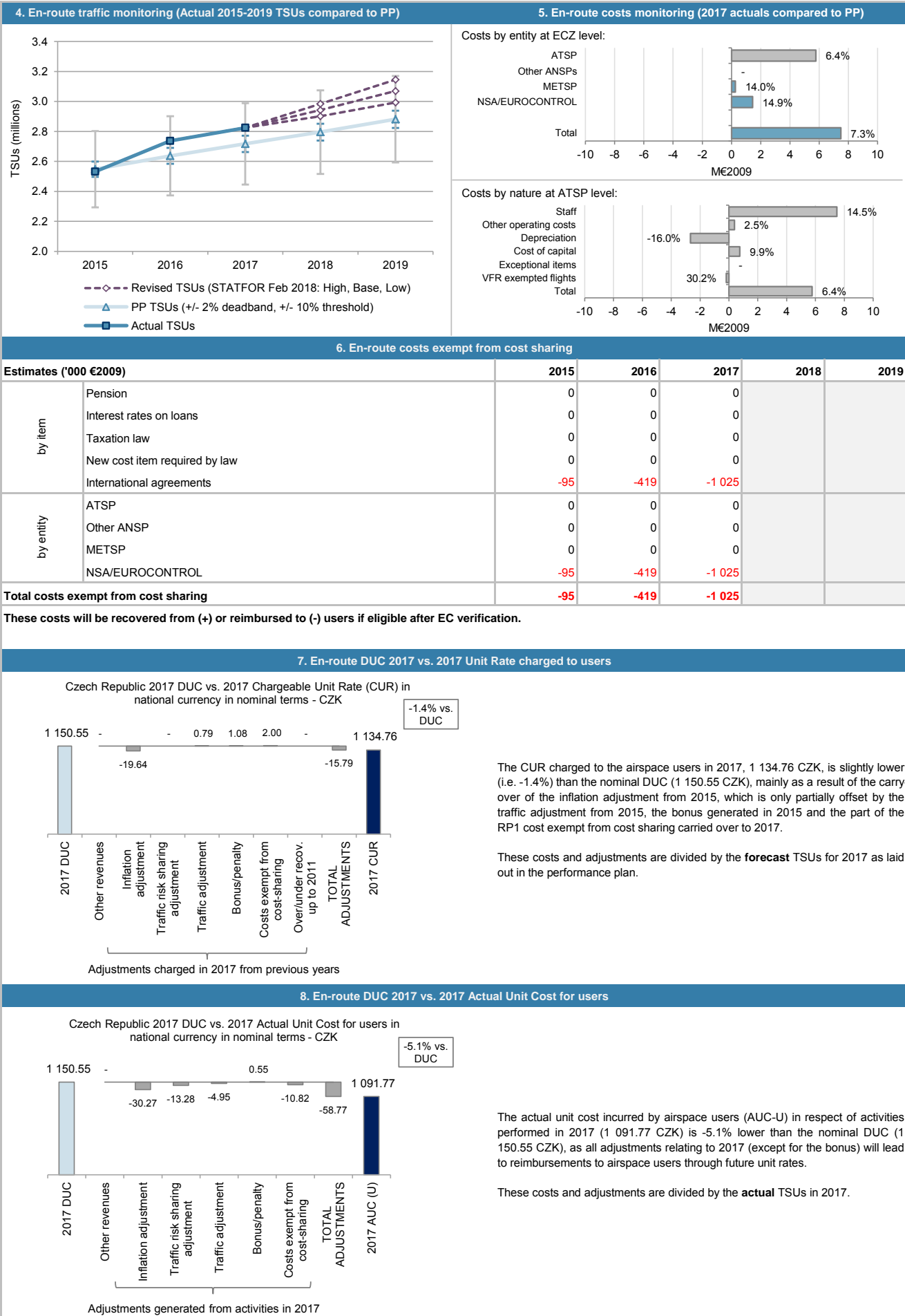
Year	Difference (%)
2015	-4.2%
2016	2.8%
2017	7.3%
2018	0%
2019	0%

Year	Difference (%)
2015	-0.6%
2016	3.8%
2017	3.9%
2018	0%
2019	0%

Year	En-route DUC (PP, €2009)	En-route unit costs (actual, €2009)
2015	40.28	38.85
2016	38.98	38.60
2017	37.55	38.78
2018	36.06	36.06
2019	33.78	33.78

CZECH REPUBLIC: En-route charging zone

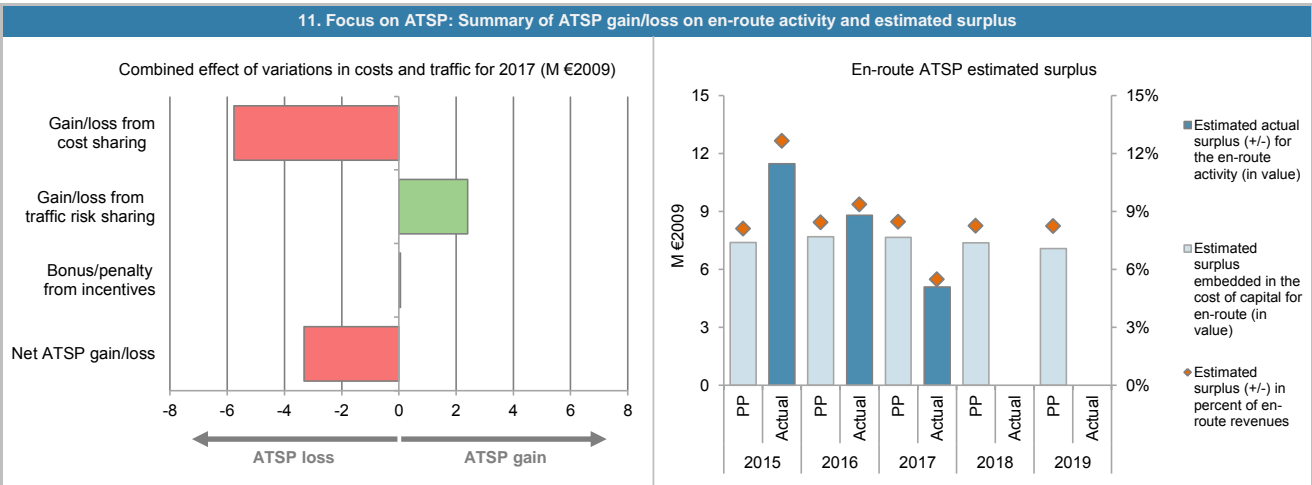
Monitoring of en-route COST-EFFICIENCY for 2017



CZECH REPUBLIC: En-route ATSP (ANS CR)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	91 070	91 337	90 424		
Actual costs for the ATSP	86 485	93 260	96 195		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	4 585	-1 923	-5 771		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	4 585	-1 923	-5 771		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-0.6%	3.8%	3.9%		
Determined costs for the ATSP (PP) - based on actual inflation	92 707	94 273	92 966		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-589	2 393	2 399		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	101	213	52		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	4 097	683	-3 320		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	113 529	118 314	117 666	113 293	108 744
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	113 529	118 314	117 666	113 294	108 744
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	7 379	7 690	7 648	7 364	7 068
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	6.5%	6.5%	6.5%	6.5%	6.5%
Estimated surplus embedded in the cost of capital for en-route (in value)	7 379	7 690	7 648	7 364	7 068
Overall estimated surplus (+/-) for the en-route activity	7 379	7 690	7 648	7 364	7 068
Revenue/costs for the en-route activity	91 070	91 337	90 424	89 284	85 879
Estimated surplus (+/-) in percent of en-route revenues	8.1%	8.4%	8.5%	8.2%	8.2%
Estimated ex-ante RoE pre-tax rate (in %)	6.5%	6.5%	6.5%	6.5%	6.5%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	113 202	124 797	129 313		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	113 202	124 797	129 314		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	7 358	8 112	8 405		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	6.5%	6.5%	6.5%		
Estimated surplus embedded in the cost of capital for en-route (in value)	7 358	8 112	8 405		
Net ATSP gain(+)/loss(-) on en-route activity	4 097	683	-3 320		
Overall estimated surplus (+/-) for the en-route activity	11 456	8 795	5 085		
Revenue/costs for the en-route activity	90 582	93 943	92 875		
Estimated surplus (+/-) in percent of en-route revenues	12.6%	9.4%	5.5%		
Estimated ex-post RoE pre-tax rate (in %)	10.1%	7.0%	3.9%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 ANS CR en-route costs vs. PP

In 2017, ANS CR's actual en-route costs are +6.4% (+5.8 M€2009) higher, in real terms than planned in the PP. This results mainly from the combination of:

- higher staff costs (+14.5% or +7.5 M€2009), mainly "caused by high traffic increase and irregular development of traffic within the year and related bonuses for performance. On the other hand this allowed ANSP to minimise delays and meet the capacity target";
- higher operating costs (+2.5% or +0.4 M€2009). Amounts are in line with the plan in nominal terms but higher in real terms due to lower inflation than planned;
- lower depreciation costs (-16.0% or -2.7 M€2009), mainly due to "delays in public procurement processes"; and,
- higher cost of capital (+9.9% or +0.8 M€2009), due to a higher asset base than planned (higher net current assets and slightly higher fixed assets as previously delayed capex projects were realised in 2017).
- the deduction of higher actual costs for exempted VFR flights (resulting in -0.2 M€2009)

ANS CR net gain/loss on en-route activity in 2017

As shown in Box 9, ANS CR generated a net loss of -3.3 M€2009 on the en-route activity. This is a combination of three elements:

- a loss of -5.8 M€2009 arising from the cost-sharing mechanism;
- a gain of +2.4 M€2009 arising from the traffic risk sharing mechanism; and,
- a gain of +0.05 M€2009, corresponding to a bonus to ANS CR as part of the capacity target incentive mechanism. This amount corresponds to 0.05% of ANS CR en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs).

The amounts reported in respect of financial incentives for 2017, to be charged or reimbursed to users, will be examined by the European Commission.

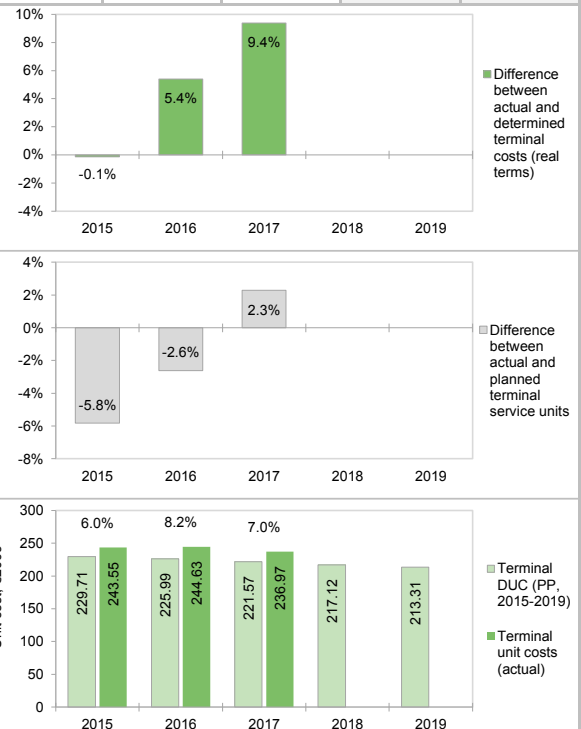
ANS CR overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net loss from the en-route activity mentioned above (-3.3 M€2009) and the surplus embedded in the actual cost of capital (+8.4 M€2009) amounts to +5.1 M€2009 (or 5.5% of the 2017 en-route revenues, compared to 8.5% foreseen in the performance plan). The resulting ex-post rate of return on equity is 3.9%, which is lower than the 6.5% planned in the PP.

CZECH REPUBLIC: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

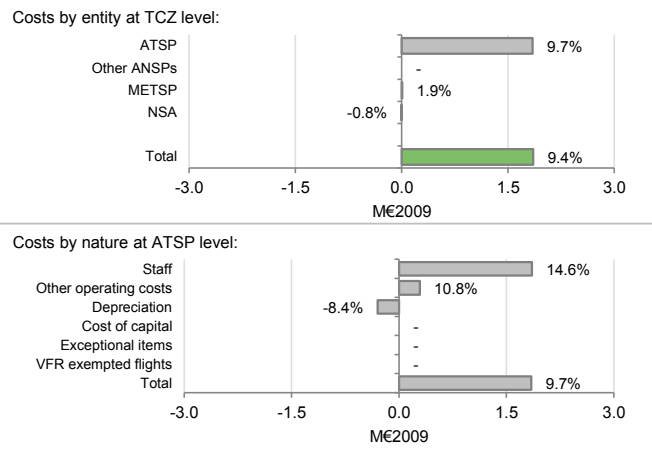
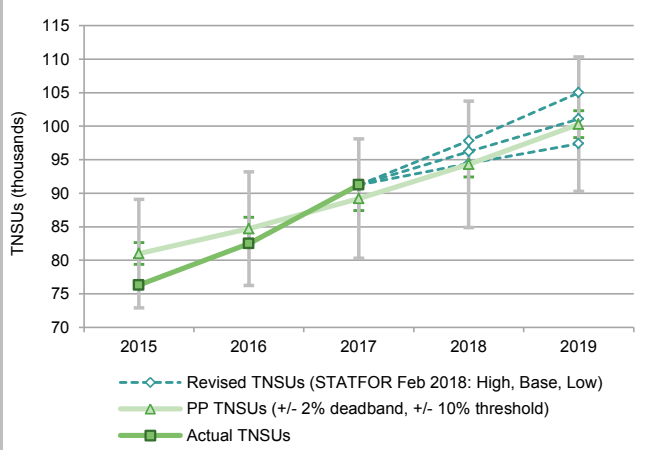
1. Contextual economic information: terminal air navigation services						
· Czech_Republic TCZ represents 1.8% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes		
· ATSP:	ANS CR	· Airports with fewer than 70,000 IFRs ATMs:		3		
· National currency:	CZK	· Airports with between 70,000 and 225,000 IFRs ATMs:		1		
· Number of airports in charging zone in 2017:	4,	of which:	· Airports with more than 225,000 IFRs ATMs:	0		
2. Terminal DUC monitoring at Charging Zone level						
Czech_Republic: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal CZK)		547 963 000	574 984 000	605 574 000	639 886 000	682 085 000
Inflation %		1.9%	2.0%	2.0%	2.0%	2.0%
Inflation index (100 in 2009)		111.5	113.7	116.0	118.3	120.7
Real terminal costs (CZK2009)		491 483 544	505 607 298	522 065 054	540 828 836	565 191 417
Total terminal Service Units		81 000	84 700	89 200	94 300	100 307
Real terminal unit cost per Service Unit (CZK2009)		6 067.70	5 969.39	5 852.75	5 735.19	5 634.64
Real terminal unit cost per Service Unit (EUR2009)		229.71	225.99	221.57	217.12	213.31
Czech_Republic: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal CZK)		537 535 000	587 224 000	644 361 000		
Inflation %		0.3%	0.6%	2.4%		
Inflation index (100 in 2009)		109.5	110.2	112.8		
Real terminal costs (CZK2009)		490 797 128	532 967 935	571 118 955		
Total terminal Service Units		76 290	82 481	91 240		
Real terminal unit cost per Service Unit (CZK2009)		6 433.29	6 461.73	6 259.52		
Real terminal unit cost per Service Unit (EUR2009)		243.55	244.63	236.97		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
Terminal costs (nominal CZK)		-10 428 000	12 240 000	38 787 000		
in %		-1.9%	2.1%	6.4%		
Inflation %		-1.6 p.p.	-1.4 p.p.	0.4 p.p.		
Inflation index (100 in 2009)		-2.0 p.p.	-3.5 p.p.	-3.2 p.p.		
Real terminal costs (CZK2009)		-686 416	27 360 637	49 053 901		
in %		-0.1%	5.4%	9.4%		
Total terminal Service Units		-4 710	-2 219	2 040		
in %		-5.8%	-2.6%	2.3%		
Real terminal unit cost per Service Unit (CZK2009)		365.59	492.34	406.78		
in %		6.0%	8.2%	7.0%		
Real terminal unit cost per Service Unit (EUR2009)		13.84	18.64	15.40		
in %		6.0%	8.2%	7.0%		
3. Focus on terminal at State/Charging Zone level						
This analysis focuses on Czech Republic Terminal Charging zone comprising 4 airports, Praha/Ruzyně, Karlovy/Vary, Ostrava/Mosnov and Brno/Turany.						
Terminal unit cost						
In 2017, the actual terminal unit cost in real terms (6 259.52 CZK2009 or 236.97 €2009) is higher (+7.0%) than planned in the PP (5 852.75 CZK2009 or 221.57 €2009). This is resulting from the combination of higher than planned TNSUs (+2.3%), while the terminal costs were significantly higher than what was planned (+9.4%, or +1.9 M€2009).						
Terminal service units						
Traffic risk sharing applies in the TCZ. The difference between actual and planned TNSUs (+2.3%) falls outside the ±2% dead band, but is inside the ±10% threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of terminal revenues is therefore shared between the ATSP and the airspace users, with the gain borne by the ATSP amounting to +0.4 M€2009.						
Based on the STATFOR February 2018 <u>base</u> forecast, TNSUs are expected to remain above the planned TNSUs for the remaining years of RP2.						
Terminal costs						
In nominal terms, actual terminal costs are +6.4% higher than planned. However, since the actual inflation index is lower to what was planned (-3.2 p.p.), actual terminal costs are +9.4% higher than planned, when expressed in real terms.						
As, shown in Box 5, the higher than planned real terminal costs are essentially driven by higher actual costs for ANS CR (+9.7% or +1.8 M€2009), while NSA and METSP actual costs remained close to what was planned (i.e. -0.8% and +1.9% respectively). A detailed analysis for ANS CR, is provided in Box 12.						
There are no costs exempted from cost-sharing reported for the TCZ.						



CZECH REPUBLIC: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

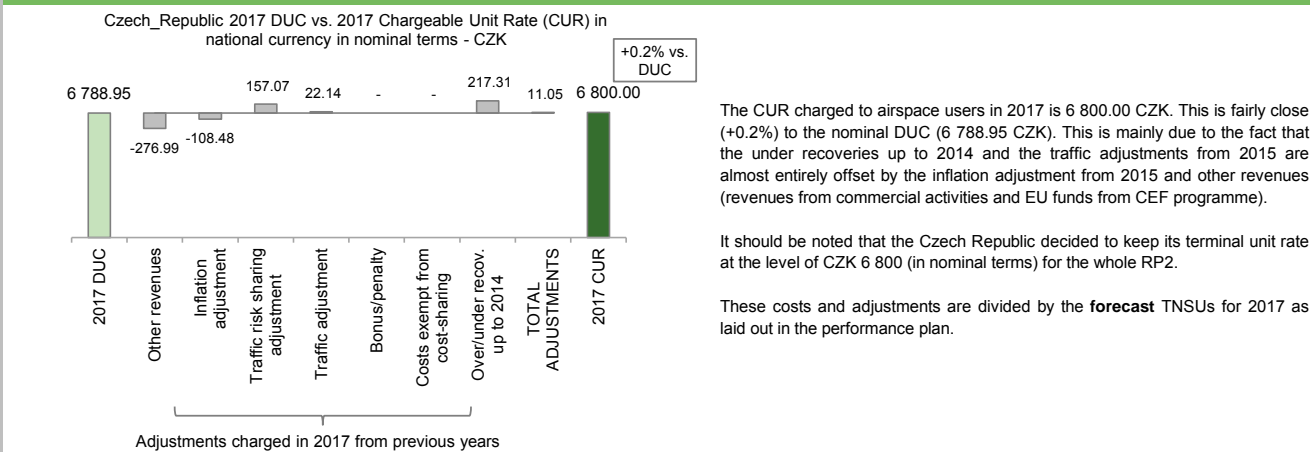


6. Terminal costs exempt from cost sharing

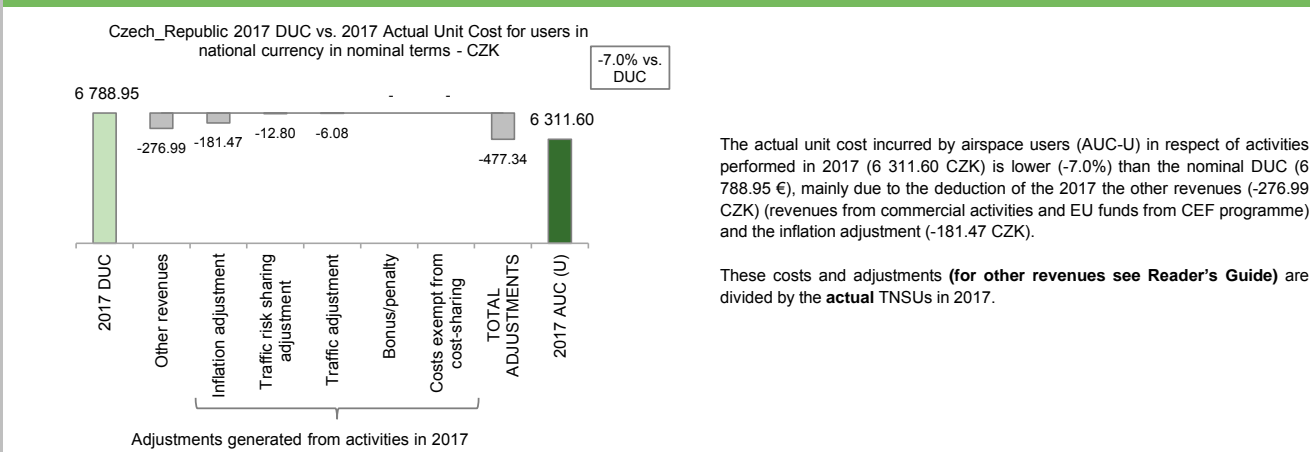
Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



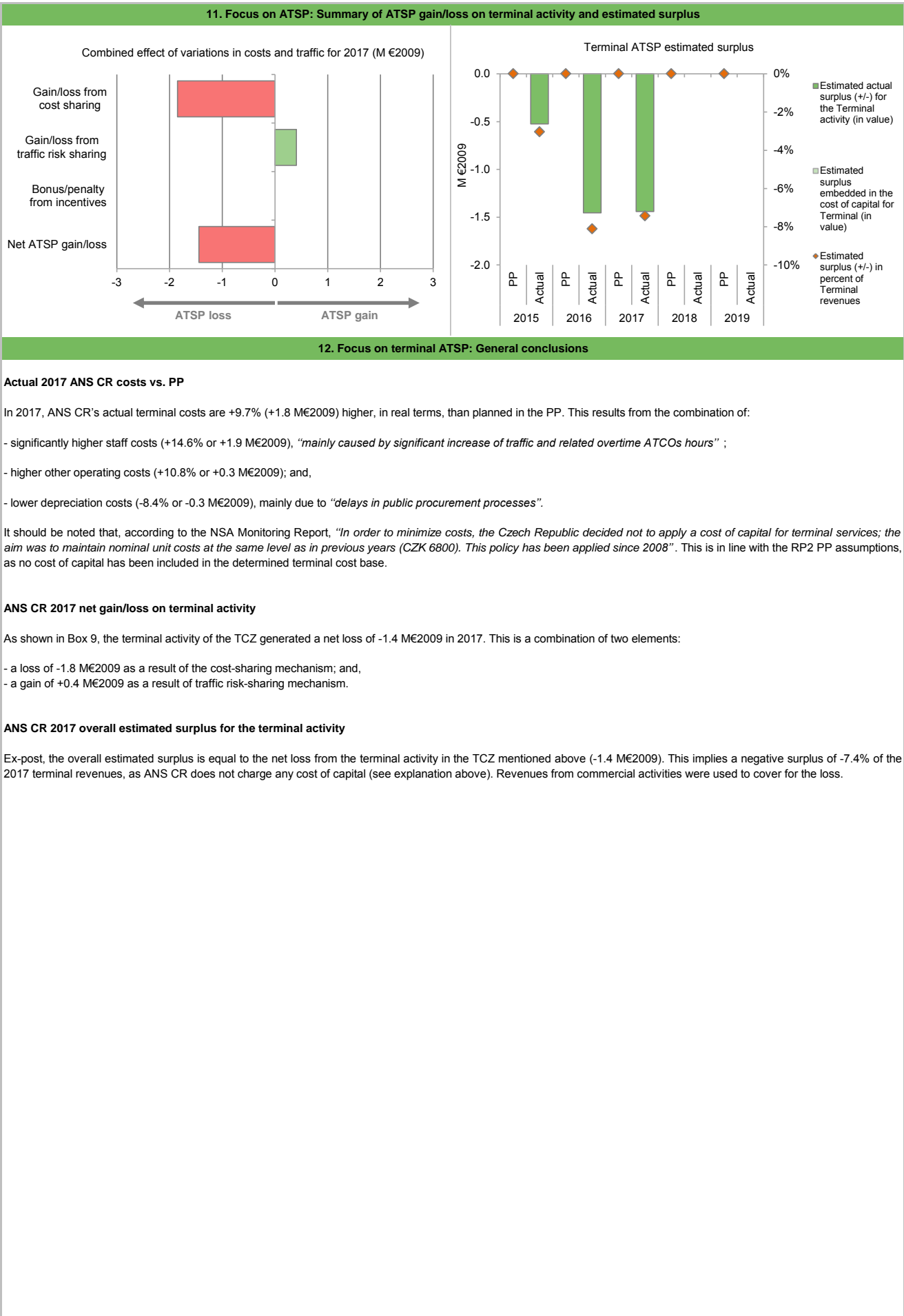
8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



CZECH REPUBLIC: Terminal ATSP (ANS CR)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	17 817	18 352	18 973		
Actual costs for the ATSP	17 770	19 394	20 821		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	47	-1 042	-1 849		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	47	-1 042	-1 849		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-5.8%	-2.6%	2.3%		
Determined costs for the ATSP (PP) - based on actual inflation	18 137	18 942	19 506		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-570	-414	407		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-523	-1 456	-1 442		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	21 235	22 661	22 677	22 017	22 522
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	21 235	22 661	22 677	22 017	22 522
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	0	0	0	0	0
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	-	-	-	-	-
Estimated surplus embedded in the cost of capital for terminal (in value)	0	0	0	0	0
Overall estimated surplus (+/-) for the terminal activity	0	0	0	0	0
Revenue/costs for the terminal activity	17 817	18 352	18 973	19 683	20 610
Estimated surplus (+/-) in percent of terminal revenues	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated ex-ante RoE pre-tax rate (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	21 189	23 474	24 693		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	21 189	23 474	24 693		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	0	0	0		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	-	-	-		
Estimated surplus embedded in the cost of capital for terminal (in value)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity	-523	-1 456	-1 442		
Overall estimated surplus (+/-) for the terminal activity	-523	-1 456	-1 442		
Revenue/costs for the terminal activity	17 246	17 938	19 379		
Estimated surplus (+/-) in percent of terminal revenues	-3.0%	-8.1%	-7.4%		
Estimated ex-post RoE pre-tax rate (in %)	N/A	N/A	N/A		



CZECH REPUBLIC: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs

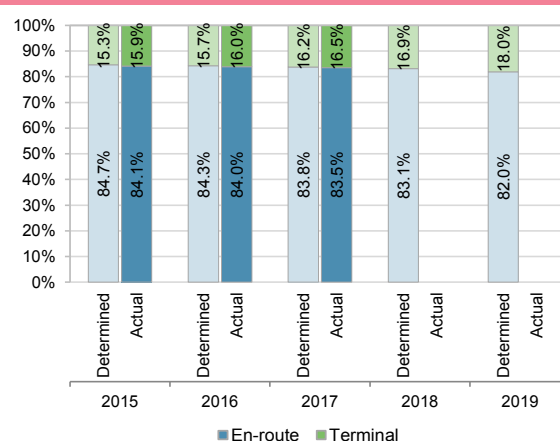
Czech Republic: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		102 623 754	102 795 165	102 024 823	100 785 251	97 309 503
Real terminal costs (EUR2009)		18 606 440	19 141 133	19 764 186	20 474 540	21 396 852
Real gate-to-gate costs (EUR2009)		121 230 194	121 936 298	121 789 009	121 259 791	118 706 355
En-route share (%)		84.7%	84.3%	83.8%	83.1%	82.0%
Czech Republic: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		98 361 423	105 644 591	109 507 732		
Real terminal costs (EUR2009)		18 580 454	20 176 944	21 621 255		
Real gate-to-gate costs (EUR2009)		116 941 878	125 821 535	131 128 987		
En-route share (%)		84.1%	84.0%	83.5%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	-4 288 317	3 885 237	9 339 978		
	in %	-3.5%	3.2%	7.7%		
En-route share	in p.p.	-0.5 p.p.	-0.3 p.p.	-0.3 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs are +7.7% (+9.3 M€2009) higher than planned as a result of both higher en-route and terminal costs.

The actual share of en-route in gate-to-gate ANS costs (83.5%) is in line with that planned in the PP for 2017 (83.8%).

For ANS CR, the estimated gate-to-gate economic surplus in 2017 amounts to 3.6 M€2009 (see Boxes 10 for the detailed analysis at charging zone level), corresponding to 3.2% of gate-to-gate ANS revenues.

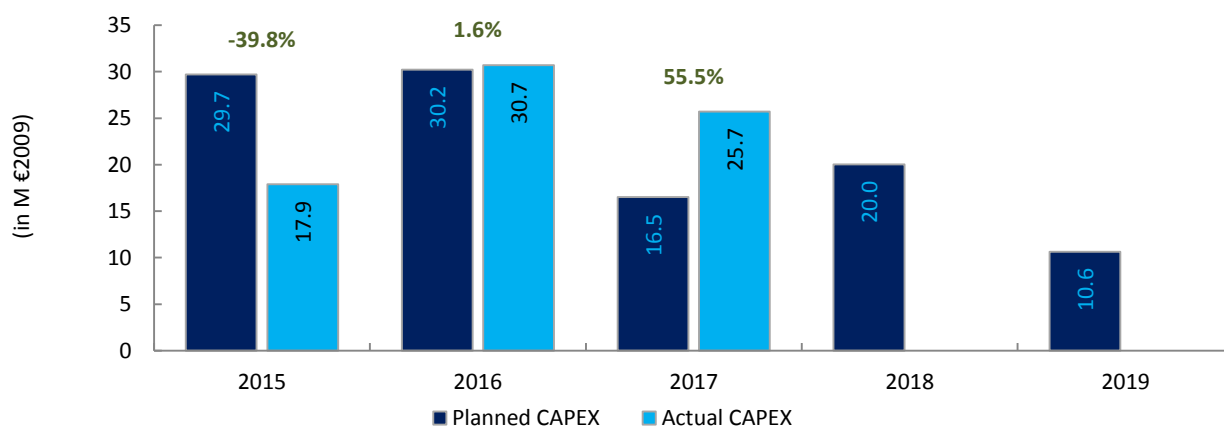


3. Technical notes on en-route and terminal information reported by Czech Republic

CZECH REPUBLIC

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: ANS CR						
FAB: FAB CE						
Currency: CZK						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	874.9	908.0	506.3	625.6	338.6	3 253.4
Main CAPEX (in nominal M)	818.2	846.4	450.6	556.0	286.6	2 957.8
Inflation %	1.9%	2.0%	2.0%	2.0%	2.0%	
Inflation index (100 in 2009)	111.5	113.7	116.0	118.3	120.7	
Exchange rate 2009	26.4147	26.4147	26.4147	26.4147	26.4147	
Total CAPEX (in M €2009)	29.7	30.2	16.5	20.0	10.6	107.1
Main CAPEX (in M €2009)	27.8	28.2	14.7	17.8	9.0	97.4
% Main of Total CAPEX	93.5%	93.2%	89.0%	88.9%	84.6%	91.0%
Real gate-to-gate ANSP costs (in M €2009)	108.9	109.7	109.4	109.0	106.5	543.4
Total CAPEX as % of Real gate-to-gate ANSP costs	27.3%	27.6%	15.1%	18.4%	10.0%	19.7%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	517.2	893.8	765.7			
Main CAPEX (in nominal M)	466.2	824.1	403.7			
Inflation %	0.3%	0.6%	2.4%			
Inflation index (100 in 2009)	109.5	110.2	112.8			
Exchange rate 2009	26.4147	26.4147	26.4147			
Total CAPEX (in M €2009)	17.9	30.7	25.7			
Main CAPEX (in M €2009)	16.1	28.3	13.5			
% Main of Total CAPEX	90.1%	92.2%	52.7%			
Real gate-to-gate ANSP costs (in M €2009)	104.3	112.7	117.0			
Total CAPEX as % of Real gate-to-gate ANSP costs	17.1%	27.3%	22.0%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-357.7	-14.2	259.4			
Total CAPEX (in M €2009)	-11.8	0.5	9.2			
Total CAPEX (in %, M €2009)	-39.8%	1.6%	55.5%			



Annual Monitoring Report 2017
Local level view
Hungary

HUNGARY

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	46	C	B	B	B	B
Hungarocontrol	79	D	D	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	KBSZ					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	2	7				
Legal/Judiciary	3	4				
Occurrence reporting and Investigation	1	1				
TOTAL	6	12				
Hungarocontrol	Number of questions answered					
	YES	NO				
Policy and its implementation	13	0				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	7	1				
TOTAL	22	2				
Observations						
<p>Three out of the four reviewed EoS M Components/areas of the State do not meet the 2019 EoS M target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p> <p>Out of 34 questions in Components 1-4 (not including Component - Safety Culture), seven are below Level C.</p>						

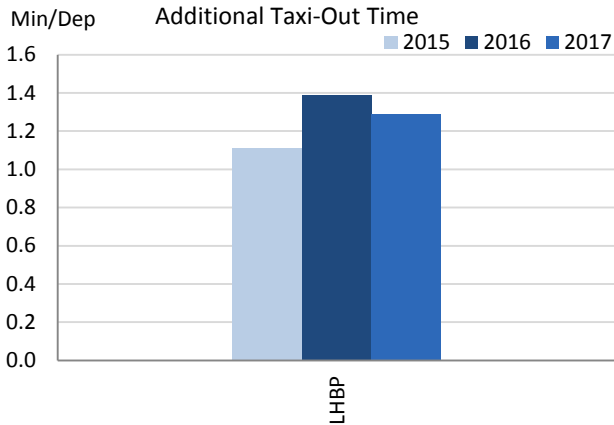
HUNGARY

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

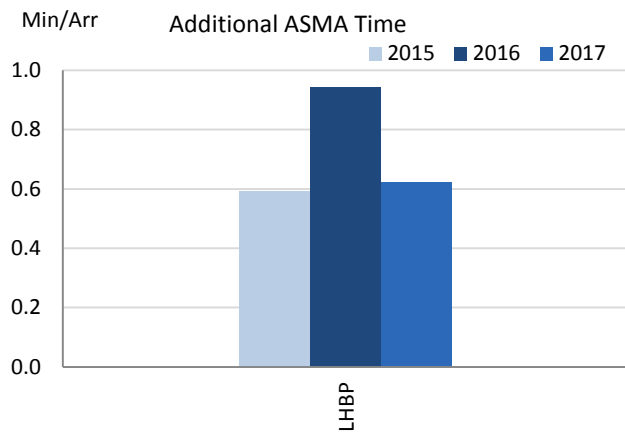
Hungary identified only its main airport Budapest as subject to RP2 monitoring. The Airport Operator Data Flow is correctly established and, with a 7% increase in movements in 2017, performance deterioration is only observed in the in the additional times in the terminal area.

2. Additional Taxi-Out Time



Additional taxi-out times in Budapest have slightly decreased with respect to 2016, showing once more best-in-class performance for airports above 70000 movements per year.

3. Additional ASMA Time



The additional ASMA times have significantly decreased during 2017 with a yearly average of 0.62 min/arr., half a minute lower than in 2016.

According to the NSA, new arrival procedures with significantly longer final in the approach phase have been introduced, with a positive impact in terms of additional times.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Budapest/ Ferihegy	LHBP	1.11	1.39	1.29			0.59	0.94	0.62		

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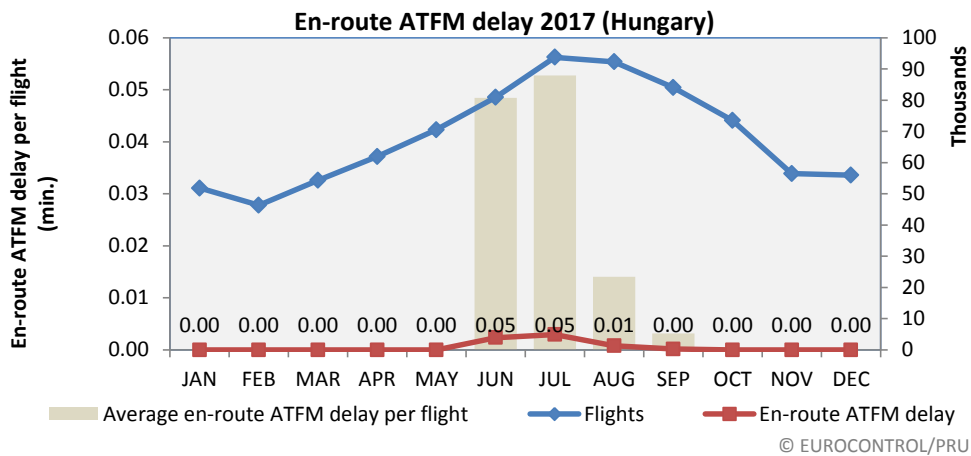
Monitoring of CAPACITY for 2017

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.06	0.05	0.05	0.04	0.05	
Deadband +/-	0.03	0.03	0.03	0.03	0.03	
Actual performance	0.03	0.07	0.01			

National capacity incentive scheme

FAB CE exceeded its target by 36% which results in a 'ponder' value of 25%. Hungary exceeded its target by 80%. The en-route revenue of HCL in 2017 was 29 354 816 337.00 HUF (excluding exempted flights). The applied formula is 25% x 80% x 0.5% x en-route revenue which gives the bonus of 29 354 816.34 HUF.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Hungary)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.03	0.07	0.01

En-route capacity performance improved in 2017 (0.01 minutes delay per flight) compared with 2016 (0.07 minutes delay per flight) in Hungary, as traffic levels rose by 6% on 2016 levels. Hungarocontrol has provided excellent performance in handling traffic levels that have been higher than expected for each year to date of RP2 - from the STATFOR forecast which was available when the performance plans and associated capacity plans were being determined. The levels of traffic already handled in 2017 were even above those expected by the end of 2019 according to the high traffic scenario. The Network Manager does not foresee any capacity problems for Hungary for the remainder of RP2, according to the Network Operation Plan 2018-2022 (edition April 2018).

EUROCONTROL 7 year forecast February 2014 – Hungary										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	631		666		705		742		778	819
Base	622	670	648	744	673	776	697	822	719	748
Low	613		630		641		653		666	680

Planning and Effective Use of CDRs

Since H24 Free route airspace between 9500'-FL660 has been implemented in Budapest FIR on February 5th 2015, this KPI is not applicable

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
24%	22%	34%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
0%	0%	0%		

Procedure 3 data showed 143 hours used although officially none had been allocated.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

HUNGARY

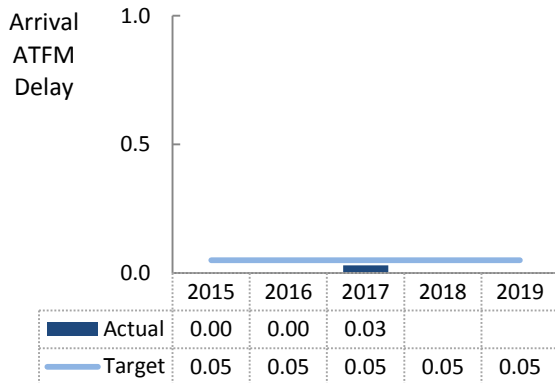
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

In Hungary, ANS at Budapest/Ferihegy (LHBP) are subject to RP2 monitoring. LHBP shows some arrival ATFM delay in 2017 for the first time in RP2. Nevertheless the achieved performance meets the national target.

Hungary contributes adequately to the airport related ANS Capacity performance in FAB CE and Europe.

2. Arrival ATFM Delay



In previous years no arrival ATFM delay was observed at Budapest/Ferihegy (LHBP). 2017 shows a discreet arrival ATFM delay at Budapest accrued mainly in December and reportedly due to weather. The achieved performance at LHBP still suggests no major capacity constraints.

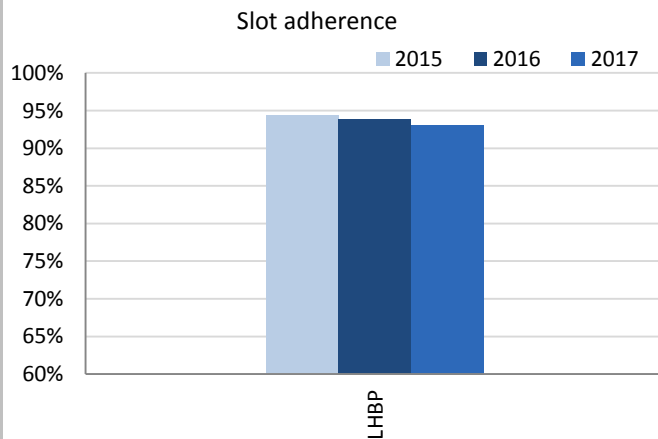
The achieved performance meets the established national target in all years in RP2 so far .

3. Arrival ATFM Delay – National Target and Incentive Scheme

The FAB CE performance plan sets a national target for arrival ATFM delay for Hungary.

The FAB CE performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for Hungary.

4. ATFM Slot Adherence



The adherence to ATFM slots remained above 90% despite a new slight decrease for the second year in a row.

5. Pre-departure Delay

ATC pre-departure delay has doubled in 2017 (2017: 0.25 min/dep. vs 2016: 0.11 min/dep.) but it is still commensurate with the level of air traffic.

6. Appendix

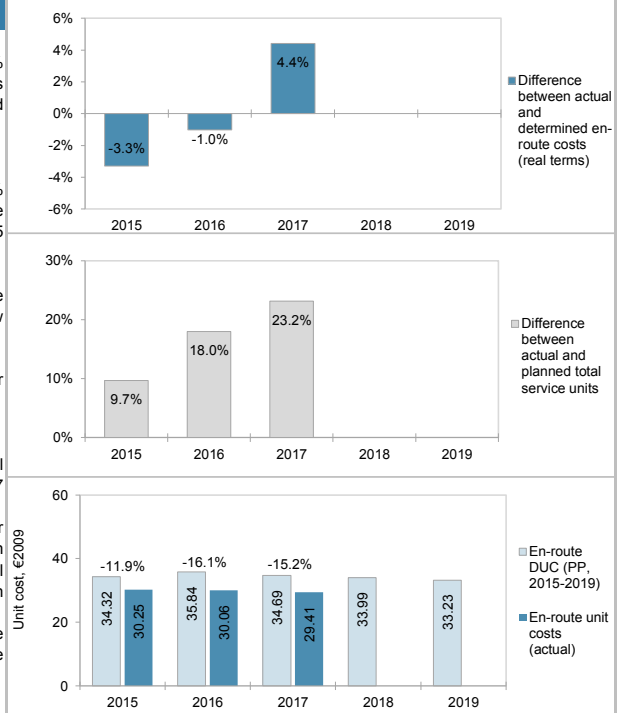
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Budapest/ Ferihegy	LHBP	0.00	0.00	0.03			94.3%	93.8%	93.1%			0.13	0.11	0.25		

HUNGARY: En-route charging zone

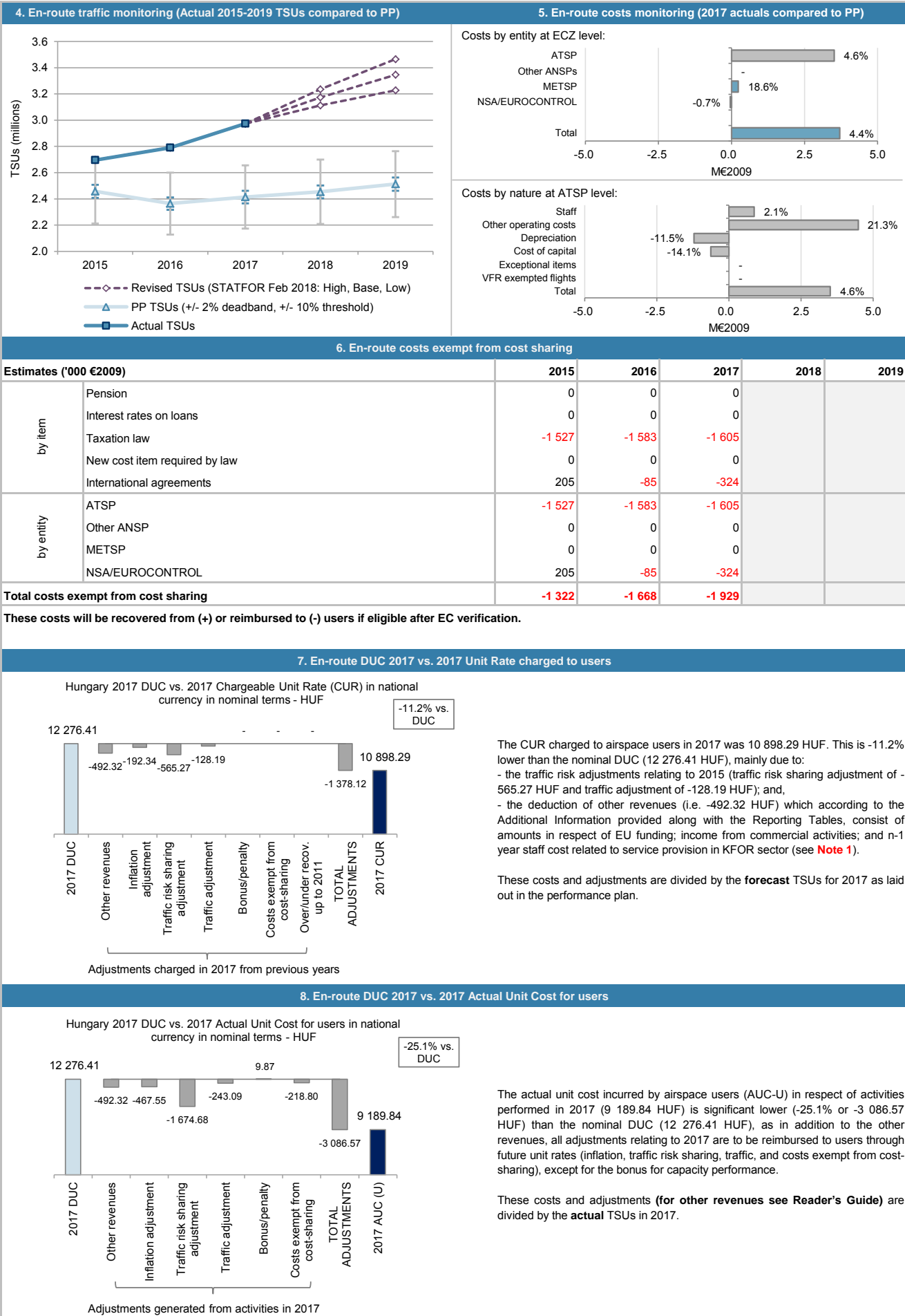
Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· Hungary ECZ represents 1.4% of the SES en-route ANS determined costs in 2017						
· ATSP: HungaroControl						
· FAB: FAB CE						
· National currency: HUF Exchange rate 2009: 1 EUR = 279.699 HUF						
2. En-route DUC monitoring at Charging Zone level						
Hungary: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)	2015D	2016D	2017D	2018D	2019D	
En-route costs (nominal HUF)	28 133 097 383	29 114 984 951	29 632 945 277	30 406 204 408	31 345 254 629	
Inflation %	1.8%	3.0%	3.0%	3.0%	3.0%	
Inflation index (100 in 2009)	119.3	122.8	126.5	130.3	134.2	
Real en-route costs (HUF2009)	23 587 547 923	23 699 795 100	23 418 852 735	23 330 056 076	23 350 067 982	
Total en-route Service Units	2 457 201	2 364 165	2 413 812	2 453 639	2 512 526	
Real en-route unit cost per Service Unit (HUF2009)	9 599.36	10 024.60	9 702.02	9 508.35	9 293.46	
Real en-route unit cost per Service Unit (EUR2009)	34.32	35.84	34.69	33.99	33.23	
Hungary: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
En-route costs (nominal HUF)	26 757 017 076	27 629 019 479	29 491 685 409			
Inflation %	0.1%	0.4%	2.4%			
Inflation index (100 in 2009)	117.3	117.8	120.6			
Real en-route costs (HUF2009)	22 810 236 710	23 459 775 733	24 454 456 748			
Total en-route Service Units	2 695 944	2 790 211	2 973 323			
Real en-route unit cost per Service Unit (HUF2009)	8 460.95	8 407.89	8 224.62			
Real en-route unit cost per Service Unit (EUR2009)	30.25	30.06	29.41			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
En-route costs (nominal HUF) in value	-1 376 080 307	-1 485 965 472	-141 259 868			
in %	-4.9%	-5.1%	-0.5%			
Inflation % in p.p.	-1.7 p.p.	-2.6 p.p.	-0.6 p.p.			
Inflation index (100 in 2009) in p.p.	-2.0 p.p.	-5.1 p.p.	-5.9 p.p.			
Real en-route costs (HUF2009) in value	-777 311 213	-240 019 367	1 035 604 013			
in %	-3.3%	-1.0%	4.4%			
Total en-route Service Units in value	238 744	426 046	559 511			
in %	9.7%	18.0%	23.2%			
Real en-route unit cost per Service Unit (HUF2009) in value	-1 138.41	-1 616.71	-1 477.40			
in %	-11.9%	-16.1%	-15.2%			
Real en-route unit cost per Service Unit (EUR2009) in value	-4.07	-5.78	-5.28			
in %	-11.9%	-16.1%	-15.2%			
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
The 2017 actual en-route unit cost in real terms (8 224.62 HUF2009 or 29.41 €2009) is -15.2% lower than planned in the RP2 performance plan (9 702.02 HUF2009 or 34.69 €2009). This difference results from the combination of higher actual TSUs than planned (by +23.2%) and higher actual real en-route costs than planned (by +4.4%, or +3.7 M€2009).						
En-route service units						
The difference between actual and planned TSUs for 2017 (+23.2%) exceeds the +10% threshold foreseen in the traffic risk-sharing mechanism. The resulting additional en-route revenues relating to traffic risk sharing to be retained by HungaroControl amounts to +3.5 M€2009.						
The difference between actual and planned TSUs is mainly explained by the effects of the Ukrainian crisis, while the TSU forecast assumption retained by Hungary in the RP2 PP foresaw these effects of the Ukrainian crisis to last only until mid-2015.						
Based on the latest STATFOR forecast (February 2018), the threshold will also be exceeded for the remaining two years of RP2.						
En-route costs						
In nominal terms, actual en-route costs are -0.5% lower than planned. However, since the actual inflation index is lower to what was planned (by -5.9 p.p.), actual en-route costs are +4.4% (+3.7 M€2009) higher than planned, when expressed in real terms.						
As, shown in Box 5, the higher than planned en-route costs are essentially driven by higher actual costs for HungaroControl (+4.6% or +3.5 M€2009). METSP actual costs show an increase compared to the plan (by +18.6% or +0.2 M€2009) and NSA/EUROCONTROL actual costs are slightly lower than planned (by -0.7% or -0.04 M€2009). HungaroControl being the main contributor, a detailed analysis at ATSP level is provided in box 12.						
Costs exempted from cost-sharing are reported for a total amount of -1.9 M€2009 to be reimbursed to airspace users in the following reference period(s), if deemed allowed by the European Commission (see Box 6).						



HUNGARY: En-route charging zone

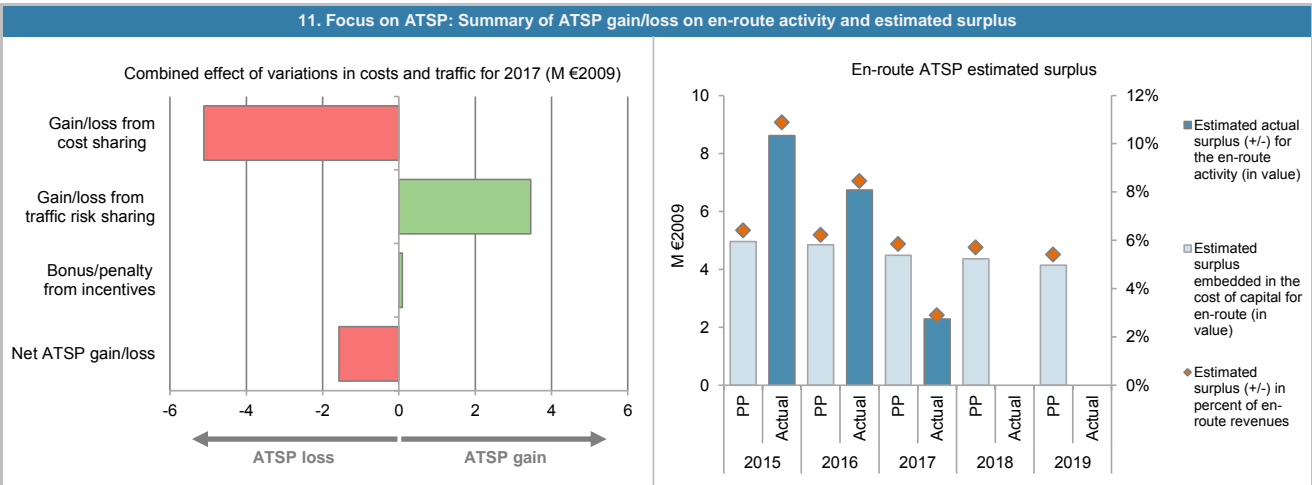
Monitoring of en-route COST-EFFICIENCY for 2017



HUNGARY: En-route ATSP (HungaroControl)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	77 413	77 777	76 773		
Actual costs for the ATSP	74 349	76 603	80 286		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	3 064	1 174	-3 513		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 527	-1 583	-1 605		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	1 537	-409	-5 118		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	9.7%	18.0%	23.2%		
Determined costs for the ATSP (PP) - based on actual inflation	76 996	79 189	78 606		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	3 322	3 484	3 459		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	87		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	4 859	3 075	-1 572		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	62 782	61 295	56 737	55 212	52 382
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	62 782	61 295	56 737	55 212	52 382
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	4 960	4 842	4 482	4 362	4 138
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	7.9%	7.9%	7.9%	7.9%	7.9%
Estimated surplus embedded in the cost of capital for en-route (in value)	4 960	4 842	4 482	4 362	4 138
Overall estimated surplus (+/-) for the en-route activity	4 960	4 842	4 482	4 362	4 138
Revenue/costs for the en-route activity	77 413	77 777	76 773	76 484	76 583
Estimated surplus (+/-) in percent of en-route revenues	6.4%	6.2%	5.8%	5.7%	5.4%
Estimated ex-ante RoE pre-tax rate (in %)	7.9%	7.9%	7.9%	7.9%	7.9%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	47 555	46 287	48 763		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	47 555	46 287	48 763		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	3 757	3 657	3 852		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	7.9%	7.9%	7.9%		
Estimated surplus embedded in the cost of capital for en-route (in value)	3 757	3 657	3 852		
Net ATSP gain(+)/loss(-) on en-route activity	4 859	3 075	-1 572		
Overall estimated surplus (+/-) for the en-route activity	8 616	6 732	2 280		
Revenue/costs for the en-route activity	79 208	79 678	78 714		
Estimated surplus (+/-) in percent of en-route revenues	10.9%	8.4%	2.9%		
Estimated ex-post RoE pre-tax rate (in %)	18.1%	14.5%	4.7%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 HungaroControl en-route costs vs. PP

In 2017, HungaroControl actual en-route costs are +4.6% (+3.5 M€2009) higher, in real terms, than planned in the PP. As shown on Box 5 and explained in the Additional Information provided along with the Reporting Tables, this results from the combination of:

- actual staff costs higher than planned by +2.1% (+0.9 M€2009) overall. The cancellation of the planned early retirement contribution (to be reimbursed to airspace users as cost exempt from cost-sharing) represents a decrease of -1.6 M€2009 compared to plan. If this is excluded, actual staff costs are +6.1% (+2.5 M€2009) higher than planned "mainly due to general significant rise of wages in Hungary in line with economic growth and the central governmental policies and due to ATCO overtime."
- actual other operating costs higher than planned by +21.3% (+4.5 M€2009) "partly due to ATCO and other training costs. Also Search and rescue and Insurance costs were higher than planned".
- lower depreciation costs (-11.5% or -1.2 M€2009) mainly due to lower or postponed capex compared to plan and to different depreciation periods..
- lower cost of capital (-14.1% or -0.6 M€2009), mainly due to a "higher level of cash and cash equivalents (due to increased traffic) which reduced the level of asset base and hence cost of capital."

HungaroControl net gain/loss on en-route activity in 2017

As shown in Box 9, HungaroControl generated a net loss of -1.6 M€2009 on the 2017 en-route activity. This is a combination of three elements:

- a loss of -5.1 M€2009 arising from the cost-sharing mechanism;
- a gain of +3.5 M€2009 arising from the traffic risk-sharing mechanism; and,
- a gain of +0.09 M€2009, corresponding to a bonus to Hungarocontrol as part of the capacity target incentive mechanism. This amount corresponds to 0.1% of Hungarocontrol en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs).

It should be noted that the amounts reported in respect of financial incentives 2017 will be examined by the European Commission.

HungaroControl overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net loss from the en-route activity mentioned above (-1.6 M€2009) and the surplus embedded in the actual cost of capital (+3.9 M€2009) amounts to +2.3 M€2009 (2.9% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 4.7%, which is significantly lower than the 7.9% planned in the PP.

HUNGARY: Terminal charging zone

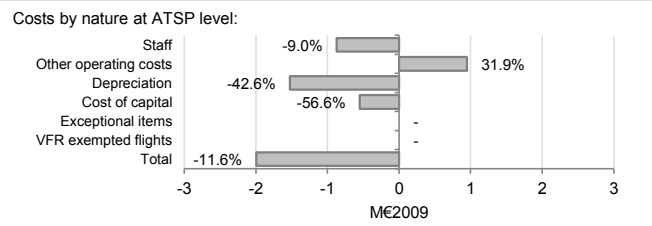
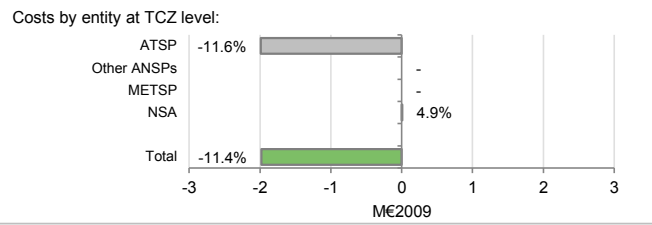
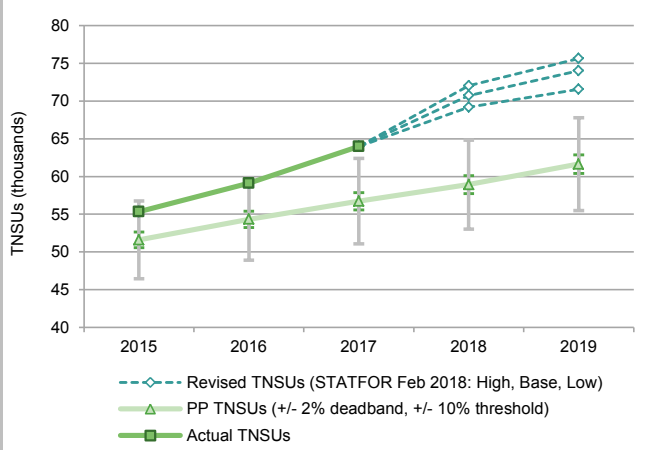
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services						
· Hungary TCZ represents 1.6% of the SES terminal ANS determined costs in 2017			· Is this TCZ applying traffic risk sharing?		No	
· ATSP: HungaroControl			· Airports with fewer than 70,000 IFRs ATMs:		0	
· National currency: HUF			· Airports with between 70,000 and 225,000 IFRs ATMs:		1	
· Number of airports in charging zone in 2017: 1, of which:			· Airports with more than 225,000 IFRs ATMs:		0	
2. Terminal DUC monitoring at Charging Zone level						
Hungary: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal HUF)		5 614 637 198	5 866 682 812	6 133 511 687	6 382 139 652	6 284 449 073
Inflation %		1.8%	3.0%	3.0%	3.0%	3.0%
Inflation index (100 in 2009)		119.3	122.8	126.5	130.3	134.2
Real terminal costs (HUF2009)		4 707 463 319	4 775 519 575	4 847 301 056	4 896 884 661	4 681 484 161
Total terminal Service Units		51 589	54 323	56 713	58 925	61 635
Real terminal unit cost per Service Unit (HUF2009)		91 250.07	87 910.05	85 470.72	83 103.96	75 954.54
Real terminal unit cost per Service Unit (EUR2009)		326.24	314.30	305.58	297.12	271.56
Hungary: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal HUF)		4 310 296 431	4 895 199 717	5 177 203 686		
Inflation %		0.1%	0.4%	2.4%		
Inflation index (100 in 2009)		117.3	117.8	120.6		
Real terminal costs (HUF2009)		3 674 508 321	4 156 509 702	4 292 928 731		
Total terminal Service Units		55 315	59 113	63 974		
Real terminal unit cost per Service Unit (HUF2009)		66 429.11	70 315.04	67 104.27		
Real terminal unit cost per Service Unit (EUR2009)		237.50	251.40	239.92		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
Terminal costs (nominal HUF)		-1 304 340 767	-971 483 095	-956 308 001		
		in value				
		in %				
Inflation %		-1.7 p.p.	-2.6 p.p.	-0.6 p.p.		
		in p.p.				
Inflation index (100 in 2009)		-2.0 p.p.	-5.1 p.p.	-5.9 p.p.		
		in p.p.				
Real terminal costs (HUF2009)		-1 032 954 998	-619 009 873	-554 372 325		
		in value				
		in %				
Total terminal Service Units		3 726	4 790	7 261		
		in value				
		in %				
Real terminal unit cost per Service Unit (HUF2009)		-24 820.96	-17 595.01	-18 366.45		
		in value				
		in %				
Real terminal unit cost per Service Unit (EUR2009)		-88.74	-62.91	-65.67		
		in value				
		in %				
3. Focus on terminal at State/Charging Zone level		2015	2016	2017	2018	2019
This analysis focuses on Hungary Terminal Charging Zone comprising 1 airport, i.e. Budapest Liszt Ferenc International.						
Terminal unit cost						
In 2017, the actual terminal unit cost in real terms (67 104.27 HUF2009 or 239.92 €2009) is -21.5% lower than planned in the PP (85 470.72 HUF2009 or 305.58 €2009), as the terminal costs decreased (-11.4%, or -2.0 M€2009) despite the increase in TNSUs compared to plan (+12.8%).						
Terminal service units						
Traffic risk sharing does not apply in the TCZ. The difference between actual and planned TNSUs is +12.8%.						
Based on the STATFOR February 2018 forecast (base scenario), the TNSUs are expected to remain above the planned value in the remaining years of RP2.						
Terminal costs						
In nominal terms, actual terminal costs are -15.6% lower than planned. However, since the actual inflation index is lower to what was planned (-5.9 p.p.), actual terminal costs are -11.4% (-2.0 M€2009) below planned, when expressed in real terms.						
The lower than planned terminal costs are mainly driven by lower actual costs than planned for HungaroControl (-11.6% or -2.0 M€2009), while NSA costs are fairly in line with the plan (i.e. +0.01 M€2009). HungaroControl being the main contributor, a detailed analysis at ATSP level is provided in box 12.						
Costs exempted from cost-sharing are reported for a total amount of -0.6 M€2009 to be reimbursed to airspace users in the following reference period(s), if deemed allowed by the European Commission.						

HUNGARY: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

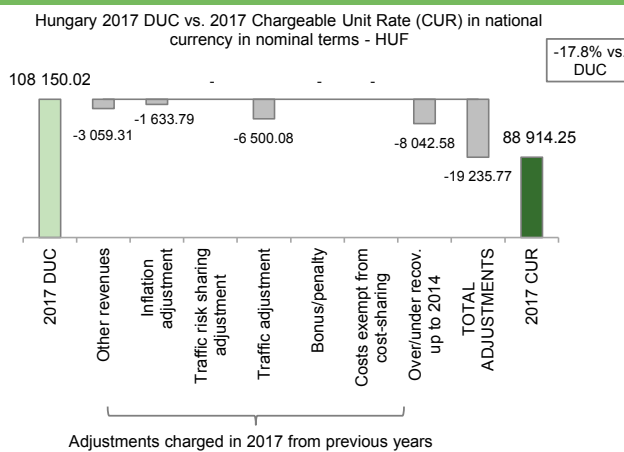


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	-545	-572	-572		
	New cost item required by law	0	0	0		
	International agreements	2	3	0		
by entity	ATSP	-543	-570	-572		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		-543	-570	-572		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

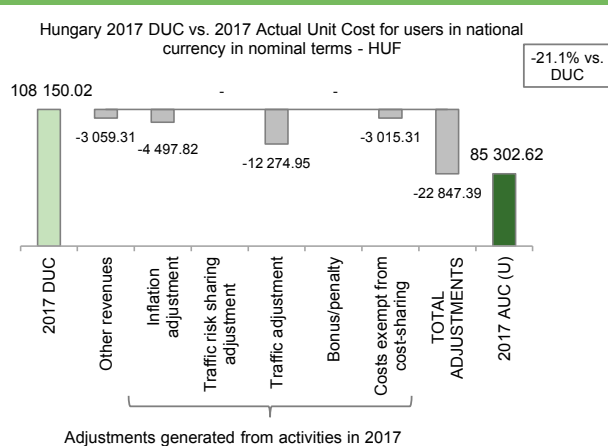


The CUR charged to airspace users in 2017 was 88 914.25 HUF. This is significant lower (-17.8%) than the nominal DUC (108 150.02 HUF), due to the deduction of:

- other revenues, which according to the Additional Information provided along with the Reporting Tables, consist of amounts in respect of EU funding and income from commercial activities;
- the carry-over of over-recoveries incurred up to 2014;
- the carry-over of the inflation and traffic adjustments from 2015.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (85 302.62 HUF) is -21.1% lower than the nominal DUC (108 150.02 HUF), as in addition to the other revenues, all adjustments relating to 2017 are to be reimbursed to users through future unit rates (inflation, traffic, and costs exempt from cost-sharing).

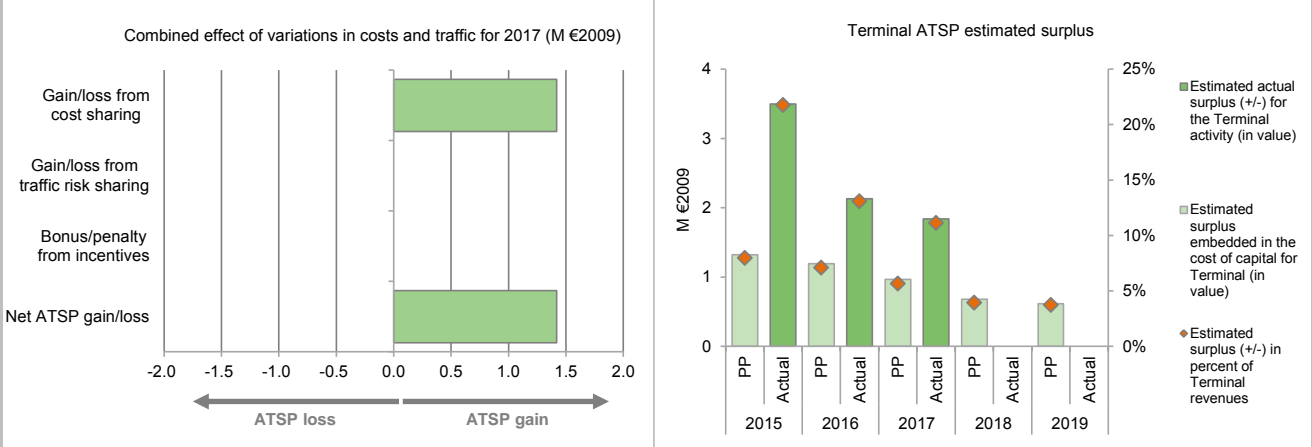
These costs and adjustments (**for other revenues see Reader's Guide**) are divided by the **actual** TNSUs in 2017.

HUNGARY: Terminal ATSP (HungaroControl)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	16 620	16 869	17 132		
Actual costs for the ATSP	12 932	14 655	15 140		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	3 688	2 214	1 992		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-543	-570	-572		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	3 145	1 644	1 420		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	3 145	1 644	1 420		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	20 345	18 372	14 886	10 432	9 478
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	20 345	18 372	14 886	10 432	9 478
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	1 322	1 194	968	678	616
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	6.5%	6.5%	6.5%	6.5%	6.5%
Estimated surplus embedded in the cost of capital for terminal (in value)	1 322	1 194	968	678	616
Overall estimated surplus (+/-) for the terminal activity	1 322	1 194	968	678	616
Revenue/costs for the terminal activity	16 620	16 869	17 132	17 315	16 550
Estimated surplus (+/-) in percent of terminal revenues	8.0%	7.1%	5.6%	3.9%	3.7%
Estimated ex-ante RoE pre-tax rate (in %)	6.5%	6.5%	6.5%	6.5%	6.5%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	5 410	7 459	6 466		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	5 410	7 459	6 466		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	352	485	420		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	6.5%	6.5%	6.5%		
Estimated surplus embedded in the cost of capital for terminal (in value)	352	485	420		
Net ATSP gain(+)/loss(-) on terminal activity	3 145	1 644	1 420		
Overall estimated surplus (+/-) for the terminal activity	3 497	2 129	1 840		
Revenue/costs for the terminal activity	16 077	16 300	16 560		
Estimated surplus (+/-) in percent of terminal revenues	21.7%	13.1%	11.1%		
Estimated ex-post RoE pre-tax rate (in %)	N/appl	28.5%	28.5%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 HungaroControl terminal costs vs. PP

HungaroControl actual terminal costs are -11.6% (-2.0 M€2009) lower, in real terms, than planned in the PP. This results from the combination of:

- lower actual staff costs than planned (by -0.9 M€2009 or -9.0%) mainly due to the "cost exempted from cost sharing - termination of pension contribution for early retirement";
- higher actual other operating costs than planned (by +0.9 M€2009 or +31.9%). "Significant part of the difference is due to costs of ATCO training. Further incremental costs are stemming from rTWR camera licence";
- lower depreciation costs than foreseen in the plan (by -1.5 M€2009 or -42.6%). "Longer than planned implementation of rTWR. Also the technological concept of the remote tower has changed compared to the Performance Plan, this modification caused a difference in side-investments. (e.g. renewal of tower systems)"; and,
- lower cost of capital (-0.5 M€2009, -56.6%), as "Increased traffic resulted in higher level of cash and cash equivalents, consequently a lower level of asset base for cost of capital. At the same time, investments were performed at a low level."

HungaroControl 2017 net gain/loss on terminal activity

As shown in box 9, the terminal activity in Hungary TCZ generated a net gain of +1.4 M€2009 in 2017, as result of the cost-sharing mechanism. Traffic risk sharing does not apply and there are no financial incentives for the Terminal Charging Zone.

HungaroControl 2017 overall estimated surplus for the terminal activity

Ex-post, the overall estimated surplus taking into account the net gain from the terminal activity in Hungary TCZ mentioned above (+1.4 M€2009) and the surplus embedded in the cost of capital (+0.4 M€2009) amounts to +1.8 M€2009 (11.1% of the 2017 terminal revenues). The resulting ex-post rate of return on equity is 28.5% which is significantly higher than the planned 6.5% in the PP, mainly due to the significant decrease (i.e. -56.6%) of the asset base as a consequence of the postponement of the Remote Tower project and the higher level of cash and cash equivalents driven by the traffic increase that come in reduction of the actual asset base.

HUNGARY: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Hungary: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	84 331 899	84 733 214	83 728 768	83 411 296	83 482 844																																							
Real terminal costs (EUR2009)	16 830 462	17 073 781	17 330 420	17 507 695	16 737 579																																							
Real gate-to-gate costs (EUR2009)	101 162 361	101 806 995	101 059 188	100 918 991	100 220 423																																							
En-route share (%)	83.4%	83.2%	82.9%	82.7%	83.3%																																							
Hungary: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	81 552 800	83 875 079	87 431 334																																									
Real terminal costs (EUR2009)	13 137 367	14 860 653	15 348 388																																									
Real gate-to-gate costs (EUR2009)	94 690 167	98 735 732	102 779 722																																									
En-route share (%)	86.1%	84.9%	85.1%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	-6 472 194	-3 071 263	1 720 534																																									
in %	-6.4%	-3.0%	1.7%																																									
En-route share																																												
in p.p.	2.8 p.p.	1.7 p.p.	2.2 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs are +1.7% (+1.7 M€2009) higher than planned due to higher en-route costs (by +4.4% or +3.7 M€2009) and lower terminal costs (-11.4% or -2.0 M€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (85.1%) is slightly higher than the share planned in the PP for 2017 (82.9%), due to the shift of some ATCO capacities from the terminal to the en-route activity to cope with the en-route traffic increase.</p> <p>For HungaroControl, the estimated gate-to-gate economic surplus in 2017 amounts to 4.1 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 4.3% of gate-to-gate ANS revenues.</p>																																												
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>83.4%</td> <td>16.6%</td> </tr> <tr> <td>Actual</td> <td>86.1%</td> <td>13.9%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>83.2%</td> <td>16.8%</td> </tr> <tr> <td>Actual</td> <td>84.9%</td> <td>15.1%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>82.9%</td> <td>17.1%</td> </tr> <tr> <td>Actual</td> <td>85.1%</td> <td>14.9%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>82.7%</td> <td>17.3%</td> </tr> <tr> <td>Actual</td> <td>83.3%</td> <td>16.7%</td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>83.3%</td> <td>16.7%</td> </tr> <tr> <td>Actual</td> <td>83.3%</td> <td>16.7%</td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	83.4%	16.6%	Actual	86.1%	13.9%	2016	Determined	83.2%	16.8%	Actual	84.9%	15.1%	2017	Determined	82.9%	17.1%	Actual	85.1%	14.9%	2018	Determined	82.7%	17.3%	Actual	83.3%	16.7%	2019	Determined	83.3%	16.7%	Actual	83.3%	16.7%
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3. Technical notes on en-route and terminal information reported by Hungary

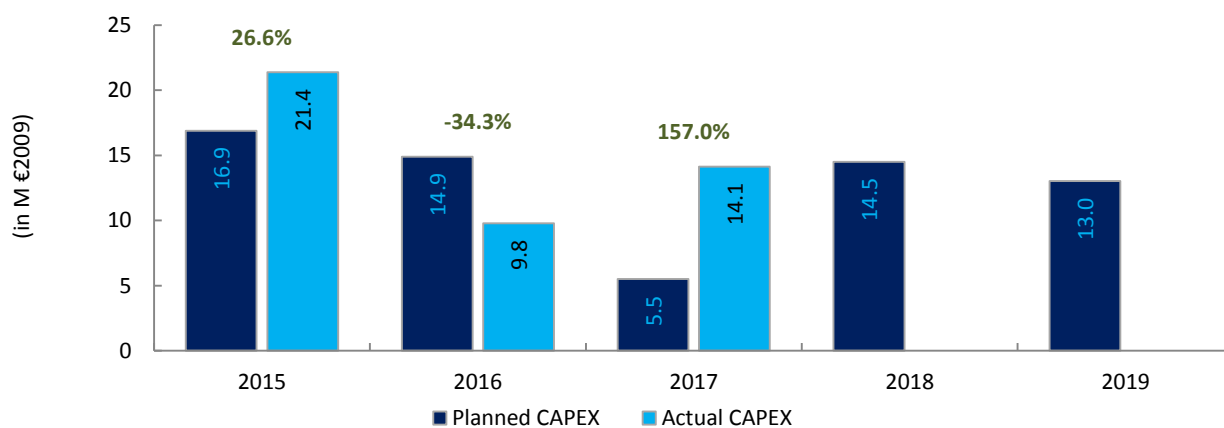
Note 1: ATS provision in Kosovo (KFOR sector)

HungaroControl has been designated for the provision of air traffic services in the upper airspace over Kosovo (KFOR sector) for 5 years, starting from 3 April 2014. The actual costs for 2017 for Hungary en-route charging zone include cost for these services (e.g. ATCO staff cost), which are recovered through the charges of Serbia-Montenegro-KFOR en-route charging zone (outside the SES area). In agreement with the European Commission, Hungary committed to deduct the income received for the services provided to the KFOR sector as 'other revenues' in the Hungarian cost base to avoid double charging.

HUNGARY

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: HungaroControl						
FAB: FAB CE						
Currency: HUF						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	5 635.0	5 119.0	1 948.0	5 290.0	4 894.0	22 886.0
Main CAPEX (in nominal M)	2 842.0	3 616.0	885.0	4 427.0	4 131.0	15 901.0
Inflation %	1.8%	3.0%	3.0%	3.0%	3.0%	
Inflation index (100 in 2009)	119.3	122.8	126.5	130.3	134.2	
Exchange rate 2009	279.699	279.699	279.699	279.699	279.699	
Total CAPEX (in M €2009)	16.9	14.9	5.5	14.5	13.0	64.8
Main CAPEX (in M €2009)	8.5	10.5	2.5	12.1	11.0	44.7
% Main of Total CAPEX	50.4%	70.6%	45.4%	83.7%	84.4%	68.9%
Real gate-to-gate ANSP costs (in M €2009)	94.0	94.6	93.9	93.8	93.1	469.5
Total CAPEX as % of Real gate-to-gate ANSP costs	18.0%	15.7%	5.9%	15.5%	14.0%	13.8%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	7 013.7	3 225.7	4 770.7			
Main CAPEX (in nominal M)	4 572.8	1 117.7	2 640.7			
Inflation %	0.1%	0.4%	2.4%			
Inflation index (100 in 2009)	117.3	117.8	120.6			
Exchange rate 2009	279.699	279.699	279.699			
Total CAPEX (in M €2009)	21.4	9.8	14.1			
Main CAPEX (in M €2009)	13.9	3.4	7.8			
% Main of Total CAPEX	65.2%	34.6%	55.4%			
Real gate-to-gate ANSP costs (in M €2009)	87.3	91.3	95.4			
Total CAPEX as % of Real gate-to-gate ANSP costs	24.5%	10.7%	14.8%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	1 378.7	-1 893.3	2 822.7			
Total CAPEX (in M €2009)	4.5	-5.1	8.6			
Total CAPEX (in %, M €2009)	26.6%	-34.3%	157.0%			



Annual Monitoring Report 2017
Local level view
Slovakia

SLOVAKIA

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	60	C	C	B	C	B
LPS SR	89	D	D	D	D	D

Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.

Application of the severity classification of the Risk Analysis Tool (RAT)		
	RAT application (%)	
	ATM Ground	ATM Overall
Separation Minima Infringements (SMIs)	67%	67%
Runway Incursions (RIs)	N/A	N/A
ATM Specific Occurrences (ATM-S)		100%
Source of RAT data:	CAA/LPS	

Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)

Just culture		
State level	Number of questions answered	
	YES	NO
Policy and its implementation	8	1
Legal/Judiciary	5	2
Occurrence reporting and Investigation	2	0
TOTAL	15	3
LPS SR	Number of questions answered	
	YES	NO
Policy and its implementation	10	3
Legal/Judiciary	2	1
Occurrence reporting and Investigation	8	0
TOTAL	20	4

Observations

One component (Safety Assurance) out of the four reviewed EoS M Components/areas of the State does not meet the 2019 EoS M target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.

Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only one is below Level C.

SLOVAKIA

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

Slovakia has only identified its main airport Bratislava as subject to RP2 monitoring. The provision of data does not cover the required information to calculate taxi times, so the indicator cannot be monitored.

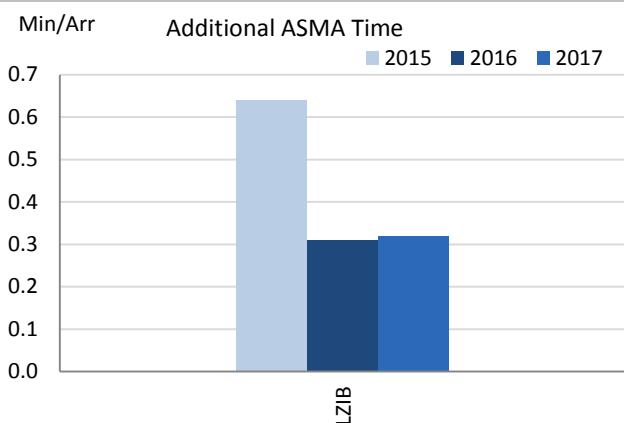
The Airport Operator Data Flow is currently not established for LZIB. Coordination was on-going with a view to establish the data flow by end of 2017, but the implementation has been delayed and it is now foreseen for September 2018.

Member States shall empower the respective airport reporting entity to establish the airport operator data flow and/or address the remaining data issues.

2. Additional Taxi-Out Time

Due to the lack of data, the additional taxi-out time indicator at Bratislava cannot be monitored at the time being.

3. Additional ASMA Time



With a 6% increase in traffic in 2017, the performance in terms of additional ASMA times has not changed, with a yearly average of 0.32 min/arr.

4. Appendix

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

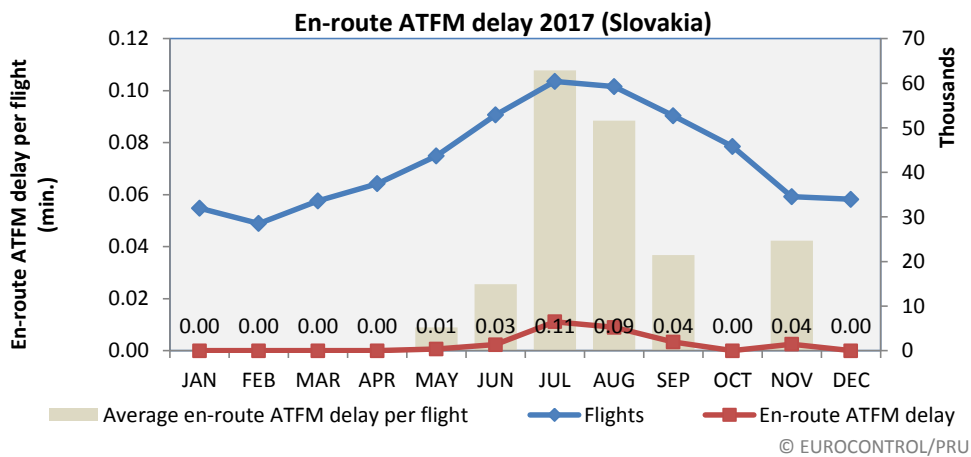
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bratislava	LZIB	n/a	n/a	n/a			0.64	0.31	0.32		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.10	0.10	0.10	0.11	0.10	
Deadband +/-	0.03	0.03	0.03	0.03	0.03	
Actual performance	0.07	0.03	0.03			

National capacity incentive scheme

FAB CE exceeded its target by 36% which results in a 'ponder' value of 25%. Slovakia exceeded its target by 70%. The en-route revenue of LPS in 2017 was 54 551 112.56 EUR (excluding exempted flights). The applied formula is 25% x 70% x 0.5% x en-route revenue which gives the bonus of 47 732.22 EUR.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Slovakia)										
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
0.16	0.06	0.10	0.00	0.00	0.00	0.14	0.07	0.03	0.03	

En-route capacity performance remained stable in 2017 (0.03 minutes delay per flight) compared with 2016 in Slovakia as traffic levels rose by just over 3% on 2016 levels. The high performance of LPS is recognised in handling traffic levels that have been higher than expected for each year to date of RP2 - from the STATFOR forecast which was available when the performance plans and associated capacity plans were being determined. The Network Manager does not foresee any capacity problems for Slovakia for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Slovakia										
	2014	2015	2016	2017	2018	2019				
		actual		actual		actual		actual		
High	415		445		472		497		522	549
Base	408	436	433	468	450	498	466	515	480	499
Low	402		420		427		435		443	452

Planning and Effective Use of CDRs

This data is not available at national level.

Observations on Planning and Effective Use of CDRs

It is noted that Slovakia, like many other States, does not monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
52%	31%	48%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
N/A	N/A	N/A		

Procedure 3 data showed 42 hours used although officially none had been allocated.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

SLOVAKIA

Monitoring of Airports Contribution to CAPACITY for 2017

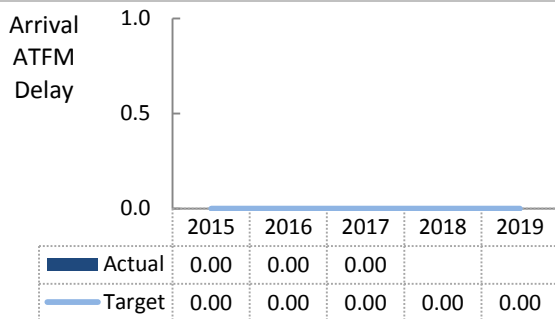
1. Overview

In Slovakia, ANS at Bratislava (LZIB) are subject to RP2 monitoring. Slovakia has established a national target of 0 min/arr. which was met in all years in RP2 so far (2015-2016-2017).

Slovakia contributes adequately to the airport related ANS Capacity performance in FAB CE and Europe.

The Airport Operator Data Flow is currently not established for LZIB. Coordination was on-going with a view to establish the data flow by the end of 2017, but the implementation has been delayed and it is now foreseen for September 2018.

2. Arrival ATFM Delay



ANS at Bratislava (LZIB) did not accrue any arrival ATFM delay in the past 3 years, despite a traffic increase of 12% since the beginning of RP2. This performance is commensurate with the level of air traffic.

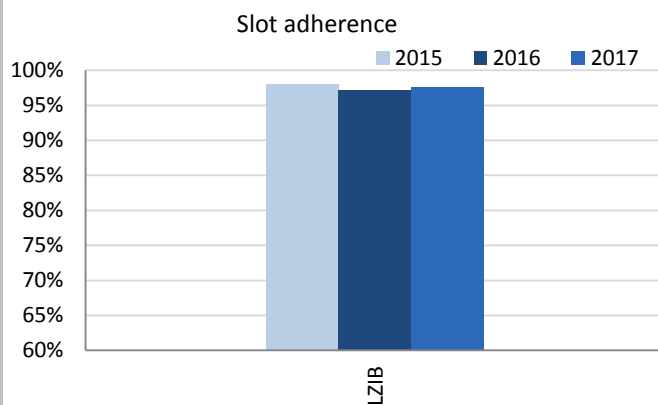
Due to the absence of any capacity constraints, the national target is established at 0 min/arr. for the whole reference period.

3. Arrival ATFM Delay – National Target and Incentive Scheme

The FAB CE performance plan sets a constant national target for arrival ATFM delay (0.0 min/arr.) for Slovakia in RP2 that has been met every year so far.

The FAB CE performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for Slovakia.

4. ATFM Slot Adherence



ATFM slot adherence at Bratislava (LZIB) remains well above the 95% threshold.

5. Pre-departure Delay

The indicator ATC pre-departure delay depends on the Airport Operator Data Flow, of which implementation is still ongoing.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bratislava	LZIB	0.00	0.00	0.00			98.0%	97.2%	97.6%			n/a	n/a	n/a		

SLOVAKIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services					
· Slovakia ECZ represents 0.9% of the SES en-route ANS determined costs in 2017					
· ATSP: LPS					
· FAB: FAB CE					
· National currency: EUR					
2. En-route DUC monitoring at Charging Zone level					
Slovakia: Data from RP2 Performance Plan (EC Decision 2016/599 of 15 April 2016)	2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)	59 272 906	61 912 217	62 981 088	66 300 093	67 598 994
Inflation %	0.0%	1.4%	1.7%	1.8%	2.0%
Inflation index (100 in 2009)	110.3	111.8	113.7	115.7	118.1
Real en-route costs (EUR2009)	53 754 368	55 355 807	55 381 628	57 279 434	57 253 112
Total en-route Service Units	1 078 000	1 126 000	1 186 000	1 250 000	1 312 000
Real en-route unit cost per Service Unit (EUR2009)	49.86	49.16	46.70	45.82	43.64
Slovakia: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)	57 543 515	59 191 004	61 367 348		
Inflation %	-0.3%	-0.5%	1.4%		
Inflation index (100 in 2009)	109.9	109.3	110.9		
Real en-route costs (EUR2009)	52 361 339	54 131 116	55 346 566		
Total en-route Service Units	1 071 382	1 138 250	1 189 020		
Real en-route unit cost per Service Unit (EUR2009)	48.87	47.56	46.55		
Difference between Actuals and Planned	2015	2016	2017	2018	2019
En-route costs (nominal EUR)					
in value	-1 729 391	-2 721 213	-1 613 740		
in %	-2.9%	-4.4%	-2.6%		
Inflation %					
in p.p.	-0.3 p.p.	-1.9 p.p.	-0.3 p.p.		
Inflation index (100 in 2009)					
in p.p.	-0.4 p.p.	-2.5 p.p.	-2.8 p.p.		
Real en-route costs (EUR2009)					
in value	-1 393 029	-1 224 691	-35 063		
in %	-2.6%	-2.2%	-0.1%		
Total en-route Service Units					
in value	-6 618	12 250	3 020		
in %	-0.6%	1.1%	0.3%		
Real en-route unit cost per Service Unit (EUR2009)					
in value	-0.99	-1.61	-0.15		
in %	-2.0%	-3.3%	-0.3%		
3. Focus on en-route at State/Charging Zone level					
En-route unit cost					
In 2017, the actual real en-route unit cost (46.55 €2009) is almost in line (-0.3%) with the one planned in the PP (46.70 €2009) as both en-route costs and TSUs remained stable (-0.1% lower and +0.3% above planned values respectively).					
En-route service units					
The difference between actual and planned TSUs (+0.3%) falls within the ±2% dead band foreseen in the traffic risk sharing mechanism. The resulting gain of en-route revenues i.e. +0.1 M€2009 is fully retained by the ATSP.					
The planned TSUs for the remaining years of the RP are in line with the STATFOR February 2018 <u>base</u> scenario.					
En-route costs					
In nominal terms, actual en-route costs are -2.6% lower than planned. However, since the actual inflation index is also lower to what was planned (-2.8 p.p.), actual en-route costs are in line to the plan, when expressed in €2009.					
The real actual en-route costs for 2017 remained at the same levels as planned overall, as LPS actual costs are higher than planned by +0.6 M€2009 (or +1.2%) while METSP and NSA costs lower by -0.4 M€2009 and -0.3 M€2009 respectively. A detailed analysis of LPS is provided in Box 12.					
Costs exempt from cost sharing are reported for a total amount of +1.0 M€2009 for the difference in EUROCONTROL costs and a new cost item required by law. These costs will be eligible for carry-over (charged to airspace users) in the following reference period(s), if deemed allowed by the European Commission.					

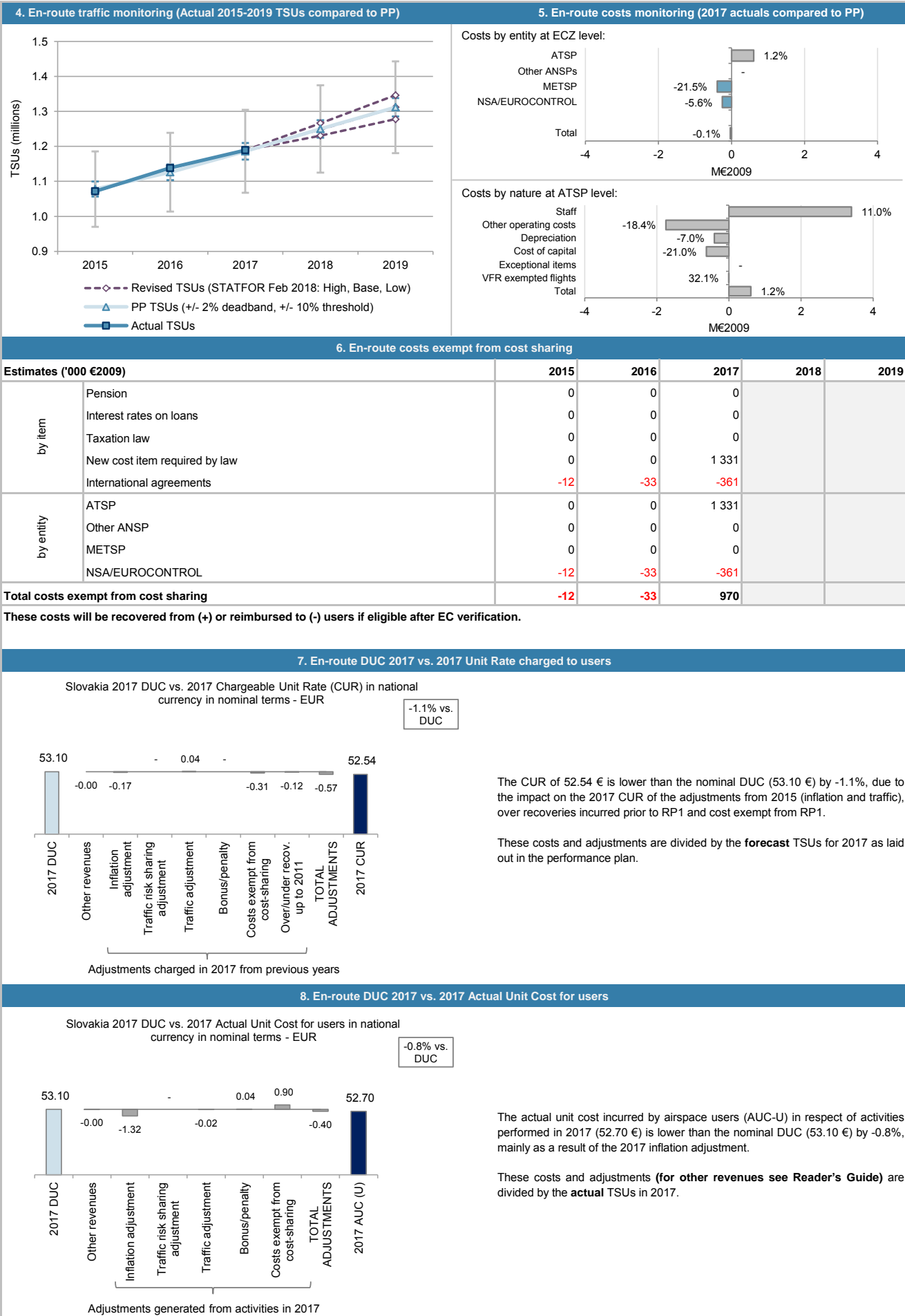
Year	Difference (%)
2015	-2.6%
2016	-2.2%
2017	-0.1%
2018	0%
2019	0%

Year	Difference (%)
2015	-0.6%
2016	1.1%
2017	0.3%
2018	0%
2019	0%

Year	En-route DUC (PP, €2009)	En-route unit costs (actual, €2009)	Difference (%)
2015	49.86	48.87	-2.0%
2016	49.16	47.56	-3.3%
2017	46.70	46.55	-0.3%
2018	45.82		
2019		43.64	

SLOVAKIA: En-route charging zone

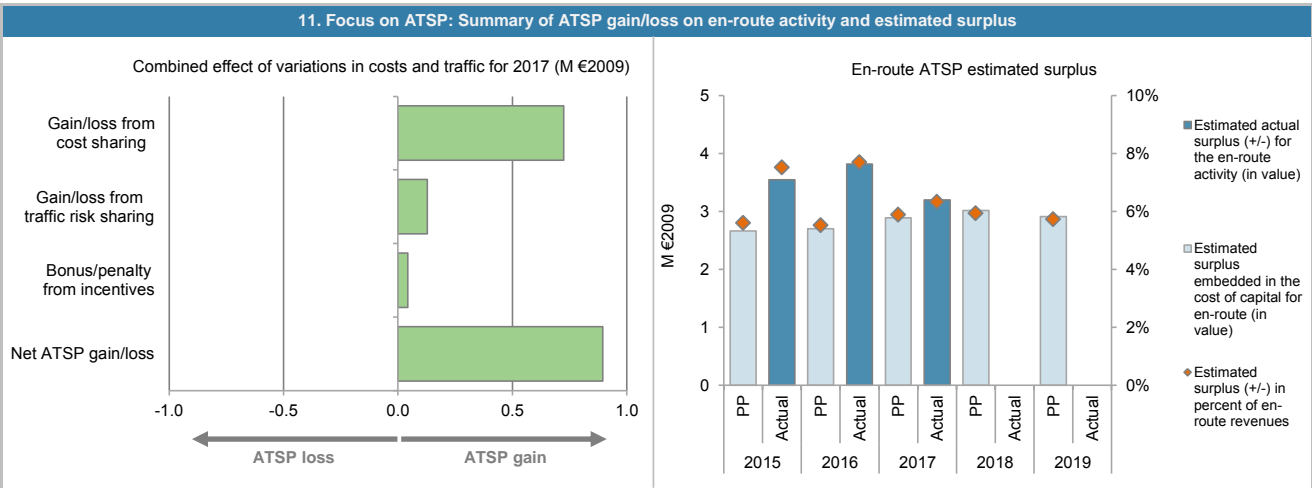
Monitoring of en-route COST-EFFICIENCY for 2017



SLOVAKIA: En-route ATSP (LPS)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	47 459	48 948	49 073		
Actual costs for the ATSP	46 046	48 194	49 680		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	1 414	754	-607		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	1 331		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	1 414	754	724		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-0.6%	1.1%	0.3%		
Determined costs for the ATSP (PP) - based on actual inflation	47 619	50 066	50 331		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-292	545	128		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	83	43		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	1 121	1 382	895		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	50 437	49 897	52 003	55 853	56 081
Estimated proportion of financing through equity (in %)	85.1%	88.7%	92.3%	96.2%	99.0%
Estimated proportion of financing through equity (in value)	42 915	44 259	48 022	53 718	55 545
Estimated proportion of financing through debt (in %)	14.9%	11.3%	7.7%	3.8%	1.0%
Estimated proportion of financing through debt (in value)	7 522	5 638	3 981	2 134	536
Cost of capital pre-tax (in value)	2 831	2 832	2 982	3 069	2 921
Average interest on debt (in %)	2.3%	2.4%	2.4%	2.5%	2.5%
Interest on debt (in value)	173	132	96	52	13
Determined RoE pre-tax rate (in %)	6.2%	6.1%	6.0%	5.6%	5.2%
Estimated surplus embedded in the cost of capital for en-route (in value)	2 658	2 699	2 886	3 016	2 908
Overall estimated surplus (+/-) for the en-route activity	2 658	2 699	2 886	3 016	2 908
Revenue/costs for the en-route activity	47 459	48 948	49 073	50 888	50 755
Estimated surplus (+/-) in percent of en-route revenues	5.6%	5.5%	5.9%	5.9%	5.7%
Estimated ex-ante RoE pre-tax rate (in %)	6.2%	6.1%	6.0%	5.6%	5.2%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	44 959	46 638	41 280		
Estimated proportion of financing through equity (in %)	86.9%	85.5%	92.8%		
Estimated proportion of financing through equity (in value)	39 087	39 891	38 319		
Estimated proportion of financing through debt (in %)	13.1%	14.5%	7.2%		
Estimated proportion of financing through debt (in value)	5 872	6 747	2 961		
Cost of capital pre-tax (in value)	2 521	2 551	2 355		
Average interest on debt (in %)	1.7%	1.8%	1.8%		
Interest on debt (in value)	100	118	52		
Determined RoE pre-tax rate (in %)	6.2%	6.1%	6.0%		
Estimated surplus embedded in the cost of capital for en-route (in value)	2 421	2 433	2 303		
Net ATSP gain(+)/loss(-) on en-route activity	1 121	1 382	895		
Overall estimated surplus (+/-) for the en-route activity	3 543	3 815	3 198		
Revenue/costs for the en-route activity	47 167	49 576	50 575		
Estimated surplus (+/-) in percent of en-route revenues	7.5%	7.7%	6.3%		
Estimated ex-post RoE pre-tax rate (in %)	9.1%	9.6%	8.3%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 LPS en-route costs vs. PP

In 2017, LPS's actual en-route costs are +1.2% (+0.6 M€2009) higher, in real terms than planned in the PP. This results from the combination of:

- higher staff costs (+11.0% or +3.4 M€2009) due to a "significant legislation change in social and health insurance since 1 January 2017";
- lower other operating costs (-18.4% or -1.7 M€2009), as a result of "further savings of maintenance costs (as a result of previous infrastructure investments), decreased prices of energies and telecommunication fees and also due to cost saving measures aimed to reduce travel costs";
- lower depreciation costs (-7.0% or -0.4 M€2009);
- lower cost of capital (-21.0% or -0.6 M€2009), mainly due to lower asset base and interest rate on debt than planned.

LPS net gain/loss on en-route activity in 2017

As shown in Box 9, LPS generated a net gain of +0.9 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +0.7 M€2009 arising from the cost-sharing mechanism;
- a gain of +0.1 M€2009 arising from the traffic risk sharing mechanism; and,
- a gain of +0.04 M€2009 corresponding to a bonus for LPS as part of the capacity target incentive mechanism. This amount corresponds to 0.1% of LPS en-route revenues (based on the ATSP chargeable unit rate and actual TSUs in 2017). It should be noted that the amounts reported in respect of financial incentives will be examined by the European Commission.

LPS overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+0.9 M€2009) and the surplus embedded in the actual cost of capital (+2.3 M€2009) amounts to +3.2 M€2009 (6.3% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 8.3%, which is higher than the 6.0% planned.

SLOVAKIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services						
· Slovakia TCZ represents 0.2% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		No		
· ATSP:	LPS	· Airports with fewer than 70,000 IFRs ATMs:		1		
· National currency:	EUR			· Airports with between 70,000 and 225,000 IFRs ATMs:		0
· Number of airports in charging zone in 2017:	1,			· Airports with more than 225,000 IFRs ATMs:		0
of which:						
2. Terminal DUC monitoring at Charging Zone level						
Slovakia: Data from RP2 Performance Plan						
	2015D	2016D	2017D	2018D	2019D	
Terminal costs (nominal EUR)	2 828 016	2 943 863	2 988 005	3 136 195	3 205 198	
Inflation %	0.0%	1.4%	1.7%	1.8%	2.0%	
Inflation index (100 in 2009)	110.3	111.8	113.7	115.7	118.1	
Real terminal costs (EUR2009)	2 564 717	2 632 112	2 627 465	2 709 491	2 714 649	
Total terminal Service Units	8 800	9 600	10 200	10 900	11 600	
Real terminal unit cost per Service Unit (EUR2009)	291.45	274.18	257.59	248.58	234.02	
Slovakia: Actual data from Reporting Tables						
	2015A	2016A	2017A	2018A	2019A	
Terminal costs (nominal EUR)	2 771 137	2 692 990	3 287 126			
Inflation %	-0.3%	-0.5%	1.4%			
Inflation index (100 in 2009)	109.9	109.3	110.9			
Real terminal costs (EUR2009)	2 521 578	2 462 782	2 964 624			
Total terminal Service Units	9 446	10 251	11 225			
Real terminal unit cost per Service Unit (EUR2009)	266.95	240.24	264.11			
Difference between Actuals and Planned						
	2015	2016	2017	2018	2019	
Terminal costs (nominal EUR)						
in value	-56 879	-250 873	299 121			
in %	-2.0%	-8.5%	10.0%			
Inflation %						
in p.p.	-0.3 p.p.	-1.9 p.p.	-0.3 p.p.			
Inflation index (100 in 2009)						
in p.p.	-0.4 p.p.	-2.5 p.p.	-2.8 p.p.			
Real terminal costs (EUR2009)						
in value	-43 139	-169 330	337 159			
in %	-1.7%	-6.4%	12.8%			
Total terminal Service Units						
in value	646	651	1 025			
in %	7.3%	6.8%	10.0%			
Real terminal unit cost per Service Unit (EUR2009)						
in value	-24.50	-33.94	6.51			
in %	-8.4%	-12.4%	2.5%			
3. Focus on terminal at State/Charging Zone level						
This analysis focuses on Slovakia Terminal Charging zone comprising one airport, Bratislava/M.R. Stefanik.						
Terminal unit cost						
In 2017, the actual terminal unit cost in real terms (264.11 €2009) is higher (+2.5%) than planned in the PP (257.69 €2009). This is resulting from the combination of significantly higher than planned TNSUs (+10.0%) and significantly higher than planned terminal costs (+12.8% or +0.3M€2009).						
Terminal service units						
Traffic risk sharing does not apply in the TCZ. The difference between actual and planned TNSUs is +10.0%.						
Based on the STATFOR February 2018 forecast <u>base</u> scenario, the TNSUs are expected to remain above the planned values in the remaining years of RP2.						
Terminal costs						
In nominal terms, the 2017 actual terminal costs are higher than the determined costs by +10.0%. Since the actual inflation index is lower than planned for 2017 (by -2.8 p.p.), actual cost in real terms are higher than planned by +12.8% when expressed in €2009.						
The higher than planned terminal costs, in real terms, are essentially driven by higher actual costs for LPS (+15.0% or +0.4 M€2009). A detailed analysis of LPS is provided in Box 12.						
Costs exempt from cost sharing are reported for a total amount of +0.09 M€2009 related to a new cost item required by law. These costs will be eligible for carry-over (charged to airspace users) in the following reference period(s), if deemed allowed by the European Commission.						

Year	Difference (%)
2015	-1.7%
2016	-6.4%
2017	12.8%
2018	
2019	

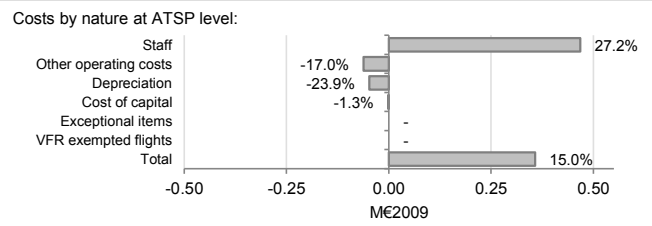
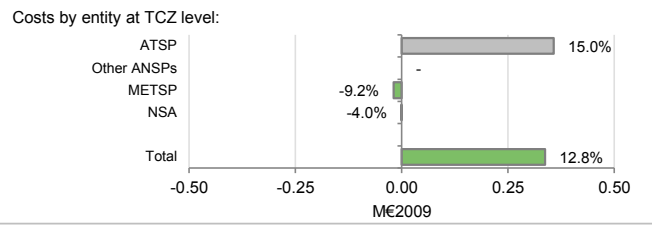
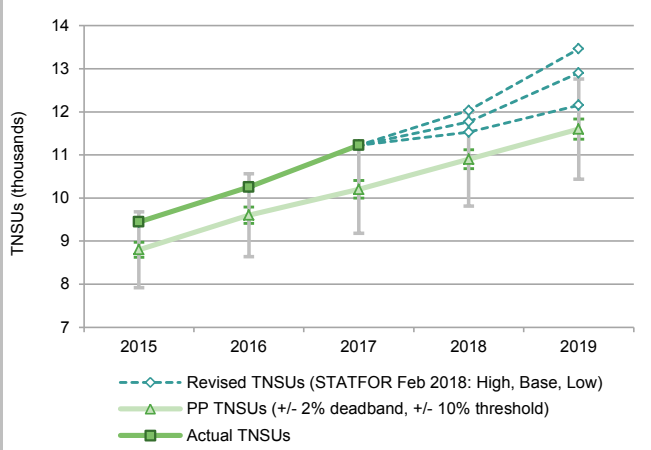
Year	Difference (%)
2015	7.3%
2016	6.8%
2017	10.0%
2018	
2019	

Year	Terminal DUC (PP, €2009)	Terminal unit costs (actual, €2009)	Difference (%)
2015	291.45	266.95	-8.4%
2016	274.18	240.24	-12.4%
2017	257.59	264.11	2.5%
2018	248.58		
2019		234.02	

SLOVAKIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

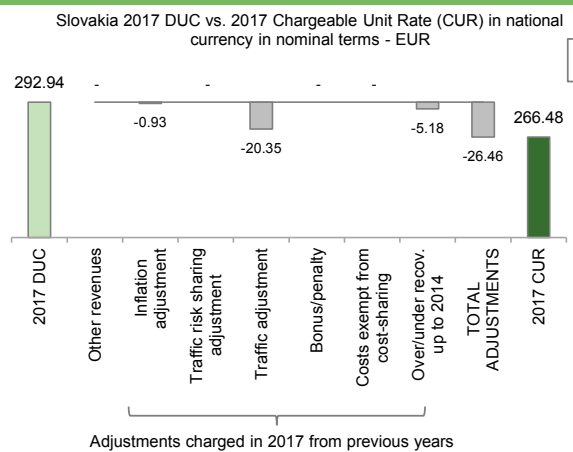


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	85		
	International agreements	0	0	0		
by entity	ATSP	0	0	85		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	85		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

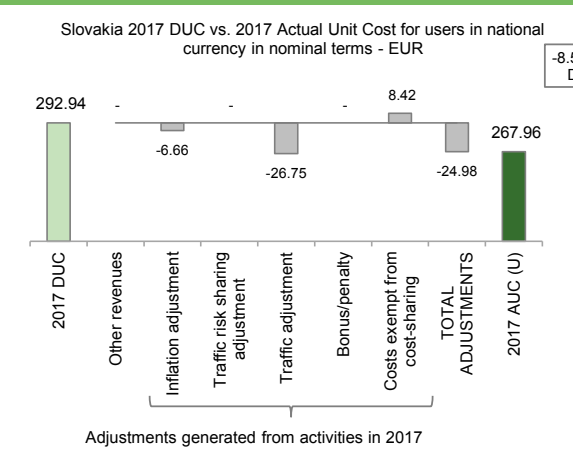
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The CUR of 266.48 € is significantly lower than the nominal DUC (292.94 €) by -9.0%, mostly due to the impact on the 2017 CUR of the adjustment from 2015 related to traffic.

These costs and adjustments are divided by the forecast TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (267.96 €) is significant lower (-8.5%) than the nominal DUC (292.94 €). The difference between these two figures (-24.98 €) is mainly due to the traffic adjustment reflecting higher actual TNSUs than planned, the inflation adjustment reflecting lower actual inflation than planned (see Box 2) and cost exempt from cost sharing.

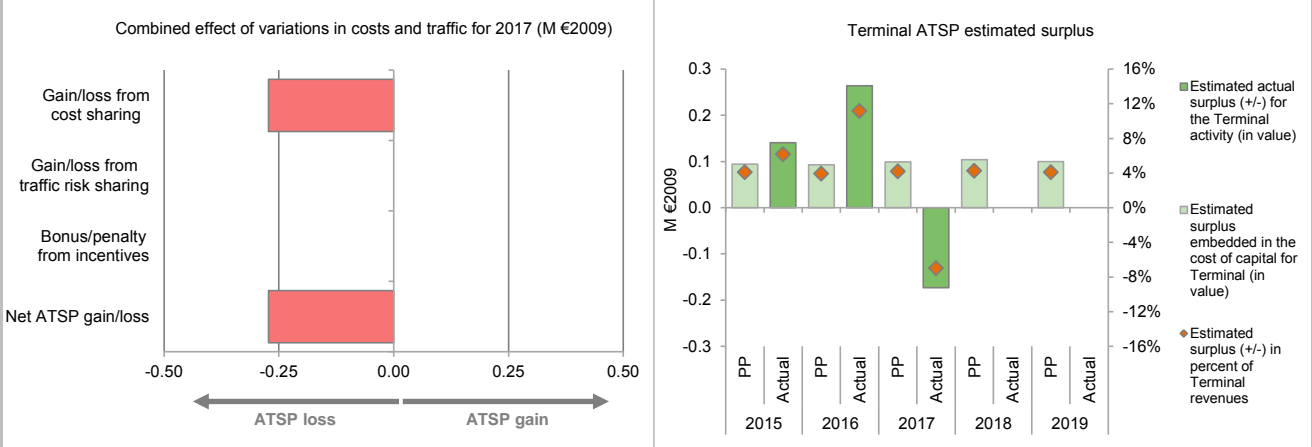
These costs and adjustments are divided by the actual TNSUs in 2017.

SLOVAKIA: Terminal ATSP (LPS)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	2 299	2 368	2 388		
Actual costs for the ATSP	2 254	2 207	2 746		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	44	162	-358		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	85		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	44	162	-272		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	44	162	-272		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	1 783	1 719	1 791	1 924	1 932
Estimated proportion of financing through equity (in %)	85.1%	88.7%	92.4%	96.2%	99.0%
Estimated proportion of financing through equity (in value)	1 517	1 525	1 654	1 851	1 914
Estimated proportion of financing through debt (in %)	14.9%	11.3%	7.6%	3.8%	1.0%
Estimated proportion of financing through debt (in value)	266	194	137	74	18
Cost of capital pre-tax (in value)	100	98	103	106	101
Average interest on debt (in %)	2.3%	2.4%	2.4%	2.5%	2.5%
Interest on debt (in value)	6	5	3	2	0
Determined RoE pre-tax rate (in %)	6.2%	6.1%	6.0%	5.6%	5.2%
Estimated surplus embedded in the cost of capital for terminal (in value)	94	93	99	104	100
Overall estimated surplus (+/-) for the terminal activity	94	93	99	104	100
Revenue/costs for the terminal activity	2 299	2 368	2 388	2 458	2 457
Estimated surplus (+/-) in percent of terminal revenues	4.1%	3.9%	4.2%	4.2%	4.1%
Estimated ex-ante RoE pre-tax rate (in %)	6.2%	6.1%	6.0%	5.6%	5.2%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	1 796	1 858	1 777		
Estimated proportion of financing through equity (in %)	86.9%	90.2%	92.8%		
Estimated proportion of financing through equity (in value)	1 561	1 675	1 650		
Estimated proportion of financing through debt (in %)	13.1%	9.8%	7.2%		
Estimated proportion of financing through debt (in value)	235	182	128		
Cost of capital pre-tax (in value)	101	105	101		
Average interest on debt (in %)	1.7%	1.8%	1.8%		
Interest on debt (in value)	4	3	2		
Determined RoE pre-tax rate (in %)	6.2%	6.1%	6.0%		
Estimated surplus embedded in the cost of capital for terminal (in value)	97	102	99		
Net ATSP gain(+)/loss(-) on terminal activity	44	162	-272		
Overall estimated surplus (+/-) for the terminal activity	141	264	-173		
Revenue/costs for the terminal activity	2 299	2 368	2 473		
Estimated surplus (+/-) in percent of terminal revenues	6.1%	11.1%	-7.0%		
Estimated ex-post RoE pre-tax rate (in %)	9.0%	15.8%	-10.5%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 LPS costs vs. PP

LPS's actual terminal costs are higher, in real terms to what was planned in the PP. This is mainly due to higher staff costs (+27.2% or +0.5 M€2009) because of a "significant legislation change in social and health insurance since 1 January 2017".

Operating costs were lower than planned (-17.0% or -0.1 M€2009) due to "further savings of maintenance costs (as a result of previous infrastructure investments), decreased prices of energies and telecommunication fees and also due to cost saving measures aimed to reduce travel costs".

Depreciation costs and cost of capital were also lower than planned (-23.9% or -0.05 M€2009 and -1.3% or -0.001 M€2009 respectively) mainly as a result of delays in procurement.

LPS 2017 net gain/loss on terminal activity

As shown in Box 9, the terminal activity of the TCZ generated a net loss of -0.3 M€2009 in 2017, as result of the cost-sharing mechanism. Traffic risk sharing does not apply and there are no financial incentives for the Terminal Charging Zone.

LPS 2017 overall estimated surplus for the terminal activity

Ex-post, the overall estimated surplus taking into account the net loss from the terminal activity mentioned above (-0.3 M€2009) and the surplus embedded in the cost of capital (+0.1 M€2009) amounts to an overall loss of -0.2 M€2009. This implies a negative surplus of -7.0% of the 2017 terminal revenues. The resulting ex-post rate of return on equity is negative (-10.5%). This indicates that the part of surplus embedded in the cost of capital through the RoE included in the PP (+6.0%) was not sufficient to compensate for the losses arising from the cost sharing mechanism due to higher than planned terminal cost for LPS.

SLOVAKIA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

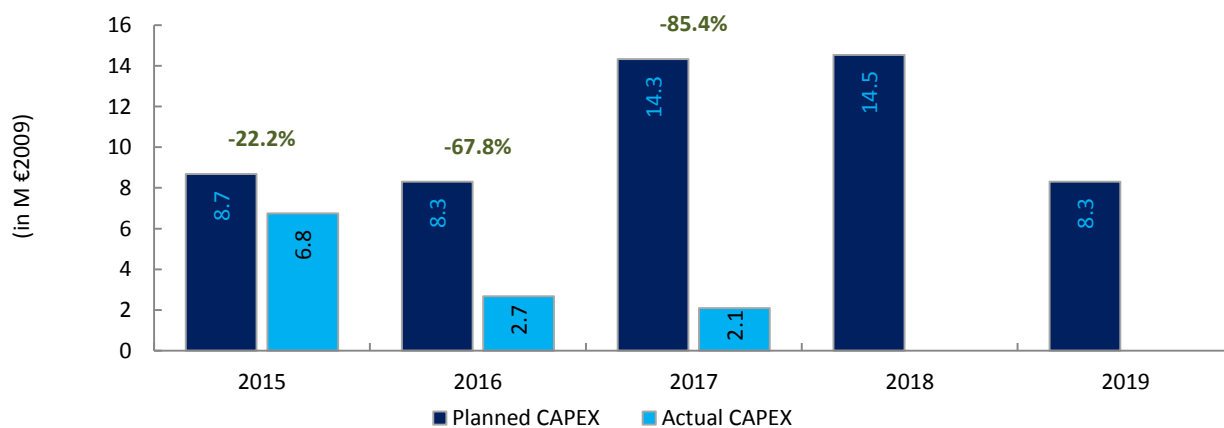
1. Monitoring of gate-to-gate ANS costs																																												
Slovakia: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	53 754 368	55 355 807	55 381 628	57 279 434	57 253 112																																							
Real terminal costs (EUR2009)	2 564 717	2 632 112	2 627 465	2 709 491	2 714 649																																							
Real gate-to-gate costs (EUR2009)	56 319 084	57 987 919	58 009 093	59 988 925	59 967 761																																							
En-route share (%)	95.4%	95.5%	95.5%	95.5%	95.5%																																							
Slovakia: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	52 361 339	54 131 116	55 346 566																																									
Real terminal costs (EUR2009)	2 521 578	2 462 782	2 964 624																																									
Real gate-to-gate costs (EUR2009)	54 882 916	56 593 899	58 311 190																																									
En-route share (%)	95.4%	95.6%	94.9%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	-1 436 168	-1 394 021	302 097																																									
in %	-2.6%	-2.4%	0.5%																																									
En-route share																																												
in p.p.	-0.0 p.p.	0.2 p.p.	-0.6 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs remained at the same levels as planned overall (+0.5% or +0.3 M€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (94.9%) is close to the share planned in the PP for 2017 (95.5%).</p> <p>For LPS, the estimated gate-to-gate economic surplus in 2017 amounts to 3.0 M€2009 (see Boxes 10 for the detailed analysis at charging zone level), corresponding to 5.7% of gate-to-gate ANS revenues.</p>																																												
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>95.4%</td> <td>4.6%</td> </tr> <tr> <td>Actual</td> <td>95.4%</td> <td>4.6%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>95.5%</td> <td>4.5%</td> </tr> <tr> <td>Actual</td> <td>95.6%</td> <td>4.4%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>95.5%</td> <td>4.5%</td> </tr> <tr> <td>Actual</td> <td>94.9%</td> <td>5.1%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>95.5%</td> <td>4.5%</td> </tr> <tr> <td>Actual</td> <td>95.5%</td> <td>4.5%</td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>95.5%</td> <td>4.5%</td> </tr> <tr> <td>Actual</td> <td>95.5%</td> <td>4.5%</td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	95.4%	4.6%	Actual	95.4%	4.6%	2016	Determined	95.5%	4.5%	Actual	95.6%	4.4%	2017	Determined	95.5%	4.5%	Actual	94.9%	5.1%	2018	Determined	95.5%	4.5%	Actual	95.5%	4.5%	2019	Determined	95.5%	4.5%	Actual	95.5%	4.5%
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	95.4%	4.6%																																									
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	Actual	95.5%	4.5%																																									
2019	Determined	95.5%	4.5%																																									
	Actual	95.5%	4.5%																																									

3. Technical notes on en-route and terminal information reported by Slovakia

SLOVAKIA

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: LPS						
FAB: FAB CE						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	9.6	9.3	16.3	16.8	9.8	61.8
Main CAPEX (in nominal M)	4.0	6.2	14.2	14.9	7.6	46.9
Inflation %	0.0%	1.4%	1.7%	1.8%	2.0%	
Inflation index (100 in 2009)	110.3	111.8	113.7	115.7	118.1	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	8.7	8.3	14.3	14.5	8.3	54.2
Main CAPEX (in M €2009)	3.6	5.6	12.5	12.9	6.4	41.0
% Main of Total CAPEX	41.9%	66.9%	86.9%	88.7%	77.3%	75.6%
Real gate-to-gate ANSP costs (in M €2009)	49.8	51.3	51.5	53.3	53.2	259.1
Total CAPEX as % of Real gate-to-gate ANSP costs	17.4%	16.2%	27.9%	27.3%	15.6%	20.9%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	7.4	2.9	2.3			
Main CAPEX (in nominal M)	2.6	1.5	0.4			
Inflation %	-0.3%	-0.5%	1.4%			
Inflation index (100 in 2009)	109.9	109.3	110.9			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	6.8	2.7	2.1			
Main CAPEX (in M €2009)	2.4	1.3	0.4			
% Main of Total CAPEX	35.3%	50.1%	18.3%			
Real gate-to-gate ANSP costs (in M €2009)	48.3	50.4	52.4			
Total CAPEX as % of Real gate-to-gate ANSP costs	14.0%	5.3%	4.0%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-2.2	-6.4	-14.0			
Total CAPEX (in M €2009)	-1.9	-5.6	-12.2			
Total CAPEX (in %, M €2009)	-22.2%	-67.8%	-85.4%			



Annual Monitoring Report 2017
Local level view
Slovenia

SLOVENIA

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	72	C	C	C	C	D
Slovenia Control	76	D	D	D	C	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
			RAT application (%)			
			ATM Ground	ATM Overall		
Separation Minima Infringements (SMIs)			100%	100%		
Runway Incursions (RIs)			N/A	N/A		
ATM Specific Occurrences (ATM-S)				N/A		
Source of RAT data:			CAA/Slovenja Control			
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level			Number of questions answered			
			YES	NO		
Policy and its implementation			9	0		
Legal/Judiciary			6	1		
Occurrence reporting and Investigation			2	0		
TOTAL			17	1		
Slovenia Control			Number of questions answered			
			YES	NO		
Policy and its implementation			13	0		
Legal/Judiciary			2	1		
Occurrence reporting and Investigation			7	1		
TOTAL			22	2		
Observations						
All four reviewed EoS M Components/areas of the State meet Level C.						

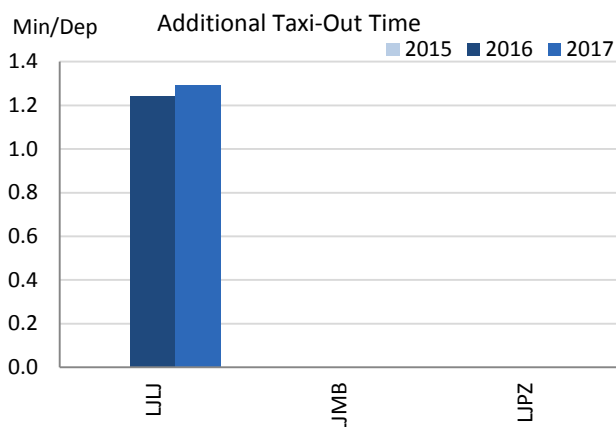
SLOVENIA

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

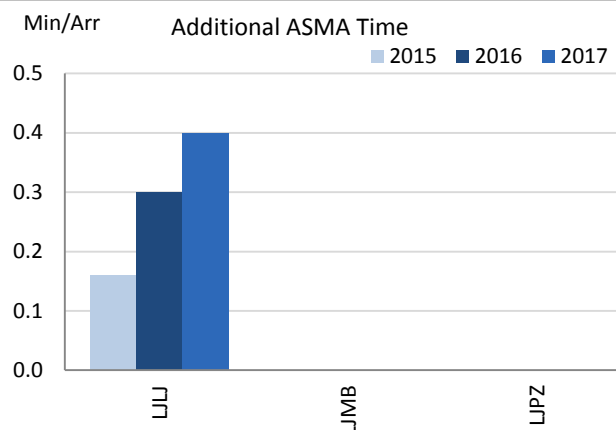
Slovenia identified three airports as subject to RP2 monitoring. However, the airport data flow is only established for Ljubljana, where remaining data issues were solved allowing for a full monitoring including taxi-out times as of 2016. Slovenian airports should establish the airport operator data flow to allow for a correct monitoring of the airport indicators.

2. Additional Taxi-Out Time



Additional taxi-out times at Ljubljana have marginally increased despite the 11% traffic growth. While the first half of the year shows better performance than in 2016, the worsening can be observed mainly in November and December 2017.

3. Additional ASMA Time



Additional ASMA times at Ljubljana have suffered another increase in 2017, although the values are still very low (0.40 min/arr.) and commensurate with the level of traffic. The longer times in the terminal area are only observed in October and December.

4. Appendix

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

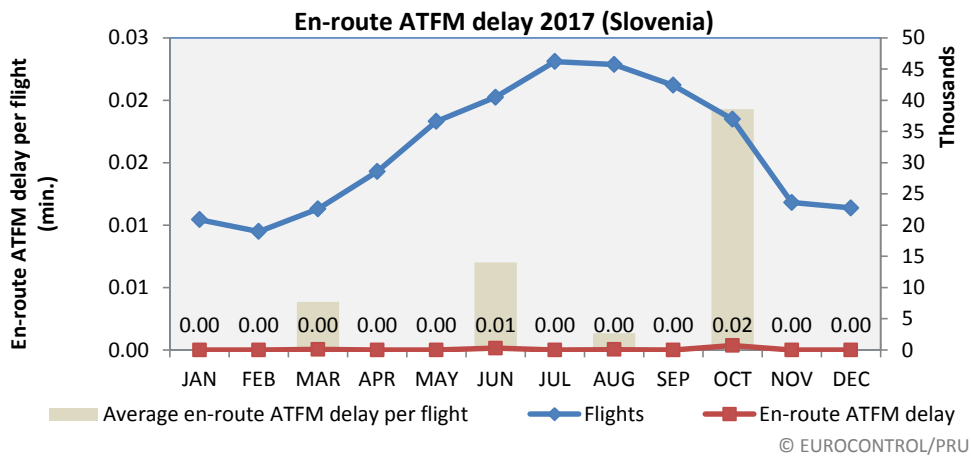
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Ljubljana	LJLJ	n/a	1.24	1.29			0.16	0.30	0.40		
Maribor	LJMB	n/a	n/a	n/a			n/a	n/a	n/a		
Portorož	LJPZ	n/a	n/a	n/a			n/a	n/a	n/a		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.21	0.21	0.22	0.23	0.22	
Deadband +/-	0.03	0.03	0.03	0.03	0.03	
Actual performance	0.00	0.01	0.00			

National capacity incentive scheme

FAB CE exceeded its target by 36% which results in a 'ponder' value of 25%. Slovenia exceeded its target by 100%. The en-route revenue of SCL in 2017 was 33 745 323.08 EUR (excluding exempted flights). The applied formula is 25% x 100% x 0.5% x en-route revenue which gives the bonus 42 181.65 EUR.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Slovenia)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00

En-route capacity performance in Slovenia was excellent in 2017 and continues the very high level of service for the whole of RP2 to date. Traffic levels rose 9% on 2016 levels but remain within the forecasted high traffic scenario from the STATFOR forecast available when the performance plans and associated capacity plans were determined. The Network Manager does not expect any capacity problems in Slovenia for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Slovenia									
	2014	2015	2016	2017	2018	2019			
	actual	actual	actual	actual					
High	345	363	381	397	414	432			
Base	339	348	347	375	385	398			
Low	334	343	347	352	357	363			

Planning and Effective Use of CDRs

There are no CDRs in Slovenian airspace.

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
92%	88%	94%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
0%	0%	0%		

Procedure 3 is not applicable within the State.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

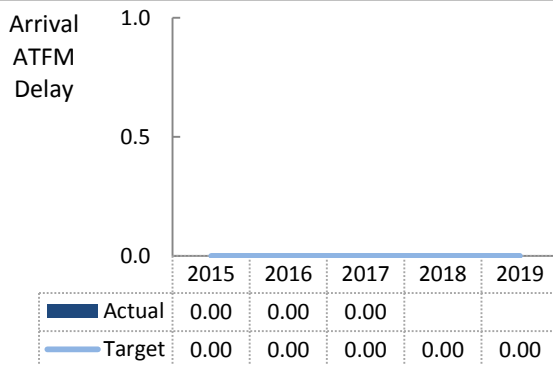
SLOVENIA

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

ANS at 3 airports are subject to RP2 monitoring in Slovenia. As in the past, no arrival ATFM delay has been accrued in Slovenia. The national target is met in 2015, 2016 and 2017.

2. Arrival ATFM Delay



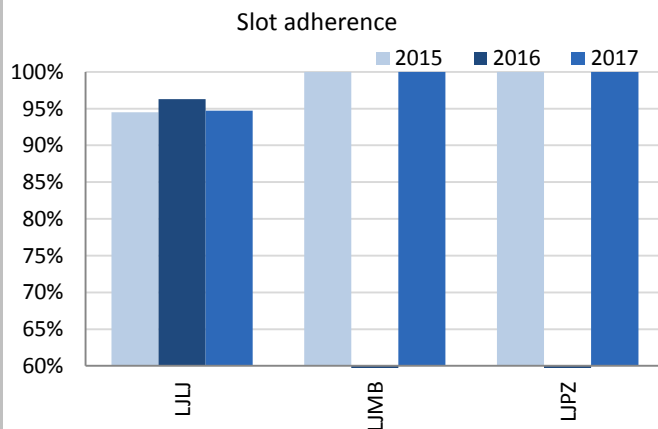
In line with the performance observed in 2015 and 2016, no arrival ATFM delay was accrued in 2017 in Slovenia. Ljubljana (LJLJ) is the major airport in Slovenia. The good performance is consistent with the traffic observed and demonstrates that there are no capacity constraints at LJLJ, despite the traffic increase of 11% since the beginning of RP2.

3. Arrival ATFM Delay – National Target and Incentive Scheme

The FAB CE performance plan sets a constant national target for arrival ATFM delay (0.0 min/arr.) for Slovenia in RP2 that has been met every year so far.

The FAB CE performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for Slovenia.

4. ATFM Slot Adherence



Slot adherence in Slovenia continues to range within the best-in-class group across Europe around 95%. Performance at Ljubljana (LJLJ) dropped slightly by 1.6% in 2017 (2016: 96.3% vs 2017: 94.7%). The share of regulated departures at LJMB and LJPZ in 2017 is negligible.

5. Pre-departure Delay

Ljubljana (LJLJ) accrued negligible pre-departure delay in all RP2 so far. This level of performance is commensurate with the level of traffic observed.

To improve the level of operational monitoring for Maribor (LJMB) and Portoroz (LJPZ), Slovenia may consider the establishment of the airport operator flow at these airports.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Ljubljana	LJLJ	0.00	0.00	0.00			94.5%	96.3%	94.7%			0.03	0.02	0.02		
Maribor	LJMB	0.00	0.00	0.00			100.0%	n/a	100.0%			n/a	n/a	n/a		
Portorož	LJPZ	0.00	0.00	0.00			100.0%	n/a	100.0%			n/a	n/a	n/a		

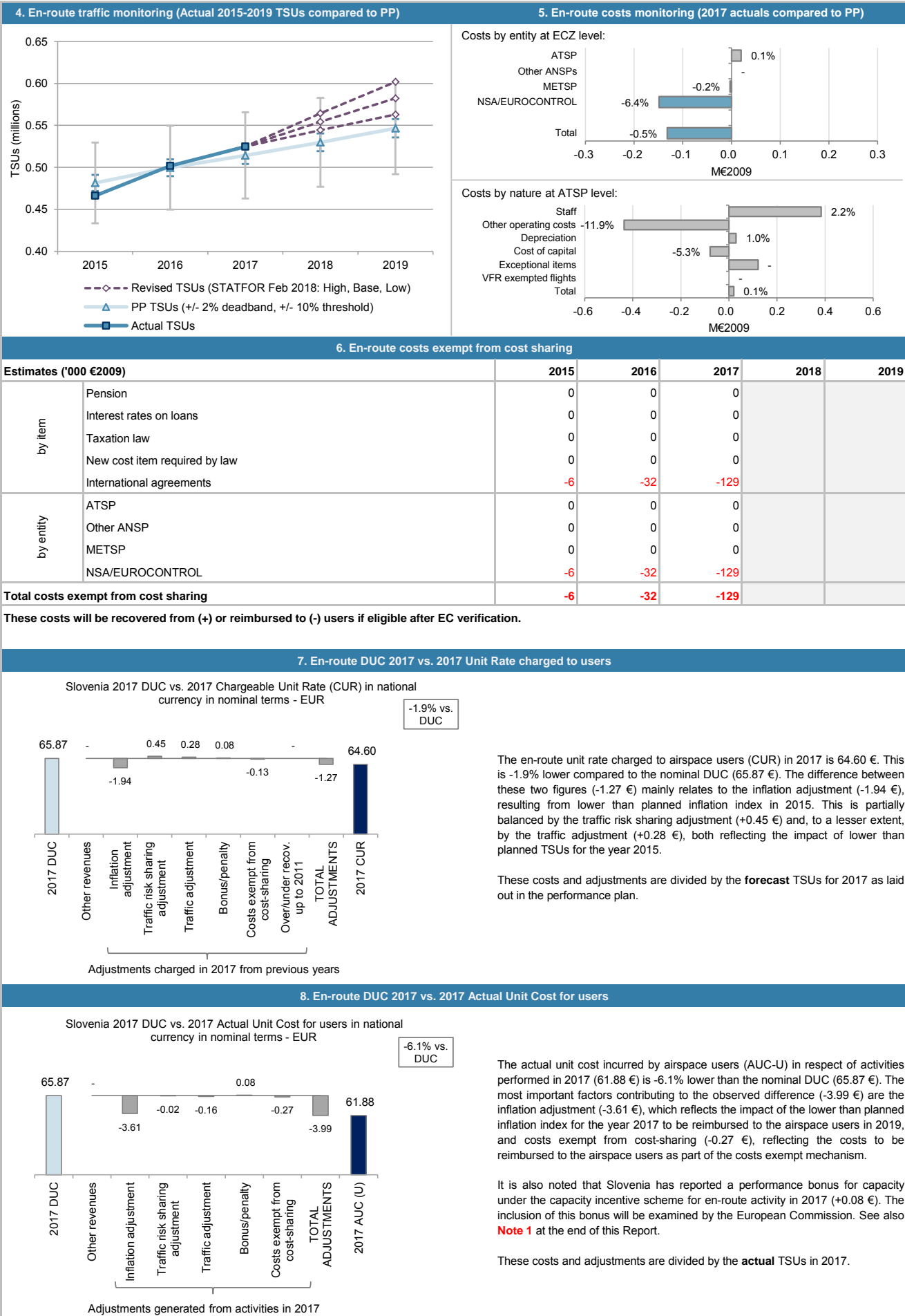
SLOVENIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· Slovenia ECZ represents 0.5% of the SES en-route ANS determined costs in 2017						
· ATSP: Slovenia Control						
· FAB: FAB CE						
· National currency: EUR						
2. En-route DUC monitoring at Charging Zone level						
Slovenia: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)	2015D	2016D	2017D	2018D	2019D	
En-route costs (nominal EUR)	32 094 283	33 168 798	33 870 218	34 392 801	35 029 005	
Inflation %	1.6%	2.1%	1.9%	2.0%	2.0%	
Inflation index (100 in 2009)	111.9	114.3	116.5	118.8	121.2	
Real en-route costs (EUR2009)	28 675 840	29 018 678	29 079 819	28 949 500	28 906 876	
Total en-route Service Units	481 500	499 637	514 217	529 770	546 470	
Real en-route unit cost per Service Unit (EUR2009)	59.56	58.08	56.55	54.65	52.90	
Slovenia: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
En-route costs (nominal EUR)	31 147 499	32 468 008	31 829 020			
Inflation %	-0.8%	-0.2%	1.6%			
Inflation index (100 in 2009)	108.4	108.2	110.0			
Real en-route costs (EUR2009)	28 723 475	30 001 219	28 947 617			
Total en-route Service Units	466 264	501 752	524 771			
Real en-route unit cost per Service Unit (EUR2009)	61.60	59.79	55.16			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
En-route costs (nominal EUR)	-946 784	-700 790	-2 041 199			
	in value					
	in %					
Inflation %	-2.4 p.p.	-2.3 p.p.	-0.3 p.p.			
	in p.p.					
Inflation index (100 in 2009)	-3.5 p.p.	-6.1 p.p.	-6.5 p.p.			
	in p.p.					
Real en-route costs (EUR2009)	47 635	982 541	-132 203			
	in value					
	in %					
Total en-route Service Units	-15 236	2 115	10 554			
	in value					
	in %					
Real en-route unit cost per Service Unit (EUR2009)	2.05	1.71	-1.39			
	in value					
	in %					
	3.4%	3.0%	-2.5%			
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (55.16 €2009) is -2.5% lower than planned in the PP (56.55 €2009). This difference results from the combination of slightly lower than planned en-route costs in real terms (-0.5%, or -0.1 M€2009) and higher than planned TSUs (+2.1%).						
En-route service units						
The difference between actual and planned TSUs (+2.1%) falls just outside the ±2% dead band foreseen in the traffic risk sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP and the airspace users, the former retaining a gain of +0.5 M€2009 in respect of the traffic risk sharing.						
Based on the STATFOR February 2018 base TSU growth scenario, the actual TSUs deviation from the RP2 forecasts is expected to exceed the upper limit of the ±2% dead band but remain within the +10% threshold for the remaining years of RP2 (2018-2019).						
En-route costs						
In nominal terms, actual en-route costs are -6.0% (-2.0 M€) lower than planned. However, since the actual inflation index is also significantly lower than planned (-6.5 p.p.), actual costs are slightly below the plan when expressed in real terms (-0.5%, or -0.1 M€2009).						
The lower than planned en-route costs, in real terms, are driven by lower costs for the NSAEUROCONTROL (-6.4%, or -0.1 M€2009), while the costs for the main ATSP (Slovenia Control) are slightly higher than planned (+0.1%, or +0.02 M€2009) and the costs for the MET service provider (ARSO) remain broadly in line with the plan. It should be noted that the actual costs for Slovenia Control are lower than planned in nominal terms (-5.5%, or -1.6 M€), however due to the much lower than planned inflation index (-6.5 p.p.) appear above plans when expressed in real terms. A detailed analysis at ATSP level is provided in box 12.						
Costs exempt from cost sharing are reported for a total amount of -0.1 M€2009, comprising only the variation in EUROCONTROL costs. These costs will be eligible for carry-over (reimbursed to airspace users) on the following reference period(s), if deemed allowed by the European Commission.						

SLOVENIA: En-route charging zone

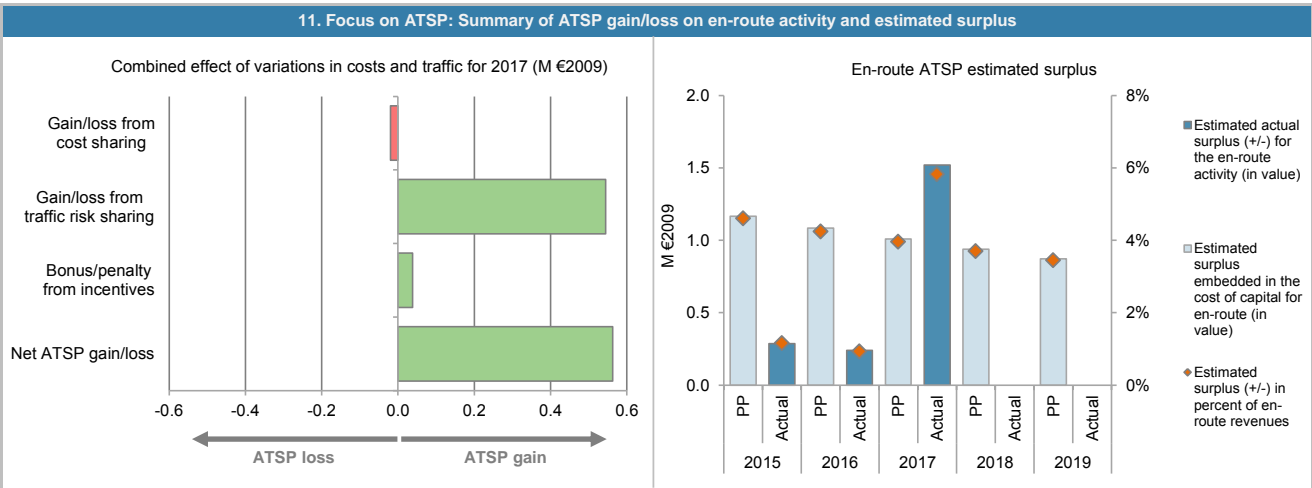
Monitoring of en-route COST-EFFICIENCY for 2017



SLOVENIA: En-route ATSP (Slovenia Control)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	25 314	25 555	25 499		
Actual costs for the ATSP	25 527	26 509	25 519		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-212	-954	-20		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-212	-954	-20		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-3.2%	0.4%	2.1%		
Determined costs for the ATSP (PP) - based on actual inflation	26 127	26 990	27 011		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-614	114	544		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	37	72	38		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	-790	-768	563		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	28 581	26 582	24 732	23 011	21 379
Estimated proportion of financing through equity (in %)	51.0%	51.0%	51.0%	51.0%	51.0%
Estimated proportion of financing through equity (in value)	14 575	13 556	12 612	11 734	10 902
Estimated proportion of financing through debt (in %)	49.0%	49.0%	49.0%	49.0%	49.0%
Estimated proportion of financing through debt (in value)	14 006	13 027	12 120	11 276	10 477
Cost of capital pre-tax (in value)	1 723	1 603	1 491	1 388	1 289
Average interest on debt (in %)	4.0%	4.0%	4.0%	4.0%	4.0%
Interest on debt (in value)	557	518	482	449	417
Determined RoE pre-tax rate (in %)	8.0%	8.0%	8.0%	8.0%	8.0%
Estimated surplus embedded in the cost of capital for en-route (in value)	1 166	1 084	1 009	939	872
Overall estimated surplus (+/-) for the en-route activity	1 166	1 084	1 009	939	872
Revenue/costs for the en-route activity	25 314	25 555	25 499	25 361	25 299
Estimated surplus (+/-) in percent of en-route revenues	4.6%	4.2%	4.0%	3.7%	3.4%
Estimated ex-ante RoE pre-tax rate (in %)	8.0%	8.0%	8.0%	8.0%	8.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	26 399	24 715	23 429		
Estimated proportion of financing through equity (in %)	51.0%	51.0%	51.0%		
Estimated proportion of financing through equity (in value)	13 462	12 604	11 948		
Estimated proportion of financing through debt (in %)	49.0%	49.0%	49.0%		
Estimated proportion of financing through debt (in value)	12 937	12 112	11 482		
Cost of capital pre-tax (in value)	1 592	1 490	1 413		
Average interest on debt (in %)	4.0%	4.0%	4.0%		
Interest on debt (in value)	515	482	457		
Determined RoE pre-tax rate (in %)	8.0%	8.0%	8.0%		
Estimated surplus embedded in the cost of capital for en-route (in value)	1 077	1 008	956		
Net ATSP gain(+)/loss(-) on en-route activity	-790	-768	563		
Overall estimated surplus (+/-) for the en-route activity	287	240	1 519		
Revenue/costs for the en-route activity	24 737	25 741	26 082		
Estimated surplus (+/-) in percent of en-route revenues	1.2%	0.9%	5.8%		
Estimated ex-post RoE pre-tax rate (in %)	2.1%	1.9%	12.7%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 Slovenia Control en-route costs vs. PP

In 2017, Slovenia Control's actual en-route costs are +0.1% (+0.02 M€2009) higher than planned in the PP when expressed in real terms. However, this is mainly due to a lower than planned inflation index (-6.5 p.p.), as actual costs in nominal terms are lower than planned (-5.5%, or -1.6 M€). This results from the combination of:

- higher staff costs (+2.2%, or +0.4 M€2009), although these are lower than planned in nominal terms (-3.5%, or -0.7 M€);
- lower than planned other operating costs, both in real (-11.9%, or -0.4 M€2009) and in nominal (-16.8%, or -0.7 M€) terms;
- higher depreciation costs (+1.0%, or +0.03 M€2009), although these costs are lower than planned when expressed in nominal terms (-4.6%, or -0.2 M€);
- lower cost of capital (-5.3% or -0.08 M€2009), as a result of lower than planned asset base in real terms (-5.3%, or -1.3 M€2009); and,
- exceptional items costs (0.1 M€2009), which were not planned in the PP.

No specific information is provided by the Slovenian NSA on the drivers for the variations noted above in either the FAB CE Monitoring Report 2017 or in the additional information to the June 2018 en-route Reporting Tables.

Slovenia Control net gain/loss on en-route activity in 2017

As shown in box 9, Slovenia Control generated a net gain of +0.6 M€2009 on the en-route activity in 2017. This is a combination of three elements:

- a loss of -0.02 M€2009 arising from the cost-sharing mechanism;
- a gain of +0.5 M€2009 arising from the traffic risk sharing mechanism; and,
- a gain of +0.04 M€2009 (or +42 '000 € in nominal terms), corresponding to a bonus for Slovenia Control as part of the capacity target incentive mechanism. This amount corresponds to 0.14% of Slovenia Control en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission. See also **Note 1** at the end of this Report.

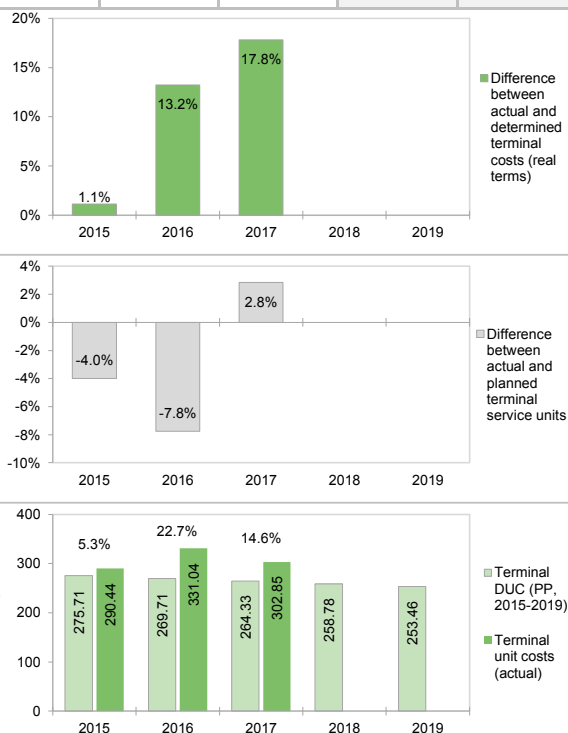
Slovenia Control overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+0.6 M€2009) and the surplus embedded in the actual cost of capital (+1.0 M€2009) amounts to +1.5 M€2009 (5.8% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 12.7%, which is higher than the 8.0% planned in the PP.

SLOVENIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

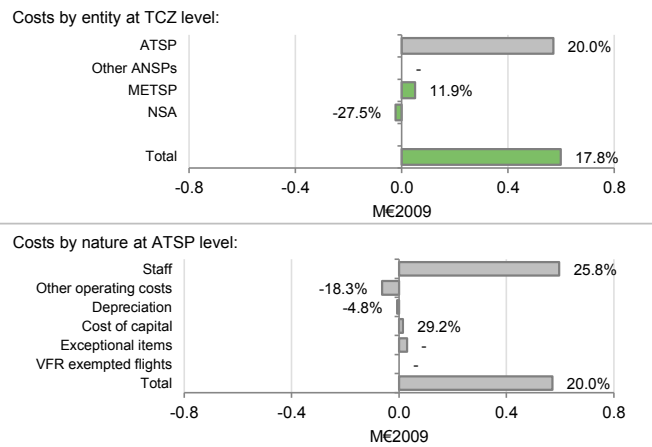
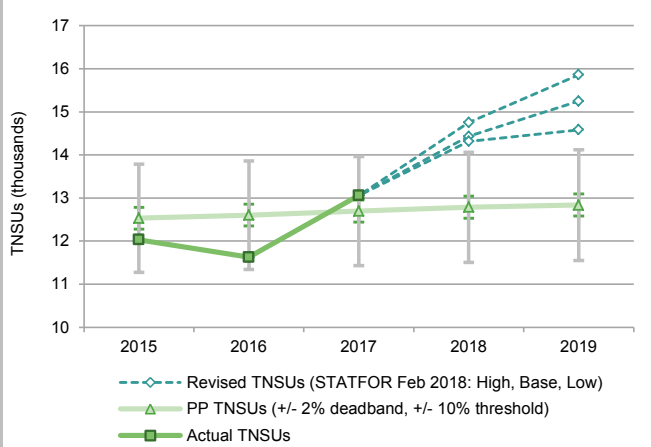
1. Contextual economic information: terminal air navigation services					
Slovenia TCZ represents 0.3% of the SES terminal ANS determined costs in 2017		Is this TCZ applying traffic risk sharing?		No	
ATSP: Slovenia Control		Airports with fewer than 70,000 IFRs ATMs:		3	
National currency: EUR		Airports with between 70,000 and 225,000 IFRs ATMs:		0	
Number of airports in charging zone in 2017: 3, of which:		Airports with more than 225,000 IFRs ATMs:		0	
2. Terminal DUC monitoring at Charging Zone level					
Slovenia: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	3 866 727	3 885 016	3 909 038	3 930 727	3 942 720
Inflation %	1.6%	2.1%	1.9%	2.0%	2.0%
Inflation index (100 in 2009)	111.9	114.3	116.5	118.8	121.2
Real terminal costs (EUR2009)	3 454 872	3 398 918	3 356 167	3 308 617	3 253 638
Total terminal Service Units	12 531	12 602	12 697	12 786	12 837
Real terminal unit cost per Service Unit (EUR2009)	275.71	269.71	264.33	258.78	253.46
Slovenia: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	3 789 131	4 164 883	4 348 325		
Inflation %	-0.8%	-0.2%	1.6%		
Inflation index (100 in 2009)	108.4	108.2	110.0		
Real terminal costs (EUR2009)	3 494 246	3 848 452	3 954 682		
Total terminal Service Units	12 031	11 625	13 058		
Real terminal unit cost per Service Unit (EUR2009)	290.44	331.04	302.85		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)					
in value	-77 596	279 868	439 287		
in %	-2.0%	7.2%	11.2%		
Inflation %					
in p.p.	-2.4 p.p.	-2.3 p.p.	-0.3 p.p.		
Inflation index (100 in 2009)					
in p.p.	-3.5 p.p.	-6.1 p.p.	-6.5 p.p.		
Real terminal costs (EUR2009)					
in value	39 374	449 535	598 515		
in %	1.1%	13.2%	17.8%		
Total terminal Service Units					
in value	-500	-977	361		
in %	-4.0%	-7.8%	2.8%		
Real terminal unit cost per Service Unit (EUR2009)					
in value	14.73	61.33	38.52		
in %	5.3%	22.7%	14.6%		
3. Focus on terminal at State/Charging Zone level					
This analysis focuses on the Slovenian Terminal Charging Zone (TCZ) comprising 3 airports: Ljubljana/Brnik (LJLJ), Maribor/Orehova Vas (LJMB) and Portoroz/Secovlje (LJPZ).					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (302.85 €2009) is significantly higher (+14.6%) than planned in the PP (264.33 €2009). This difference is due to the significantly higher than planned actual terminal costs in real terms (+17.8%, or +0.6 M€2009), while actual TNSUs are above the plan (+2.8%).					
No specific corrective measures are reported in the FAB CE Monitoring Report for 2017. However, it is indicated that "actual costs in nominal terms were +11.2% higher than determined costs and with lower inflation (1.60% compared to 1.90%) the result was significantly higher costs in real terms (+17.8%). Traffic was +2.8% higher compared to the plan, resulting in higher DUC than planned".					
Terminal service units					
Traffic risk sharing does not apply in the Slovenian TCZ. The difference between actual and planned TNSUs is +2.8%. Based on STATFOR February 2018 TNSUs growth scenarios, actual TNSUs are expected to remain significantly above planned values for the remaining years of RP2 (2018-2019).					
Terminal costs					
In nominal terms, actual terminal costs are +11.2% (+0.4 M€) higher than planned. However, since the actual inflation index is significantly lower than planned (-6.5 p.p.), actual costs are much higher than planned (+17.8%, or +0.6 M€2009) when expressed in real terms. This results from the combination of higher costs than planned for Slovenia Control (+20.0%, or +0.6 M€2009) and for the MET service provider (+11.9%, or +0.1 M€2009), while the costs for the NSA were below the plan (-27.5%, or -0.02M €2009). A detailed analysis at ATSP level is provided in box 12.					
No costs exempted from cost-sharing are reported for the Slovenian TCZ.					



SLOVENIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

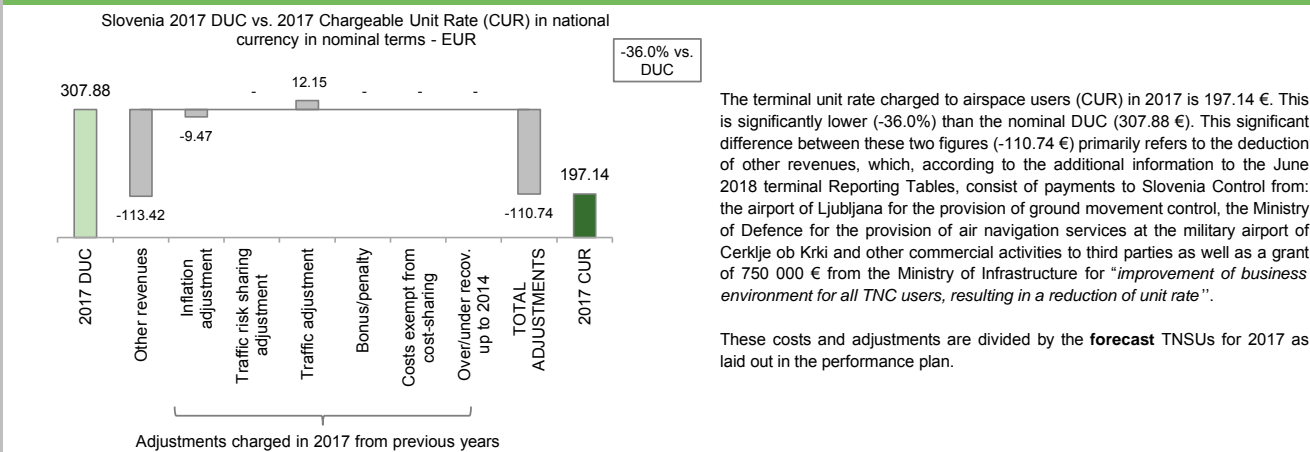


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

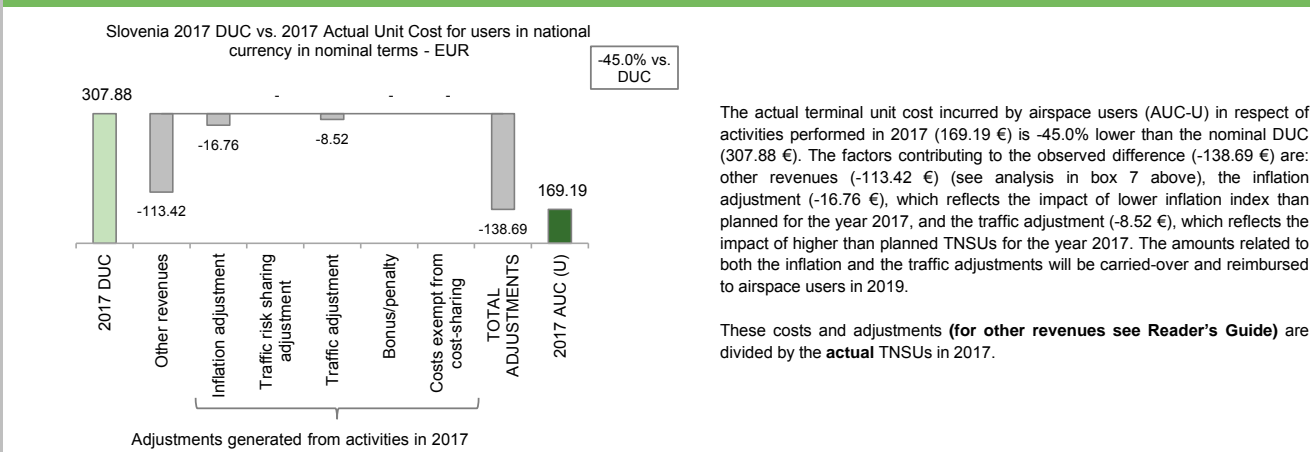
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The terminal unit rate charged to airspace users (CUR) in 2017 is 197.14 €. This is significantly lower (-36.0%) than the nominal DUC (307.88 €). This significant difference between these two figures (-110.74 €) primarily refers to the deduction of other revenues, which, according to the additional information to the June 2018 terminal Reporting Tables, consist of payments to Slovenia Control from: the airport of Ljubljana for the provision of ground movement control, the Ministry of Defence for the provision of air navigation services at the military airport of Cerklje ob Krki and other commercial activities to third parties as well as a grant of 750 000 € from the Ministry of Infrastructure for "improvement of business environment for all TNC users, resulting in a reduction of unit rate".

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual terminal unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (169.19 €) is -45.0% lower than the nominal DUC (307.88 €). The factors contributing to the observed difference (-138.69 €) are: other revenues (-113.42 €) (see analysis in box 7 above), the inflation adjustment (-16.76 €), which reflects the impact of lower inflation index than planned for the year 2017, and the traffic adjustment (-8.52 €), which reflects the impact of higher than planned TNSUs for the year 2017. The amounts related to both the inflation and the traffic adjustments will be carried-over and reimbursed to airspace users in 2019.

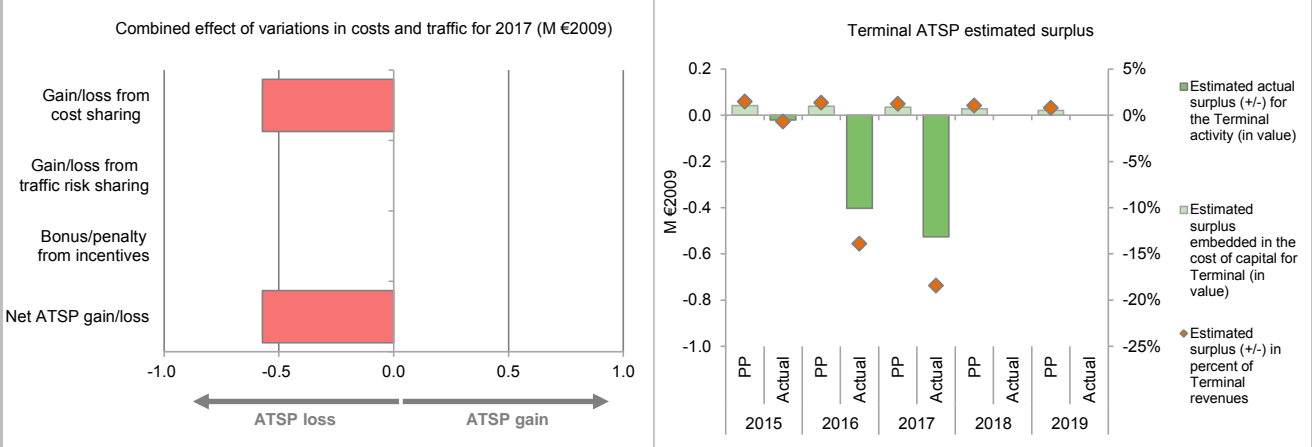
These costs and adjustments (for other revenues see Reader's Guide) are divided by the **actual** TNSUs in 2017.

SLOVENIA: Terminal ATSP (Slovenia Control)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	2 931	2 891	2 851		
Actual costs for the ATSP	3 008	3 343	3 423		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-77	-452	-571		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-77	-452	-571		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-77	-452	-571		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	1 045	952	855	704	538
Estimated proportion of financing through equity (in %)	51.0%	51.0%	51.0%	51.0%	51.0%
Estimated proportion of financing through equity (in value)	533	485	436	359	274
Estimated proportion of financing through debt (in %)	49.0%	49.0%	49.0%	49.0%	49.0%
Estimated proportion of financing through debt (in value)	512	466	419	345	264
Cost of capital pre-tax (in value)	63	57	52	42	32
Average interest on debt (in %)	4.0%	4.0%	4.0%	4.0%	4.0%
Interest on debt (in value)	20	19	17	14	10
Determined RoE pre-tax rate (in %)	8.0%	8.0%	8.0%	8.0%	8.0%
Estimated surplus embedded in the cost of capital for terminal (in value)	43	39	35	29	22
Overall estimated surplus (+/-) for the terminal activity	43	39	35	29	22
Revenue/costs for the terminal activity	2 931	2 891	2 851	2 812	2 763
Estimated surplus (+/-) in percent of terminal revenues	1.5%	1.3%	1.2%	1.0%	0.8%
Estimated ex-ante RoE pre-tax rate (in %)	8.0%	8.0%	8.0%	8.0%	8.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	1 387	1 205	1 104		
Estimated proportion of financing through equity (in %)	51.0%	51.0%	51.0%		
Estimated proportion of financing through equity (in value)	707	614	563		
Estimated proportion of financing through debt (in %)	49.0%	49.0%	49.0%		
Estimated proportion of financing through debt (in value)	680	590	541		
Cost of capital pre-tax (in value)	84	73	67		
Average interest on debt (in %)	4.0%	4.0%	4.0%		
Interest on debt (in value)	27	23	22		
Determined RoE pre-tax rate (in %)	8.0%	8.0%	8.0%		
Estimated surplus embedded in the cost of capital for terminal (in value)	57	49	45		
Net ATSP gain(+)/loss(-) on terminal activity	-77	-452	-571		
Overall estimated surplus (+/-) for the terminal activity	-20	-403	-526		
Revenue/costs for the terminal activity	2 931	2 891	2 851		
Estimated surplus (+/-) in percent of terminal revenues	-0.7%	-13.9%	-18.5%		
Estimated ex-post RoE pre-tax rate (in %)	-2.8%	-65.6%	-93.4%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 Slovenia Control costs vs. PP

Slovenia Control's actual terminal costs in real terms are +20.0% (+0.6 M€2009) higher than planned in the PP. This results from the combination of:

- higher staff costs (+25.8% or +0.6 M€2009);
- lower other operating costs (-18.3% or +0.1 M€2009);
- slightly lower depreciation costs (-4.8% or -0.01 M€);
- higher cost of capital (+29.2% or +0.02M€), which reflects the fact that a higher than planned total asset base (+29.2% in real terms) was used to compute the actual cost of capital; and,
- exceptional items costs (+0.03 M€), which were not planned in the PP.

No specific information is provided by the Slovenian NSA on the drivers variations noted above in either the FAB CE Monitoring Report 2017 or in the additional information to the June 2018 terminal Reporting Tables.

Slovenia Control 2017 net gain/loss on terminal activity

As shown in box 9, the terminal activity in the TCZ generated a net loss of -0.6 M€2009 for Slovenia Control in 2017, as result of the cost sharing mechanism. This is the third consecutive year Slovenia Control incurs a net loss for terminal activity, following a loss of -0.1 M€2009 in 2015 and a loss of -0.5 M€2009 in 2016. Since traffic risk sharing mechanism does not apply in Slovenian TCZ, these losses were all driven by higher than planned terminal costs for Slovenia Control.

Slovenia Control overall estimated surplus for the terminal activity

Ex-post, the overall estimated surplus taking into account the net loss from the terminal activity in the TCZ mentioned above (-0.6 M€2009) and the surplus embedded in the cost of capital (+0.05 M€2009) amounts to a an overall loss of -0.5 M€2009, which implies a negative surplus (18.5% of the 2017 terminal revenues) and a negative ex-post RoE for the TCZ in 2017. This indicates that the part of surplus embedded in the cost of capital through the RoE was not sufficient to compensate for the losses arising from the higher actual costs than planned in the PP. In this respect, it should be noted that this is the third consecutive year in which a negative surplus is recorded for Slovenia Control for terminal activity in TCZ.

SLOVENIA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs

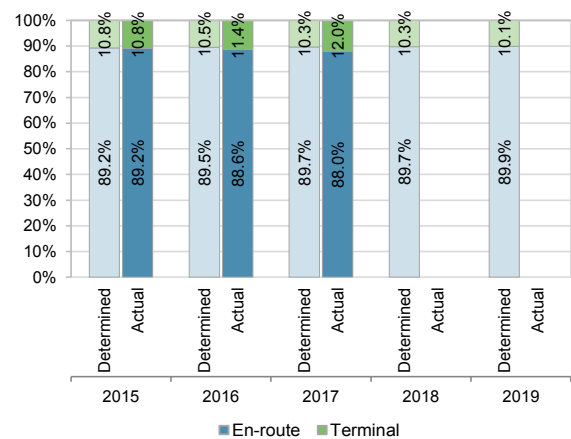
Slovenia: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		28 675 840	29 018 678	29 079 819	28 949 500	28 906 876
Real terminal costs (EUR2009)		3 454 872	3 398 918	3 356 167	3 308 617	3 253 638
Real gate-to-gate costs (EUR2009)		32 130 712	32 417 596	32 435 986	32 258 117	32 160 514
En-route share (%)		89.2%	89.5%	89.7%	89.7%	89.9%
Slovenia: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		28 723 475	30 001 219	28 947 617		
Real terminal costs (EUR2009)		3 494 246	3 848 452	3 954 682		
Real gate-to-gate costs (EUR2009)		32 217 721	33 849 671	32 902 298		
En-route share (%)		89.2%	88.6%	88.0%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	87 009	1 432 076	466 312		
	in %	0.3%	4.4%	1.4%		
En-route share	in p.p.	-0.1 p.p.	-0.9 p.p.	-1.7 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs, in real terms, are slightly higher +1.4% (+0.5 M€2009) than planned in the RP2 PP, due to the combination of slightly lower en-route costs (-0.5%, or -0.1 M€2009) and significantly higher terminal costs (+17.8%, or +0.6 M€2009). It is noted that in nominal terms the actual gate-to-gate costs are lower than planned (-4.2%, or -1.6 M€), however, due to a much lower than planned inflation index (-6.5 p.p.), these costs appear higher than planned when expressed in real terms.

The actual share of en-route in gate-to-gate ANS costs (i.e. 88.0%) is slightly lower (-1.7%) than planned in the PP (i.e. 89.7%).

For Slovenia Control, the estimated gate-to-gate economic surplus in 2017 is positive and amounts to +1.0 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to +3.4% of the gate-to-gate ANS revenues.



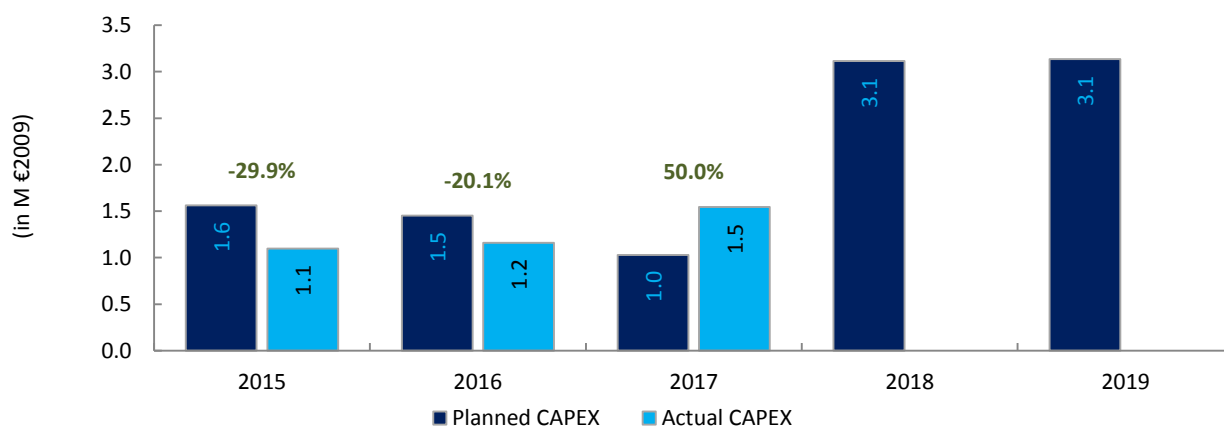
3. Technical notes on en-route and terminal information reported by Slovenia

Note 1: A bonus of 42 '000€ for achieving the local en-route capacity target is reported for Slovenia Control in the 2017 FAB CE Monitoring Report and in the submission of June 2018 en-route Reporting Tables. This amount corresponds to 0.14% of Slovenia Control en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost-base will be examined by the European Commission.

SLOVENIA

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: Slovenia Control						
FAB: FAB CE						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	1.8	1.7	1.2	3.7	3.8	12.1
Main CAPEX (in nominal M)	1.5	1.3	1.0	3.0	3.0	9.7
Inflation %	1.6%	2.1%	1.9%	2.0%	2.0%	
Inflation index (100 in 2009)	111.9	114.3	116.5	118.8	121.2	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	1.6	1.5	1.0	3.1	3.1	10.3
Main CAPEX (in M €2009)	1.3	1.1	0.9	2.5	2.5	8.2
% Main of Total CAPEX	82.9%	75.3%	83.3%	81.1%	78.9%	80.1%
Real gate-to-gate ANSP costs (in M €2009)	28.2	28.4	28.4	28.2	28.1	141.3
Total CAPEX as % of Real gate-to-gate ANSP costs	5.5%	5.1%	3.6%	11.1%	11.2%	7.3%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	1.2	1.3	1.7			
Main CAPEX (in nominal M)	0.6	0.5	1.0			
Inflation %	-0.8%	-0.2%	1.6%			
Inflation index (100 in 2009)	108.4	108.2	110.0			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	1.1	1.2	1.5			
Main CAPEX (in M €2009)	0.6	0.5	0.9			
% Main of Total CAPEX	50.6%	38.9%	60.0%			
Real gate-to-gate ANSP costs (in M €2009)	28.5	29.9	28.9			
Total CAPEX as % of Real gate-to-gate ANSP costs	3.8%	3.9%	5.3%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-0.6	-0.4	0.5			
Total CAPEX (in M €2009)	-0.5	-0.3	0.5			
Total CAPEX (in %, M €2009)	-29.9%	-20.1%	50.0%			



Annual Monitoring Report 2017
Local level view
FABEC

FABEC

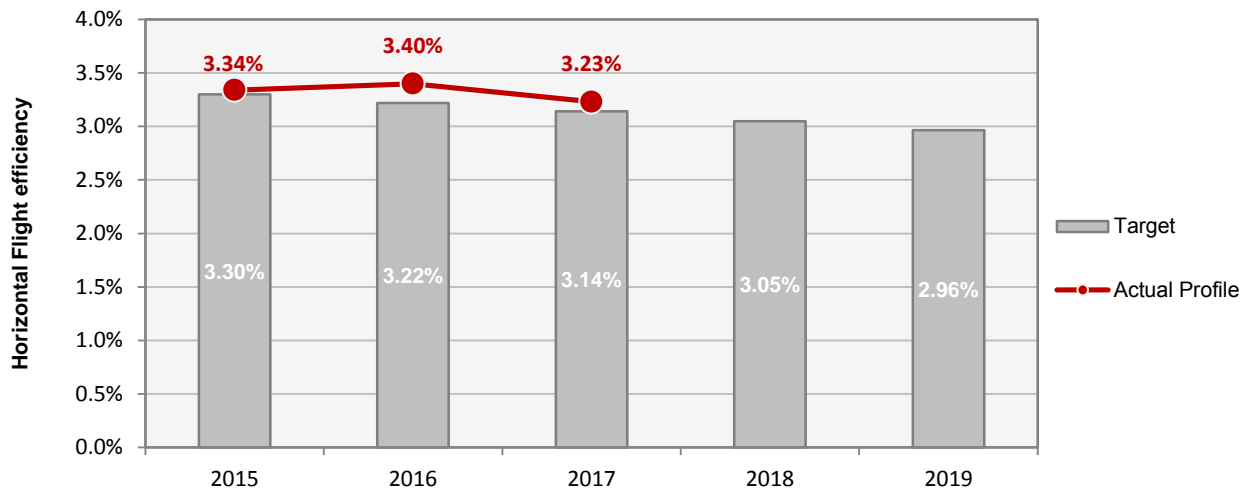
Monitoring of SAFETY for 2017

Effectiveness of Safety Management							
			2015 Value	2016 Value	2017 Value	2018 Value	2019 Target
Union-wide targets	at State level	For all MOs					C
	at ANSP level	For Safety Culture MO					C
		For all other MOs					D
FAB level	States / Regulatory authorities	For all MOs	B	A	A		
	ANSPs	For Safety Culture MO	C	C	C		
	ANSPs	For all other MOs	B	C	C		
Application of the severity classification of the Risk Analysis Tool (RAT)							
Ground Score			2015 Value	2016 Value	2017 Target	2018 Value	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%		100%
	Runway Incursions (RIs)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	97%	100%		
	Runway Incursions (RIs)		96%	72%	100%		
Overall Score			2015 Value	2016 Value	2017 Target	2018 Target	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%	>= 80%	>= 80%
	Runway Incursions (RIs)				>= 80%	>= 80%	>= 80%
	ATM Specific Occurrences (ATM-S)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	99%	100%		
	Runway Incursions (RIs)		97%	88%	100%		
	ATM Specific Occurrences (ATM-S)		86%	84%	90%		
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)							
Observations							
The lowest level in all EoSM Component/area of the States is Level A in the Safety Culture component which is below the 2019 EoSM target level. Note that this component is not verified by EASA. Safety Promotion is already at the 2019 EoSM target level.							

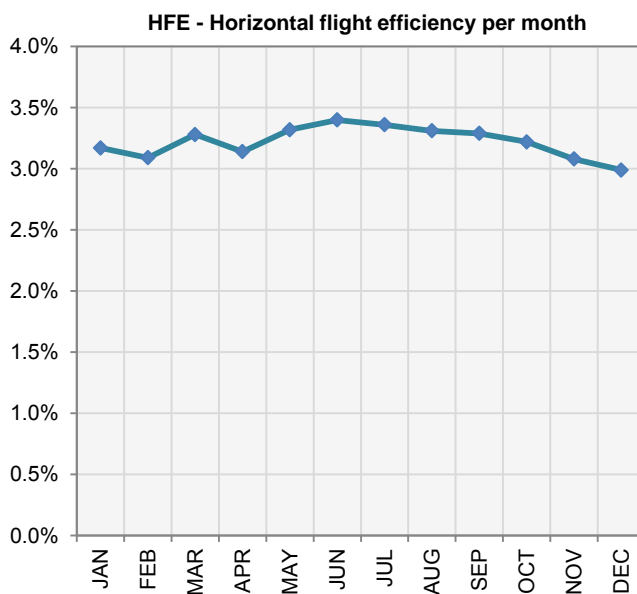
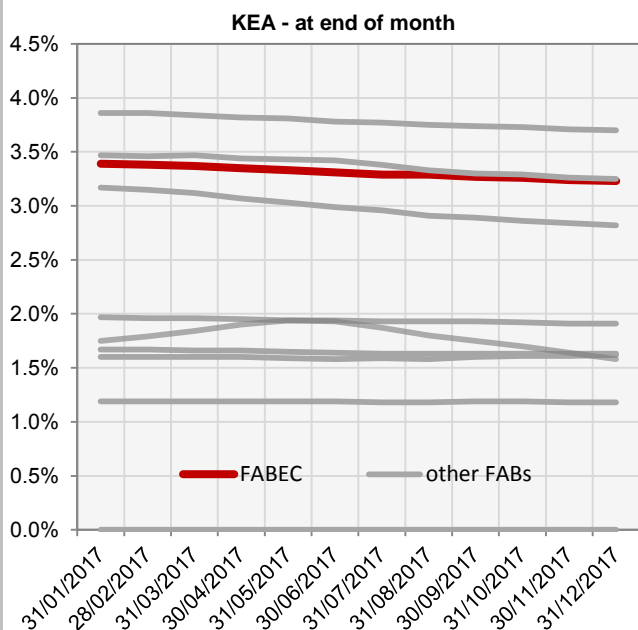
FABEC

Monitoring of ENVIRONMENT for 2017

KEA					
	2015	2016	2017	2018	2019
FAB Target	3.30%	3.22%	3.14%	3.05%	2.96%
Actual performance	3.34%	3.40%	3.23%		



Monthly KEA and HFE evolution in 2017												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA (at end of month)	3.39%	3.38%	3.37%	3.35%	3.33%	3.31%	3.29%	3.29%	3.27%	3.26%	3.24%	3.23%
HFE	3.17%	3.09%	3.28%	3.14%	3.32%	3.40%	3.36%	3.31%	3.29%	3.22%	3.08%	2.99%



HFE refers to the ratio of flown distance and achieved distance over all (portions of) trajectories in the month, while KEA is the ratio 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.

Corrective measures applied, as reported by the FAB

After discussions at the FABEC Financial and Performance Committee, the following corrective measures, proposed by ANSP and endorsed by FABEC States are planned to be implemented to mitigate the performance gaps experienced in 2017:

At FABEC level:

- Focus on 10 most important City Pairs in SOLDES meetings on the biggest inefficiencies and biggest difference between KEA and KEP to improve flight efficiency;
- Concentrate on interfaces to other FABs with the biggest inefficiencies (e.g. Interface UK/ Ireland, South-West FAB, Baltic FAB) and elaborate efficient connections;
- Organise multi-lateral initiative (4ECJC involving Reims, Maastricht, Karlsruhe and London ACC) in coordination with NM in order to prepare summer 2018 with a better flow distribution amongst these ACCs);
- Monitor Airline-behaviour choosing individual routings due to low fuel prices in order to optimize total cost of flight regardless of shortest routes offers;
- Organise Stakeholder RAD-Workshops to simplify restriction definitions and reduce number of restrictions.

At ANSP level:

Belgocontrol: No corrective measures.

DSNA:

- New sets of night DCT in DSNA airspace;
- GT ESSO (new organization South West of Bordeaux ACC) and SWAFFLE (new sectors > FL375 in North of Bordeaux ACC);
- Shorter route for traffic to Chambéry Airport;
- Change in division level of LMH in Paris airspace (dynamic sectorisation);
- YB sector in Reims (dynamic sectorisation);
- IAM project: Improvement of Interface Aix ACC-Marseille APP for traffic to/from Marseille airport;
- LUMAS Phase 2: Improvement of the interface Marseille ACC/UAC (F sector) / Barcelona;
- New SID/STAR for Basel for northbound traffic.

MUAC:

- FRAM 2 (2017 – 2019): To achieve compliance, by the end of 2021, with the Commission Implementing Regulation (EU) No 716/2014 of 27 June 2014, Maastricht UAC will implement Free Route Airspace within its Area of Responsibility;
- Improvement of ASM process, e.g. ASM 365 + in EBTRA SB, enabling flight planning at 365+ in military area;
- Ongoing consultations meetings with AOs and CFSPs to improve planning process.

DFS:

- 01FEB2018: Project "OASE I" in Munich ACC with modified route structure and modified sector design to optimize vertical connectivity for flows in new sectors HOF/BBG. The environmental benefits results from fuel savings based on less level offs leading to more enroute CCO and CDO;
- 01MAR2018: FRA DFS implemented as planned. Additional AO/CFSP information provided on "how to use FRA" to ensure, the savings expected based on NM assessment are taken by AOs using the optimized routes available. SAM/NEST-Simulations performed by the NM calculated route shortenings in average of 3.12 NM per flight;
- 19JUL2018: new CDR regulations for routes around ED-R 401 VPA and improved FUA restrictions. The vertical level band is extended from FL220-280 to FL100-280. The publications and descriptions of the procedure have been improved so that the frequency of use can be significantly increased. This leads to significant route shortenings which have not yet been calculated in more detail;
- 13SEP2018: EDDF SIDs shortened and ENR-Routes extended to reduce departure spacing at EDDF, increasing overall capacity at the airport. SIDs will be shortened to sooner hand over traffic to the enroute system. Enroute spacing on a planned and on a tactical basis instead of SID spacing allow more direct routing. The effects have not yet been calculated in more detail;
- 06DEC2018: Project "OASE II" in Munich ACC with adjacent Bremen ACC, Langen ACC and Karlsruhe UAC – major route design changes to swap EDDF arrival and departure routes as well as EDDB/DT arrival and departure routes to reduce the number of crossing points and therefore increase capacity. These changes reduce the complexity of opposing traffic flows. Environmental effects might result from less detours and radar vectoring due to less tactical separation needs. The effects have not yet been calculated in more detail;
- 06DEC2018: Set of RAD App. 4 DCTs in Karlsruhe West and South sectors as preparation for H24 FRA implementation (Solution 2). By implementing new point to point connections shortenings of connections will be realized that lead to fuel savings. The effects have not yet been calculated in more detail.

Skyguide:

- An additional set of national and cross-border Direct Routes (DCT) including Long Range Direct Routes were introduced in CH FIR in March and November 2017. Their effective use might increase with time;
- A Free Route Airspace (FRA) project, which will allow Airspace Users to plan and fly direct routes, is in progress and should become effective in 2021;
- The decrease of CH unit rates in 2018 compared to 2017 might influence Airspace Users to plan and therefore fly more efficient routes within the FABEC.

LVNL: No corrective measures.

ANA: Design of PBN procedures for Luxembourg airspace – in progress – deadline 2019.

Observations

NM recommendations (ERNIP 2018, Part 2):

To implement all projects as planned.

To expand x-border FRA operations with adjacent FABs - ACCs (e.g. Denmark / Sweden FAB, UK Ireland FAB).

To further Improve interfaces with SW FAB, UK Ireland FAB and Blue Med FAB.

To accelerate FRA projects in France.

1. Overview

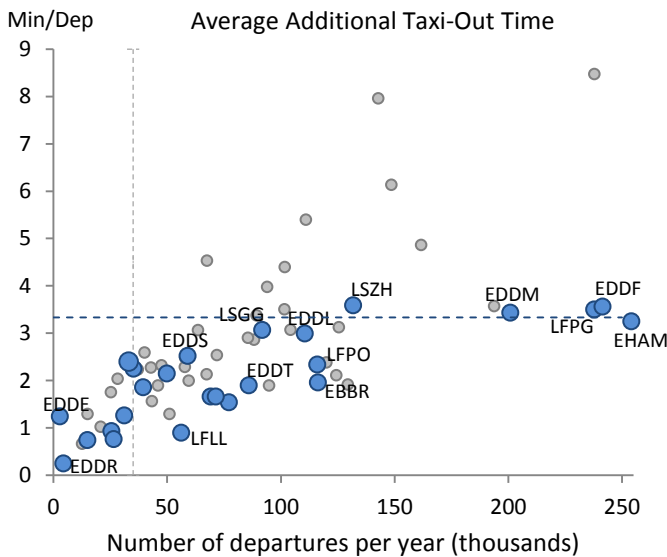
FABEC states identify a total of 88 airports as subject to RP2 monitoring, but in 2017 only 24 of them have implemented the Airport Operator Data Flow and therefore the analysis can be based only on these airports.

In terms of taxi-out time the analysed airports show in most cases additional taxi-out times below the average for airports in RP2, even for the airports within the busiest in Europe.

Regarding the additional time in terminal airspace the performance is in most cases commensurate with the level of traffic, while for the busiest airports the additional times are kept remarkably low given those levels of traffic.

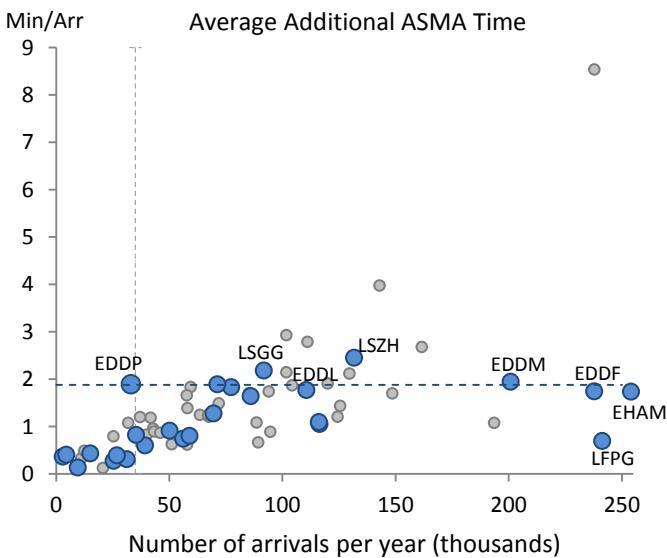
The level of implementation of the airport operator flow varies across FABEC member states. These shall encourage the timely implementation of the airport data flow to improve the level of reporting for the Environment KPA.

2. Additional Taxi-Out Time



In general terms, analysed FABEC airports up to 50000 departures per year have a linear relationship of the additional taxi-out times versus the level of traffic. However, for airports between 50000 and 150000 departures per year, FABEC airports outperform other airports in the rest of Europe, with additional taxi-out values always below the RP2 average (weighted average for airports subject to RP2). Munich, Frankfurt, Paris CDG and especially Amsterdam, as the busiest airport in Europe, still manage to keep their additional taxi-out times around the 3.33 min/dep. of the RP2 average.

3. Additional ASMA Time



FABEC airports up to 75000 arrivals per year show additional times in the terminal area below other airports with the same traffic levels with the exception of Leipzig (EDDP) which shows a very high value. Most of the airports in FABEC with a yearly traffic above 100000 arrivals have low additional times for their levels of traffic, remarkably low in the case of Paris Charles de Gaulle (LFPG), well below 1 min/arr. Munich, Frankfurt and Amsterdam also show a good performance close to the RP2 average (1.89 min/arr.).

Minutes of ATFM en-route delay						
	2015	2016	2017	2018	2019	Observations
FAB Reference Value	0.43	0.42	0.42	0.42	0.43	
FAB Target	0.48	0.49	0.42	0.42	0.43	
Actual performance	0.69	1.07	1.15			

FABEC assessment of capacity performance

As described in the FABEC ANSP individual achievements graph presented below, the global FABEC underperformance for en-route capacity has been driven in 2017 by the individual underperformance of Belgocontrol, DFS, DSN and MUAC against their individual 2017 All causes and CRSTMP expected contributions to FABEC target values.

Belgocontrol has generated limited en-route delays, mainly due to weather and, regarding CRSTMP causes (0.09 min/flight vs expected contribution set at 0.07 min/flight), due to understaffing and some capacity shortage.

DSNA has generated en-route delays due to industrial action and weather (in Marseille ACC) and, regarding CRSTMP causes (0.61 min/flight vs expected contribution set at 0.22 min/flight), due to capacity shortage in Marseille, Brest, Reims and Bordeaux ACC. 55% of CRSTMP delays are still capacity delays (70% in 2016), mainly in Marseille and Brest ACC. Marseille ACC faced a 10% traffic growth since 2015 while sector opening schedules were still not optimized consistently with traffic peak hours and weekend but new rostering is expected to be implemented for summer 2018. Brest ACC faced a 15% traffic growth since 2015 which explains delays in 2017 in spite of ERATO new ATM system implementation end 2015 and more flexible rostering local implementation end 2016. Nevertheless it should be noted that delays decreased by -56% when ACC traffic grew +7.6% in 2017. Regarding Reims, preparation work for implementation of a new ATM system (4Flight) and traffic distribution with higher demand on shortest routes and lack of predictability of demand in some sectors have been identified.

MUAC has generated en-route delays due to weather and, regarding CRSTMP causes (0.43 min/flight vs expected contribution set at 0.14 min/flight), mainly due to capacity shortage because of the structural saturation of many sectors facing excessive demand (+3.9% traffic growth in 2017) and no more possibilities to off-load traffic in the current airspace context.

DFS has generated en-route delays, mainly due to weather and, regarding CRSTMP causes (0.50 min/flight vs expected contribution set at 0.24 min/flight), due to under staffing in Karlsruhe ACC and some capacity shortage in Langen ACC that should be closed in 2019.

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/PMG (ANSP FABEC Group/Performance Monitoring 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 FABEC 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 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 AFG/PMG, to the FABEC Council for such appropriate measures, after consultation with the AFG/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.

The FPC is also responsible for the management of the Capacity KPA financial incentive schemes .

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

Application of Corrective Measures for Capacity

The annual monitoring report from FABEC does not provide any information about corrective measures applied during 2017, because of deficiencies in 2017 performance. Instead, it lists corrective measures that are planned to be implemented in the future.

The annual monitoring report from 2016 listed several corrective measures that were to be implemented (from 2017 onwards) in light of the performance gap experienced in 2016. No information was provided in the 2017 annual monitoring report on the progress of implementation.

Capacity Planning

As stated above, FABEC report on planned capacity measures for the future to mitigate the performance gaps experienced in 2017.

FABEC level in coordination with NM: 4 ANSP (DFS, DSNA, MUAC & NATS) coordinate operational measures to enable better use of the existing capacity.

Study on long-term weather impact on ATM (originally promised in 2016 report) outcomes expected in 2018. Launch of task force to detail all aspects linked with traffic volatility.

ANSP level

Belgocontrol:

Capacity gap expected to be closed in 2018, provided that current recruitment plan provides expected benefits in due time. Reassessment of sector capacities following CAPAN study, segregation of EBCI and EBBR flows; implementation of Cooperative Traffic Management initiatives; enhanced civil military procedures implementation. (All previously listed in 2016 report)

DSNA:

capacity increases from flexible rostering – national agreement already validated, local agreements under negotiation (same position as in 2016 report). 4 ACCs will have capacity gaps (up from 2 in 2016 report). Implementation of improved FUA ASM & ATFCM processes will enhance capacity (as in 2016 report). Implementation of FRA will improve capacity, as will changes in sectorisation in Bordeaux, Marseille and Reims. Airspace reorganisation in Brest and Marseille will provide capacity. System changes in Reims will provide additional capacity in 2019 (2016 report stated that implementation of new system in Reims would reduce capacity in 2019)

MUAC:

Training new ATC staff; cross-training ATCOs, negotiating with social partners for mitigation measures and reviewing involvement of operational staff in developments to cope with staffing situation. (Cross-training of ATCOs listed in 2016 report) Addition of 3rd layer in DECO sector group, potential re-sectorisation of DECO and Hannover sector groups, and improvement of UK interface expected to increase capacity. (2016 report promised 3rd layer in Brussels UIR and potential re-sectorisation in DECO and Hannover sector groups). Exclusion of short-duration high-workload flights is under investigation.

DFS:

The FABEC report submitted in June contained the following statement:

Capacity gap in Langen to be closed in 2019. Staffing issues in Karlsruhe UAC lead to delay forecast significantly higher than target over RP2. From 2020 onwards new ATCOs will allow for gradually increasing capacity. Airspace changes to reduce sector complexity and implementation of free route airspace is expected to close the capacity gap.

However, during the fact validation process a new statement was provided:

DFS is implementing a series of measures to close the current capacity gap. In Karlsruhe UAC, mainly staffing issues lead to a delay significantly higher than the set target over RP2. Recruiting and training measures have been intensified, which over RP3 will gradually increase the staff level and reduce delays.

Skyguide:

No capacity gap foreseen although RAD constraints and scenarios to off-load Karlsruhe, Reims and MUAC will increase traffic and delays in Swiss ACCs, thus result in deterioration of performance.

Assessment of Capacity Performance

It is noted that FABEC failed to achieve their en route capacity target in 2017, following a similar result in 2016 and 2015. It is noted that the FABEC annual actual traffic figures for each year of RP2 remains within the 7-year High traffic forecast from STATFOR in February 2014, when the FAB performance plans were being drafted. It is noted that despite previous PRB recommendations for FABEC to improve capacity plans, ATC capacity attributed delays remain substantial. Delays due to ANSPs inability to deploy existing capacity have increased further impacting capacity performance. The efforts from FABEC at coordinating between the Network Manager and the 4 ACCs is hoped to ameliorate high delays but it is not a capacity enabler in that it does not increase the overall capacity of the operational sectors. The Network Manager predicts that FABEC will exceed its delay target by almost 200% in 2018 and by 150% in 2019, predominantly driven by high delays from MUAC, DFS and the DSNA.

EUROCONTROL 7 year forecast February 2014 – FABEC										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	5572		5735		5952		6124		6308	6486
Base	5509	5571	5626	5667	5758	5848	5860	6048	5970	6093
Low	5440		5498		5525		5550		5587	5633

En route Capacity Incentive Scheme

FABEC applied a common en-route incentive scheme described in section 4.1 of the FABEC RP2 performance plan dated January 2017. The incentive scheme uses the FAB targets and then applies a ratio of 78% of the FAB targets for the delay causes CRSTMP only, to give a FAB CRSTMP target. A deadband of +/- 10% of the CRSTMP target is applied to decide if the FAB level was achieved; national / ANSP incentives are determined according to how each ANSP has contributed to the FAB target.

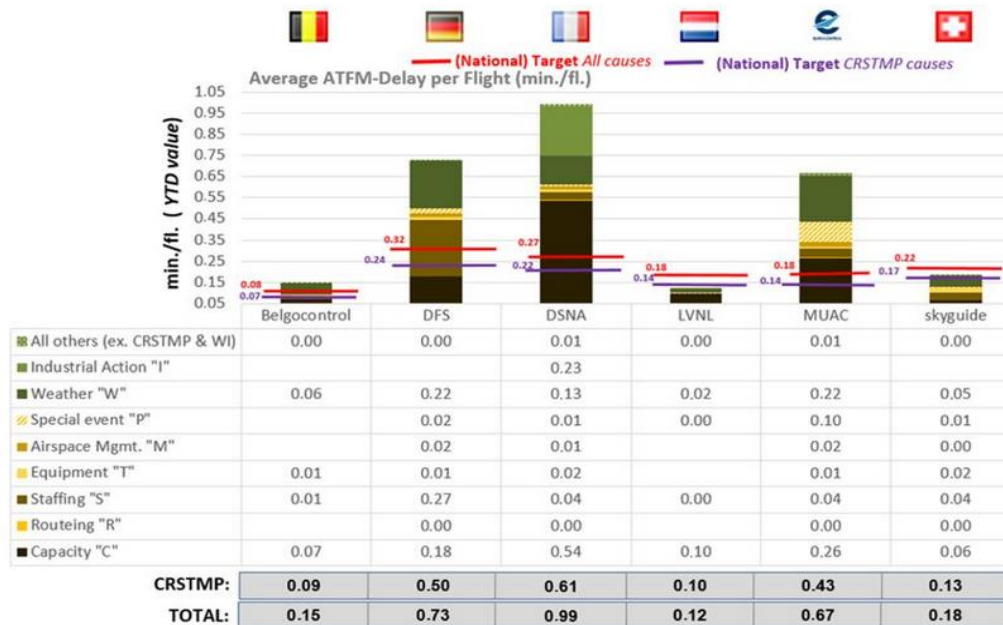
For the actual FABEC en-route Capacity delay data a review to proof non-CRSTMP regulations was conducted by FABEC NSAs via a data validation process within FABEC Finance and Performance Committee (FPC). Therefore, a number of non-CRSTMP regulations were subject to an analysis under the direction of the FPC (see description of the verification process in the FABEC Performance Plan). 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 5 sample days. These sample days were discussed in the 49th FPC meeting and agreed as follow-up to the meeting on 19th December 2017. The relevant data, consisting of 203 regulations, was received 19th March 2018. Data provided included e.g. regulation reasons, start and end date, regulation descriptions and in-depth analysis as regards weather. The verification process was then conducted by FPC members in the months of April and beginning of May. In case of inconsistencies the ANSPs or CM PMG were informed to solve these issues whereby in case of no sufficient and comprehensible justifications, the opinion of the FPC was crucial. The process was finalised in May 2018.

Result of FAB Capacity Incentive Scheme

The 2017 FABEC underachievement triggers the activation of the Financial common FABEC incentive scheme, generating a malus for 4 FABEC ANSP (Belgocontrol, DFS, DSNA, MUAC). In conjunction with this incentive mechanism an internal validation process was established in order to approve non-CRSTMP regulations.

The validation process of non CRSTMP regulations is described in chapter 3.2.1. The individual CRSTMP and All causes achievements for 2017 are given in the following graph.

The detailed application and calculation of those malus are fully described in section 3 of the report. This graph represents the AUA delay data of the individual FABEC ANSPs (Computations and breakdown by FABEC Performance Monitoring Group).



Update on Military dimension of the plan

FABEC have reported no new information on how civil military coordination and cooperation is providing additional capacity. FABEC simply repeated the information provided about 2015 and 2016.

Observations on Military dimension of the plan

FABEC report no update on the military dimension of the plan but simply repeat what was previously reported in 2016 and 2015 reports. Despite listing FUA as being a potential capacity enhancement for both the DSNA and Belgocontrol, FABEC did not provide any details of how civil military cooperation and coordination will produce additional capacity.

Application of FUA

FABEC provided no new information regarding the application of FUA. FABEC simply repeated the information provided in the 2015 and 2016 annual monitoring reports.

Observations of the Application of FUA

It is noted that, once again, FABEC have provided no information on progress in the application of FUA and no information on how the FABEC authorities determine whether or not they are providing the optimum benefits for both civil and military airspace users.

1. Overview

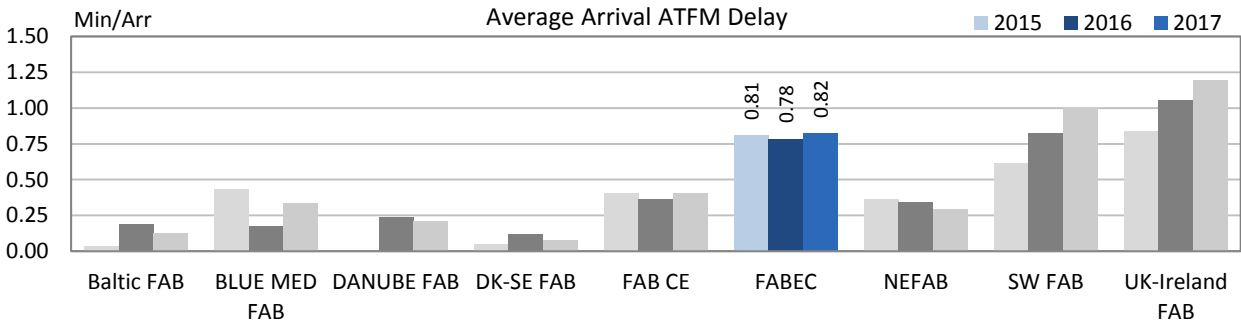
FABEC represents the largest FAB in terms of geographic region/number of member states and the respective air navigation services at airports subject to RP2. Local variability of performance is heavily masked on the aggregated FAB level. FABEC, next to SW FAB and UK-Ireland FAB, influences the European performance significantly. On a FAB level, the achieved performance in terms of arrival ATFM delay ranges above the European average (RP2 airports) of 0.67 min/arr. in 2016.

Across FABEC, there is a variety of methods of establishing the national target on arrival ATFM delay and the associated incentive scheme.

Given the number of airports, there is a wide spread of the compliance to ATFM slots. Several French airports, including Marseille (LFML), do not reach the 80% minimum threshold of compliance.

The implementation of the Airport Operator Data Flow is not completed for all airports within FABEC. This impedes a consistent monitoring of pre-departure delay.

2. Arrival ATFM Delay



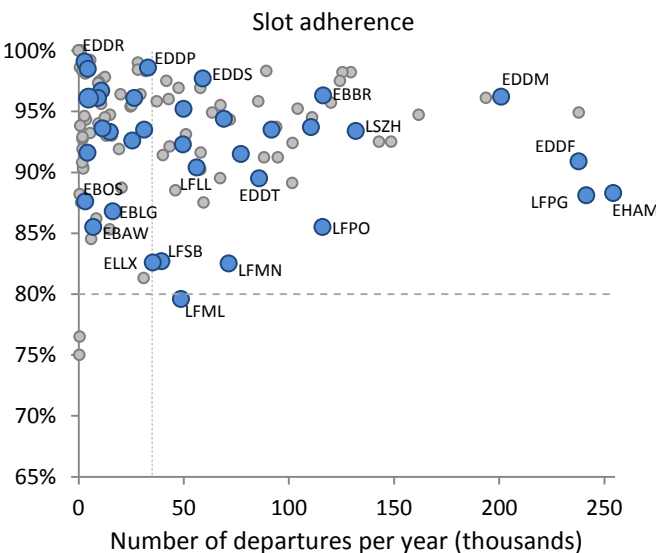
After the slight improvement in 2016 in the arrival ATFM delay at FABEC level, delays have increased again in 2017 and sit now at the same level as 2015 (i.e. 2015: 0.81 min/arr., 2016: 0.78 min/arr., 2017: 0.82 min/arr.) which ranges well above the European average of 0.67 min/arr. Traffic levels have increased in 2017 by 2% at FABEC airports with respect to 2016.

Due to the size / number of airports, FABEC performance - next to SW FAB and UK-Ireland FAB - drives the European average and has the highest impact: terminal ATFM delays generated by airports in FABEC represent approx. 47% of the minutes of arrival ATFM delay in all airports under RP2 monitoring.

3. Arrival ATFM Delay – National Targets and Incentive Schemes

Across FABEC, there are different methods of establishing the national target on arrival ATFM delay and the associated incentive scheme. For the incentive scheme, most states in FABEC focus on CRSTMP targets, or on only some airports, and some have do not have an incentive scheme for terminal capacity.

4. ATFM Slot Adherence



Within FABEC slot adherence varies widely amongst the airports. Most of the airports within FABEC show a compliance above 90%, and about half of those above 95%.

Nevertheless there are some other airports, especially some smaller French airports, that have a compliance well below the minimum required 80% (for the full set of data please refer to the detailed tables per state).

Noteworthy is that Amsterdam/Schiphol (EHAM) and Paris Charles de Gaulle (LFPG), two major European hubs, still show an adherence rate under 90% which has repercussions on the network in terms of predictability.

5. Pre-departure Delay

Across FABEC, the implementation of the Airport Operator Data Flow varies and as such impedes a consistent monitoring of pre-departure delay for all FAB member states. In addition, the quality of the reporting does not always allow for the calculation of the indicator, as too many minutes of delay are left unreported or unexplained. FABEC is invited to encourage the implementation of the data flow and the proper reporting of delays.

Annual Monitoring Report 2017
Local level view
Belgium

BELGIUM

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	64	B	D	C	C	A
Belgocontrol	82	D	E	D	D	C

Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.

Application of the severity classification of the Risk Analysis Tool (RAT)		
	RAT application (%)	
	ATM Ground	ATM Overall
Separation Minima Infringements (SMIs)	100%	100%
Runway Incursions (RIs)	100%	100%
ATM Specific Occurrences (ATM-S)		100%
Source of RAT data:	BCAA	

Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)

Just culture		
State level	Number of questions answered	
	YES	NO
Policy and its implementation	9	0
Legal/Judiciary	7	0
Occurrence reporting and Investigation	2	0
TOTAL	18	0

Belgocontrol	Number of questions answered	
	YES	NO
Policy and its implementation	10	3
Legal/Judiciary	2	1
Occurrence reporting and Investigation	6	2
TOTAL	18	6

Observations

One component (Safety Policy and Objectives) out of the four reviewed EoS Components/areas of the State does not meet the 2019 EoS target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.

Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only two are below Level C.

BELGIUM

Monitoring of Airports Contribution to ENVIRONMENT for 2017

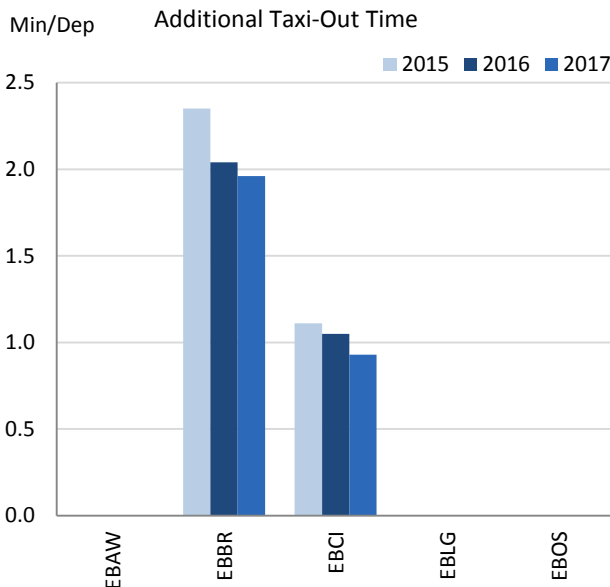
1. Overview

Belgium identifies 5 airports as subject to RP2 monitoring.

The Airport Operator Data Flow is fully established at two airports (i.e. EBBR and EBCI). Therefore the evaluation of the environmental performance is limited to them. The other Belgian airports are still undergoing the validation process with no apparent progress.

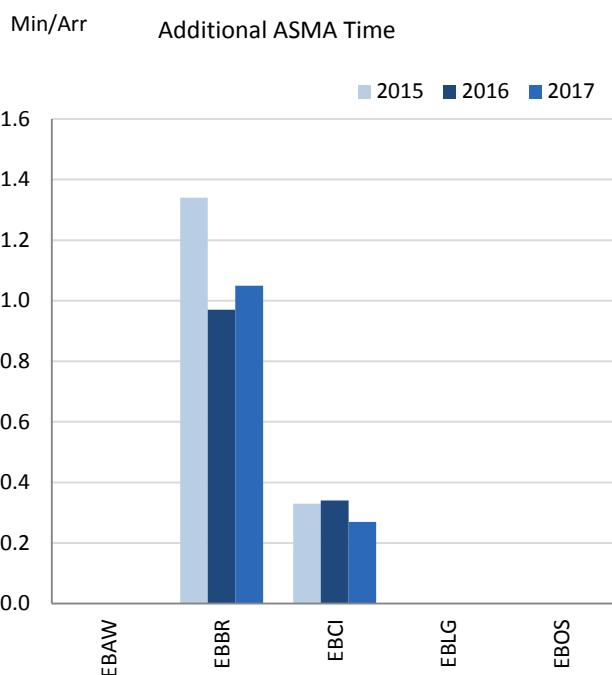
Traffic in 2017 has grown by 7% at Brussels and 3% at Charleroi with respect to 2016. Nevertheless the performance at both airports regarding the environmental indicators is still best-in-class and very resilient to changes in traffic or weather conditions.

2. Additional Taxi-Out Time



The additional taxi-out times for both EBBR and EBCI are kept amongst the lowest given their levels of traffic. These values have also decreased in 2017 at both airports for the second year in a row, and remained quite constant throughout the year, including the winter months, or the summer months with higher traffic.

3. Additional ASMA Time



In 2017, additional times in the terminal airspace have also decreased in EBCI, while the indicator has slightly worsened at EBBR. In line with the performance during the taxi-out phase, the additional ASMA times are quite constant throughout the entire year. Both EBBR and EBCI show best in class values for additional ASMA times given their traffic levels.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Antwerp	EBAW	n/a	n/a	n/a			n/a	n/a	n/a		
Brussels	EBBR	2.35	2.04	1.96			1.34	0.97	1.05		
Charleroi	EBCI	1.11	1.05	0.93			0.33	0.34	0.27		
Liège	EBLG	n/a	n/a	n/a			n/a	n/a	n/a		
Ostend-Bruges	EBOS	n/a	n/a	n/a			n/a	n/a	n/a		

BELGIUM

Monitoring of CAPACITY for 2017

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	N/A	N/A	N/A	N/A	N/A	Because there are two ANSPs in Belgium, Belgocontrol and EUROCONTROL (MUAC), Belgium did not set a national target. Exclusive use of CRSTMP codes means that the PRB is unable to independently validate the results for incentive purposes. Actual performance reported here is for all causes of delay.
Deadband +/-	N/A	N/A	N/A	N/A	N/A	
Actual performance	0.50	0.72	0.59			

National capacity incentive scheme

The incentive scheme is applied for delay causes listed in Art. 15 (g) of Regulation 391/2013; data used for calculation was AUA data provided by PRU.

[The PRU is unable to validate the attributed cause of delay, which is determined by the ANSP requesting the ATFM regulation.]

The Capacity delay target at FAB level was set at an average of 0.33 min/flight for CRSTMP ATFM delays.

Belgocontrol's broken down target was set at 0.07 min/ flight.

EUROCONTROL (MUAC) broken down target was set at 0.14 min/ flight

2017 achievement (as reported by FABEC):

- FABEC: 0.76 min/flight for CRSTMP delays
- Belgocontrol: 0.09 min/flight for CRSTMP delays
- EUROCONTROL (MUAC): 0.43 min/ flight for CRSTMP delays

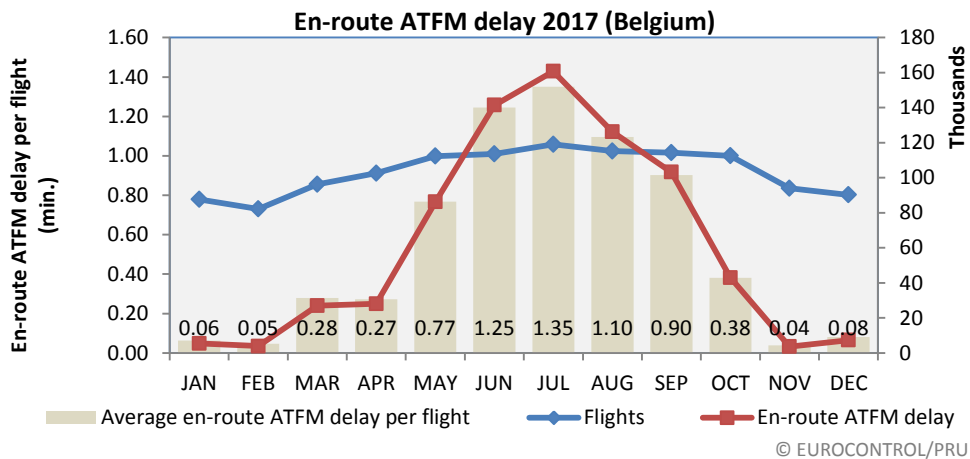
Bonus/Malus:

The percentage of malus for Belgocontrol was -0.5% of total ANSP's revenue in 2017, which equates to €532 476.76

The percentage of malus for EUROCONTROL (MUAC) was -0.5% of total ANSP revenue in 2017, which equates to €812 234.39

Note: The penalty for EUROCONTROL (MUAC) is applicable because of the performance over the four MUAC States (Belgium, Luxembourg, Germany and the Netherlands). The breakdown of the MUAC penalty per State is: Belgium €254 398.31; Luxembourg €7 868.11; Germany €386 031.45 and the Netherlands €163 936.52

Observations regarding national capacity performance



En-route ATFM delay per flight (Belgium)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.17	0.24	0.20	0.04	0.03	0.08	0.02	0.50	0.72	0.59

Although en-route capacity performance in Belgium improved in 2017 in comparison with 2016, RP2 performance is significantly worse than the en-route capacity performance during RP1 (2012-2014). Although traffic increased by approximately 4% in 2017, over 2016 levels, the annual traffic figures for Belgium and Luxembourg remain within the range forecasted by STATFOR in February 2014, when the RP2 performance plans – and associated capacity plans were being drafted. (2017 was the first year that the traffic rose above the baseline forecast but it remained lower than the high forecast). In the latest Network Operations Plan (NOP) 2018-2022 the Network Manager expects a continued capacity shortfall in Belgium for the remainder of RP2. In the 2016 annual monitoring report, the PRB flagged concerns about the cancellation of FABEC capacity projects and about the failure to deploy existing capacity.

EUROCONTROL 7 year forecast February 2014 – Belgium / Luxembourg										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	1150		1189		1235		1273		1315	1356
Base	1136	1133	1167	1165	1195	1188	1219	1240	1245	1274
Low	1122		1139		1145		1152		1163	1175

Planning and Effective Use of CDRs

Belgium did not provide any data.

Observations on Planning and Effective Use of CDRs

It is noted that Belgium, like many other States, is unable to monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
66%	70%	71%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
20%	10%	8%		

Share of restricted / segregated time (via UUP process) that was actually used				
2015	2016	2017	2018	2019
N/A	N/A	78%		

Observations on Effective booking procedures

Belgium reports that the aggregated values used in this indicator are not relevant for FUA analysis and evaluation, the only relevant information remains per area. It was also reported that not all releases of airspace are notified to the Network Manager. No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

BELGIUM

Monitoring of Airports Contribution to CAPACITY for 2017

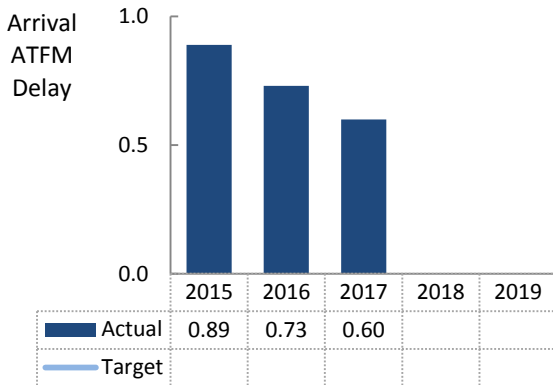
1. Overview

In Belgium, ANS at a total of 5 airports are subject to RP2 monitoring. Local targets have been established for a subset of the airports (Brussels and Liège) as a method for establishing a national target on all airports was not available.

Arrival ATFM delay (all causes/5 airports) improved in 2017 for the second year in a row (2015: 0.89 min/arr.; 2016: 0.73 min/arr.; 2017: 0.60 min/arr.)

The Airport Operator Data Flow is not yet established for Antwerp (EBAW), Liege (EBLG), and Ostend-Bruges (EBOS).

2. Arrival ATFM Delay



In Brussels, after the drop in 2016 due to the terrorist attacks, traffic levels are back to the same level as 2015, but with a significant reduction in arrival ATFM delay (all causes) (2015: 1.26 min/arr., 2016: 0.93 min/arr., 2017: 0.81 min/arr.).

At the same time Charleroi and Liège had an important reduction in delays in 2017, contributing positively to the national performance. The national value for arrival ATFM delay (all causes) shows an improvement in 2017 with a reduction of 0.13 min/arr. with respect to 2016.

Belgium monitors, for target and incentive purposes, CRSTMP values. This national average for all airports improved from 0.16 min/arr. in 2016 to 0.10 min/arr. in 2017.

3. Arrival ATFM Delay – National Target and Incentive Scheme

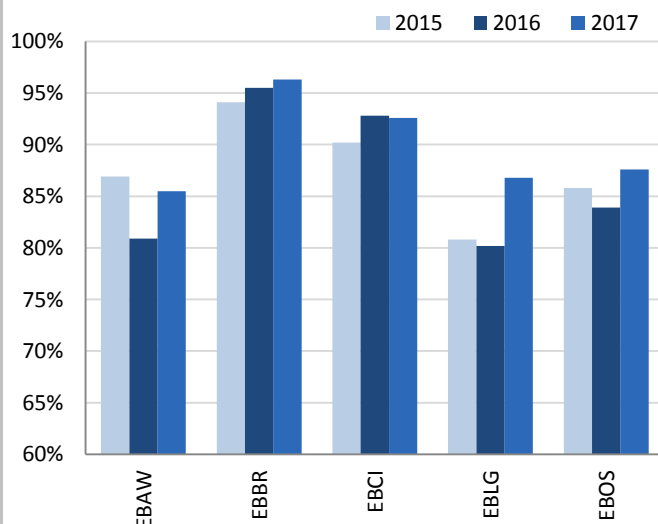
Belgium has not established a national target on arrival ATFM delay covering all causes. The national target is currently set on CRSTMP causes with breakdown for two airports EBBR and EBLG.

At Brussels (EBBR), the actual performance for CRSTMP was 0.14 min/flight in 2017, which does not meet the target of 0.11 min/flight set by the Belgian State. Nevertheless as the achieved value lies within the deadband of +/-50%, no penalty is applied for EBBR.

At Liège (EBLG), the actual performance for CRSTMP was 0.02 min/flight in 2017, which meets the target of 0.06 min/flight set by the Belgian State. Therefore for EBLG the highest bonus was achieved (0.25% of the revenue at EBLG in 2017 (23 455.81 EUR)).

4. ATFM Slot Adherence

Slot adherence



Performance in terms of slot adherence at Brussels (EBBR) and Charleroi (EBCI) remain within best-in-class above 90%.

The compliance with ATFM slots improved significantly at Liège (EBLG: 2016: 80.2% vs 2017: 86.8%), Ostend-Bruges (EBOS: 2016: 83.9% vs 2017: 87.6%), and Antwerp (EBAW: 2016: 80.9% vs 2017: 85.5%).

All these improvements bring the national average to a compliance of 94.8% in 2017.

5. Pre-departure Delay

The monitoring of pre-departure delay is dependent on the establishment of the Airport Operator Data Flow. For the time being, this flow is only established for Brussels (EBBR) and Charleroi (EBCI).

Charleroi (EBCI) has reduced its pre-departure delay in 2017 and it accrues a negligible share. Brussels (EBBR) shows on the other hand a deterioration with an increase of 0.20 min/dep. in 2017 versus 2016. The reporting of the pre-departure delay has improved since 2016, with a significant reduction of the unreported delay.

6. Appendix

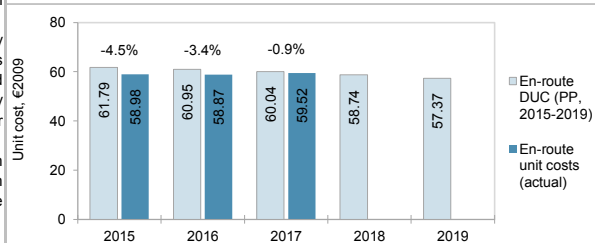
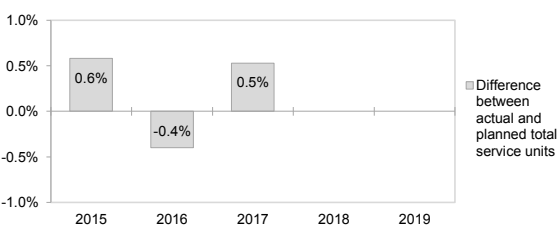
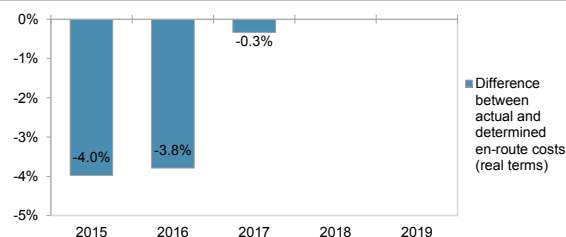
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Antwerp	EBAW	0.00	0.00	0.00			86.9%	80.9%	85.5%			n/a	n/a	n/a		
Brussels	EBBR	1.26	0.93	0.81			94.1%	95.5%	96.3%			0.66	0.43	0.63		
Charleroi	EBCI	0.00	0.47	0.11			90.2%	92.8%	92.6%			0.07	0.16	0.11		
Liège	EBLG	0.14	0.33	0.15			80.8%	80.2%	86.8%			n/a	n/a	n/a		
Ostend-Bruges	EBOS	0.00	0.00	0.12			85.8%	83.9%	87.6%			n/a	n/a	n/a		

BELGIUM & LUXEMBOURG: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

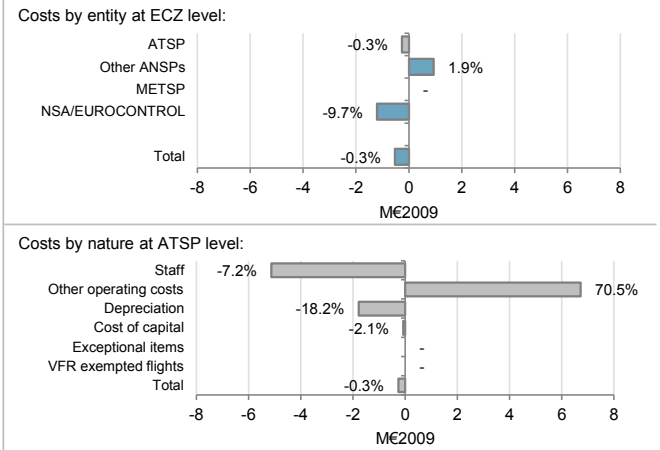
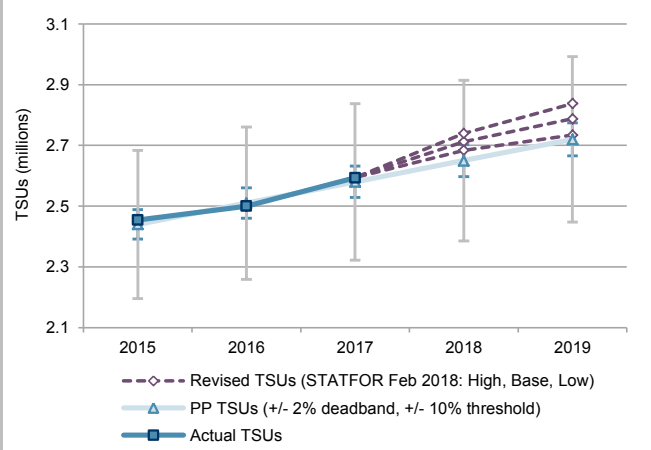
1. Contextual economic information: en-route air navigation services					
· Belgium & Luxembourg ECZ represents 2.5% of the SES en-route ANS determined costs in 2017					
· ATSP:	Belgocontrol				
· FAB:	FABEC				
· National currency:	EUR				
2. En-route DUC monitoring at Charging Zone level					
Belgium & Luxembourg: Data from RP2 PP (EC Decision 2017/553 of 22 March 2017)	2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)	168 277 718	172 792 013	177 260 922	180 556 020	183 521 461
Inflation %	1.1%	1.2%	1.3%	1.4%	1.4%
Inflation index (100 in 2009)	111.6	112.9	114.4	116.0	117.6
Real en-route costs (EUR2009)	150 757 603	152 984 440	154 897 964	155 652 698	156 055 562
Total en-route Service Units	2 440 000	2 510 000	2 580 000	2 650 000	2 720 000
Real en-route unit cost per Service Unit (EUR2009)	61.79	60.95	60.04	58.74	57.37
Belgium & Luxembourg: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)	160 753 284	166 388 324	178 362 008		
Inflation %	0.6%	1.8%	2.2%		
Inflation index (100 in 2009)	111.1	113.1	115.5		
Real en-route costs (EUR2009)	144 755 264	147 180 265	154 375 434		
Total en-route Service Units	2 454 178	2 499 996	2 593 652		
Real en-route unit cost per Service Unit (EUR2009)	58.98	58.87	59.52		
Difference between Actuals and Planned	2015	2016	2017	2018	2019
En-route costs (nominal EUR)					
in value	-7 524 434	-6 403 689	1 101 086		
in %	-4.5%	-3.7%	0.6%		
Inflation %					
in p.p.	-0.5 p.p.	0.6 p.p.	0.9 p.p.		
Inflation index (100 in 2009)					
in p.p.	-0.6 p.p.	0.1 p.p.	1.1 p.p.		
Real en-route costs (EUR2009)					
in value	-6 002 339	-5 804 175	-522 529		
in %	-4.0%	-3.8%	-0.3%		
Total en-route Service Units					
in value	14 178	-10 004	13 652		
in %	0.6%	-0.4%	0.5%		
Real en-route unit cost per Service Unit (EUR2009)					
in value	-2.80	-2.08	-0.52		
in %	-4.5%	-3.4%	-0.9%		
3. Focus on en-route at State/Charging Zone level					
En-route unit cost					
In 2017, the actual en-route unit cost in real terms (59.52 €2009) is -0.9% lower than planned in the PP (60.04 €2009). This difference results from the combination of slightly higher than planned TSUs (+0.5%) and slightly lower than planned en-route costs in real terms (-0.3%, or -0.5 M€2009).					
En-route service units					
The difference between actual and planned TSUs (+0.5%) falls inside the ±2% dead band foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues (+0.5 M€2009) is therefore fully retained by the main ATSP.					
According to STATFOR February 2018 <u>base</u> TSU scenario, the en-route TSUs for Belgium & Luxembourg charging zone are expected to slightly exceed the upper limit of the ±2% dead-band in 2019, but remain within the +10% threshold foreseen in the traffic risk sharing mechanism.					
En-route costs					
In nominal terms, actual en-route costs are +0.6% (+1.1 M€) higher than planned. However, since the actual inflation index is also above the plan (+1.1 p.p.), actual en-route costs are -0.3% (-0.5 M€2009) below plans when expressed in real terms.					
The lower than planned en-route costs in real terms are primarily driven by lower costs for Belgocontrol (-0.3%, or -0.3 M€2009) and the NSA/EUROCONTROL (-9.7%, or -1.2 M€2009). On the other hand, the combined costs for the other ANSPs are higher than planned (+1.3%, or +0.6 M€2009), due to higher than planned costs in real terms for MUAC (+2.6%) and lower than planned costs for ANA Luxembourg (-3.2%). It is noted that the costs for Belgocontrol, due to the higher than planned inflation index, are above the plans when expressed in nominal terms (+0.7%, or +0.7 M€). A detailed analysis at the level of the main ATSP (Belgocontrol) is provided in box 12.					
For MUAC, the higher than planned actual en-route costs in real terms (+2.6%, or +1.1 M€2009) mostly reflect a combination of higher staff costs (+2.5%, or +0.9 M€2009) and higher other operating costs (+14.6%, or +0.9 M€2009), which were mostly explained by the allocation of support costs cost and pension tax compensation costs to MUAC (Part IV of EUROCONTROL costs). These were slightly compensated by lower depreciation costs (-18.4%, or -0.5 M€2009) and lower cost of capital (-69.6%, or -0.1 M€2009).					
Costs exempt from cost-sharing are reported for a total amount of +1.6 M€2009 comprising unforeseen changes in costs or revenues stemming from international agreements (+2.6 M€2009) and the variation in EUROCONTROL costs (-1.0 M€2009). These costs will be eligible for carry-over (charged to airspace users) to the following reference period(s), if deemed allowed by the European Commission.					



BELGIUM & LUXEMBOURG: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) **5. En-route costs monitoring (2017 actuals compared to PP)**

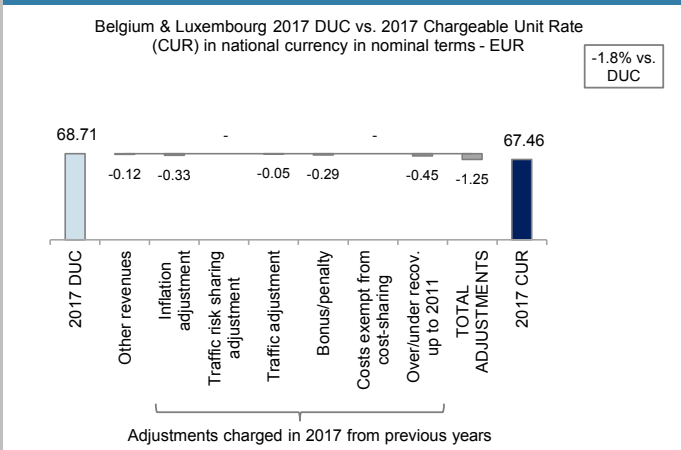


6. En-route costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	-129	1 398	1 622		
by entity	ATSP	0	0	0		
	Other ANSP	0	2 157	2 643		
	METSP	0	0	0		
	NSA/EUROCONTROL	-129	-759	-1 021		
Total costs exempt from cost sharing		-129	1 398	1 622		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

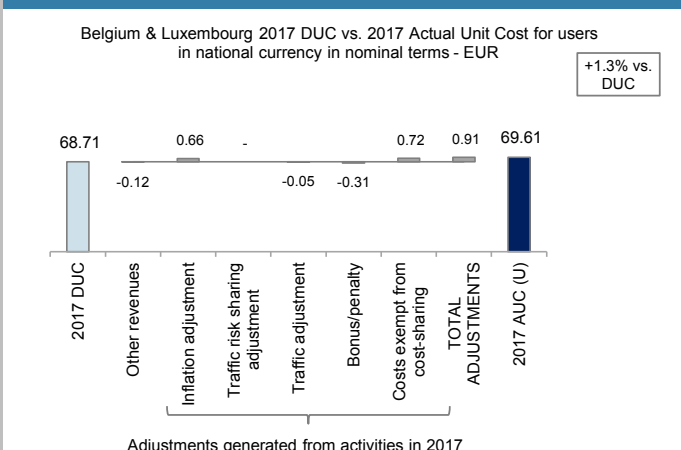
7. En-route DUC 2017 vs. 2017 Unit Rate charged to users



The en-route unit rate charged to airspace users (CUR) in 2017 is 67.46 €. This is -1.8% lower than the nominal DUC (68.71 €). The difference between these two figures (-1.25 €) mainly relates to the over-recovery generated in 2015 due to temporary application of a higher unit rate and reimbursed to users through the 2016 and 2017 unit rates (-0.45 €, for practical reasons reported as "over/under recov. up to 2011" in the chart), the inflation adjustment (-0.33 €), reflecting the impact of lower than planned inflation index in 2015, and a penalty (-0.29 €) reflecting an impact of FABEC FAB en-route capacity target incentive scheme applied to Belgocontrol and MUAC in 2015. Furthermore, it is noted that the adjustment to other revenues (-0.12 €) reflects the combination of the following elements: a government subsidy received by ANA Luxembourg to finance certain costs (i.e. depreciation costs, cost of capital, and the costs related to the electrical engineering department (ELE)) and the reimbursement of part of TEN-T funds made by Belgocontrol and MUAC in 2016 (recorded as negative revenues).

These costs and adjustments are divided by the forecast TSUs for 2017 as laid out in the performance plan.

8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users



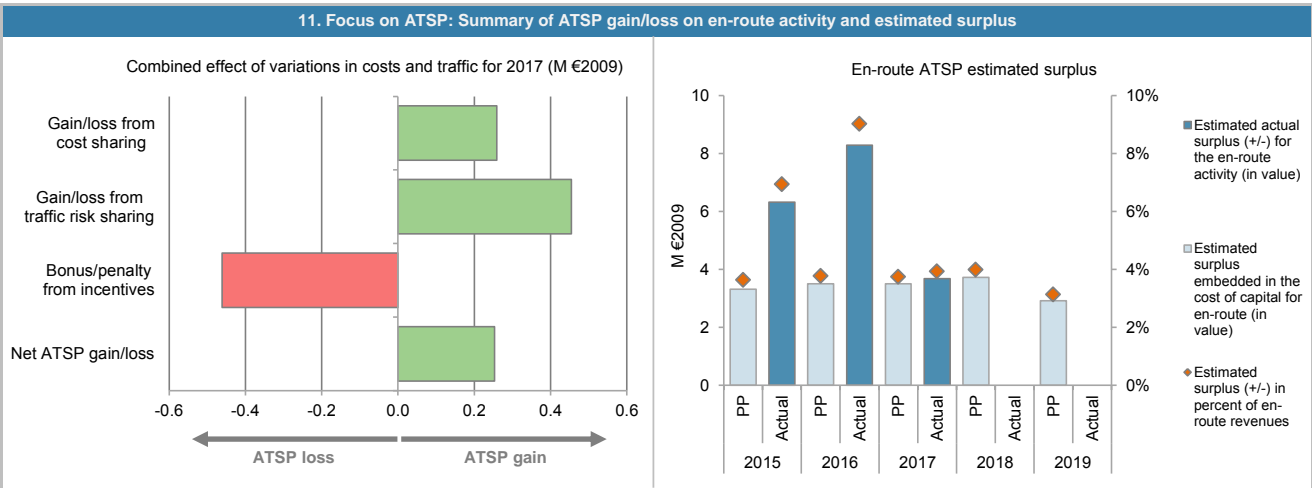
The actual en-route unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (69.61 €) is +1.3% higher than the nominal DUC (68.71 €). The most important factors contributing to the observed difference (+0.91 €) are: the adjustment for costs exempt from cost-sharing (+0.72 €) and the inflation adjustment (+0.66 €), reflecting the impact of higher than planned inflation index in 2017. These adjustments are slightly compensated by the adjustment for penalty (-0.31 €) which reflects the impact of FABEC FAB en-route capacity target incentive scheme applied to Belgocontrol and MUAC in 2017, see also **Note 1** at the end of this Report.

These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TSUs in 2017.

BELGIUM: En-route ATSP (Belgocontrol)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	91 079	92 659	93 716		
Actual costs for the ATSP	88 088	87 035	93 457		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	2 992	5 624	259		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	2 992	5 624	259		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	0.6%	-0.4%	0.5%		
Determined costs for the ATSP (PP) - based on actual inflation	84 792	85 734	85 937		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	493	-342	455		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	-456	-448	-461		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	3 028	4 834	253		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	78 793	77 836	72 977	72 740	73 449
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	78 793	77 836	72 977	72 740	73 449
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	3 310	3 496	3 502	3 719	2 908
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	4.2%	4.5%	4.8%	5.1%	4.0%
Estimated surplus embedded in the cost of capital for en-route (in value)	3 310	3 496	3 502	3 719	2 908
Overall estimated surplus (+/-) for the en-route activity	3 310	3 496	3 502	3 719	2 908
Revenue/costs for the en-route activity	91 079	92 659	93 716	93 306	92 857
Estimated surplus (+/-) in percent of en-route revenues	3.6%	3.8%	3.7%	4.0%	3.1%
Estimated ex-ante RoE pre-tax rate (in %)	4.2%	4.5%	4.8%	5.1%	4.0%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	78 273	76 819	71 415		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	78 273	76 819	71 415		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	3 288	3 450	3 427		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	4.2%	4.5%	4.8%		
Estimated surplus embedded in the cost of capital for en-route (in value)	3 288	3 450	3 427		
Net ATSP gain(+)/loss(-) on en-route activity	3 028	4 834	253		
Overall estimated surplus (+/-) for the en-route activity	6 317	8 284	3 680		
Revenue/costs for the en-route activity	91 116	91 869	93 710		
Estimated surplus (+/-) in percent of en-route revenues	6.9%	9.0%	3.9%		
Estimated ex-post RoE pre-tax rate (in %)	8.1%	10.8%	5.2%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 Belgocontrol en-route costs vs. PP

In 2017, Belgocontrol actual en-route costs are -0.3% (-0.3 M€2009) lower, in real terms, than planned in the PP. However, this is mainly due to the higher than planned inflation index (+1.1 p.p.), as actual en-route costs are slightly higher than planned in nominal terms (+0.7%, or +0.7 M€). According to the additional information to June 2018 en-route Reporting Tables, this results from a combination of:

- lower staff costs (-7.2%, or -5.1 M€2009), mainly driven by delays in the recruitment process, in particular for 2015 and 2016;
- much higher than planned other operating costs (+70.5%, or +6.7 M€2009), primarily explained by "increases in costs for temporary reinforcement of staff, for project management and transformation";
- lower depreciation costs (-18.2%, or -1.8 M€2009), resulting from delays in the investment programme during the first years of RP2. However, additional effort is being made to catch up with the under-investments in the previous years. In fact, based on the information provided in the FABEC FAB Monitoring Report 2017, the actual capex for 2017, in nominal terms, is much higher (+59.7%) than planned in PP; and,
- lower cost of capital (-2.1%, or -0.1 M€2009), which, since Belgocontrol is entirely financed through equity, is driven by lower than planned en-route asset base in real terms (-2.1%, or -1.6 M€2009).

Belgocontrol net gain/loss on en-route activity in 2017

As shown in box 9, Belgocontrol generated a net gain of +0.3 M€2009 on the en-route activity in 2017. This is a combination of three elements:

- a gain of +0.3 M€2009 arising from the cost sharing mechanism;
- a gain of +0.5 M€2009 arising from the traffic risk sharing mechanism; and,
- a loss of -0.5 M€2009, corresponding to a penalty for Belgocontrol as part of the en-route capacity target incentive mechanism. This amount corresponds to 0.5% of Belgocontrol en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this penalty in the chargeable cost base will be examined by the European Commission. See also **Note 1** at the end of this Report.

Belgocontrol overall estimated surplus for the en-route activity in 2017

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+0.3 M€2009) and the surplus embedded in the actual cost of capital (+3.4 M€2009) amounts to +3.7 M€2009 (3.9% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 5.2%, which is higher than the 4.8% planned in the PP for 2017.

BELGIUM ANTWERPEN: Terminal charging zone

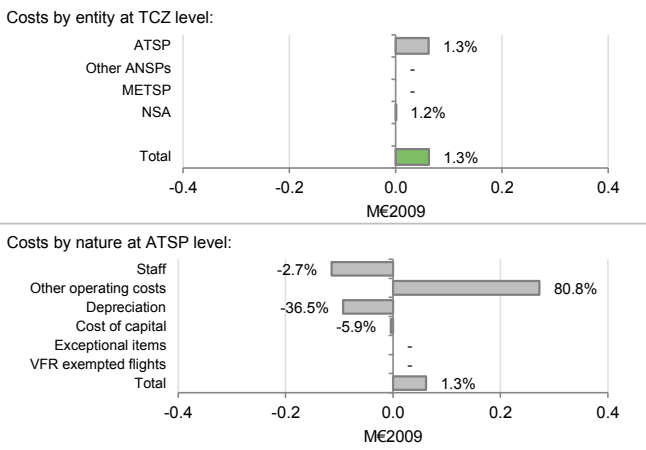
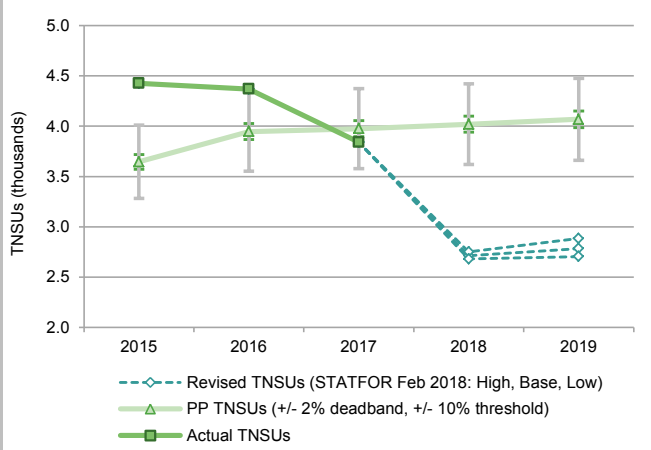
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Belgium Antwerpen TCZ represents 0.5% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		No	
· ATSP: Belgocontrol		· Airports with fewer than 70,000 IFRs ATMs:		1	
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		0	
· Number of airports in charging zone in 2017: 1,		of which:		· Airports with more than 225,000 IFRs ATMs: 0	
2. Terminal DUC monitoring at Charging Zone level					
Belgium Antwerpen: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	5 402 889	5 506 774	5 653 055	5 832 191	6 229 428
Inflation %	1.1%	1.2%	1.3%	1.4%	1.4%
Inflation index (100 in 2009)	111.62	112.95	114.44	116.00	117.60
Real terminal costs (EUR2009)	4 840 371	4 875 519	4 939 875	5 027 781	5 297 129
Total terminal Service Units	3 646	3 947	3 976	4 021	4 068
Real terminal unit cost per Service Unit (EUR2009)	1 327.71	1 235.18	1 242.50	1 250.51	1 302.00
Belgium Antwerpen: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	4 696 338	5 252 264	5 779 744		
Inflation %	0.6%	1.8%	2.2%		
Inflation index (100 in 2009)	111.1	113.1	115.5		
Real terminal costs (EUR2009)	4 228 962	4 645 937	5 002 469		
Total terminal Service Units	4 426	4 371	3 841		
Real terminal unit cost per Service Unit (EUR2009)	955.43	1 062.99	1 302.49		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	-706 552	-254 510	126 689		
	in %				
	-13.1%	-4.6%	2.2%		
Inflation %	-0.5 p.p.	0.6 p.p.	0.9 p.p.		
	in p.p.				
Inflation index (100 in 2009)	-0.6 p.p.	0.1 p.p.	1.1 p.p.		
	in p.p.				
Real terminal costs (EUR2009)	-611 409	-229 582	62 595		
	in %				
	-12.6%	-4.7%	1.3%		
Total terminal Service Units	781	423	-135		
	in value				
	21.4%	10.7%	-3.4%		
	in %				
Real terminal unit cost per Service Unit (EUR2009)	-372.28	-172.19	59.99		
	in value				
	-28.0%	-13.9%	4.8%		
	in %				
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Belgium Antwerpen Terminal Charging Zone (TCZ) comprising Antwerpen airport (EBAW). In this TCZ the financing of terminal ANS activities in 2017 is fully subsidised by the State or regional authorities, no unit rate is charged to the airspace users. See also Note 2 at the end of this Report.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (1 302.49 €2009) is +4.8% higher than planned in the PP (1 242.50 €2009). This difference results from the combination of lower than planned TNSUs (-3.4%) and higher than planned terminal costs in real terms (+1.3%, or +0.1 M€2009).</p> <p>In terms of corrective measures, the FABEC FAB 2017 Monitoring Report indicates that "the underlying reason for the higher actual unit cost, is that actual traffic is 3,4% lower than the planned traffic in the performance scheme".</p> <p>Terminal service units The actual TNSUs are -3.4% below plans. The number of TNSUs planned for the 2018-2019 period in the RP2 PP is significantly above any of the STATFOR February 2018 TNSU growth scenarios. However, it is noted, that STATFOR forecast only includes IFR flights while, as indicated in the additional information to June 2018 terminal Reporting Tables, from 2014 onwards Belgium includes TNSUs from both IFR and VFR flights in the calculation and reporting.</p> <p>Terminal costs In nominal terms, actual terminal costs are +2.2% (+0.1 M€) higher than planned. Since the actual inflation index is also above the plan (+1.1 p.p.), actual terminal costs are +1.3% (+0.1 M€2009) higher than planned when expressed in real terms.</p> <p>The higher than planned terminal costs in real terms are driven by higher than planned costs for all the reporting entities: Belgocontrol (+1.3%, or +0.1 M€2009) and NSA (+1.2%). A detailed analysis at ATSP level is provided in box 9.</p> <p>No costs exempt from cost sharing are reported for Antwerpen TCZ.</p>					

BELGIUM ANTWERPEN: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)



6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

Analysis not applicable, terminal ANS in Antwerpen TCZ was free of charge for the airspace users since terminal ANS costs were 100% subsidised by the State or regional authorities in 2017. See also **Note 2** at the end of this Report.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users

Analysis not applicable, terminal ANS in Antwerpen TCZ was free of charge for the airspace users since terminal ANS costs were 100% subsidised by the State or regional authorities in 2017. See also **Note 2** at the end of this Report.

9. Focus on terminal ATSP: General conclusions *see Note 2

Actual 2017 Belgocontrol terminal costs in the TCZ vs. PP

Belgocontrol actual terminal costs in Antwerpen TCZ are +1.3% (+0.1 M€2009) higher, in real terms, than planned in the PP. According to the additional information to June 2018 terminal reporting tables, this results from the combination of:

- lower staff costs (-2.7%, or -0.1 M€2009), mainly driven by delays in the recruitment process during the period 2015-2016;
- significantly higher other operating costs (+80.8%, or +0.3 M€2009), primarily explained by "increases in costs for temporary reinforcement of staff, for project management and transformation";
- lower depreciation costs (-36.5%, or -0.1 M€2009), resulting from delays in the investment programme; and,
- a slightly lower cost of capital (-5.9%, or -0.004 M€2009).

No description of the main drivers for the deviation between actual and determined costs is provided individually for each TCZ in the FABEC FAB 2017 Monitoring Report whereas only a consolidated description for the variation in costs for Belgocontrol, aggregating all five TCZs, is reported in the additional information to June 2018 terminal Reporting Tables.

BELGIUM BRUSSELS: Terminal charging zone

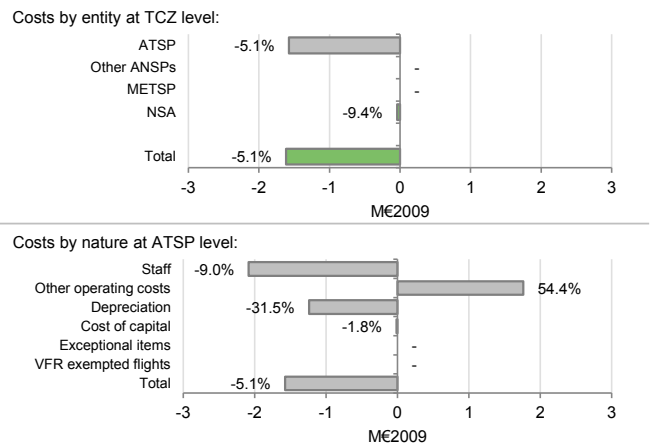
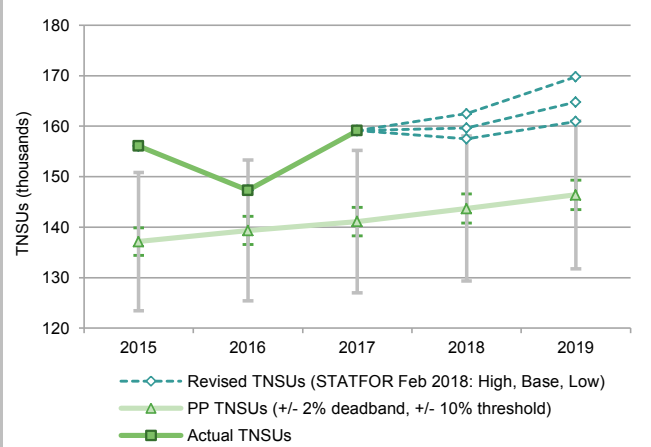
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services						
· Belgium Brussels TCZ represents 2.9% of the SES terminal ANS determined costs in 2017					· Is this TCZ applying traffic risk sharing?	No
· ATSP: Belgocontrol					· Airports with fewer than 70,000 IFRs ATMs:	0
· National currency: EUR					· Airports with between 70,000 and 225,000 IFRs ATMs:	1
· Number of airports in charging zone in 2017: 1,	of which:				· Airports with more than 225,000 IFRs ATMs:	0
2. Terminal DUC monitoring at Charging Zone level						
Belgium Brussels: Data from RP2 Performance Plan	2015D	2016D	2017D	2018D	2019D	
Terminal costs (nominal EUR)	34 001 220	35 029 505	35 994 691	36 596 159	36 991 971	
Inflation %	1.1%	1.2%	1.3%	1.4%	1.4%	
Inflation index (100 in 2009)	111.62	112.95	114.44	116.00	117.60	
Real terminal costs (EUR2009)	30 461 207	31 013 987	31 453 658	31 548 606	31 455 737	
Total terminal Service Units	137 140	139 355	141 121	143 691	146 408	
Real terminal unit cost per Service Unit (EUR2009)	222.12	222.55	222.88	219.56	214.85	
Belgium Brussels: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
Terminal costs (nominal EUR)	32 935 259	33 777 305	34 475 149			
Inflation %	0.60%	1.8%	2.2%			
Inflation index (100 in 2009)	111.1	113.1	115.5			
Real terminal costs (EUR2009)	29 657 572	29 878 014	29 838 843			
Total terminal Service Units	156 085	147 297	159 108			
Real terminal unit cost per Service Unit (EUR2009)	190.01	202.84	187.54			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
Terminal costs (nominal EUR)	in value	-1 065 961	-1 252 200	-1 519 542		
	in %	-3.1%	-3.6%	-4.2%		
Inflation %	in p.p.	-0.5 p.p.	0.6 p.p.	0.9 p.p.		
Inflation index (100 in 2009)	in p.p.	-0.6 p.p.	0.1 p.p.	1.1 p.p.		
Real terminal costs (EUR2009)	in value	-803 635	-1 135 973	-1 614 814		
	in %	-2.6%	-3.7%	-5.1%		
Total terminal Service Units	in value	18 945	7 942	17 988		
	in %	13.8%	5.7%	12.7%		
Real terminal unit cost per Service Unit (EUR2009)	in value	-32.11	-19.71	-35.35		
	in %	-14.5%	-8.9%	-15.9%		
3. Focus on terminal at State/Charging Zone level						
<p>This analysis focuses on Belgium Brussels Terminal Charging Zone (TCZ) which comprises Brussels airport (EBBR). In this TCZ the costs for terminal ANS activities in 2017 were partly (25%) subsidised by the State or regional authorities. See also Note 2 at the end of this Report.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (187.54 €2009) is -15.9% lower than planned in the PP (222.88 €2009). This difference results from the combination of much higher than planned TNSUs (+12.7%) and lower than planned terminal costs in real terms (-5.1%, or -1.6 M€2009).</p> <p>Terminal service units Traffic risk sharing does not apply in Brussels TCZ. The difference between actual and planned TNSUs (+12.7%) generates a gain of terminal revenues (+3.5 M€2009) which will be carried-over and reimbursed to the airspace users and to the State in 2019.</p> <p>It is noted that the TNSUs included in the RP2 PP are expected to remain below STATFOR February 2018 <u>base</u> TNSU growth scenario for the rest of RP2 (2018-2019). However, it is noted, that STATFOR forecast only includes IFR flights while, as indicated in the additional information to June 2018 terminal Reporting Tables, from 2014 onwards Belgium includes TNSUs from both IFR and VFR flights in the calculation and reporting.</p> <p>Terminal costs In nominal terms, actual terminal costs are -4.2% (-1.5 M€) lower than planned. Since the actual inflation index is above the plan (+1.1 p.p.), actual terminal costs are -5.1% (-1.6 M€2009) below plans when expressed in real terms.</p> <p>The lower than planned terminal costs in real terms are mostly driven by lower costs for Belgocontrol (-5.1%, or -1.6 M€2009) and, to a lesser extent, the NSA (-9.4% or -0.04 M€2009). A detailed analysis at ATSP level is provided in box 9.</p> <p>No costs exempt from cost sharing are reported for Brussels TCZ.</p>						
<p>Difference between actual and determined terminal costs (real terms)</p>						
<p>Difference between actual and planned terminal service units</p>						
<p>Terminal DUC (PP, 2015-2019) Terminal unit costs (actual)</p>						

BELGIUM BRUSSELS: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

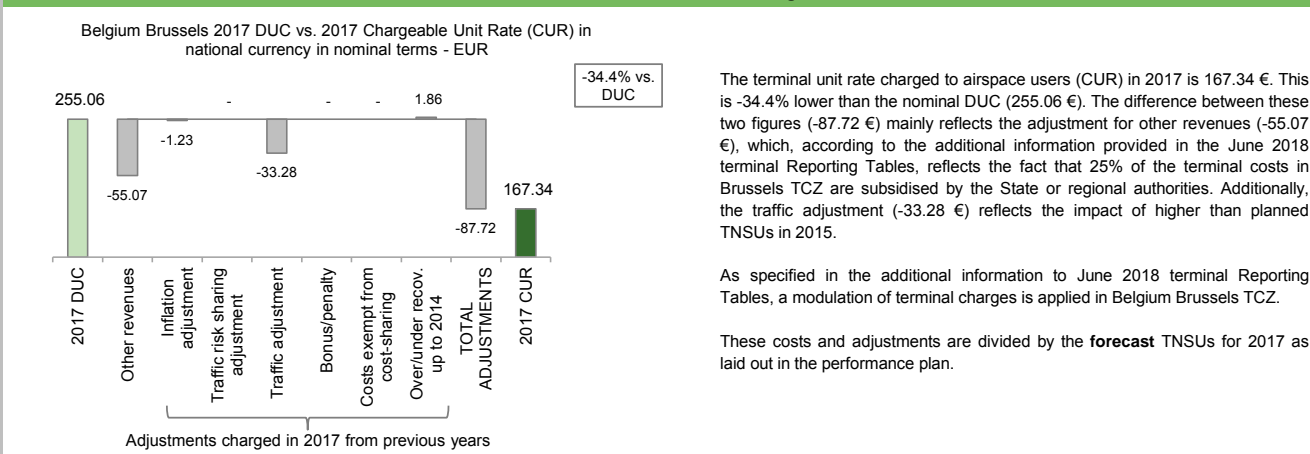


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

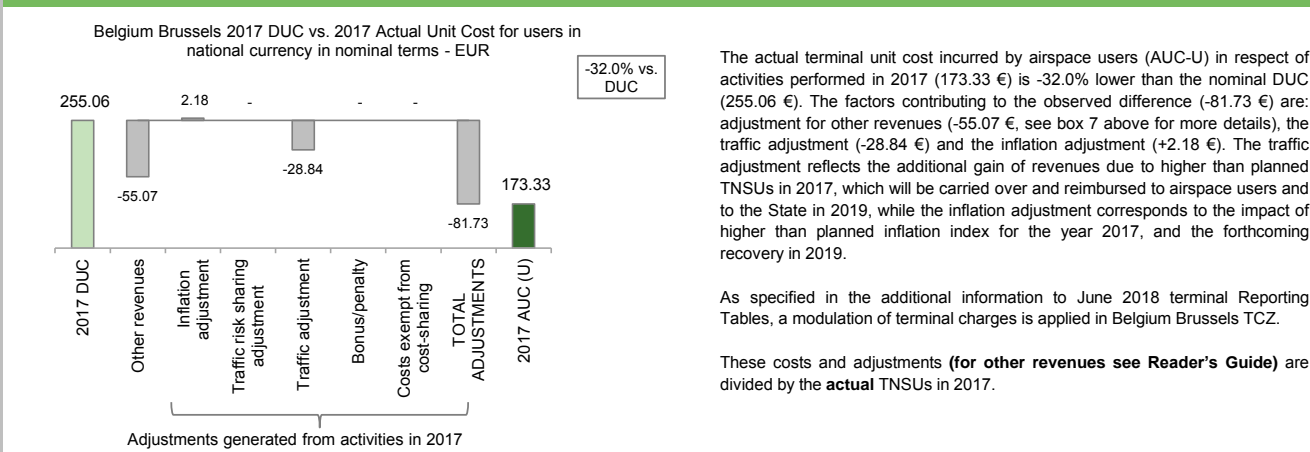


The terminal unit rate charged to airspace users (CUR) in 2017 is 167.34 €. This is -34.4% lower than the nominal DUC (255.06 €). The difference between these two figures (-87.72 €) mainly reflects the adjustment for other revenues (-55.07 €), which, according to the additional information provided in the June 2018 terminal Reporting Tables, reflects the fact that 25% of the terminal costs in Brussels TCZ are subsidised by the State or regional authorities. Additionally, the traffic adjustment (-33.28 €) reflects the impact of higher than planned TNSUs in 2015.

As specified in the additional information to June 2018 terminal Reporting Tables, a modulation of terminal charges is applied in Belgium Brussels TCZ.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual terminal unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (173.33 €) is -32.0% lower than the nominal DUC (255.06 €). The factors contributing to the observed difference (-81.73 €) are: adjustment for other revenues (-55.07 €, see box 7 above for more details), the traffic adjustment (-28.84 €) and the inflation adjustment (+2.18 €). The traffic adjustment reflects the additional gain of revenues due to higher than planned TNSUs in 2017, which will be carried over and reimbursed to airspace users and to the State in 2019, while the inflation adjustment corresponds to the impact of higher than planned inflation index for the year 2017, and the forthcoming recovery in 2019.

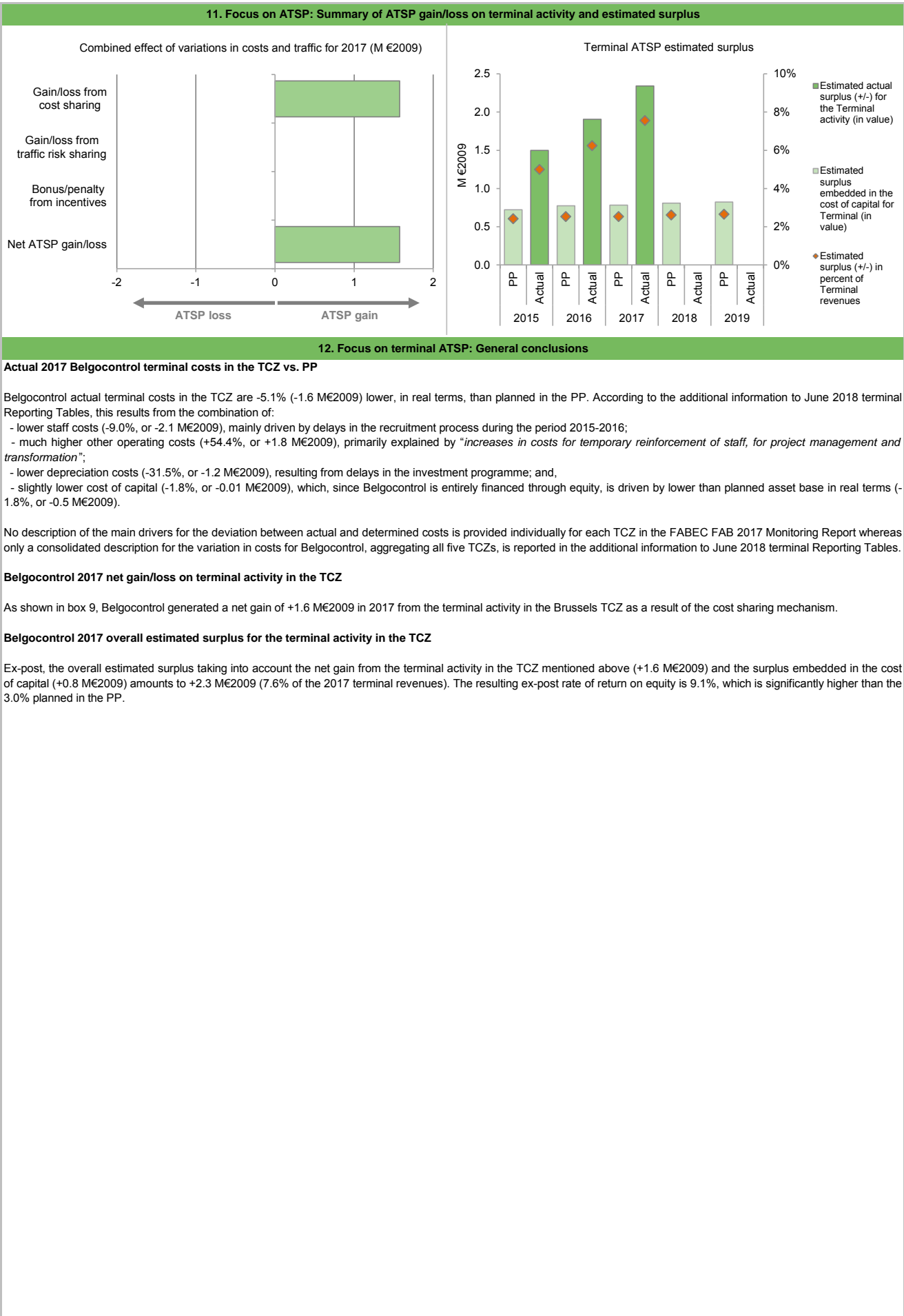
As specified in the additional information to June 2018 terminal Reporting Tables, a modulation of terminal charges is applied in Belgium Brussels TCZ.

These costs and adjustments (**for other revenues see Reader's Guide**) are divided by the **actual** TNSUs in 2017.

Terminal ATSP (Belgocontrol) Belgium Brussels

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	30 031	30 581	31 019		
Actual costs for the ATSP	29 253	29 442	29 445		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	778	1 140	1 574		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	778	1 140	1 574		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	778	1 140	1 574		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	27 816	27 594	26 078	26 092	26 508
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	27 816	27 594	26 078	26 092	26 508
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	723	773	782	809	822
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	2.6%	2.8%	3.0%	3.1%	3.1%
Estimated surplus embedded in the cost of capital for terminal (in value)	723	773	782	809	822
Overall estimated surplus (+/-) for the terminal activity	723	773	782	809	822
Revenue/costs for the terminal activity	30 031	30 581	31 019	31 109	31 014
Estimated surplus (+/-) in percent of terminal revenues	2.4%	2.5%	2.5%	2.6%	2.6%
Estimated ex-ante RoE pre-tax rate (in %)	2.6%	2.8%	3.0%	3.1%	3.1%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	27 734	27 340	25 613		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	27 734	27 340	25 613		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	721	766	768		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	2.6%	2.8%	3.0%		
Estimated surplus embedded in the cost of capital for terminal (in value)	721	766	768		
Net ATSP gain(+)/loss(-) on terminal activity	778	1 140	1 574		
Overall estimated surplus (+/-) for the terminal activity	1 499	1 905	2 342		
Revenue/costs for the terminal activity	30 031	30 581	31 019		
Estimated surplus (+/-) in percent of terminal revenues	5.0%	6.2%	7.6%		
Estimated ex-post RoE pre-tax rate (in %)	5.4%	7.0%	9.1%		



BELGIUM CHARLEROI: Terminal charging zone

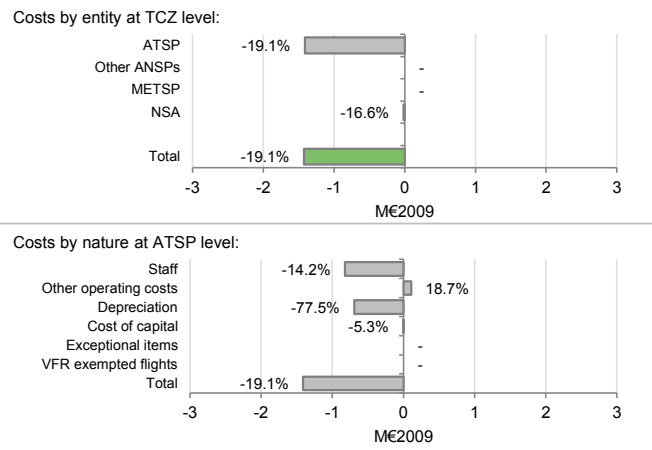
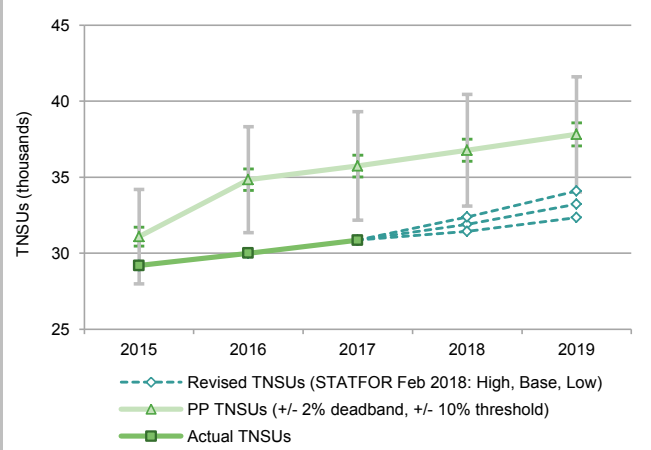
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Belgium Charleroi TCZ represents 0.7% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		No	
· ATSP: Belgocontrol		· Airports with fewer than 70,000 IFRs ATMs:		1	
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		0	
· Number of airports in charging zone in 2017: 1,		of which:		· Airports with more than 225,000 IFRs ATMs: 0	
2. Terminal DUC monitoring at Charging Zone level					
Belgium Charleroi: Data from RP2 Performance Plan					
Terminal costs (nominal EUR)	2015D	2016D	2017D	2018D	2019D
Inflation %	7 475 595	8 108 922	8 546 450	8 819 991	8 607 741
Inflation index (100 in 2009)	1.1%	1.2%	1.3%	1.4%	1.4%
Real terminal costs (EUR2009)	111.6	112.9	114.4	116.0	117.6
Total terminal Service Units	6 697 279	7 179 377	7 468 243	7 603 488	7 319 503
Real terminal unit cost per Service Unit (EUR2009)	215.41	206.07	208.96	206.75	193.53
Belgium Charleroi: Actual data from Reporting Tables					
Terminal costs (nominal EUR)	2015A	2016A	2017A	2018A	2019A
Inflation %	3 773 554	6 672 780	6 980 477		
Inflation index (100 in 2009)	0.6%	1.8%	2.2%		
Real terminal costs (EUR2009)	111.1	113.1	115.5		
Total terminal Service Units	3 398 013	5 902 467	6 041 725		
Real terminal unit cost per Service Unit (EUR2009)	116.40	196.71	195.76		
Difference between Actuals and Planned					
Terminal costs (nominal EUR)	2015	2016	2017	2018	2019
Inflation %	-3 702 041	-1 436 142	-1 565 973		
Real terminal costs (EUR2009)	-49.3%	-17.7%	-18.3%		
Total terminal Service Units	-0.5 p.p.	0.6 p.p.	0.9 p.p.		
Real terminal unit cost per Service Unit (EUR2009)	-99.01	-9.36	-13.20		
	-46.0%	-4.5%	-6.3%		
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Belgium Charleroi Terminal Charging Zone (TCZ) comprising Charleroi airport (EBCI). In this TCZ the financing of terminal ANS activities in 2017 is fully subsidised by the State or regional authorities, no unit rate is charged to the airspace users. See also Note 2 at the end of this Report.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (195.76 €2009) is -6.3% lower than planned in the PP (208.96 €2009). This difference results from the combination of lower than planned TNSUs (-13.6%) and significantly lower than planned terminal costs in real terms (-19.1%, or -1.4 M€2009).</p> <p>Terminal service units The actual TNSUs are -13.6% lower than planned. The number of TNSUs planned for the 2018-2019 period is well above the STATFOR February 2018 <u>base</u> TNSU growth scenario. However, it is noted, that STATFOR forecast only includes IFR flights while, as indicated in the additional information to June 2018 terminal reporting tables, from 2014 onwards Belgium includes TNSUs from both IFR and VFR flights in the calculation and reporting.</p> <p>Terminal costs In nominal terms, actual terminal costs are -18.3% (-1.6 M€) lower than planned. Since the actual inflation index is above the plan (+1.1 p.p.), actual terminal costs are -19.1% (-1.4 M€2009) below plans when expressed in real terms.</p> <p>The lower than planned terminal costs in real terms are driven by lower than planned costs across all entities: Belgocontrol (-19.1%, or -1.4 M€2009) and the NSA (-16.6%, or -0.02 M€2009). A detailed analysis at ATSP level is provided in box 9.</p> <p>No costs exempt from cost sharing are reported for Charleroi TCZ.</p>					

BELGIUM CHARLEROI: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)



6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

Analysis not applicable, terminal ANS in Charleroi TCZ was free of charge for the airspace users since terminal ANS costs were 100% subsidised by the State or regional authorities in 2017. See also **Note 2** at the end of this Report.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users

Analysis not applicable, terminal ANS in Charleroi TCZ was free of charge for the airspace users since terminal ANS costs were 100% subsidised by the State or regional authorities in 2017. See also **Note 2** at the end of this Report.

9. Focus on terminal ATSP: General conclusions *see Note 2

Actual 2017 Belgocontrol terminal costs in the TCZ vs. PP

Belgocontrol actual terminal costs in Charleroi TCZ are -19.1% (-1.4 M€2009) lower, in real terms, than planned in the PP. According to the additional information to June 2018 terminal Reporting Tables, this results from the combination of:

- lower staff costs (-14.2%, or -0.8 M€2009), mainly driven by delays in the recruitment process during the period 2015-2016;
- higher other operating costs (+18.4%, or +0.1 M€2009), primarily explained by "increases in costs for temporary reinforcement of staff, for project management and transformation";
- much lower depreciation costs (-77.5%, or -0.7 M€2009), resulting from delays in the investment programme; and,
- a slightly lower cost of capital (-5.3%, or -0.01 M€2009), which, since Belgocontrol is entirely financed through equity, is driven by lower than planned asset base in real terms (-5.3%, or -0.2 M€2009).

No description of the main drivers for the deviation between actual and determined costs is provided individually for each TCZ in the FABEC FAB 2017 Monitoring Report whereas only a consolidated description for the variation in costs for Belgocontrol, aggregating all five TCZs, is reported in the additional information to June 2018 terminal Reporting Tables.

BELGIUM LIEGE: Terminal charging zone

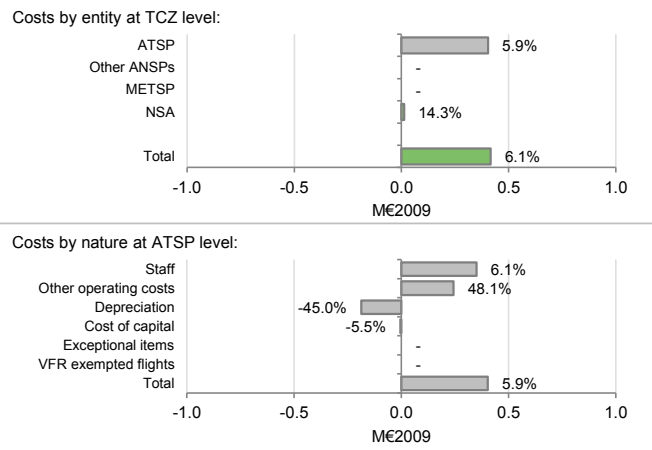
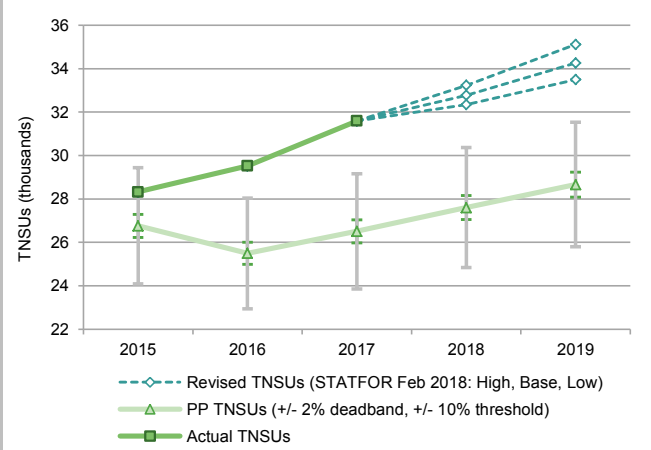
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Belgium Liege TCZ represents 0.6% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		No	
· ATSP: Belgocontrol		· Airports with fewer than 70,000 IFRs ATMs:		1	
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		0	
· Number of airports in charging zone in 2017: 1,		of which:		· Airports with more than 225,000 IFRs ATMs: 0	
2. Terminal DUC monitoring at Charging Zone level					
Belgium Liege: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	7 177 907	7 486 635	7 872 765	8 073 493	7 955 035
Inflation %	1.1%	1.2%	1.3%	1.4%	1.4%
Inflation index (100 in 2009)	111.6	112.9	114.4	116.0	117.6
Real terminal costs (EUR2009)	6 430 584	6 628 424	6 879 549	6 959 950	6 764 481
Total terminal Service Units	26 760	25 496	26 508	27 602	28 662
Real terminal unit cost per Service Unit (EUR2009)	240.31	259.98	259.53	252.16	236.00
Belgium Liege: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	6 824 573	7 156 500	8 429 664		
Inflation %	0.6%	1.8%	2.2%		
Inflation index (100 in 2009)	111.1	113.1	115.5		
Real terminal costs (EUR2009)	6 145 398	6 330 345	7 296 022		
Total terminal Service Units	28 322	29 517	31 590		
Real terminal unit cost per Service Unit (EUR2009)	216.99	214.46	230.96		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	in value -353 334	in value -330 135	in value 556 899		
	in % -4.9%	in % -4.4%	in % 7.1%		
Inflation %	in p.p. -0.5 p.p.	in p.p. 0.6 p.p.	in p.p. 0.9 p.p.		
Inflation index (100 in 2009)	in p.p. -0.6 p.p.	in p.p. 0.1 p.p.	in p.p. 1.1 p.p.		
Real terminal costs (EUR2009)	in value -285 186	in value -298 078	in value 416 472		
	in % -4.4%	in % -4.5%	in % 6.1%		
Total terminal Service Units	in value 1 562	in value 4 022	in value 5 083		
	in % 5.8%	in % 15.8%	in % 19.2%		
Real terminal unit cost per Service Unit (EUR2009)	in value -23.32	in value -45.52	in value -28.57		
	in % -9.7%	in % -17.5%	in % -11.0%		
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Belgium Liège Terminal Charging Zone (TCZ) comprising Liège airport (EBLG). In this TCZ the financing of terminal ANS activities in 2017 is fully subsidised by the State or regional authorities, no unit rate is charged to the airspace users. See also Note 2 at the end of this Report.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (230.96 €2009) is -11.0% lower than planned in the PP (259.53 €2009). This difference results from the combination of significantly higher than planned TNSUs (+19.2%) and higher than planned terminal costs in real terms (+6.1%, or +0.4 M€2009).</p> <p>Terminal service units The actual TNSUs are +19.2% higher than planned. The number of TNSUs planned for the 2018-2019 period is well below the STATFOR February 2018 <u>base</u> TNSU growth scenario. However, it is noted, that STATFOR forecast only includes IFR flights while, as indicated in the additional information to June 2018 terminal reporting tables, from 2014 onwards Belgium includes TNSUs from both IFR and VFR flights in the calculation and reporting.</p> <p>Terminal costs In nominal terms, actual terminal costs are +7.1% (+0.6 M€) higher than planned. Since the actual inflation index is also above the plan (+1.1 p.p.), actual terminal costs are +6.1% (+0.4 M€2009) above plans when expressed in real terms.</p> <p>The higher than planned terminal costs in real terms are driven by higher costs across all entities: Belgocontrol (+5.9%, or +0.4 M€2009) and the NSA (+14.3%, or +0.01 M€2009). A detailed analysis at ATSP level is provided in box 9.</p> <p>No costs exempt from cost sharing are reported for Liège TCZ.</p>					

BELGIUM LIEGE: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)



6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

Analysis not applicable, terminal ANS in Liège TCZ was free of charge for the airspace users since terminal ANS costs were 100% subsidised by the State or regional authorities in 2017. See also **Note 2** at the end of this Report.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users

Analysis not applicable, terminal ANS in Liège TCZ was free of charge for the airspace users since terminal ANS costs were 100% subsidised by the State or regional authorities in 2017. See also **Note 2** at the end of this Report.

9. Focus on terminal ATSP: General conclusions *see Note 2

Actual 2017 Belgocontrol terminal costs in the TCZ vs. PP

Belgocontrol actual terminal costs in Liège TCZ are +5.9% (+0.4 M€2009) higher, in real terms, than planned in the PP. According to the additional information to June 2018 terminal Reporting Tables, this results from the combination of:

- higher staff costs (+6.1%, or +0.4 M€2009);
- higher other operating costs (+48.1%, or +0.2 M€2009), primarily explained by "increases in costs for temporary reinforcement of staff, for project management and transformation";
- lower depreciation costs (-45.0%, or -0.2 M€2009), resulting from delays in the investment programme; and,
- a slightly lower cost of capital (-5.5%, or -0.004 M€2009), which, since Belgocontrol is entirely financed through equity, is driven by lower than planned asset base in real terms (-5.5%, or -0.1 M€2009).

No description of the main drivers for the deviation between actual and determined costs is provided individually for each TCZ in the FABEC FAB 2017 Monitoring Report whereas only a consolidated description for the variation in costs for Belgocontrol, aggregating all five TCZs, is reported in the additional information to June 2018 terminal Reporting Tables.

It is noted that according to the FABEC FAB 2017 Monitoring Report, a bonus of 20 '000 €2009 (or 23 '000 € in nominal terms) is reported for Belgocontrol in 2017 for achieving the local terminal capacity target in Liège TCZ. However, since the terminal ANS activity in this TCZ is fully subsidised by the State or regional authorities, this bonus will have no impact on the airspace users.

BELGIUM OOSTENDE-BRUGGE: Terminal charging zone

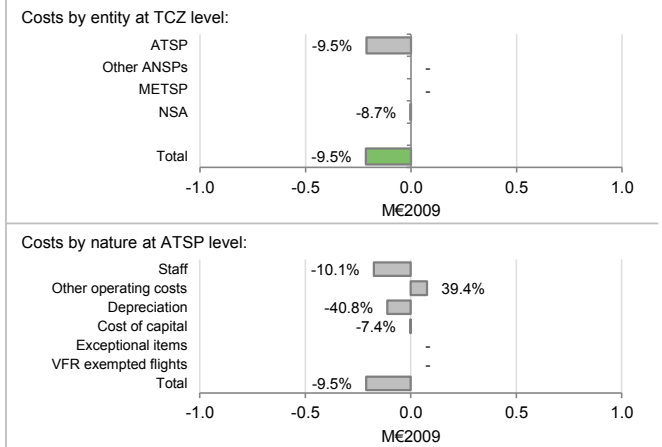
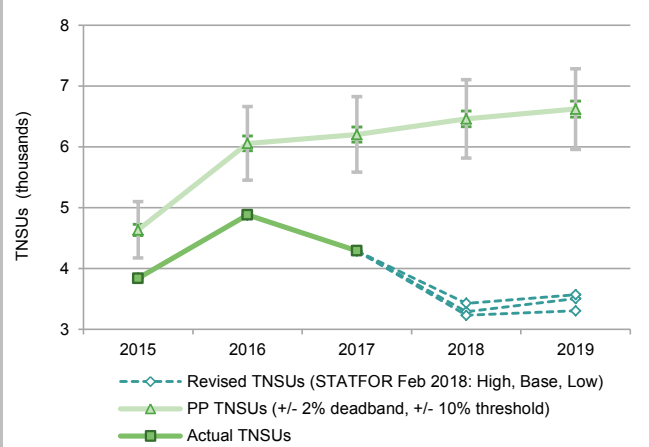
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Belgium Oostende-Brugge TCZ represents 0.2% of the SES terminal ANS determined costs in			· Is this TCZ applying traffic risk sharing?		No
· ATSP: Belgocontrol			· Airports with fewer than 70,000 IFRs ATMs:		1
· National currency: EUR			· Airports with between 70,000 and 225,000 IFRs ATMs:		0
· Number of airports in charging zone in 2017: 1,			· Airports with more than 225,000 IFRs ATMs:		0
2. Terminal DUC monitoring at Charging Zone level					
Belgium Oostende-Brugge: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	2 321 852	2 410 573	2 573 002	2 579 116	2 591 757
Inflation %	1.1%	1.2%	1.3%	1.4%	1.4%
Inflation index (100 in 2009)	111.6	112.9	114.4	116.0	117.6
Real terminal costs (EUR2009)	2 080 114	2 134 243	2 248 396	2 223 390	2 203 873
Total terminal Service Units	4 635	6 057	6 204	6 459	6 621
Real terminal unit costs per Service Unit (EUR2009)	448.80	352.35	362.44	344.24	332.84
Belgium Oostende-Brugge: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	2 146 088	2 326 728	2 351 008		
Inflation %	0.6%	1.8%	2.2%		
Inflation index (100 in 2009)	111.1	113.1	115.5		
Real terminal costs (EUR2009)	1 932 511	2 058 128	2 034 839		
Total terminal Service Units	3 838	4 883	4 292		
Real terminal unit cost per Service Unit (EUR2009)	503.57	421.50	474.14		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	-175 764	-83 845	-221 994		
	in %				
	-7.6%	-3.5%	-8.6%		
Inflation %	-0.5 p.p.	0.6 p.p.	0.9 p.p.		
	in p.p.				
Inflation index (100 in 2009)	-0.6 p.p.	0.1 p.p.	1.1 p.p.		
	in p.p.				
Real terminal costs (EUR2009)	-147 603	-76 115	-213 558		
	in %				
	-7.1%	-3.6%	-9.5%		
Total terminal Service Units	-797	-1 174	-1 912		
	in value				
	in %				
	-17.2%	-19.4%	-30.8%		
Real terminal unit cost per Service Unit (EUR2009)	54.77	69.15	111.71		
	in value				
	in %				
	12.2%	19.6%	30.8%		
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Belgium Oostende-Brugge Terminal Charging Zone (TCZ) comprising Oostende-Brugge airport (EBOS). In this TCZ the financing of terminal ANS activities in 2017 is fully subsidised by the State or regional authorities, no unit rate is charged to the airspace users. See also Note 2 at the end of this Report.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (474.14 €2009) is +30.8% higher than planned in the PP (362.44 €2009). This difference results from the combination of significantly lower than planned TNSUs (-30.8%) and lower than planned terminal costs in real terms (-9.5%, or -0.2 M€2009).</p> <p>In terms of corrective measures, the FABEC FAB 2017 Monitoring Report indicates that the "underlying reason for the higher actual unit cost, is that actual traffic is 30,8% lower than the planned traffic in the performance scheme".</p> <p>Terminal service units The actual TNSUs are -30.8% lower than planned. The number of TNSUs planned for the 2018-2019 period is significantly above the STATFOR February 2018 base TNSU growth scenario. However, it is noted, that STATFOR forecast only includes IFR flights while, as indicated in the additional information to June 2018 terminal reporting tables, from 2014 onwards Belgium includes TNSUs from both IFR and VFR flights in the calculation and reporting.</p> <p>Terminal costs In nominal terms, actual terminal costs are -8.6% (-0.2 M€) lower than planned. Since the actual inflation index is above the plan (+1.1 p.p.), actual terminal costs are -9.5% (-0.2 M€2009) below plans when expressed in real terms.</p> <p>The lower than planned terminal costs, in real terms are driven by lower than planned costs across all entities: Belgocontrol (-9.5%, or -0.2 M€2009) and the NSA (-8.7%). A detailed analysis at ATSP level is provided in box 9.</p> <p>No costs exempt from cost sharing are reported for Oostende-Brugge TCZ.</p>					

BELGIUM OOSTENDE-BRUGGE: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)



6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

Analysis not applicable, terminal ANS in Oostende-Brugge TCZ was free of charge for the airspace users since terminal ANS costs were 100% subsidised by the State or regional authorities in 2017. See also **Note 2** at the end of this Report.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users

Analysis not applicable, terminal ANS in Oostende-Brugge TCZ was free of charge for the airspace users since terminal ANS costs were 100% subsidised by the State or regional authorities in 2017. See also **Note 2** at the end of this Report.

9. Focus on terminal ATSP: General conclusions *see Note 2

Actual 2017 Belgocontrol terminal costs in the TCZ vs. PP

Belgocontrol actual terminal costs in Oostende-Brugge TCZ are -9.5% (-0.2 M€2009) lower, in real terms, than planned in the PP. According to the additional information to June 2018 terminal Reporting Tables, this results from the combination of:

- lower staff costs (-10.1%, or -0.2 M€2009), mainly driven by delays in the recruitment process during the period 2015-2016;
- higher other operating costs (+39.4%, or +0.1 M€2009), primarily explained by "increases in costs for temporary reinforcement of staff, for project management and transformation";
- lower depreciation costs (-40.8%, or -0.1 M€2009), resulting from delays in the investment programme; and,
- a slightly lower cost of capital (-7.4%, or -0.002 M€2009), which, since Belgocontrol is entirely financed through equity, is driven by lower than planned asset base in real terms (-7.4%, or -0.1 M€2009).

No description of the main drivers for the deviation between actual and determined costs is provided individually for each TCZ in the FABEC FAB 2017 Monitoring Report whereas only a consolidated description for the variation in costs for Belgocontrol, aggregating all five TCZs, is reported in the additional information to June 2018 terminal Reporting Tables.

LUXEMBOURG: Terminal charging zone

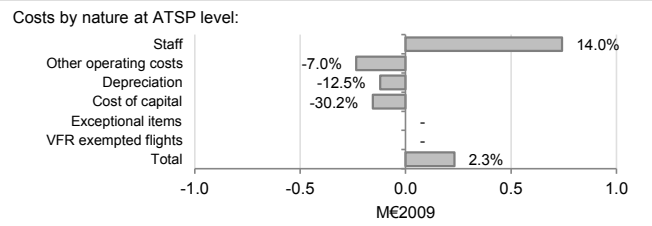
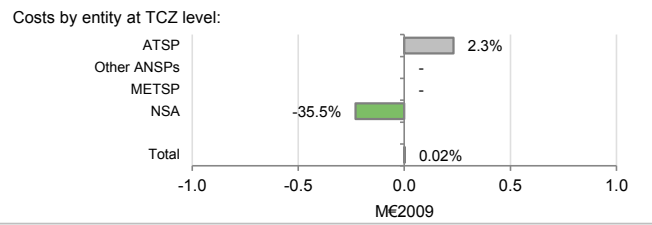
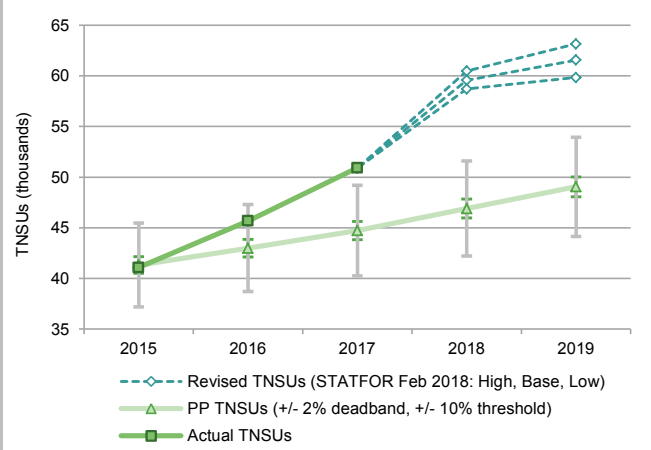
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Luxembourg TCZ represents 1.0% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		No	
· ATSP: ANA LUX		· Airports with fewer than 70,000 IFRs ATMs:		1	
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		0	
· Number of airports in charging zone in 2017: 1,		of which:		· Airports with more than 225,000 IFRs ATMs: 0	
2. Terminal DUC monitoring at Charging Zone level					
Luxembourg: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	11 377 701	12 361 275	12 794 627	13 192 688	13 524 467
Inflation %	1.8%	1.8%	1.8%	1.9%	1.9%
Inflation index (100 in 2009)	114.4	116.4	118.6	120.9	123.2
Real terminal costs (EUR2009)	9 944 465	10 615 918	10 789 343	10 915 761	10 979 796
Total terminal Service Units	41 322	42 989	44 732	46 898	49 046
Real terminal unit cost per Service Unit (EUR2009)	240.66	246.94	241.20	232.76	223.87
Luxembourg: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	11 782 917	12 028 446	12 389 842		
Inflation %	0.1%	0.0%	2.1%		
Inflation index (100 in 2009)	112.5	112.5	114.8		
Real terminal costs (EUR2009)	10 478 064	10 696 404	10 791 163		
Total terminal Service Units	41 083	45 676	50 904		
Real terminal unit cost per Service Unit (EUR2009)	255.04	234.18	211.99		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	405 215	-332 828	-404 785		
	in %	3.6%	-2.7%	-3.2%	
Inflation %	in p.p.	-1.7 p.p.	-1.8 p.p.	0.3 p.p.	
Inflation index (100 in 2009)	in p.p.	-2.0 p.p.	-4.0 p.p.	-3.8 p.p.	
Real terminal costs (EUR2009)	in value	533 600	80 486	1 820	
	in %	5.4%	0.8%	0.02%	
Total terminal Service Units	in value	-239	2 687	6 172	
	in %	-0.6%	6.3%	13.8%	
Real terminal unit cost per Service Unit (EUR2009)	in value	14.39	-12.77	-29.21	
	in %	6.0%	-5.2%	-12.1%	
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Luxembourg Terminal Charging Zone (TCZ) comprising Luxembourg airport (ELLX). In this TCZ the costs for terminal ANS activities in 2017 were partly subsidised by the State or regional authorities.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (211.99 €2009) is -12.1% lower than planned in the PP (241.20 €2009). This difference results mainly from significantly higher than planned TNSUs (+13.8%), while the terminal costs are mostly in line with the plan in real terms (+0.02%, or +0.002 M€2009), although in nominal terms these are lower than planned (see below).</p> <p>Terminal service units Traffic risk sharing does not apply in Luxembourg TCZ. The additional revenues collected as a result of the difference between actual and planned TNSUs (+13.8%) will be carried-over and reimbursed to the airspace users in 2019. It is noted that the TNSUs included in the RP2 PP are expected to remain well below STATFOR February 2018 <u>base</u> TNSU growth scenario for the rest of RP2 (2018-2019).</p> <p>Terminal costs In nominal terms, actual terminal costs are -3.2% (-0.4 M€) lower than planned. However, since the actual inflation index is also lower than planned (-3.8 p.p.), actual en-route costs are mostly in line with the plan when expressed in real terms (+0.02%, or +0.002 M€2009).</p> <p>The stable terminal costs in real terms result from a combination of higher costs for ANA Luxembourg (+2.3%, or +0.2 M€2009) and lower than planned NSA costs (-35.5%, or -0.2 M€2009). It is noted that, due to the lower than planned inflation index, actual ANA Luxembourg costs are lower than planned when expressed in nominal terms (-1.0%, or -0.1 M€). A detailed analysis at ATSP level is provided in box 12.</p> <p>No costs exempt from cost sharing are reported for Luxembourg TCZ.</p>					

LUXEMBOURG: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)



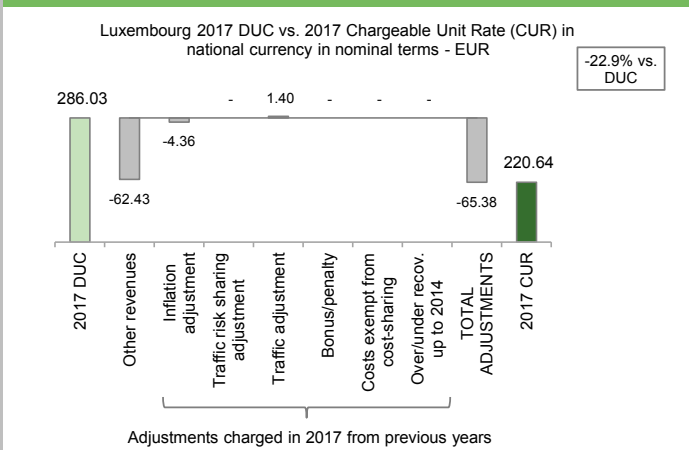
6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		

Total costs exempt from cost sharing 0 0 0

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 unit rate charged to users

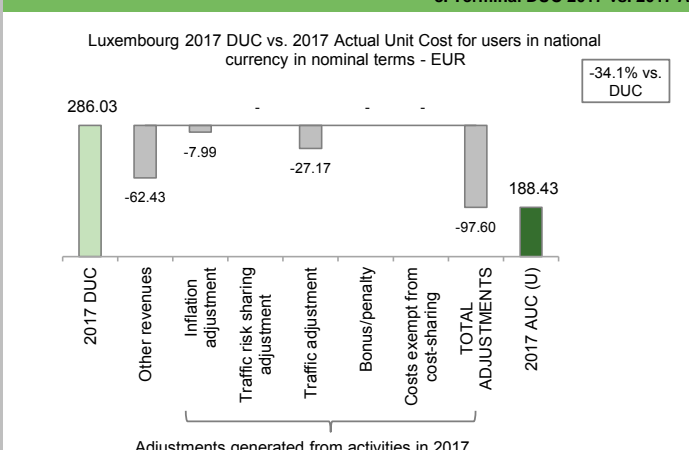


The terminal unit rate charged to airspace users (CUR) in 2017 is 220.64 €. This is -22.9% lower than the nominal DUC (286.03 €). The main difference between these two figures (-65.38 €) relates to other revenues, which, according to the additional information provided in the June 2018 terminal Reporting Tables, reflects the subsidy granted by the State for terminal ANS activity in 2017.

As specified in the additional information to June 2018 terminal Reporting Tables, a modulation of terminal charges across user categories is applied in Luxembourg TCZ. See also Note 3 at the end of this Report.

These costs and adjustments are divided by the forecast TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual terminal unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (188.43 €) is -34.1% lower than the nominal DUC (286.03 €). The most important factors contributing to the observed difference (-97.60 €) are: the deduction of other revenues (-62.43 €, see box 7 above for more details), inflation adjustment (-7.99 €) and the traffic adjustment (-27.17 €). It is noted, that the traffic adjustment reported in the chart refers to the difference between modulation effect (+0.2 M€ in total, resulting from the application of modulation of charges in TCZ) and the traffic effect (-1.6 M€ in total), resulting from variation in traffic. See also Note 3 at the end of this Report.

Furthermore, it is noted that no traffic adjustment is calculated for the NSA costs, since these costs are fully subsidised by the State and not charged to the airspace users.

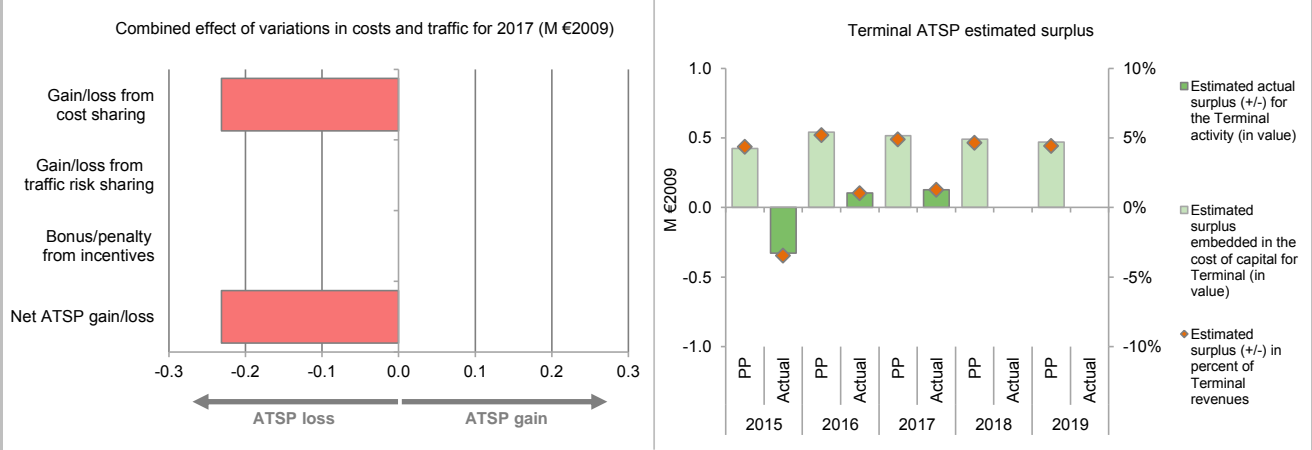
These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TNSUs in 2017.

LUXEMBOURG: Terminal ATSP (ANA LUX)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	9 499	10 070	10 142		
Actual costs for the ATSP	10 164	10 354	10 374		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-665	-284	-231		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-665	-284	-231		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-665	-284	-231		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the Profit & Loss accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	15 283	19 433	18 522	17 686	16 881
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	15 283	19 433	18 522	17 686	16 881
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	425	540	515	492	469
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	2.8%	2.8%	2.8%	2.8%	2.8%
Estimated surplus embedded in the cost of capital for terminal (in value)	425	540	515	492	469
Overall estimated surplus (+/-) for the terminal activity	425	540	515	492	469
Revenue/costs for the terminal activity	9 737	10 381	10 510	10 597	10 618
Estimated surplus (+/-) in percent of terminal revenues	4.4%	5.2%	4.9%	4.6%	4.4%
Estimated ex-ante RoE pre-tax rate (in %)	2.8%	2.8%	2.8%	2.8%	2.8%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	12 126	13 956	12 923		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	12 126	13 956	12 923		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	337	388	359		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	2.8%	2.8%	2.8%		
Estimated surplus embedded in the cost of capital for terminal (in value)	337	388	359		
Net ATSP gain(+)/loss(-) on terminal activity	-665	-284	-231		
Overall estimated surplus (+/-) for the terminal activity	-327	104	128		
Revenue/costs for the terminal activity	9 499	10 070	10 142		
Estimated surplus (+/-) in percent of terminal revenues	-3.4%	1.0%	1.3%		
Estimated ex-post RoE pre-tax rate (in %)	-2.7%	0.7%	1.0%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 ANA Luxembourg terminal costs in the TCZ vs. PP

ANA Luxembourg actual terminal costs in the TCZ are +2.3% (+0.2 M€2009) higher, in real terms, than planned in the PP. However, this is mainly due to a lower than planned inflation index (-3.8 p.p.), as actual terminal costs are lower than planned when expressed in nominal terms (-1.0%, or -0.1 M€). According to the additional information to June 2018 terminal Reporting Tables, this results from the combination of:

- higher staff costs (+14.0%, or +0.7 M€2009) mainly due to i) "increase of staff in all departments", ii) "automatic career advancement of civil servants", and iii) "permanent hire of some consultants".
- lower other operating costs (-7.0%, or -0.2 M€2009), driven by the "permanent hire of some consultants led to a shift of costs from other operating costs category to Staff costs", as also identified in point iii) above;
- lower depreciation costs (-12.5%, or -0.1 M€2009); and,
- a lower cost of capital (-30.2%, or -0.2 M€2009), which, since ANA Luxembourg is entirely financed through equity, is driven by lower than planned asset base in real terms (-30.2%, or -5.6 M€2009).

ANA Luxembourg 2017 net gain/loss on terminal activity in the TCZ

As shown in box 9, ANA Luxembourg incurred a net loss of -0.2 M€2009 in 2017 from the terminal activity in the Luxembourg TCZ as a result of the cost sharing mechanism (higher than planned costs in real terms).

ANA Luxembourg 2017 overall estimated surplus for the terminal activity in TCZ

Ex-post, the overall estimated surplus taking into account the net loss from the terminal activity in the TCZ mentioned above (-0.2 M€2009) and the surplus embedded in the cost of capital (+0.4 M€2009) amounts to +0.1 M€2009 (1.3% of the 2017 terminal revenues). The resulting ex-post rate of return on equity is 1.0%, which is lower than the 2.8% planned in the PP. It is noted that actual total asset base for 2017 in real terms is -30.2% (-5.6 M€2009) lower than planned in the PP.

BELGIUM & LUXEMBOURG: Gate-to-gate

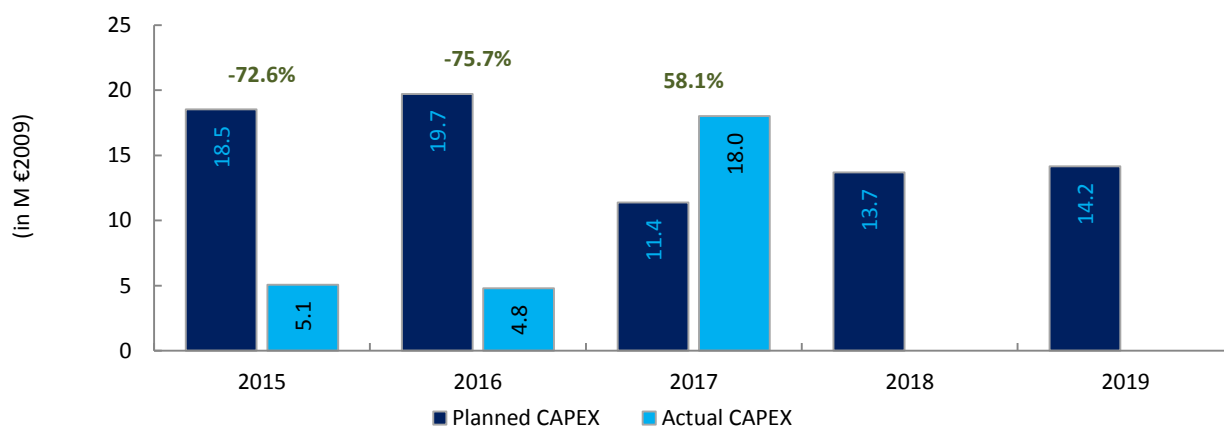
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Belgium & Luxembourg: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	150 757 603	152 984 440	154 897 964	155 652 698	156 055 562																																							
Real terminal costs (EUR2009)	60 454 020	62 447 468	63 779 064	64 278 977	64 020 519																																							
Real gate-to-gate costs (EUR2009)	211 211 623	215 431 908	218 677 028	219 931 675	220 076 081																																							
En-route share (%)	71.4%	71.0%	70.8%	70.8%	70.9%																																							
Belgium & Luxembourg: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	144 755 264	147 180 265	154 375 434																																									
Real terminal costs (EUR2009)	55 840 520	59 511 295	61 005 061																																									
Real gate-to-gate costs (EUR2009)	200 595 784	206 691 560	215 380 495																																									
En-route share (%)	72.2%	71.2%	71.7%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	-10 615 839	-8 740 348	-3 296 533																																									
in %	-5.0%	-4.1%	-1.5%																																									
En-route share																																												
in p.p.	0.8 p.p.	0.2 p.p.	0.8 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs are -1.5% (-3.2 M€2009) lower than planned due to lower costs for both en-route (-0.3%, or -0.5 M€2009) and terminal (-4.3%, or -2.8 M€2009) ANS.</p> <p>The actual share of en-route in gate-to-gate ANS costs (71.7%) is slightly higher than foreseen in the PP for 2017 (70.8%).</p>																																												
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>71.4%</td> <td>28.6%</td> </tr> <tr> <td>Actual</td> <td>72.2%</td> <td>27.8%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>71.0%</td> <td>29.0%</td> </tr> <tr> <td>Actual</td> <td>71.2%</td> <td>28.8%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>70.8%</td> <td>29.2%</td> </tr> <tr> <td>Actual</td> <td>71.7%</td> <td>28.3%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>70.8%</td> <td>29.2%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>70.9%</td> <td>29.1%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	71.4%	28.6%	Actual	72.2%	27.8%	2016	Determined	71.0%	29.0%	Actual	71.2%	28.8%	2017	Determined	70.8%	29.2%	Actual	71.7%	28.3%	2018	Determined	70.8%	29.2%	Actual			2019	Determined	70.9%	29.1%	Actual		
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	71.4%	28.6%																																									
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2019	Determined	70.9%	29.1%																																									
	Actual																																											
3. Technical notes on en-route and terminal information reported by Belgium & Luxembourg																																												
<p>Note 1: A penalty of -795 '000€ for not achieving the local en-route capacity target is reported for Belgium-Luxembourg charging zone in the 2017 FABEC FAB monitoring report and in the submission of June 2018 en-route Reporting Tables. This amount is split between the ATSPs in the charging zone with -532 '000€ allocated to Belgocontrol and -262 '000€ allocated to MUAC (Belgium-Luxembourg).</p>																																												
<p>Note 2: According to the information provided in the additional information to the June 2018 terminal Reporting Tables "Based on the Royal decrees of 19 December 2014, 26 December 2015, 25 December 2016 and of 7 December 2017, the regional airports (100%) and a part of Brussels TCZ (25%) are financed through other revenues from the State or regional authorities".</p>																																												
<p>As the terminal ANS activities are therefore fully financed through "income from other sources" in four of the five Belgium TCZs (with the exception of Brussels TCZ), the analysis of the terminal economic surplus for these TCZs is void. Nevertheless, the analysis at Belgium TCZ level still looks at the deviation between the terminal actual unit cost and the terminal DUC target reported for 2017 in the RP2 PP.</p>																																												
<p>Note 3: It is noted, that in the June 2018 submission of terminal Reporting Tables, the traffic adjustment reported by Luxembourg refers to the difference between modulation effect (resulting from the application of modulation of charges in TCZ) and the traffic effect, resulting from variation in traffic. According to additional information to June 2018 terminal Reporting Tables, this was implemented since "the official reporting tables do not foresee any mechanism to report over- or under-coverage due to a modulation of the UR, as it is the case for the traffic effect".</p>																																												

BELGIUM

Monitoring of CAPEX for 2017

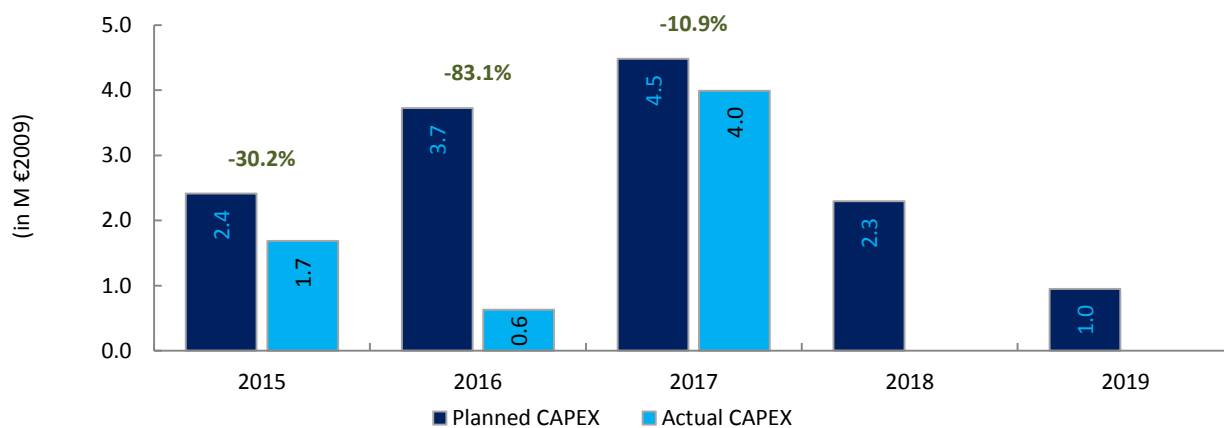
Contextual Information						
ANSP: Belgocontrol						
FAB: FABEC						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	20.7	22.3	13.0	15.9	16.6	88.5
Main CAPEX (in nominal M)	16.0	19.3	10.0	11.5	10.2	67.0
Inflation %	1.1%	1.2%	1.3%	1.4%	1.4%	
Inflation index (100 in 2009)	111.6	112.9	114.4	116.0	117.6	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	18.5	19.7	11.4	13.7	14.2	77.5
Main CAPEX (in M €2009)	14.4	17.1	8.7	9.9	8.7	58.7
% Main of Total CAPEX	77.5%	86.7%	76.6%	72.1%	61.2%	75.8%
Real gate-to-gate ANSP costs (in M €2009)	140.9	143.8	146.0	145.9	145.2	721.7
Total CAPEX as % of Real gate-to-gate ANSP costs	13.2%	13.7%	7.8%	9.4%	9.8%	10.7%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	5.6	5.4	20.8			
Main CAPEX (in nominal M)	3.3	2.2	16.8			
Inflation %	0.6%	1.8%	2.2%			
Inflation index (100 in 2009)	111.1	113.1	115.5			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	5.1	4.8	18.0			
Main CAPEX (in M €2009)	3.0	2.0	14.5			
% Main of Total CAPEX	58.4%	41.3%	80.7%			
Real gate-to-gate ANSP costs (in M €2009)	132.8	135.2	143.0			
Total CAPEX as % of Real gate-to-gate ANSP costs	3.8%	3.6%	12.6%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-15.1	-16.8	7.8			
Total CAPEX (in M €2009)	-13.5	-14.9	6.6			
Total CAPEX (in %, M €2009)	-72.6%	-75.7%	58.1%			



LUXEMBOURG

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: ANA LUX						
FAB: FABEC						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	2.8	4.3	5.3	2.8	1.2	16.4
Main CAPEX (in nominal M)	2.8	4.3	5.3	2.8	1.2	16.4
Inflation %	1.8%	1.8%	1.8%	1.9%	1.9%	
Inflation index (100 in 2009)	114.4	116.4	118.6	120.9	123.2	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	2.4	3.7	4.5	2.3	1.0	13.9
Main CAPEX (in M €2009)	2.4	3.7	4.5	2.3	1.0	13.9
% Main of Total CAPEX	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Real gate-to-gate ANSP costs (in M €2009)	14.7	15.5	15.7	15.8	15.7	77.4
Total CAPEX as % of Real gate-to-gate ANSP costs	16.4%	24.0%	28.6%	14.6%	6.0%	17.9%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	1.9	0.7	4.6			
Main CAPEX (in nominal M)	1.9	0.7	4.6			
Inflation %	0.1%	0.0%	2.1%			
Inflation index (100 in 2009)	112.5	112.5	114.8			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	1.7	0.6	4.0			
Main CAPEX (in M €2009)	1.7	0.6	4.0			
% Main of Total CAPEX	100.0%	100.0%	100.0%			
Real gate-to-gate ANSP costs (in M €2009)	15.6	15.8	15.7			
Total CAPEX as % of Real gate-to-gate ANSP costs	10.8%	4.0%	25.4%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-0.9	-3.6	-0.7			
Total CAPEX (in M €2009)	-0.7	-3.1	-0.5			
Total CAPEX (in %, M €2009)	-30.2%	-83.1%	-10.9%			

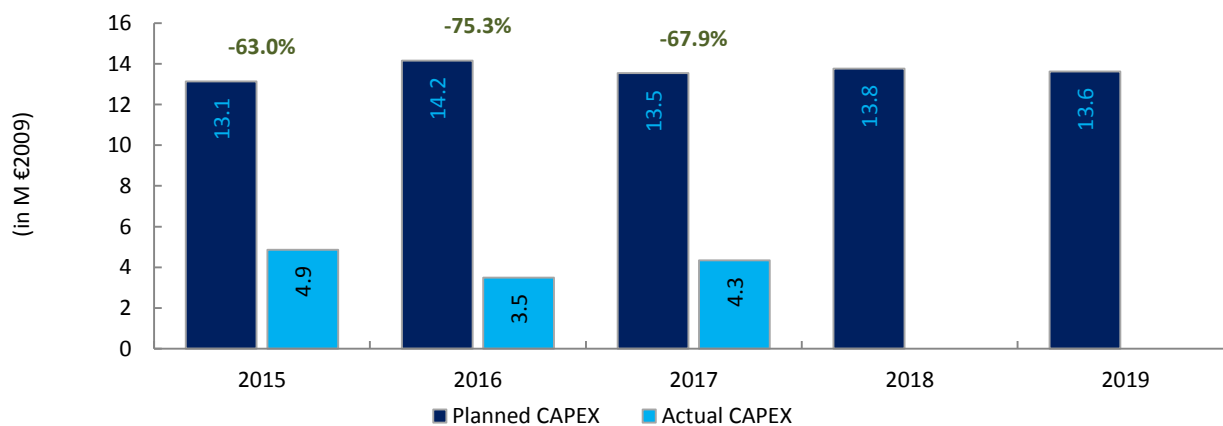


Note: Planned and actual inflation indices used to calculate CAPEX in real terms above, are based on the Terminal Reporting Tables. Two separate inflation indices are used to calculate the gate-to-gate ANSP costs in real terms.

MUAC

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: MUAC						
FAB: FABEC						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	14.5	15.8	15.4	15.9	15.9	77.6
Main CAPEX (in nominal M)	12.7	14.7	14.7	15.2	15.3	72.5
Inflation %	1.0%	1.2%	1.4%	1.5%	1.5%	
Inflation index (100 in 2009)	110.6	112.0	113.6	115.3	117.0	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	13.1	14.2	13.5	13.8	13.6	68.2
Main CAPEX (in M €2009)	11.5	13.1	12.9	13.2	13.1	63.7
% Main of Total CAPEX	87.3%	92.7%	95.5%	95.7%	95.8%	93.4%
Real gate-to-gate ANSP costs (in M €2009)	133.8	133.5	135.9	138.1	139.8	681.2
Total CAPEX as % of Real gate-to-gate ANSP costs	9.8%	10.6%	10.0%	10.0%	9.7%	10.0%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	5.3	3.8	4.8			
Main CAPEX (in nominal M)	5.1	3.5	4.2			
Inflation %	0.2%	0.1%	1.3%			
Inflation index (100 in 2009)	109.7	109.8	111.3			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	4.9	3.5	4.3			
Main CAPEX (in M €2009)	4.6	3.2	3.7			
% Main of Total CAPEX	94.9%	92.3%	86.3%			
Real gate-to-gate ANSP costs (in M €2009)	123.6	131.9	135.7			
Total CAPEX as % of Real gate-to-gate ANSP costs	3.9%	2.7%	3.2%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-9.2	-12.0	-10.5			
Total CAPEX (in M €2009)	-8.3	-10.7	-9.2			
Total CAPEX (in %, M €2009)	-63.0%	-75.3%	-67.9%			



Annual Monitoring Report 2017
Local level view
France

FRANCE

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	72	C	D	C	C	B
DSNA	91	C	E	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
			RAT application (%)			
			ATM Ground	ATM Overall		
Separation Minima Infringements (SMIs)			100%	100%		
Runway Incursions (RIs)			100%	100%		
ATM Specific Occurrences (ATM-S)				89%		
Source of RAT data:			DSAC			
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level			Number of questions answered			
			YES	NO		
Policy and its implementation			7	2		
Legal/Judiciary			4	3		
Occurrence reporting and Investigation			2	0		
TOTAL			13	5		
DSNA			Number of questions answered			
			YES	NO		
Policy and its implementation			11	2		
Legal/Judiciary			3	0		
Occurrence reporting and Investigation			8	0		
TOTAL			22	2		
Observations						
<p>Only one question out of 36 in the EoS Component/area of the State in Safety Culture does not meet the 2019 EoS target level. After verification some answers were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p>						

FRANCE

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

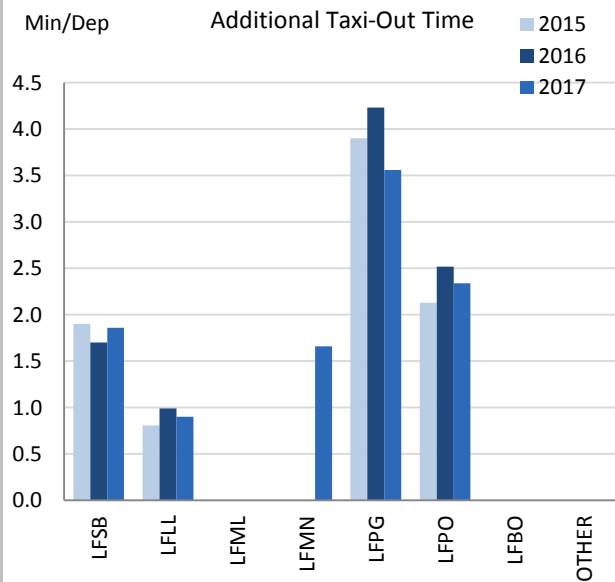
For France, the scope of the RP2 monitoring comprises a total of 60 airports. However, 53 of these 60 airports are grouped into a basket ("OTHER") for monitoring and target setting purposes.

At the time being the Airport Operator Data Flow is only fully established for 4 of the 7 airports independently monitored and for none of the airports within the basket. Accordingly, the monitoring of the environmental performance is limited. France shall encourage the timely implementation of the airport operator data flow for a further batch of airports to improve the reporting situation.

On the basis of the available data set, the taxi-out performance at French airports is better than other airports with similar levels of traffic and well below the average for RP2 airports.

The ASMA indicator has generally improved in 2017 and it is in all cases except for Nice, well below the average of the SES monitored airports (1.89 min/arr.). Paris CDG continues to show best-in-class additional ASMA times.

2. Additional Taxi-Out Time



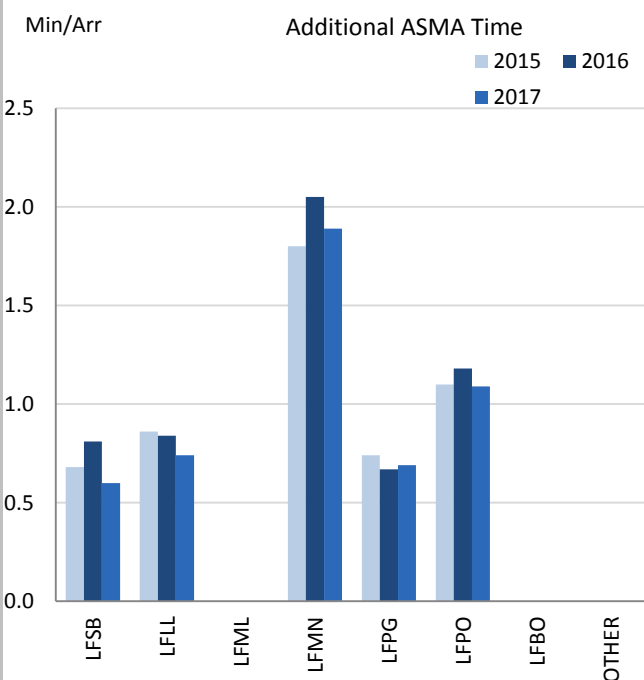
The additional taxi-out times range, with the exception of LFPG, well below the RP2 average (3.33 min/dep.) Most of them have reduced these additional times (except Bâle-Mulhouse)

Like in 2016, the RWY 06/24 closure at Paris Orly (LFPO) had a significant impact on both additional and unimpeded taxi-out times during the months of July and August.

At Paris Charles de Gaulle, with the exception of the month of January, there is a significant reduction of the additional TXOT bringing the yearly average to a value (3.56 min/dep.) below other airports in the same category of traffic.

In 2017 it is possible to analyse the additional TXOT for Nice, thanks to an improvement in the data reporting.

3. Additional ASMA Time



Nice (LFMN) has improved the performance (i.e. LFMN: 2016: 2.05 min/arr. vs 2017: 1.89 min/arr.) and is now commensurate with its traffic levels.

The additional time in the terminal area at LFPO during 2017 (1.09 min/arr.) has been consistently lower than the previous year in the first half of the year, but significantly worse in January and December.

Once again, Paris Charles de Gaulle (480000 movements per year) shows in 2017 the best performance in Europe regarding ASMA (0.69 min/arr.) for any airport above 200000 movements.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bâle-Mulhouse	LFSB	1.90	1.70	1.86			0.68	0.81	0.60		
Lyon-Saint-Exupéry	LFLL	0.81	0.99	0.90			0.86	0.84	0.74		
Marseille-Provence	LFML	n/a	n/a	n/a			n/a	n/a	n/a		
Nice-Côte d'Azur	LFMN	n/a	n/a	1.66			1.80	2.05	1.89		
Paris-Charles-de-Gaulle	LFPG	3.90	4.23	3.56			0.74	0.67	0.69		
Paris-Orly	LFPO	2.13	2.52	2.34			1.10	1.18	1.09		
Toulouse-Blagnac	LFBO	n/a	n/a	n/a			n/a	n/a	n/a		
Agen-La Garenne	LFBA	n/a	n/a	n/a			n/a	n/a	n/a		
Ajaccio-Napoléon-Bonaparte	LFKJ	n/a	n/a	n/a			n/a	n/a	n/a		
Albert-Bray	LFAQ	n/a	n/a	n/a			n/a	n/a	n/a		
Angers-Marcé	LFJR	n/a	n/a	n/a			n/a	n/a	n/a		
Annecy-Meythet	LFLP	n/a	n/a	n/a			n/a	n/a	n/a		
Avignon-Caumont	LFMV	n/a	n/a	n/a			n/a	n/a	n/a		
Bastia-Poretta	LFKB	n/a	n/a	n/a			n/a	n/a	n/a		
Beauvais-Tillé	LFOB	n/a	n/a	n/a			n/a	n/a	n/a		
Bergerac-Roumanière	LFBE	n/a	n/a	n/a			n/a	n/a	n/a		
Béziers-Vias	LFMU	n/a	n/a	n/a			n/a	n/a	n/a		
Biarritz-Bayonne-Anglet	LFBZ	n/a	n/a	n/a			n/a	n/a	n/a		
Bordeaux-Mérignac	LFBD	n/a	n/a	n/a			n/a	n/a	n/a		
Brest-Bretagne	LFRB	n/a	n/a	n/a			n/a	n/a	n/a		
Brive-Souillac	LFSL	n/a	n/a	n/a			n/a	n/a	n/a		
Caen-Carpiquet	LFRK	n/a	n/a	n/a			n/a	n/a	n/a		
Calvi-Sainte-Catherine	LFKC	n/a	n/a	n/a			n/a	n/a	n/a		
Cannes-Mandelieu	LFMD	n/a	n/a	n/a			n/a	n/a	n/a		
Carcassonne-Salvaza	LFMK	n/a	n/a	n/a			n/a	n/a	n/a		
Châlons-Vatry	LFOK	n/a	n/a	n/a			n/a	n/a	n/a		
Chambéry-Aix-les-Bains	LFLB	n/a	n/a	n/a			n/a	n/a	n/a		
Châteauroux-Déols	LFLX	n/a	n/a	n/a			n/a	n/a	n/a		
Clermont-Ferrand-Auvergne	LFLC	n/a	n/a	n/a			n/a	n/a	n/a		
Deauville-Normandie	LFRG	n/a	n/a	n/a			n/a	n/a	n/a		
Dinard-Pleurtuit-Saint-Malo	LFRD	n/a	n/a	n/a			n/a	n/a	n/a		
Dôle-Tavaux	LFGJ	n/a	n/a	n/a			n/a	n/a	n/a		
Figari-Sud Corse	LFKF	n/a	n/a	n/a			n/a	n/a	n/a		
Grenoble-Isère	LFLS	n/a	n/a	n/a			n/a	n/a	n/a		
Hyères-Le Palyvestre	LFTH	n/a	n/a	n/a			n/a	n/a	n/a		
Istres-Le Tubé	LFMI	n/a	n/a	n/a			n/a	n/a	n/a		
La Rochelle-Ile de Ré	LFBH	n/a	n/a	n/a			n/a	n/a	n/a		
Lannion	LFRO	n/a	n/a	n/a			n/a	n/a	n/a		
Le Havre-Octeville	LFOH	n/a	n/a	n/a			n/a	n/a	n/a		
Lille-Lesquin	LFQQ	n/a	n/a	n/a			n/a	n/a	n/a		
Limoges-Bellegarde	LFBL	n/a	n/a	n/a			n/a	n/a	n/a		
Lorient-Lann Bihoué	LFRH	n/a	n/a	n/a			n/a	n/a	n/a		
Lyon-Bron	LFLY	n/a	n/a	n/a			n/a	n/a	n/a		
Metz-Nancy-Lorraine	LFJL	n/a	n/a	n/a			n/a	n/a	n/a		
Montpellier-Méditerranée	LFMT	n/a	n/a	n/a			n/a	n/a	n/a		
Nantes-Atlantique	LFRS	n/a	n/a	n/a			n/a	n/a	n/a		
Nîmes-Garons	LFTW	n/a	n/a	n/a			n/a	n/a	n/a		
Paris-Le Bourget	LFPB	n/a	n/a	n/a			n/a	n/a	n/a		

Pau-Pyrénées	LFBP	n/a	n/a	n/a			n/a	n/a	n/a		
Perpignan-Rivesaltes	LFMP	n/a	n/a	n/a			n/a	n/a	n/a		
Poitiers-Biard	LFBI	n/a	n/a	n/a			n/a	n/a	n/a		
Quimper-Pluguffan	LFRQ	n/a	n/a	n/a			n/a	n/a	n/a		
Rennes-Saint-Jacques	LFRN	n/a	n/a	n/a			n/a	n/a	n/a		
Rodez-Marcillac	LFMR	n/a	n/a	n/a			n/a	n/a	n/a		
Saint-Etienne-Bouthéon	LFMH	n/a	n/a	n/a			n/a	n/a	n/a		
Saint-Nazaire-Montoir	LFRZ	n/a	n/a	n/a			n/a	n/a	n/a		
Strasbourg-Entzheim	LFST	n/a	n/a	n/a			n/a	n/a	n/a		
Tarbes-Lourdes Pyrénées	LFBT	n/a	n/a	n/a			n/a	n/a	n/a		
Tours-Val de Loire	LFOT	n/a	n/a	n/a			n/a	n/a	n/a		
Toussus-le-Noble	LFPN	n/a	n/a	n/a			n/a	n/a	n/a		

FRANCE

Monitoring of CAPACITY for 2017

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.37	0.40	0.40	0.39	0.32	Exclusive use of CRSTMP codes means that the PRB is unable to independently validate the results for incentive purposes. Actual performance reported here is for all causes of delay.
Deadband +/-	N/A	N/A	N/A	N/A	N/A	
Actual performance	0.84	1.18	0.97			

National capacity incentive scheme

Incentive scheme targets:

The capacity delay target at FAB level was set at an average of 0.33 min/flight for CRSTMP causes ATFM delays. DSNA's broken down target was set at 0.22 min/flight.

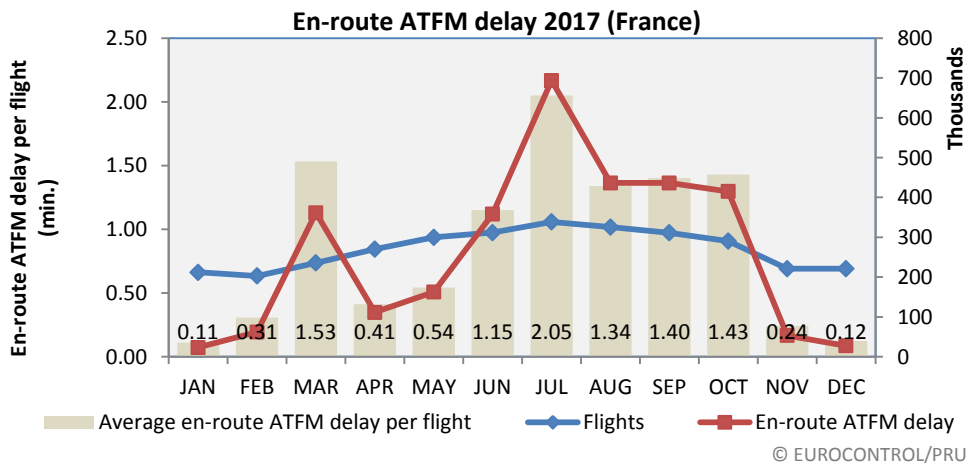
2017 achievement (as reported by FABEC):

- FABEC: 0.76min/flight for CRSTMP ATFM delays
- DSNA: 0.61 min/flight for CRSTMP delays

Bonus/Malus:

DSNA, as an ANSP contributing to the under-performance, achieved a malus of -0.4% of the total ANSP's revenue in 2017, which equates to a penalty of €4 932 718.79

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (France)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.47	0.18	2.53	0.45	0.54	0.53	0.66	0.84	1.18	0.97

Although en-route capacity performance in France improved in 2017 in comparison with 2016, RP2 performance is significantly worse than the en route capacity performance during RP1 (2012-2014). Although traffic increased by approximately 4% in 2017, over 2016 levels, the annual traffic figures for France remain within the range forecasted by STATFOR in February 2014, when the RP2 performance plans – and associated capacity plans were being drafted. (In 2016 and 2017 the traffic rose above the baseline forecast but it remained lower than the high forecast.)

In the latest Network Operations Plan (NOP) 2018-2022 the Network Manager expects a continued capacity shortfall in France for the remainder of RP2. In the 2016 annual monitoring report, the PRB flagged concerns about the cancellation of FABEC capacity projects and about the failure to deploy existing capacity.

EUROCONTROL 7 year forecast February 2014 – France										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	2978		3065		3181		3270		3367	3463
Base	2944	2947	3005	2992	3076	3124	3127	3241	3187	3254
Low	2905		2935		2947		2957		2976	3002

Planning and Effective Use of CDRs

France did not provide any data.

Observations on Planning and Effective Use of CDRs

It is noted that France, like many other States, is unable to monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
59%	63%	67%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
6%	9%	12%		

Share of restricted / segregated time (via UUP process) that was actually used				
2015	2016	2017	2018	2019
N/A	N/A	88%		

Observations on Effective booking procedures

France reports that the aggregated values used in this indicator are not relevant for FUA analysis and evaluation, the only relevant information remains per area. It was also reported that not all releases of airspace are notified to the Network Manager. No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

FRANCE

Monitoring of Airports Contribution to CAPACITY for 2017

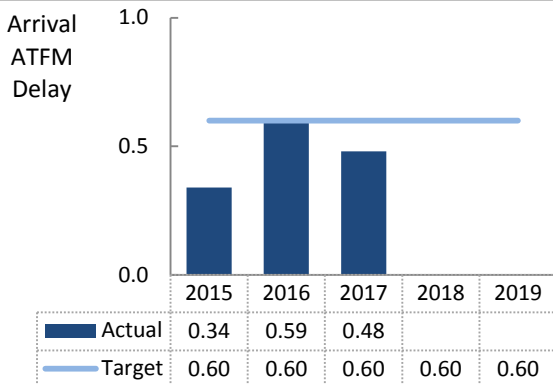
1. Overview

For France, ANS at a total of 60 airports falls under the scope of RP2 monitoring. For practical reasons, the monitoring focuses on 7 major airports in terms of IFR movements and aggregates the 53 other airports into a residual group. France has established a constant national target for arrival ATFM delay during RP2. Arrival ATFM delay (all causes) has been reduced significantly in 2017 and the target (0.60 min/arr) is met.

The observed performance in terms of ATFM slot adherence at the 7 major airports has seen some improvements with respect to 2016 but it still ranges at the lower margin in comparison with other European airports.

The monitoring of pre-departure delay is still not possible at most of the French airports.

2. Arrival ATFM Delay



There has been a notable improvement in terms of arrival ATFM delay (all causes) in France in 2017. The national average decreased from 0.59 min/arr. to 0.48 min/arr. The achievement in 2017 meets the established national target.

Contributing to this improvement, significant reductions of terminal ATFM delay can be observed at Bâle-Mulhouse (LFSB), Marseille (LFML), and Toulouse (LFBO). Nevertheless the reductions with the biggest impact take place at the main Paris airports (LFPG: 2016: 0.53 min/arr.; 2017: 0.34 min/arr. and LFPO: 2016: 1.90 min/arr.; 2017: 1.40 min/arr.)

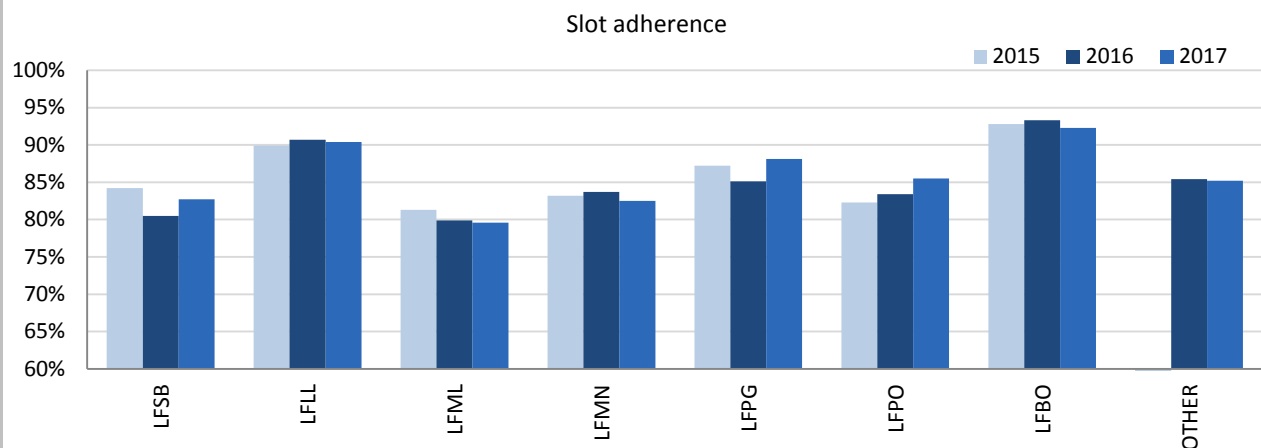
On the other hand there are some French airports below 30 000 arrivals per year that show very high levels of arrival ATFM delay between 1 and 3 min/arr. in some cases (LFLS, LFMD and LFPB) and even above 5 minutes in the case of Figari-Sud Corse (LFKF), mostly associated to seasonality.

3. Arrival ATFM Delay – National Target and Incentive Scheme

France established a constant national target on arrival ATFM delay for RP2 (all causes: 0.60 min/arr. and CRSTMP: 0.15 min/arr.) as presented in the FABEC performance plan.

Arrival ATFM delays associated with CRSTMP causes achievement (0.17 min/arr) although missing the target (0.15 min/arr.), falls within the deadband of the incentive scheme as defined in the FABEC performance plan (between 0.05 min/flight and 0.25 min/flight) therefore no malus applies for DSNA for 2017.

4. ATFM Slot Adherence



ATFM slot adherence remains at very similar levels compared to 2016, except for some improvements at Paris Charles de Gaulle (LFPG) and Orly (LFPO), and Bâle-Mulhouse (LFSB).

The general performance in terms of slot adherence ranges around or above the legal compliance boundary of 80%. Lyon Saint Exupery (LFL), Toulouse-Blagnac (LFBO) and Paris Charles de Gaulle (LFPG) achieve the best adherences.

5. Pre-departure Delay

The monitoring of ATC pre-departure delay is only possible at 2 of the 60 French airports covered by the performance plan: Nice (LFMN) and Paris Orly (LFPO).

The lack of data due to the non-establishment of the required data flow by the airports, together with an insufficient reporting of the observed delays in some cases like Charles de Gaulle (LFPG) (where more than 50% of the delays are left unexplained) make the monitoring of the indicator not possible.

Discernible levels of ATC pre-departure delay are observed at LFMN (0.36 min/dep.) and LFPO (0.71 min/dep.), commensurate with the level of traffic.

France shall encourage the timely implementation of the Airport Operator Data Flow for these airports and a proper reporting of the pre-departure delays through this data flow.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bâle-Mulhouse	LFSB	0.14	0.32	0.06			84.2%	80.5%	82.7%			n/a	n/a	n/a		
Lyon-Saint-Exupéry	LFLY	0.03	0.03	0.10			89.9%	90.7%	90.4%			0.12	n/a	n/a		
Marseille-Provence	LFML	0.12	0.54	0.13			81.3%	79.9%	79.6%			n/a	n/a	n/a		
Nice-Côte d'Azur	LFMN	0.23	0.20	0.20			83.2%	83.7%	82.5%			n/a	n/a	0.36		
Paris-Charles-de-Gaulle	LFPG	0.35	0.53	0.34			87.2%	85.1%	88.1%			0.40	0.37	n/a		
Paris-Orly	LFPO	0.96	1.90	1.40			82.3%	83.4%	85.5%			n/a	0.65	0.71		
Toulouse-Blagnac	LFBO	0.26	0.41	0.21			92.8%	93.3%	92.3%			n/a	n/a	n/a		
Agen-La Garenne	LFBA	0.00	0.00	0.00			83.0%	82.1%	83.1%			n/a	n/a	n/a		
Ajaccio-Napoléon-Bonaparte	LFKJ	0.01	0.09	0.04			88.6%	83.3%	84.8%			n/a	n/a	n/a		
Albert-Bray	LFAQ	0.39	0.03	0.00			44.0%	54.7%	55.2%			n/a	n/a	n/a		
Angers-Marcé	LFJR	0.04	0.05	0.01			85.5%	88.3%	85.7%			n/a	n/a	n/a		
Annecy-Meythet	LFLP	0.15	0.00	0.00			84.2%	90.0%	89.5%			n/a	n/a	n/a		
Avignon-Caumont	LFMV	0.04	0.31	0.13			81.5%	77.7%	74.6%			n/a	n/a	n/a		
Bastia-Poretta	LFKB	0.00	0.02	0.01			84.5%	81.6%	81.9%			n/a	n/a	n/a		
Beauvais-Tillé	LFOB	0.29	1.65	0.06			55.3%	49.5%	44.5%			n/a	n/a	n/a		
Bergerac-Roumanière	LFBE	0.00	0.00	0.03			79.1%	79.4%	83.9%			n/a	n/a	n/a		
Béziers-Vias	LFMU	0.00	0.00	0.00			97.0%	89.6%	92.6%			n/a	n/a	n/a		
Biarritz-Bayonne-Anglet	LFBZ	0.00	0.00	0.16			88.5%	87.8%	82.9%			n/a	n/a	n/a		
Bordeaux-Mérignac	LFBD	0.12	0.23	0.35			87.7%	89.1%	87.0%			n/a	n/a	n/a		
Brest-Bretagne	LFRB	0.01	0.02	0.02			90.3%	91.4%	91.7%			n/a	n/a	n/a		
Brive-Souillac	LFSL	0.00	0.00	0.00			94.3%	96.2%	95.2%			n/a	n/a	n/a		
Caen-Carpique	LFRK	0.00	0.00	0.00			84.9%	86.3%	90.8%			n/a	n/a	n/a		
Calvi-Sainte-Catherine	LFKC	0.22	0.23	0.58			90.5%	94.0%	88.5%			n/a	n/a	n/a		
Cannes-Mandelieu	LFMD	1.15	1.96	1.76			94.9%	95.1%	94.4%			n/a	n/a	n/a		
Carcassonne-Salvaza	LFMK	0.00	0.00	0.00			77.2%	80.9%	83.4%			n/a	n/a	n/a		
Châlons-Vatry	LFOK	0.09	0.00	0.00			n/a	n/a	n/a			n/a	n/a	n/a		
Chambéry-Aix-les-Bains	LFLB	1.62	1.31	0.71			89.1%	91.0%	82.8%			n/a	n/a	n/a		
Châteauroux-Déols	LFLX	0.00	0.00	0.00			84.8%	86.7%	94.2%			n/a	n/a	n/a		
Clermont-Ferrand-Auvergne	LFLC	0.01	0.00	0.00			79.5%	83.2%	85.3%			n/a	n/a	n/a		
Deauville-Normandie	LFRG	0.02	0.00	0.00			85.6%	86.9%	82.8%			n/a	n/a	n/a		
Dinard-Pleurtuit-Saint-Malo	LFRD	0.00	0.00	0.00			71.2%	75.8%	81.9%			n/a	n/a	n/a		
Dôle-Tavaux	LFGJ	0.00	0.00	0.00			57.0%	42.2%	54.4%			n/a	n/a	n/a		
Figari-Sud Corse	LFKF	1.58	1.37	5.26			84.6%	81.0%	80.9%			n/a	n/a	n/a		
Grenoble-Isère	LFLS	1.70	2.77	1.33			95.1%	91.5%	92.7%			n/a	n/a	n/a		

Hyères-Le Palyvestre	LFTH	0.00	0.01	0.05			84.3%	85.1%	81.5%			n/a	n/a	n/a		
Istres-Le Tubé	LFMI	0.00	0.00	0.00			75.0%	70.8%	73.0%			n/a	n/a	n/a		
La Rochelle-Ile de Ré	LFBH	0.10	0.00	0.01			89.2%	86.9%	90.5%			n/a	n/a	n/a		
Lannion	LFRO	0.00	0.00	0.00			92.9%	93.7%	96.5%			n/a	n/a	n/a		
Le Havre-Octeville	LFOH	0.00	0.00	0.00			82.4%	80.4%	92.3%			n/a	n/a	n/a		
Lille-Lesquin	LFQQ	0.34	0.22	0.11			89.3%	84.3%	86.1%			n/a	n/a	n/a		
Limoges-Bellegarde	LFBL	0.03	0.11	0.04			91.7%	92.4%	93.8%			n/a	n/a	n/a		
Lorient-Lann Bihoué	LFRH	0.00	0.00	0.02			86.7%	84.4%	89.6%			n/a	n/a	n/a		
Lyon-Bron	LFLY	0.00	0.01	0.01			92.9%	92.1%	95.9%			n/a	n/a	n/a		
Metz-Nancy-Lorraine	LFJL	0.00	0.00	0.01			75.4%	77.5%	77.8%			n/a	n/a	n/a		
Montpellier-Méditerranée	LFMT	0.02	0.01	0.00			92.0%	89.8%	91.1%			n/a	n/a	n/a		
Nantes-Atlantique	LFRS	0.16	0.33	0.18			88.6%	88.6%	91.5%			n/a	n/a	n/a		
Nîmes-Garons	LFTW	0.00	0.00	0.00			91.4%	87.9%	90.7%			n/a	n/a	n/a		
Paris-Le Bourget	LFPB	0.35	1.00	2.99			91.0%	90.0%	91.7%			n/a	n/a	n/a		
Pau-Pyrénées	LFBP	0.01	0.00	0.00			89.7%	88.2%	82.5%			n/a	n/a	n/a		
Perpignan-Rivesaltes	LFMP	0.57	0.00	0.02			96.8%	93.7%	95.9%			n/a	n/a	n/a		
Poitiers-Biard	LFBI	0.01	0.00	0.00			90.4%	87.1%	83.7%			n/a	n/a	n/a		
Quimper-Pluguffan	LFRQ	0.00	0.00	0.06			89.9%	92.3%	93.3%			n/a	n/a	n/a		
Rennes-Saint-Jacques	LFRN	0.00	0.00	0.00			82.2%	83.6%	84.6%			n/a	n/a	n/a		
Rodez-Marcillac	LFMR	0.00	0.00	0.00			94.6%	95.8%	94.6%			n/a	n/a	n/a		
Saint-Etienne-Bouthéon	LFMH	0.00	0.00	0.03			91.3%	92.0%	90.8%			n/a	n/a	n/a		
Saint-Nazaire-Montoir	LFRZ	0.00	0.00	0.00			88.6%	90.2%	95.2%			n/a	n/a	n/a		
Strasbourg-Entzheim	LFST	0.01	0.00	0.02			78.9%	80.9%	82.3%			n/a	n/a	n/a		
Tarbes-Lourdes Pyrénées	LFBT	0.00	0.00	0.00			95.8%	94.0%	92.3%			n/a	n/a	n/a		
Tours-Val de Loire	LFOT	0.04	0.00	0.00			100.0%	71.4%	100.0%			n/a	n/a	n/a		
Toussus-le-Noble	LFPN	1.68	1.59	0.51			65.0%	67.1%	68.9%			n/a	n/a	n/a		

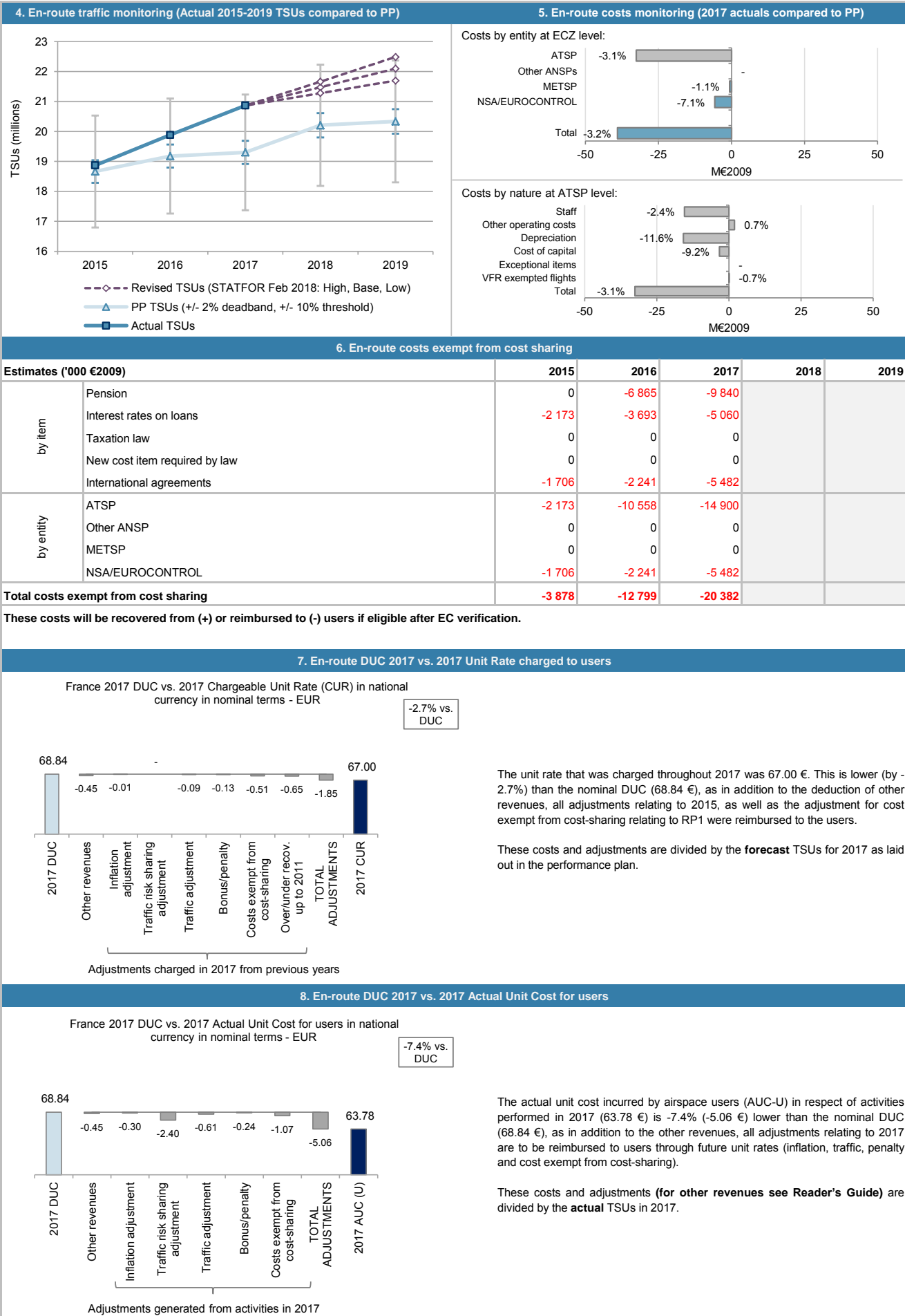
FRANCE: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
<ul style="list-style-type: none"> France ECZ represents 19.6% of the SES en-route ANS determined costs in 2017 ATSP: DSNA FAB: FABEC National currency: EUR 						
2. En-route DUC monitoring at Charging Zone level						
France: Data from RP2 Performance Plan (EC Decision 2017/553 of 22 March 2017)	2015D	2016D	2017D	2018D	2019D	
En-route costs (nominal EUR)	1 290 640 175	1 296 576 851	1 328 676 964	1 334 112 339	1 337 956 806	
Inflation %	0.1%	0.8%	1.1%	1.1%	1.3%	
Inflation index (100 in 2009)	108.2	109.1	110.3	111.5	113.0	
Real en-route costs (EUR2009)	1 192 625 922	1 188 249 284	1 204 538 004	1 196 187 863	1 184 005 999	
Total en-route Service Units	18 662 000	19 177 000	19 300 000	20 204 000	20 333 000	
Real en-route unit cost per Service Unit (EUR2009)	63.91	61.96	62.41	59.21	58.23	
France: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
En-route costs (nominal EUR)	1 232 156 471	1 249 336 773	1 279 604 941			
Inflation %	0.1%	0.3%	1.2%			
Inflation index (100 in 2009)	108.2	108.5	109.8			
Real en-route costs (EUR2009)	1 138 811 120	1 151 121 405	1 165 490 383			
Total en-route Service Units	18 867 771	19 882 659	20 862 129			
Real en-route unit cost per Service Unit (EUR2009)	60.36	57.90	55.87			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
En-route costs (nominal EUR)	-58 483 704	-47 240 078	-49 072 024			
	in %	-4.5%	-3.6%	-3.7%		
Inflation %	-0.02 p.p.	-0.5 p.p.	0.1 p.p.			
	in p.p.	-0.02 p.p.	-0.6 p.p.	-0.5 p.p.		
Real en-route costs (EUR2009)	-53 814 802	-37 127 879	-39 047 621			
	in %	-4.5%	-3.1%	-3.2%		
Total en-route Service Units	205 771	705 659	1 562 129			
	in %	1.1%	3.7%	8.1%		
Real en-route unit cost per Service Unit (EUR2009)	-3.55	-4.07	-6.54			
	in %	-5.6%	-6.6%	-10.5%		
3. Focus on en-route at State/Charging Zone level						
<p>En-route unit cost The 2017 actual en-route unit cost in real terms (55.87 €2009) is -10.5% lower than planned in the PP (62.41 €2009). This difference results from the combination of higher actual TSUs than planned (by +8.1%) and lower actual en-route costs than planned (by -3.2%, or -39.0 M€2009).</p> <p>En-route service units The difference between actual and planned TSUs for 2017 (+8.1%) falls outside the ±2% dead band, but is inside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting additional en-route revenue is therefore shared between the ATSP and the airspace users, with the gain retained by the DSNA amounting to +40.9 M€2009.</p> <p>The planned TSUs for the remaining years of the RP are lower than the STATFOR February 2018 <u>low</u> case scenario.</p> <p>En-route costs The actual en-route costs are -3.7% lower than planned in nominal terms (-3.2% in real terms, as the actual inflation index for 2017 is still lower by -0.5 p.p. than the economic assumption in the plan, even though the actual inflation rate is slightly higher than planned (+0.1 p.p.) in 2017).</p> <p>The lower than planned en-route costs are essentially driven by lower actual costs for DSNA (-3.1% or -32.6 M€2009), NSA/EUROCONTROL actual costs and the costs of Météo France are also lower compared to the amounts planned in the PP (-7.1%, or -5.8 M€2009 and -1.1% or -0.7 M€2009, respectively). DSNA being the main contributor, a detailed analysis at ATSP level is provided in box 12.</p> <p>Costs exempted from cost-sharing are reported for a total amount of -20.4 M€2009 to be reimbursed to airspace users in the following reference period(s), if deemed allowed by the European Commission.</p>						

FRANCE: En-route charging zone

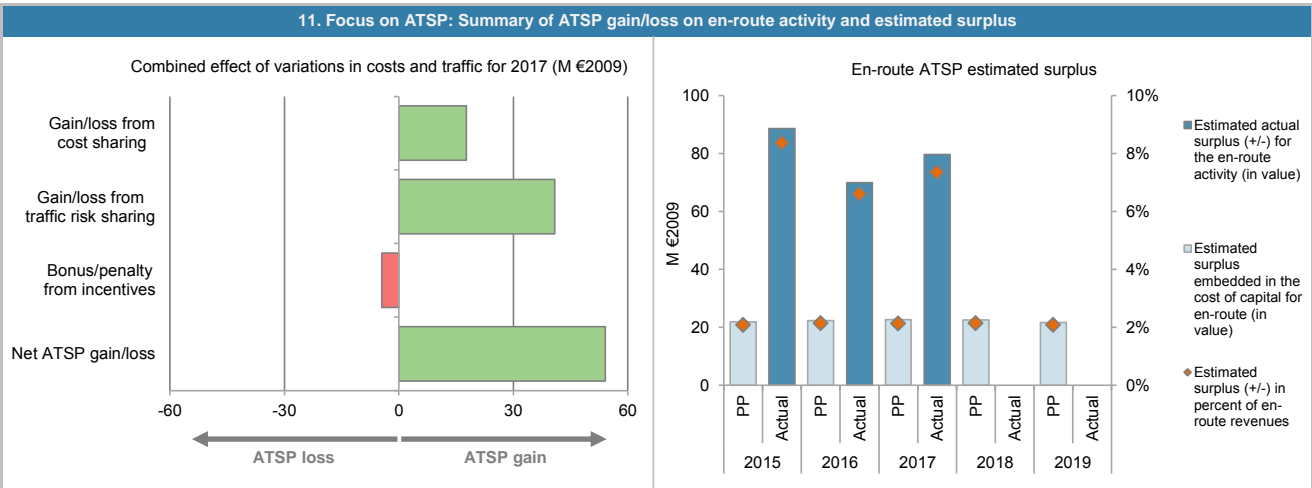
Monitoring of en-route COST-EFFICIENCY for 2017



FRANCE: En-route ATSP (DSNA)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	1 052 355	1 046 866	1 062 305		
Actual costs for the ATSP	1 000 045	1 013 021	1 029 695		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	52 310	33 845	32 610		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-2 173	-10 558	-14 900		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	50 138	23 288	17 710		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	1.1%	3.7%	8.1%		
Determined costs for the ATSP (PP) - based on actual inflation	1 052 566	1 052 503	1 067 286		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	11 606	26 354	40 858		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	-2 247	-3 039	-4 493		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	59 497	46 602	54 075		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	726 555	743 507	752 317	748 055	720 648
Estimated proportion of financing through equity (in %)	35.0%	35.0%	35.0%	35.0%	35.0%
Estimated proportion of financing through equity (in value)	254 294	260 228	263 311	261 819	252 227
Estimated proportion of financing through debt (in %)	65.0%	65.0%	65.0%	65.0%	65.0%
Estimated proportion of financing through debt (in value)	472 261	483 280	489 006	486 236	468 421
Cost of capital pre-tax (in value)	34 569	35 376	35 795	30 244	29 136
Average interest on debt (in %)	2.7%	2.7%	2.7%	1.6%	1.6%
Interest on debt (in value)	12 751	13 049	13 203	7 780	7 495
Determined RoE pre-tax rate (in %)	8.6%	8.6%	8.6%	8.6%	8.6%
Estimated surplus embedded in the cost of capital for en-route (in value)	21 818	22 328	22 592	22 464	21 641
Overall estimated surplus (+/-) for the en-route activity	21 818	22 328	22 592	22 464	21 641
Revenue/costs for the en-route activity	1 052 355	1 046 866	1 062 305	1 052 762	1 039 648
Estimated surplus (+/-) in percent of en-route revenues	2.1%	2.1%	2.1%	2.1%	2.1%
Estimated ex-ante RoE pre-tax rate (in %)	8.6%	8.6%	8.6%	8.6%	8.6%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	742 759	743 764	713 091		
Estimated proportion of financing through equity (in %)	45.6%	36.6%	41.8%		
Estimated proportion of financing through equity (in value)	338 549	272 069	297 787		
Estimated proportion of financing through debt (in %)	54.4%	63.4%	58.2%		
Estimated proportion of financing through debt (in value)	404 209	471 695	415 304		
Cost of capital pre-tax (in value)	38 102	32 494	32 486		
Average interest on debt (in %)	2.2%	1.9%	1.7%		
Interest on debt (in value)	9 054	9 151	6 936		
Determined RoE pre-tax rate (in %)	8.6%	8.6%	8.6%		
Estimated surplus embedded in the cost of capital for en-route (in value)	29 048	23 344	25 550		
Net ATSP gain(+)/loss(-) on en-route activity	59 497	46 602	54 075		
Overall estimated surplus (+/-) for the en-route activity	88 544	69 946	79 625		
Revenue/costs for the en-route activity	1 059 541	1 059 623	1 083 769		
Estimated surplus (+/-) in percent of en-route revenues	8.4%	6.6%	7.3%		
Estimated ex-post RoE pre-tax rate (in %)	26.2%	25.7%	26.7%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 DSNA en-route costs vs. PP

In 2017, DSNA actual en-route costs are -3.1% (-32.6 M€2009) lower, in real terms, than planned in the PP, mainly as a result of:

- Lower en-route staff costs than planned (by -2.4%, or -15.4 M€2009). According to the Additional Information provided along with the en-route Reporting Tables this is related to "the effects of the 2016-2019 social agreement which should apply more fully in 2018 and onwards." More precisely, DSNA is under an important structural transition phase aiming to significantly improve its operational and economic performance by 2020. In this context, a DGAC social agreement was signed on 19 July 2016 for the period 2016-2019.
- Significantly lower depreciation costs than planned (by -11.6%, or -15.8 M€2009). According to the Additional Information provided along with the en-route Reporting Tables "the difference comes mainly from two facts:
 - o some fixed assets were put in operation with some delay, and were not included in depreciation costs even if the expenditures were done.
 - o a purely accounting effect, being a consequence of the French State's specific public accounting rules, which do not allow the depreciation of certain investment expenses (i.e. studies, expenses below the accounting threshold of € 10k, ...), and record them instead as operating expenses that aren't included in depreciation costs."

Actual 2017 other operating costs are broadly in line with the planned values (+0.7%, or +1.9 M€2009).

Finally, actual 2017 cost of capital is lower than planned (-9.2%, or -3.3 M€2009), corresponding to lower interest on debt (due to both lower amounts of debt and lower interest rate on debt than planned).

DSNA net gain/loss on en-route activity in 2017

As shown in box 9, DSNA generated a net gain of +54.1 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +17.7 M€2009 arising from the cost-sharing mechanism;
- a gain of +40.9 M€2009 arising from the traffic risk-sharing mechanism; and,
- a loss of -4.5 M€2009, corresponding to a penalty as part of the FABEC capacity target incentive mechanism. This amount corresponds to -0.4% of DSNA en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs).

The amounts reported in respect of financial incentives for 2017, to be charged or reimbursed to users, will be examined by the European Commission.

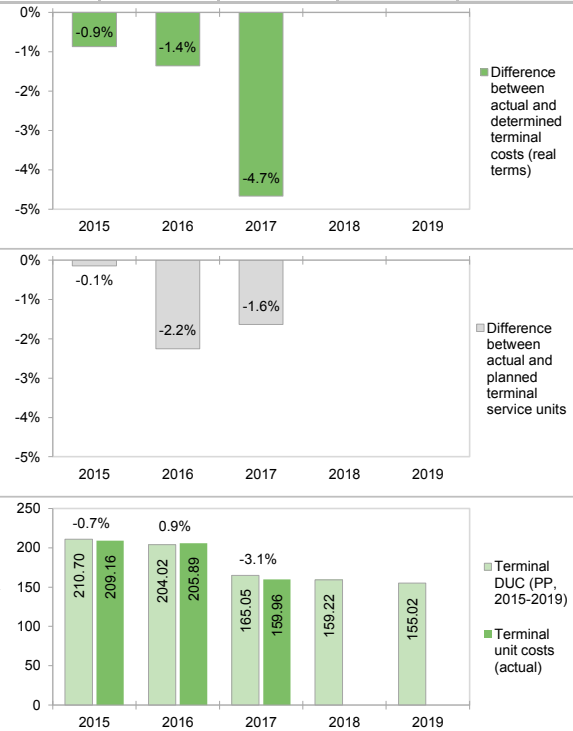
DSNA overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+54.1 M€2009) and the surplus embedded in the actual cost of capital (+25.6 M€2009) amounts to +79.6 M€2009 (7.3% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 26.7%, which is higher than the 8.6% planned in the PP.

FRANCE - ZONE 1: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

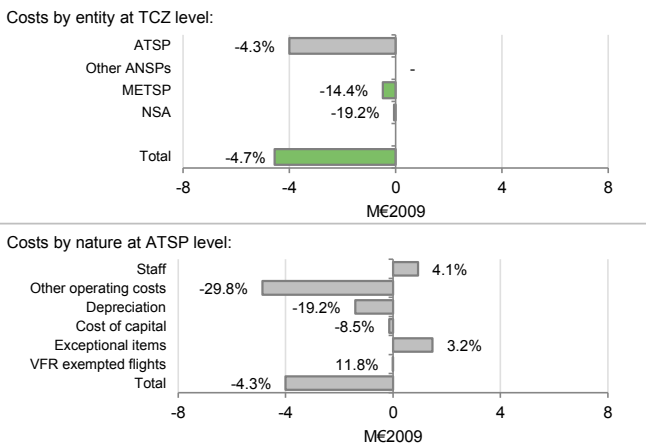
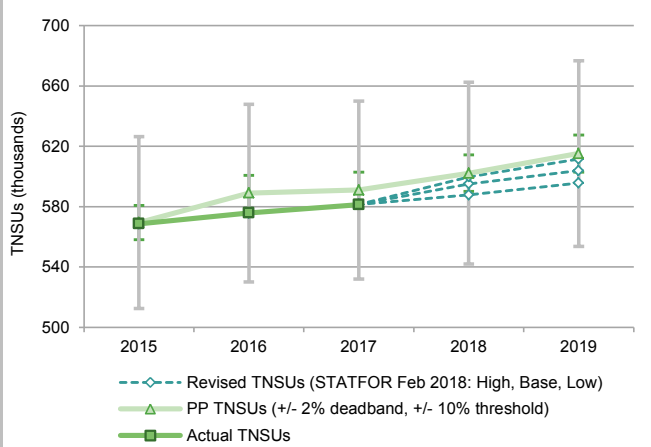
1. Contextual economic information: terminal air navigation services						
· France - Zone 1 TCZ represents 9.1% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes		
· ATSP: DSN		· Airports with fewer than 70,000 IFRs ATMs:		0		
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		0		
· Number of airports in charging zone in 2017: 2, of which:		· Airports with more than 225,000 IFRs ATMs:		2		
2. Terminal DUC monitoring at Charging Zone level						
France - Zone 1: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)		129 832 690	131 132 361	107 596 304	106 935 078	107 772 756
Inflation %		0.1%	0.8%	1.1%	1.1%	1.3%
Inflation index (100 in 2009)		108.2	109.1	110.3	111.5	113.0
Real terminal costs (EUR2009)		119 972 890	120 176 396	97 543 527	95 879 814	95 371 980
Total terminal Service Units		569 399	589 032	590 998	602 202	615 237
Real terminal unit cost per Service Unit (EUR2009)		210.70	204.02	165.05	159.22	155.02
France - Zone 1: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)		128 678 295	128 659 607	102 093 616		
Inflation %		0.1%	0.3%	1.2%		
Inflation index (100 in 2009)		108.2	108.5	109.8		
Real terminal costs (EUR2009)		118 929 922	118 545 160	92 988 956		
Total terminal Service Units		568 604	575 780	581 340		
Real terminal unit cost per Service Unit (EUR2009)		209.16	205.89	159.96		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
Terminal costs (nominal EUR) in value		-1 154 394	-2 472 754	-5 502 688		
in %		-0.9%	-1.9%	-5.1%		
Inflation % in p.p.		-0.02 p.p.	-0.5 p.p.	0.1 p.p.		
Inflation index (100 in 2009) in p.p.		-0.02 p.p.	-0.6 p.p.	-0.5 p.p.		
Real terminal costs (EUR2009) in value		-1 042 967	-1 631 237	-4 554 571		
in %		-0.9%	-1.4%	-4.7%		
Total terminal Service Units in value		-795	-13 252	-9 658		
in %		-0.1%	-2.2%	-1.6%		
Real terminal unit cost per Service Unit (EUR2009) in value		-1.54	1.86	-5.09		
in %		-0.7%	0.9%	-3.1%		
3. Focus on terminal at State/Charging Zone level						
This analysis focuses on France Terminal Charging Zone 1 comprising two airports, Paris-CDG and Paris-Orly (see Note 1).						
Terminal unit cost						
In 2017, the actual terminal unit cost in real terms (159.96 €2009) is -3.1% lower than planned in the PP (165.05 €2009). This difference results from the combination of lower actual terminal costs than planned (-4.7%, or -4.6 M€2009) and lower actual TNSUs than planned (by -1.6%).						
Terminal service units						
Traffic risk sharing applies in France Terminal Charging Zone 1. The difference between actual and planned TNSUs for 2017 (-1.6%) falls within the ±2% dead band foreseen in the traffic risk-sharing mechanism. The resulting loss of terminal revenues relating to costs subject to traffic risk sharing is therefore entirely borne by the DSN (-1.5 M€2009).						
The planned TNSUs for the remaining years of the RP are broadly in line with the STATFOR February 2018 high case scenario.						
Terminal costs						
The actual terminal costs are lower than planned in nominal terms by -5.1% (-4.7% in real terms, as the actual inflation index for 2017 remains lower by -0.5 p.p. than the economic assumption in the plan, even though the actual inflation rate is slightly higher than planned (+0.1 p.p.) in 2017).						
The overall difference between actual and planned costs for 2017 (-4.6 M€2009) is driven by reductions across all the reporting entities: DSN by -4.0 M€2009 (or -4.3%), Météo France by -0.5 M€2009 (or -14.4%) and NSA by -0.1 M€2009 (or -19.2%).						
Costs exempted from cost-sharing are reported for a total amount of -0.6 M€2009 to be reimbursed to airspace users in the following reference period(s), if deemed allowed by the European Commission. This corresponds to a reimbursement to users in respect of pension and interest on loans (lower actual interest rate than planned).						



FRANCE - ZONE 1: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)



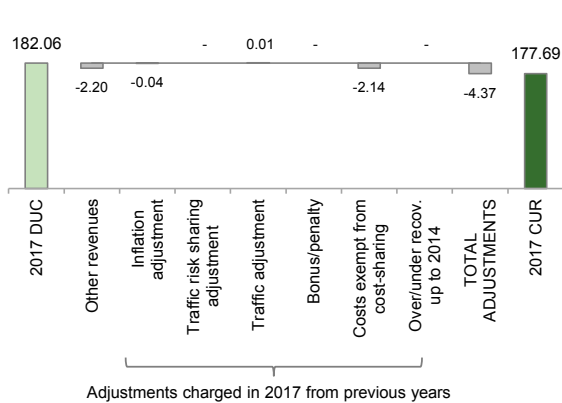
6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	-239	-343		
	Interest rates on loans	-100	-169	-240		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	-100	-408	-583		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		-100	-408	-583		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

France - Zone 1 2017 DUC vs. 2017 Chargeable Unit Rate (CUR) in national currency in nominal terms - EUR

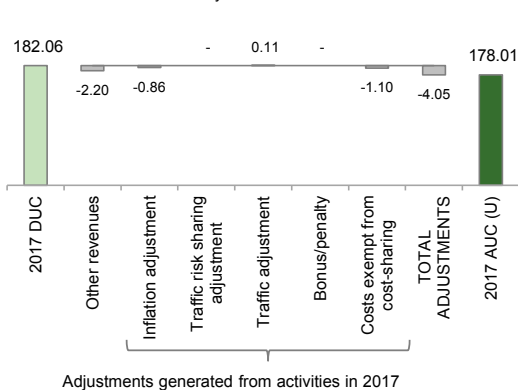


The unit rate charged to airspace users (CUR) in 2017 was 177.69 €. This is lower than the nominal DUC (182.06 €) by -2.4% mainly due to the deduction of other revenues and to the adjustment related to costs exempt from cost-sharing from RP1.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users

France - Zone 1 2017 DUC vs. 2017 Actual Unit Cost for users in national currency in nominal terms - EUR



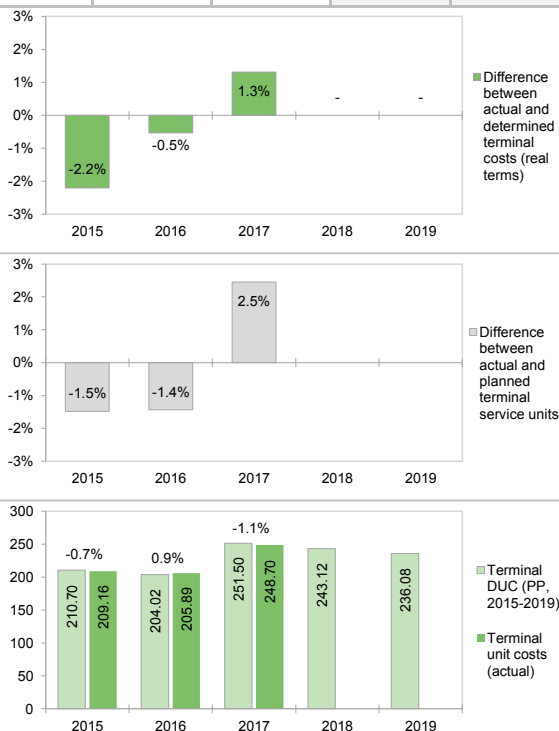
The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (178.01 €) is -2.2% lower than the nominal DUC (182.06 €), due to the deduction of other revenues, the inflation adjustment and costs exempt from cost-sharing to be reimbursed to users. These deductions are only slightly offset by the 2017 traffic adjustment.

These costs and adjustments (**for other revenues see Reader's Guide**) are divided by the **actual** TNSUs in 2017.

FRANCE - ZONE 2: Terminal charging zone

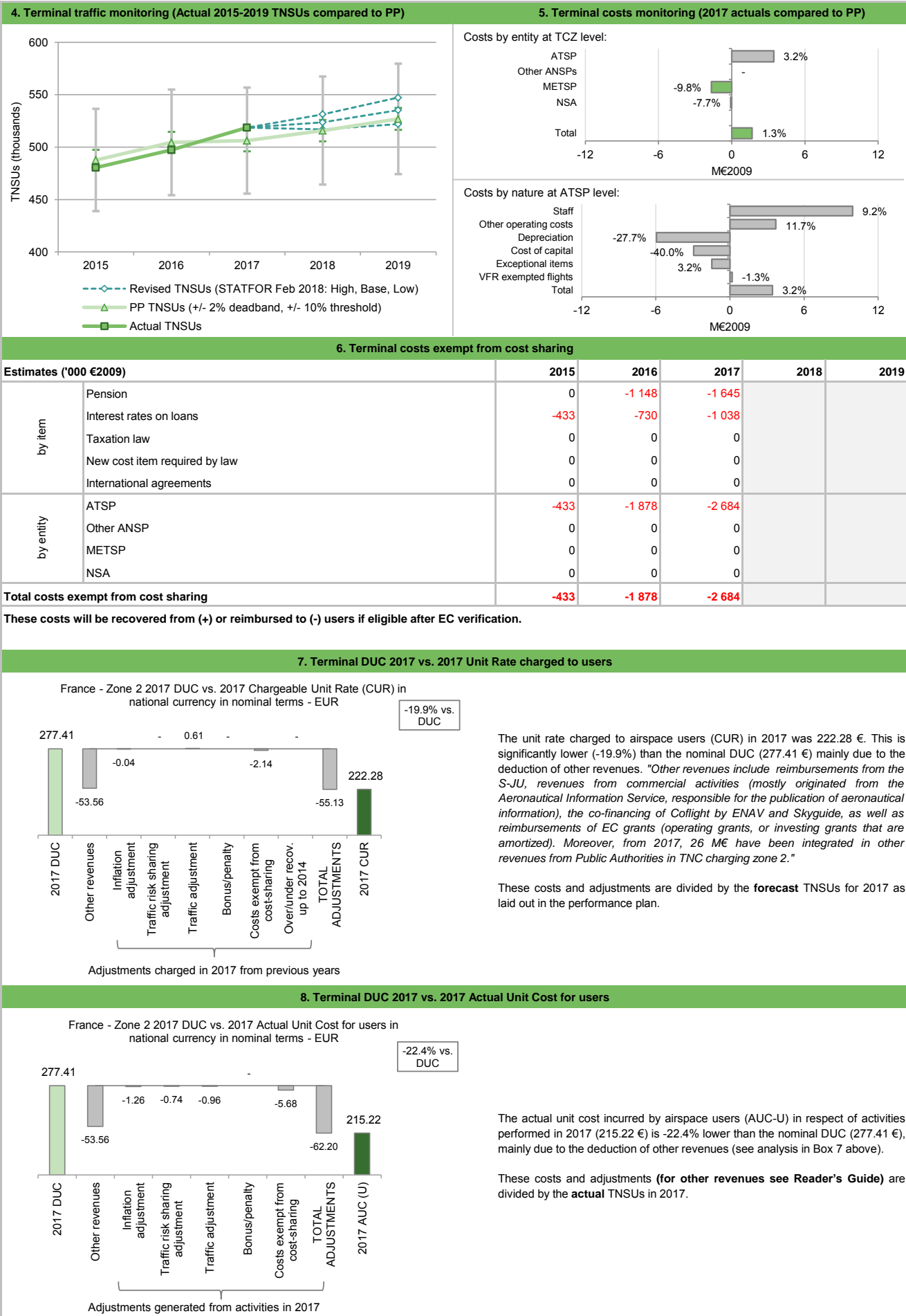
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· France - Zone 2 TCZ represents 11.8% of the SES terminal ANS determined costs in 2017	· Is this TCZ applying traffic risk sharing?				Yes
· ATSP: DSNA	· Airports with fewer than 70,000 IFRs ATMs:				53
· National currency: EUR	· Airports with between 70,000 and 225,000 IFRs ATMs:				5
· Number of airports in charging zone in 2017: 58,	· Airports with more than 225,000 IFRs ATMs:				0
2. Terminal DUC monitoring at Charging Zone level					
France - Zone 2: Data from RP2 Performance Plan	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	111 204 151	112 317 559	140 427 995	139 861 540	140 579 086
Inflation %	0.1%	0.8%	1.1%	1.1%	1.3%
Inflation index (100 in 2009)	108.2	109.1	110.3	111.5	113.0
Real terminal costs (EUR2009)	102 759 046	102 933 551	127 307 737	125 402 241	124 403 479
Total terminal Service Units	487 701	504 518	506 202	515 798	526 963
Real terminal unit cost per Service Unit (EUR2009)	210.70	204.02	251.50	243.12	236.08
France - Zone 2: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	108 735 563	111 118 121	141 611 268		
Inflation %	0.1%	0.3%	1.2%		
Inflation index (100 in 2009)	108.2	108.5	109.8		
Real terminal costs (EUR2009)	100 498 006	102 382 681	128 982 443		
Total terminal Service Units	480 481	497 278	518 628		
Real terminal unit cost per Service Unit (EUR2009)	209.16	205.89	248.70		
Difference between Actuals and Planned	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	-2 468 589	-1 199 437	1 183 273		
	in value				
	in %				
Inflation %	-0.02 p.p.	-0.5 p.p.	0.1 p.p.		
	in p.p.				
Inflation index (100 in 2009)	-0.02 p.p.	-0.6 p.p.	-0.5 p.p.		
	in p.p.				
Real terminal costs (EUR2009)	-2 261 041	-550 870	1 674 706		
	in value				
	in %				
Total terminal Service Units	-7 220	-7 240	12 426		
	in value				
	in %				
Real terminal unit cost per Service Unit (EUR2009)	-1.54	1.86	-2.80		
	in value				
	in %				
3. Focus on terminal at State/Charging Zone level					
This analysis focuses on France Terminal Charging Zone 2 comprising 58 airports (see Note 1).					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (248.70 €2009) is -1.1% lower than planned in the PP (251.50 €2009). This difference results from the combination of higher actual terminal costs than planned (+1.3%, or +1.7 M€2009) and higher actual TNSUs than planned (by +2.5%).					
Terminal service units					
Traffic risk sharing applies in France Terminal Charging Zone 2. The difference between actual and planned TNSUs for 2017 (+2.5%) falls outside the ±2% dead band, but is inside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting additional terminal revenue is therefore shared between the ATSP and the airspace users, with the gain retained by DSNA amounting to +2.3 M€2009.					
The planned TNSUs for the remaining years of the RP are broadly in line with the STATFOR February 2018 low case scenario.					
Terminal costs					
The actual terminal costs are higher than planned in nominal terms by +0.8% (+1.3% in real terms, as the actual inflation index for 2017 is still lower by -0.5 p.p. than the economic assumption in the plan, even though the actual inflation rate is slightly higher than planned (+0.1 p.p.) in 2017).					
The higher than planned terminal costs are essentially driven by higher actual costs for DSNA (+3.2% or +3.4 M€2009), NSA actual costs (-7.7%, or -0.1 M€2009) and the costs of Météo France (-9.8% or -1.7 M€2009) are lower compared to the amounts planned in the PP. Costs exempted from cost-sharing are reported for a total amount of -2.7 M€2009 to be reimbursed to airspace users in the following reference period(s), if deemed allowed by the European Commission. This corresponds to a reimbursement to users in respect of pension and interest on loans (lower actual interest rate than planned).					



FRANCE - ZONE 2: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017



FRANCE: Terminal ATSP (DSNA)

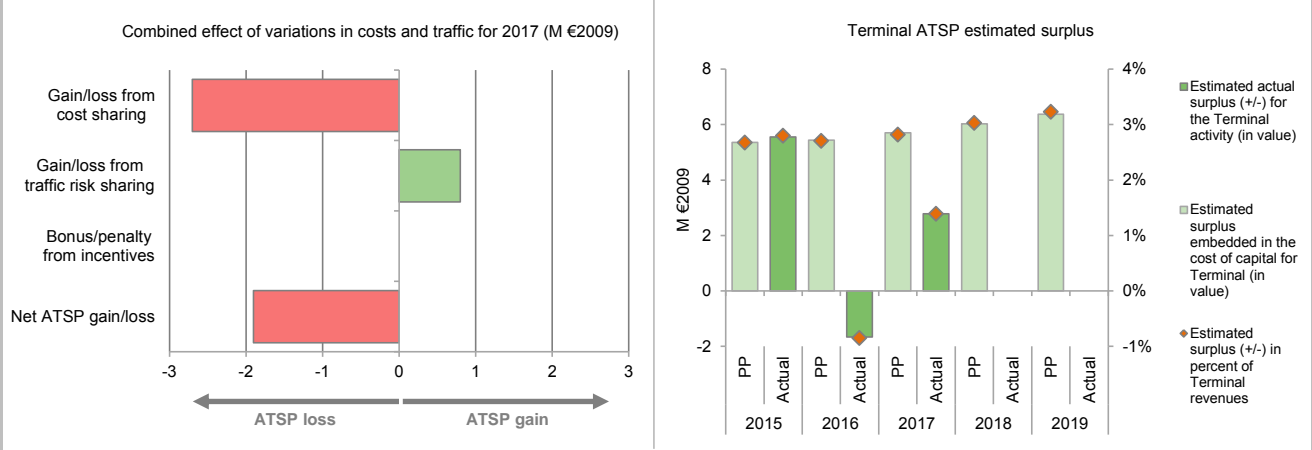
Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	200 752	201 091	202 845		
Actual costs for the ATSP	199 147	201 224	202 281		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	1 605	-132	564		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-534	-2 286	-3 267		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	1 072	-2 418	-2 703		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-0.8%	-1.9%	0.3%		
Determined costs for the ATSP (PP) - based on actual inflation	200 793	202 174	203 796		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-1 522	-3 789	799		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-451	-6 207	-1 904		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	178 452	181 011	190 049	200 711	212 325
Estimated proportion of financing through equity (in %)	35.0%	35.0%	35.0%	35.0%	35.0%
Estimated proportion of financing through equity (in value)	62 458	63 354	66 517	70 249	74 314
Estimated proportion of financing through debt (in %)	65.0%	65.0%	65.0%	65.0%	65.0%
Estimated proportion of financing through debt (in value)	115 994	117 657	123 532	130 462	138 011
Cost of capital pre-tax (in value)	8 491	8 612	9 043	8 115	8 584
Average interest on debt (in %)	2.7%	2.7%	2.7%	1.6%	1.6%
Interest on debt (in value)	3 132	3 177	3 335	2 087	2 208
Determined RoE pre-tax rate (in %)	8.6%	8.6%	8.6%	8.6%	8.6%
Estimated surplus embedded in the cost of capital for terminal (in value)	5 359	5 436	5 707	6 027	6 376
Overall estimated surplus (+/-) for the terminal activity	5 359	5 436	5 707	6 027	6 376
Revenue/costs for the terminal activity	200 752	201 091	202 845	199 173	197 599
Estimated surplus (+/-) in percent of terminal revenues	2.7%	2.7%	2.8%	3.0%	3.2%
Estimated ex-ante RoE pre-tax rate (in %)	8.6%	8.6%	8.6%	8.6%	8.6%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	153 551	144 583	130 798		
Estimated proportion of financing through equity (in %)	45.6%	36.6%	41.8%		
Estimated proportion of financing through equity (in value)	69 988	52 888	54 621		
Estimated proportion of financing through debt (in %)	54.4%	63.4%	58.2%		
Estimated proportion of financing through debt (in value)	83 562	91 694	76 177		
Cost of capital pre-tax (in value)	7 877	6 317	5 959		
Average interest on debt (in %)	2.2%	1.9%	1.7%		
Interest on debt (in value)	1 872	1 779	1 272		
Determined RoE pre-tax rate (in %)	8.6%	8.6%	8.6%		
Estimated surplus embedded in the cost of capital for terminal (in value)	6 005	4 538	4 687		
Net ATSP gain(+)/loss(-) on terminal activity	-451	-6 207	-1 904		
Overall estimated surplus (+/-) for the terminal activity	5 554	-1 669	2 783		
Revenue/costs for the terminal activity	198 696	195 017	200 377		
Estimated surplus (+/-) in percent of terminal revenues	2.8%	-0.9%	1.4%		
Estimated ex-post RoE pre-tax rate (in %)	7.9%	-3.2%	5.1%		

FRANCE: Terminal ATSP (DSNA)

Monitoring of terminal COST-EFFICIENCY for 2017

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 DSNA terminal costs vs. PP

TERMINAL CHARGING ZONE 1

In 2017, DSNA actual terminal costs were lower than planned (-4.3%, or -4.0 M€2009), in real terms. This results from the combination of:

- higher actual staff costs than planned (+4.1%, or +0.9 M€2009) mainly "because the allocation key between en-route and terminal services is lower than forecast, due to delays in the closing down of tower services on small aerodromes";
- significantly lower actual other operating costs than planned (-29.8%, or -4.9 M€2009). However, globally for TCZ 1 and TCZ 2 other operating costs were close to plan (-2.4%, or -1.2 M€2009);
- lower depreciation costs than foreseen in the plan (-19.2%, or -1.4 M€2009). "In addition to the decision to substitute 4-Flight by Sysat in CDG and Orly airports, the difference comes mainly from an accounting effect specific to the French State's public accounting rules";
- lower cost of capital (-8.5%, or -0.1 M€2009), reflecting a lower actual asset base than planned and a lower interest on debt;
- higher than planned exceptional costs (+3.2%, or +1.5 M€2009); and,
- the deduction of slightly higher actual costs for exempted VFR flights.

TERMINAL CHARGING ZONE 2

In 2017, DSNA actual terminal costs were higher than planned (+3.2%, or +3.4 M€2009), in real terms. This results from the combination of:

- higher actual staff costs than planned (+9.2%, or +9.9 M€2009) mainly "because the allocation key between en-route and terminal services is lower than forecast, due to delays in the closing down of tower services on small aerodromes";
- significantly higher actual other operating costs than planned (+11.7%, or +3.7 M€2009). However, globally for TCZ 1 and TCZ 2 other operating costs were close to plan (-2.4%, or -1.2 M€2009);
- lower depreciation costs than foreseen in the plan (-27.7%, or -6.0 M€2009), "...the difference comes mainly from an accounting effect specific to the French State's public accounting rules";
- lower cost of capital (-40.0%, or -2.9 M€2009), reflecting a lower actual asset base than planned and a lower interest on debt;
- higher than planned revenue recorded as (negative) exceptional costs (+3.2%), resulting in actual costs in this category being -1.5 M€2009 lower than planned; and,
- the deduction of lower actual costs for exempted VFR flights.

DSNA 2017 net gain/loss on terminal activity

As shown in box 9, DSNA generated an overall net loss of -1.9 M€2009 from the terminal activity in France TCZ 1 and TCZ 2. This is a combination of two elements:

- a loss of -2.7 M€2009 as a result of the cost-sharing mechanism reflecting a significant loss of -6.1 M€2009 for TCZ 2 and a gain of +3.4 M€2009 for TCZ 1. See the table below.
- a gain of +0.8 M€2009 as a result of traffic risk-sharing mechanism, reflecting a gain of +2.3 M€2009 for TCZ 2 and a loss of -1.5 M€2009 for TCZ 1. See the table below.

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity		
	TCZ 1	TCZ 2
Cost sharing ('000 €2009)		
2017		
Determined costs for the ATSP (PP) - based on planned inflation	93 841	109 004
Actual costs for the ATSP	89 835	112 446
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	4 006	-3 442
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-583	-2 684
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	3 423	-6 126
Traffic risk sharing ('000 €2009)		
2017		
Difference in total service units (actual vs PP) %	-16%	2.5%
Determined costs for the ATSP (PP) - based on actual inflation	94 281	109 515
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-1 541	2 340
Incentives ('000 €2009)		
2017		
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	1 882	-3 786

DSNA 2017 overall estimated surplus for the terminal activity

Ex-post, the overall estimated surplus taking into account the net loss from the terminal activity in France TCZ globally mentioned above (-1.9 M€2009) and the surplus embedded in the cost of capital for both TCZ 1 and TCZ 2 (+4.7 M€2009) amounts to +2.8 M€2009 (+1.4% of the 2017 terminal revenues). The resulting ex-post rate of return on equity is 5.1%, which is lower than the 8.6% planned in the PP.

FRANCE: Gate-to-gate

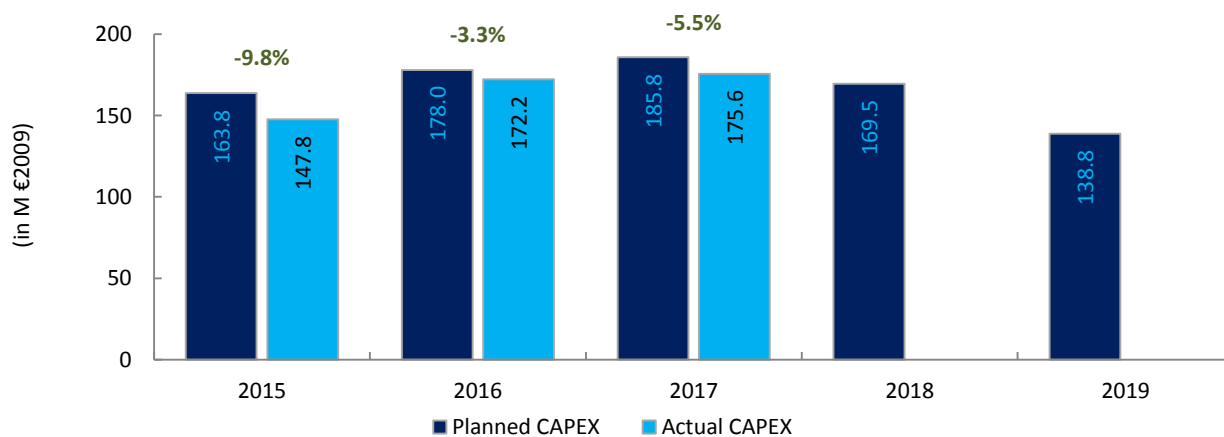
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																					
France: Data from RP2 Performance Plan																																					
	2015D	2016D	2017D	2018D	2019D																																
Real en-route costs (EUR2009)	1 192 625 922	1 188 249 284	1 204 538 004	1 196 187 863	1 184 005 999																																
Real terminal costs (EUR2009)	222 731 936	223 109 947	224 851 264	221 282 055	219 775 459																																
Real gate-to-gate costs (EUR2009)	1 415 357 858	1 411 359 231	1 429 389 268	1 417 469 918	1 403 781 458																																
En-route share (%)	84.3%	84.2%	84.3%	84.4%	84.3%																																
France: Actual data from Reporting Tables																																					
	2015A	2016A	2017A	2018A	2019A																																
Real en-route costs (EUR2009)	1 138 811 120	1 151 121 405	1 165 490 383																																		
Real terminal costs (EUR2009)	219 427 928	220 927 841	221 971 399																																		
Real gate-to-gate costs (EUR2009)	1 358 239 049	1 372 049 246	1 387 461 782																																		
En-route share (%)	83.8%	83.9%	84.0%																																		
Difference between Actuals and Planned (Actuals vs. PP)																																					
	2015	2016	2017	2018	2019																																
Real gate-to-gate costs (EUR2009)																																					
in value	-57 118 810	-39 309 985	-41 927 486																																		
in %	-4.0%	-2.8%	-2.9%																																		
En-route share																																					
in p.p.	-0.4 p.p.	-0.3 p.p.	-0.3 p.p.																																		
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																					
<p>In 2017, actual gate-to-gate ANS costs are -2.9% (-41.9 M€2009) lower than planned due to both lower en-route and terminal costs (globally for both terminal charging zones).</p> <p>The actual share of en-route in gate-to-gate ANS costs (84.0%) is slightly below the share planned in the PP for 2017 (84.3%).</p> <p>For DSNA, the estimated gate-to-gate economic surplus in 2017 amounts to 82.4 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 6.4% of gate-to-gate ANS revenues.</p>																																					
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>84.3%</td> <td>15.7%</td> </tr> <tr> <td>Actual</td> <td>83.8%</td> <td>16.2%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>84.2%</td> <td>15.8%</td> </tr> <tr> <td>Actual</td> <td>83.9%</td> <td>16.1%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>84.3%</td> <td>15.7%</td> </tr> <tr> <td>Actual</td> <td>84.0%</td> <td>16.0%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>84.4%</td> <td>15.6%</td> </tr> <tr> <td>Actual</td> <td>84.3%</td> <td>15.7%</td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	84.3%	15.7%	Actual	83.8%	16.2%	2016	Determined	84.2%	15.8%	Actual	83.9%	16.1%	2017	Determined	84.3%	15.7%	Actual	84.0%	16.0%	2018	Determined	84.4%	15.6%	Actual	84.3%	15.7%
Year	Type	En-route (%)	Terminal (%)																																		
2015	Determined	84.3%	15.7%																																		
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2017	Determined	84.3%	15.7%																																		
	Actual	84.0%	16.0%																																		
2018	Determined	84.4%	15.6%																																		
	Actual	84.3%	15.7%																																		
3. Technical notes on en-route and terminal information reported by France																																					
Note 1: Change in the scope of French Terminal Charging Zone																																					
<p>From 2017 and onwards, two terminal charging zones are established in France:</p> <ul style="list-style-type: none"> • Zone 1 for Paris-CDG and Paris-Orly (CZ1); and, • Zone 2 for the other 58 aerodromes (CZ2). <p>Therefore, the monitoring analysis for 2017 is presented separately for the two terminal charging zones, which is different from the Monitoring Reports 2015-2016 when France had a single terminal charging zone.</p>																																					

FRANCE

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: DSNA						
FAB: FABEC						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	177.3	194.3	205.0	189.1	156.9	922.5
Main CAPEX (in nominal M)	128.3	132.6	140.3	132.0	109.9	643.1
Inflation %	0.1%	0.8%	1.1%	1.1%	1.3%	
Inflation index (100 in 2009)	108.2	109.1	110.3	111.5	113.0	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	163.8	178.0	185.8	169.5	138.8	836.0
Main CAPEX (in M €2009)	118.6	121.5	127.2	118.3	97.2	582.8
% Main of Total CAPEX	72.4%	68.2%	68.4%	69.8%	70.0%	69.7%
Real gate-to-gate ANSP costs (in M €2009)	1 253.1	1 248.0	1 265.1	1 251.9	1 237.2	6 255.4
Total CAPEX as % of Real gate-to-gate ANSP costs	13.1%	14.3%	14.7%	13.5%	11.2%	13.4%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	159.9	186.9	192.8			
Main CAPEX (in nominal M)	132.5	155.3	152.7			
Inflation %	0.1%	0.3%	1.2%			
Inflation index (100 in 2009)	108.2	108.5	109.8			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	147.8	172.2	175.6			
Main CAPEX (in M €2009)	122.5	143.1	139.1			
% Main of Total CAPEX	82.9%	83.1%	79.2%			
Real gate-to-gate ANSP costs (in M €2009)	1 199.2	1 214.2	1 232.0			
Total CAPEX as % of Real gate-to-gate ANSP costs	12.3%	14.2%	14.3%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-17.4	-7.4	-12.2			
Total CAPEX (in M €2009)	-16.0	-5.8	-10.2			
Total CAPEX (in %, M €2009)	-9.8%	-3.3%	-5.5%			



Annual Monitoring Report 2017
Local level view
Germany

GERMANY

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	69	B	C	C	C	C
DFS	94	D	E	D	E	C
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	BAF					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	4	5				
Legal/Judiciary	4	3				
Occurrence reporting and Investigation	1	1				
TOTAL	9	9				
DFS	Number of questions answered					
	YES	NO				
Policy and its implementation	13	0				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	7	1				
TOTAL	22	2				
Observations						
<p>Only one question out of 36 in the EoS M Component/area of the State in Safety Policy and Objectives does not meet the 2019 EoS M target level. After verification some answers were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p>						

GERMANY

Monitoring of Airports Contribution to ENVIRONMENT for 2017

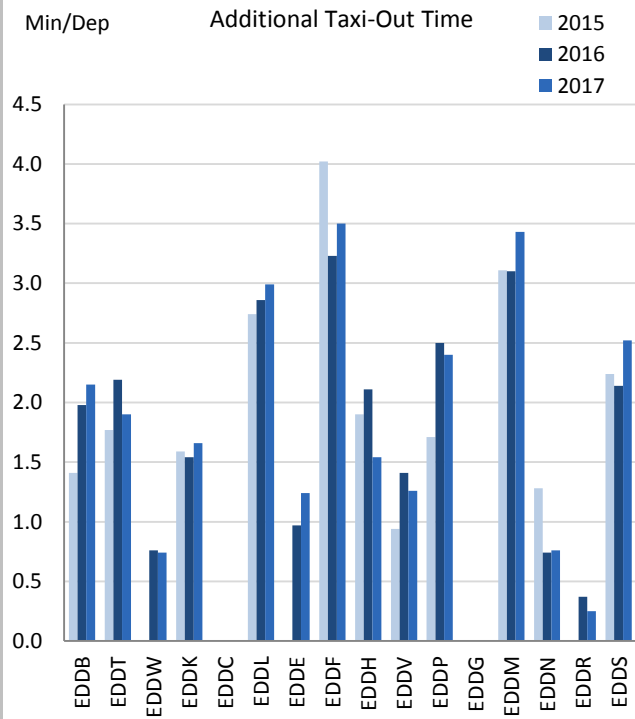
1. Overview

Germany identifies a total of 16 airports as subject to RP2 monitoring. Dresden (EDDC) is in the process of completing the transition to the Airport Operator Data Flow.

In total, traffic at German airports subject to RP2 increased by 2% in 2017, with the biggest impact taking place in Berlin Tegel (EDDT) as of November due to the collapse of Air Berlin.

The performance regarding the environmental indicators varies across the German airports and, with a few exceptions, is commensurate with the level of traffic.

2. Additional Taxi-Out Time



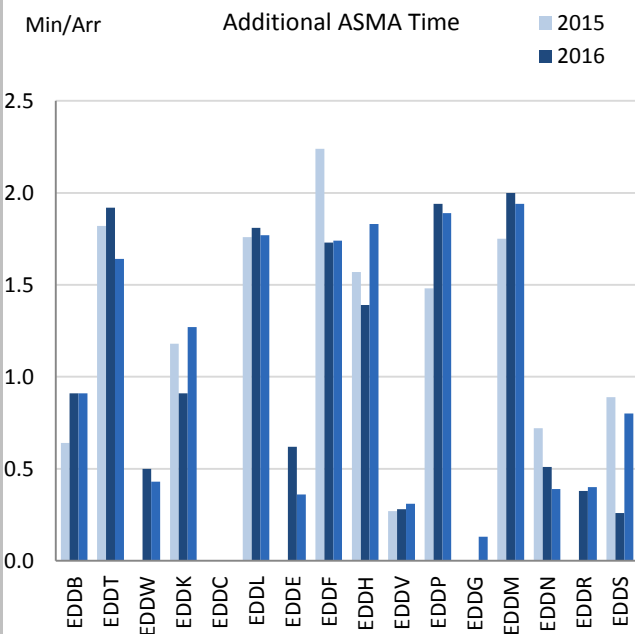
In general, additional taxi-out times at German airports are commensurate with the level of traffic, although this is not the only factor.

Erfurt (EDDE) and Leipzig (EDDP), although well below the average for RP2 airports, show higher additional TXOT times than other airports with those traffic levels, especially Erfurt, where the performance has worsened in 2017 (i.e. EDDE: 2016: 0.97 min/dep. vs 2017: 1.24 min/dep.)

On the other hand, Munich (EDDM) and Frankfurt (EDDF) (both A-CDM implemented airports) show once again best-in-class values for airports above 300000 movements per year (i.e. EDDM: 2017: 3.43 min/dep. and EDDF: 2017: 3.50 min/dep.). Nevertheless, their additional TXOT have increased in 2017 and are slightly above the average for airports monitored in RP2 (3.33 min/dep).

Stuttgart (EDDS) has significantly increased its additional times to 2.52 min/dep, while Berlin Tegel (EDDT) (1.90 min/dep) and Hamburg (EDDH) (1.54 min/dep), with an improved indicator in 2017, show improved performance and range below other airports in their category in terms of movements.

3. Additional ASMA Time



Additional ASMA times in Germany follow the general trend according to traffic levels, with the exception of Leipzig (EDDP) that shows once more in 2017 very high values, 1 minute above other airports with similar number of movements.

Frankfurt and Munich keep additional ASMA times below 2 minutes and around the RP2 average (1.89 min/arr.: weighted average for airports subject to RP2), despite their high levels of traffic.

Regarding the evolution with respect to 2016, the increase in additional times is significant in the terminal area at EDDK, EDDH and EDSS, while EDDT and EDDE have improved notably.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Berlin/ Schoenefeld	EDDB	1.41	1.98	2.15			0.64	0.91	0.91		
Berlin/ Tegel	EDDT	1.77	2.19	1.90			1.82	1.92	1.64		
Bremen	EDDW	n/a	0.76	0.74			n/a	0.50	0.43		
Cologne-Bonn	EDDK	1.59	1.54	1.66			1.18	0.91	1.27		
Dresden	EDDC	n/a	n/a	n/a			n/a	n/a	n/a		
Dusseldorf	EDDL	2.74	2.86	2.99			1.76	1.81	1.77		
Erfurt	EDDE	n/a	0.97	1.24			n/a	0.62	0.36		
Frankfurt	EDDF	4.02	3.23	3.50			2.24	1.73	1.74		
Hamburg	EDDH	1.90	2.11	1.54			1.57	1.39	1.83		
Hannover	EDDV	0.94	1.41	1.26			0.27	0.28	0.31		
Leipzig-Halle	EDDP	1.71	2.50	2.40			1.48	1.94	1.89		
Muenster-Osnabrueck	EDDG	n/a	n/a	n/a			n/a	n/a	0.13		
Munich	EDDM	3.11	3.10	3.43			1.75	2.00	1.94		
Nuremberg	EDDN	1.28	0.74	0.76			0.72	0.51	0.39		
Saarbruecken	EDDR	n/a	0.37	0.25			n/a	0.38	0.40		
Stuttgart	EDDS	2.24	2.14	2.52			0.89	0.26	0.80		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	N/A	N/A	N/A	N/A	N/A	Because there are two ANSPs in Germany, DFS and EUROCONTROL (MUAC), Germany did not set a national target. Exclusive use of CRSTMP codes means that the PRB is unable to independently validate the results for incentive purposes. Actual performance reported here is for all causes of delay.
Deadband +/-	N/A	N/A	N/A	N/A	N/A	
Actual performance	0.20	0.40	0.76			

National capacity incentive scheme

The incentive scheme is applied for delay causes listed in Art. 15 (g) of Regulation 391/2013; data used for calculation was AUA data provided by PRU.

[The PRU is unable to validate the attributed cause of delay, which is determined by the ANSP requesting the ATFM regulation.]

The Capacity delay target at FAB level was set at an average of 0.33 min/flight for CRSTMP ATFM delays.

DFS broken down target was set at 0.24 min/ flight.

EUROCONTROL (MUAC) broken down target was set at 0.14 min/flight.

2017 achievement (as reported by FABEC):

- FABEC: 0.76 min/flight for CRSTMP delays
- DFS: 0.50 min/flight for CRSTMP delays
- EUROCONTROL (MUAC): 0.43 min/flight for CRSTMP delays

Bonus/Malus:

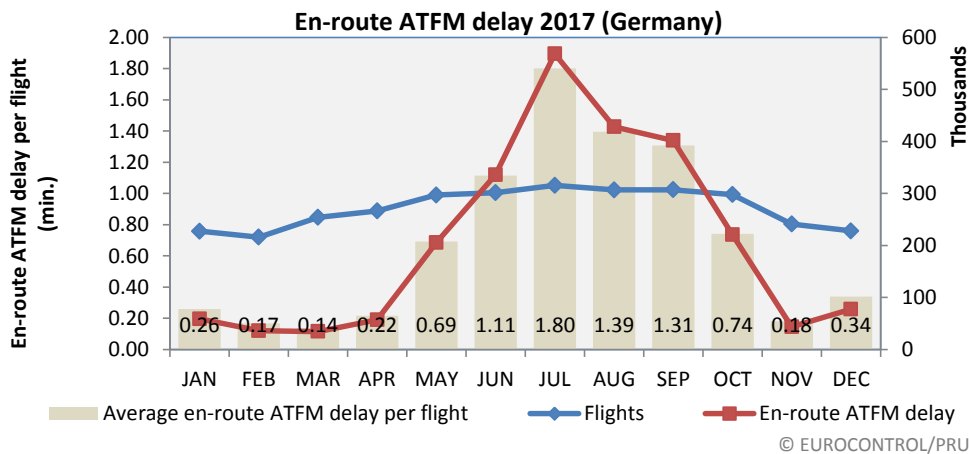
The percentage of malus for DFS was -0.4% of total ANSP's revenue in 2017, which equates to €3 135 978.84

The percentage of malus for EUROCONTROL (MUAC) was -0.5% of total ANSP revenue in 2017, which equates to €812 234.39

Note: The penalty for EUROCONTROL (MUAC) is applicable because of the performance over the four MUAC States (Belgium, Luxembourg, Germany and the Netherlands). The breakdown of the MUAC penalty per State is:

Belgium €254 398.31; Luxembourg €7 868.11; Germany €386 031.45 and the Netherlands €163 936.52

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Germany)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.73	0.72	1.34	0.86	0.51	0.24	0.26	0.20	0.40	0.76

The deterioration in en-route capacity performance in Germany in 2017 (0.76 minutes delay per flight) in comparison to 2016 (0.40 minutes delay per flight) and 2015 (0.20 minutes delay per flight) is noted. An approximate 4% rise in traffic levels saw a 90% rise in ATFM delays.

ATC staffing attributed delays rose from 0.12 minutes per flight in 2016 to 0.27 minutes per flight in 2017 for the DFS and from 0.03 to 0.04 minutes per flight for the whole of MUAC airspace - not just Germany. Staffing attributed delays highlight an inability to deploy existing capacity rather than a need for additional capacity.

Capacity attributed delays rose from 0.07 minutes in 2016 to 0.18 minutes per flight for the DFS and, for MUAC (as a whole, not just over Germany) they rose from 0.24 to 0.26 minutes per flight.

In the "Deviations from assumptions" section of the monitoring report, FABEC report that Germany experienced a very strong increase of the en-route service unit (ER SU)...considerably above the growth expected in the performance plan (PP).

Furthermore, FABEC reported: "ANSPs base their resource planning on traffic levels forecast. But in recent years the forecasts have failed to predict the sharp local peaks in demand in addition to the overall growth....The overall 4.3% traffic increase in 2017 might have been accurate enough for the European level but on a national or regional level the variations in demand...have been very different. This and the cost pressure have made it extremely difficult for many ANSPs working in the core areas of Europe to accurately plan for future capacity demands."

Although traffic increased by approximately 4% in 2017, over 2016 levels, the annual traffic figures for Germany remain within the range forecasted by STATFOR in February 2014, when the RP2 performance plans – and associated capacity plans were being drafted. (With the exception of 2014 when the actual traffic rose 0.1% above high forecast, in each year 2015, 2016 and 2017 the traffic rose above the baseline forecast but it remained lower than the high forecast.)

In the 2016 annual monitoring report, the PRB flagged concerns about the cancellation of FABEC capacity projects and about the failure to deploy existing capacity.

EUROCONTROL 7 year forecast February 2014 – Germany										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	3027		3121		3246		3348		3456	3561
Base	2989	3030	3056	3080	3131	3146	3192	3259	3254	3323
Low	2950		2983		3002		3022		3045	3070

In the latest version of the Network Operations Plan (NOP) 2018-2022, the Network Manager predicts that there will be a significant capacity shortage in Germany for the remainder of RP2, with neither the DFS nor MUAC meeting their required level of performance.

Planning and Effective Use of CDRs

Germany did not provide any data.

Observations on Planning and Effective Use of CDRs

It is noted that Germany, like many other States, is unable to monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
40%	40%	42%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
18%	19%	14%		

Share of restricted / segregated time (via UJP process) that was actually used				
2015	2016	2017	2018	2019
47%	42%	41%		

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

GERMANY

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

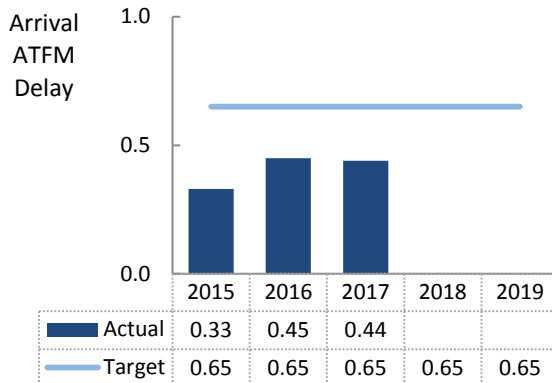
In Germany, ANS at 16 airports are subject to RP2 monitoring. Germany has established a national target on arrival ATFM delay.

In 2017, arrival ATFM delay in Germany remains at similar levels as in 2016 (2016: 0.45 min/arr. vs 2017: 0.44 min/arr.) The national target (all causes) is met in all years in RP2 so far.

Average national adherence to ATFM slots is also unchanged with respect to 2016, ranging above 90%, and showing best-in-class behaviour above 95% for 9 out of the 16 airports.

In 2017, only Dresden is still pending the implementation of the Airport Operator Data Flow in Germany. However, many of the airports still show a very poor reporting of the pre-departure delays, where more than half of the delays are left unexplained, making the monitoring of the ATC pre-departure delay not possible.

2. Arrival ATFM Delay



Average arrival ATFM delay (all causes) in Germany did not change with respect to 2016 at national level but there were significant changes for some airports at local level.

Hamburg (EDDH: 2016: 0.39 min/arr. vs 2017: 0.26 min/arr.), Munich (EDDM: 2016: 0.49 min/arr. vs 2017: 0.35 min/arr.), and Berlin Tegel (EDDT: 2016: 0.53 min/arr. vs 2017: 0.39 min/arr.) showed a clear improvement in the arrival delays. On the other hand, Cologne (EDDK: 2016: 0.08 min/arr. vs 2017: 0.39 min/arr.) and Dusseldorf (EDDL: 2016: 0.54 min/arr. vs 2017: 0.73 min/arr.) had significant increases of their arrival ATFM delays.

The national average (all causes) in 2017 (0.44 min/arr.) fully meets the RP2 target.

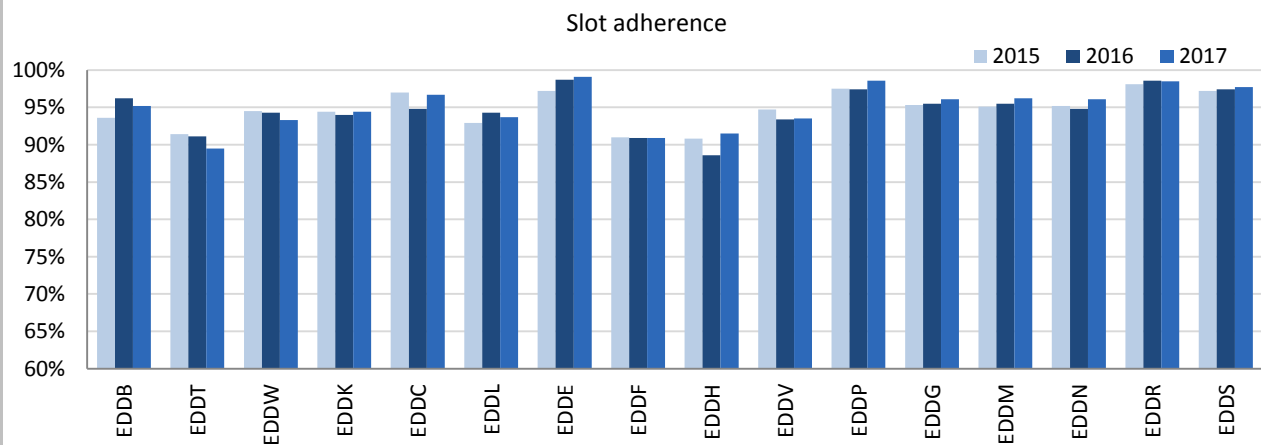
3. Arrival ATFM Delay – National Target and Incentive Scheme

Germany established a national target on arrival ATFM delay (all causes: 0.65 min/arr.; CRSTMP causes: 0.09 min/arr.) as presented in the FABEC performance plan.

The plan also presents an incentive scheme for the national target on CRSTMP causes. The actual performance exceeds the target, i.e. all causes: 0.44 min/arr. and associated to CRSTMP reasons: 0.00 min/arr. in 2017.

In accordance, the maximum bonus (0.5% of the revenues) is awarded to DFS.

4. ATFM Slot Adherence



The adherence to ATFM slots in Germany in 2017 remained at a high-level across all airports with no change at national level with respect to 2016. At airport level, while Hamburg (EDDH) has improved its performance, Berlin Tegel (EDDT) has slightly decreased the compliance and has now the lowest adherence of the German airports, but still well above the legal required of 80%. 9 of the 14 airports left perform above the 95% adherence, showing best-in-class performance in Europe.

5. Pre-departure Delay

In 2017 the airport operator specification was implemented for the remaining airports in Germany except Dresden, where it is expected to be implemented during 2018. However in many cases the quality of the reporting of delays as pointed out last year remains insufficient for the calculation of the ATC pre-departure delay indicator, with a very high share of delayed flights with no attributed delay causes. Accordingly, there is a limited level of valid reporting for 2017 (i.e. n/a label in the table in the appendix).

Both Frankfurt (EDDF) and Hamburg (EDDH) accrue a discernible share of pre-departure delay of 0.65 min/dep. and 0.49 min/dep. respectively, showing also an increase with respect to 2016.

The performance at Munich (EDDM) is noteworthy, with the lowest pre-departure delay for airports above 100 000 movements per year, showing best-in-class performance together with Oslo, Stockholm and Copenhagen.

Germany shall encourage the implementation of the Airport Operator Data Flow in Dresden and a proper reporting of the pre-departure delays through this data flow at all airports.

6. Appendix

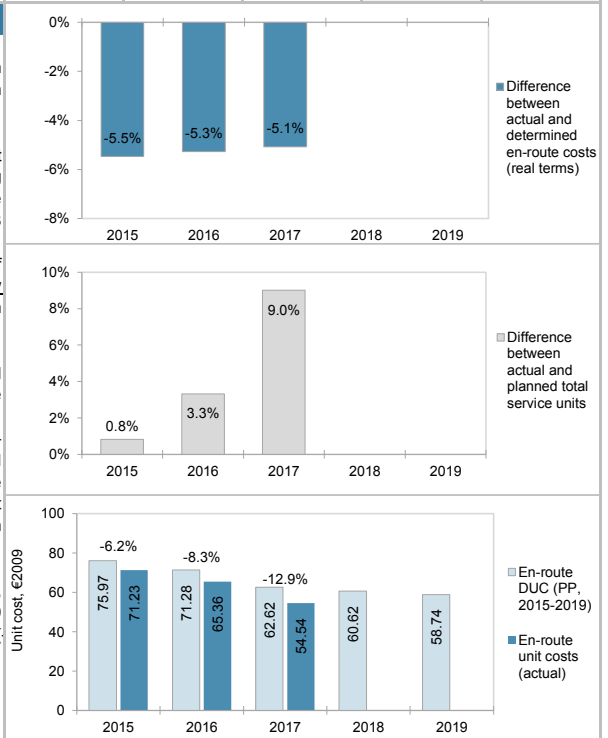
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Berlin/ Schoenefeld	EDDB	0.00	0.05	0.04			93.6%	96.2%	95.2%			n/a	n/a	n/a		
Berlin/ Tegel	EDDT	0.20	0.53	0.39			91.4%	91.1%	89.5%			n/a	n/a	n/a		
Bremen	EDDW	0.00	0.03	0.01			94.5%	94.3%	93.3%			0.02	0.04	0.04		
Cologne-Bonn	EDDK	0.02	0.08	0.39			94.4%	94.0%	94.4%			n/a	n/a	n/a		
Dresden	EDDC	0.00	0.01	0.00			97.0%	94.8%	96.7%			n/a	n/a	n/a		
Dusseldorf	EDDL	0.34	0.54	0.73			92.9%	94.3%	93.7%			n/a	n/a	n/a		
Erfurt	EDDE	0.00	0.00	0.00			97.2%	98.7%	99.1%			n/a	n/a	0.00		
Frankfurt	EDDF	0.67	0.86	0.84			91.0%	90.9%	90.9%			n/a	0.52	0.65		
Hamburg	EDDH	0.57	0.39	0.26			90.8%	88.6%	91.5%			n/a	0.32	0.49		
Hannover	EDDV	0.00	0.00	0.00			94.7%	93.4%	93.5%			0.09	0.14	0.13		
Leipzig-Halle	EDDP	0.00	0.18	0.12			97.5%	97.4%	98.6%			0.20	0.14	0.08		
Muenster-Osnabruock	EDDG	0.00	0.00	0.00			95.3%	95.5%	96.1%			n/a	n/a	n/a		
Munich	EDDM	0.33	0.49	0.35			95.1%	95.5%	96.2%			n/a	0.04	0.07		
Nuremberg	EDDN	0.00	0.00	0.01			95.2%	94.8%	96.1%			0.10	0.04	n/a		
Saarbruecken	EDDR	0.00	0.00	0.00			98.1%	98.6%	98.5%			n/a	n/a	0.00		
Stuttgart	EDDS	0.09	0.08	0.13			97.2%	97.4%	97.7%			n/a	n/a	0.11		

GERMANY: En-route charging zone

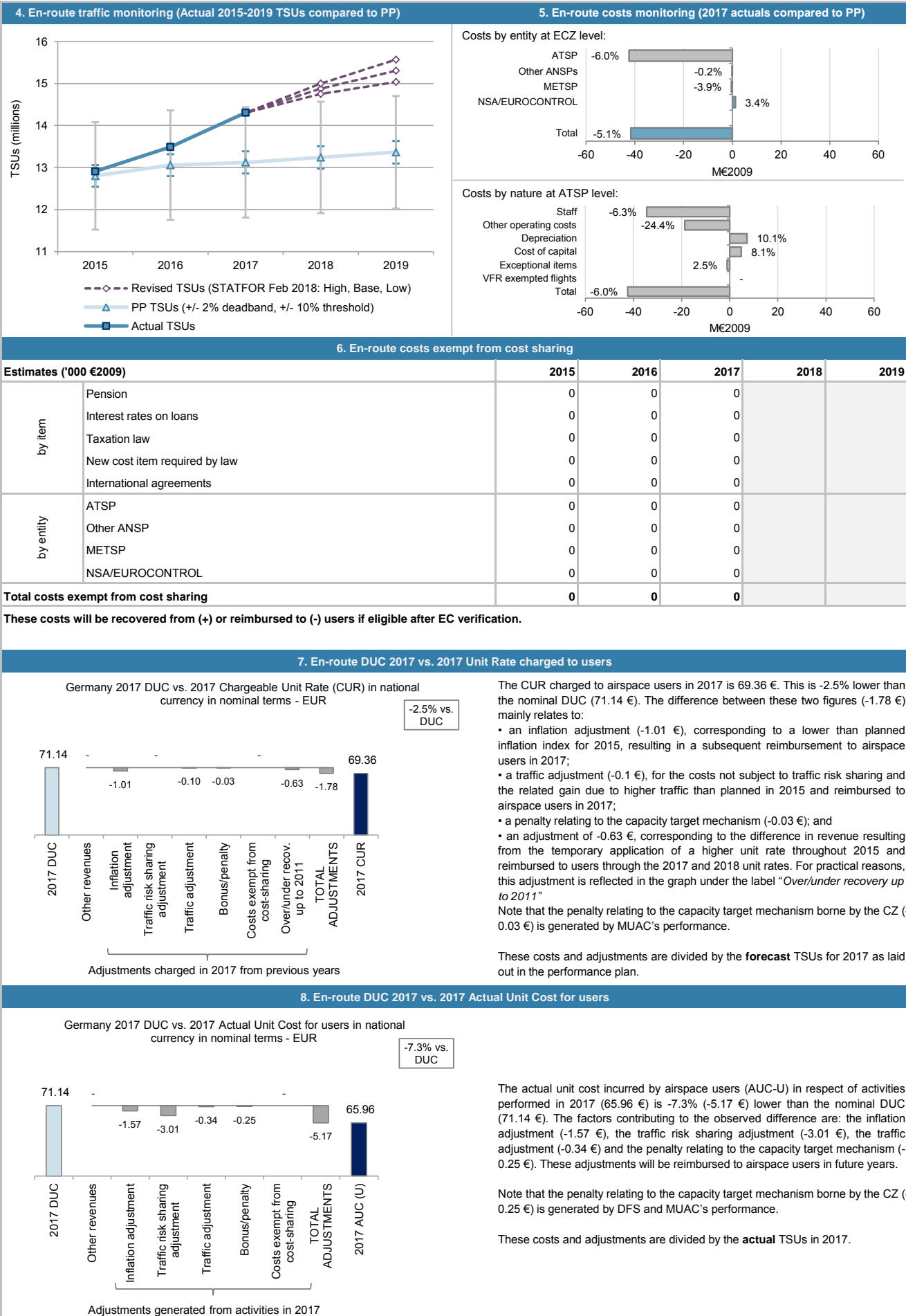
Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services					
· Germany ECZ represents 13.4% of the SES en-route ANS determined costs in 2017					
· ATSP: DFS					
· FAB: FABEC					
· National currency: EUR					
2. En-route DUC monitoring at Charging Zone level					
Germany: Data from RP2 Performance Plan (EC Decision 2017/553 of 22 March 2017)	2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)	1 069 142 223	1 039 587 943	933 436 977	927 369 907	922 283 254
Inflation %	1.4%	1.6%	1.7%	1.7%	1.7%
Inflation index (100 in 2009)	109.9	111.7	113.6	115.5	117.5
Real en-route costs (EUR2009)	972 517 385	930 742 228	821 735 846	802 748 084	784 999 985
Total en-route Service Units	12 801 000	13 057 000	13 122 000	13 242 000	13 365 000
Real en-route unit cost per Service Unit (EUR2009)	75.97	71.28	62.62	60.62	58.74
Germany: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)	998 129 209	961 086 891	864 788 951		
Inflation %	0.1%	0.4%	1.7%		
Inflation index (100 in 2009)	108.6	109.0	110.9		
Real en-route costs (EUR2009)	919 323 427	881 679 013	780 076 202		
Total en-route Service Units	12 906 339	13 489 534	14 303 636		
Real en-route unit cost per Service Unit (EUR2009)	71.23	65.36	54.54		
Difference between Actuals and Planned	2015	2016	2017	2018	2019
En-route costs (nominal EUR) in value	-71 013 015	-78 501 052	-68 648 026		
in %	-6.6%	-7.6%	-7.4%		
Inflation % in p.p.	-1.3 p.p.	-1.2 p.p.	0.0 p.p.		
Inflation index (100 in 2009) in p.p.	-1.4 p.p.	-2.7 p.p.	-2.7 p.p.		
Real en-route costs (EUR2009) in value	-53 193 958	-49 063 214	-41 659 644		
in %	-5.5%	-5.3%	-5.1%		
Total en-route Service Units in value	105 339	432 534	1 181 636		
in %	0.8%	3.3%	9.0%		
Real en-route unit cost per Service Unit (EUR2009) in value	-4.74	-5.92	-8.09		
in %	-6.2%	-8.3%	-12.9%		
3. Focus on en-route at State/Charging Zone level					
En-route unit cost					
In 2017, the actual en-route unit cost in real terms (54.54 €2009) is -12.9% lower than planned in the PP (62.62 €2009). This difference results from the combination of significant higher than planned TSUs (+9.0%) and lower than planned en-route costs (-5.1%, or -41.7 M€2009).					
En-route service units					
The difference between actual and planned TSUs (+9.0%) falls outside the ±2% dead-band but inside the ±10% alert threshold foreseen in the traffic risk-sharing mechanism. The resulting additional en-route revenues relating to the traffic risk sharing are therefore shared between the ATSP (DFS) and the airspace users with a gain to be retained by the ATSP amounting to +29.8 M€2009.					
Considering the latest STATFOR February 2018 TSUs forecasts, the traffic outlook for the rest of RP2 remains much higher than the presented in the PP for Germany. Indeed, even if the low STATFOR February 2018 scenario occurs, the traffic is expected to exceed the 10% threshold in the years 2018 and 2019.					
En-route costs					
In nominal terms, actual en-route costs are -7.4% lower than planned. However, since the actual inflation index is also lower than planned (-2.7 p.p.), actual en-route costs are -5.1% below the planned level when expressed in €2009.					
The lower than planned en-route costs in real terms are mainly driven by DFS (-6.0%, or some -42.4 M€2009). In addition, the actual en-route costs of MUAC (-0.2%, or some -0.1 M€2009) and of METSP (-3.9%, or -0.4 M€2009) recorded lower than planned costs. On the other side the NSAEUROCONTROL costs (+3.4%, or +1.3 M€2009) are higher than planned, due to the fact that ECTL costs allocation has been modified and now the MUAC support costs have been allocated to the MUAC states (Part IV ECTL cost).					
A detailed analysis at ATSP level is provided in box 12.					
For MUAC, the lower actual en-route costs for 2017 (i.e. -0.2%) reflect higher staff costs (+3.2%, or some +1.6 M€2009), compensated by lower other operating costs (-10.1%, or some -0.9 M€2009), lower depreciation costs (i.e. -15.6%, or some -0.6 M€2009) and lower cost of capital (-68.5%, or some -0.2 M€2009).					
There are no costs exempt from cost-sharing reported.					



GERMANY: En-route charging zone

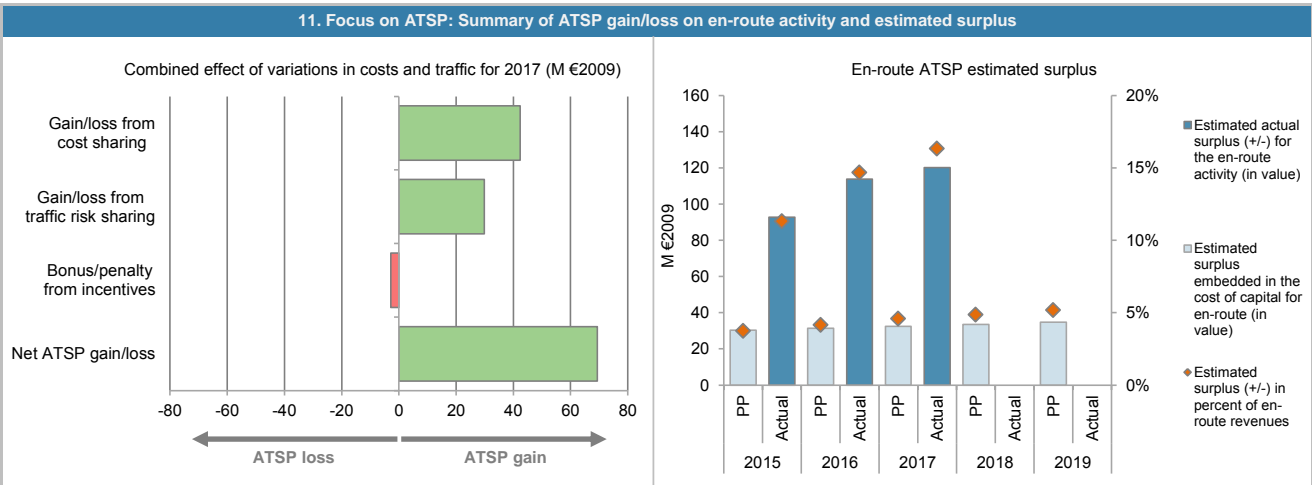
Monitoring of en-route COST-EFFICIENCY for 2017



GERMANY: En-route ATSP (DFS)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	812 550	755 932	709 432		
Actual costs for the ATSP	762 125	703 760	667 057		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	50 425	52 172	42 375		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	50 425	52 172	42 375		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	0.8%	3.3%	9.0%		
Determined costs for the ATSP (PP) - based on actual inflation	822 753	774 573	726 927		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	6 770	18 542	29 815		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	-2 829		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	57 195	70 714	69 361		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	1 356 648	1 289 129	1 227 898	1 165 907	1 104 511
Estimated proportion of financing through equity (in %)	30.1%	32.7%	35.6%	38.6%	42.3%
Estimated proportion of financing through equity (in value)	408 169	421 762	436 722	450 328	467 152
Estimated proportion of financing through debt (in %)	69.9%	67.3%	64.4%	61.4%	57.7%
Estimated proportion of financing through debt (in value)	948 479	867 368	791 176	715 579	637 359
Cost of capital pre-tax (in value)	62 410	60 499	58 854	57 103	55 549
Average interest on debt (in %)	3.4%	3.4%	3.3%	3.3%	3.3%
Interest on debt (in value)	32 001	29 078	26 318	23 553	20 746
Determined RoE pre-tax rate (in %)	7.5%	7.5%	7.5%	7.5%	7.5%
Estimated surplus embedded in the cost of capital for en-route (in value)	30 409	31 421	32 536	33 549	34 803
Overall estimated surplus (+/-) for the en-route activity	30 409	31 421	32 536	33 549	34 803
Revenue/costs for the en-route activity	812 550	755 932	709 432	690 931	672 960
Estimated surplus (+/-) in percent of en-route revenues	3.7%	4.2%	4.6%	4.9%	5.2%
Estimated ex-ante RoE pre-tax rate (in %)	7.5%	7.5%	7.5%	7.5%	7.5%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	1 397 725	1 457 775	1 471 128		
Estimated proportion of financing through equity (in %)	34.1%	39.6%	46.4%		
Estimated proportion of financing through equity (in value)	476 728	577 082	682 599		
Estimated proportion of financing through debt (in %)	65.9%	60.4%	53.6%		
Estimated proportion of financing through debt (in value)	920 997	880 693	788 529		
Cost of capital pre-tax (in value)	62 663	67 784	63 633		
Average interest on debt (in %)	2.9%	2.8%	1.6%		
Interest on debt (in value)	27 147	24 791	12 779		
Determined RoE pre-tax rate (in %)	7.5%	7.5%	7.5%		
Estimated surplus embedded in the cost of capital for en-route (in value)	35 516	42 993	50 854		
Net ATSP gain(+)/loss(-) on en-route activity	57 195	70 714	69 361		
Overall estimated surplus (+/-) for the en-route activity	92 712	113 706	120 215		
Revenue/costs for the en-route activity	819 320	774 473	736 418		
Estimated surplus (+/-) in percent of en-route revenues	11.3%	14.7%	16.3%		
Estimated ex-post RoE pre-tax rate (in %)	19.4%	19.7%	17.6%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 DFS en-route costs vs. PP

In 2017, DFS actual en-route costs are -6.0% (-42.4 M€2009) lower, in real terms, than planned in the PP. This results from the combination of:

- lower staff costs (-6.3%, or -34.5 M€2009), as indicated in the Additional Information to the June 2018 en-route Reporting Tables, "there is a decline in the number of staff due to the DFS cost reduction programme of the last years, only partially compensated by salary increases because of collective agreements and career development. Furthermore, there is an increase in overtime work due to a considerable traffic growth, which is recognised as accruals. The contribution to the Pension Protection Fund in 2017 amounted to 2%. This is more than in 2016 (0%) and less than in the performance plan (5%)".
- lower other operating costs (-24.4%, or -18.7 M€2009), as indicated in the Additional Information to the June 2018 en-route Reporting Tables, "compared to the performance plan, there are lower costs for consulting fees and travel expenses. Maintenance costs for buildings and technical systems also decreased, as well as costs for electricity and heating. In addition, there is the effect of the low inflation of the past years";
- significant higher depreciation costs (+10.1%, or +7.1 M€2009), as indicated in the Additional Information to the June 2018 en-route Reporting Tables, "the increase as compared to the performance plan is primarily the result of the project iCAS Upper Airspace. Furthermore, some single measures regarding the IT infrastructure such as the backup system of SDDS-NG, the purchase of VAN routers and the project iCAS Munich have an impact"; and,
- a significant higher cost of capital (+8.1%, or + 4.8 M€2009), as indicated in the Additional Information to the June 2018 en-route Reporting Tables, "in comparison to the performance plan, there is an opposing effect in the calculation of the "actual" return on equity due to a rising equity share of the average total assets. ".

DFS net gain/loss on en-route activity in 2017

As shown in box 9, DFS generated a net gain of +69.4 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +42.4 M€2009 arising from the cost-sharing mechanism;
- a gain of +29.8 M€2009 arising from the traffic risk-sharing mechanism; and,
- a loss of -2.8 M€2009 corresponding to a penalty DFS as part of en-route capacity target incentive mechanism reported in the 2017 FABEC FAB monitoring report. This amount corresponds to 0.4% of DFS en-route revenues (based on the ATSP chargeable unit rate for 2017 times the actual TSUs). The inclusion of this bonus, in the chargeable cost base, will be examined by the European Commission.

DFS net gain in 2017 (+69.4 M€2009), is slightly lower (-1.9%) than the net gain recorded in 2016 (+70.7 M€2009). This is mainly due to the gain arising from the traffic risk-sharing mechanism, which is +60.8% higher in 2017 compared to 2016, while the gain arising from the cost-sharing mechanism is -18.8% lower in 2017 compared to 2016.

DFS overall estimated surplus for the en-route activity

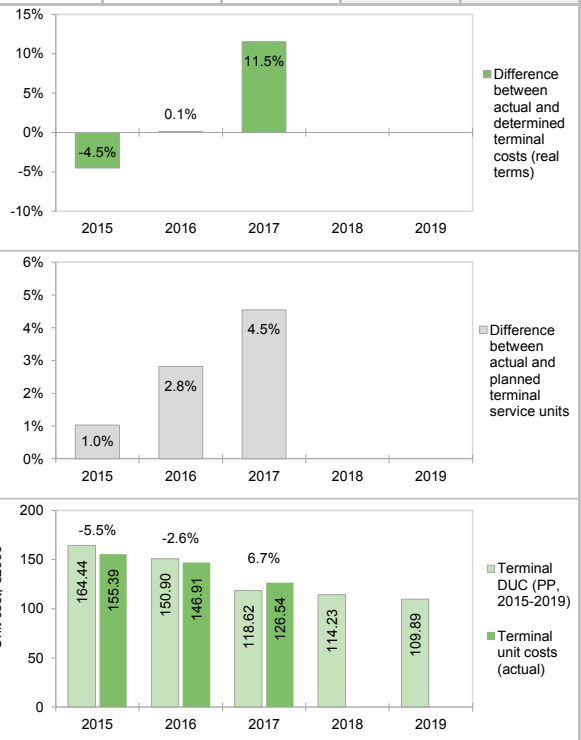
Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+69.4 M€2009) and the surplus embedded in the actual cost of capital (+50.9 M€2009) amounts to +120.2 M€2009 (16.3% of the 2017 en-route revenues), which is +5.7% higher than in 2016 (113.7M€2009).

The resulting ex-post rate of return on equity is 17.6%, which is significantly higher than the 7.5% planned in the PP.

GERMANY: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

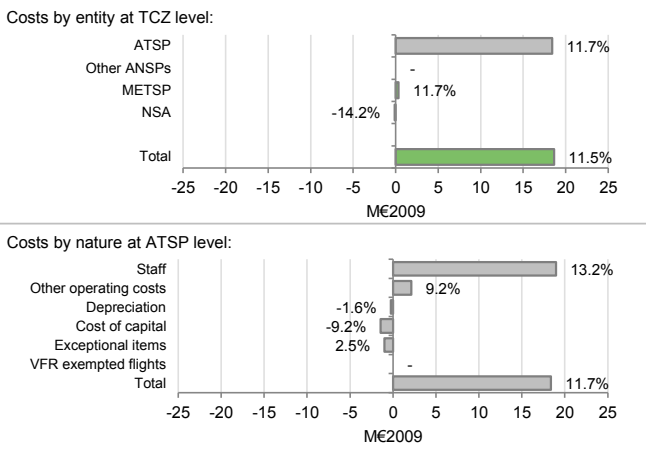
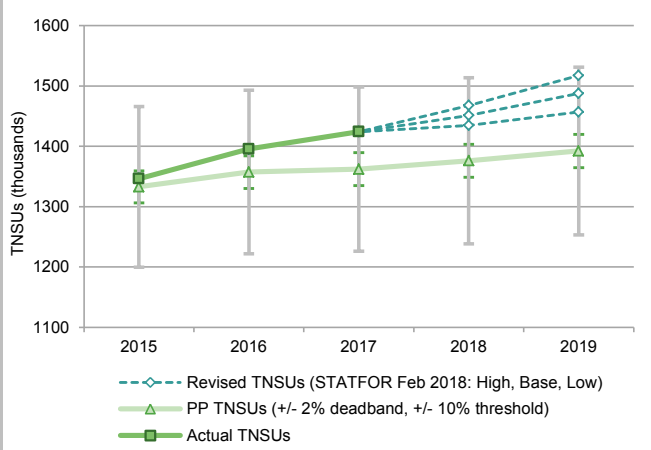
1. Contextual economic information: terminal air navigation services					
· Germany TCZ represents 15.0% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes	
· ATSP: DFS		· Airports with fewer than 70,000 IFRs ATMs:		9	
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		5	
· Number of airports in charging zone in 2017: 16,		of which:		· Airports with more than 225,000 IFRs ATMs: 2	
2. Terminal DUC monitoring at Charging Zone level					
Germany: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	240 938 212	228 762 834	183 533 387	181 581 437	179 750 173
Inflation %	1.4%	1.6%	1.7%	1.7%	1.7%
Inflation index (100 in 2009)	109.9	111.7	113.6	115.5	117.5
Real terminal costs (EUR2009)	219 163 171	204 811 176	161 570 590	157 180 161	152 994 086
Total terminal Service Units	1 332 800	1 357 300	1 362 100	1 376 000	1 392 200
Real terminal unit cost per Service Unit (EUR2009)	164.44	150.90	118.62	114.23	109.89
Germany: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	227 170 560	223 478 656	199 769 761		
Inflation %	0.1%	0.4%	1.7%		
Inflation index (100 in 2009)	108.6	109.0	110.9		
Real terminal costs (EUR2009)	209 234 652	205 014 180	180 200 772		
Total terminal Service Units	1 346 490	1 395 519	1 424 060		
Real terminal unit cost per Service Unit (EUR2009)	155.39	146.91	126.54		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	-13 767 652	-5 284 178	16 236 374		
	in %	-5.7%	-2.3%	8.8%	
Inflation %	-1.3 p.p.	-1.2 p.p.	0.0 p.p.		
Inflation index (100 in 2009)	-1.4 p.p.	-2.7 p.p.	-2.7 p.p.		
Real terminal costs (EUR2009)	-9 928 519	203 003	18 630 182		
	in %	-4.5%	0.1%	11.5%	
Total terminal Service Units	13 690	38 219	61 960		
	in %	1.0%	2.8%	4.5%	
Real terminal unit cost per Service Unit (EUR2009)	-9.05	-3.99	7.92		
	in %	-5.5%	-2.6%	6.7%	
3. Focus on terminal at State/Charging Zone level					
This analysis focuses on Germany Terminal Charging Zone (TCZ) comprising 16 airports.					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (126.54 €2009) is +6.7% higher than planned in the PP (118.62 €2009). This difference results from the combination of higher than planned TNSUs (+4.5%) and significant higher than planned terminal costs (+11.5%, or +18.6 M€2009).					
Terminal service units					
Traffic risk sharing applies in the TCZ. The difference between actual and planned TNSUs (+4.5%) falls outside the ±2% dead-band but inside the ±10% alert threshold foreseen in the traffic risk-sharing mechanism. The resulting additional terminal revenues relating to the traffic risk sharing are therefore shared between the ATSP (DFS) and the airspace users with a gain to be retained by the ATSP amounting to +4.5M€2009.					
Considering the latest STATFOR February 2018 TNSUs forecasts, the traffic outlook for the rest of RP2 remains much higher than the presented in the PP for Germany. Indeed, if any of three STATFOR February 2018 scenarios materialises, the traffic will be substantially higher than planned for the rest of RP2. The traffic is expected to exceed the ±2% dead band foreseen in the traffic risk-sharing mechanism in all scenarios for both years, 2018 and 2019					
Terminal costs					
In nominal terms, actual terminal costs are +8.8% higher than planned. Additionally, since the actual inflation index is also lower than planned (-2.7 p.p.) the actual terminal costs are +11.5% above the planned level when expressed in €2009.					
The higher actual terminal costs than planned in real terms is mainly driven by the DFS (+11.7%, or +18.4 M€2009). A detailed analysis at ATSP level is provided in box 12.					
There are no costs exempt from cost-sharing reported.					



GERMANY: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

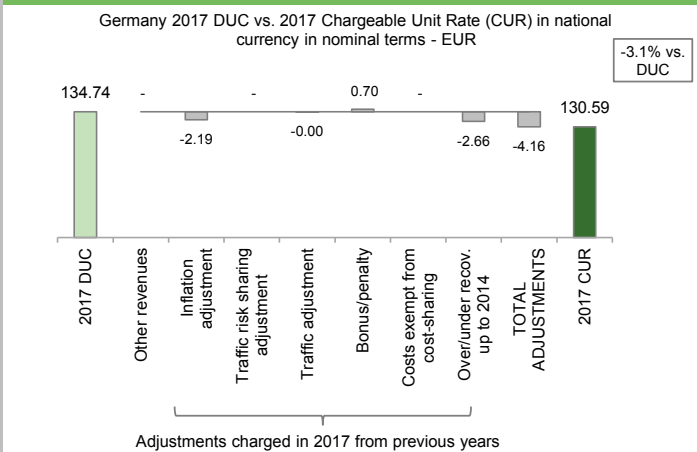


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

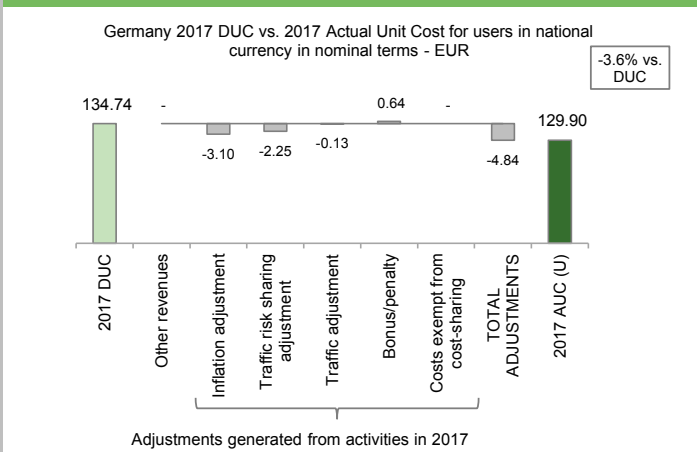


The CUR charged to airspace users in 2017 is 130.59 €. This is -3.1% lower than the nominal DUC (134.74 €). The difference between these two figures (- 4.16 €) mainly relates to the following adjustments:

- an inflation adjustment (-2.19 €), corresponding to a lower than planned inflation index for 2015, resulting in a subsequent reimbursement to airspace users in 2017;
- a bonus relating to the capacity target mechanism (+0.7 €); and
- an adjustment of -2.66 €, corresponding to the difference in revenue resulting from the temporary application of a higher unit rate throughout 2015 and reimbursed to users through the 2017 and 2018 unit rates. For practical reasons, this adjustment is reflected in the graph under the label "Over/under recovery up to 2014".

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (129.9 €) is -3.6% (-4.84 €) lower than the nominal DUC (134.74 €). The factors contributing to the observed difference are: the inflation adjustment (-3.10 €), which corresponds to the impact of a lower than planned inflation index in 2017, the traffic risk sharing adjustment (-2.25 €), the traffic adjustment (-0.13 €) and the bonus relating to the capacity target mechanism (+0.64 €).

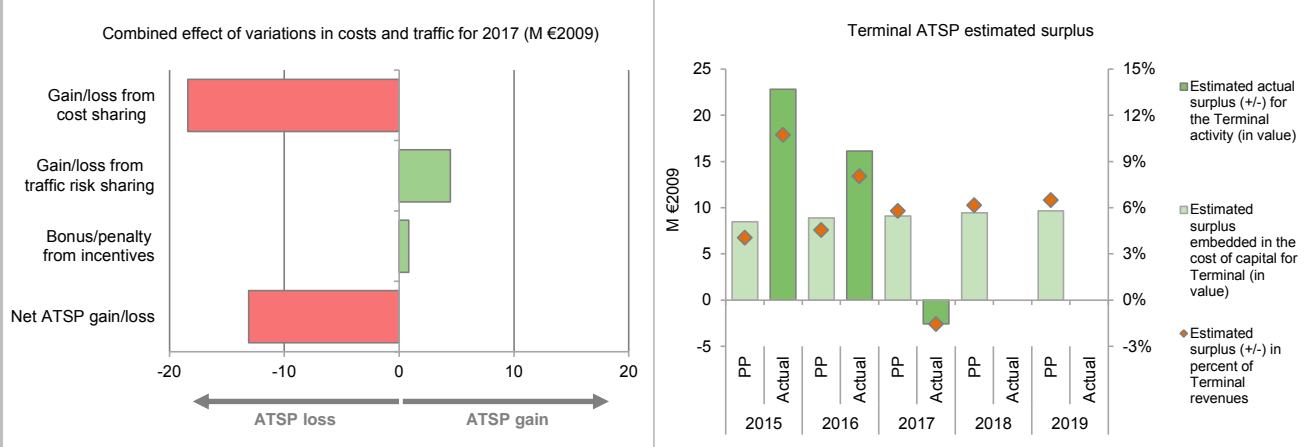
These costs and adjustments are divided by the **actual** TNSUs in 2017.

GERMANY: Terminal ATSP (DFS)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	210 177	195 531	157 857		
Actual costs for the ATSP	199 370	195 153	176 258		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	10 806	379	-18 401		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	10 806	379	-18 401		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	1.0%	2.8%	4.5%		
Determined costs for the ATSP (PP) - based on actual inflation	212 816	200 353	161 749		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	2 186	4 497	4 472		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	883	969	821		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	13 875	5 845	-13 109		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	362 420	346 978	325 651	309 335	293 544
Estimated proportion of financing through equity (in %)	31.4%	34.3%	37.6%	40.9%	44.2%
Estimated proportion of financing through equity (in value)	113 692	119 173	122 306	126 664	129 641
Estimated proportion of financing through debt (in %)	68.6%	65.7%	62.4%	59.1%	55.8%
Estimated proportion of financing through debt (in value)	248 728	227 805	203 345	182 671	163 903
Cost of capital pre-tax (in value)	16 865	16 516	15 868	15 456	14 985
Average interest on debt (in %)	3.4%	3.4%	3.3%	3.3%	3.2%
Interest on debt (in value)	8 395	7 637	6 757	6 020	5 327
Determined RoE pre-tax rate (in %)	7.5%	7.5%	7.5%	7.5%	7.5%
Estimated surplus embedded in the cost of capital for terminal (in value)	8 470	8 878	9 112	9 437	9 658
Overall estimated surplus (+/-) for the terminal activity	8 470	8 878	9 112	9 437	9 658
Revenue/costs for the terminal activity	210 177	195 531	157 857	153 499	149 272
Estimated surplus (+/-) in percent of terminal revenues	4.0%	4.5%	5.8%	6.1%	6.5%
Estimated ex-ante RoE pre-tax rate (in %)	7.5%	7.5%	7.5%	7.5%	7.5%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	365 861	383 014	379 780		
Estimated proportion of financing through equity (in %)	32.9%	36.0%	37.3%		
Estimated proportion of financing through equity (in value)	120 316	138 064	141 549		
Estimated proportion of financing through debt (in %)	67.1%	64.0%	62.7%		
Estimated proportion of financing through debt (in value)	245 546	244 949	238 230		
Cost of capital pre-tax (in value)	16 199	17 193	14 408		
Average interest on debt (in %)	2.9%	2.8%	1.6%		
Interest on debt (in value)	7 235	6 907	3 863		
Determined RoE pre-tax rate (in %)	7.5%	7.5%	7.5%		
Estimated surplus embedded in the cost of capital for terminal (in value)	8 964	10 286	10 545		
Net ATSP gain(+)/loss(-) on terminal activity	13 875	5 845	-13 109		
Overall estimated surplus (+/-) for the terminal activity	22 839	16 130	-2 563		
Revenue/costs for the terminal activity	213 245	200 997	163 149		
Estimated surplus (+/-) in percent of terminal revenues	10.7%	8.0%	-1.6%		
Estimated ex-post RoE pre-tax rate (in %)	19.0%	11.7%	-1.8%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 DFS terminal costs in the TCZ vs. PP

DFS actual terminal costs in the TCZ are +11.7% (+18.4 M€2009) higher, in real terms, than planned in the PP. This results from the combination of:

- Significant higher staff costs (+13.2%, or +19 M€2009), as indicated in the Additional Information to the June 2018 terminal Reporting Tables, "there is a slight decrease in the number of staff due to the DFS cost reduction programme of the last years. These effects are overcompensated by salary increases because of collective agreements and career development. There is also an increase in overtime work due to traffic growth, which is recognised as accruals. Furthermore, the educational training of new air traffic controllers requires more of DFS-in-house staff resources than planned and in comparison to the prior year. The contribution to the Pension Protection Fund in 2017 amounted to 2%. This is more than in 2016 (0%) and less than in the performance plan (5%)";
- Higher other operating costs (+9.2%, or +2.1 M€2009), as indicated in the Additional Information to the June 2018 terminal Reporting Tables, the significant rise in costs, are mainly driving due to "the increasing allowances in respect of the insolvency of Air Berlin" and "because of the need for a higher number of ATCOs than planned in the RP2 performance plans, there are higher costs for staff recruitment, such as the selection process at DLR (Deutsches Zentrum für Luft- und Raumfahrt) and marketing measures to activate suitable applicants for the following years";
- lower depreciation costs (-1.6%, or -0.2 M€2009); and,
- lower cost of capital (-9.2%, or -1.5 M€2009).

DFS 2017 net gain/loss on terminal activity in the TCZ

As shown in box 9, the terminal activity in the TCZ generated a net loss of -13.1 M€2009 in 2017. This is a combination of three elements:

- a loss of -18.4 M€2009 as a result of the cost-sharing mechanism;
- a gain of +4.5 M€2009 as a result of traffic risk-sharing mechanism; and
- a gain of +0.8 M€2009, corresponding to a bonus eligible for payment to DFS as part of the capacity target incentive mechanism reported in the 2017 FABEC FAB monitoring report. This amount corresponds to 0.5% of DFS terminal revenues (based on the ATSP chargeable unit rate in 2017 times the actual TNSUs). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission.

DFS 2017 overall estimated surplus for the terminal activity in the TCZ

Ex-post, the overall estimated surplus taking into account the net loss from the terminal activity in the TCZ mentioned above (-13.1 M€2009) and the surplus embedded in the cost of capital (+10.6 M€2009) amounts to -2.6 M€2009 (-1.6% of the 2017 terminal revenues). The resulting ex-post rate of return on equity is -1.8%, which is significantly lower than the 7.5% planned in the PP.

GERMANY: Gate-to-gate

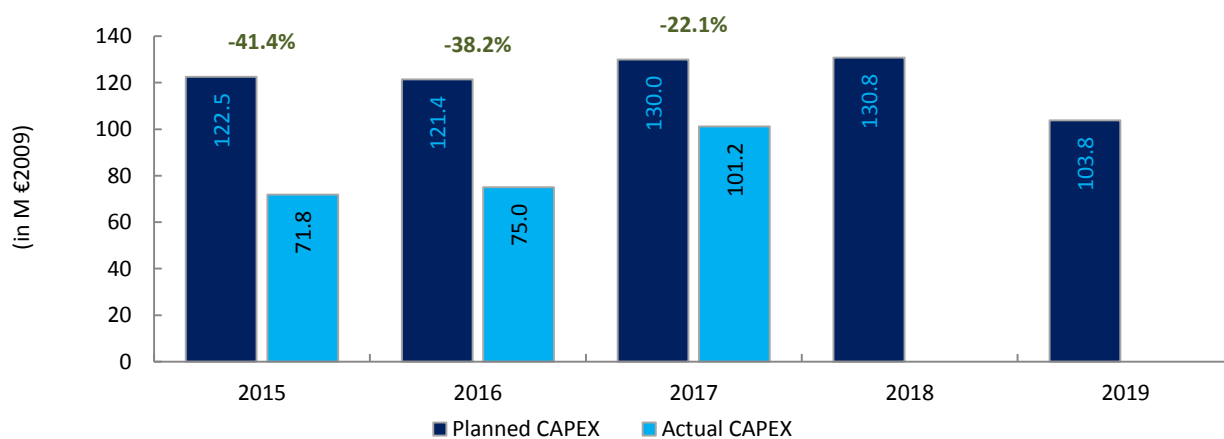
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Germany: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	972 517 385	930 742 228	821 735 846	802 748 084	784 999 985																																							
Real terminal costs (EUR2009)	219 163 171	204 811 176	161 570 590	157 180 161	152 994 086																																							
Real gate-to-gate costs (EUR2009)	1 191 680 556	1 135 553 404	983 306 436	959 928 244	937 994 071																																							
En-route share (%)	81.6%	82.0%	83.6%	83.6%	83.7%																																							
Germany: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	919 323 427	881 679 013	780 076 202																																									
Real terminal costs (EUR2009)	209 234 652	205 014 180	180 200 772																																									
Real gate-to-gate costs (EUR2009)	1 128 558 079	1 086 693 193	960 276 974																																									
En-route share (%)	81.5%	81.1%	81.2%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	-63 122 477	-48 860 211	-23 029 462																																									
in %	-5.3%	-4.3%	-2.3%																																									
En-route share																																												
in p.p.	-0.1 p.p.	-0.8 p.p.	-2.3 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs are -2.3% (-23.0 M€2009) lower than planned due to a combination of lower en-route costs (-5.1%, or -41.7 M€2009) and higher terminal costs (+11.5% or +18.6 M€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (81.2%) is just slightly lower than that planned in the PP for 2017 (83.6%).</p> <p>For DFS, the estimated gate-to-gate economic surplus in 2017 amounts to 117.7 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 13.1% of gate-to-gate ANS revenues.</p>																																												
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>81.6%</td> <td>18.4%</td> </tr> <tr> <td>Actual</td> <td>81.5%</td> <td>18.5%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>82.0%</td> <td>18.0%</td> </tr> <tr> <td>Actual</td> <td>81.1%</td> <td>18.9%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>83.6%</td> <td>16.4%</td> </tr> <tr> <td>Actual</td> <td>81.2%</td> <td>18.8%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>83.6%</td> <td>16.4%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>83.7%</td> <td>16.3%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	81.6%	18.4%	Actual	81.5%	18.5%	2016	Determined	82.0%	18.0%	Actual	81.1%	18.9%	2017	Determined	83.6%	16.4%	Actual	81.2%	18.8%	2018	Determined	83.6%	16.4%	Actual			2019	Determined	83.7%	16.3%	Actual		
Year	Type	En-route (%)	Terminal (%)																																									
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	Actual																																											
3. Technical notes on en-route and terminal information reported by Germany																																												

GERMANY

Monitoring of CAPEX for 2017

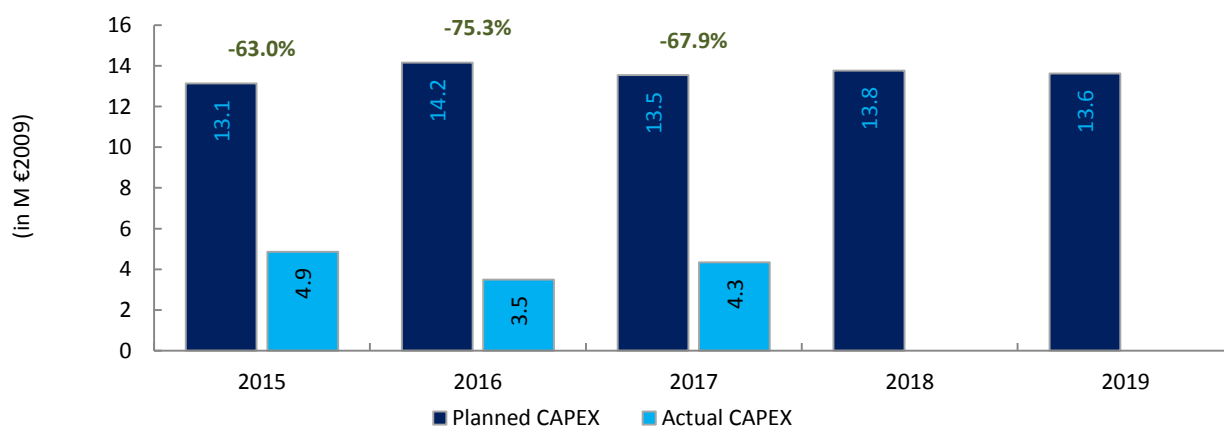
Contextual Information						
ANSP: DFS						
FAB: FABEC						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	134.7	135.6	147.6	151.1	122.0	691.1
Main CAPEX (in nominal M)	109.6	112.1	108.8	85.5	61.6	477.5
Inflation %	1.4%	1.6%	1.7%	1.7%	1.7%	
Inflation index (100 in 2009)	109.9	111.7	113.6	115.5	117.5	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	122.5	121.4	130.0	130.8	103.8	608.6
Main CAPEX (in M €2009)	99.7	100.3	95.8	74.0	52.4	422.2
% Main of Total CAPEX	81.3%	82.6%	73.7%	56.6%	50.5%	69.4%
Real gate-to-gate ANSP costs (in M €2009)	1 022.7	951.5	867.3	844.4	822.2	4 508.1
Total CAPEX as % of Real gate-to-gate ANSP costs	12.0%	12.8%	15.0%	15.5%	12.6%	13.5%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	78.0	81.8	112.2			
Main CAPEX (in nominal M)	56.1	59.3	89.3			
Inflation %	0.1%	0.4%	1.7%			
Inflation index (100 in 2009)	108.6	109.0	110.9			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	71.8	75.0	101.2			
Main CAPEX (in M €2009)	51.7	54.4	80.6			
% Main of Total CAPEX	71.9%	72.5%	79.6%			
Real gate-to-gate ANSP costs (in M €2009)	961.5	898.9	843.3			
Total CAPEX as % of Real gate-to-gate ANSP costs	7.5%	8.3%	12.0%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-56.7	-53.9	-35.4			
Total CAPEX (in M €2009)	-50.7	-46.4	-28.7			
Total CAPEX (in %, M €2009)	-41.4%	-38.2%	-22.1%			



MUAC

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: MUAC						
FAB: FABEC						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	14.5	15.8	15.4	15.9	15.9	77.6
Main CAPEX (in nominal M)	12.7	14.7	14.7	15.2	15.3	72.5
Inflation %	1.0%	1.2%	1.4%	1.5%	1.5%	
Inflation index (100 in 2009)	110.6	112.0	113.6	115.3	117.0	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	13.1	14.2	13.5	13.8	13.6	68.2
Main CAPEX (in M €2009)	11.5	13.1	12.9	13.2	13.1	63.7
% Main of Total CAPEX	87.3%	92.7%	95.5%	95.7%	95.8%	93.4%
Real gate-to-gate ANSP costs (in M €2009)	133.8	133.5	135.9	138.1	139.8	681.2
Total CAPEX as % of Real gate-to-gate ANSP costs	9.8%	10.6%	10.0%	10.0%	9.7%	10.0%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	5.3	3.8	4.8			
Main CAPEX (in nominal M)	5.1	3.5	4.2			
Inflation %	0.2%	0.1%	1.3%			
Inflation index (100 in 2009)	109.7	109.8	111.3			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	4.9	3.5	4.3			
Main CAPEX (in M €2009)	4.6	3.2	3.7			
% Main of Total CAPEX	94.9%	92.3%	86.3%			
Real gate-to-gate ANSP costs (in M €2009)	123.6	131.9	135.7			
Total CAPEX as % of Real gate-to-gate ANSP costs	3.9%	2.7%	3.2%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-9.2	-12.0	-10.5			
Total CAPEX (in M €2009)	-8.3	-10.7	-9.2			
Total CAPEX (in %, M €2009)	-63.0%	-75.3%	-67.9%			



Annual Monitoring Report 2017
Local level view
Luxembourg

LUXEMBOURG

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	63	C	B	B	C	B
ANA LUX	79	C	D	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
			RAT application (%)			
			ATM Ground	ATM Overall		
Separation Minima Infringements (SMIs)			No data	No data		
Runway Incursions (RIs)			No data	No data		
ATM Specific Occurrences (ATM-S)				No data		
Source of RAT data:			DAC			
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level			Number of questions answered			
			YES	NO		
Policy and its implementation			6	3		
Legal/Judiciary			1	6		
Occurrence reporting and Investigation			2	0		
TOTAL			9	9		
ANA LUX			Number of questions answered			
			YES	NO		
Policy and its implementation			12	1		
Legal/Judiciary			2	1		
Occurrence reporting and Investigation			6	2		
TOTAL			20	4		
Observations						
<p>Two out of the four reviewed EoS M Components/areas of the State meet the 2019 EoS M target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p> <p>Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only two are below Level C.</p> <p>Regarding the RAT application, no data for Luxemburg have been received through the AST mechanism. EASA did not find that information encoded in the ECR either.</p>						

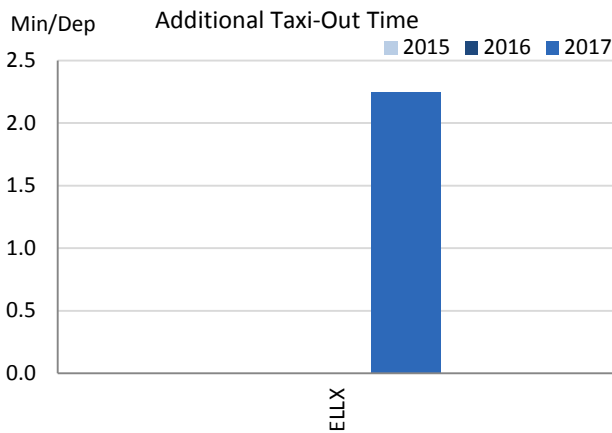
LUXEMBOURG

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

The scope of RP2 monitoring for Luxembourg comprises the main airport (ELLX). The Airport Operator Data Flow is fully implemented and both environment indicators can be properly monitored as of 2017. Luxembourg saw an 8% growth in the number of movements in 2017, and once more the additional ASMA times increased significantly.

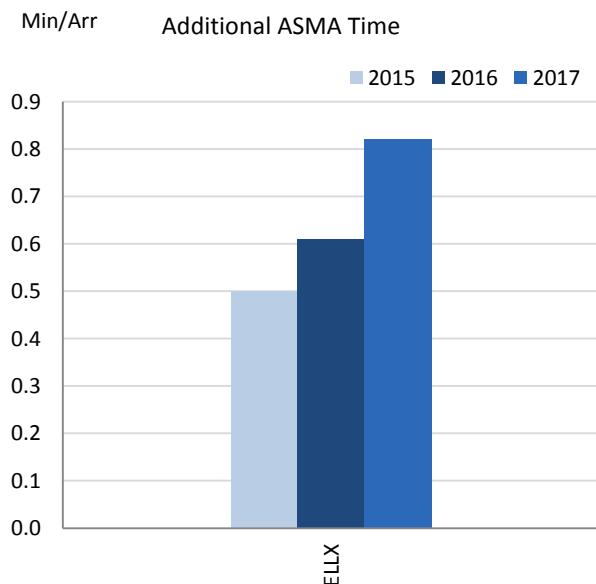
2. Additional Taxi-Out Time



Thanks to the transition to the Airport Operator Data Flow at the end of 2016, the additional taxi-out times can be monitored in 2017 for the first time.

Although the yearly average is above the 2 min/dep., the performance is very affected by the very high values (up to almost 6 min/dep. in January) during the winter months, being below 2 min/dep. during the rest of the year.

3. Additional ASMA Time



In a similar evolution to that observed in 2016, Luxembourg has experienced a 34% increase in the additional time in terminal airspace in 2017 (i.e. ELLX: 2016: 0.61 min/arr. vs 2017: 0.82 min/arr.), most notable during the summer season. Despite this fact, it remains 1 min below the average value for RP2 airports (1.89 min/arr.) and commensurate with its level of traffic.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Luxembourg	ELLX	n/a	n/a	2.25			0.50	0.61	0.82		

LUXEMBOURG

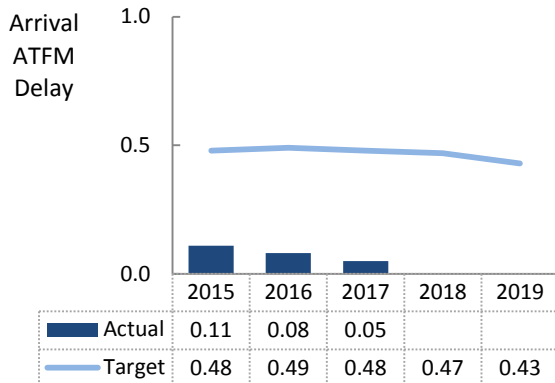
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

In Luxembourg, ANS at Luxembourg airport (ELLX) are subject to RP2 monitoring. Luxembourg accrues a negligible value of arrival ATFM delay in RP2 so far demonstrating a widely unconstrained capacity. The established national target is fully met.

The ATFM slot adherence is just above the 80% of compliance and the ATC pre-departure delay continues to be negligible in 2017.

2. Arrival ATFM Delay



The national target on arrival ATFM delay has been fully met in all RP2 years so far. The performance at Luxembourg (ELLX) has also improved with respect to 2016 (ELLX: 2017: 0.05 min/arr. vs 2016: 0.08 min/arr.)

Despite the rising traffic levels, with significant increase in 2016 and 2017, the observed performance shows a widely unconstrained capacity at ELLX.

3. Arrival ATFM Delay – National Target and Incentive Scheme

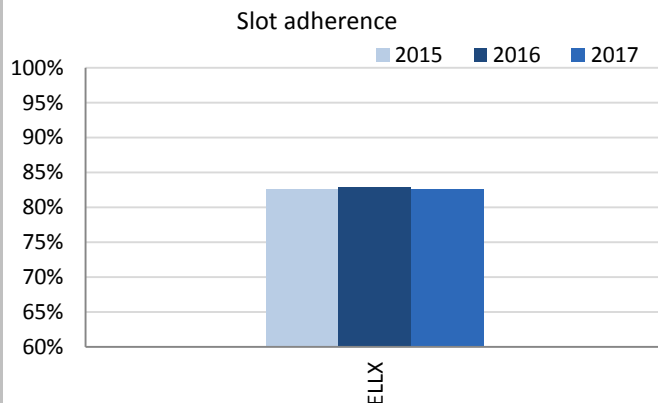
The FABEC performance plan establishes a national target on arrival ATFM delay for Luxembourg.

The established target (all causes) ranges consistently about 1/3 minute above the historic performance observed at Luxembourg (ELLX). For ANS attributable delay causes (i.e. CRSTMP) this buffer increases to about 0.45 min/arr.

Luxembourg has not established an incentive scheme for the national target on arrival ATFM delay.

Luxembourg reports that upon request of the European Commission, an incentive scheme has been developed, which was endorsed by the NSA and the Ministry. However it still needs to be approved by the users, to whom it was presented during the last AUC in November 2017.

4. ATFM Slot Adherence



The adherence to ATFM slots remained just above the minimum 80% threshold, with 82.6% compliance in 2017. Considering the level of traffic, this is however a reasonably poor performance with an impact on network predictability, and one of the lowest ATFM slot adherences in Europe.

5. Pre-departure Delay

Luxembourg (ELLX) accrues a negligible share of pre-departure delay.

In addition, the quality of the reporting has improved and the share of unidentified delay reasons has dropped drastically.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Luxembourg	ELLX	0.11	0.08	0.05			82.6%	82.9%	82.6%			0.02	0.01	0.04		

Annual Monitoring Report 2017
Local level view
Netherlands

NETHERLANDS

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	70	C	B	C	D	C
LVNL	75	D	C	C	D	C
MUAC	77	C	D	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	N/A				
ATM Specific Occurrences (ATM-S)		No data				
Source of RAT data:	ILT					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	7	2				
Legal/Judiciary	7	0				
Occurrence reporting and Investigation	1	1				
TOTAL	15	3				
LVNL	Number of questions answered					
	YES	NO				
Policy and its implementation	10	3				
Legal/Judiciary	3	0				
Occurrence reporting and Investigation	7	1				
TOTAL	20	4				
MUAC	Number of questions answered					
	YES	NO				
Policy and its implementation	8	5				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	5	3				
TOTAL	15	9				

Observations

One component (Safety Risk Management) out of the four reviewed EoSM Components/areas of the State does not meet the 2019 EoSM target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.

Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only two are below Level C.

Regarding the RAT application, no data for The Netherlands have been received through the AST mechanism. EASA did not find that information encoded in the ECR either.

NETHERLANDS

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

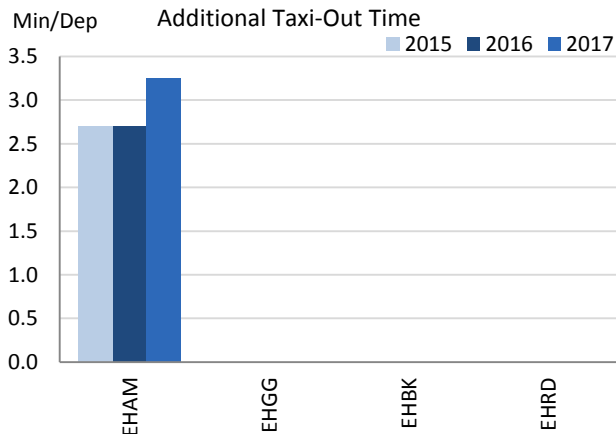
For the Netherlands, the scope of the performance monitoring of terminal services under RP2 comprises a total of 4 airports. At the time being the airport operator flow is only established for EHAM.

In terms of traffic, Amsterdam continues to be the busiest airport in Europe with a traffic increase of around 4% in 2017.

Both environmental indicators have worsened in 2017, nevertheless showing remarkable performance for an airport with that level of traffic.

The Netherlands shall encourage the respective airport reporting entities to initiate the implementation of the Airport Operator Data Flow.

2. Additional Taxi-Out Time

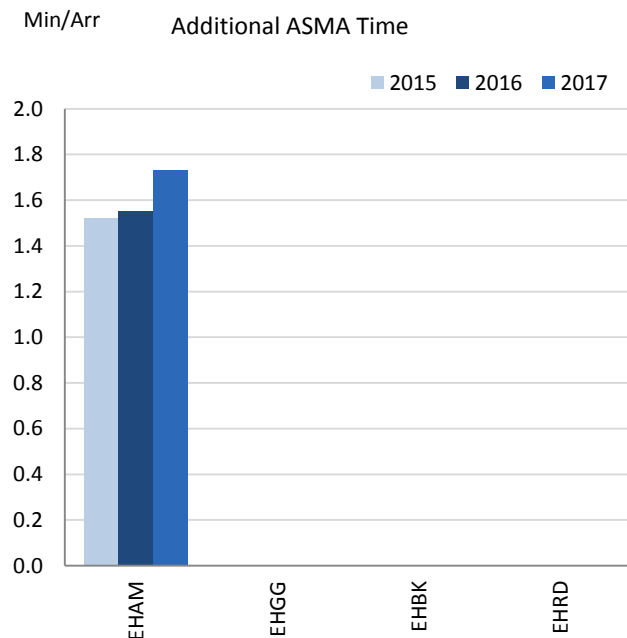


Additional taxi-out times at EHAM have increased significantly (i.e. EHAM: 2016: 2.70 min/dep. vs 2017: 3.25 min/dep.) but is still below the average of the RP2 monitored airports in the SES area (3.33 min/dep.) and keeps showing the best additional taxi-out times for the busiest airports in Europe.

The higher additional TXOT with respect to 2016 were mainly observed during the months of April and May.

Amsterdam became a fully A-CDM implemented airport only in May 2018.

3. Additional ASMA Time



Despite its high traffic, and although the additional ASMA times at Amsterdam have also increased (i.e. EHAM: 2016: 1.55 min/dep. vs 2017: 1.73 min/dep.) they are below the RP2 average (1.89 min/arr.: weighted average for airports subject to RP2).

The higher additional ASMA times with respect to 2016 were mainly observed during the months of April and May.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Amsterdam/ Schiphol	EHAM	2.70	2.70	3.25			1.52	1.55	1.73		
Groningen	EHGG	n/a	n/a	n/a			n/a	n/a	n/a		
Maastricht-Aachen	EHBK	n/a	n/a	n/a			n/a	n/a	n/a		
Rotterdam	EHRD	n/a	n/a	n/a			n/a	n/a	n/a		

NETHERLANDS

Monitoring of CAPACITY for 2017

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	N/A	N/A	N/A	N/A	N/A	Because there are two ANSPs in the Netherlands, LVNL and EUROCONTROL (MUAC), the Netherlands did not set a national target. Exclusive use of CRSTMP codes means that the PRB is unable to independently validate the results for incentive purposes. Actual performance reported here is for all causes of delay.
Deadband +/-	N/A	N/A	N/A	N/A	N/A	
Actual performance	0.09	0.29	0.30			

National capacity incentive scheme

The incentive scheme is applied for delay causes listed in Art. 15 (g) of Regulation 391/2013; data used for calculation was AUA data provided by PRU.

[The PRU is unable to validate the attributed cause of delay, which is determined by the ANSP requesting the ATFM regulation.]

The Capacity delay target at FAB level was set at an average of 0.33 min/flight for CRSTMP ATFM delays.

LVNL broken down target was set at 0.14 min/flight.

EUROCONTROL (MUAC) broken down target was set at 0.14 min/ flight

2017 achievement (as reported by FABEC)

- FABEC: 0.76 min/flight for CRSTMP delays
- LVNL: 0.10 min/flight for CRSTMP delays
- EUROCONTROL (MUAC): 0.43 min/flight for CRSTMP delays

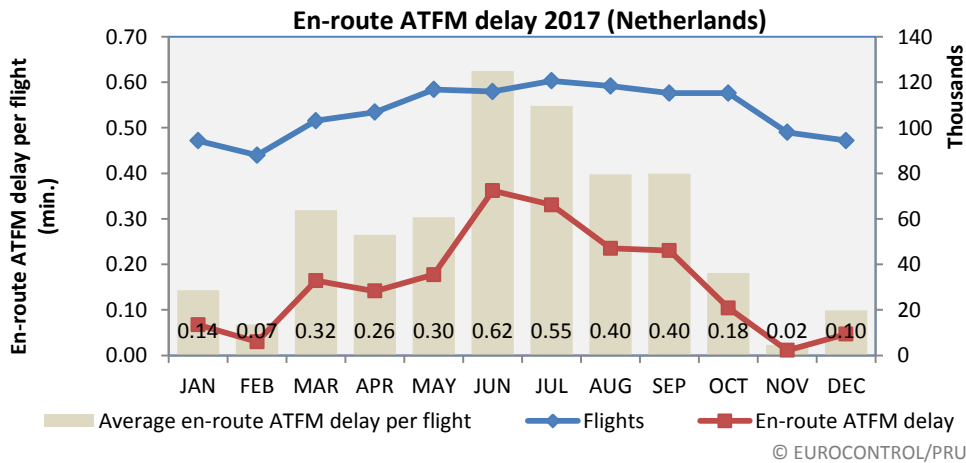
Bonus/Malus

LVNL, as an ANSP not contributing to the underperformance is not subject to a malus.

The percentage of malus for EUROCONTROL (MUAC) was -0.5% of total ANSP revenue in 2017, which equates to €812 234.39

Note: The penalty for EUROCONTROL (MUAC) is applicable because of the performance over the four MUAC States (Belgium, Luxembourg, Germany and the Netherlands). The breakdown of the MUAC penalty per State is: Belgium €254 398.31; Luxembourg €7 868.11; Germany €386 031.45 and the Netherlands €163 936.52

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Netherlands)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.04	0.04	0.18	0.12	0.17	0.11	0.12	0.09	0.29	0.30

En-route capacity performance in the Netherlands in 2017 (0.30 minutes per flight) is comparable with 2016 (0.29 minutes per flight), despite an increase of traffic of approximately 4%. However, both 2016 and 2017 show a deterioration in performance from the 2015 level of 0.09 minutes per flight.

Traffic growth in the Netherlands has been higher than initially predicted in the 7 year forecast available in 2014 when the RP2 FAB performance plans were being drafted, along with the associated capacity plans. Traffic has been above the high forecast for both 2016 and for 2017.

EUROCONTROL 7 year forecast February 2014 – Netherlands										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	1143		1185		1226		1262		1302	1339
Base	1134	1138	1170	1176	1199	1241	1224	1287	1250	1278
Low	1124		1146		1152		1159		1169	1180

It is noted that the Network Manager highlights the probability of capacity shortfalls in MUAC 2018 - 2019 based on the current capacity plans (NOP 2018-2022). The implementation of an additional sector in MUAC DECO sectors is expected to improve capacity performance within the Netherlands airspace.

Planning and Effective Use of CDRs

The Netherlands did not provide any data.

Observations on Planning and Effective Use of CDRs

It is noted that the Netherlands, like many other States, is unable to monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
68%	60%	57%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
5%	13%	17%		

Share of restricted / segregated time (via UUP process) that was actually used				
2015	2016	2017	2018	2019
82%	83%	79%		

Observations on Effective booking procedures

The Netherlands reports that the aggregated values used in this indicator are not relevant for FUA analysis and evaluation, the only relevant information remains per area. It was also reported that not all releases of airspace are notified to the Network Manager. No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

NETHERLANDS

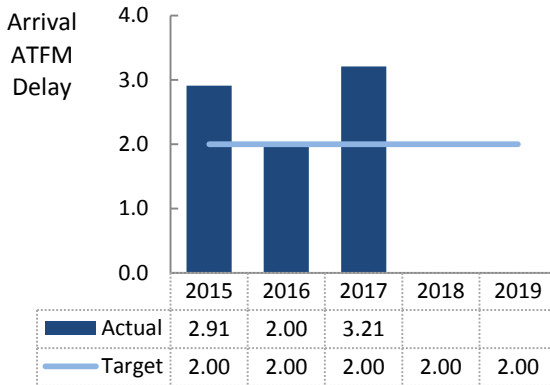
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

In The Netherlands, ANS at a total of 4 airports are subject to RP2 monitoring. Given the traffic share at the different airports, the aggregated national performance is driven by Amsterdam/Schiphol (EHAM). After a significant improvement at EHAM in 2016, arrival ATFM delays are back up in 2017 and they exceed the target by more than a minute per arrival.

Slot adherence at national level has slightly deteriorated but still ranges around 90%. A consistent monitoring of ATC pre-departure delay is not yet possible.

2. Arrival ATFM Delay

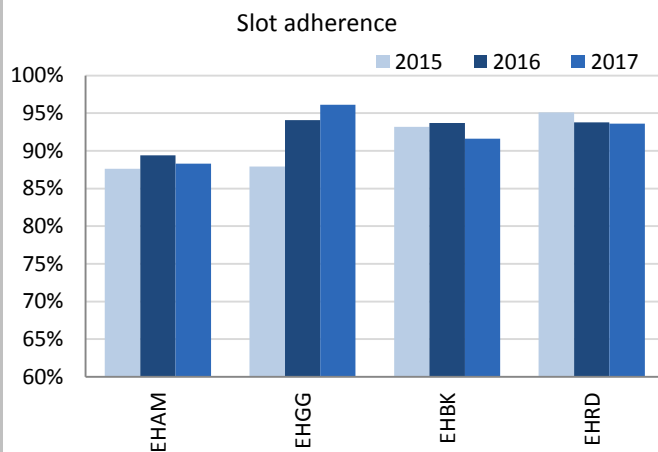


Amsterdam/Schiphol (EHAM), as the major European hub in terms of IFR movements in 2017, is the main driver of the aggregated national performance. The level of accrued arrival ATFM delay in Amsterdam increased from 2.17 min/arr. in 2016 to 3.47 min/arr. in 2017. With no additional delay accumulated at the other airports, the national value ranges at 3.21 min/arr. and exceeds considerably the established target. Amsterdam is the biggest contributor to arrival ATFM delay in Europe, with 882 285 minutes of delay generated (19% of the total delay in Europe). FABEC reports that a major part of the 2017 capacity underperformance at Schiphol is due to bad weather and aerodrome capacity. The Schiphol terminal CRSTMP target (average 0.5 minutes per controlled flight) was achieved, with 0.21 min/arr of terminal ATFM delay allocated to CRSTMP causes in 2017 .

3. Arrival ATFM Delay – National Target and Incentive Scheme

The FABEC performance plan establishes a national target on arrival ATFM delay for The Netherlands. The plan set out a national target (all causes) of 2.0 min/arr. with a breakdown for Amsterdam/Schiphol (EHAM) of 0.5 min/arr. (CRSTMP causes). A respective incentive scheme is implemented by The Netherlands, based on CRSTMP performance at EHAM. The achieved performance attributed to CRSTMP causes is better than 50% of the CRSTMP delay target, leading to a maximum bonus of 0.5% of terminal ANS revenue for Schiphol Airport. A bonus will be recovered from the users in 2019.

4. ATFM Slot Adherence



ATFM slot adherence varies across the Dutch airports. In 2016 and 2017 Groningen (EHGG) showed a drastic improvement, becoming a best-in-class airport in terms of slot compliance with more than 95% adherence. Maastricht-Aachen (EHBK), and Rotterdam (EHRD) achieve a consistent compliance between 90% and 95%. Amsterdam/Schiphol (EHAM) ranges slightly under 90% with a small deterioration of 1.1%.

5. Pre-departure Delay

The monitoring of pre-departure delay is dependent on the establishment of the Airport Operator Data Flow.

Amsterdam implemented the Airport Operator Data Flow in July 2017 but the quality of the reporting does not allow for the calculation of the ATC pre-departure delay indicator. For the other airports the launch of the implementation is still pending.

The Netherlands shall encourage the implementation of the Airport Operator Data Flow in the remaining airports and a proper reporting of the pre-departure delays through this data flow at all airports.

6. Appendix

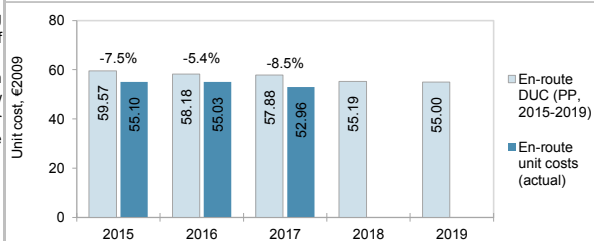
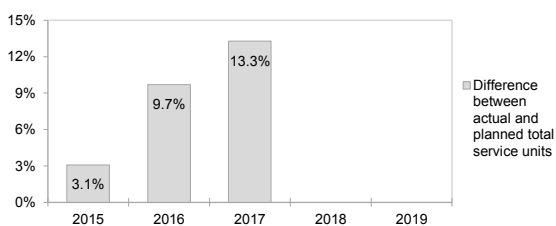
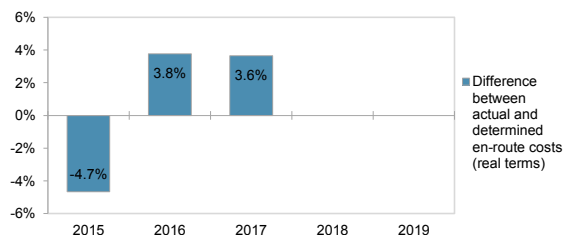
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Amsterdam/ Schiphol	EHAM	3.18	2.17	3.47			87.6%	89.4%	88.3%			n/a	n/a	n/a		
Groningen	EHGG	0.00	0.00	0.00			87.9%	94.1%	96.1%			n/a	n/a	n/a		
Maastricht-Aachen	EHBK	0.03	0.00	0.02			93.2%	93.7%	91.6%			n/a	n/a	n/a		
Rotterdam	EHRD	0.01	0.00	0.01			95.1%	93.8%	93.6%			n/a	n/a	n/a		

NETHERLANDS: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· Netherlands ECZ represents 2.7% of the SES en-route ANS determined costs in 2017						
· ATSP: LVNL						
· FAB: FABEC						
· National currency: EUR						
2. En-route DUC monitoring at Charging Zone level						
Netherlands: Data from RP2 Performance Plan (EC Decision 2017/553 of 22 March 2017)		2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)		184 921 748	184 103 594	187 092 113	193 763 267	198 069 117
Inflation %		1.0%	1.2%	1.4%	1.5%	1.5%
Inflation index (100 in 2009)		110.6	112.0	113.6	115.3	117.0
Real en-route costs (EUR2009)		167 178 324	164 400 112	164 697 149	168 065 588	169 244 781
Total en-route Service Units		2 806 192	2 825 835	2 845 616	3 045 000	3 077 000
Real en-route unit cost per Service Unit (EUR2009)		59.57	58.18	57.88	55.19	55.00
Netherlands: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)		174 897 819	187 391 677	189 932 536		
Inflation %		0.2%	0.1%	1.3%		
Inflation index (100 in 2009)		109.7	109.8	111.3		
Real en-route costs (EUR2009)		159 378 607	170 593 253	170 687 405		
Total en-route Service Units		2 892 654	3 099 952	3 223 221		
Real en-route unit cost per Service Unit (EUR2009)		55.10	55.03	52.96		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal EUR)		-10 023 928	3 288 083	2 840 423		
in %		-5.4%	1.8%	1.5%		
Inflation %		-0.8 p.p.	-1.1 p.p.	-0.1 p.p.		
Inflation index (100 in 2009)		-0.9 p.p.	-2.1 p.p.	-2.3 p.p.		
Real en-route costs (EUR2009)		-7 799 718	6 193 141	5 990 256		
in %		-4.7%	3.8%	3.6%		
Total en-route Service Units		86 462	274 117	377 605		
in %		3.1%	9.7%	13.3%		
Real en-route unit cost per Service Unit (EUR2009)		-4.48	-3.15	-4.92		
in %		-7.5%	-5.4%	-8.5%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (52.96 €2009) is -8.5% lower than planned in the PP (57.88 €2009). This difference results from the combination of significantly higher than planned TSUs (+13.3%) and higher than planned en-route costs in real terms (+3.6%, or +6.0 M€2009).						
En-route service units						
The difference between actual and planned TSUs (+13.3%) exceeds the +10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP (LVNL) and the airspace users, the former retaining a gain of +5.2 M€2009.						
Based on STATFOR February 2018 <u>base</u> TSU growth scenario, the Netherlands en-route TSUs deviation from the RP2 forecasts is expected to remain close to the +10% threshold for the remainder of RP2 (2018-2019).						
En-route costs						
In nominal terms, actual en-route costs are +1.5% (+2.8 M€) higher than planned. However, since the actual inflation index is lower than planned (-2.3 p.p.), actual en-route costs are +3.6% (+6.0 M€2009) higher than the plan in real terms.						
The higher than planned en-route costs in real terms are driven by higher costs for LVNL (+5.1%, or +5.8 M€2009), the MET service provider (+12.8%, or +0.8 M€2009) and NSAEUROCONTROL costs (+4.0%, or +0.6 M€2009). For the latter, the increase in costs is mostly due to the fact that EUROCONTROL costs allocation has been modified and now the MUAC support costs have been allocated to the MUAC states (Part IV EUROCONTROL cost). Contrarily, actual MUAC costs are lower than planned in real terms (-4.4%, or -1.2 M€2009). A detailed analysis at the main ATSP level (LVNL) is provided in box 12.						
For MUAC costs allocated to the Netherlands, the lower actual en-route costs in real terms (-4.4%, or -1.2 M€2009) reflect a combination of higher staff costs (+2.4%, or +0.5 M€2009), lower other operating costs (-22.5%, or -1.0 M€2009), lower depreciation costs (i.e. -29.3%, or -0.6 M€2009) and lower cost of capital (-77.2%, or -0.1 M€2009).						
Costs exempt from cost sharing are reported for a total amount of +3.6 M€2009 relating to the variation in pension costs (+1.8 M€2009), national taxation law (+0.1 M€2009), new cost item required by law (+0.05 M€2009) and EUROCONTROL costs (+1.7 M€2009) (see Note 3). These costs will be eligible for carry-over (charged to airspace users) to the following reference period(s), if deemed eligible by the European Commission.						



NETHERLANDS: En-route charging zone

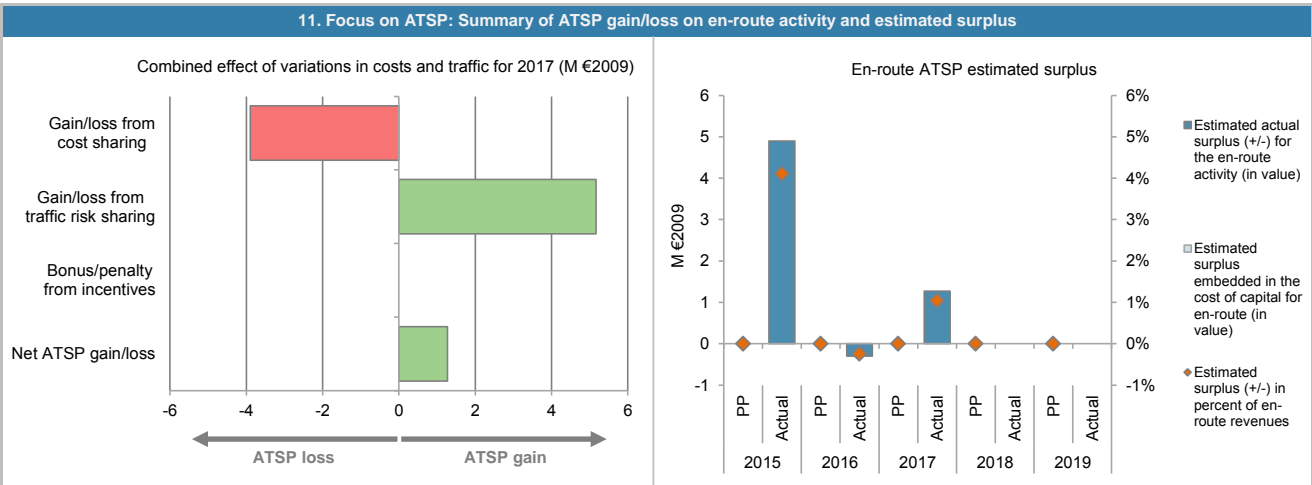
Monitoring of en-route COST-EFFICIENCY for 2017



NETHERLANDS: En-route ATSP (LVNL)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	117 998	114 946	115 043		
Actual costs for the ATSP	114 137	121 235	120 868		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	3 862	-6 289	-5 825		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 732	942	1 930		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	2 130	-5 347	-3 895		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	3.1%	9.7%	13.3%		
Determined costs for the ATSP (PP) - based on actual inflation	118 940	117 184	117 444		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	2 765	5 051	5 168		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	4 895	-296	1 273		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	83 092	83 822	86 100	94 793	87 082
Estimated proportion of financing through equity (in %)	-	-	-	-	-
Estimated proportion of financing through equity (in value)	0	0	0	0	0
Estimated proportion of financing through debt (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through debt (in value)	83 092	83 822	86 100	94 793	87 082
Cost of capital pre-tax (in value)	3 033	2 799	2 657	2 750	2 757
Average interest on debt (in %)	3.6%	3.3%	3.1%	2.9%	3.2%
Interest on debt (in value)	3 033	2 799	2 657	2 750	2 757
Determined RoE pre-tax rate (in %)	-	-	-	-	-
Estimated surplus embedded in the cost of capital for en-route (in value)	0	0	0	0	0
Overall estimated surplus (+/-) for the en-route activity	0	0	0	0	0
Revenue/costs for the en-route activity	117 998	114 946	115 043	117 843	118 556
Estimated surplus (+/-) in percent of en-route revenues	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated ex-ante RoE pre-tax rate (in %)	N/AppI	N/AppI	N/AppI	N/AppI	N/AppI
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	70 805	86 289	69 116		
Estimated proportion of financing through equity (in %)	-	-	-		
Estimated proportion of financing through equity (in value)	0	0	0		
Estimated proportion of financing through debt (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through debt (in value)	70 805	86 289	69 116		
Cost of capital pre-tax (in value)	1 228	812	715		
Average interest on debt (in %)	1.7%	0.9%	1.0%		
Interest on debt (in value)	1 228	812	715		
Determined RoE pre-tax rate (in %)	-	-	-		
Estimated surplus embedded in the cost of capital for en-route (in value)	0	0	0		
Net ATSP gain(+)/loss(-) on en-route activity	4 895	-296	1 273		
Overall estimated surplus (+/-) for the en-route activity	4 895	-296	1 273		
Revenue/costs for the en-route activity	119 031	120 939	122 141		
Estimated surplus (+/-) in percent of en-route revenues	4.1%	-0.2%	1.0%		
Estimated ex-post RoE pre-tax rate (in %)	N/AppI	N/AppI	N/AppI		



12. Focus on en-route ATSP: General conclusions

Actual 2017 LVNL en-route costs vs. PP

In 2017, LVNL actual en-route costs are +5.1% (+5.8 M€2009) higher, in real terms, than planned in the PP. According to the additional information to the June 2018 en-route Reporting Tables, this results from the combination of:

- lower staff costs (-1.7%, or -1.5 M€2009), mainly due to "lower than planned FTEs (unfilled vacancies) and transfer of some staff costs to 'other services' account. This outweighs the effects of higher premiums and salary indexation".
- significantly higher other operating costs (+40.9%, or +8.4 M€2009), mainly due to "hiring of external staff for projects";
- higher depreciation costs (+11.9%, or +0.8 M€2009) due to "hardware replacement in the ATM system and introduction of a new approach radar"; and,
- a lower cost of capital (-73.1%, or -1.9 M€2009), due to the "postponement of the implementation of some investments and lower interest rate". Based on the information provided in the FABEC Monitoring Report for 2017, the actual capex for 2017 is -42.4% lower, in nominal terms, than planned in PP.

LVNL net gain/loss on en-route activity in 2017

As shown in box 9, LVNL generated a net gain of +1.3 M€2009 on the en-route activity. This is a combination of two elements:

- a loss of -3.9 M€2009 arising from the cost sharing mechanism; and
- a gain of +5.2 M€2009 arising from the traffic risk sharing mechanism.

The loss from cost sharing mentioned above (-3.9 M€2009) includes amounts reported by LVNL for costs exempt from cost sharing (+1.9 M€2009) (see **Note 3**). Should these costs not be deemed eligible by the European Commission, LVNL would incur a net loss of -0.7 M€2009 for the en-route activity in 2017.

LVNL overall estimated surplus for the en-route activity

Based on the additional information to the June 2018 en-route Reporting Tables, "LVNL is an autonomous government body. Its assets are financed by debts (100%). LVNL has an equity capital, the only objective of LVNL's equity capital is to enable LVNL to recover losses resulting from the traffic volume risk, the cost risk and the capacity incentive schemes, both in the en-route and the terminal charging zone. For that reason, the WACC is only based on the interests on debts."

Because LVNL has no return on equity, no ex-ante estimated surplus was embedded in the cost of capital provided the PP for RP2.

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+1.3 M€2009) is positive (the gain corresponds to 1.0% of the 2017 en-route revenues).

NETHERLANDS: Terminal charging zone

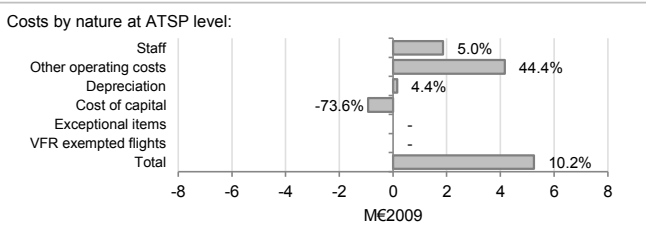
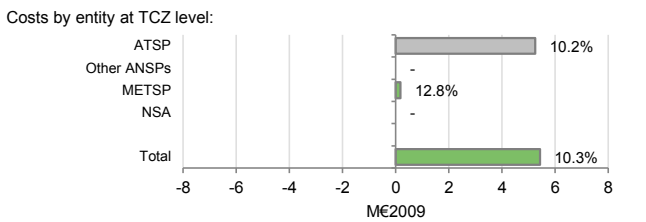
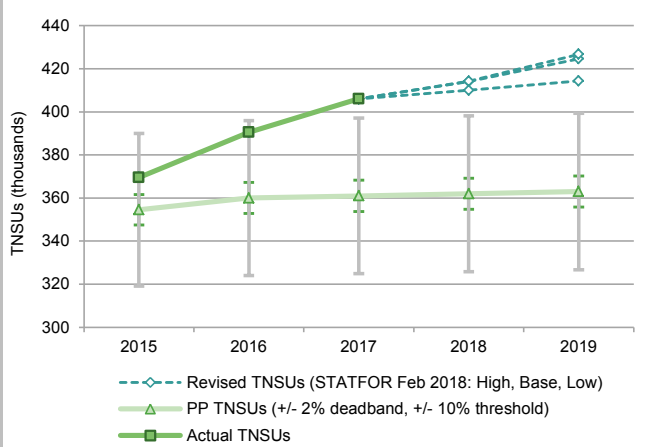
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Netherlands TCZ represents 4.9% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes	
· ATSP: LVNL		· Airports with fewer than 70,000 IFRs ATMs:		3	
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		0	
· Number of airports in charging zone in 2017: 4,		of which:		· Airports with more than 225,000 IFRs ATMs: 1	
2. Terminal DUC monitoring at Charging Zone level					
Netherlands: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	59 241 306	58 399 022	59 894 041	61 576 384	62 857 351
Inflation %	1.0%	1.2%	1.4%	1.5%	1.5%
Inflation index (100 in 2009)	110.6	112.0	113.6	115.3	117.0
Real terminal costs (EUR2009)	53 557 045	52 148 932	52 724 712	53 409 871	53 709 931
Total terminal Service Units	354 510	360 000	361 000	362 000	363 000
Real terminal unit cost per Service Unit (EUR2009)	151.07	144.86	146.05	147.54	147.96
Netherlands: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	57 733 000	61 845 000	64 709 486		
Inflation %	0.2%	0.1%	1.3%		
Inflation index (100 in 2009)	109.7	109.8	111.3		
Real terminal costs (EUR2009)	52 610 176	56 301 005	58 152 723		
Total terminal Service Units	369 519	390 467	406 060		
Real terminal unit cost per Service Unit (EUR2009)	142.37	144.19	143.21		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)					
in value	-1 508 306	3 445 978	4 815 445		
in %	-2.5%	5.9%	8.0%		
Inflation %					
in p.p.	-0.8 p.p.	-1.1 p.p.	-0.1 p.p.		
Inflation index (100 in 2009)					
in p.p.	-0.9 p.p.	-2.1 p.p.	-2.3 p.p.		
Real terminal costs (EUR2009)					
in value	-946 868	4 152 073	5 428 011		
in %	-1.8%	8.0%	10.3%		
Total terminal Service Units					
in value	15 009	30 467	45 060		
in %	4.2%	8.5%	12.5%		
Real terminal unit cost per Service Unit (EUR2009)					
in value	-8.70	-0.67	-2.84		
in %	-5.8%	-0.5%	-1.9%		
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on the Netherlands Terminal Charging Zone (TCZ) comprising 4 airports: Amsterdam Airport Schiphol (EHAM), Rotterdam The Hague Airport (EHRD), Groningen Airport Eelde (EHGG) and Maastricht Aachen Airport (EHBK).</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (143.21 €2009) is -1.9% lower than planned in the PP (146.05 €2009). This difference results from the combination of significantly higher than planned TNSUS (+12.5%) and higher than planned terminal costs in real terms (+10.3%, or +5.4 M€2009).</p> <p>Terminal service units Traffic risk sharing applies in the Netherlands TCZ. The difference between actual and planned TNSUS (+12.5%) exceeds the +10% threshold foreseen in the traffic risk sharing mechanism. As a result, the gain of additional terminal revenues due to higher than planned traffic is shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +2.3 M€2009.</p> <p>Based on the STATFOR February 2018 <u>base</u> TNSU growth scenario, the traffic outlook for the rest of RP2 remains well above the TNSUs presented in the PP for the Netherlands.</p> <p>Terminal costs In nominal terms, actual terminal costs are +8.0% (+4.8 M€) higher than planned. However, since the actual inflation index is lower than planned (-2.3 p.p.), actual terminal costs are +10.3% (+5.4 M€2009) above the plan when expressed in real terms. The higher than planned terminal costs in real terms are driven by an increase across all the reporting entities: LVNL (+10.2%, or +5.2 M€2009) and the MET service provider (+12.8%, or +0.2 M€2009). A detailed analysis at ATSP level is provided in box 12.</p> <p>Costs exempted from cost sharing for Netherlands TCZ are reported for a total amount of +0.9 M€2009 relating to the variation in pension costs (+0.8 M€2009), national taxation law (+0.04 M€2009) and new cost item required by law (+0.02 M€2009) (see Note 3). These costs will be eligible for carry-over (charged to airspace users) to the following reference period(s), if deemed allowed by the European Commission.</p>					

NETHERLANDS: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)



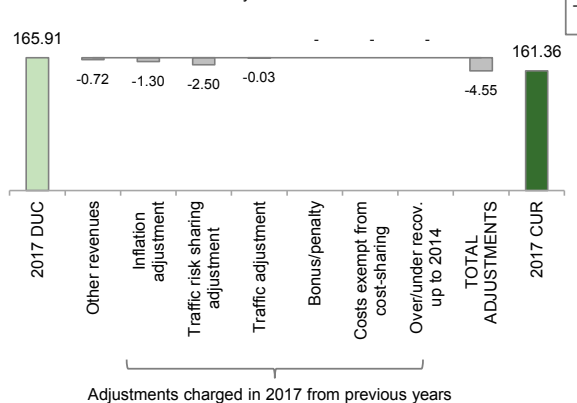
6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	-989	423	838		
	Interest rates on loans	0	0	0		
	Taxation law	0	-1	44		
	New cost item required by law	-51	86	21		
	International agreements	0	0	0		
by entity	ATSP	-1 041	509	902		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		-1 041	509	902		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

Netherlands 2017 DUC vs. 2017 Chargeable Unit Rate (CUR) in national currency in nominal terms - EUR



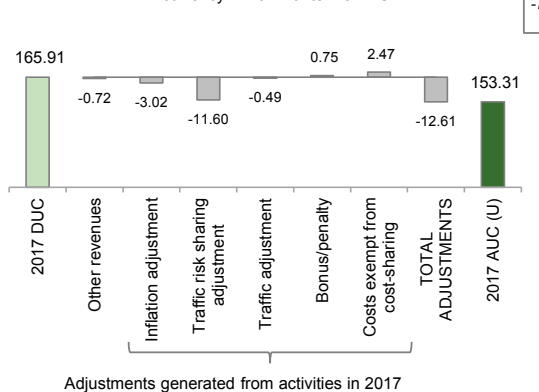
The terminal unit rate charged to airspace users (CUR) in 2017 is 161.36 €. This is -2.7% lower than the nominal DUC (165.91 €). The difference between these two figures (-4.55 €) relates to:

- the deduction of other revenues (-0.72 €) related to "possible subsidies, sale of Aeronautical publication and hardware maintenance services for third parties", as detailed in the additional information to the June 2018 terminal Reporting Tables;
- the inflation adjustment (-1.30 €), which reflects the lower than planned inflation index in 2015, resulting in a subsequent reimbursement to the airspace users in 2017;
- the traffic risk sharing (-2.50 €) and the traffic (-0.03 €) adjustments, both reflecting the over-recovery due to higher than planned TNSUs in the year 2015.

These costs and adjustments are divided by the forecast TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users

Netherlands 2017 DUC vs. 2017 Actual Unit Cost for users in national currency in nominal terms - EUR



The actual terminal unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (153.31 €) is -7.6% lower than the nominal DUC (165.91 €). The most important factors contributing to the observed difference (-12.61 €) are: the inflation adjustment (-3.02 €), which reflects the impact of lower than planned inflation index in 2017, and the traffic risk sharing adjustment (-11.60 €), which reflects the gain in revenues due to higher than planned traffic in 2017. These are slightly balanced by the adjustment for cost exempt from cost sharing (+2.47 €), which will be charged to the users in future reference period(s), if deemed eligible by the European Commission.

It is also noted that the Netherlands has reported a performance bonus for capacity under the capacity incentive scheme for terminal activity in 2017 (+0.75 €). The inclusion of this bonus will be examined by the European Commission. See also Note 2 at the end of this Report.

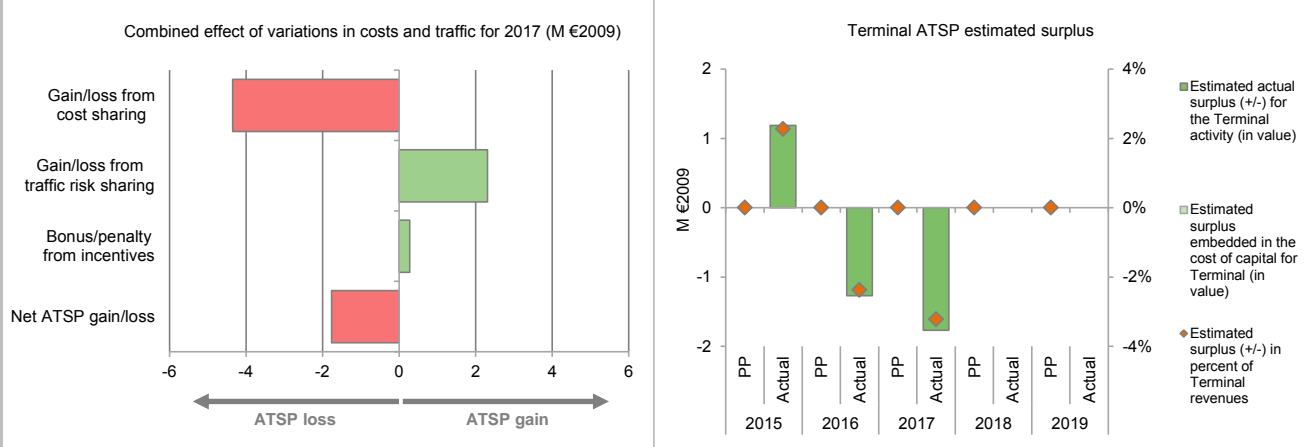
These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TNSUs in 2017.

NETHERLANDS: Terminal ATSP (LVNL)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	52 080	50 708	51 324		
Actual costs for the ATSP	51 251	54 792	56 573		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	828	-4 083	-5 249		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-1 041	509	902		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-212	-3 575	-4 346		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	4.2%	8.5%	12.5%		
Determined costs for the ATSP (PP) - based on actual inflation	52 496	51 695	52 395		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	1 402	2 036	2 305		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	267	274		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	1 189	-1 271	-1 767		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	36 299	36 619	37 614	41 412	38 043
Estimated proportion of financing through equity (in %)	-	-	-	-	-
Estimated proportion of financing through equity (in value)	0	0	0	0	0
Estimated proportion of financing through debt (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through debt (in value)	36 299	36 619	37 614	41 412	38 043
Cost of capital pre-tax (in value)	1 320	1 220	1 264	1 339	1 338
Average interest on debt (in %)	3.6%	3.3%	3.4%	3.2%	3.5%
Interest on debt (in value)	1 320	1 220	1 264	1 339	1 338
Determined RoE pre-tax rate (in %)	-	-	-	-	-
Estimated surplus embedded in the cost of capital for terminal (in value)	0	0	0	0	0
Overall estimated surplus (+/-) for the terminal activity	0	0	0	0	0
Revenue/costs for the terminal activity	52 080	50 708	51 324	52 047	52 385
Estimated surplus (+/-) in percent of terminal revenues	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated ex-ante RoE pre-tax rate (in %)	N/AppI	N/AppI	N/AppI	N/AppI	N/AppI
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	31 705	33 894	17 235		
Estimated proportion of financing through equity (in %)	-	-	-		
Estimated proportion of financing through equity (in value)	0	0	0		
Estimated proportion of financing through debt (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through debt (in value)	31 705	33 894	17 235		
Cost of capital pre-tax (in value)	549	369	333		
Average interest on debt (in %)	1.7%	1.1%	1.9%		
Interest on debt (in value)	549	369	333		
Determined RoE pre-tax rate (in %)	-	-	-		
Estimated surplus embedded in the cost of capital for terminal (in value)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity	1 189	-1 271	-1 767		
Overall estimated surplus (+/-) for the terminal activity	1 189	-1 271	-1 767		
Revenue/costs for the terminal activity	52 441	53 520	54 806		
Estimated surplus (+/-) in percent of terminal revenues	2.3%	-2.4%	-3.2%		
Estimated ex-post RoE pre-tax rate (in %)	N/AppI	N/AppI	N/AppI		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 LVNL terminal costs in the TCZ vs. PP

LVNL actual terminal costs in the TCZ are +10.2% (+5.2 M€2009) higher, in real terms, than planned in the PP. According to the additional information to the June 2018 terminal Reporting Tables, this results from the combination of:

- higher staff costs (+5.0%, or +1.9 M€2009), mainly due "to higher premium rates, salary indexation and controller training".
- significantly higher other operating costs (+44.4%, or +4.2 M€2009), mainly due to "hiring of external staff for projects and a number of strategic studies."
- higher depreciation costs (+4.4%, or +0.2 M€2009); and,
- a significantly lower cost of capital (-73.6% or -0.9 M€2009), due to the "postponement of the implementation of some investments and lower interest rates".

LVNL 2017 net gain/loss on terminal activity in the TCZ

As shown in Box 9, the terminal activity in the TCZ generated a net loss of -1.8 M€2009 in 2017. This is a combination of three elements:

- a loss of -4.3 M€2009 as a result of the cost sharing mechanism;
- a gain of +2.3 M€2009 as a result of traffic risk sharing mechanism; and
- a gain of +0.3 M€2009, corresponding to a bonus for LVNL as part of the terminal capacity target incentive mechanism. This amount corresponds to 0.5% of LVNL terminal revenues. The inclusion of this bonus in the chargeable cost base will be examined by the European Commission. See also **Note 2** at the end of this Report.

The loss from cost sharing mentioned above (-4.3 M€2009) includes amounts reported by LVNL for costs exempt from cost sharing (+0.9 M€2009) (see **Note 3**). Should these costs not be deemed eligible by the European Commission, LVNL would generate a net loss of -2.7 M€2009 for the terminal activity in 2017.

LVNL 2017 overall estimated surplus for the terminal activity in the TCZ

Based on the additional information to the June 2018 terminal Reporting Tables, "LVNL as an autonomous government body, is financed by debts (100%). LVNL has an equity capital. As stated above, the only objective of LVNL's equity capital is to enable LVNL to recover losses resulting from the traffic volume risk, the cost risk and the capacity incentive schemes, both in the en-route and the terminal charging zone. For that reason, the WACC is only based on the interests on debts."

Because LVNL has no return on equity, no ex-ante estimated surplus was embedded in the cost of capital provided the PP for RP2.

Ex-post, the overall estimated surplus taking into account the net loss from the terminal activity mentioned above (-1.8 M€2009) is negative (the loss corresponds to 3.2% of the 2017 terminal revenues).

NETHERLANDS: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs

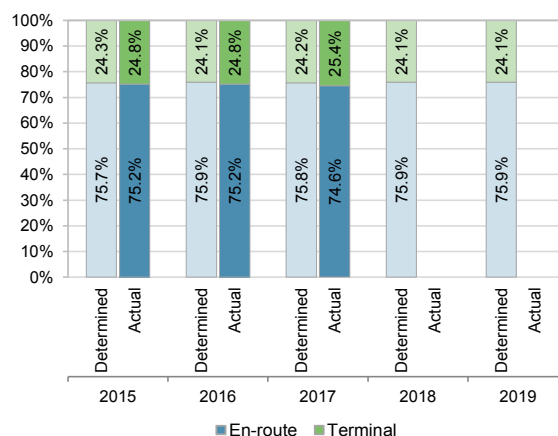
Netherlands: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		167 178 324	164 400 112	164 697 149	168 065 588	169 244 781
Real terminal costs (EUR2009)		53 557 045	52 148 932	52 724 712	53 409 871	53 709 931
Real gate-to-gate costs (EUR2009)		220 735 369	216 549 044	217 421 862	221 475 459	222 954 712
En-route share (%)		75.7%	75.9%	75.8%	75.9%	75.9%
Netherlands: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		159 378 607	170 593 253	170 687 405		
Real terminal costs (EUR2009)		52 610 176	56 301 005	58 152 723		
Real gate-to-gate costs (EUR2009)		211 988 783	226 894 258	228 840 129		
En-route share (%)		75.2%	75.2%	74.6%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	-8 746 586	10 345 214	11 418 267		
	in %	-4.0%	4.8%	5.3%		
En-route share	in p.p.	-0.6 p.p.	-0.7 p.p.	-1.2 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs are +5.3% (+11.4 M€2009) higher than planned due to higher costs for both en-route (+3.6%, or +6.0 M€2009) and terminal ANS (+10.3% or +5.4 M€2009).

The actual share of en-route in gate-to-gate ANS costs (74.6%) is lower than 2016 (75.2%) and is slightly lower than planned in the PP for 2017 (75.8%).

For LVNL, the estimated gate-to-gate economic surplus in 2017 is negative (-0.5 M€2009 corresponding to 0.28% of gate-to-gate ANS revenues). It is noted that LVNL is entirely debt financed.



3. Technical notes on en-route and terminal information reported by Netherlands

Note 1: A penalty of -164 '000€ for not achieving the local en-route capacity target is reported for MUAC in the Netherlands en-route charging zone in the 2017 FABEC Monitoring Report and in the submission of the June 2018 en-route Reporting Tables. The inclusion of this bonus in the chargeable cost-base will be examined by the European Commission.

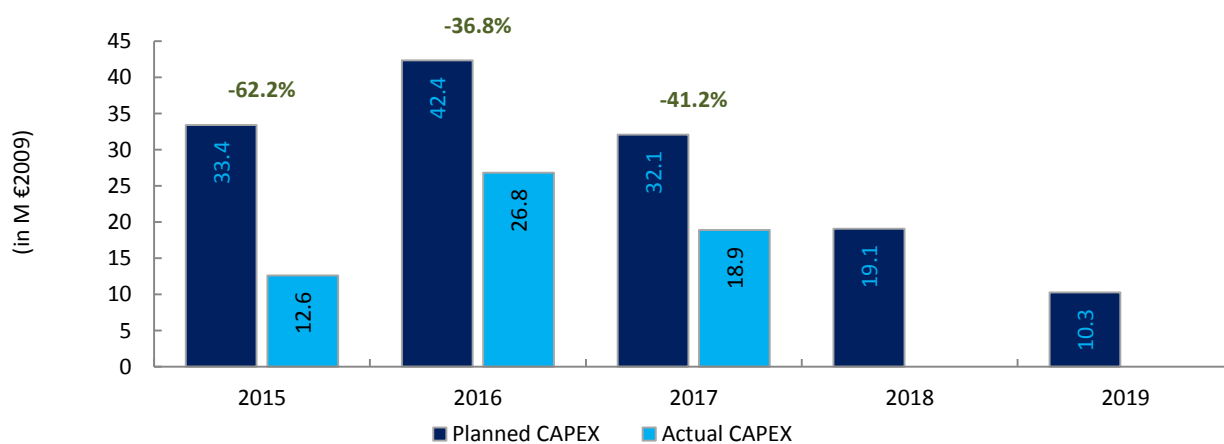
Note 2: A bonus of 305 '000€ for achieving the local terminal capacity target is reported for LVNL in the 2017 FABEC Monitoring Report and in the submission of the June 2018 terminal Reporting Tables. This amount corresponds to 0.5% of revenues for Amsterdam Schiphol Airport (EHAM) terminal operation only. The inclusion of this bonus in the chargeable cost-base will be examined by the European Commission.

Note 3: It should be noted that the figures provided in this Monitoring Report concerning the amounts claimed as cost exempt from cost-sharing (i.e. +3.6 M€2009 and +0.9 M€2009 for en-route and terminal respectively) are based on the June 2018 en-route and terminal Reporting Tables. It is noted that, according to the Netherlands, these figures are preliminary.

NETHERLANDS

Monitoring of CAPEX for 2017

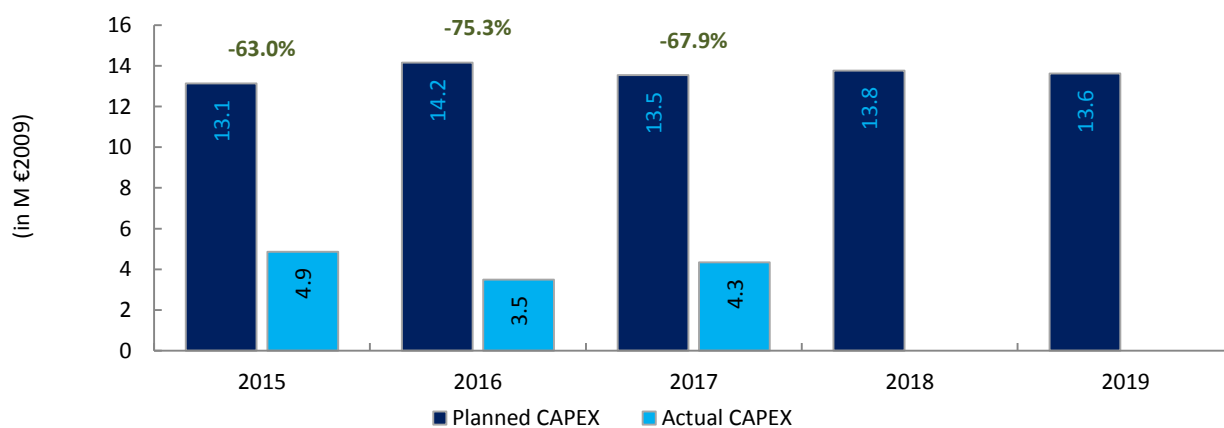
Contextual Information						
ANSP: LVNL						
FAB: FABEC						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	37.0	47.4	36.4	22.0	12.0	154.8
Main CAPEX (in nominal M)	30.1	45.1	35.3	21.3	3.5	135.4
Inflation %	1.0%	1.2%	1.4%	1.5%	1.5%	
Inflation index (100 in 2009)	110.6	112.0	113.6	115.3	117.0	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	33.4	42.4	32.1	19.1	10.3	137.2
Main CAPEX (in M €2009)	27.2	40.2	31.1	18.5	3.0	120.1
% Main of Total CAPEX	81.5%	95.0%	97.0%	97.1%	29.4%	87.6%
Real gate-to-gate ANSP costs (in M €2009)	170.1	165.7	166.4	169.9	170.9	842.9
Total CAPEX as % of Real gate-to-gate ANSP costs	19.7%	25.6%	19.3%	11.2%	6.0%	16.3%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	13.8	29.4	21.0			
Main CAPEX (in nominal M)	7.7	22.4	12.1			
Inflation %	0.2%	0.1%	1.3%			
Inflation index (100 in 2009)	109.7	109.8	111.3			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	12.6	26.8	18.9			
Main CAPEX (in M €2009)	7.0	20.4	10.9			
% Main of Total CAPEX	55.6%	76.2%	57.5%			
Real gate-to-gate ANSP costs (in M €2009)	165.4	176.0	177.4			
Total CAPEX as % of Real gate-to-gate ANSP costs	7.6%	15.2%	10.6%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-23.1	-18.0	-15.4			
Total CAPEX (in M €2009)	-20.8	-15.6	-13.2			
Total CAPEX (in %, M €2009)	-62.2%	-36.8%	-41.2%			



MUAC

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: MUAC						
FAB: FABEC						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	14.5	15.8	15.4	15.9	15.9	77.6
Main CAPEX (in nominal M)	12.7	14.7	14.7	15.2	15.3	72.5
Inflation %	1.0%	1.2%	1.4%	1.5%	1.5%	
Inflation index (100 in 2009)	110.6	112.0	113.6	115.3	117.0	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	13.1	14.2	13.5	13.8	13.6	68.2
Main CAPEX (in M €2009)	11.5	13.1	12.9	13.2	13.1	63.7
% Main of Total CAPEX	87.3%	92.7%	95.5%	95.7%	95.8%	93.4%
Real gate-to-gate ANSP costs (in M €2009)	133.8	133.5	135.9	138.1	139.8	681.2
Total CAPEX as % of Real gate-to-gate ANSP costs	9.8%	10.6%	10.0%	10.0%	9.7%	10.0%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	5.3	3.8	4.8			
Main CAPEX (in nominal M)	5.1	3.5	4.2			
Inflation %	0.2%	0.1%	1.3%			
Inflation index (100 in 2009)	109.7	109.8	111.3			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	4.9	3.5	4.3			
Main CAPEX (in M €2009)	4.6	3.2	3.7			
% Main of Total CAPEX	94.9%	92.3%	86.3%			
Real gate-to-gate ANSP costs (in M €2009)	123.6	131.9	135.7			
Total CAPEX as % of Real gate-to-gate ANSP costs	3.9%	2.7%	3.2%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-9.2	-12.0	-10.5			
Total CAPEX (in M €2009)	-8.3	-10.7	-9.2			
Total CAPEX (in %, M €2009)	-63.0%	-75.3%	-67.9%			



Annual Monitoring Report 2017
Local level view
Switzerland

SWITZERLAND

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	76	C	C	C	C	C
SKYGUIDE	93	D	D	D	D	E
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	FOCA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	9	0				
Legal/Judiciary	6	1				
Occurrence reporting and Investigation	2	0				
TOTAL	17	1				
SKYGUIDE	Number of questions answered					
	YES	NO				
Policy and its implementation	13	0				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	8	0				
TOTAL	23	1				
Observations						
All four reviewed EoS M Components/areas of the State meet Level C.						

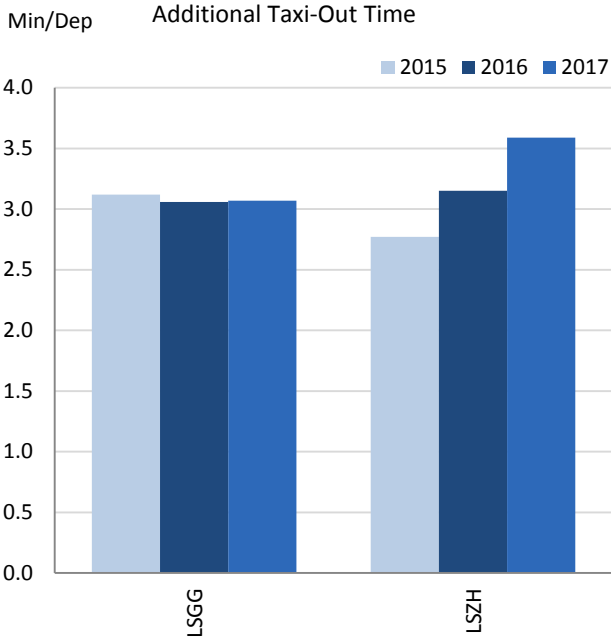
SWITZERLAND

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

Switzerland identifies its two main airports Zurich (LSZH) and Geneva (LSGG) as subject to RP2 monitoring. Both airports have a fully implemented data flow that allows the proper monitoring of environmental indicators. In general the environmental performance of Swiss airports is commensurate with their levels of traffic.

2. Additional Taxi-Out Time

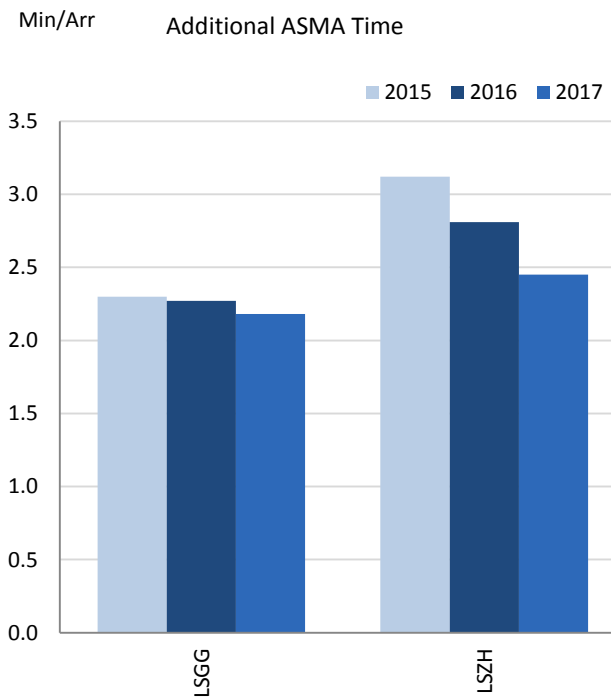


With no increase in yearly traffic at both Geneva and Zurich, the additional taxi-out times have not developed at LSGG, while they have increased in LSZH, reaching 3.59 min/dep., mainly during January and December.

The performance of these airports is in line with other airports with the same level of traffic.

A-CDM is fully implemented at both Swiss airports.

3. Additional ASMA Time



With the same trend shown in 2016, once more the additional times in terminal airspace for LSGG stay in the same level while for LSZH have actually decreased 13%.

According to the Swiss NSA, the reduction of time in the TMA in ZRH can be linked to the deployment of an Extended Arrival Manager.

In GVA and ZRH, the deployment of respectively an Arrival Manager and an enhanced Extended Arrival Manager will help to further reduce the inefficiencies in the last 40 nm.

The additional ASMA times for Swiss airports are higher than the European average (RP2 airports: 1.89 min/arr.) but still similar to other airports with those levels of traffic.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Genève	LSGG	3.12	3.06	3.07			2.30	2.27	2.18		
Zürich	LSZH	2.77	3.15	3.59			3.12	2.81	2.45		

SWITZERLAND

Monitoring of CAPACITY for 2017

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.22	0.22	0.22	0.23	0.23	Exclusive use of CRSTMP codes means that the PRB is unable to independently validate the results for incentive purposes. Actual performance reported here is for all causes of delay.
Deadband +/-	N/A	N/A	N/A	N/A	N/A	
Actual performance	0.10	0.10	0.20			

National capacity incentive scheme

Incentive scheme targets:

The capacity delay target at FAB level was set at an average of 0.33 min/flight for CRSTMP causes ATFM delays. Skyguide's broken down target was set at 0.17 min/flight.

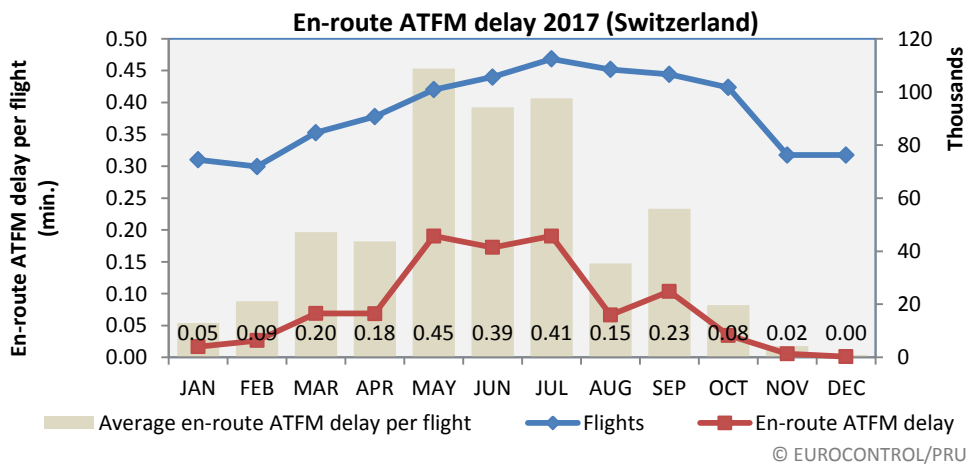
2017 achievement (as reported by FABEC)

- FABEC: 0.76 min/flight for CRSTMP ATFM delays
- Skyguide: 0.13 min/flight for CRSTMP delays

Bonus/Malus:

Skyguide as an ANSP not contributing to the FAB under-performance, is not subject to a malus.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Switzerland)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.76	0.51	0.48	0.21	0.15	0.14	0.10	0.10	0.10	0.20

With 0.2 minutes of delay per flight, Switzerland was still able to meet its national target for en-route ATFM delay, with a 4% increase in traffic, on the previous year. The evolution of traffic in Switzerland in RP2 is shown below. Traffic levels have remained within the baseline forecast provided by STATFOR and available when the FAB performance plans and associated capacity plans were being determined. It is noted that the Network Manager, based on the latest capacity plans and traffic forecasts (NOP 2018-2022), now expects shortfalls in en-route capacity performance in Switzerland for the remainder of RP2. In addition, the FABEC report warns that the imposition of RAD restrictions and scenarios to protect Karlsruhe UAC, Maastricht UAC and Reims ACC will result in further deterioration of en-route capacity performance for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Switzerland

	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	1048		1083		1129		1164		1199	1228
Base	1034	1033	1060	1046	1088	1069	1110	1110	1134	1160
Low	1019		1033		1039		1046		1056	1066

Planning and Effective Use of CDRs

Switzerland did not provide any data.

Observations on Planning and Effective Use of CDRs

It is noted that Switzerland, like many other States, is unable to monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
58%	73%	70%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
7%	5%	7%		

Share of restricted / segregated time (via UUP process) that was actually used				
2015	2016	2017	2018	2019
N/A	100%	100%		

Observations on Effective booking procedures

Switzerland reports that the aggregated values used in this indicator are not relevant for FUA analysis and evaluation, the only relevant information remains per area. It was also reported that not all releases of airspace are notified to the Network Manager. No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

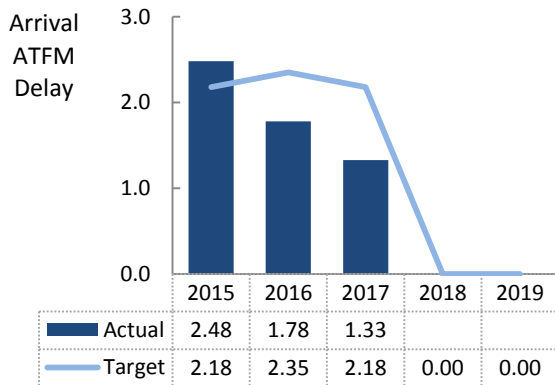
SWITZERLAND

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

In Switzerland, ANS at Zurich (LSZH) and Geneva (LSGG) are subject to RP2 monitoring. Arrival ATFM delay at both airports decreased in 2017 by 0.35 minutes per arrival on average. The established national target for 2017 was fully met. The adherence with ATFM slots at national level improved slightly in 2017 in comparison with 2016 and it reaches 93.4% . In terms of ATC pre-departure delay, the national performance is positively influenced by the improvement at Zurich (LSZH).

2. Arrival ATFM Delay



Switzerland established a traffic-dependent national target on arrival ATFM delay.

In 2017 the achieved performance has improved, with 1.33 min/arr. (vs 1.78 min/arr. in 2016), fully meeting the set target of 2.18 min/dep.

While maintaining the traffic levels, and for the second year in a row, both Swiss airports improved their share of arrival ATFM delay in 2017.

3. Arrival ATFM Delay – National Target and Incentive Scheme

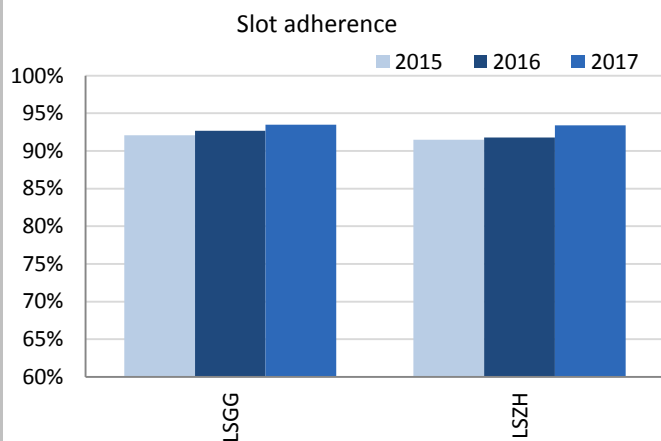
The FABEC performance plan establishes a traffic-dependent national target on arrival ATFM delay (CRSTMP delay causes).

As traffic increased by 0.3% (<1%) in 2017, the targets do not need to be adjusted for 2017: 2,18 min for all regulation causes and 0.43 min for CRSTMP.

Skyguide did achieve the target for all regulation causes since the actual arrival ATFM delay was 1.33 min/arr. and also achieved the target for the CRSTMP part since actual arrival ATFM delay per flight attributed to CRSTMP reasons reached 0.09 min/arr. in 2017.

Switzerland has established a respective incentive scheme. As the target for all causes was met, the ANSP qualified for bonus. Given that $0.43 - 50\% * 0.43 = 0.215$ and $0.09 < 0.215$, the maximum of bonus is reached, i.e., 0.5% of the revenues in the CH Terminal part.

4. ATFM Slot Adherence



Adherence to ATFM slots improved slightly at both airports, now reaching a compliance rate above 93%.

5. Pre-departure Delay

LSZH has significantly improved performance and in 2017 shows half of the pre-departure delay that accrued in 2015 (i.e. LSZH: 2015: 1.93 min/dep.; 2016: 1.12 min/dep., 2017: 0.95 min/dep.). Nevertheless it is still significant delay compared to other airports under the monitoring.

Geneva (LSGG) maintains the same ATC pre-departure delay level as in 2016 (LSGG: 2017: 0.34), which is commensurate with the level of traffic.

6. Appendix

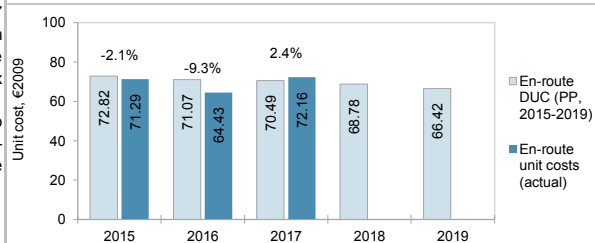
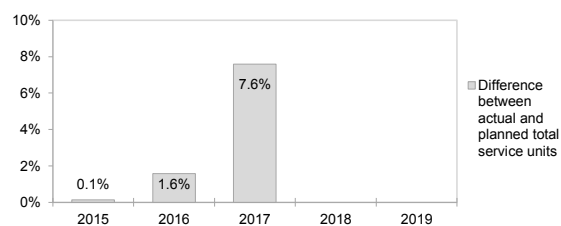
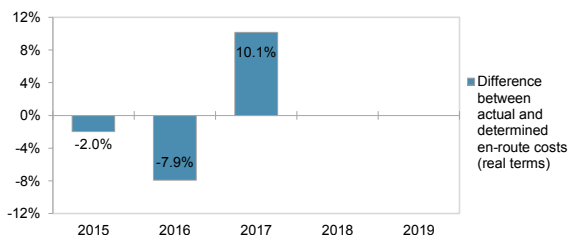
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Genève	LSGG	1.85	1.11	0.88			92.1%	92.7%	93.5%			0.25	0.35	0.34		
Zürich	LSZH	2.92	2.25	1.65			91.5%	91.8%	93.4%			1.93	1.12	0.95		

SWITZERLAND: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

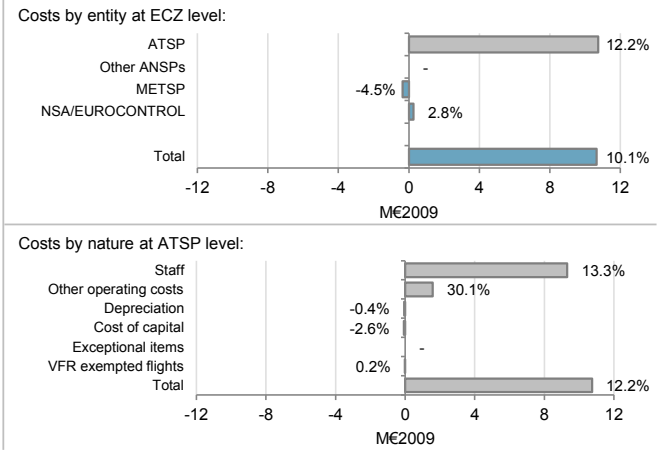
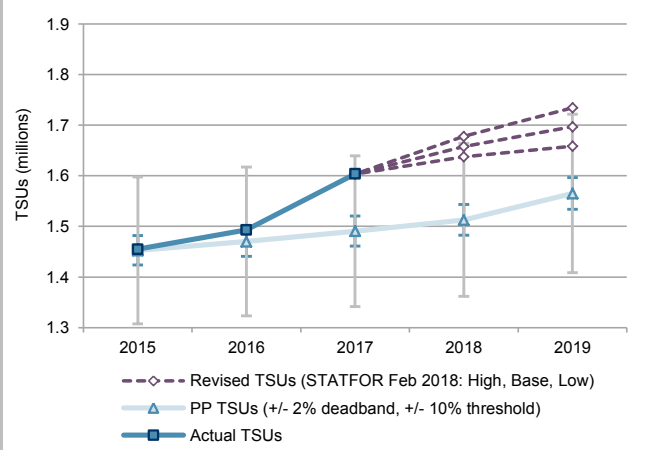
1. Contextual economic information: en-route air navigation services					
· Switzerland ECZ represents 1.7% of the SES en-route ANS determined costs in 2017					
· ATSP: Skyguide					
· FAB: FABEC					
· National currency: CHF Exchange rate 2009: 1 EUR = 1.50898 CHF					
2. En-route DUC monitoring at Charging Zone level					
Switzerland: Data from RP2 Performance Plan (EC Decision 2017/553 of 22 March 2017)	2015D	2016D	2017D	2018D	2019D
En-route costs (nominal CHF)	158 188 309	156 222 383	157 901 505	157 939 446	159 353 943
Inflation %	-1.0%	0.0%	0.5%	1.0%	1.0%
Inflation index (100 in 2009)	99.1	99.1	99.6	100.6	101.6
Real en-route costs (CHF2009)	159 633 416	157 649 529	158 551 235	157 019 140	156 856 827
Total en-route Service Units	1 452 683	1 470 066	1 490 591	1 512 889	1 565 000
Real en-route unit cost per Service Unit (CHF2009)	109.89	107.24	106.37	103.79	100.23
Real en-route unit cost per Service Unit (EUR2009)	72.82	71.07	70.49	68.78	66.42
Switzerland: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
En-route costs (nominal CHF)	155 396 234	143 427 824	173 557 574		
Inflation %	-0.8%	-0.5%	0.6%		
Inflation index (100 in 2009)	99.3	98.8	99.4		
Real en-route costs (CHF2009)	156 499 672	145 172 138	174 620 590		
Total en-route Service Units	1 454 786	1 493 182	1 603 674		
Real en-route unit cost per Service Unit (CHF2009)	107.58	97.22	108.89		
Real en-route unit cost per Service Unit (EUR2009)	71.29	64.43	72.16		
Difference between Actuals and Planned	2015	2016	2017	2018	2019
En-route costs (nominal CHF)	-2 792 076	-12 794 559	15 656 068		
	in %	-1.8%	-8.2%	9.9%	
Inflation %	0.2 p.p.	-0.5 p.p.	0.1 p.p.		
Inflation index (100 in 2009)	0.2 p.p.	-0.3 p.p.	-0.2 p.p.		
Real en-route costs (CHF2009)	-3 133 743	-12 477 391	16 069 355		
	in %	-2.0%	-7.9%	10.1%	
Total en-route Service Units	2 103	23 116	113 083		
	in %	0.1%	1.6%	7.6%	
Real en-route unit cost per Service Unit (CHF2009)	-2.31	-10.02	2.52		
	in %	-2.1%	-9.3%	2.4%	
Real en-route unit cost per Service Unit (EUR2009)	-1.53	-6.64	1.67		
	in %	-2.1%	-9.3%	2.4%	
3. Focus on en-route at State/Charging Zone level					
En-route unit cost					
In 2017, the actual en-route unit cost in real terms (72.16 €2009) is +2.4% higher than planned in the PP (70.49 €2009). This difference results from the combination of higher than planned TSUs (+7.6%) and higher than planned en-route costs (+10.1%, or +10.6 M€2009).					
En-route service units					
The difference between actual and planned TSUs (+7.6%) falls outside the ±2% dead-band but inside the ±10% alert threshold foreseen in the traffic risk-sharing mechanism. The resulting additional en-route revenues relating to the traffic risk sharing are therefore shared between the ATSP (Skyguide) and the airspace users with a gain to be retained by the ATSP amounting to +3.2 M€2009.					
The number of en-route service units (SUs) planned in the PP for the 2018-2019 period is significantly lower than the STATFOR February 2018 <u>base</u> case for Switzerland. If this scenario materialises, the traffic is expected to exceed the ±2% dead band foreseen in the traffic risk-sharing mechanism and in the <u>high</u> case would even exceed the 10% threshold in the years 2018 and 2019.					
En-route costs					
In nominal terms, actual en-route costs are +9.9% higher than planned. Since the actual inflation index is lower than planned (-0.2 p.p.), actual en-route costs are +10.1% above the planned level when expressed in CHF2009.					
The higher than planned en-route costs in real terms are driven by Skyguide (+12.2%, or +10.7 M€2009) and in a lower proportion by the NSA/EUROCONTROL (+2.8%, or +0.3 M€2009). On the other side, METSP costs are lower than planned (-4.5%, or -0.4 M€2009). Skyguide being the main contributor to the en-route cost base, a detailed analysis at ATSP level is provided in box 12.					
Costs exempt from cost-sharing are reported for a total amount of -0.56 M€2009 relating to EUROCONTROL costs (-0.02 M€2009) and an international services agreement with France (-0.54 M€2009). These costs will be eligible for carry-over (reimbursed to airspace users) to the following reference period(s), if deemed eligible by the European Commission.					



SWITZERLAND: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) 5. En-route costs monitoring (2017 actuals compared to PP)

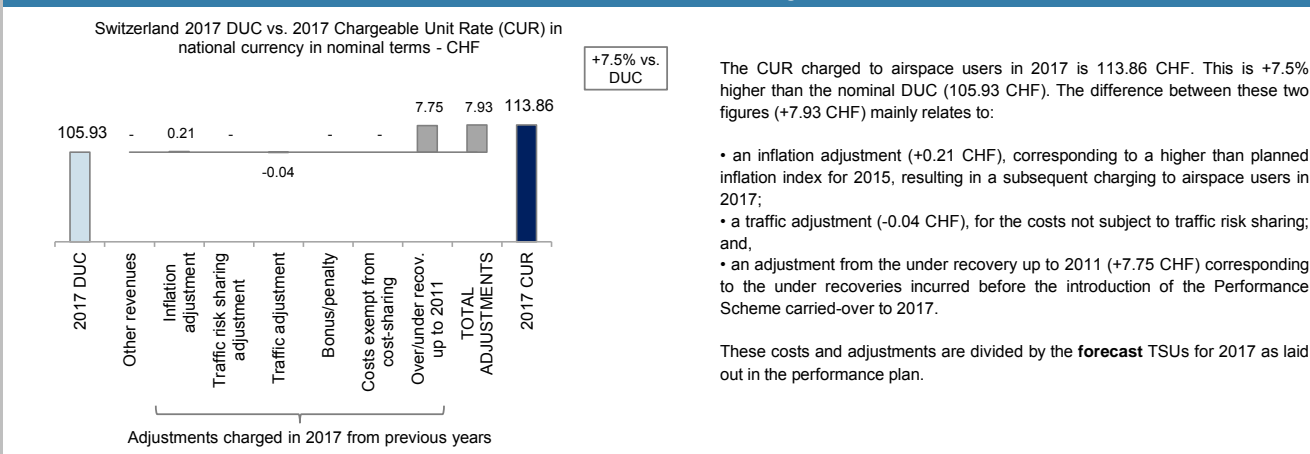


6. En-route costs exempt from cost sharing

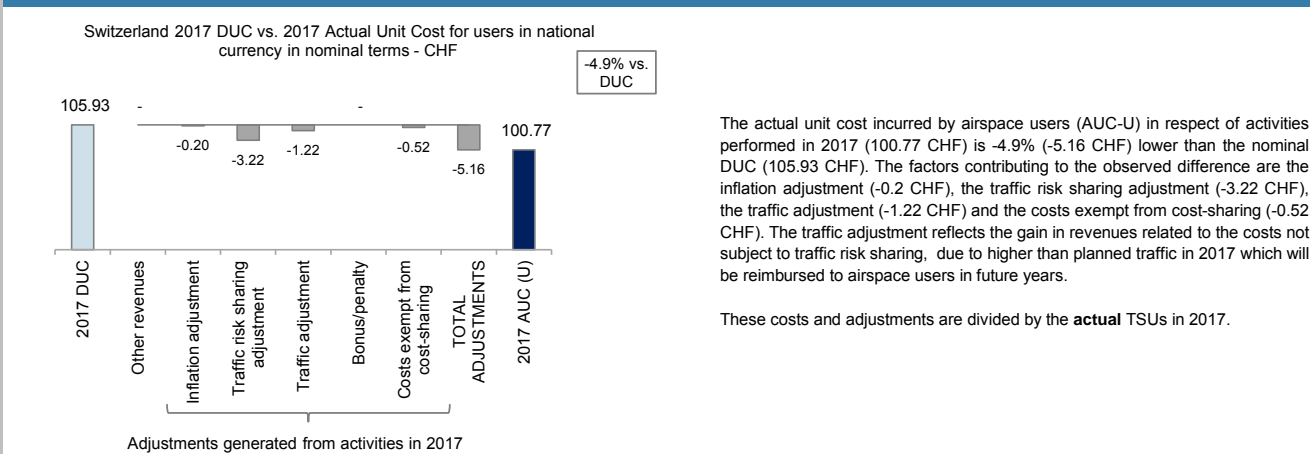
Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	-59	-504	-557		
by entity	ATSP	-151	-807	-542		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA/EUROCONTROL	92	303	-15		
Total costs exempt from cost sharing		-59	-504	-557		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. En-route DUC 2017 vs. 2017 Unit Rate charged to users



8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users



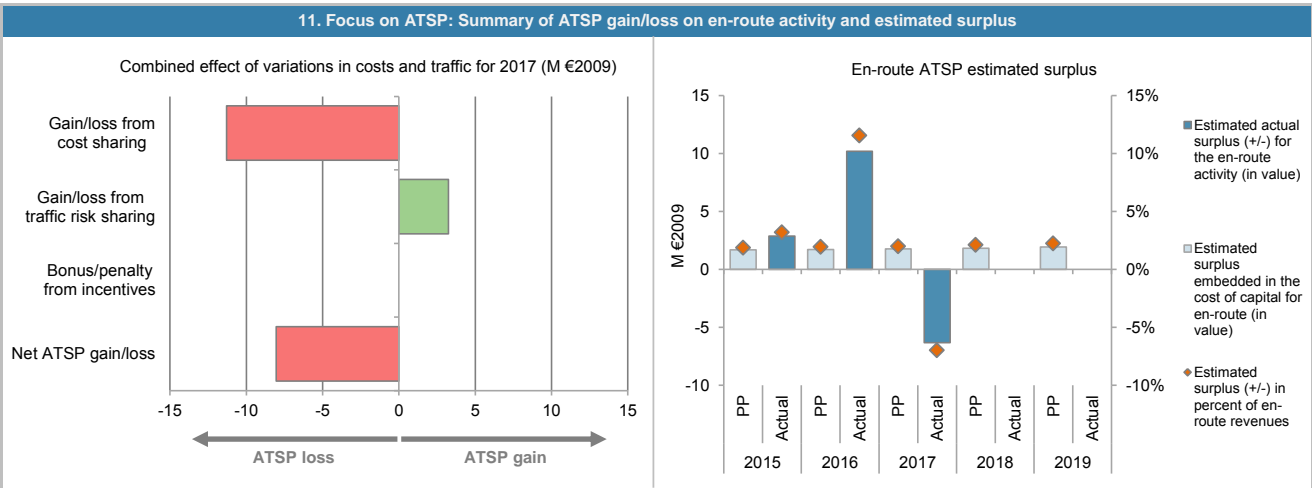
SWITZERLAND: En-route ATSP (Skyguide)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	89 375	87 620	87 911		
Actual costs for the ATSP	88 001	79 469	98 658		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	1 374	8 151	-10 747		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-151	-807	-542		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	1 223	7 344	-11 289		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	0.1%	1.6%	7.6%		
Determined costs for the ATSP (PP) - based on actual inflation	89 195	87 883	88 087		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	129	1 382	3 238		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	1 352	8 726	-8 051		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	96 080	96 991	99 196	102 582	107 482
Estimated proportion of financing through equity (in %)	65.5%	66.4%	66.9%	67.3%	67.7%
Estimated proportion of financing through equity (in value)	62 949	64 444	66 404	69 003	72 810
Estimated proportion of financing through debt (in %)	34.5%	33.6%	33.1%	32.7%	32.3%
Estimated proportion of financing through debt (in value)	33 131	32 547	32 792	33 578	34 672
Cost of capital pre-tax (in value)	2 402	2 425	2 480	2 565	2 687
Average interest on debt (in %)	2.2%	2.2%	2.2%	2.2%	2.2%
Interest on debt (in value)	739	726	732	749	774
Determined RoE pre-tax rate (in %)	2.6%	2.6%	2.6%	2.6%	2.6%
Estimated surplus embedded in the cost of capital for en-route (in value)	1 663	1 699	1 748	1 815	1 913
Overall estimated surplus (+/-) for the en-route activity	1 663	1 699	1 748	1 815	1 913
Revenue/costs for the en-route activity	89 375	87 620	87 911	86 693	86 375
Estimated surplus (+/-) in percent of en-route revenues	1.9%	1.9%	2.0%	2.1%	2.2%
Estimated ex-ante RoE pre-tax rate (in %)	2.6%	2.6%	2.6%	2.6%	2.6%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	86 563	82 616	96 595		
Estimated proportion of financing through equity (in %)	65.5%	66.4%	66.9%		
Estimated proportion of financing through equity (in value)	56 714	54 892	64 663		
Estimated proportion of financing through debt (in %)	34.5%	33.6%	33.1%		
Estimated proportion of financing through debt (in value)	29 849	27 723	31 932		
Cost of capital pre-tax (in value)	2 164	2 065	2 415		
Average interest on debt (in %)	2.2%	2.2%	2.2%		
Interest on debt (in value)	666	619	712		
Determined RoE pre-tax rate (in %)	2.6%	2.6%	2.6%		
Estimated surplus embedded in the cost of capital for en-route (in value)	1 498	1 447	1 702		
Net ATSP gain(+)/loss(-) on en-route activity	1 352	8 726	-8 051		
Overall estimated surplus (+/-) for the en-route activity	2 850	10 173	-6 348		
Revenue/costs for the en-route activity	89 353	88 195	90 607		
Estimated surplus (+/-) in percent of en-route revenues	3.2%	11.5%	-7.0%		
Estimated ex-post RoE pre-tax rate (in %)	5.0%	18.5%	-9.8%		

SWITZERLAND: En-route ATSP (Skyguide)

Monitoring of en-route COST-EFFICIENCY for 2017



12. Focus on en-route ATSP: General conclusions

Actual 2017 Skyguide en-route costs vs. PP

In 2017, Skyguide actual en-route costs are +12.2% (+10.7 M€2009) higher, in real terms, than planned in the PP. This results from the combination of:

- significantly higher staff costs (+13.3%, or +9.3 M€2009), as indicated in the Additional Information to the June 2018 en-route Reporting Tables, mainly explained by higher pension costs. "For Swiss regulatory reasons, extraordinary actions had to be taken in connection with the financing of the skyguide's occupational pension provision: Skyguide was compelled to conduct a restructuring of its skycare company pension scheme which resulted in a sizeable actuarial shortfall. To off-set part of this underfunding, the company invested in skycare".
- higher other operating costs (+30.1%, or +1.6 M€2009), due to use of external expertise and services instead of internal production and higher bad debt arriving from several airlines that had financial difficulties and the decision of the Enlarged Committee for Route Charges to write-off the open debts of US and Canadian Military flights. As a result, Skyguide booked a write-off in 2017.
- lower depreciation costs (-0.4%, or -0.06 M€2009); and,
- a lower cost of capital (-2.6%, or -0.07 M€2009).

Skyguide net gain/loss on en-route activity in 2017

As shown in box 9, Skyguide generated a net loss of -8.1 M€2009 on the en-route activity. This is a combination of 2 elements:

- a loss of -11.3 M€2009 arising from the cost-sharing mechanism; and
- a gain of +3.2 M€2009 arising from the traffic risk-sharing mechanism.

Note that if the costs exempt from cost-sharing included in this analysis for the year 2017 (-0.5 M€2009) are not deemed eligible by the European Commission, the loss generated by Skyguide on its en-route activity would amount to -7.5 M€2009.

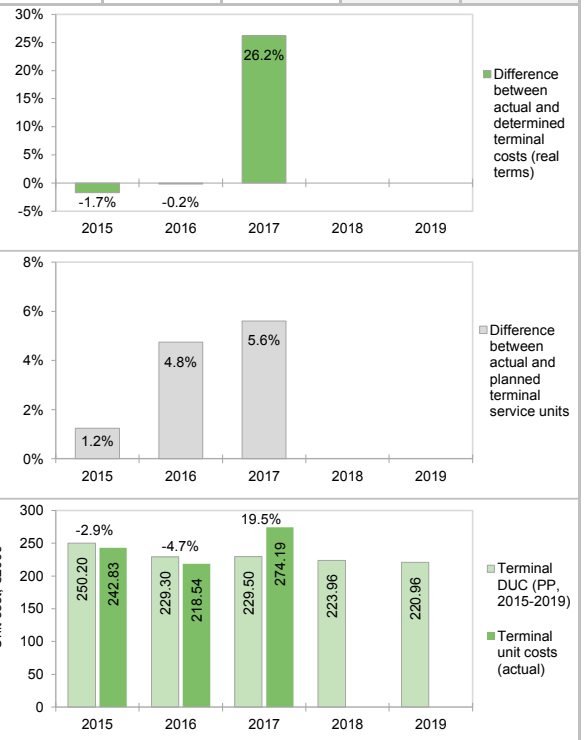
Skyguide overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net loss from the en-route activity mentioned above (-8.1 M€2009) and the surplus embedded in the actual cost of capital (+1.7 M€2009) amounts to -6.4 M€2009 (-7.0% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is -9.8%, which is significantly lower than the 2.6% planned in the PP.

SWITZERLAND: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

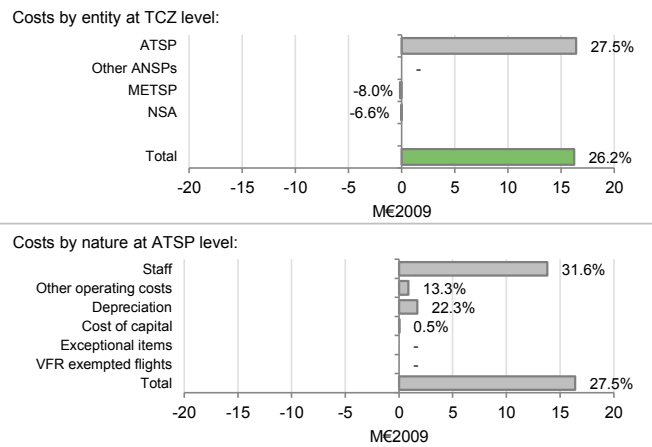
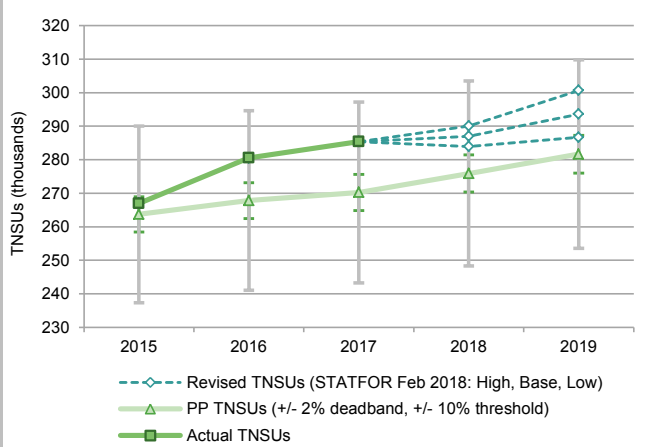
1. Contextual economic information: terminal air navigation services					
· Switzerland TCZ represents 5.8% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes	
· ATSP: Skyguide		· Airports with fewer than 70,000 IFRs ATMs:		0	
· National currency: CHF		· Airports with between 70,000 and 225,000 IFRs ATMs:		1	
· Number of airports in charging zone in 2017: 2, of which:		· Airports with more than 225,000 IFRs ATMs:		1	
2. Terminal DUC monitoring at Charging Zone level					
Switzerland: Data from RP2 Performance Plan					
Terminal costs (nominal CHF)	2015D	2016D	2017D	2018D	2019D
Inflation %	-1.0%	0.0%	0.5%	1.0%	1.0%
Inflation index (100 in 2009)	99.1	99.1	99.6	100.6	101.6
Real terminal costs (CHF2009)	99 556 131	92 666 721	93 579 967	93 234 826	93 917 991
Total terminal Service Units	263 690	267 811	270 219	275 889	281 677
Real terminal unit cost per Service Unit (CHF2009)	377.55	346.01	346.31	337.94	333.42
Real terminal unit cost per Service Unit (EUR2009)	250.20	229.30	229.50	223.96	220.96
Switzerland: Actual data from Reporting Tables					
Terminal costs (nominal CHF)	2015A	2016A	2017A	2018A	2019A
Inflation %	-0.8%	-0.5%	0.6%		
Inflation index (100 in 2009)	99.3	98.8	99.4		
Real terminal costs (CHF2009)	97 817 921	92 514 455	118 072 454		
Total terminal Service Units	266 955	280 536	285 378		
Real terminal unit cost per Service Unit (CHF2009)	366.42	329.78	413.74		
Real terminal unit cost per Service Unit (EUR2009)	242.83	218.54	274.19		
Difference between Actuals and Planned					
Terminal costs (nominal CHF)	2015	2016	2017	2018	2019
Inflation %					
Inflation index (100 in 2009)					
Real terminal costs (CHF2009)					
Total terminal Service Units					
Real terminal unit cost per Service Unit (CHF2009)	-11.13	-16.24	67.43		
Real terminal unit cost per Service Unit (EUR2009)	-7.37	-10.76	44.69		
3. Focus on terminal at State/Charging Zone level					
This analysis focuses on Switzerland Terminal Charging Zone (TCZ) that comprises 2 airports: Geneva and Zurich.					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (274.19 €2009) is +19.5% higher than planned in the PP (229.50 €2009). This difference results from the combination of higher than planned TNSUs (+5.6%) and higher than planned terminal costs (+26.2%, or +16.2 M€2009).					
Terminal service units					
The difference between actual and planned TSUs (+5.6%) falls outside the ±2% dead band, but does not exceed the +10% threshold foreseen in the traffic risk sharing mechanism. The resulting additional terminal revenues is therefore shared between the airspace users and the ATSP, the latter retaining a gain of +1.8 M€2009. Based on the STATFOR February 2018 base TNSU scenario, Switzerland TNSUs are expected to exceed the TNSUs planned in the PP for the remainder of RP2. If this scenario materialises, the traffic is expected to exceed the ±2% dead band foreseen in the traffic risk-sharing mechanism, but does not surpass the +10% threshold.					
Terminal costs					
In nominal terms, actual terminal costs are +25.9% higher than planned. Since the actual inflation index is lower than planned (-0.2 p.p.) the actual terminal costs are +26.2% above the planned level when expressed in CHF2009. The higher than planned terminal costs in real terms are driven by significant higher actual Skyguide costs (+27.5%, or some +16.4 M€2009) than planned and lower actual costs across all other reporting entities: METSP (-8.0%, or -0.16 M€2009) and the NSA (-6.6%, or -0.02 M€2009). Skyguide being the main contributor to the terminal cost base, a detailed analysis at ATSP level is provided in box 12. There are no costs exempt from cost-sharing reported for the TCZ.					



SWITZERLAND: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

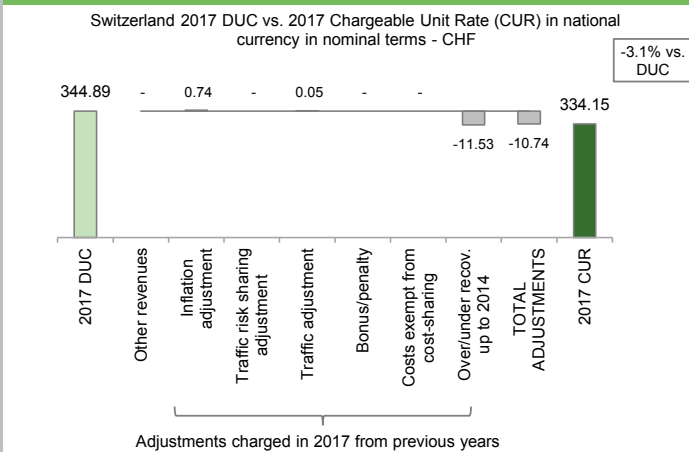


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

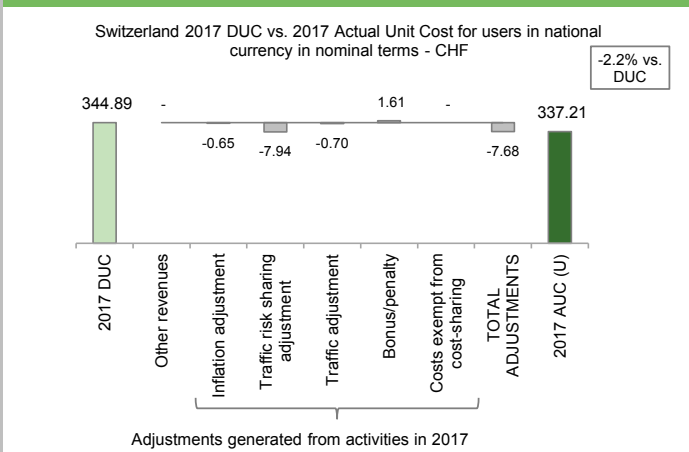
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The CUR charged to airspace users in 2017 is 334.15 CHF. This is -3.1% lower than the nominal DUC (344.89 CHF). The difference between these two figures (-10.74 CHF) mainly relates to an over recovery (-11.53 CHF) from 2014 reimbursed to airspace users in 2017. Additionally there is an inflation adjustment (+0.74 CHF), corresponding to a higher than planned inflation index for 2015, resulting in a subsequent charging to airspace users in 2017, and a traffic adjustment (+0.05 CHF), for the costs not subject to traffic risk sharing.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



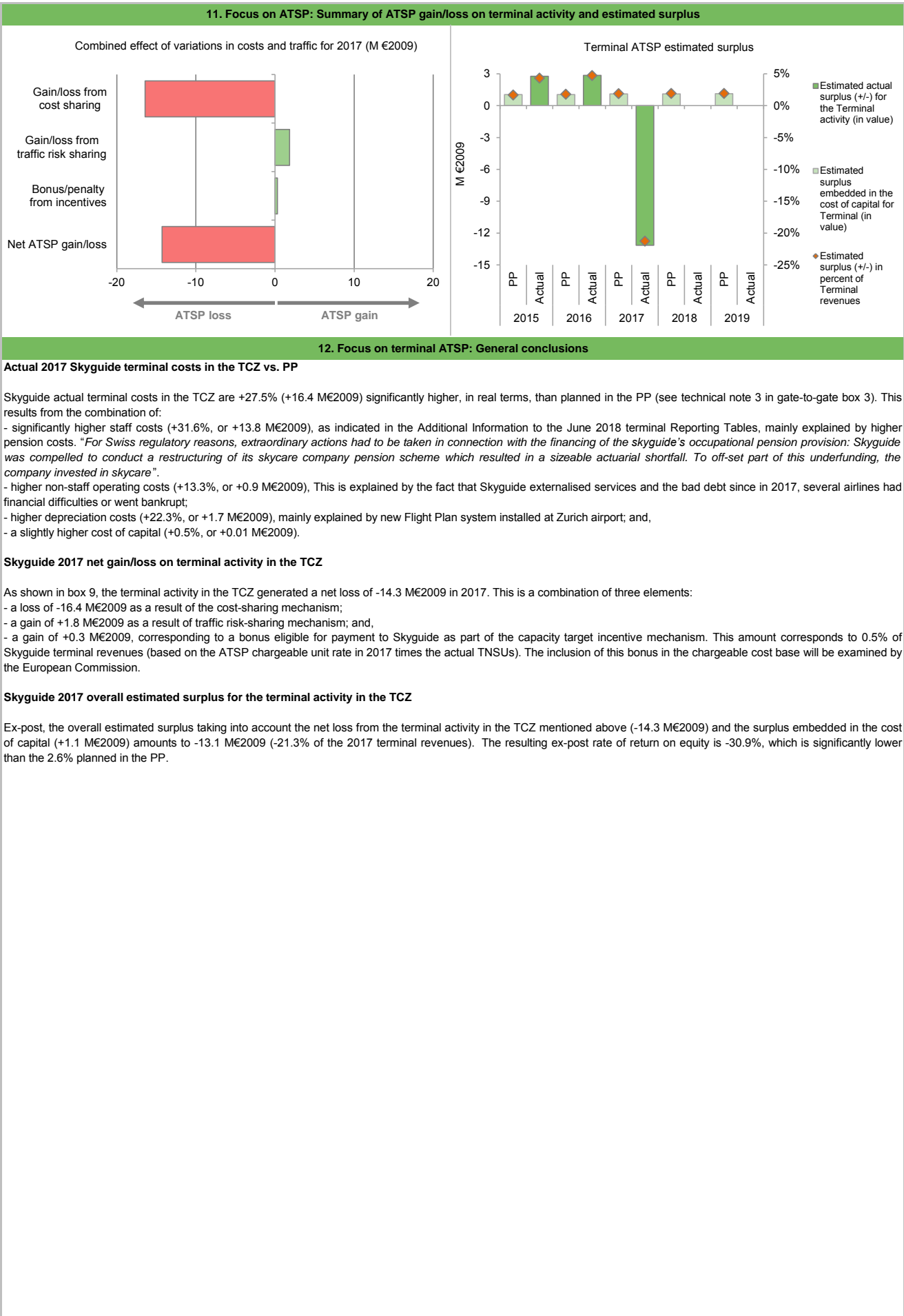
The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (337.21 CHF) is -2.2% lower than the nominal DUC (344.89 CHF). The factors contributing to the observed difference (-7.68 CHF) are the inflation adjustment (-0.65 CHF), the traffic-risk sharing adjustment (-7.94 CHF), the traffic adjustment (-0.70 CHF) and the bonus relating to the capacity target mechanism (+1.61 CHF).

These costs and adjustments are divided by the **actual** TNSUs in 2017.

SWITZERLAND: Terminal ATSP (Skyguide)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	63 597	59 031	59 648		
Actual costs for the ATSP	62 542	59 059	76 063		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	1 055	-28	-16 415		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	1 055	-28	-16 415		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	1.2%	4.8%	5.6%		
Determined costs for the ATSP (PP) - based on actual inflation	63 469	59 208	59 768		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	786	1 673	1 843		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	317	306		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	1 841	1 962	-14 267		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	60 828	59 901	63 720	63 501	64 009
Estimated proportion of financing through equity (in %)	65.2%	65.8%	66.4%	66.9%	67.5%
Estimated proportion of financing through equity (in value)	39 670	39 422	42 302	42 509	43 193
Estimated proportion of financing through debt (in %)	34.8%	34.2%	33.6%	33.1%	32.5%
Estimated proportion of financing through debt (in value)	21 157	20 479	21 419	20 992	20 816
Cost of capital pre-tax (in value)	1 521	1 498	1 593	1 588	1 600
Average interest on debt (in %)	2.2%	2.2%	2.2%	2.2%	2.2%
Interest on debt (in value)	472	457	478	468	464
Determined RoE pre-tax rate (in %)	2.6%	2.6%	2.6%	2.6%	2.6%
Estimated surplus embedded in the cost of capital for terminal (in value)	1 049	1 041	1 115	1 119	1 136
Overall estimated surplus (+/-) for the terminal activity	1 049	1 041	1 115	1 119	1 136
Revenue/costs for the terminal activity	63 597	59 031	59 648	59 443	59 919
Estimated surplus (+/-) in percent of terminal revenues	1.6%	1.8%	1.9%	1.9%	1.9%
Estimated ex-ante RoE pre-tax rate (in %)	2.6%	2.6%	2.6%	2.6%	2.6%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	54 399	51 828	64 068		
Estimated proportion of financing through equity (in %)	65.2%	65.8%	66.4%		
Estimated proportion of financing through equity (in value)	35 477	34 109	42 532		
Estimated proportion of financing through debt (in %)	34.8%	34.2%	33.6%		
Estimated proportion of financing through debt (in value)	18 921	17 719	21 535		
Cost of capital pre-tax (in value)	1 360	1 296	1 602		
Average interest on debt (in %)	2.2%	2.2%	2.2%		
Interest on debt (in value)	422	395	480		
Determined RoE pre-tax rate (in %)	2.6%	2.6%	2.6%		
Estimated surplus embedded in the cost of capital for terminal (in value)	938	900	1 121		
Net ATSP gain(+)/loss(-) on terminal activity	1 841	1 962	-14 267		
Overall estimated surplus (+/-) for the terminal activity	2 779	2 863	-13 146		
Revenue/costs for the terminal activity	64 383	61 021	61 796		
Estimated surplus (+/-) in percent of terminal revenues	4.3%	4.7%	-21.3%		
Estimated ex-post RoE pre-tax rate (in %)	7.8%	8.4%	-30.9%		



SWITZERLAND: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs

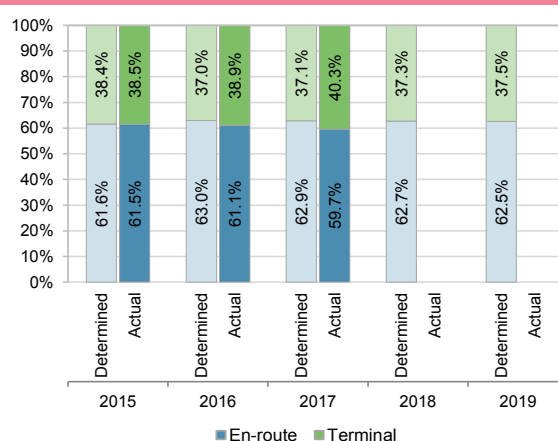
Switzerland: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		105 788 954	104 474 234	105 071 794	104 056 476	103 948 911
Real terminal costs (EUR2009)		65 975 779	61 410 172	62 015 379	61 786 655	62 239 388
Real gate-to-gate costs (EUR2009)		171 764 733	165 884 406	167 087 173	165 843 130	166 188 298
En-route share (%)		61.6%	63.0%	62.9%	62.7%	62.5%
Switzerland: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		103 712 224	96 205 475	115 720 944		
Real terminal costs (EUR2009)		64 823 869	61 309 265	78 246 533		
Real gate-to-gate costs (EUR2009)		168 536 093	157 514 741	193 967 477		
En-route share (%)		61.5%	61.1%	59.7%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	-3 228 639	-8 369 665	26 880 304		
	in %	-1.9%	-5.0%	16.1%		
En-route share	in p.p.	-0.1 p.p.	-1.9 p.p.	-3.2 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs are +16.1% (+26.9 M€2009) higher than planned due to increases in both en-route costs (+10.1%, or +10.6 M€2009) and terminal costs (+26.2%, or +16.2 M€2009).

The actual share of en-route in gate-to-gate ANS costs (59.7%) is slightly lower than planned in the PP for 2017 (62.9%).

For Skyguide, the estimated gate-to-gate economic surplus in 2017 amounts to -19.5 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to -12.8% of gate-to-gate ANS revenues.

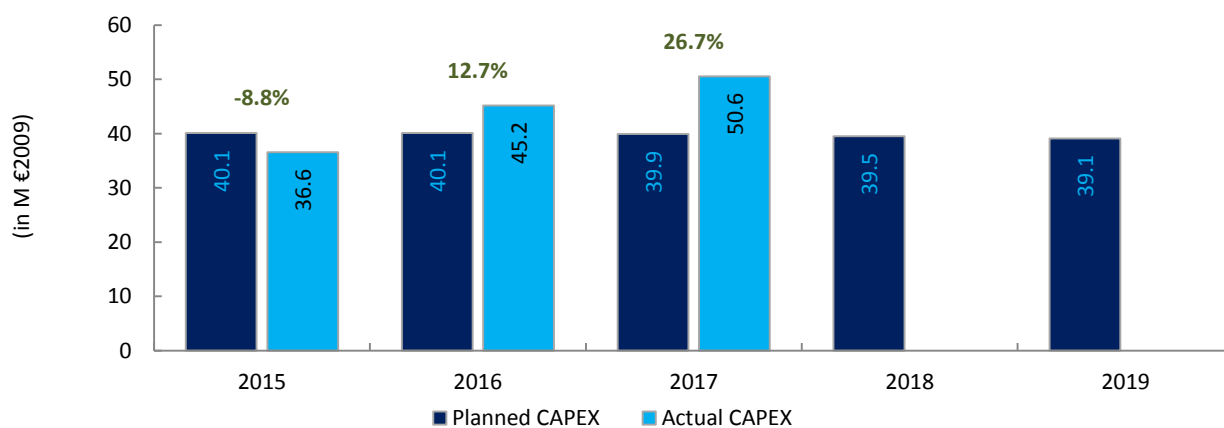


3. Technical notes on en-route and terminal information reported by Switzerland

SWITZERLAND

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: Skyguide						
FAB: FABEC						
Currency: CHF						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	60.0	60.0	60.0	60.0	60.0	300.0
Main CAPEX (in nominal M)	23.4	23.3	16.9	12.5	11.8	87.9
Inflation %	-1.0%	0.0%	0.5%	1.0%	1.0%	
Inflation index (100 in 2009)	99.1	99.1	99.6	100.6	101.6	
Exchange rate 2009	1.50898	1.50898	1.50898	1.50898	1.50898	
Total CAPEX (in M €2009)	40.1	40.1	39.9	39.5	39.1	198.8
Main CAPEX (in M €2009)	15.7	15.6	11.2	8.2	7.7	58.4
% Main of Total CAPEX	39.0%	38.8%	28.1%	20.8%	19.7%	29.4%
Real gate-to-gate ANSP costs (in M €2009)	153.0	146.7	147.6	146.1	146.3	739.6
Total CAPEX as % of Real gate-to-gate ANSP costs	26.2%	27.4%	27.1%	27.1%	26.8%	26.9%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	54.8	67.4	75.8			
Main CAPEX (in nominal M)	18.8	20.3	13.1			
Inflation %	-0.8%	-0.5%	0.6%			
Inflation index (100 in 2009)	99.3	98.8	99.4			
Exchange rate 2009	1.50898	1.50898	1.50898			
Total CAPEX (in M €2009)	36.6	45.2	50.6			
Main CAPEX (in M €2009)	12.5	13.6	8.7			
% Main of Total CAPEX	34.3%	30.1%	17.3%			
Real gate-to-gate ANSP costs (in M €2009)	150.5	138.5	174.7			
Total CAPEX as % of Real gate-to-gate ANSP costs	24.3%	32.6%	28.9%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-5.2	7.4	15.8			
Total CAPEX (in M €2009)	-3.5	5.1	10.6			
Total CAPEX (in %, M €2009)	-8.8%	12.7%	26.7%			



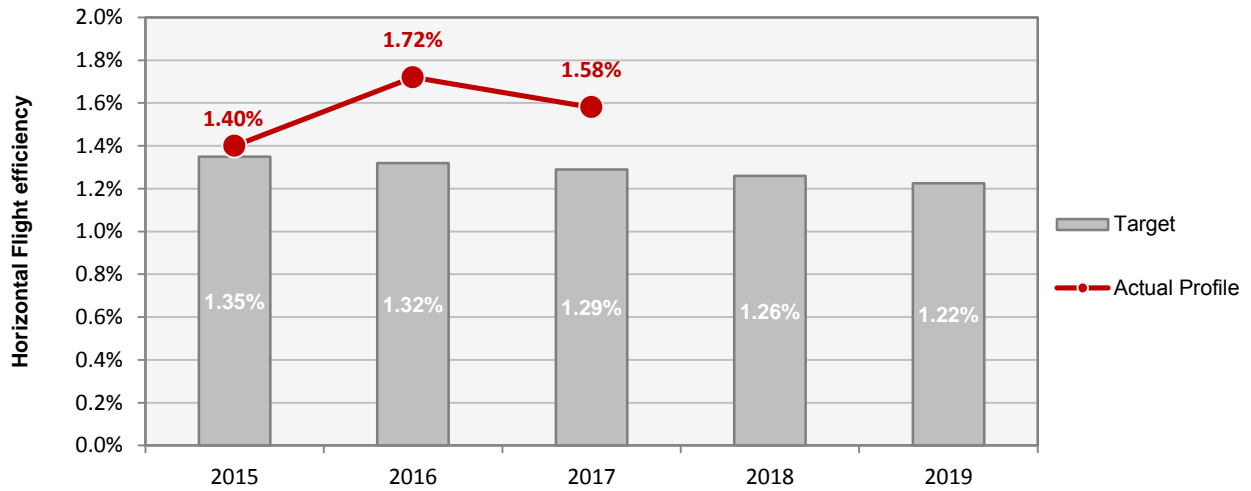
Annual Monitoring Report 2017
Local level view
NE FAB

Effectiveness of Safety Management							
			2015 Value	2016 Value	2017 Value	2018 Value	2019 Target
Union-wide targets	at State level	For all MOs					C
	at ANSP level	For Safety Culture MO					C
		For all other MOs					D
FAB level	States / Regulatory authorities	For all MOs	B	B	B		
	ANSPs	For Safety Culture MO	C	C	C		
	ANSPs	For all other MOs	A	C	C		
Application of the severity classification of the Risk Analysis Tool (RAT)							
Ground Score			2015 Value	2016 Value	2017 Target	2018 Value	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%		100%
	Runway Incursions (RIs)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	98%	96%		
	Runway Incursions (RIs)		97%	94%	72%		
Overall Score			2015 Value	2016 Value	2017 Target	2018 Target	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%	>= 80%	>= 80%
	Runway Incursions (RIs)				>= 80%	>= 80%	>= 80%
	ATM Specific Occurrences (ATM-S)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	99%	100%		
	Runway Incursions (RIs)		97%	95%	78%		
	ATM Specific Occurrences (ATM-S)		100%	97%	91%		
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)							
Observations							
The lowest level in the EoS M Components/areas of the States is Level B which is below the 2019 EoS M target level. All components are at this level. Safety Assurance is already at the 2019 EoS M target level.							

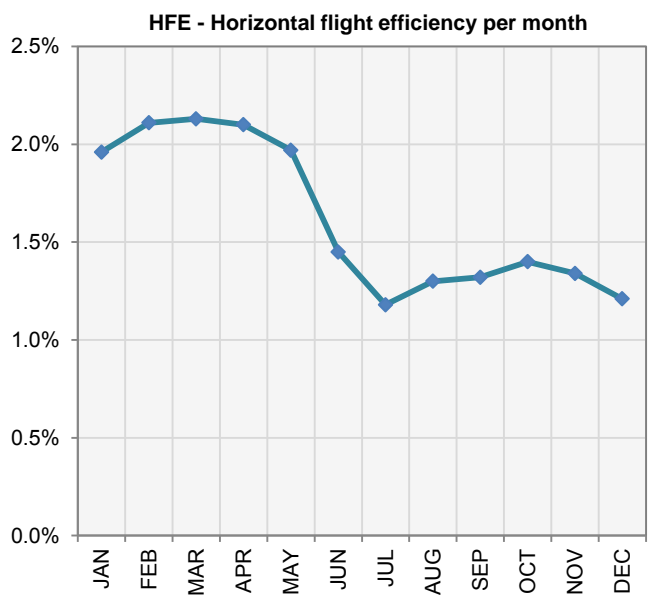
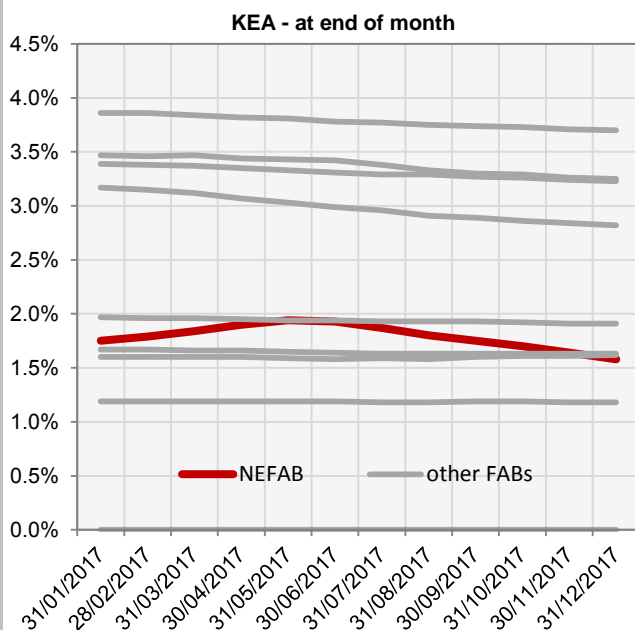
NEFAB

Monitoring of ENVIRONMENT for 2017

KEA					
	2015	2016	2017	2018	2019
FAB Target	1.35%	1.32%	1.29%	1.26%	1.22%
Actual performance	1.40%	1.72%	1.58%		



Monthly KEA and HFE evolution in 2017												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA (at end of month)	1.75%	1.79%	1.84%	1.90%	1.94%	1.93%	1.87%	1.80%	1.75%	1.70%	1.64%	1.58%
HFE	1.96%	2.11%	2.13%	2.10%	1.97%	1.45%	1.18%	1.30%	1.32%	1.40%	1.34%	1.21%



HFE refers to the ratio of flown distance and achieved distance over all (portions of) trajectories in the month, while KEA is the ratio 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.

NEFAB**Monitoring of ENVIRONMENT for 2017****Corrective measures applied, as reported by the FAB**

NEFAB is cooperating with DK-SE FAB (NEFRA free route airspace established in Nov 2015) as well as with UK-Ireland FAB in the Borealis project, aiming to implement free route airspace covering the whole 9 state area.

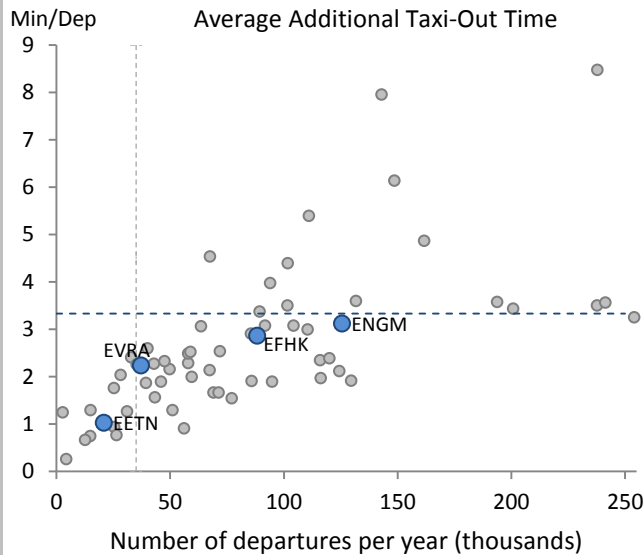
Observations

NM recommendations (ERNIP 2018, Part 2):
To implement all projects as planned including Borealis Project.

1. Overview

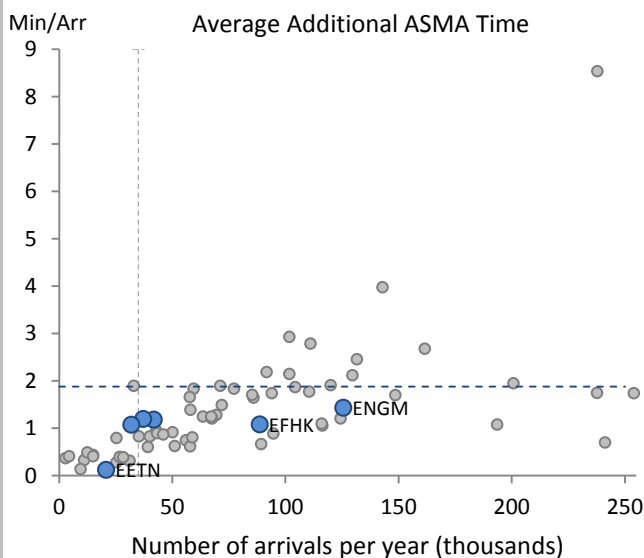
NEFAB includes 10 airports subject to RP2 monitoring, from which only 4 have established in 2017 a complete and correct airport data flow, allowing the calculation of both environment indicators. Member States shall empower the respective airport reporting entity to establish the airport operator data flow and/or address the remaining data issues. The performance shown by those airports that can be analysed within NEFAB is commensurate with the traffic levels in general terms.

2. Additional Taxi-Out Time



Additional taxi-out times for those airports in NEFAB (where the calculation of the indicator is possible) are below the European average (3.33 min/dep.). The performance in Riga (EVRA) has improved but it is still higher than other airports with similar number of movements.

3. Additional ASMA Time



Regarding additional times in the terminal area, the observed values for most airports in NEFAB are well below the RP2 average, and the performance shown by Helsinki and Oslo is better than the trend according to the number of movements.

NEFAB

Monitoring of CAPACITY for 2017

Minutes of ATFM en-route delay						
	2015	2016	2017	2018	2019	Observations
FAB Reference Value	0.12	0.12	0.13	0.13	0.13	
FAB Target	0.12	0.12	0.13	0.13	0.13	
Actual performance	0.04	0.07	0.02			

NEFAB assessment of capacity performance

The cost optimum capacity for en-route delay per flight for NEFAB (ANSPs) is 0.13, but for the airspace users it would be unacceptable. This is based on the fact that a large portion of the overall traffic is transition flights with little leeway in terms of delays. In addition three of four NEFAB member states have set significant lower target values than the FAB reference value in RP2. In addition implementation of free route airspace (FRA) in cooperation with the Danish-Swedish FAB also contributed to better performance from 2017. Two member states (Finland (ANS Finland)), Latvia (LGS)) achieved a delay of 0.00 min/flight. and the other one (Norway (Avinor)) and Estonia (EANS)) achieved a delay of 0.02 min/flight.

Monitoring process for capacity performance

Monthly at national level.

Application of Corrective Measures for Capacity

No corrective measures applied in 2017.

Capacity Planning

According to SLA with the airspace users.

Assessment of capacity performance

It is noted that, by exceeding the FAB target for en-route capacity, NEFAB has provided a positive contribution to the Union-wide target in 2017. The evolution of traffic in NEFAB is shown below and it is noticeable that traffic levels have consistently remained below the forecasted baseline scenario as calculated by STATFOR and available when the FAB performance plans and associated capacity plans were being determined. It is noted that the Network Manager expects NEFAB to provide a positive contribution to the Union-wide target each year during RP2.

EUROCONTROL 7 year forecast February 2014 – NEFAB										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	1047		1078		1121		1159		1198	1240
Base	1036	1030	1059	1015	1084	1006	1104	1031	1124	1147
Low	1026		1036		1037		1041		1045	1050

En route Capacity Incentive Scheme

Although NEFAB did not apply a FAB-wide en-route capacity incentive scheme, the PRB has been advised by the NEFAB NSA committee that the overall FAB performance is a condition of determining whether or not a national bonus or penalty is due. Each member State proposed separate national incentive schemes in the NEFAB performance plan submitted in June 2014. The review of the individual incentive schemes will be made in the national reports following this FAB analysis.

Result of FAB Capacity Incentive Scheme

Because NEFAB surpassed its en-route capacity target for 2017, all four member states will receive bonuses for en-route capacity performance: Estonia, Finland, Latvia and Norway. Analyses for the results of the individual national en-route capacity incentive schemes are presented in the national sections following.

Update on Military dimension of the plan

There is a plan to start the monitoring of the military dimension of the plan as soon as the LARA tool is fully implemented and working as planned. There will also be continued focus on the effectiveness of the booking procedures. After the implementation of the NEFRA there have been clear indications that the NM IFPS system has some limitations on offering alternative routings and the fact that information from UUP is not feed into the system. This shows that there is a need for the NM to be more future oriented regarding system support for more advanced FRA implementation.

Observations on Military dimension of the plan

The update on information is welcomed.

Application of FUA

Civil-military cooperation is well established at national level within the Contracting States. In addition to service provision to civilian air traffic, all NEFAB ANSPs provide en-route services to military traffic. Military traffic operates either within segregated military training or exercise areas (OAT) or as regular traffic in the same airspace as civilian traffic (GAT).

Norway are planning a revision of the AMC agreement which will establish new and larger areas in their southern airspace. The Civil/military airspace committee focus on the improvement of the booking procedures and the intention to improve the ratio between booked versus used reserved airspace. The LARA implementation will contribute to more efficient booking procedures. So far the implementation has been delayed due to system limitations on the current LARA version.

NEFAB:

The application of FUA is explained in the annual SES/EASA BR implementation questionnaire, which is submitted to EASA annually in April.

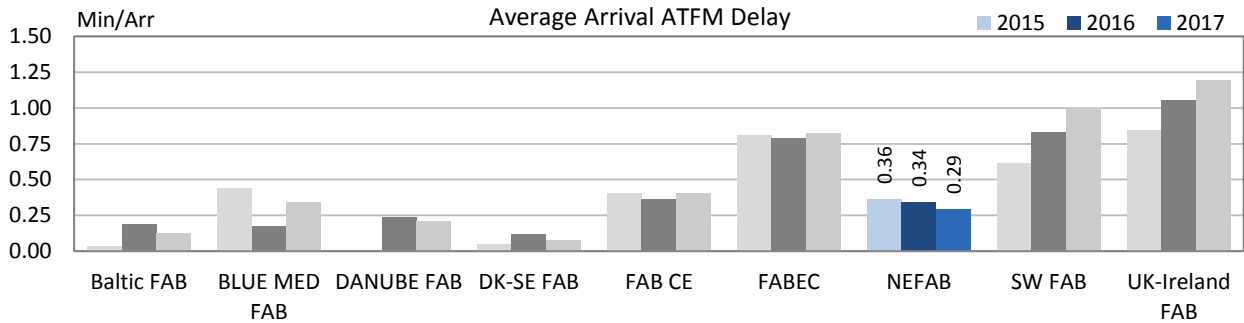
Observations of the Application of FUA

It is noted that Latvia provides information on the application of FUA to EASA, but unfortunately EASA does not make this information available to the public, therefore stakeholders, are unable to ascertain the application of FUA in Member States. It is noted that, with the exception of Norway, NEFAB has not actually provided information on how NEFAB authorities determine if the optimum benefits for both civil and military airspace users are being provided.

1. Overview

NEFAB contributes adequately to the airport-related ANS capacity performance in Europe. The aggregated average of arrival ATFM delay has further decreased in 2017 and continues to range well below the European average (i.e. NEFAB: 0.26 min/arr. vs SES: 0.74 min/arr.) In terms of adherence to ATFM slots, the ANS performance at most NEFAB airports ranges amongst the best-in-class in Europe.

2. Arrival ATFM Delay

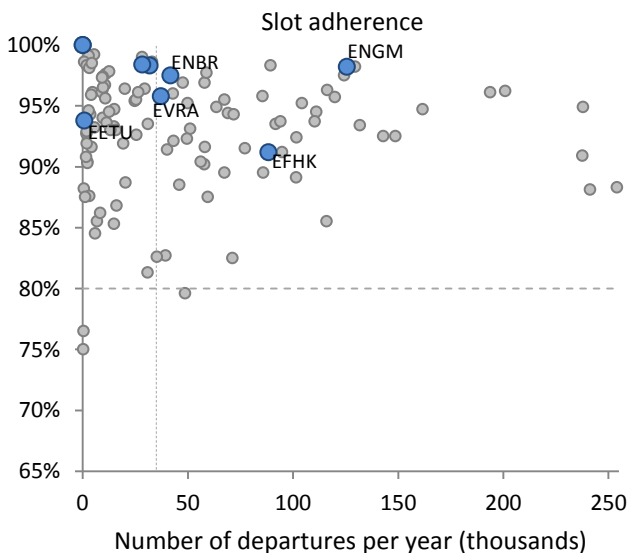


The ANS performance at NEFAB airports shows no specific capacity constraint. While Latvian and Estonian airports do not show any arrival ATFM delay, Oslo Gardermoen and Helsinki show levels commensurate with the level of traffic.

3. Arrival ATFM Delay – National Targets and Incentive Schemes

NEFAB performance plan sets a national target on arrival ATFM delay for all 4 states with a breakdown for each of the airports in the FAB under RP2 monitoring, except the Norwegian airports. The plan also presents an incentive scheme for the national target on arrival ATFM delay for each of its Member States. Only Finland misses the national target and will apply a penalty.

4. ATFM Slot Adherence



Airports in the FAB NE show very good performance regarding the adherence to ATFM slots, with values above 90% and even close to 100% in several cases. This year Helsinki (EFHK) has improved the adherence and it also ranges above 90%.

5. Pre-departure Delay

The airport operator specification has been implemented at all main airports subject to RP2 monitoring within NEFAB. ATC pre-departure delay at most NEFAB airports monitored is negligible, except for Helsinki and Oslo where it is commensurate with the traffic levels.

Annual Monitoring Report 2017
Local level view
Estonia

ESTONIA

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	57	C	B	C	B	B
EANS	87	D	D	D	D	E
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
			RAT application (%)			
			ATM Ground	ATM Overall		
Separation Minima Infringements (SMIs)			63%	100%		
Runway Incursions (RIs)			7%	7%		
ATM Specific Occurrences (ATM-S)				3%		
Source of RAT data:			ANSP			
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level			Number of questions answered			
			YES	NO		
Policy and its implementation			6	3		
Legal/Judiciary			4	3		
Occurrence reporting and Investigation			1	1		
TOTAL			11	7		
EANS			Number of questions answered			
			YES	NO		
Policy and its implementation			13	0		
Legal/Judiciary			2	1		
Occurrence reporting and Investigation			7	1		
TOTAL			22	2		
Observations						
<p>Two out of the four reviewed EoS Components/areas of the State meet the 2019 EoS target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p> <p>Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only two are below Level C.</p>						

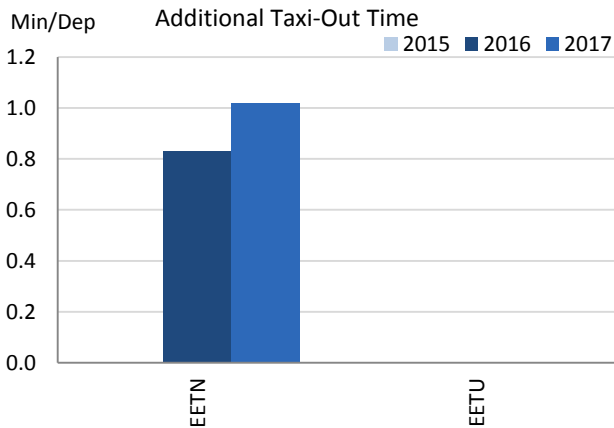
ESTONIA

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

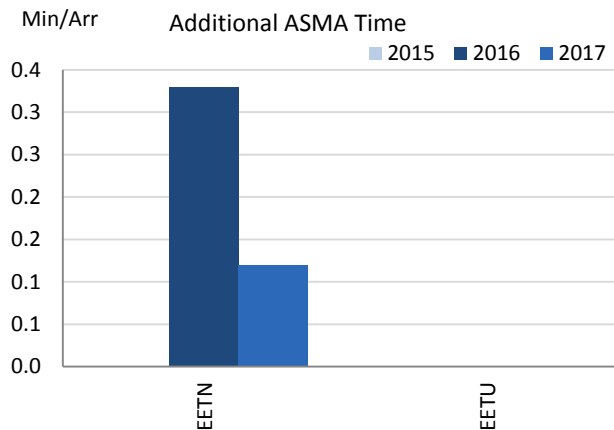
Estonia identified two airports, Tallinn and Tartu, as subject to RP2 monitoring. The Airport Operator Data Flow is established at Tallinn since 2016 allowing for the calculation of both environment indicators. Estonia shall empower the airport reporting entity at Tartu (EETU) to establish the Airport Operator Data Flow and/or address the remaining data issues.

2. Additional Taxi-Out Time



With a traffic growth of 12% at Tallinn, the additional taxi-out times have increased to 1.02 min/dep., but are still in line with similar airports' performance. The increase is mainly observed during the months from April to July.

3. Additional ASMA Time



The additional time in terminal airspace was already remarkably low in 2016 and it has further decreased in 2017. The additional ASMA times have reduced to zero as of May 2017, showing no additional holding at all in the terminal area.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Tallinn	EETN	n/a	0.83	1.02			n/a	0.33	0.12		
Tartu	EETU	n/a	n/a	n/a			n/a	n/a	n/a		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.12	0.12	0.12	0.12	0.12	
Deadband +/-	0.05 - 0.13		0.05 - 0.14			
Actual performance	0.01	0.02	0.02			

National capacity incentive scheme

Estonia applied a national incentive scheme based on the following criteria for the period 2017-2019:

En route ATFM delay 2017-2019:

2017-2019 Deadband: 0.05 min/flight - 0.14 min/flight

0.02 min/flight or better: Bonus: 1 % of the revenues from air navigation services in year n

0.03 min/flight: Bonus: 0.5 % of the revenues from air navigation services in year n

0.04 min/flight: Bonus: 0.2% of the revenues from air navigation services in year n

0.15 min/flight: Penalty: 0.2 % of the revenues from air navigation services in year n

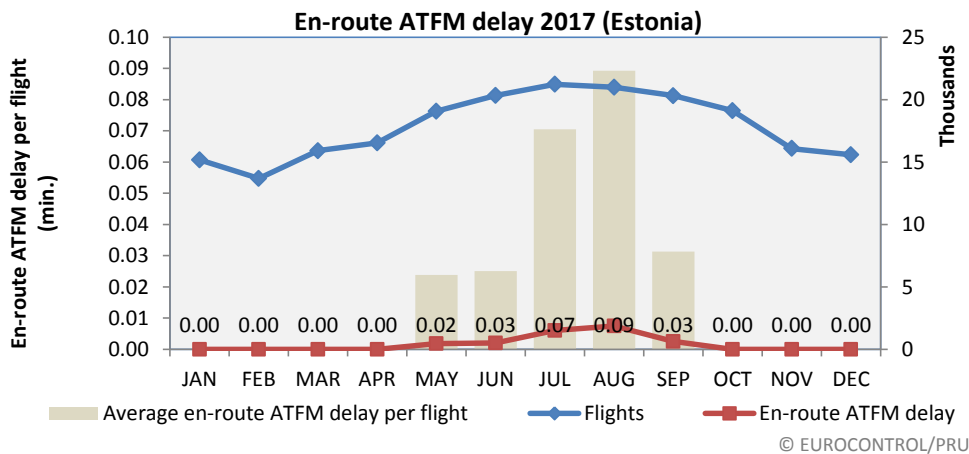
0.16 min/flight: Penalty: 0.5 % of the revenues from air navigation services in year n

0.17 min/flight or worse: Penalty: 1% of the revenues from air navigation services in year n

With an actual en-route capacity performance of 0.02 min/flight in 2017, the ANSP EANS will receive a bonus of 1% of the revenues from air navigation services in year n.

Estonia reports that this is equivalent to €193 358 for 2017.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Estonia)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.02	0.00	0.03	0.02	0.11	0.02	0.03	0.01	0.02	0.02

The achievement of the local target for en-route capacity performance in Estonia during 2017, and the positive contribution both to the NEFAB and the Union-wide target for en-route capacity is noted. Traffic levels in Estonia have remained below those initially predicted for the high scenario in the STATFOR forecast available when FAB performance plans and associated capacity plans were being determined. It is noted that the Network Manager does not expect any capacity problems in Estonia for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Estonia										
	2014	2015	2016	2017	2018	2019				
		actual	actual	actual	actual					
High	189	197	210	221	233	246				
Base	185	191	199	205	212	220				
Low	182	186	188	191	194	197				

Planning and Effective Use of CDRs

Estonia did not provide any data since there are no CDRs in NEFAB

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

No data was provided.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

ESTONIA

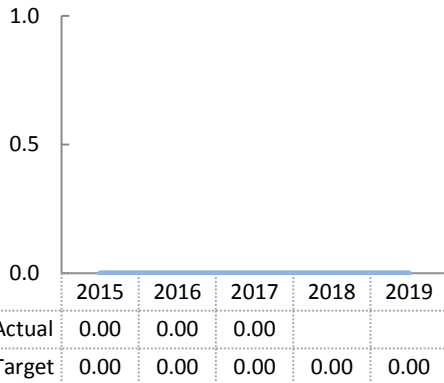
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

ANS at 2 airports in Estonia are subject to RP2 monitoring. Continuing with past years' performance, no arrival ATFM delay has been accrued in Estonia and the national target of zero delay is met in 2017.

2. Arrival ATFM Delay

Arrival ATFM Delay



In all years in RP2 so far no arrival ATFM delay was observed at the Estonian airports under RP2 (Tallinn and Tartu). The achieved performance suggests no major capacity constraints in Estonia.

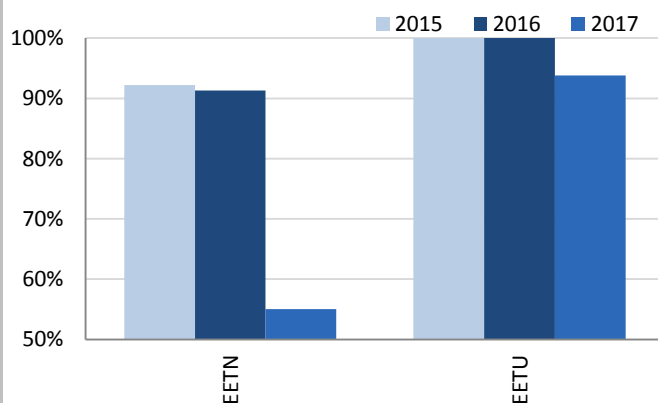
The achieved performance in 2017 meets the established national target fully.

3. Arrival ATFM Delay – National Target and Incentive Scheme

Estonia has established a national target on arrival ATFM delay and associated incentive scheme. The achieved performance ranges within the established deadband and results in no financial incentive. In fact this incentive scheme does not consider any bonuses.

4. ATFM Slot Adherence

Slot adherence



The slot adherence at Tallinn has dropped drastically in 2017 to only 55% compliance due to large scale of construction work at Tallinn airport, according to the NEFAB monitoring report. This poor performance is observed as of June 2017 until January 2018 included. There is also a small degradation in Tartu in 2017, but it remains well above the 90% compliance.

5. Pre-departure Delay

The level of pre-departure delay at Tallinn has decreased in 2017 and it remains negligible. The quality of the reporting has also improved, with the high share of unreported delay observed in 2016 (i.e. almost 40%) decreasing to more reasonable levels (below 20%).

To improve the level of operational monitoring for Tartu (EETU), Estonia may consider the establishment of the airport operator flow at this airport.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Tallinn	EETN	0.00	0.00	0.00			92.2%	91.3%	55.0%			0.01	0.04	0.02		
Tartu	EETU	0.00	0.00	0.00			100.0%	100.0%	93.8%			n/a	n/a	n/a		

ESTONIA: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· Estonia ECZ represents 0.3% of the SES en-route ANS determined costs in 2017						
· ATSP: EANS						
· FAB: NEFAB						
· National currency: EUR						
2. En-route DUC monitoring at Charging Zone level						
Estonia: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)		2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)		23 098 175	24 757 151	25 985 553	27 073 003	28 182 980
Inflation %		3.0%	3.1%	3.0%	3.0%	3.0%
Inflation index (100 in 2009)		123.26	127.08	130.89	134.82	138.86
Real en-route costs (EUR2009)		18 739 585	19 481 586	19 852 645	20 081 013	20 295 459
Total en-route Service Units		774 641	801 575	827 117	855 350	885 643
Real en-route unit cost per Service Unit (EUR2009)		24.19	24.30	24.00	23.48	22.92
Estonia: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)		20 468 440	21 909 000	24 199 188		
Inflation %		0.10%	0.80%	3.70%		
Inflation index (100 in 2009)		117.11	118.05	122.41		
Real en-route costs (EUR2009)		17 478 222	18 559 853	19 768 513		
Total en-route Service Units		815 544	834 320	864 575		
Real en-route unit cost per Service Unit (EUR2009)		21.43	22.25	22.87		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal EUR) in value		-2 629 734	-2 848 151	-1 786 365		
in %		-11.4%	-11.5%	-6.9%		
Inflation % in p.p.		-2.9 p.p.	-2.3 p.p.	0.7 p.p.		
Inflation index (100 in 2009) in p.p.		-6.2 p.p.	-9.0 p.p.	-8.5 p.p.		
Real en-route costs (EUR2009) in value		-1 261 363	-921 733	-84 132		
in %		-6.7%	-4.7%	-0.4%		
Total en-route Service Units in value		40 903	32 745	37 458		
in %		5.3%	4.1%	4.5%		
Real en-route unit cost per Service Unit (EUR2009) in value		-2.76	-2.06	-1.14		
in %		-11.4%	-8.5%	-4.7%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (22.87 €2009) is -4.7% lower than planned in the PP (24.00 €2009). This difference results from the combination of higher than planned TSUs (+4.5%) and slightly lower than planned en-route costs (-0.4%, or -0.1 M€2009).						
En-route service units						
The difference between actual and planned TSUs (+4.5%) falls outside the ±2% dead band, but is inside the ±10% threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +0.4 M€2009. Considering the latest STATFOR base scenario (February 2018), actual traffic is likely to remain higher than planned until the end of RP2.						
En-route costs						
In nominal terms, actual en-route costs are -6.9% lower than planned. However, since the actual inflation index is also lower than planned (-8.5 p.p.), actual en-route costs are only -0.4% below the planned level when expressed in €2009.						
The lower than planned en-route costs in real terms are driven by lower costs for the ATSP, EANS (-2.3% or -0.4 M€2009) while the costs reported for the NSAEUROCONTROL are above plans (+6.3%, or +0.3 M€2009). EANS being the main contributor to the en-route cost base, a detailed analysis at ATSP level is provided in box 12.						
Costs exempt from cost-sharing are reported for a total amount of -0.2 M€2009 corresponding to EUROCONTROL costs. These costs will be eligible for carry-over (reducing costs charged to airspace users) to the following reference period(s), if deemed allowed by the European Commission.						

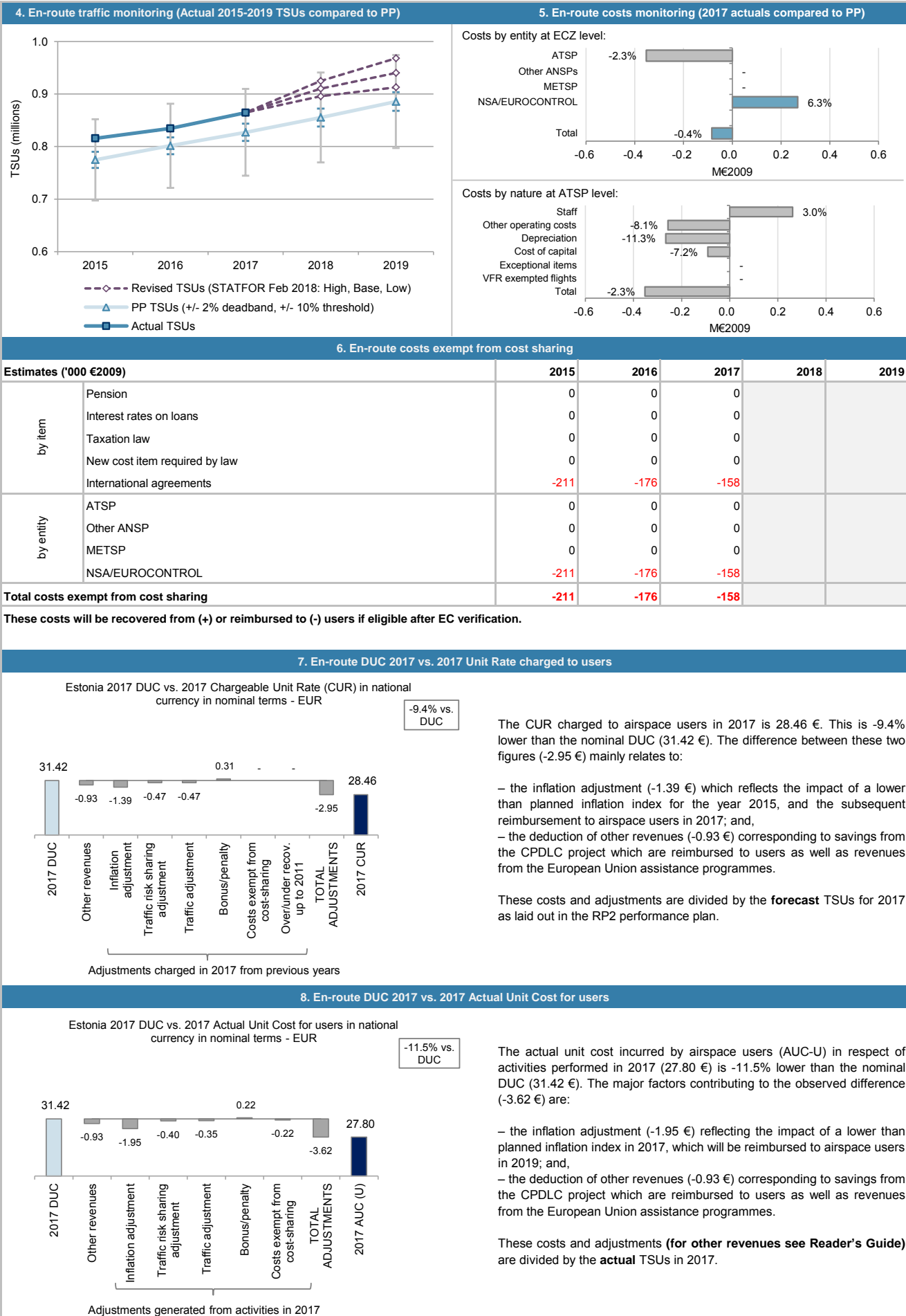
Year	Difference (%)
2015	-6.7%
2016	-4.7%
2017	-0.4%

Year	Difference (%)
2015	5.3%
2016	4.1%
2017	4.5%

Year	En-route DUC (PP, €2009)	En-route unit costs (actual, €2009)	Difference (%)
2015	24.19	21.43	-11.4%
2016	24.30	22.25	-8.5%
2017	24.00	22.87	-4.7%
2018	23.48		
2019	22.92		

ESTONIA: En-route charging zone

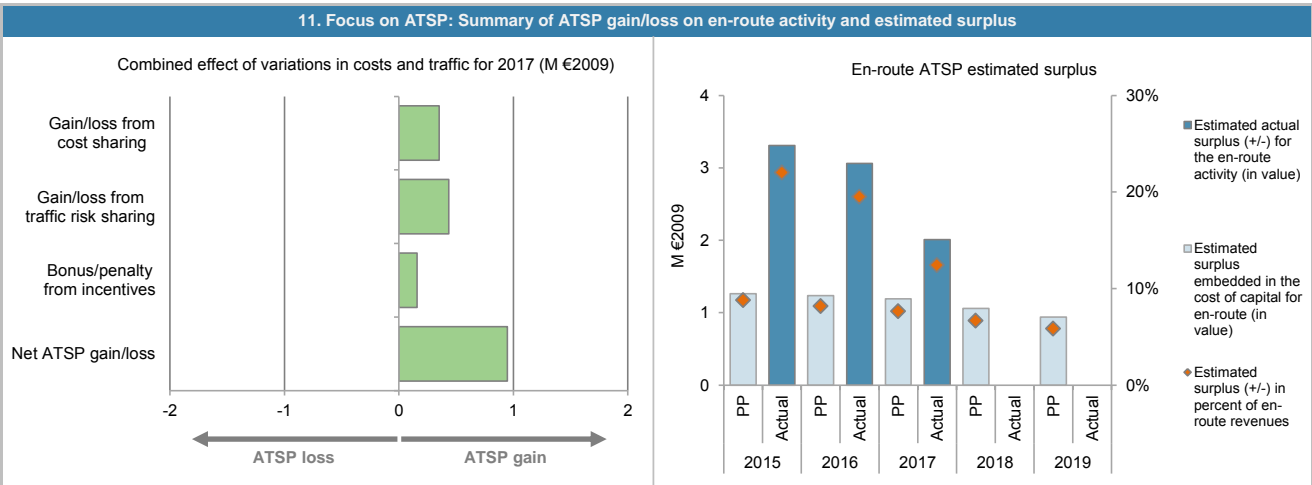
Monitoring of en-route COST-EFFICIENCY for 2017



ESTONIA: En-route ATSP (EANS)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	14 379	15 125	15 563		
Actual costs for the ATSP	13 019	14 002	15 211		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	1 360	1 122	353		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	1 360	1 122	353		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	5.3%	4.1%	4.5%		
Determined costs for the ATSP (PP) - based on actual inflation	14 387.34	15 478.46	15 819.99		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	429	406	436		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	217	166	158		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	2 006	1 695	947		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	16 933	17 088	15 586	14 129	12 757
Estimated proportion of financing through equity (in %)	83.8%	81.2%	85.9%	84.1%	82.6%
Estimated proportion of financing through equity (in value)	14 195	13 875	13 388	11 887	10 536
Estimated proportion of financing through debt (in %)	16.2%	18.8%	14.1%	15.9%	17.4%
Estimated proportion of financing through debt (in value)	2 738	3 213	2 197	2 241	2 221
Cost of capital pre-tax (in value)	1 363	1 352	1 272	1 140	1 019
Average interest on debt (in %)	3.7%	3.7%	3.7%	3.7%	3.7%
Interest on debt (in value)	100	117	80	82	81
Determined RoE pre-tax rate (in %)	8.9%	8.9%	8.9%	8.9%	8.9%
Estimated surplus embedded in the cost of capital for en-route (in value)	1 263	1 235	1 192	1 058	938
Overall estimated surplus (+/-) for the en-route activity	1 263	1 235	1 192	1 058	938
Revenue/costs for the en-route activity	14 379	15 125	15 563	15 829	16 037
Estimated surplus (+/-) in percent of en-route revenues	8.8%	8.2%	7.7%	6.7%	5.8%
Estimated ex-ante RoE pre-tax rate (in %)	8.9%	8.9%	8.9%	8.9%	8.9%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	19 134	19 969	19 937		
Estimated proportion of financing through equity (in %)	76.4%	77.0%	59.8%		
Estimated proportion of financing through equity (in value)	14 623	15 371	11 926		
Estimated proportion of financing through debt (in %)	23.6%	23.0%	40.2%		
Estimated proportion of financing through debt (in value)	4 511	4 599	8 011		
Cost of capital pre-tax (in value)	1 466	1 520	1 181		
Average interest on debt (in %)	3.7%	3.3%	1.5%		
Interest on debt (in value)	165	152	119		
Determined RoE pre-tax rate (in %)	8.9%	8.9%	8.9%		
Estimated surplus embedded in the cost of capital for en-route (in value)	1 301	1 368	1 061		
Net ATSP gain(+)/loss(-) on en-route activity	2 006	1 695	947		
Overall estimated surplus (+/-) for the en-route activity	3 307	3 063	2 009		
Revenue/costs for the en-route activity	15 025	15 697	16 158		
Estimated surplus (+/-) in percent of en-route revenues	22.0%	19.5%	12.4%		
Estimated ex-post RoE pre-tax rate (in %)	22.6%	19.9%	16.8%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 EANS en-route costs vs. PP

In 2017, EANS actual en-route costs are -2.3% (-0.4 M€2009) lower, in real terms, than planned in the PP. Based on the Additional Information provided with the en-route Reporting Tables, this deviation results from a combination of changes in the different cost categories:

- Higher staff costs (+3.0% or +0.3 M€2009). However, as highlighted in box 3, the lower actual inflation index for the year 2017 is affecting the comparison of costs in real terms. When considering nominal terms, actual staff costs are -3.7% lower than planned.
- Lower other operating costs (-8.1% or -0.3 M€2009) mainly due to the implementation of costs containment measures and to the postponement of the Controller Pilot Data Link (CPDLC) project from 2015 to 2018. The savings related to this project are reimbursed to airspace users through deduction of other revenues from the 2017 unit rate (see boxes 7 and 8).
- Lower depreciation costs (-11.3% or -0.3 M€2009), mainly due to the postponement of investment projects (CPDLC, WAM, etc.).
- Lower cost of capital (-7.2% or -0.1 M€2009), due to the combination of lower interest rates and higher proportion of financing through debt, which both contribute to reduce the weighted average cost of capital.

EANS net gain/loss on en-route activity in 2017

As shown in box 9, EANS generated a net gain of +0.9 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +0.4 M€2009 arising from the cost-sharing mechanism;
- a gain of +0.4 M€2009 arising from the traffic risk-sharing mechanism; and
- a gain of +0.2 M€2009, corresponding to a bonus eligible for payment to EANS as part of the capacity target incentive mechanism. This amount corresponds to 1% of EANS en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission as part of the compliance review of the 2019 unit rates.

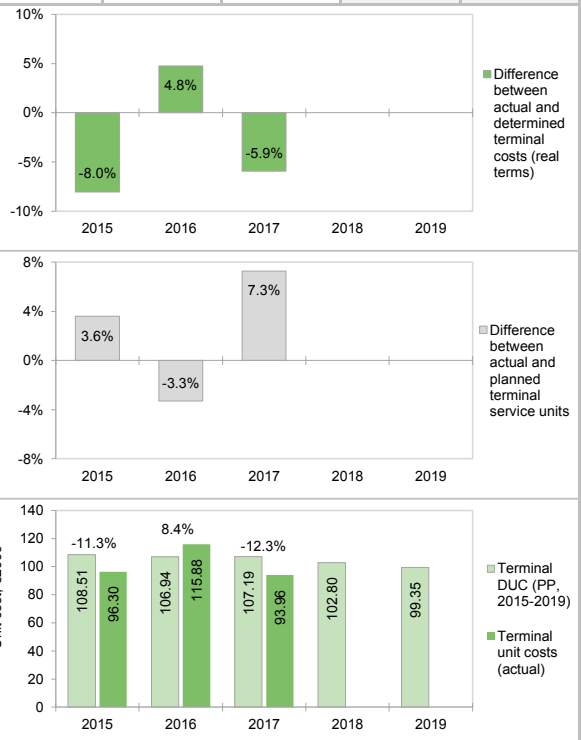
EANS overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+0.9 M€2009) and the surplus embedded in the actual cost of capital (+1.1 M€2009) amounts to +2.0 M€2009 (12.4% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 16.8%, which is slightly higher than the 8.9% planned in the PP.

ESTONIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

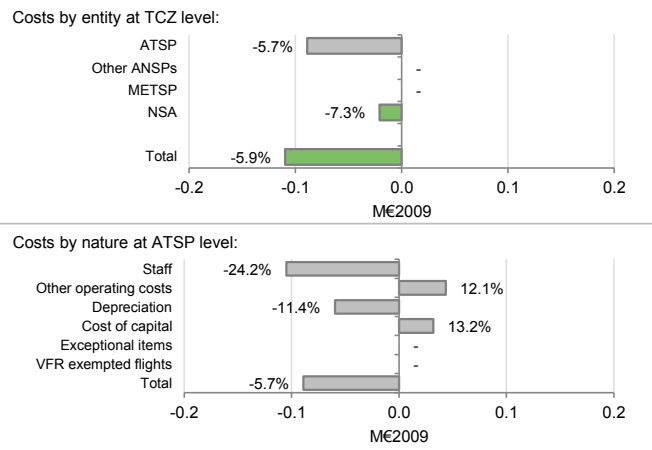
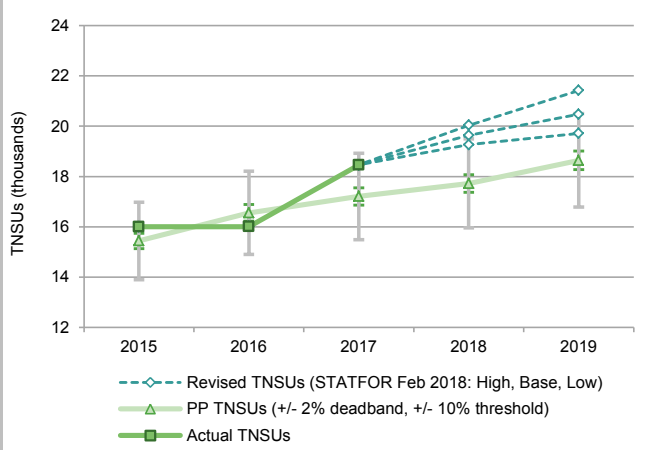
1. Contextual economic information: terminal air navigation services					
· Estonia TCZ represents 0.2% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes	
· ATSP: EANS		· Airports with fewer than 70,000 IFRs ATMs:		2	
· National currency: EUR		· Airports with between 70,000 and 225,000 IFRs ATMs:		0	
· Number of airports in charging zone in 2017: 2,		of which:		· Airports with more than 225,000 IFRs ATMs: 0	
2. Terminal DUC monitoring at Charging Zone level					
Estonia: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	2 064 521	2 249 331	2 413 934	2 456 109	2 571 978
Inflation %	3.0%	3.1%	3.0%	3.0%	3.0%
Inflation index (100 in 2009)	123.3	127.1	130.9	134.8	138.9
Real terminal costs (EUR2009)	1 674 949	1 770 015	1 844 216	1 821 784	1 852 163
Total terminal Service Units	15 436	16 551	17 205	17 722	18 642
Real terminal unit cost per Service Unit (EUR2009)	108.51	106.94	107.19	102.80	99.35
Estonia: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	1 803 641	2 189 000	2 123 232		
Inflation %	0.10%	0.80%	3.70%		
Inflation index (100 in 2009)	117.1	118.0	122.4		
Real terminal costs (EUR2009)	1 540 149	1 854 376	1 734 485		
Total terminal Service Units	15 994	16 003	18 460		
Real terminal unit cost per Service Unit (EUR2009)	96.30	115.88	93.96		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)					
in value	-260 880	-60 331	-290 702		
in %	-12.6%	-2.7%	-12.0%		
Inflation %					
in p.p.	-2.9 p.p.	-2.3 p.p.	0.7 p.p.		
Inflation index (100 in 2009)					
in p.p.	-6.2 p.p.	-9.0 p.p.	-8.5 p.p.		
Real terminal costs (EUR2009)					
in value	-134 801	84 360	-109 731		
in %	-8.0%	4.8%	-5.9%		
Total terminal Service Units					
in value	558	-548	1 255		
in %	3.6%	-3.3%	7.3%		
Real terminal unit cost per Service Unit (EUR2009)					
in value	-12.21	8.93	-13.23		
in %	-11.3%	8.4%	-12.3%		
3. Focus on terminal at State/Charging Zone level					
There is only one TCZ in Estonia comprising Tallinn Lennart Meri and Tartu airports.					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (93.96 €2009) is -12.3% lower than planned in the PP (107.19 €2009). This difference results from the combination of higher than planned TNSUs (+7.3%) and lower actual terminal costs (-5.9%, or -109.7 K€2009).					
Terminal service units					
Traffic risk sharing applies in the TCZ. The difference between actual and planned TNSUs (+7.3%) falls outside the ±2% dead band but does not exceed the +10% threshold foreseen in the traffic risk sharing mechanism. As a result, the additional terminal revenues are therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +56.9 K€2009.					
Based on the STATFOR February 2018 forecast <u>baseline</u> scenario, TNSUs are expected to remain above the planned values in the remaining years of RP2.					
Terminal costs					
In nominal terms, actual terminal costs are -12.0% lower than planned. However, since the actual inflation index is also lower than planned (-8.5 p.p.), the actual terminal costs are -5.9% lower than planned when expressed in €2009. The deviation between actual and planned terminal costs in real terms reflects lower costs for the ATSP – EANS (-5.7% or -89.0 K€2009) and for the NSA (-7.3% or -20.8 K€2009). EANS being the main contributor to the terminal cost base, a detailed analysis at ATSP level is provided in box 12.					
There are no costs exempt from cost-sharing reported for the TCZ.					



ESTONIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

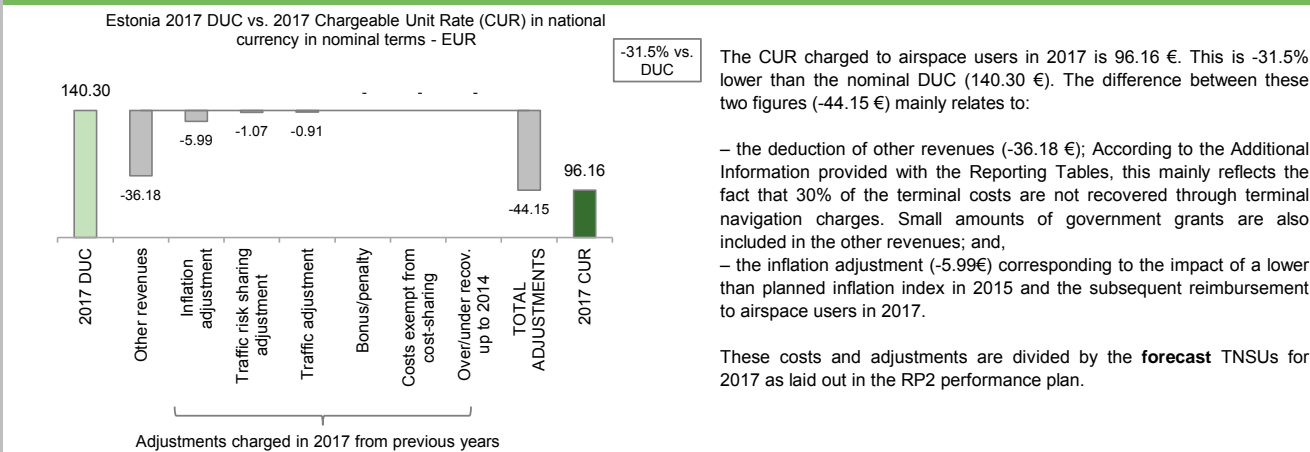


6. Terminal costs exempt from cost sharing

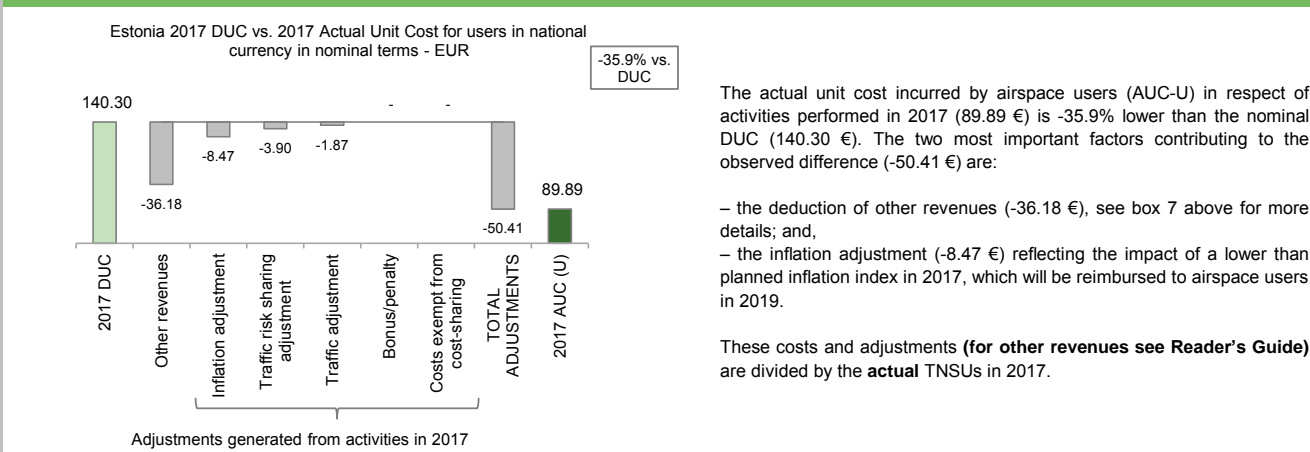
Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users

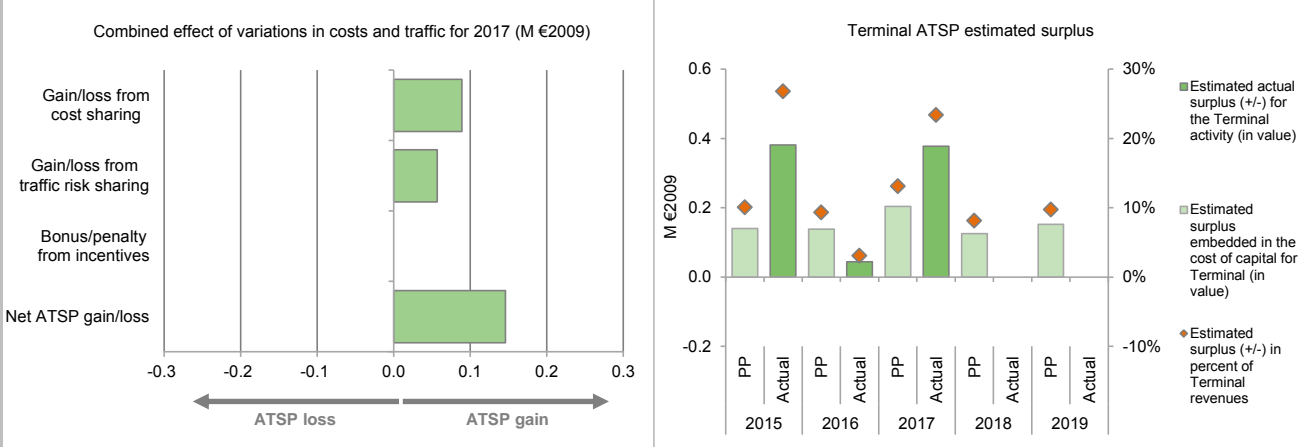


ESTONIA: Terminal ATSP (EANS)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	1 390	1 485	1 560		
Actual costs for the ATSP	1 244	1 553	1 471		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	147	-67	89		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	147	-67	89.0		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	3.6%	-3.3%	7.3%		
Determined costs for the ATSP (PP) - based on actual inflation	1 391.11	1 520.14	1 585.30		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	35	-36	57		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	181	-104	146		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	3 732	3 734	3 373	3 010	2 667
Estimated proportion of financing through equity (in %)	42.0%	41.5%	68.0%	46.6%	64.1%
Estimated proportion of financing through equity (in value)	1 569	1 549	2 292	1 403	1 710
Estimated proportion of financing through debt (in %)	58.0%	58.5%	32.0%	53.4%	35.9%
Estimated proportion of financing through debt (in value)	2 163	2 185	1 081	1 607	957
Cost of capital pre-tax (in value)	219	218	243	184	187
Average interest on debt (in %)	3.7%	3.7%	3.7%	3.7%	3.7%
Interest on debt (in value)	79	80	39	59	35
Determined RoE pre-tax rate (in %)	8.9%	8.9%	8.9%	8.9%	8.9%
Estimated surplus embedded in the cost of capital for terminal (in value)	140	138	204	125	152
Overall estimated surplus (+/-) for the terminal activity	140	138	204	125	152
Revenue/costs for the terminal activity	1 390	1 485	1 560	1 537	1 568
Estimated surplus (+/-) in percent of terminal revenues	10.0%	9.3%	13.1%	8.1%	9.7%
Estimated ex-ante RoE pre-tax rate (in %)	8.9%	8.9%	8.9%	8.9%	8.9%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	4 248	5 572	5 563		
Estimated proportion of financing through equity (in %)	53.0%	29.9%	46.7%		
Estimated proportion of financing through equity (in value)	2 251	1 663	2 600		
Estimated proportion of financing through debt (in %)	47.0%	70.1%	53.3%		
Estimated proportion of financing through debt (in value)	1 997	3 908	2 963		
Cost of capital pre-tax (in value)	273	277	276		
Average interest on debt (in %)	3.7%	3.3%	1.5%		
Interest on debt (in value)	73	129	44		
Determined RoE pre-tax rate (in %)	8.9%	8.9%	8.9%		
Estimated surplus embedded in the cost of capital for terminal (in value)	200	148	231		
Net ATSP gain(+)/loss(-) on terminal activity	181	-104	146		
Overall estimated surplus (+/-) for the terminal activity	381	44	377		
Revenue/costs for the terminal activity	1 425	1 449	1 616		
Estimated surplus (+/-) in percent of terminal revenues	26.8%	3.1%	23.3%		
Estimated ex-post RoE pre-tax rate (in %)	16.9%	2.7%	14.5%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 EANS terminal costs vs. PP

EANS actual terminal costs are -5.7% (-89.0 K€2009) lower, in real terms, than planned in the PP. Based on the Additional Information provided within the Terminal Reporting Tables, this deviation results from a combination of changes in the different cost categories:

- lower staff costs (-24.2%, or -105.0 K€2009);
- higher other operating costs (+12.1%, or +43.5 K€2009);
- lower depreciation costs (-11.4%, or -59.6 K€2009); and,
- a higher cost of capital (+13.2%, or +32.1 K€2009), mainly due to a higher asset base.

EANS 2017 net gain/loss on terminal activity and overall estimated surplus

As shown in box 7 and explained in the Additional Information to the Reporting Tables, only 70% of the terminal costs are charged to airspace users in order to promote Estonian tourism and air traffic. On the other hand, it is not clear from the Additional Information how the remaining 30% are financed.

It is important to keep this information in mind when interpreting the net gain on terminal activity (+145.8 K€2009) and overall estimated surplus (+377.2 K€2009) presented in boxes 9 and 10.

ESTONIA: Gate-to-gate

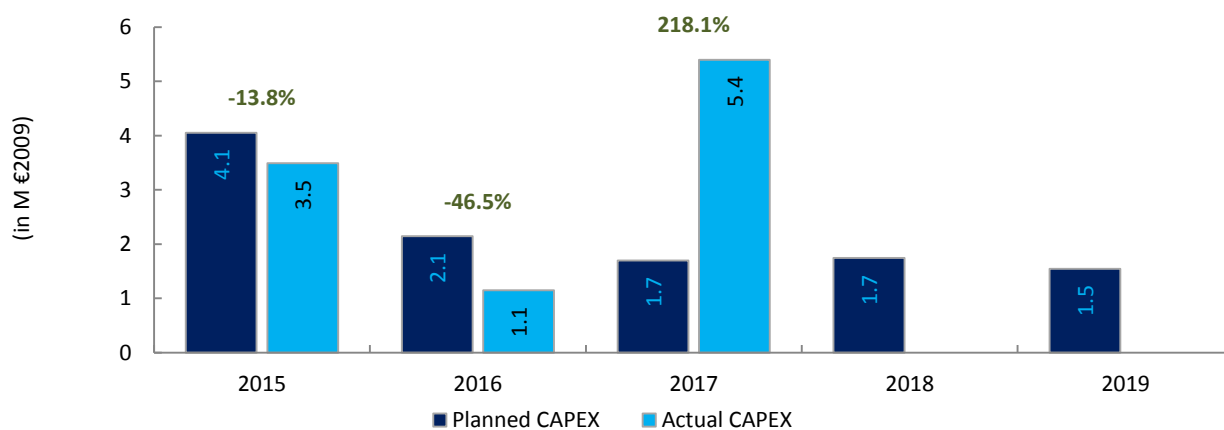
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Estonia: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	18 739 585	19 481 586	19 852 645	20 081 013	20 295 459																																							
Real terminal costs (EUR2009)	1 674 949	1 770 015	1 844 216	1 821 784	1 852 163																																							
Real gate-to-gate costs (EUR2009)	20 414 534	21 251 601	21 696 861	21 902 797	22 147 622																																							
En-route share (%)	91.8%	91.7%	91.5%	91.7%	91.6%																																							
Estonia: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	17 478 222	18 559 853	19 768 513																																									
Real terminal costs (EUR2009)	1 540 149	1 854 376	1 734 485																																									
Real gate-to-gate costs (EUR2009)	19 018 371	20 414 229	21 502 998																																									
En-route share (%)	91.9%	90.9%	91.9%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)																																												
in value	-1 396 163	-837 373	-193 863																																									
in %	-6.8%	-3.9%	-0.9%																																									
En-route share																																												
in p.p.	0.1 p.p.	-0.8 p.p.	0.4 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs are -0.9% (-0.1 M€2009) lower than planned due to the combination of lower en-route costs (-0.4%, or -0.1 M€2009) and lower terminal costs (-5.9%, or -109.7 K€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (91.9%) is in line with that planned in the PP for 2017 (91.5%).</p> <p>For EANS, the estimated gate-to-gate economic surplus in 2017 amounts to 2.4 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 13.4% of gate-to-gate ANS revenues.</p>																																												
<table border="1"> <caption>Data for Figure 2: Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>91.8%</td> <td>8.2%</td> </tr> <tr> <td>Actual</td> <td>91.9%</td> <td>8.1%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>91.7%</td> <td>8.3%</td> </tr> <tr> <td>Actual</td> <td>90.9%</td> <td>9.1%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>91.5%</td> <td>8.5%</td> </tr> <tr> <td>Actual</td> <td>91.9%</td> <td>8.1%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>91.7%</td> <td>8.3%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>91.6%</td> <td>8.4%</td> </tr> <tr> <td>Actual</td> <td></td> <td></td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	91.8%	8.2%	Actual	91.9%	8.1%	2016	Determined	91.7%	8.3%	Actual	90.9%	9.1%	2017	Determined	91.5%	8.5%	Actual	91.9%	8.1%	2018	Determined	91.7%	8.3%	Actual			2019	Determined	91.6%	8.4%	Actual		
Year	Type	En-route (%)	Terminal (%)																																									
2015	Determined	91.8%	8.2%																																									
	Actual	91.9%	8.1%																																									
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	Actual																																											
2019	Determined	91.6%	8.4%																																									
	Actual																																											
3. Technical notes on en-route and terminal information reported by Estonia																																												

ESTONIA

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: EANS						
FAB: NEFAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	5.0	2.7	2.2	2.4	2.1	14.4
Main CAPEX (in nominal M)	5.0	2.7	2.2	2.4	2.1	14.4
Inflation %	3.0%	3.1%	3.0%	3.0%	3.0%	
Inflation index (100 in 2009)	123.3	127.1	130.9	134.8	138.9	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	4.1	2.1	1.7	1.7	1.5	11.2
Main CAPEX (in M €2009)	4.1	2.1	1.7	1.7	1.5	11.2
% Main of Total CAPEX	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Real gate-to-gate ANSP costs (in M €2009)	15.8	16.6	17.1	17.4	17.6	84.5
Total CAPEX as % of Real gate-to-gate ANSP costs	25.7%	12.9%	9.9%	10.1%	8.8%	13.2%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	4.1	1.4	6.6			
Main CAPEX (in nominal M)	4.1	1.4	6.6			
Inflation %	0.1%	0.8%	3.7%			
Inflation index (100 in 2009)	117.1	118.0	122.4			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	3.5	1.1	5.4			
Main CAPEX (in M €2009)	3.5	1.1	5.4			
% Main of Total CAPEX	100.0%	100.0%	100.0%			
Real gate-to-gate ANSP costs (in M €2009)	14.3	15.6	16.7			
Total CAPEX as % of Real gate-to-gate ANSP costs	24.5%	7.4%	32.4%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-0.9	-1.4	4.4			
Total CAPEX (in M €2009)	-0.6	-1.0	3.7			
Total CAPEX (in %, M €2009)	-13.8%	-46.5%	218.1%			



Annual Monitoring Report 2017
Local level view
Finland

FINLAND

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	84	C	C	D	D	B
ANS Finland	86	D	D	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	FTSA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	8	1				
Legal/Judiciary	6	1				
Occurrence reporting and Investigation	2	0				
TOTAL	16	2				
ANS Finland	Number of questions answered					
	YES	NO				
Policy and its implementation	12	1				
Legal/Judiciary	3	0				
Occurrence reporting and Investigation	6	2				
TOTAL	21	3				
Observations						
<p>Only one question out of 36 in the EoSM Component/area of the State in Safety Culture does not meet the 2019 EoSM target level. After verification some answers were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p>						

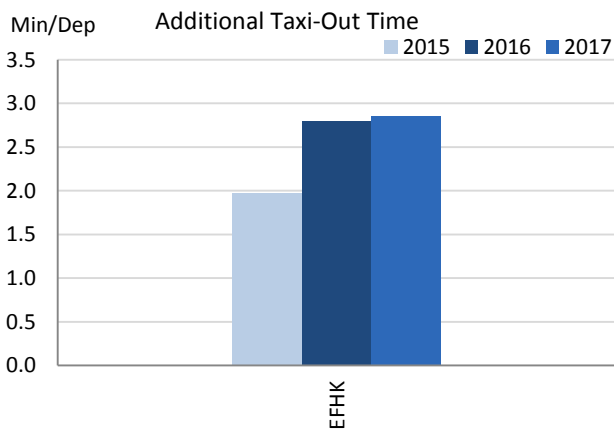
FINLAND

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

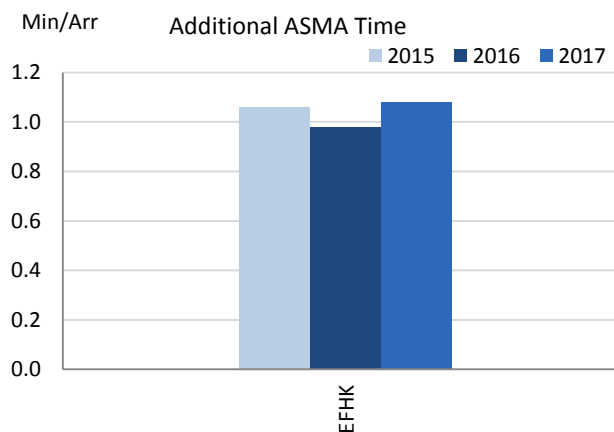
Finland has only identified the main airport at Helsinki as subject to RP2 monitoring. The Airport Operator Data Flow is correctly established allowing for the calculation of environmental indicators. With a 5% traffic increase in 2017, the additional taxi-out times remain commensurate with the level of traffic while the additional ASMA times indicate better performance than other airports between 50000 and 100000 arrivals per year (EFHK arrivals in 2017 were nearly 90000).

2. Additional Taxi-Out Time



There is a marginal increase in additional taxi-out time at Helsinki airport. From May to September the additional taxi-out times are below 2 minutes, but especially during winter months these times increase significantly (up to 6.5 minutes in January) due to winter maintenance and de-icing procedures.

3. Additional ASMA Time



The additional time in terminal airspace has slightly increased throughout 2017 but it still outperforms other airports with this level of traffic.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Helsinki/ Vantaa	EFHK	1.97	2.80	2.86			1.06	0.98	1.08		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.08	0.08	0.08	0.08	0.08	
Deadband +/-	0.05 - 0.08					
Actual performance	0.02	0.00	0.00			

National capacity incentive scheme

Finland applied a national incentive scheme based on the following criteria for the period 2015-2019:

En route ATFM delay 2015-2019:

0.02 min/flight or better: Bonus: 1 % of the revenues from air navigation services in year n

0.03 min/flight: Bonus: 0.5 % of the revenues from air navigation services in year n

0.04 min/flight: Bonus: 0.2% of the revenues from air navigation services in year n

0.09 min/flight: Penalty: 0.2 % of the revenues from air navigation services in year n

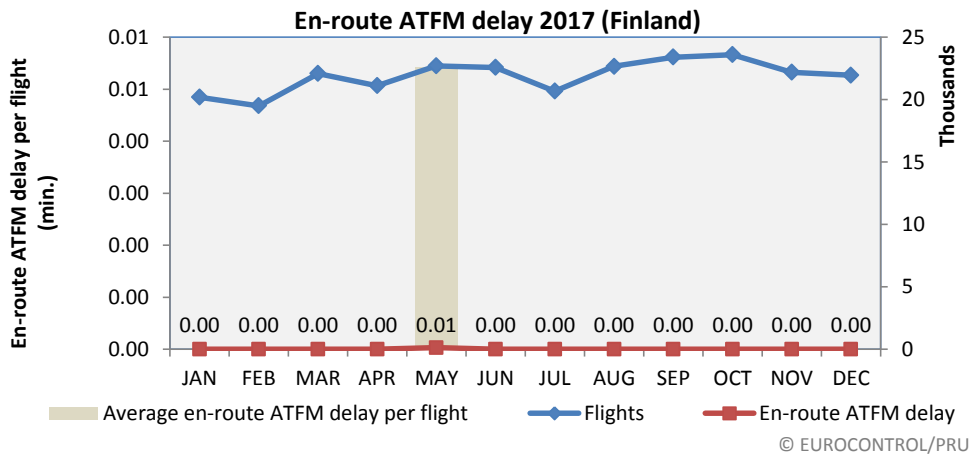
0.10 min/flight: Penalty: 0.5 % of the revenues from air navigation services in year n

0.11 min/flight or worse: Penalty: Penalty: 1% of the revenues from air navigation services in year n

With an actual en route capacity performance of 0.00 minutes per flight in 2017, the ANSP ANS Finland will receive a bonus of 1% of the revenues from air navigation services in year n.

Finland reports that this is equivalent to €401 802 for 2017.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Finland)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.00	0.03	0.02	0.49	0.01	0.00	0.12	0.02	0.00	0.00

The excellent en-route capacity performance in Finland during 2017, and the positive contribution both to the NEFAB and the Union-wide target for en-route capacity is noted. With the exception of 2014, traffic levels in Finland have remained below those initially predicted for the high scenario in the STATFOR forecast available when FAB performance plans and associated capacity plans were being determined. It is noted that the Network Manager does not expect any capacity problems in Finland for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Finland									
	2014	2015	2016	2017	2018	2019			
		actual	actual	actual	actual				
High	245	253	263	271	280	290			
Base	242	248	248	255	263	264			
Low	239	240	240	240	240	241			

Planning and Effective Use of CDRs

Finland did not provide any data since there are no CDRs in NEFAB.

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
34%	33%	34%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
0%	0%	0%		

Procedure 3 is not applicable within the State.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

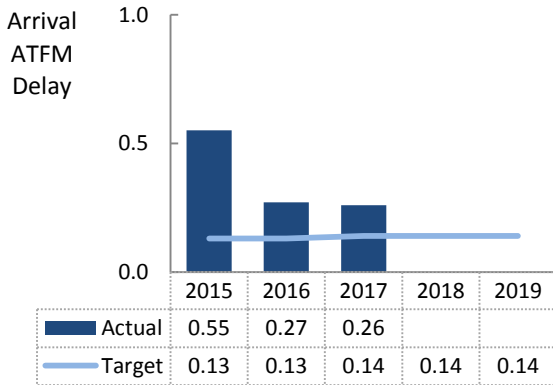
FINLAND

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

Finland identifies its main airport Helsinki as subject to RP2 monitoring. Arrival ATFM delay in 2017 remains at the same level as 2016, the target is missed for the third year in a row. The adherence with ATFM slots has improved and it ranges in 2017 above 90%. As concerns pre-departure delay, there is a significant increase of 0.18 min/dep. in 2017.

2. Arrival ATFM Delay



With a traffic increase of 5% in 2017 with respect to 2016, arrival ATFM delay at Helsinki remains fairly constant at 0.26 min/arr. Nevertheless this performance does not meet the target of 0.14min/ft. According to the NEFAB monitoring report, weather is causing major part of the delays according to the figures from the NM. Finnish Transport Safety Agency (NSA Finland) has approached the ANSP in order to get a better understanding of why the weather-related delays have increased since the beginning of RP1 and to see if there is any long-term solution to the issue.

While most of the regulations in 2017 are indeed attributed to weather, there are however some capacity-related regulations in October and November 2017. Like in 2016, weather regulations in 2017 are spread during the year.

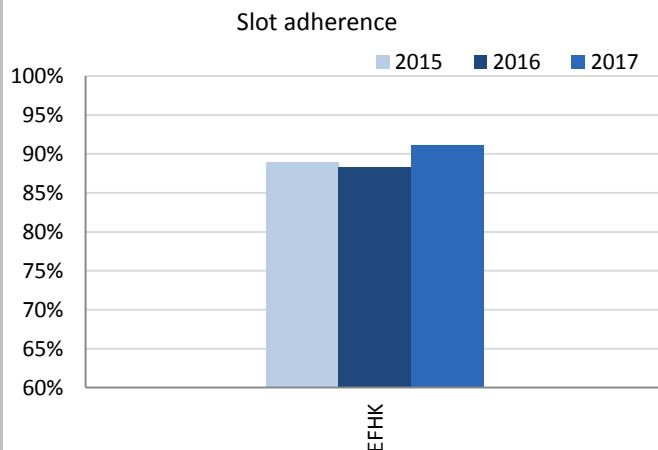
The achieved arrival ATFM delay (0.26 min/arr.) almost doubles the challenging target for 2017.

3. Arrival ATFM Delay – National Target and Incentive Scheme

The NEFAB PP establishes a national target on arrival ATFM delay for Finland which corresponds with the breakdown for the only airport, EFHK. The challenging target is set at 50% of the observed average arrival ATFM delay over the last 5 years at the beginning of the reference period.

The NE FAB performance plan presents an incentive scheme for the national targets on arrival ATFM delay for Finland. According to this incentive scheme and the achieved performance, a penalty will be applied (1% of revenues from EFHK TNC services = 140 506 €).

4. ATFM Slot Adherence



Slot adherence at Helsinki has increased in 2016 and the performance ranges above 90%. As last year, the worst results in terms of ATFM slot adherence are observed during the winter months and signal a possible problem related with de-icing.

5. Pre-departure Delay

ATC pre-departure delay at Helsinki (EFHK) has increased (2016: 0.18 min/dep. vs 2017: 0.34 min/dep.) but it is still commensurate with the level of traffic compared to other airports in RP2. Attention should be paid to the quality of the reporting, in terms of the amount of delay left unexplained. The share of unexplained delay in 2017 reached 30% of the total calculated pre-departure delay.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Helsinki/ Vantaa	EFHK	0.55	0.27	0.26			89.0%	88.3%	91.2%			0.15	0.18	0.34		

FINLAND: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· Finland ECZ represents 0.6% of the SES en-route ANS determined costs in 2017						
· ATSP: ANS Finland						
· FAB: NEFAB						
· National currency: EUR						
2. En-route DUC monitoring at Charging Zone level						
Finland: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)		2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)		45 050 000	45 596 000	46 064 000	46 321 000	46 468 000
Inflation %		1.5%	1.7%	1.9%	2.0%	2.0%
Inflation index (100 in 2009)		114.4	116.4	118.6	121.0	123.4
Real en-route costs (EUR2009)		39 368 663	39 179 750	38 843 860	38 294 684	37 662 953
Total en-route Service Units		792 600	812 000	827 000	843 000	861 000
Real en-route unit cost per Service Unit (EUR2009)		49.67	48.25	46.97	45.43	43.74
Finland: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)		44 896 400	45 347 269	42 503 630		
Inflation %		-0.2%	0.4%	0.8%		
Inflation index (100 in 2009)		111.9	112.4	113.3		
Real en-route costs (EUR2009)		40 118 861	40 360 311	37 529 161		
Total en-route Service Units		760 383	763 829	848 430		
Real en-route unit cost per Service Unit (EUR2009)		52.76	52.84	44.23		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal EUR)	in value	-153 600	-248 731	-3 560 370		
	in %	-0.3%	-0.5%	-7.7%		
Inflation %	in p.p.	-1.7 p.p.	-1.3 p.p.	-1.1 p.p.		
Inflation index (100 in 2009)	in p.p.	-2.5 p.p.	-4.0 p.p.	-5.3 p.p.		
Real en-route costs (EUR2009)	in value	750 198	1 180 561	-1 314 699		
	in %	1.9%	3.0%	-3.4%		
Total en-route Service Units	in value	-32 217	-48 171	21 430		
	in %	-4.1%	-5.9%	2.6%		
Real en-route unit cost per Service Unit (EUR2009)	in value	3.09	4.59	-2.74		
	in %	6.2%	9.5%	-5.8%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (44.23 €2009) is (-5.8%) lower than planned (46.97 €2009). This difference results from the combination of lower than planned en-route costs in real terms (-3.4%, or -1.3 M€2009), impacted by lower than planned inflation (-1.1 p.p.) and resulting inflation index (-5.3 p.p.) - see details below under "en-route costs" - and higher than planned TSUs (+2.6%).						
En-route service units						
The difference between actual and forecast TSUs (+2.6%) falls outside the ±2% dead band, but is within the ±10% boundaries of the alert threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +0.8 M€2009. The adopted TSUs forecasts underpinning the RP2 cost-efficiency en-route DUC targets were in line with the STATFOR February 2014 <u>base</u> case forecast scenario. When considering the STATFOR February 2018 forecasts, there is now greater probability that, for the remaining of RP2, Finland en-route TSUs remain well above the +2% dead band but still within the +10% threshold foreseen in the traffic risk-sharing mechanism.						
En-route costs						
In nominal terms, the 2017 actual en-route costs are -7.7% lower than planned (or -3.6 M€). However, since the 2017 actual inflation index is also lower (-5.3 p.p.), actual en-route costs in real terms are -3.4% lower than planned (-1.3 M€2009).						
The lower than planned en-route costs in real terms are mainly driven by the ATSP (-3.9%, or -1.3 M€2009). A detailed analysis of the ATSP (ANS Finland) en-route costs is provided in box 12. See also Note 1 at the end of the report.						
Costs exempt from cost-sharing are reported for a total amount of -460 '000 €2009. These costs will be carried-over (reimbursed to airspace users) to the following reference period(s), if deemed eligible by the European Commission.						

FINLAND: En-route charging zone

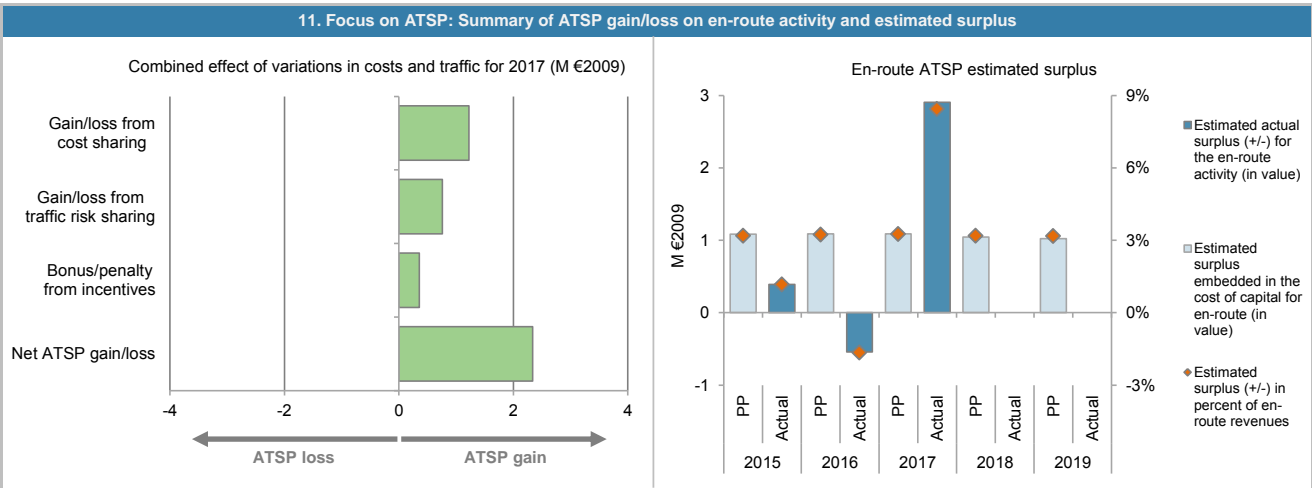
Monitoring of en-route COST-EFFICIENCY for 2017



FINLAND: En-route ATSP (ANS Finland)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	33 991	33 734	33 367		
Actual costs for the ATSP	34 635	34 918	32 057		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-645	-1 185	1 310		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	-87		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-645	-1 185	1 223		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-4.1%	-5.9%	2.6%		
Determined costs for the ATSP (PP) - based on actual inflation	34 757	34 941	34 938		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-910	-1 111	761		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	332	318	355		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	-1 223	-1 977	2 338		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	31 430	31 626	31 525	30 253	29 561
Estimated proportion of financing through equity (in %)	40.0%	40.0%	40.0%	40.0%	40.0%
Estimated proportion of financing through equity (in value)	12 563	12 641	12 600	12 100	11 825
Estimated proportion of financing through debt (in %)	60.0%	60.0%	60.0%	60.0%	60.0%
Estimated proportion of financing through debt (in value)	18 866	18 985	18 925	18 152	17 736
Cost of capital pre-tax (in value)	1 575	1 585	1 579	1 516	1 482
Average interest on debt (in %)	2.6%	2.6%	2.6%	2.6%	2.6%
Interest on debt (in value)	491	494	492	472	461
Determined RoE pre-tax rate (in %)	8.6%	8.6%	8.6%	8.6%	8.6%
Estimated surplus embedded in the cost of capital for en-route (in value)	1 084	1 091	1 087	1 044	1 020
Overall estimated surplus (+/-) for the en-route activity	1 084	1 091	1 087	1 044	1 020
Revenue/costs for the en-route activity	33 991	33 734	33 367	32 806	32 163
Estimated surplus (+/-) in percent of en-route revenues	3.2%	3.2%	3.3%	3.2%	3.2%
Estimated ex-ante RoE pre-tax rate (in %)	8.6%	8.6%	8.6%	8.6%	8.6%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	29 674	28 347	16 360		
Estimated proportion of financing through equity (in %)	62.9%	58.6%	40.1%		
Estimated proportion of financing through equity (in value)	18 668	16 625	6 556		
Estimated proportion of financing through debt (in %)	37.1%	41.4%	59.9%		
Estimated proportion of financing through debt (in value)	11 006	11 722	9 804		
Cost of capital pre-tax (in value)	1 852	1 653	615		
Average interest on debt (in %)	2.2%	1.9%	0.5%		
Interest on debt (in value)	240	218	49		
Determined RoE pre-tax rate (in %)	8.6%	8.6%	8.6%		
Estimated surplus embedded in the cost of capital for en-route (in value)	1 611	1 435	566		
Net ATSP gain(+)/loss(-) on en-route activity	-1 223	-1 977	2 338		
Overall estimated surplus (+/-) for the en-route activity	388	-543	2 904		
Revenue/costs for the en-route activity	33 413	32 941	34 395		
Estimated surplus (+/-) in percent of en-route revenues	1.2%	-1.6%	8.4%		
Estimated ex-post RoE pre-tax rate (in %)	2.1%	-3.3%	44.3%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 ANS Finland en-route costs vs. PP

In 2017, ANS Finland actual en-route costs, in real terms, are -3.9% (-1.3 M€2009) lower than planned. However, since the 2017 actual inflation index is also much lower than planned (-5.3 p.p.) this is significantly affecting the comparisons. In nominal terms ANS Finland's en-route costs are -8.2% lower than planned (-3.3 M€). According to the June 2018 Reporting Tables, this results from the combination of:

- Higher than planned staff costs +6.8% (or +1.2M€2009), due to "separation of ANS from airport operator Finavia. Some staff related to HR, accounting, IM etc. were moved from Finavia to ANS Finland.";
- Lower than planned other operating costs (-1.5%, or -0.2 M€2009). "This was mainly due to structural changes in cost bases related to separation of ANS from Airport operator Finavia. Finavia's overhead cost and cost of internal services were replaced by new service contracts with Finavia and other service providers.";
- Lower than planned depreciation costs (-38.1%, or -1.7 M€2009). "This was partly due to structural changes in the cost bases: ANS assets at the airports (APP/TWR) are mainly owned by the airport operator Finavia and ANS Finland pays so-called "fixed asset fee" for the use of these assets. Fixed assets fee is reported in other operating costs. This decreases the depreciations and cost of capital. Other reason for depreciations being lower than planned is that some investments have been delayed.";
- A lower cost of capital (-61.1%, or -1.0 M€2009), "this is partly due to structural changes. Cost of capital of ANS assets owned by Finavia is included in fixed assets fee, which is reported in other operating cost. Capital structure of ANS Finland differs from Finavia. At the end of 2017 the share of debt was larger than for Finavia in 2016 which decreases the WACC. The general level of interest rates was also lower than planned."

ANS Finland net gain/loss on en-route activity in 2017

As shown in box 9, ANS Finland generated a net gain of +2.3 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +1.2 M€2009 arising from the cost-sharing mechanism (including the impact of an amount of -87 '000 €2009 reported under costs exempt from cost-sharing for the ATSP, still to be assessed by the European Commission);
- a gain of +0.76 M€2009 arising from the traffic risk-sharing mechanism; and,
- a gain of +0.36 M€2009, corresponding to a bonus eligible for payment to ANS Finland as part of the capacity target incentive mechanism. This amount corresponds to 1.0% of ANS Finland en-route revenues (based on the ATSP chargeable unit rate (47.36€) in 2017 times the actual TSUs (848 430)). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission.

ANS Finland 2017 overall estimated surplus for the en-route activity

Ex-post, the 2017 overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+2.3 M€2009) and the surplus embedded in the actual cost of capital (+0.6 M€2009) amounts to +2.9 M€2009 (representing 8.4% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is (+44.3%) which is much higher than the +8.6% planned in the PP. See **Note 1** on the transfers from Finavia to ANS Finland.

FINLAND: Terminal charging zone

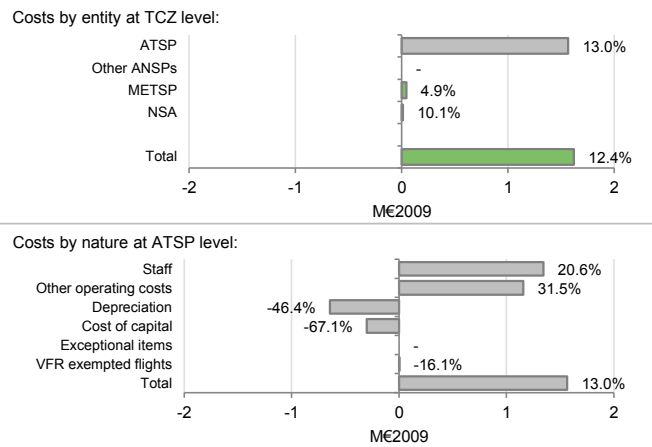
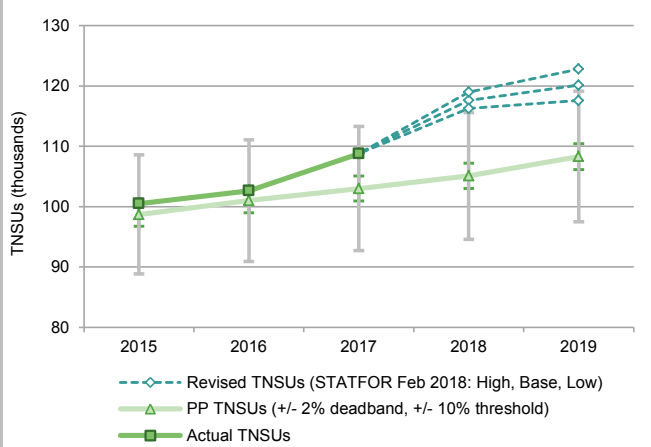
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Finland TCZ represents 1.2% of the SES terminal ANS determined costs in 2017			· Is this TCZ applying traffic risk sharing?		Yes
· ATSP: ANS Finland			· Airports with fewer than 70,000 IFRs ATMs:		0
· National currency: EUR			· Airports with between 70,000 and 225,000 IFRs ATMs:		1
· Number of airports in charging zone in 2017: 1, of which:			· Airports with more than 225,000 IFRs ATMs:		0
2. Terminal DUC monitoring at Charging Zone level					
Finland: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	14 850 590	15 150 612	15 452 687	15 761 914	16 079 096
Inflation %	1.5%	1.7%	1.9%	2.0%	2.0%
Inflation index (100 in 2009)	114.4	116.4	118.6	121.0	123.4
Real terminal costs (EUR2009)	12 977 755	13 018 624	13 030 610	13 030 753	13 032 329
Total terminal Service Units	98 700	101 000	103 000	105 100	108 300
Real terminal unit cost per Service Unit (EUR2009)	131.49	128.90	126.51	123.98	120.34
Finland: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	14 135 126	14 260 526	16 594 347		
Inflation %	-0.2%	0.4%	0.8%		
Inflation index (100 in 2009)	111.9	112.4	113.3		
Real terminal costs (EUR2009)	12 630 972	12 692 259	14 652 206		
Total terminal Service Units	100 500	102 636	108 789		
Real terminal unit cost per Service Unit (EUR2009)	125.68	123.66	134.68		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)					
in value	-715 464	-890 086	1 141 660		
in %	-4.8%	-5.9%	7.4%		
Inflation %					
in p.p.	-1.7 p.p.	-1.3 p.p.	-1.1 p.p.		
Inflation index (100 in 2009)					
in p.p.	-2.5 p.p.	-4.0 p.p.	-5.3 p.p.		
Real terminal costs (EUR2009)					
in value	-346 784	-326 366	1 621 596		
in %	-2.7%	-2.5%	12.4%		
Total terminal Service Units					
in value	1 800	1 636	5 789		
in %	1.8%	1.6%	5.6%		
Real terminal unit cost per Service Unit (EUR2009)					
in value	-5.81	-5.23	8.17		
in %	-4.4%	-4.1%	6.5%		
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Finland Terminal Charging Zone comprising only Helsinki-Vantaa airport for which the traffic risk sharing applies.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (134.68 €2009) is +6.5% higher than planned (126.51 €2009). This difference results from the combination of higher than planned terminal costs in real terms (+12.4%, or +1.6 M€2009) and higher than planned TNSUs (+5.6%).</p> <p>Terminal service units The difference between actual and planned TNSUs (+5.6%) is outside the ±2% dead band but within the ±10% alert threshold foreseen in the traffic risk sharing mechanism, and the additional terminal revenues are shared between the airspace users and the ATSP, with ANS Finland retaining +0.4 M€2009. Considering the STATFOR February 2018 traffic forecasts, it appears that TNSUs are very likely to remain higher than planned throughout RP2, with some probability to reach or exceed the upper bound (+10%) of the alert threshold in 2018.</p> <p>Terminal costs In nominal terms, the 2017 actual terminal costs are +7.4% higher than planned (+1.1 M€). However, since the 2017 actual inflation index is also lower than planned (-5.3 p.p.), in real terms, the 2017 actual terminal costs are +12.4% higher than planned (+1.6 M€2009).</p> <p>The higher than planned terminal costs in real terms are almost entirely driven by higher than planned actual costs for ANS Finland (+13.0%, or +1.6 M€2009). A detailed analysis of ANS Finland terminal costs is provided in box 12.</p> <p>Costs exempt from cost-sharing are reported for a total amount of -56 '000 €2009 all reported under the pension item and for both the ATSP (ANS Finland) and the MET Service provider (FMI). These costs will be eligible for carried-over (reimbursed to airspace users) to the following reference period(s), if deemed eligible by the European Commission.</p>					

FINLAND: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

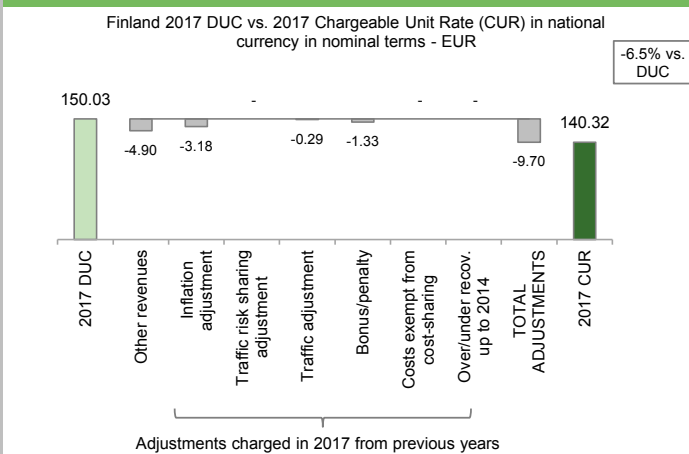


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	-6	-19	-56		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	-32		
	Other ANSP	0	0	0		
	METSP	-6	-19	-23		
	NSA	0	0	0		
Total costs exempt from cost sharing		-6	-19	-56		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

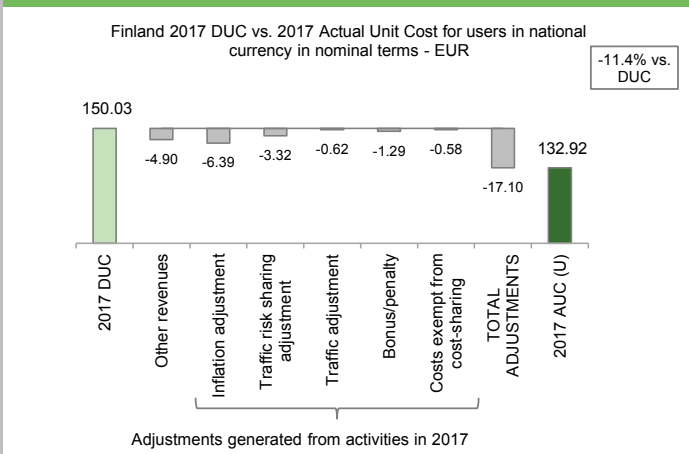
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The terminal unit rate charged (CUR) to airspace users in 2017 is 140.32 €, just like in 2016. This is -6.5% lower than the nominal terminal DUC (150.03 €). The difference between these two figures (-9.70 €) reflects a combination of the deduction of other revenues (-4.90 €), inflation adjustment (-3.18 €), penalty for capacity incentives (-1.33 €) and the traffic adjustment (-0.29 €).

These costs and adjustments are divided by the forecast TNSUs for 2017.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The Terminal actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (132.92 €) is -11.4% lower than the terminal nominal DUC (150.03 €). The two most important factors contributing to the observed difference (-17.10 €) are the inflation adjustment (-6.39 €), corresponding to the impact of a lower than planned inflation index in 2017 (-5.3 p.p.) and the forthcoming reimbursement to airspace users in 2019, and the deduction of other revenues (-4.90 €), reflecting ANS Finland decision to use commercial income to keep the unit rate low.

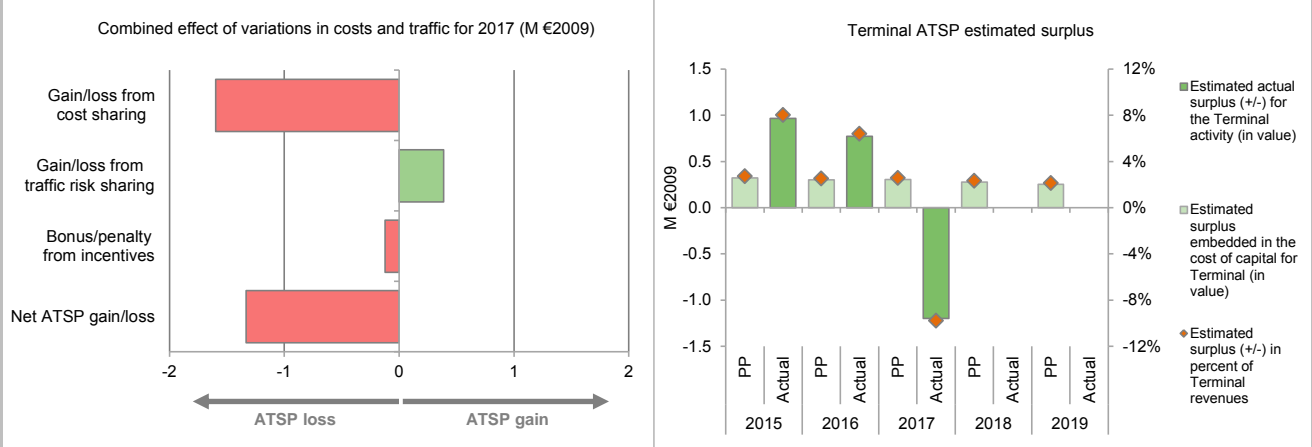
These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TNSUs in 2017.

FINLAND: Terminal ATSP (ANS Finland)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	11 977	12 013	12 024		
Actual costs for the ATSP	11 597	11 717	13 591		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	381	296	-1 566		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	-32		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	381	296	-1 599		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	1.8%	1.6%	5.6%		
Determined costs for the ATSP (PP) - based on actual inflation	12 247	12 442	12 590		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	223	202	389		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	-122	-118	-124		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	482	379	-1 334		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	9 372	8 726	8 903	8 047	7 364
Estimated proportion of financing through equity (in %)	40.0%	40.0%	40.0%	40.0%	40.0%
Estimated proportion of financing through equity (in value)	3 749	3 490	3 560	3 218	2 945
Estimated proportion of financing through debt (in %)	60.0%	60.0%	60.0%	60.0%	60.0%
Estimated proportion of financing through debt (in value)	5 623	5 236	5 343	4 829	4 419
Cost of capital pre-tax (in value)	469	437	446	403	369
Average interest on debt (in %)	2.6%	2.6%	2.6%	2.6%	2.6%
Interest on debt (in value)	146	136	139	126	115
Determined RoE pre-tax rate (in %)	8.6%	8.6%	8.6%	8.6%	8.6%
Estimated surplus embedded in the cost of capital for terminal (in value)	323	301	307	277	254
Overall estimated surplus (+/-) for the terminal activity	323	301	307	277	254
Revenue/costs for the terminal activity	11 977	12 013	12 024	12 025	12 026
Estimated surplus (+/-) in percent of terminal revenues	2.7%	2.5%	2.6%	2.3%	2.1%
Estimated ex-ante RoE pre-tax rate (in %)	8.6%	8.6%	8.6%	8.6%	8.6%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	8 947	7 765	3 905		
Estimated proportion of financing through equity (in %)	63.0%	58.8%	40.1%		
Estimated proportion of financing through equity (in value)	5 640	4 564	1 564		
Estimated proportion of financing through debt (in %)	37.0%	41.2%	59.9%		
Estimated proportion of financing through debt (in value)	3 307	3 200	2 340		
Cost of capital pre-tax (in value)	558	453	147		
Average interest on debt (in %)	2.2%	1.9%	0.5%		
Interest on debt (in value)	72	60	12		
Determined RoE pre-tax rate (in %)	8.6%	8.6%	8.6%		
Estimated surplus embedded in the cost of capital for terminal (in value)	486	394	135		
Net ATSP gain(+)/loss(-) on terminal activity	482	379	-1 334		
Overall estimated surplus (+/-) for the terminal activity	968	772	-1 199		
Revenue/costs for the terminal activity	12 078	12 096	12 256		
Estimated surplus (+/-) in percent of terminal revenues	8.0%	6.4%	-9.8%		
Estimated ex-post RoE pre-tax rate (in %)	17.2%	16.9%	-76.7%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 ANS Finland terminal costs vs. PP

ANS Finland 2017 actual terminal costs are +13.0% (+1.6 M€2009) higher than planned. According to the June 2018 TANS reporting tables, this results from the combination of:

- higher than planned staff costs (+20.6% or +1.3 M€2009) reported to be "due to increased FTE of technical ANS and other centralised services allocated to Helsinki-Vantaa. Staff costs include result based bonuses";
- higher than planned other operating costs (+31.5%, or +1.2 M€2009) due to "structural changes in the cost base related to separation of ANS from airport operator Finavia. Finavia's overhead cost and cost of internal services were replaced by new service contracts with Finavia and other service providers. ANS Finland pays a rent for the premises to Finavia, "fixed assets-fee" for the use of ANS assets owned by Finavia, marketing and development fee in Helsinki-Vantaa airport. ANS Finland also pays for some IM, HR, accounting and other services, which are provided by Finavia.";
- lower than planned depreciation costs (-46.4%, or -0.6 M€2009) mainly due to "structural changes in the cost bases: ANS assets at the airports (APP/TWR) are mainly owned by the airport operator Finavia and ANS Finland pays a so called fixed asset fee for the use of these assets. The fixed assets fee is reported under other operating costs. This decreases the depreciations and cost of capital. Another reason is that some investments have been delayed.";
- lower than planned cost of capital (-67.1%, or -0.3 M€2009) "mainly due to structural changes. Cost of capital of ANS assets owned by Finavia is included in fixed assets fee, which is reported under other operating cost. The Capital structure of ANS Finland differs from Finavia. At the end of 2017 the share of debt was larger than Finavia's in 2016 which decreases the WACC. The general level of interest rates was also lower than planned."

ANS Finland 2017 net gain/loss on terminal activity

As shown in box 9, the activity in Finland's terminal charging zone generated a net loss of -1.3 M€2009 in 2017. This is a combination of three elements:

- a loss of -1.6 M€2009 arising from the cost-sharing mechanism (including the impact of an amount of -32 '000 €2009 reported under costs exempt from cost-sharing for the ATSP, pending the assessment and if deemed eligible by the European Commission);
 - a gain of +0.4 M€2009 arising from the traffic risk-sharing mechanism; and,
 - a loss of -0.1 M€2009, corresponding to a penalty to be incurred by ANS Finland in 2019 as part of the terminal capacity target incentive mechanism since the terminal capacity target (ATFM arrival delay) was not reached in 2017.
- This amount corresponds to 1.0% of ANS Finland terminal ANS revenues (based on the ATSP chargeable unit rate in 2017 (129.15€) times the actual 2017 TNSUs (108 789)). The inclusion of this penalty in the chargeable costs will be examined by the European Commission.

ANS Finland 2017 overall estimated surplus for the terminal activity

Ex-post, the 2017 overall estimated surplus taking into account the net loss from the terminal activity mentioned above (-1.3 M€2009) and the surplus embedded in the cost of capital (+0.1 M€2009) is a negative amount of -1.2 M€2009 (in absolute terms 9.8% of the 2017 terminal revenues). The resulting ex-post rate of return on equity is -76.7%, which indicates that the surplus embedded in the cost of capital (+8.6%) was not sufficient to compensate for the loss due to the terminal activity. It also reflects the impact of the transfer from Finavia to ANS Finland.

FINLAND: Gate-to-gate

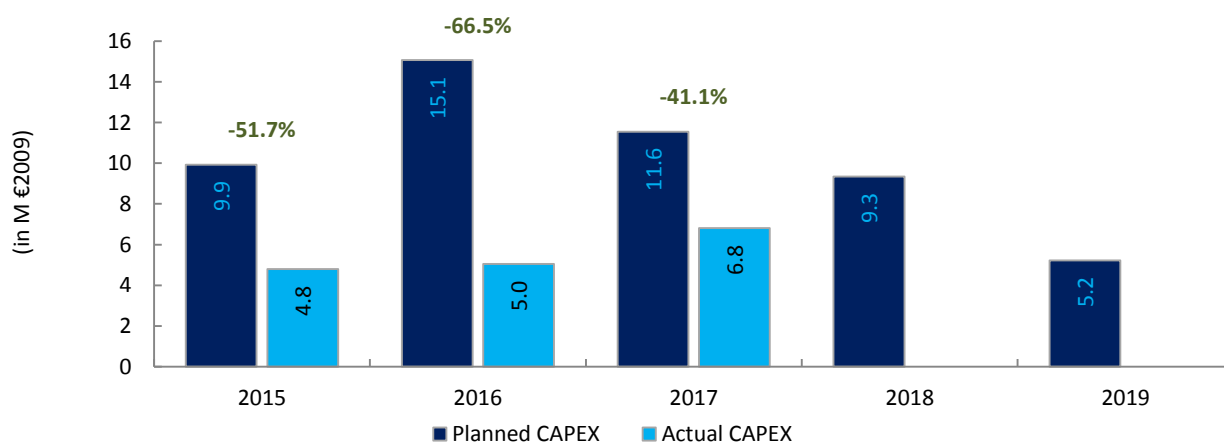
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																												
Finland: Data from RP2 Performance Plan																																												
	2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)	39 368 663	39 179 750	38 843 860	38 294 684	37 662 953																																							
Real terminal costs (EUR2009)	12 977 755	13 018 624	13 030 610	13 030 753	13 032 329																																							
Real gate-to-gate costs (EUR2009)	52 346 419	52 198 375	51 874 470	51 325 437	50 695 282																																							
En-route share (%)	75.2%	75.1%	74.9%	74.6%	74.3%																																							
Finland: Actual data from Reporting Tables																																												
	2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)	40 118 861	40 360 311	37 529 161																																									
Real terminal costs (EUR2009)	12 630 972	12 692 259	14 652 206																																									
Real gate-to-gate costs (EUR2009)	52 749 833	53 052 570	52 181 367																																									
En-route share (%)	76.1%	76.1%	71.9%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																												
	2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)	in value	403 414	854 195	306 897																																								
	in %	0.8%	1.6%	0.6%																																								
En-route share	in p.p.	0.8 p.p.	1.0 p.p.	-3.0 p.p.																																								
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																												
<p>In 2017, actual gate-to-gate ANS costs are +0.6% (+0.3 M€2009) higher than planned mainly due to terminal costs that are higher than planned (+12.4% or +1.6 M€2009), while en-route costs are lower than planned (-3.4%, or -1.3 M€2009). See also box 3 for details on the impact of lower than planned inflation.</p> <p>The 2017 actual share of en-route in gate-to-gate ANS costs (71.9%) is 3 p.p. lower than planned (74.9%). See Note 1 on the transfer from Finavia to ANS Finland.</p> <p>For ANS Finland, the estimated gate-to-gate economic surplus in 2017 amounts to +1.7 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 3.7% of gate-to-gate ANS revenues.</p>																																												
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>75.2%</td> <td>24.8%</td> </tr> <tr> <td>Actual</td> <td>76.1%</td> <td>23.9%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>75.1%</td> <td>24.9%</td> </tr> <tr> <td>Actual</td> <td>76.1%</td> <td>23.9%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>74.9%</td> <td>25.1%</td> </tr> <tr> <td>Actual</td> <td>71.9%</td> <td>28.1%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>74.6%</td> <td>25.4%</td> </tr> <tr> <td>Actual</td> <td>74.3%</td> <td>25.7%</td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>74.3%</td> <td>25.7%</td> </tr> <tr> <td>Actual</td> <td>74.3%</td> <td>25.7%</td> </tr> </tbody> </table>						Year	Type	En-route (%)	Terminal (%)	2015	Determined	75.2%	24.8%	Actual	76.1%	23.9%	2016	Determined	75.1%	24.9%	Actual	76.1%	23.9%	2017	Determined	74.9%	25.1%	Actual	71.9%	28.1%	2018	Determined	74.6%	25.4%	Actual	74.3%	25.7%	2019	Determined	74.3%	25.7%	Actual	74.3%	25.7%
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3. Technical notes on en-route and terminal information reported by Finland																																												
Note 1: Separation of air navigation services from Finavia corporation																																												
<p>The Finnish state owned provider of the air navigation services has been separated from Finavia corporation (Finavia) to its own company which is totally independent from Finavia. The new legal entity Air Navigation Services Finland Oy (ANS Finland) has been established for the provision of the en-route and terminal air navigation services. ANS Finland started operating on 1 April 2017.</p> <p>The cost allocation principles for the en-route and EFHK TN navigation services remains in principle the same as defined in the Performance Plan for Reference Period 2. Finavia's internal cost allocations have been replaced by the service agreements between Finavia and ANS Finland. Most of the assets included in the en-route cost base are owned by ANS Finland. For the EFHK TN navigation services most of the assets are owned by the Finavia.</p> <p>In separation of ANS Finland from the airport operator Finavia on 1 April 2017 the cost structure of services changed. The cost bases does not include Finavia's overhead cost and cost of Finavia's internal services anymore. They are replaced by cost of services bought from Finavia and other organisations and ANS Finland's own overhead costs. To Finavia ANS Finland pays rent for the premises, "fixed assets-fee" for the use ANS assets owned by Finavia, marketing and development fee in Helsinki-Vantaa airport. ANS Finland also pays for some IM, HR, accounting and other services, which are provided by Finavia. Due to these changes the cost base of Helsinki-Vantaa airport terminal navigation increases and en-route cost base decreases.</p> <p>The 2017 actual costs have been calculated by changing ANS Finland's 9 month (April to December) costs to yearly (12 month) level.</p>																																												

FINLAND

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: ANS Finland						
FAB: NEFAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	11.4	17.5	13.7	11.3	6.5	60.3
Main CAPEX (in nominal M)	7.3	11.3	9.8	8.2	4.5	41.0
Inflation %	1.5%	1.7%	1.9%	2.0%	2.0%	
Inflation index (100 in 2009)	114.4	116.4	118.6	121.0	123.4	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	9.9	15.1	11.6	9.3	5.2	51.1
Main CAPEX (in M €2009)	6.3	9.7	8.3	6.8	3.6	34.7
% Main of Total CAPEX	63.8%	64.3%	71.5%	72.6%	69.0%	67.8%
Real gate-to-gate ANSP costs (in M €2009)	46.0	45.7	45.4	44.8	44.2	226.1
Total CAPEX as % of Real gate-to-gate ANSP costs	21.6%	32.9%	25.5%	20.8%	11.8%	22.6%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	5.4	5.7	7.7			
Main CAPEX (in nominal M)	3.7	3.9	5.3			
Inflation %	-0.2%	0.4%	0.8%			
Inflation index (100 in 2009)	111.9	112.4	113.3			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	4.8	5.0	6.8			
Main CAPEX (in M €2009)	3.3	3.5	4.7			
% Main of Total CAPEX	69.8%	68.6%	69.4%			
Real gate-to-gate ANSP costs (in M €2009)	46.2	46.6	45.6			
Total CAPEX as % of Real gate-to-gate ANSP costs	10.4%	10.8%	14.9%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-6.0	-11.9	-6.0			
Total CAPEX (in M €2009)	-5.1	-10.0	-4.7			
Total CAPEX (in %, M €2009)	-51.7%	-66.5%	-41.1%			



Annual Monitoring Report 2017
Local level view
Latvia

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	63	B	C	C	C	C
LGS	78	C	D	D	D	C
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	CAA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	7	2				
Legal/Judiciary	5	2				
Occurrence reporting and Investigation	2	0				
TOTAL	14	4				
LGS	Number of questions answered					
	YES	NO				
Policy and its implementation	12	1				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	7	1				
TOTAL	21	3				
Observations						
<p>Only one question out of 36 in the EoS M Component/area of the State in Safety Policy and Objectives does not meet the 2019 EoS M target level. After verification some answers were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p>						

LATVIA

Monitoring of Airports Contribution to ENVIRONMENT for 2017

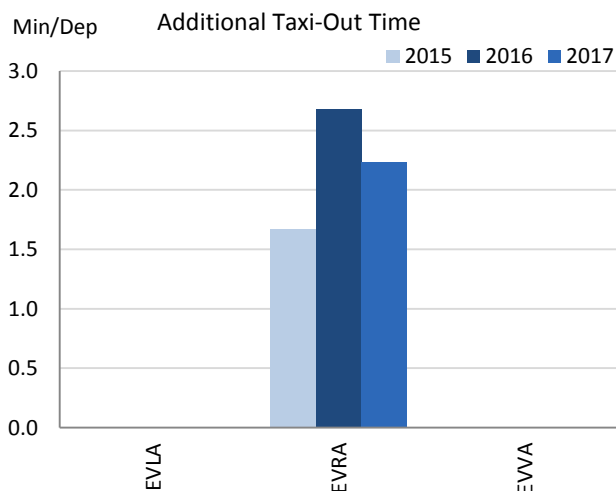
1. Overview

Latvia identified 3 airports as subject to RP2 monitoring, from which only Riga (EVRA) has established the Airport Operator Data Flow. Results for Latvia are therefore only representing this airport.

With a traffic increase of 10% with respect to 2016 at Riga, the additional times remain high for an airport with that level of traffic.

Both EVLA and EVVA are uncontrolled aerodromes, no data is available for any evaluation of the environmental performance.

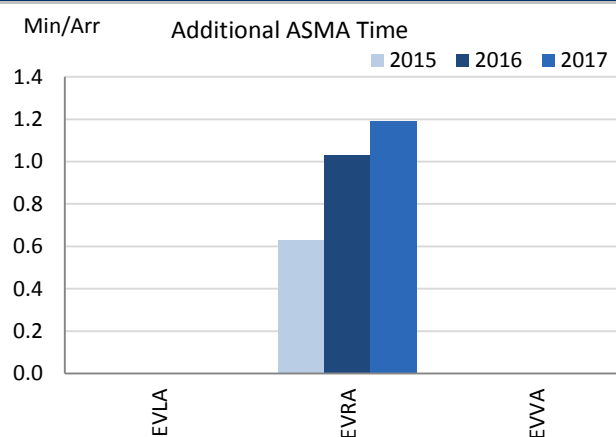
2. Additional Taxi-Out Time



The increase observed in 2016 was due to reconstruction activities, and according to the Latvian NSA that is also the reason why in 2017, once the works are finished, the additional TXOT have gone back down.

Although the additional taxi-out time at Riga (EVRA: 2.23 min/dep.) is below the European average (RP2 airports: 3.33 min/dep.), it is still higher than other airports with a similar number of movements.

3. Additional ASMA Time



Similarly to ATXOT, the additional time in terminal airspace at Riga airport is higher than for other airports with the same number of movements, but also has increased by 15% with respect to 2016.

Latvian NSA attributes this increase to the 10% traffic growth.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Liepaja	EVLA	n/a	n/a	n/a			n/a	n/a	n/a		
Riga	EVRA	1.67	2.68	2.23			0.63	1.03	1.19		
Ventspils	EVVA	n/a	n/a	n/a			n/a	n/a	n/a		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.04	0.04	0.04	0.04	0.04	
Deadband +/-	0.01	0.01	0.01	0.01	0.01	
Actual performance	0.00	0.00	0.00			

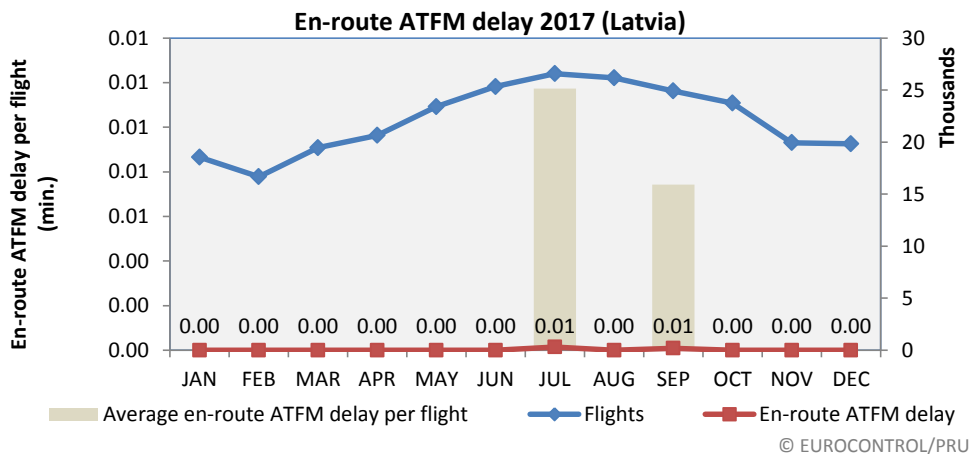
National capacity incentive scheme

Latvia applied a national incentive scheme based on the following criteria for the period 2015-2019:
 0.00 min/flight or better: Bonus: 1 % of the revenues from air navigation services in year n
 0.01 min/flight: Bonus: 0.7% of the revenues from air navigation services in year n
 0.02 min/flight: Bonus: 0.5% of the revenues from air navigation services in year n
 0.03 min/flight: Bonus: 0.2% of the revenues from air navigation services in year n
 0.05 min/flight: Penalty: 0.2 % of the revenues from air navigation services in year n
 0.06 min/flight: Penalty: 0.5 % of the revenues from air navigation services in year n
 0.07 min/flight or worse: Penalty: 1% of the revenues from air navigation services in year n

With an actual en-route capacity performance of 0.00 minutes per flight in 2017, the ANSP LGS will receive a bonus of 1% of the revenues from air navigation services in year n.

Latvia reports that the expected bonus will be €205 718 for 2017.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Latvia)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

The excellent en-route capacity performance in Latvia during 2017, and the positive contribution both to the NEFAB and the Union-wide target for en-route capacity is noted. Traffic levels in Latvia have remained below those initially predicted for the baseline scenario in the STATFOR forecast available when FAB performance plans and associated capacity plans were being determined. It is noted that the Network Manager does not expect any capacity problems in Latvia for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 –Latvia									
	2014	2015	2016	2017	2018	2019			
		actual	actual	actual	actual				
High	255	267	283	298	313	330			
Base	250	243	265	272	279	288			
Low	246	249	251	253	255	258			

Planning and Effective Use of CDRs

Latvia did not provide any data since there are no CDRs in NEFAB.

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
41%	64%	35%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
0%	0%	0%		

Procedure 3 is not applicable within the State.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

LATVIA

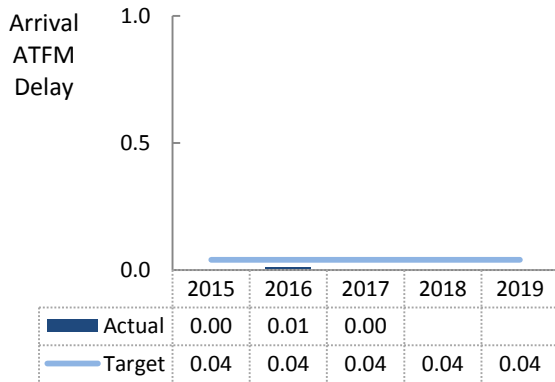
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

ANS at a total of 3 airports are subject to RP2 monitoring in Latvia, although NEFAB reports that Liepaja (EVLA) and Ventspils (EVVA) do not have ATC services. A national target on arrival ATFM has been established. The arrival ATFM delay, that was already negligible in 2016, has decreased to zero in 2017 and meets the target. Pre-departure delay can only be monitored at the time being for Riga (EVRA). Traffic at Liepaja (EVLA) and Ventspils (EVVA) is marginal with little or no impact on the network.

NEFAB reports that airports EVLA and EVVA do not have ATC services.

2. Arrival ATFM Delay



There are no arrival ATFM regulations at any of the Latvian airports in 2017, showing no capacity constraints at Latvia.

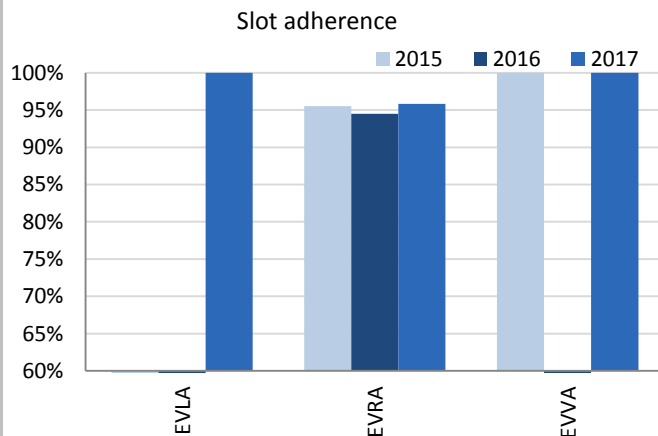
The achieved performance fully meets the target.

3. Arrival ATFM Delay – National Target and Incentive Scheme

The NEFAB performance plan establishes a national target on arrival ATFM delay for Latvia, with breakdown only for Riga (EVRA). The conservative national target of 0.4 min/arr. is constant for the entire reference period 2.

The performance plan also presents an incentive scheme for Latvia. However, and although the actual performance in 2017 allows a bonus to LGV, Latvia is not applying such bonus.

4. ATFM Slot Adherence



The adherence to ATFM slots at all 3 Latvian airports exceeds the 95% threshold. The share of regulated departures at Liepaja (EVLA) and Ventspils (EVVA) in 2017 is negligible.

5. Pre-departure Delay

The Airport Operator Data Flow is established for Riga (EVRA) and allows for the monitoring of pre-departure delay. Riga accrued negligible pre-departure delay in both 2016 and 2017. This level of performance is commensurate with the level of traffic observed.

6. Appendix

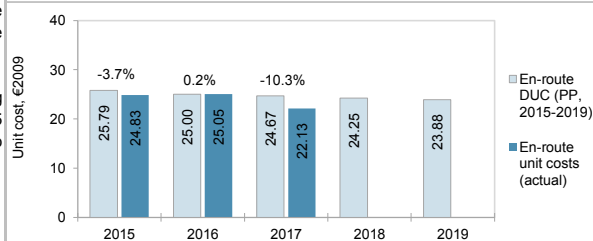
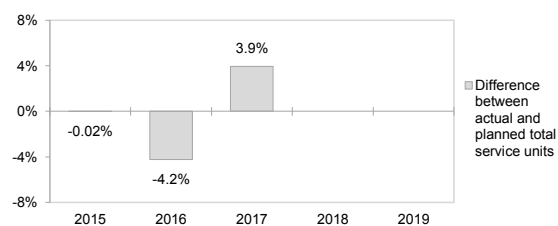
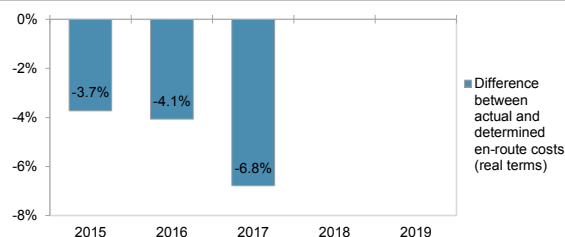
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Liepaja	EVLA	0.00	0.00	0.00			n/a	n/a	100.0%			n/a	n/a	n/a		
Riga	EVRA	0.00	0.01	0.00			95.5%	94.5%	95.8%			n/a	0.08	0.05		
Ventspils	EVVA	0.00	0.00	0.00			100.0%	n/a	100.0%			n/a	n/a	n/a		

LATVIA: En-route charging zone

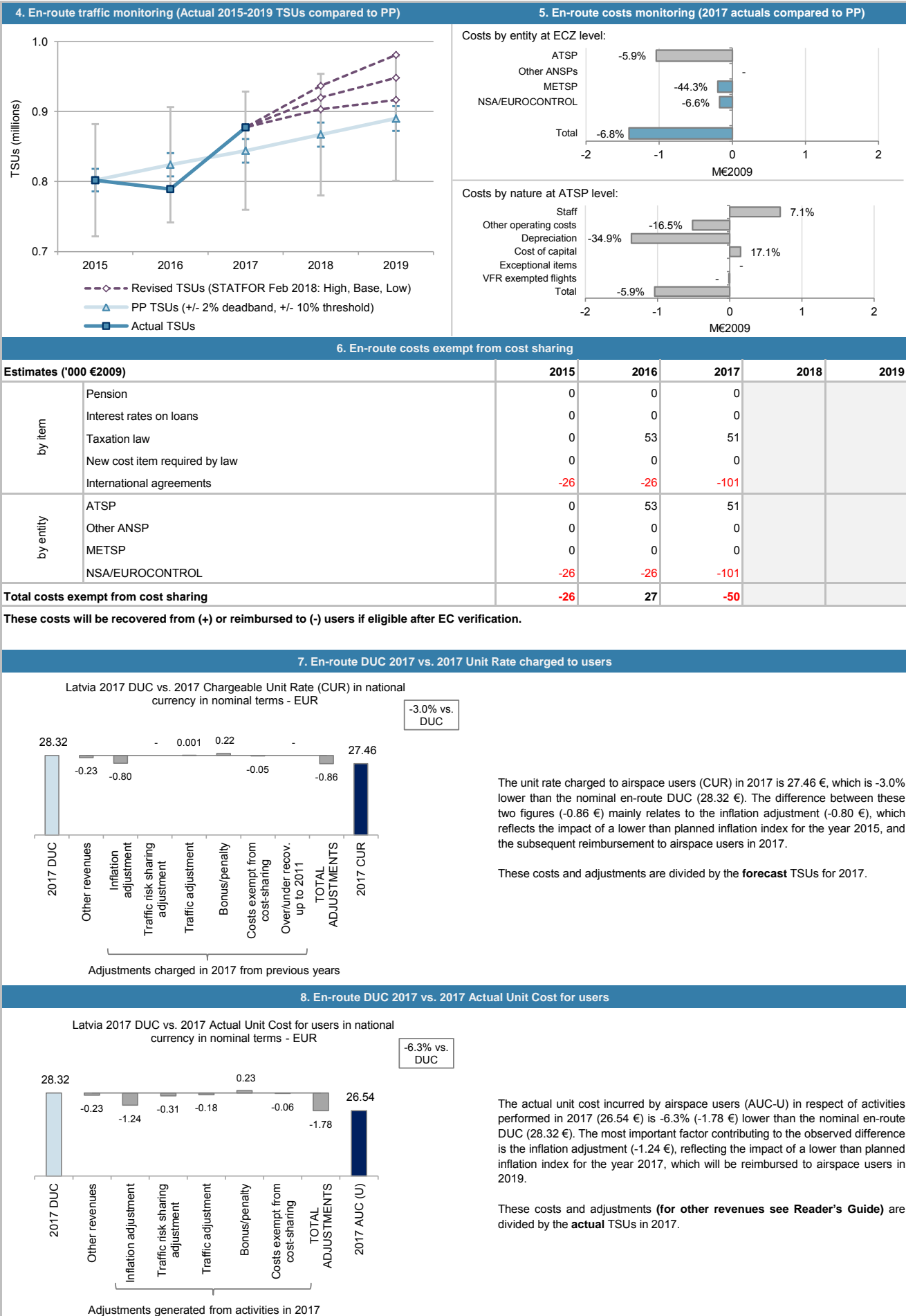
Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· Latvia ECZ represents 0.3% of the SES en-route ANS determined costs in 2017						
· ATSP: LGS						
· FAB: NEFAB						
· National currency: EUR						
2. En-route DUC monitoring at Charging Zone level						
Latvia: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)		2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)		22 680 662	23 118 000	23 902 000	24 692 818	25 534 000
Inflation %		2.5%	2.3%	2.3%	2.3%	2.3%
Inflation index (100 in 2009)		109.7	112.2	114.8	117.4	120.1
Real en-route costs (EUR2009)		20 683 885	20 603 685	20 823 477	21 028 777	21 256 247
Total en-route Service Units		802 000	824 000	844 000	867 000	890 000
Real en-route unit cost per Service Unit (EUR2009)		25.79	25.00	24.67	24.25	23.88
Latvia: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)		21 182 494	21 047 181	21 268 039		
Inflation %		0.2%	0.1%	2.9%		
Inflation index (100 in 2009)		106.4	106.5	109.6		
Real en-route costs (EUR2009)		19 913 164	19 766 193	19 410 698		
Total en-route Service Units		801 836	789 087	877 214		
Real en-route unit cost per Service Unit (EUR2009)		24.83	25.05	22.13		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal EUR)	in value	-1 498 168	-2 070 819	-2 633 961		
	in %	-6.6%	-9.0%	-11.0%		
Inflation %	in p.p.	-2.3 p.p.	-2.2 p.p.	0.6 p.p.		
Inflation index (100 in 2009)	in p.p.	-3.3 p.p.	-5.7 p.p.	-5.2 p.p.		
Real en-route costs (EUR2009)	in value	-770 722	-837 492	-1 412 779		
	in %	-3.7%	-4.1%	-6.8%		
Total en-route Service Units	in value	-164	-34 913	33 214		
	in %	-0.02%	-4.2%	3.9%		
Real en-route unit cost per Service Unit (EUR2009)	in value	-0.96	0.04	-2.54		
	in %	-3.7%	0.2%	-10.3%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (22.13 €2009) is -10.3% lower than the 2017 DUC target (24.67 €2009). This difference results from lower than planned en-route costs in real terms (-6.8%, or -1.4 M€2009) and higher than planned TSUs (+3.9%).						
En-route service units						
The difference between actual and planned TSUs (+3.9%) falls outside the ±2% dead band, but remains within the ±10% boundaries of the alert threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues is therefore shared between the airspace users and the ATSP, with the latter retaining an amount of +0.5 M€2009.						
Considering the STATFOR February 2018 TSUs forecasts, the actual TSUs are, under all traffic scenarios, likely to remain higher than the level underpinning the DUC targets throughout RP2.						
En-route costs						
In nominal terms, the 2017 actual en-route costs are -11.0% lower than planned. However, since the 2017 actual inflation index is also lower than planned (-5.2 p.p.), actual en-route costs are -6.8% below plans (or -1.4 M€2009).						
The lower than planned en-route costs in real terms are driven by lower costs across all the reporting entities: LGS (-5.9%, or -1.0 M€2009), MET SP (-44.3%, or -0.2 M€2009), and the NSA/EUROCONTROL (-6.6%, or -0.2 M€2009). A detailed analysis of the ATSP (LGS) en-route costs is provided in Box 12.						
In 2017, costs exempt from cost sharing are reported for a net amount of -0.05 M€2009 reflecting mainly lower than planned EUROCONTROL costs (-0.1 M€2009), while positive amount (+0.05 M€2009) is linked to the changes in the national taxation law. These costs will be carried-over to the following reference period(s), if deemed eligible by the European Commission.						



LATVIA: En-route charging zone

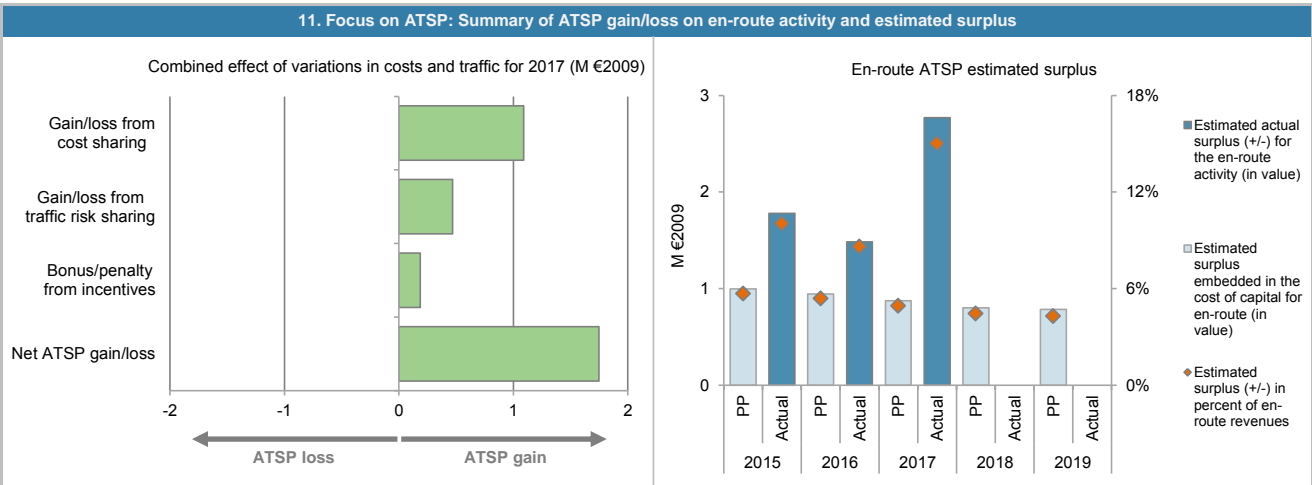
Monitoring of en-route COST-EFFICIENCY for 2017



LATVIA: En-route ATSP (LGS)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	17 518	17 486	17 751		
Actual costs for the ATSP	16 896	16 737	16 711		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	622	749	1 040		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	53	51		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	622	803	1 091		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-0.02%	-4.2%	3.9%		
Determined costs for the ATSP (PP) - based on actual inflation	17 682	18 043	18 211		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-4	-482	470		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	176	172	188		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	794	492	1 748		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	15 008	14 296	13 320	12 335	11 907
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	15 008	14 296	13 320	12 335	11 907
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	996	943	873	801	786
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	6.6%	6.6%	6.6%	6.5%	6.6%
Estimated surplus embedded in the cost of capital for en-route (in value)	996	943	873	801	786
Overall estimated surplus (+/-) for the en-route activity	996	943	873	801	786
Revenue/costs for the en-route activity	17 518	17 486	17 751	18 030	18 325
Estimated surplus (+/-) in percent of en-route revenues	5.7%	5.4%	4.9%	4.4%	4.3%
Estimated ex-ante RoE pre-tax rate (in %)	6.6%	6.6%	6.6%	6.5%	6.6%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	14 812	15 012	15 598		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	14 812	15 012	15 598		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	983	990	1 022		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	6.6%	6.6%	6.6%		
Estimated surplus embedded in the cost of capital for en-route (in value)	983	990	1 022		
Net ATSP gain(+)/loss(-) on en-route activity	794	492	1 748		
Overall estimated surplus (+/-) for the en-route activity	1 777	1 483	2 771		
Revenue/costs for the en-route activity	17 690	17 229	18 459		
Estimated surplus (+/-) in percent of en-route revenues	10.0%	8.6%	15.0%		
Estimated ex-post RoE pre-tax rate (in %)	12.0%	9.9%	17.8%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 LGS en-route costs vs. PP

In 2017, LGS actual en-route costs are -5.9% (-1.0 M€2009) lower, in real terms, than planned. According to the June 2018 Reporting Tables, this results from the combination of:

- Higher than planned staff costs (+7.1%, or +0.7 M€2009). However, as highlighted in box 3, the lower than planned 2017 inflation index (-5.2 p.p.) is affecting the comparison of costs. In nominal terms, the staff costs are (+2.2%) higher than planned (or +0.3 M€). Latvia reports that: "in FY 2017 ANSP experienced a huge amount of pressure from trade unions regarding the remuneration of ATCOs." In addition, "There is a new ATCO training programme launched". Finally, "the tax legislation has changed in Latvia (introduction of solidarity tax) which has an adverse effect on the personnel expenses. In Performance plan it was assumed, that there will be no changes in tax legislation".
- Lower than planned other operating costs (-16.5%, or -0.5 M€2009).
- Lower than planned depreciation costs (-34.9%, or -1.4 M€2009), mainly due to "end of useful life of several fixed assets and investments made, but not yet put into operations".
- Higher than planned cost of capital in real terms (+17.1%, or +0.1 M€2009) reflecting higher than planned 2017 asset base (+17.1%, or +2.3 M€2009).

LGS net gain/loss on en-route activity in 2017

As shown in box 9, LGS generated a net gain of some +1.8 M€2009 on the en-route activity in 2017. This is a combination of three elements:

- a gain of +1.1 M€2009 arising from the cost-sharing mechanism, of which a net amount of 0.05 M€2009 if deemed eligible by the European Commission (it is noted that a new element has been reported in 2017 under the "Taxation law" item, including retroactively for year 2016);
- a gain of +0.5 M€2009 arising from the traffic risk-sharing mechanism; and,
- a gain of +0.2 M€2009 corresponding to a bonus eligible for payment to LGS as part of the capacity target incentive mechanism. This amount corresponds to 1.0% of LGS en-route revenues (based on the ATSP chargeable unit rate in 2017 (23.45€) times the actual TSUs (877 214)). The inclusion of this bonus in the chargeable cost base/unit rate will be examined by the European Commission in due course. See also **Note 1** at the end of this Report.

LGS 2017 overall estimated surplus for the en-route activity

Ex-post, the 2017 overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+1.8 M€2009) and the surplus embedded in the actual cost of capital (+1.0 M€2009) amounts to +2.8 M€2009 (15.0% of the 2017 en-route revenues). The resulting 2017 ex-post rate of return on equity is 17.8%, which is higher than the 6.6% planned for 2017 in the PP.

LATVIA: Terminal charging zone

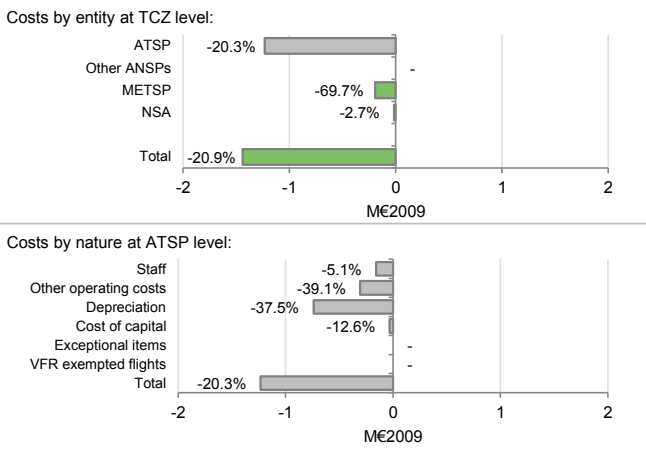
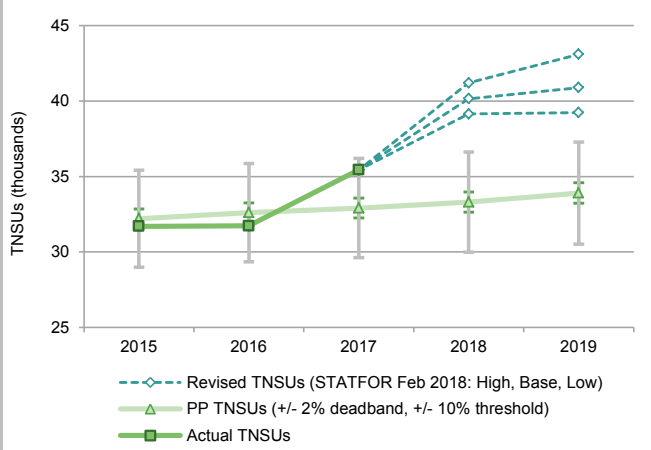
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Latvia TCZ represents 0.6% of the SES terminal ANS determined costs in 2017			· Is this TCZ applying traffic risk sharing?		No
· ATSP: LGS			· Airports with fewer than 70,000 IFRs ATMs:		3
· National currency: EUR			· Airports with between 70,000 and 225,000 IFRs ATMs:		0
· Number of airports in charging zone in 2017: 3, of which:			· Airports with more than 225,000 IFRs ATMs:		0
2. Terminal DUC monitoring at Charging Zone level					
Latvia: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	7 583 029	7 698 210	7 903 554	8 108 786	8 262 790
Inflation %	2.5%	2.3%	2.3%	2.3%	2.3%
Inflation index (100 in 2009)	109.7	112.2	114.8	117.4	120.1
Real terminal costs (EUR2009)	6 915 428	6 860 952	6 885 595	6 905 565	6 878 511
Total terminal Service Units	32 200	32 600	32 900	33 300	33 900
Real terminal unit cost per Service Unit (EUR2009)	214.76	210.46	209.29	207.37	202.91
Latvia: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	6 030 644	6 010 389	5 966 105		
Inflation %	0.2%	0.1%	2.9%		
Inflation index (100 in 2009)	106.4	106.5	109.6		
Real terminal costs (EUR2009)	5 669 267	5 644 581	5 445 084		
Total terminal Service Units	31 690	31 722	35 442		
Real terminal unit cost per Service Unit (EUR2009)	178.90	177.94	153.63		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)					
in value	-1 552 384	-1 687 821	-1 937 449		
in %	-20.5%	-21.9%	-24.5%		
Inflation %					
in p.p.	-2.3 p.p.	-2.2 p.p.	0.6 p.p.		
Inflation index (100 in 2009)					
in p.p.	-3.3 p.p.	-5.7 p.p.	-5.2 p.p.		
Real terminal costs (EUR2009)					
in value	-1 246 162	-1 216 371	-1 440 510		
in %	-18.0%	-17.7%	-20.9%		
Total terminal Service Units					
in value	-510	-878	2 542		
in %	-1.6%	-2.7%	7.7%		
Real terminal unit cost per Service Unit (EUR2009)					
in value	-35.87	-32.52	-55.66		
in %	-16.7%	-15.5%	-26.6%		
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Latvia Terminal Charging Zone comprising Riga, Liepaja and Ventspils airports.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (153.63 €2009) is -26.6% lower than planned (209.29 €2009). This difference results from the combination of significantly lower than planned terminal costs (-20.9%, or -1.4 M€2009) and higher than planned TNSUs (+7.7%).</p> <p>Terminal service units The traffic risk sharing mechanism does not apply in Latvia TCZ. Therefore the difference between actual and planned TNSUs in 2017 (+7.7%) generates additional terminal revenues of +0.6 M€, which will be entirely reimbursed to airspace users in 2019.</p> <p>Terminal costs In nominal terms, the 2017 actual terminal costs are -24.5% lower than planned (or -1.9 M€). However, since the 2017 actual inflation index is also lower than planned (-5.2 p.p.), the actual terminal costs are -20.9% below plans (or -1.4 M€2009).</p> <p>The significantly lower than planned terminal costs in real terms are mainly driven by LGS (-20.3%, or -1.2 M€2009). Lower actual costs than planned are also recorded for MET SP (-69.7%, or -0.2 M€2009) and the NSA (-2.7%, or -0.01 M€2009). A detailed analysis of the ATSP (LGS) terminal costs is provided in box 12.</p> <p>Costs exempt from cost sharing are reported for a total amount of +0.02 M€2009 reflecting the changes in the national taxation law. These costs will be carried-over to the following reference period(s), if deemed eligible by the European Commission.</p>					

LATVIA: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

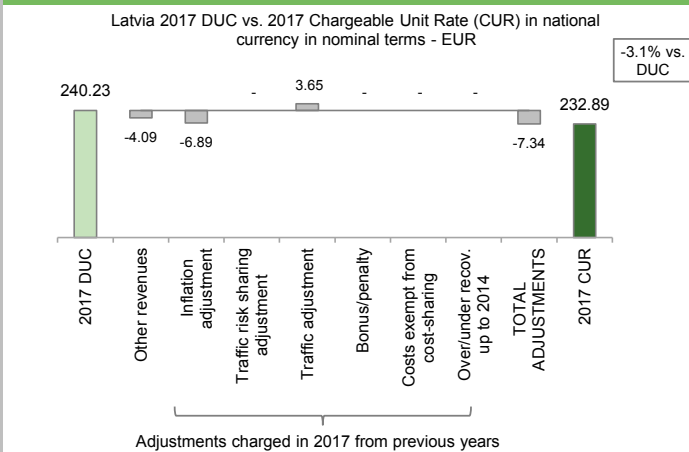


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	20	18		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	20	18		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	20	18		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

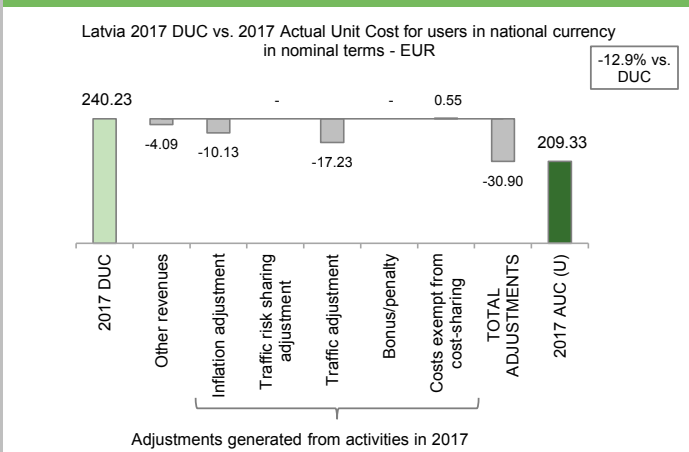
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The unit rate charged to airspace users (CUR) in 2017 is 232.89 €, which is -3.1% lower than the nominal terminal DUC (240.23 €). The difference between these two figures (-7.34 €) mainly relates to the inflation adjustment (-6.89 €) reflecting the impact of a lower than planned inflation index for the year 2015 and the subsequent reimbursement to airspace users in 2017, as well as a deduction of 2017 other revenues (-4.09 €).

These costs and adjustments are divided by the forecast TNSUs for 2017.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of terminal activities performed in 2017 (209.33 €) is -12.9% lower than the nominal terminal DUC (240.23 €). The most important factor contributing to the observed difference is the traffic adjustment (-17.23 €), which corresponds to the impact of +7.7% higher than planned traffic (TNSUs) for the year 2017, and the reimbursement to airspace users in 2019.

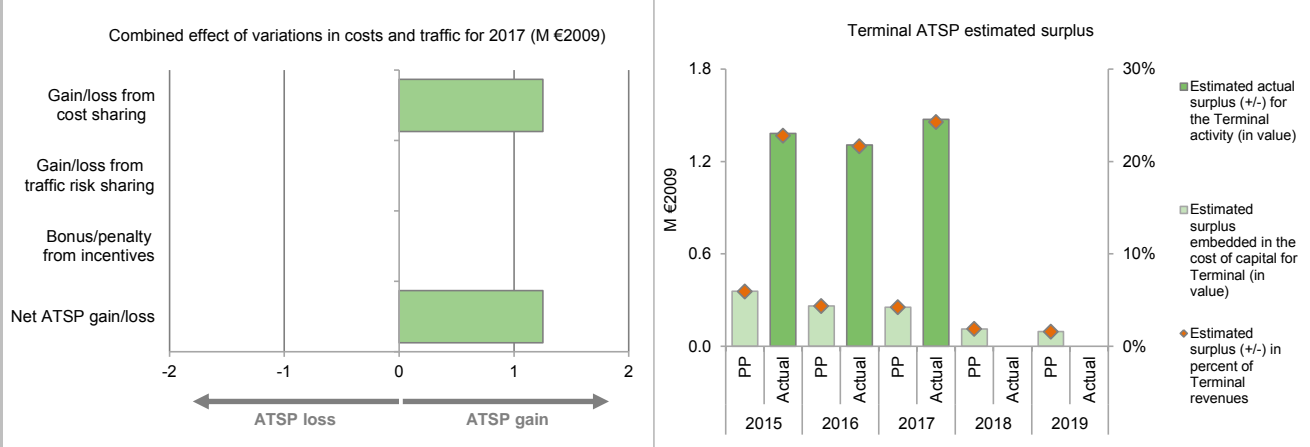
These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TNSUs in 2017.

LATVIA: Terminal ATSP (LGS)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	6 080	6 032	6 062		
Actual costs for the ATSP	5 018	4 989	4 829		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	1 062	1 043	1 233		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	20	18		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	1 062	1 063	1 251		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Not Applicable					
Not Applicable					
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	1 062	1 063	1 251		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	6 855	6 774	6 739	6 587	6 737
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%	100.0%	100.0%
Estimated proportion of financing through equity (in value)	6 855	6 774	6 739	6 587	6 737
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Estimated proportion of financing through debt (in value)	0	0	0	0	0
Cost of capital pre-tax (in value)	358	262	254	113	95
Average interest on debt (in %)	0.0%	0.0%	0.0%	0.0%	0.0%
Interest on debt (in value)	0	0	0	0	0
Determined RoE pre-tax rate (in %)	5.2%	3.9%	3.8%	1.7%	1.4%
Estimated surplus embedded in the cost of capital for terminal (in value)	358	262	254	113	95
Overall estimated surplus (+/-) for the terminal activity	358	262	254	113	95
Revenue/costs for the terminal activity	6 080	6 032	6 062	6 101	6 092
Estimated surplus (+/-) in percent of terminal revenues	5.9%	4.3%	4.2%	1.9%	1.6%
Estimated ex-ante RoE pre-tax rate (in %)	5.2%	3.9%	3.8%	1.7%	1.4%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	6 145	6 352	5 888		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	6 145	6 352	5 888		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	321	245	222		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	5.2%	3.9%	3.8%		
Estimated surplus embedded in the cost of capital for terminal (in value)	321	245	222		
Net ATSP gain(+)/loss(-) on terminal activity	1 062	1 063	1 251		
Overall estimated surplus (+/-) for the terminal activity	1 383	1 308	1 473		
Revenue/costs for the terminal activity	6 080	6 052	6 080		
Estimated surplus (+/-) in percent of terminal revenues	22.8%	21.6%	24.2%		
Estimated ex-post RoE pre-tax rate (in %)	22.5%	20.6%	25.0%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 LGS terminal costs in Latvia TCZ vs. PP

LGS 2017 actual terminal costs in real terms are significantly lower (-20.3%, or -1.2 M€2009) than planned. According to the June 2018 terminal ANS reporting tables, this difference results from lower than planned costs across all cost categories:

- lower than planned staff costs (-5.1%, or -0.2 M€2009);
- lower than planned other operating costs (-39.1%, or -0.3 M€2009);
- lower than planned depreciation costs (-37.5%, or -0.7 M€2009); and,
- lower than planned cost of capital (-12.6%, or -0.03 M€2009).

The main driver reported for the observed deviation between actual and planned capital related costs (depreciation and cost of capital) is *"end of useful life of several fixed assets and investments made, but not yet put into operations"*.

LGS 2017 net gain/loss on terminal activity in TCZ

As shown in box 9, the terminal activity generated a net gain of +1.3 M€2009 in 2017, because of the cost-sharing mechanism. Traffic risk sharing does not apply and a bonus eligible for payment to LGS as part of the capacity target incentive mechanism will not be applied for the Terminal Charging Zone. See also **Note 1** at the end of this Report.

LGS 2017 overall estimated surplus for the terminal activity in TCZ

Ex-post, the 2017 overall estimated surplus taking into account the net gain from the terminal activity mentioned above (+1.3 M€2009) and the surplus embedded in the cost of capital (+0.2 M€2009) amounts to +1.5 M€2009 (24.2% of the 2017 terminal ANS revenues). The resulting *ex-post* rate of return on equity is 25.0%, which is significantly higher than the 3.8% planned for 2017.

LATVIA: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs					
Latvia: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)	20 683 885	20 603 685	20 823 477	21 028 777	21 256 247
Real terminal costs (EUR2009)	6 915 428	6 860 952	6 885 595	6 905 565	6 878 511
Real gate-to-gate costs (EUR2009)	27 599 314	27 464 637	27 709 071	27 934 342	28 134 758
En-route share (%)	74.9%	75.0%	75.2%	75.3%	75.6%
Latvia: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)	19 913 164	19 766 193	19 410 698		
Real terminal costs (EUR2009)	5 669 267	5 644 581	5 445 084		
Real gate-to-gate costs (EUR2009)	25 582 430	25 410 774	24 855 782		
En-route share (%)	77.8%	77.8%	78.1%		
Difference between Actuals and Planned (Actuals vs. PP)					
	2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)					
in value	-2 016 884	-2 053 863	-2 853 289		
in %	-7.3%	-7.5%	-10.3%		
En-route share					
in p.p.	2.9 p.p.	2.8 p.p.	2.9 p.p.		
2. Share of en-route and terminal in gate-to-gate actual costs (2017)					
<p>In 2017, the actual gate-to-gate ANS costs are -10.3% (or -2.9 M€2009) lower than planned due to the fact that both en-route costs (-6.8%, or -1.4 M€2009) and terminal ANS costs (-20.9%, or -1.4 M€2009) are lower than planned.</p> <p>The actual share of en-route in gate-to-gate ANS costs (78.1%) is +2.9 p.p. higher than planned for 2017 (75.2%).</p> <p>For LGS, the estimated gate-to-gate economic surplus in 2017 amounts to 4.2 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 17.3% of 2017 gate-to-gate ANS revenues.</p>					

3. Technical notes on en-route and terminal information reported by Latvia

Note 1: Financial incentives relating to en-route and terminal capacity targets

In the NEFAB Monitoring Report, Latvia disclosed the amount of bonus for achieving the local en-route capacity target under the capacity incentive mechanism in 2017 (205 718 €).

Latvia also indicated that the bonus for achieving the en-route capacity target would be charged in 2019, while the bonus relating to the terminal capacity target will not be applied.

Therefore, for the purposes of preparing the 2017 Monitoring Report, the incentive amount related to the en-route capacity target is taken into account (see Boxes 8 and 9 for en-route ANS activity), while no incentive amount related to the terminal capacity target is considered (see Boxes 8 and 9 for terminal ANS activity).

LATVIA

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: LGS						
FAB: NEFAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	6.0	6.4	6.3	6.4	7.9	33.1
Main CAPEX (in nominal M)	1.4	2.3	1.2	1.2	2.5	8.6
Inflation %	2.5%	2.3%	2.3%	2.3%	2.3%	
Inflation index (100 in 2009)	109.7	112.2	114.8	117.4	120.1	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	5.5	5.7	5.5	5.5	6.6	28.8
Main CAPEX (in M €2009)	1.3	2.0	1.1	1.1	2.1	7.5
% Main of Total CAPEX	23.3%	35.6%	19.6%	19.2%	31.6%	26.1%
Real gate-to-gate ANSP costs (in M €2009)	23.6	23.5	23.8	24.1	24.4	119.5
Total CAPEX as % of Real gate-to-gate ANSP costs	23.3%	24.1%	23.1%	22.7%	27.1%	24.1%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	3.6	6.5	5.5			
Main CAPEX (in nominal M)	0.6	1.2	1.7			
Inflation %	0.2%	0.1%	2.9%			
Inflation index (100 in 2009)	106.4	106.5	109.6			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	3.4	6.1	5.0			
Main CAPEX (in M €2009)	0.5	1.1	1.5			
% Main of Total CAPEX	15.4%	18.3%	30.4%			
Real gate-to-gate ANSP costs (in M €2009)	21.9	21.7	21.5			
Total CAPEX as % of Real gate-to-gate ANSP costs	15.4%	28.2%	23.3%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-2.4	0.2	-0.8			
Total CAPEX (in M €2009)	-2.1	0.5	-0.5			
Total CAPEX (in %, M €2009)	-38.6%	8.1%	-8.5%			

Year	Planned CAPEX (M €2009)	Actual CAPEX (M €2009)	Variance (%)
2015	5.5	3.4	-38.6%
2016	5.7	6.1	8.1%
2017	5.5	5.0	-8.5%
2018	5.5		
2019	6.6		

Annual Monitoring Report 2017
Local level view
Norway

NORWAY

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	60	B	C	C	C	B
Avinor	80	D	D	D	C	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	NCAA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	8	1				
Legal/Judiciary	5	2				
Occurrence reporting and Investigation	2	0				
TOTAL	15	3				
Avinor	Number of questions answered					
	YES	NO				
Policy and its implementation	13	0				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	7	1				
TOTAL	22	2				
Observations						
<p>One component (Safety Policy and Objectives) out of the four reviewed EoSM Components/areas of the State does not meet the 2019 EoSM target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p> <p>Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only one is below Level C.</p>						

NORWAY

Monitoring of Airports Contribution to ENVIRONMENT for 2017

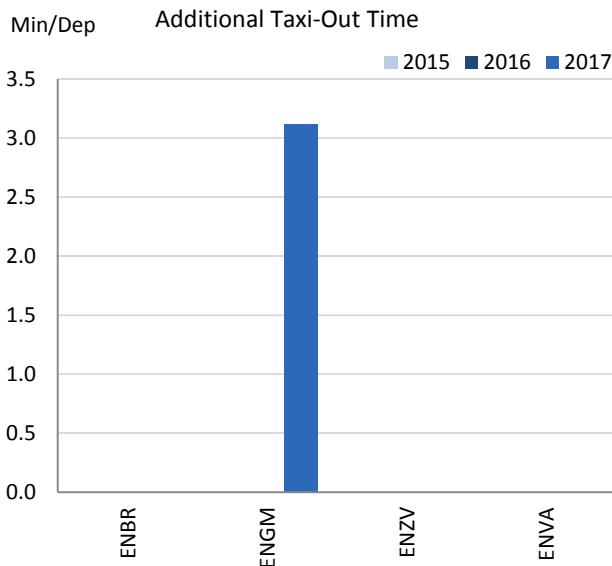
1. Overview

Norway has identified four airports as subject to RP2 monitoring. Currently all of these airports are providing data on a monthly basis, but key information for the calculation of the additional taxi-out times is still missing. Oslo is the only Norwegian airport that has finished the full implementation of the Airport Operator Data Flow and the monitoring can be performed as of 2017.

Norway should empower the respective airport reporting entity to address the remaining data issues.

In terms of ASMA, although all of them stay below the RP2 average (1.89 min/arr.), Bergen and Stavanger range within the highest additional times for airports with those traffic levels.

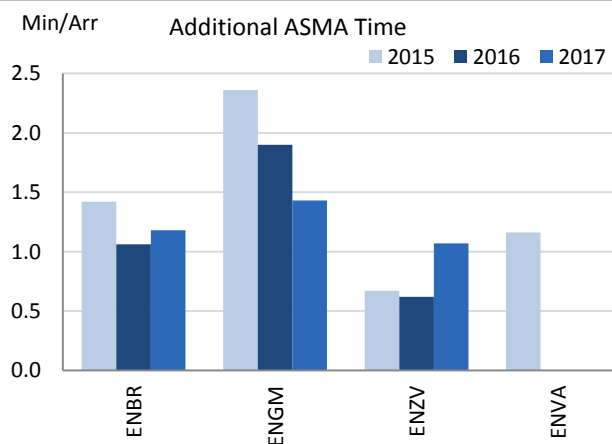
2. Additional Taxi-Out Time



Avinor Flysikring AS, the service provider in Norway, has not been able to deliver the data required for the calculation of the additional taxi-out times at Bergen (ENBR), Stavanger (ENZV) or Trondheim (ENVA). Norwegian NSA explained in 2016 that their ATM system is not ready to deliver these data automatically for three of four airports. Avinor is still considering an alternate solution, but need to take into account the additional cost required. Only ENGM have started up reporting on additional taxi-out time from 2017 (established A-CDM).

The additional TXOT at Oslo in 2017 (3.12 min/dep.) is slightly below the RP2 average (3.33 min/dep.) and is commensurate with the airport's traffic level.

3. Additional ASMA Time



The additional time in the terminal airspace of Oslo (ENGM) has decreased significantly for the second year in a row, showing better performance than other airports in the SES area with a similar number of movements.

On the other hand, Stavanger has considerably worsened the performance (i.e. ENZV: 2016: 0.62 min/arr. vs 2017: 1.07 min/arr.), despite its reduction in traffic (-6%).

Data issues in the reporting from ENVA prevent the calculation of the ASMA indicator for this airport.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bergen	ENBR	n/a	n/a	n/a			1.42	1.06	1.18		
Oslo/ Gardermoen	ENGM	n/a	n/a	3.12			2.36	1.90	1.43		
Stavanger	ENZV	n/a	n/a	n/a			0.67	0.62	1.07		
Trondheim	ENVA	n/a	n/a	n/a			1.16	n/a	n/a		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.08	0.08	0.08	0.08	0.08	
Deadband +/-	0.03 - 0.13		0.03 - 0.14			
Actual performance	0.05	0.11	0.02			

National capacity incentive scheme

Norway applied a national incentive scheme based on the following criteria for the period 2017-2019:

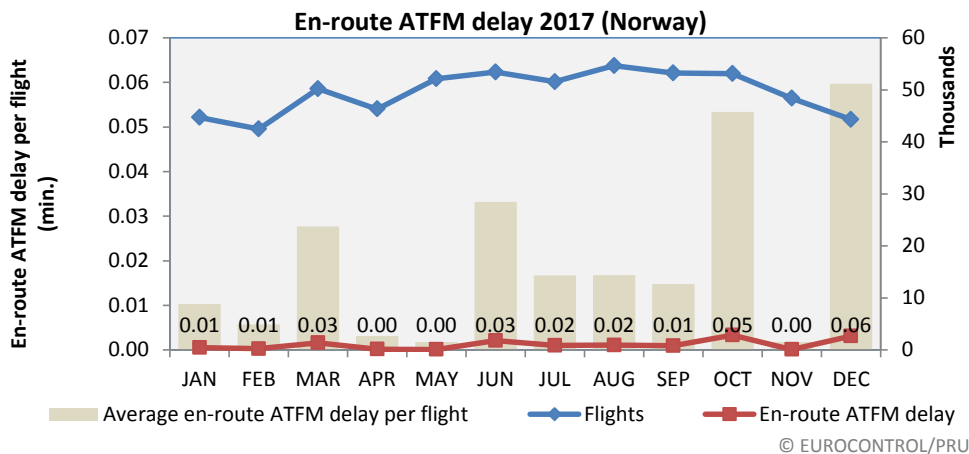
En route ATFM delay 2017-2019:

- Over/under-achievement (Percentage) Aggregated Penalties/Bonuses (Percentage)
- 0.00 min/flight or better: Bonus: 1 % of the revenues from air navigation services in year n
- 0.01 min/flight: Bonus: 0.5 % of the revenues from air navigation services in year n
- 0.02 min/flight: Bonus: 0.2% of the revenues from air navigation services in year n
- Deadband 0.03 min/flight - 0.14 min/flight
- 0.15 min/flight: Penalty: 0.2 % of the revenues from air navigation services in year n
- 0.16 min/flight: Penalty: 0.5 % of the revenues from air navigation services in year n
- 0.17 min/flight or worse: Penalty: 1% of the revenues from air navigation services in year n

With an actual en-route capacity performance of 0.02 minutes per flight in 2017, the ANSP Avinor will receive a bonus of 0.2% of the revenues from air navigation services in year n.

Norway reports that the expected bonus will be 1 977 235 NOK for 2017.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Norway)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.00	0.00	0.00	0.00	0.28	0.04	0.03	0.05	0.11	0.02

The achievement of the local target for en-route capacity performance in Norway during 2017, and the positive contribution both to the NEFAB and the Union-wide target for en-route capacity is noted. Traffic levels in Norway have remained below those initially predicted for the low scenario in the STATFOR forecast available when FAB performance plans and associated capacity plans were being determined. It is noted that the Network Manager does not expect any capacity problems in Norway for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Norway										
	2014	2015	2016	2017	2018	2019				
		actual	actual	actual	actual					
High	629		646		666		685		701	721
Base	625	619	640	603	654	599	665	591	676	688
Low	621		629		630		631		633	635

Planning and Effective Use of CDRs

There are no CDR routes in Norway anymore (they were removed on 12th November 2015 in relation with FRA / changed FUA concept).

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
41%	54%	55%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
N/A	N/A	N/A		

Procedure 3 is not applicable within the State.

Observations on Effective booking procedures

Norway states that the value of this indicator rose from 54% in 2016 to 55% in 2017 due to revised military booking procedures and focus on effective use of airspace. No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

NORWAY

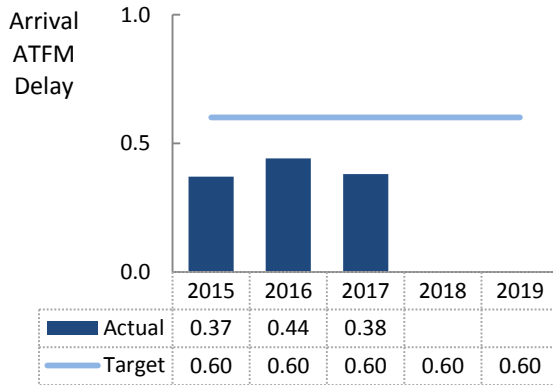
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

Norway identifies 4 airports as subject to RP2 monitoring. A national target on arrival ATFM delay has been established and is fully met.

As in previous years, excellent adherence to ATFM slots is observed for these Norwegian airports and the level of pre-departure delay is negligible.

2. Arrival ATFM Delay



Traffic in the Norwegian airports under monitoring has decreased by 6% since 2014. In line with the traffic evolution, the national average for arrival ATFM delay in Norway has decreased in 2017 resulting in 0.38 min/arr., 0.22 minutes lower than the target for 2017.

Oslo Gardermoen (ENGM) is the only Norwegian airport accruing some arrival ATFM delay in 2017 (Bergen's arrival ATFM delay is negligible), with an arrival ATFM delay of 0.69 min/arr. NEFAB reports that 90% of the delays are attributed to weather. In addition delays attributed to ATC staffing are 6%, 3% to aerodrome capacity and 1% to equipment ATC.

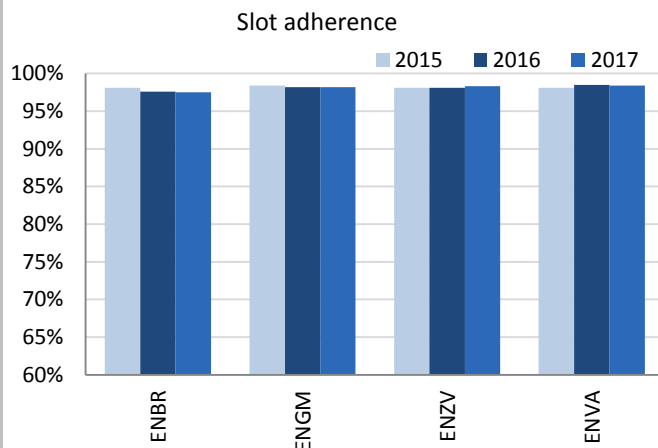
3. Arrival ATFM Delay – National Target and Incentive Scheme

The NEFAB performance plan sets a national target on arrival ATFM delay that is consistent with the historical performance and forms a lower bound with respect to the years previous to RP2. No further breakdown of the target per airport is made, inhibiting identification of the contribution of individual airports.

The performance plan presents an incentive scheme for the national targets on arrival ATFM delay for Norway. The incentive scheme pads the target with a deadband of 0.3 minutes per arrival.

The achieved performance falls within the deadband and therefore no bonuses will be granted.

4. ATFM Slot Adherence



The adherence to ATFM slots at the 4 Norwegian airports consistently ranges in the group of best-in-class performers across Europe, with actual values well above the 95% threshold.

5. Pre-departure Delay

The delay reporting by the Norwegian airports under monitoring allows for the computation of the pre-departure delay indicator for all 4 airports during RP2.

Like in previous years, the level of accrued delay is zero or negligible at Bergen, Stavanger and Trondheim. Oslo shows an increase in the pre-departure delay that according to NEFAB might be related to construction work on ENGM as it is demanding to keep normal traffic loads going with such a large construction project without any consequences.

Even under these circumstances, the accrued ATC pre-departure delay at Oslo is one of the lowest in Europe for airports with those levels of traffic.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Bergen	ENBR	0.11	0.09	0.02			98.1%	97.6%	97.5%			0.01	0.01	0.01		
Oslo/ Gardermoen	ENGM	0.67	0.79	0.69			98.4%	98.2%	98.2%			0.06	0.08	0.15		
Stavanger	ENZV	0.02	0.00	0.00			98.1%	98.1%	98.3%			0.01	0.01	0.00		
Trondheim	ENVA	0.00	0.00	0.00			98.1%	98.5%	98.4%			0.00	0.00	0.00		

NORWAY: En-route charging zone

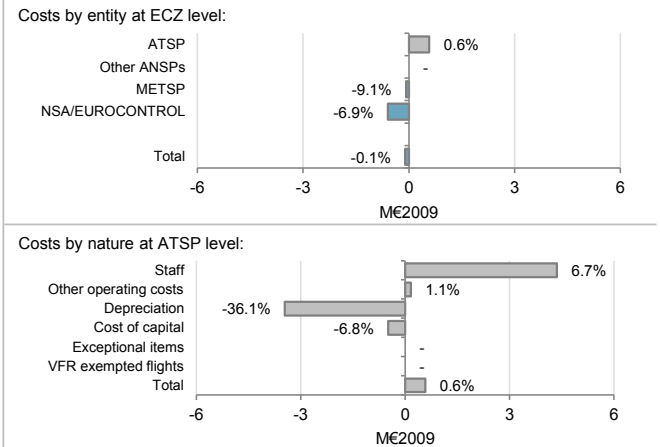
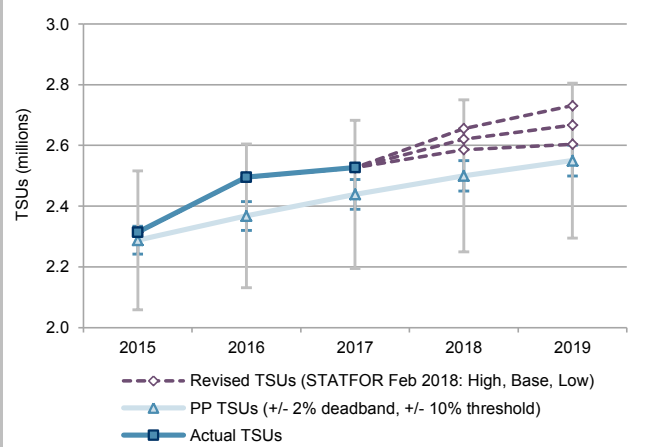
Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· Norway ECZ represents 1.7% of the SES en-route ANS determined costs in 2017						
· ATSP: Avinor						
· FAB: NEFAB						
· National currency: NOK Exchange rate 2009: 1 EUR = 8.72807 NOK						
2. En-route DUC monitoring at Charging Zone level						
Norway: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)	2015D	2016D	2017D	2018D	2019D	
En-route costs (nominal NOK)	1 006 927 248	1 032 667 449	1 051 204 724	1 064 624 439	1 073 048 403	
Inflation %	1.6%	1.7%	2.1%	2.5%	2.5%	
Inflation index (100 in 2009)	109.5	111.4	113.7	116.6	119.5	
Real en-route costs (NOK2009)	919 164 836	926 904 186	924 136 061	913 105 964	897 883 922	
Total en-route Service Units	2 287 878	2 367 954	2 438 992	2 499 967	2 549 966	
Real en-route unit cost per Service Unit (NOK2009)	401.75	391.44	378.90	365.25	352.12	
Real en-route unit cost per Service Unit (EUR2009)	46.03	44.85	43.41	41.85	40.34	
Norway: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
En-route costs (nominal NOK)	968 642 559	932 421 601	1 070 819 986			
Inflation %	2.0%	3.9%	1.9%			
Inflation index (100 in 2009)	109.5	113.8	116.0			
Real en-route costs (NOK2009)	884 206 780	819 194 585	923 245 142			
Total en-route Service Units	2 313 891	2 495 164	2 526 846			
Real en-route unit cost per Service Unit (NOK2009)	382.13	328.31	365.37			
Real en-route unit cost per Service Unit (EUR2009)	43.78	37.62	41.86			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
En-route costs (nominal NOK)	-38 284 689	-100 245 848	19 615 263			
	in %	-3.8%	-9.7%	1.9%		
Inflation %	0.4 p.p.	2.2 p.p.	-0.2 p.p.			
Inflation index (100 in 2009)	0.0 p.p.	2.4 p.p.	2.2 p.p.			
Real en-route costs (NOK2009)	-34 958 056	-107 709 601	-890 919			
	in %	-3.8%	-11.6%	-0.1%		
Total en-route Service Units	26 013	127 210	87 854			
	in %	1.1%	5.4%	3.6%		
Real en-route unit cost per Service Unit (NOK2009)	in value	-19.62	-63.12	-13.53		
	in %	-4.9%	-16.1%	-3.6%		
Real en-route unit cost per Service Unit (EUR2009)	in value	-2.25	-7.23	-1.55		
	in %	-4.9%	-16.1%	-3.6%		
3. Focus on en-route at State/Charging Zone level						
<p>En-route unit cost In 2017, the actual en-route unit cost in real terms (41.86 €2009) is -3.6% lower than planned (43.41 €2009). This difference results from the combination of slightly lower than planned en-route costs in real terms (-0.1%, or -0.1 M€2009) and higher than planned TSUs (+3.6%).</p> <p>En-route service units The difference between actual and forecast TSUs (+3.6%) falls outside the ±2% dead band but within the ±10% boundaries of the alert threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues is therefore shared between the airspace users and the ATSP, the latter retaining an amount of +2.3 M€2009.</p> <p>Considering the STATFOR February 2018 traffic forecasts, actual TSUs are likely to remain higher than planned under all forecast scenarios for the rest of RP2. It is noteworthy that the TSUs forecast underpinning the RP2 en-route DUC targets for Norway was higher than the STATFOR February 2014 TSUs forecast <u>base</u> case scenario.</p> <p>En-route costs The 2017 actual en-route costs in real terms are slightly lower than planned (-0.1%), resulting from a combination of +1.9% higher than planned nominal en-route costs and +2.2 p.p. higher than planned 2017 actual inflation index.</p> <p>The lower than planned en-route costs in real terms are essentially driven by lower actual costs for the NSA/EUROCONTROL (-6.9%, or -0.6 M€2009). The MET service provider actual costs are also lower than planned (-9.1%, or -0.1 M€2009), while ATSP costs are higher than planned (+0.6%, or +0.6 M€2009). A detailed analysis of the ATSP (Avinor Flysikring) en-route costs is provided in box 12.</p> <p>In 2017, costs exempt from cost sharing are reported for a net amount of 10.8 M€2009 to be passed on to airspace users for the en-route activity. Of these, for the first time in RP2, an amount of 11.3 M€2009 is reported for the ATSP pension costs, while negative amounts (-0.1 M€2009 and -0.4 M€2009, respectively) are reported under the "changes in the taxation law" item and "International agreements" item (i.e. lower than planned costs for EUROCONTROL). These costs will be carried-over to the following reference period(s), if deemed eligible by the European Commission.</p>						

NORWAY: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) 5. En-route costs monitoring (2017 actuals compared to PP)

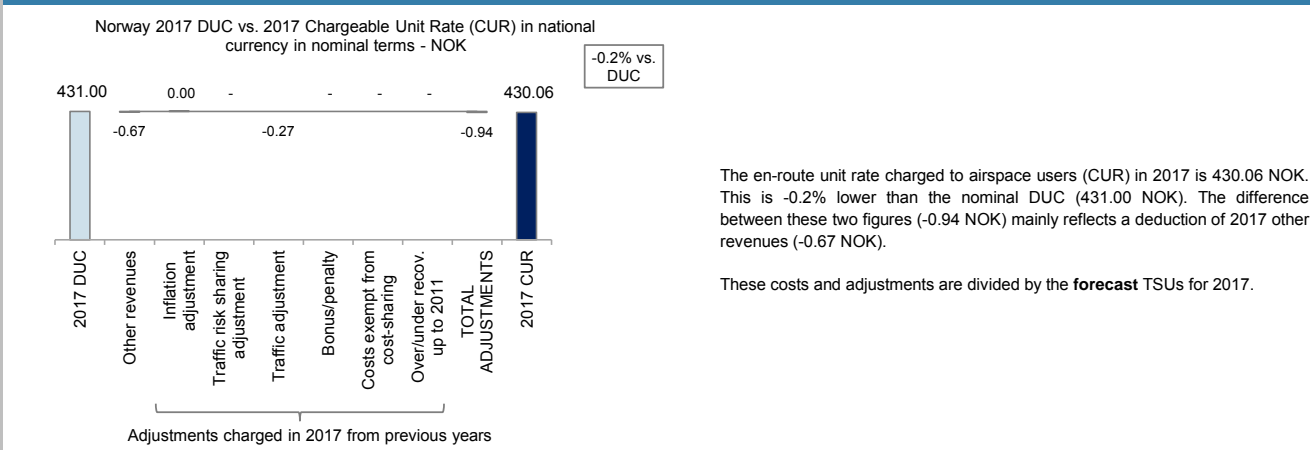


6. En-route costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	11 304		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	-107		
	New cost item required by law	0	0	0		
	International agreements	721	384	-403		
by entity	ATSP	0	0	11 197		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA/EUROCONTROL	721	384	-403		
Total costs exempt from cost sharing		721	384	10 794		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

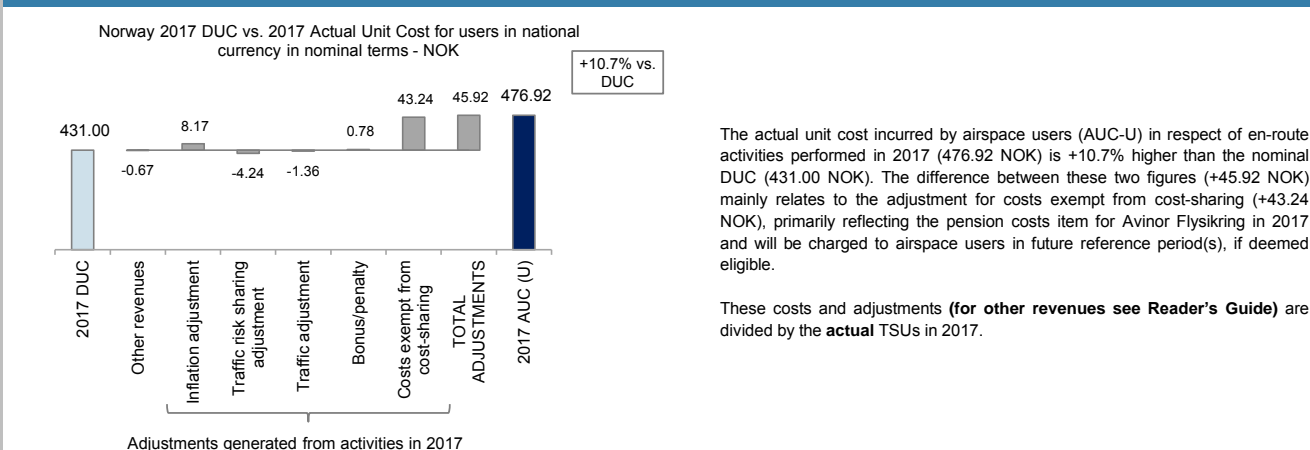
7. En-route DUC 2017 vs. 2017 Unit Rate charged to users



The en-route unit rate charged to airspace users (CUR) in 2017 is 430.06 NOK. This is -0.2% lower than the nominal DUC (431.00 NOK). The difference between these two figures (-0.94 NOK) mainly reflects a deduction of 2017 other revenues (-0.67 NOK).

These costs and adjustments are divided by the forecast TSUs for 2017.

8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of en-route activities performed in 2017 (476.92 NOK) is +10.7% higher than the nominal DUC (431.00 NOK). The difference between these two figures (+45.92 NOK) mainly relates to the adjustment for costs exempt from cost-sharing (+43.24 NOK), primarily reflecting the pension costs item for Avinor Flysikring in 2017 and will be charged to airspace users in future reference period(s), if deemed eligible.

These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TSUs in 2017.

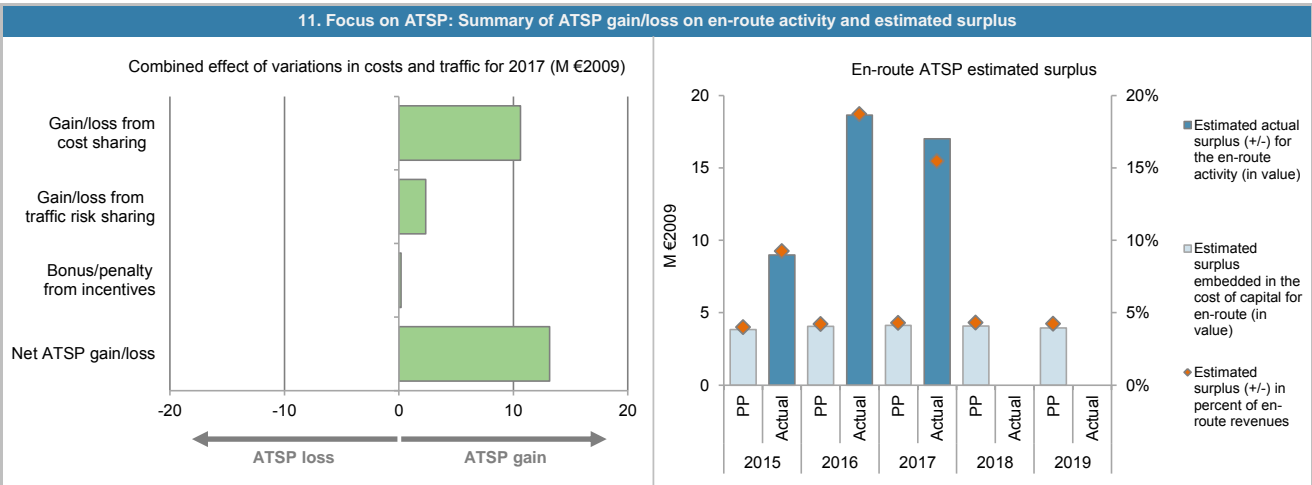
NORWAY: En-route ATSP (Avinor)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	96 046	96 703	96 257		
Actual costs for the ATSP	91 436	84 272	96 836		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	4 611	12 432	-578		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	11 197		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	4 611	12 432	10 618		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	1.1%	5.4%	3.6%		
Determined costs for the ATSP (PP) - based on actual inflation	96 045	94 655	94 403		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	1 092	2 851	2 342		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	195		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	5 703	15 282	13 155		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	87 373	92 744	94 221	93 175	89 787
Estimated proportion of financing through equity (in %)	40.2%	40.2%	40.2%	40.2%	40.2%
Estimated proportion of financing through equity (in value)	35 139	37 299	37 893	37 473	36 110
Estimated proportion of financing through debt (in %)	59.8%	59.8%	59.8%	59.8%	59.8%
Estimated proportion of financing through debt (in value)	52 234	55 445	56 327	55 702	53 677
Cost of capital pre-tax (in value)	6 640	7 049	7 161	7 081	6 824
Average interest on debt (in %)	5.4%	5.4%	5.4%	5.4%	5.4%
Interest on debt (in value)	2 810	2 983	3 030	2 997	2 888
Determined RoE pre-tax rate (in %)	10.9%	10.9%	10.9%	10.9%	10.9%
Estimated surplus embedded in the cost of capital for en-route (in value)	3 830	4 066	4 130	4 085	3 936
Overall estimated surplus (+/-) for the en-route activity	3 830	4 066	4 130	4 085	3 936
Revenue/costs for the en-route activity	96 046	96 703	96 257	94 931	93 126
Estimated surplus (+/-) in percent of en-route revenues	4.0%	4.2%	4.3%	4.3%	4.2%
Estimated ex-ante RoE pre-tax rate (in %)	10.9%	10.9%	10.9%	10.9%	10.9%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	74 631	76 451	87 803		
Estimated proportion of financing through equity (in %)	40.2%	40.2%	40.2%		
Estimated proportion of financing through equity (in value)	30 015	30 746	35 312		
Estimated proportion of financing through debt (in %)	59.8%	59.8%	59.8%		
Estimated proportion of financing through debt (in value)	44 617	45 704	52 491		
Cost of capital pre-tax (in value)	5 672	5 810	6 673		
Average interest on debt (in %)	5.4%	5.4%	5.4%		
Interest on debt (in value)	2 400	2 459	2 824		
Determined RoE pre-tax rate (in %)	10.9%	10.9%	10.9%		
Estimated surplus embedded in the cost of capital for en-route (in value)	3 272	3 351	3 849		
Net ATSP gain(+)/loss(-) on en-route activity	5 703	15 282	13 155		
Overall estimated surplus (+/-) for the en-route activity	8 974	18 634	17 004		
Revenue/costs for the en-route activity	97 138	99 554	109 991		
Estimated surplus (+/-) in percent of en-route revenues	9.2%	18.7%	15.5%		
Estimated ex-post RoE pre-tax rate (in %)	29.9%	60.6%	48.2%		

NORWAY: En-route ATSP (Avinor)

Monitoring of en-route COST-EFFICIENCY for 2017



12. Focus on en-route ATSP: General conclusions

Actual 2017 Avinor Flysikring en-route costs vs. PP

In 2017, Avinor Flysikring actual en-route costs, in real terms, are +0.6% (+0.6 M€2009) higher than planned. According to the June 2018 reporting tables, this results from the combination of:

- Higher than planned staff costs (+6.7%, or +4.4 M€2009), mainly due to "significant changes in assumptions for the pension obligation calculated to 114 MNOK for En-Route services. Other staff cost increase is related to increase in wages and pension cost due to changes in external factors such as interest rates and life expectancy, which also increase pension cost. The continuous focus and thorough follow-up on cost efficiency initiatives, both in operations and in administration cost, continue to have a positive impact on staff and operating cost";
- Higher than planned other operating costs (+1.1%, or +0.2 M€2009);
- Lower than planned depreciation costs (-36.1%, or -3.5 M€2009), mainly due to "a capex underspending and a later date of capitalisation than previously expected"; and,
- Lower than planned cost of capital (-6.8%, or -0.5 M€2009), due to lower than planned CAPEX (see above).

Avinor Flysikring net gain/loss on en-route activity in 2017

As shown in box 9, AVINOR generated a net gain of +13.2 M€2009 from the 2017 en-route activity. This is a combination of three elements:

- a gain of +10.6 M€2009 arising from the cost-sharing mechanism, essentially driven by the reported costs exempt from cost sharing (a loss of -0.6 M€2009 would be recorded without the impact of the 2017 reported costs exempt for the ATSP);
- a gain of +2.3 M€2009 arising from the traffic risk-sharing mechanism; and,
- a gain of +0.2 M€2009, corresponding to a bonus eligible for payment to Avinor Flysikring as part of the capacity target incentive mechanism. This amount corresponds to 0.2% of Avinor Flysikring en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs (391.25 NOK * 2 526 846 TSUs * 0.2% = 1 977 235 NOK)). The inclusion of this bonus in the 2019 chargeable cost base will be examined by the European Commission as part of the compliance review of the 2019 unit rates.

Avinor Flysikring 2017 overall estimated surplus for the en-route activity

Ex-post, the 2017 overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+13.2 M€2009) and the surplus embedded in the actual cost of capital (+3.8 M€2009) amounts to +17.0 M€2009 (15.5% of the 2017 en-route revenues). The resulting 2017 ex-post rate of return on equity is 48.2%, which is significantly higher than the 10.9% planned for 2017.

NORWAY: Terminal charging zone

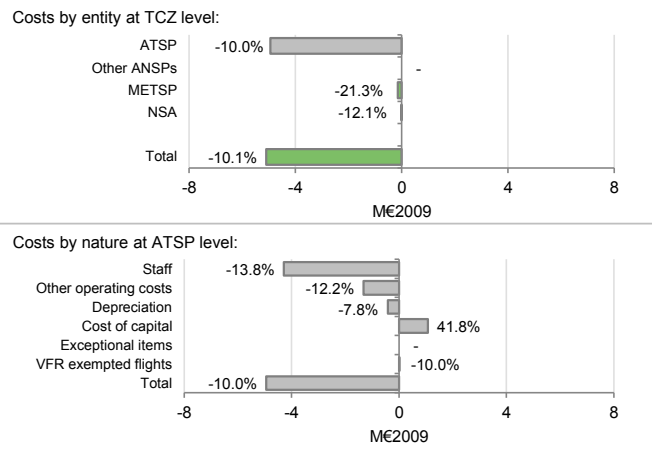
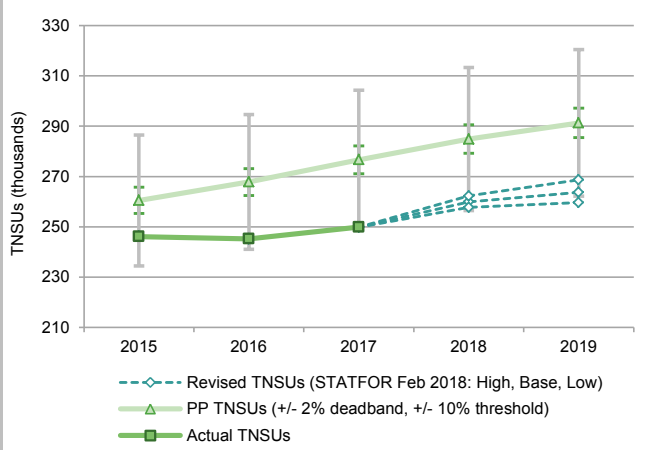
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services						
· Norway TCZ represents 4.7% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes		
· ATSP:	Avinor	· Airports with fewer than 70,000 IFRs ATMs:		1		
· National currency:	NOK	· Airports with between 70,000 and 225,000 IFRs ATMs:		2		
· Number of airports in charging zone in 2017:	4,	of which:	· Airports with more than 225,000 IFRs ATMs:	1		
2. Terminal DUC monitoring at Charging Zone level						
Norway: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal NOK)		498 031 263	495 968 632	500 784 828	505 570 149	510 317 178
Inflation %		1.6%	1.7%	2.1%	2.5%	2.5%
Inflation index (100 in 2009)		109.5	111.4	113.7	116.6	119.5
Real terminal costs (NOK2009)		454 623 534	445 172 743	440 250 417	433 616 871	427 012 974
Total terminal Service Units		260 503	267 818	276 677	284 877	291 330
Real terminal unit cost per Service Unit (NOK2009)		1 745.18	1 662.22	1 591.21	1 522.12	1 465.74
Real terminal unit cost per Service Unit (EUR2009)		199.95	190.45	182.31	174.39	167.93
Norway: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal NOK)		454 600 144	461 305 825	458 964 741		
Inflation %		2.0%	3.9%	1.9%		
Inflation index (100 in 2009)		109.5	113.8	116.0		
Real terminal costs (NOK2009)		414 973 022	405 287 944	395 712 606		
Total terminal Service Units		246 093	245 182	249 825		
Real terminal unit cost per Service Unit (NOK2009)		1 686.24	1 653.01	1 583.96		
Real terminal unit cost per Service Unit (EUR2009)		193.20	189.39	181.48		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
Terminal costs (nominal NOK)		in value		-43 431 119	-34 662 807	-41 820 086
		in %		-8.7%	-7.0%	-8.4%
Inflation %		in p.p.		0.4 p.p.	2.2 p.p.	-0.2 p.p.
Inflation index (100 in 2009)		in p.p.		0.0 p.p.	2.4 p.p.	2.2 p.p.
Real terminal costs (NOK2009)		in value		-39 650 512	-39 884 799	-44 537 811
		in %		-8.7%	-9.0%	-10.1%
Total terminal Service Units		in value		-14 410	-22 636	-26 852
		in %		-5.5%	-8.5%	-9.7%
Real terminal unit cost per Service Unit (NOK2009)		in value		-58.93	-9.21	-7.25
		in %		-3.4%	-0.6%	-0.5%
Real terminal unit cost per Service Unit (EUR2009)		in value		-6.75	-1.06	-0.83
		in %		-3.4%	-0.6%	-0.5%
3. Focus on terminal at State/Charging Zone level						
<p>This analysis focuses on Norway Terminal Charging Zone comprising 4 airports (Bergen/Flesland, Oslo/Gardermoen, Stavanger/Sola and Trondheim/Vaernes), for which the traffic risk sharing applies.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (181.48 €2009) is -0.5% lower than planned (182.31 €2009). This difference results from the combination of lower than planned terminal costs in real terms (-10.1%, or -5.1 M€2009) and lower than planned TNSUs (-9.7%).</p> <p>Terminal service units The difference between actual and planned TNSUs (-9.7%) falls outside the ±2% dead band, but is within the ±10% boundaries of the alert threshold foreseen in the traffic risk-sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ATSP and the airspace users, with the loss borne by the ATSP amounting to -2.1 M€2009.</p> <p>Considering the STATFOR February 2018 traffic forecasts, it appears that the TNSUs are likely to remain significantly lower than planned throughout RP2.</p> <p>Terminal costs In real terms, the 2017 actual terminal costs are -10.1% lower than planned (-44.5 M€2009, or -5.1 M€2009), and -8.4% in nominal terms as the 2017 actual inflation index is +2.2 p.p. above plans.</p> <p>The lower than planned terminal costs in real terms are mainly driven by the ATSP/Avinor Flysikring (-10.0%, or -4.9 M€2009). The costs for the MET SP (-21.3%, or -0.1 M€2009) and NSA (-12.1%, or -0.01 M€2009) are also lower than planned. A detailed analysis of Avinor Flysikring terminal costs is provided in box 12.</p> <p>Although in 2017 costs exempt from cost sharing are reported for en-route under the pension costs item for Avinor Flysikring, no costs exempt from cost-sharing are reported for Norway TCZ.</p>						

NORWAY: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)



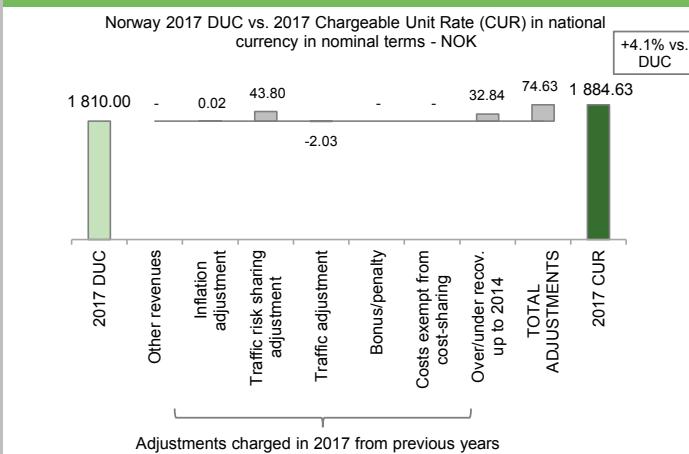
6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		

Total costs exempt from cost sharing 0 0 0

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

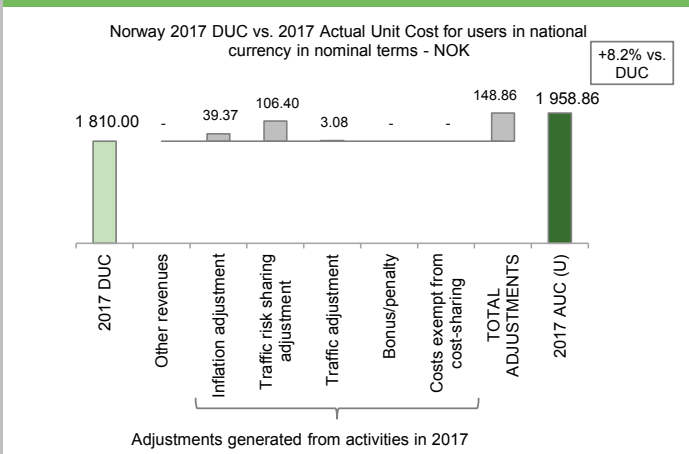
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The terminal unit rate charged to airspace users (CUR) in 2017 is 1 884.63 NOK, which is +4.1% higher than the nominal DUC (1 810.00 NOK). The difference between these two figures (+74.63 NOK) relates mainly to the traffic risk sharing adjustment (+43.80 NOK) and the amount carried-over from previous years (+32.84 NOK) and charged to airspace users in 2017.

These costs and adjustments are divided by the forecast TNSUs for 2017.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of terminal activities performed in 2017 (1 958.86 NOK) is +8.2% higher than the nominal DUC (1 810.00 NOK). The most important factors contributing to the observed difference (+148.86 NOK) are the inflation adjustment (+39.37 NOK) and the traffic risk sharing adjustment (+106.40 NOK) reflecting the loss in revenues due to lower than planned traffic in 2017, which will be charged to airspace users in 2019.

These costs and adjustments are divided by the actual TNSUs in 2017.

NORWAY: Terminal ATSP (Avinor)

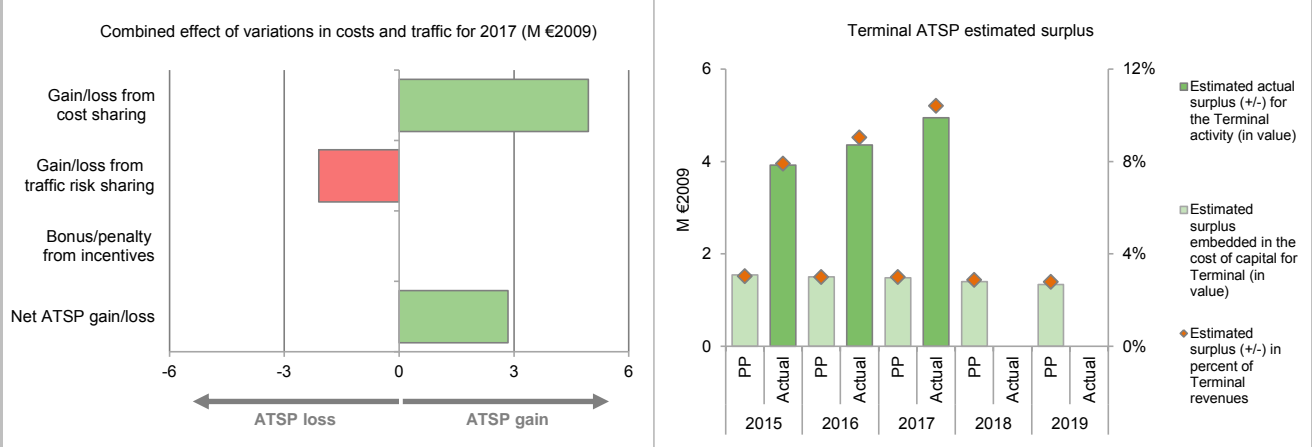
Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	51 271	50 195	49 642		
Actual costs for the ATSP	46 672	45 826	44 698		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	4 599	4 370	4 943		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	4 599	4 370	4 943		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-5.5%	-8.5%	-9.7%		
Determined costs for the ATSP (PP) - based on actual inflation	51 270	49 132	48 685		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-1 569	-1 934	-2 099		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	3 031	2 436	2 844		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	35 326	34 239	33 818	31 947	30 459
Estimated proportion of financing through equity (in %)	40.2%	40.2%	40.2%	40.2%	40.2%
Estimated proportion of financing through equity (in value)	14 214	13 776	13 607	12 854	12 256
Estimated proportion of financing through debt (in %)	59.8%	59.8%	59.8%	59.8%	59.8%
Estimated proportion of financing through debt (in value)	21 112	20 463	20 211	19 093	18 204
Cost of capital pre-tax (in value)	2 685	2 602	2 570	2 428	2 315
Average interest on debt (in %)	5.4%	5.4%	5.4%	5.4%	5.4%
Interest on debt (in value)	1 136	1 101	1 087	1 027	979
Determined RoE pre-tax rate (in %)	10.9%	10.9%	10.9%	10.9%	10.9%
Estimated surplus embedded in the cost of capital for terminal (in value)	1 549	1 501	1 483	1 401	1 336
Overall estimated surplus (+/-) for the terminal activity	1 549	1 501	1 483	1 401	1 336
Revenue/costs for the terminal activity	51 271	50 195	49 642	48 895	48 151
Estimated surplus (+/-) in percent of terminal revenues	3.0%	3.0%	3.0%	2.9%	2.8%
Estimated ex-ante RoE pre-tax rate (in %)	10.9%	10.9%	10.9%	10.9%	10.9%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	20 412	43 834	47 954		
Estimated proportion of financing through equity (in %)	40.2%	40.2%	40.2%		
Estimated proportion of financing through equity (in value)	8 213	17 637	19 295		
Estimated proportion of financing through debt (in %)	59.8%	59.8%	59.8%		
Estimated proportion of financing through debt (in value)	12 199	26 197	28 659		
Cost of capital pre-tax (in value)	1 551	3 331	3 644		
Average interest on debt (in %)	5.4%	5.4%	5.4%		
Interest on debt (in value)	656	1 409	1 542		
Determined RoE pre-tax rate (in %)	10.9%	10.9%	10.9%		
Estimated surplus embedded in the cost of capital for terminal (in value)	895	1 922	2 103		
Net ATSP gain(+)/loss(-) on terminal activity	3 031	2 436	2 844		
Overall estimated surplus (+/-) for the terminal activity	3 926	4 358	4 947		
Revenue/costs for the terminal activity	49 702	48 262	47 543		
Estimated surplus (+/-) in percent of terminal revenues	7.9%	9.0%	10.4%		
Estimated ex-post RoE pre-tax rate (in %)	47.8%	24.7%	25.6%		

NORWAY: Terminal ATSP (Avinor)

Monitoring of terminal COST-EFFICIENCY for 2017

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 Avinor Flysikring terminal costs in Norway TCZ vs. PP

In 2017, Avinor Flysikring actual terminal costs, in real terms, are -10.0% (or -4.9 M€2009) lower than planned. According to the June 2018 terminal ANS reporting tables, this is due to:

- Lower than planned staff costs (-13.8%, or -4.3 M€2009), due to "thorough follow-up on cost efficiency initiatives both in operations and in administration continue to have a positive impact on staff and operating cost in 2017 compared to PP. Reduced operating cost related to the T2 project in Oslo and T3 project in Bergen."
- Lower than planned operating costs (-12.2%, or -1.3 M€2009), mainly due to "the cost efficiency focus as described above."
- Lower than planned depreciation costs (-7.8%, or -0.4 M€2009), understood to be due to a capex underspending in previous years and a later date of capitalisation than previously expected.
- Higher than planned cost of capital (+41.8%, or +1.1 M€2009), due to a significantly higher than planned asset base in real terms (+41.8%, or +14.1 M€2009) mainly driven by new investments at Oslo airport.

Avinor Flysikring 2017 net gain/loss on terminal activity in Norway TCZ

As shown in box 9, the terminal activity generated a net gain of +2.8 M€2009 in 2017. This is a combination of two elements:

- a gain of +4.9 M€2009 as a result of the cost-sharing mechanism; and,
- a loss of -2.1 M€2009 as a result of traffic risk-sharing mechanism.

Avinor Flysikring 2017 overall estimated surplus for the terminal activity in Norway TCZ

Ex-post, the 2017 overall estimated surplus taking into account the net gain from the terminal activity mentioned above (+2.8 M€2009) and the surplus embedded in the actual cost of capital (+2.1 M€2009) amounts to +4.9 M€2009 (10.4% of the 2017 terminal revenues). The resulting 2017 ex-post rate of return on equity is 25.6%, which is significantly higher than the 10.9% planned.

NORWAY: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs						
Norway: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		105 311 350	106 198 070	105 880 918	104 617 168	102 873 135
Real terminal costs (EUR2009)		52 087 522	51 004 717	50 440 752	49 680 728	48 924 101
Real gate-to-gate costs (EUR2009)		157 398 872	157 202 787	156 321 670	154 297 896	151 797 235
En-route share (%)		66.9%	67.6%	67.7%	67.8%	67.8%
Norway: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		101 306 105	93 857 472	105 778 843		
Real terminal costs (EUR2009)		47 544 649	46 435 002	45 337 928		
Real gate-to-gate costs (EUR2009)		148 850 754	140 292 473	151 116 770		
En-route share (%)		68.1%	66.9%	70.0%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	-8 548 118	-16 910 313	-5 204 900		
	in %	-5.4%	-10.8%	-3.3%		
En-route share	in p.p.	1.2 p.p.	-0.7 p.p.	2.3 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs are -3.3% (-5.2 M€2009) lower than planned mainly due to the lower than planned terminal costs (-10.1%, or -5.1 M€2009) while 2017 actual en-route costs are very close to plans (-0.1%, or -0.1 M€2009).

The actual share of en-route in gate-to-gate ANS costs (70.0%) is +2.3 p.p. higher than in the PP for 2017 (67.7%).

For Avinor Flysikring, the estimated gate-to-gate economic surplus in 2017 amounts to 22.0 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 13.9% of the 2017 gate-to-gate ANS revenues.

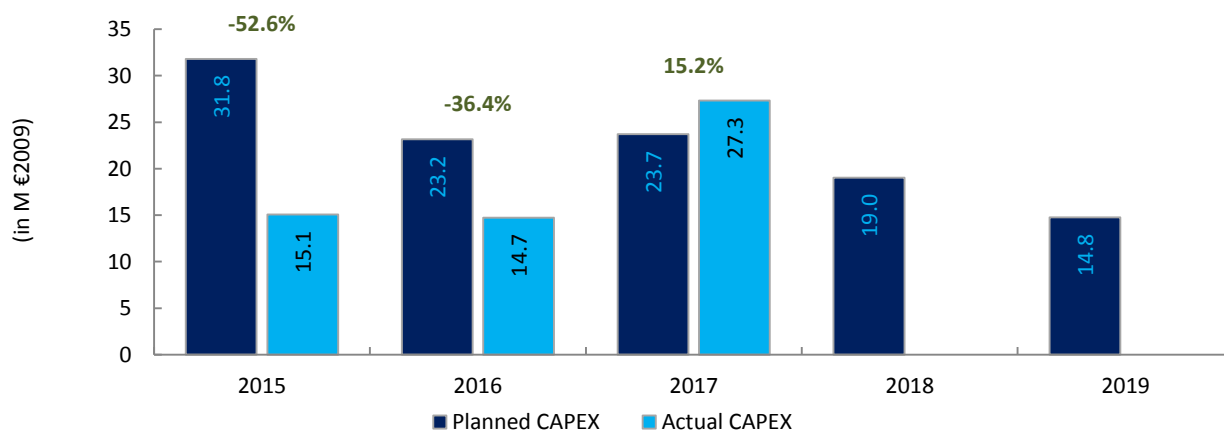
Year	Type	En-route (%)	Terminal (%)
2015	Determined	66.9%	33.1%
	Actual	68.1%	31.9%
2016	Determined	67.6%	32.4%
	Actual	66.9%	33.1%
2017	Determined	67.7%	32.3%
	Actual	70.0%	30.0%
2018	Determined	67.8%	32.2%
	Actual	67.8%	32.2%
2019	Determined	67.8%	32.2%
	Actual	67.8%	32.2%

3. Technical notes on en-route and terminal information reported by Norway

NORWAY

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: Avinor						
FAB: NEFAB						
Currency: NOK						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	304.0	225.4	235.6	193.6	154.1	1 112.5
Main CAPEX (in nominal M)	304.0	225.4	235.6	193.6	154.1	1 112.5
Inflation %	1.6%	1.7%	2.1%	2.5%	2.5%	
Inflation index (100 in 2009)	109.5	111.4	113.7	116.6	119.5	
Exchange rate 2009	8.72807	8.72807	8.72807	8.72807	8.72807	
Total CAPEX (in M €2009)	31.8	23.2	23.7	19.0	14.8	112.5
Main CAPEX (in M €2009)	31.8	23.2	23.7	19.0	14.8	112.5
% Main of Total CAPEX	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Real gate-to-gate ANSP costs (in M €2009)	147.3	146.9	145.9	143.8	141.3	725.2
Total CAPEX as % of Real gate-to-gate ANSP costs	21.6%	15.8%	16.3%	13.2%	10.5%	15.5%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	144.2	146.3	276.7			
Main CAPEX (in nominal M)	144.2	146.3	265.3			
Inflation %	2.0%	3.9%	1.9%			
Inflation index (100 in 2009)	109.5	113.8	116.0			
Exchange rate 2009	8.72807	8.72807	8.72807			
Total CAPEX (in M €2009)	15.1	14.7	27.3			
Main CAPEX (in M €2009)	15.1	14.7	26.2			
% Main of Total CAPEX	100.0%	100.0%	95.9%			
Real gate-to-gate ANSP costs (in M €2009)	138.1	130.1	141.5			
Total CAPEX as % of Real gate-to-gate ANSP costs	10.9%	11.3%	19.3%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-159.9	-79.0	41.1			
Total CAPEX (in M €2009)	-16.7	-8.4	3.6			
Total CAPEX (in %, M €2009)	-52.6%	-36.4%	15.2%			



Annual Monitoring Report 2017
Local level view
SOUTH WEST FAB

SW FAB

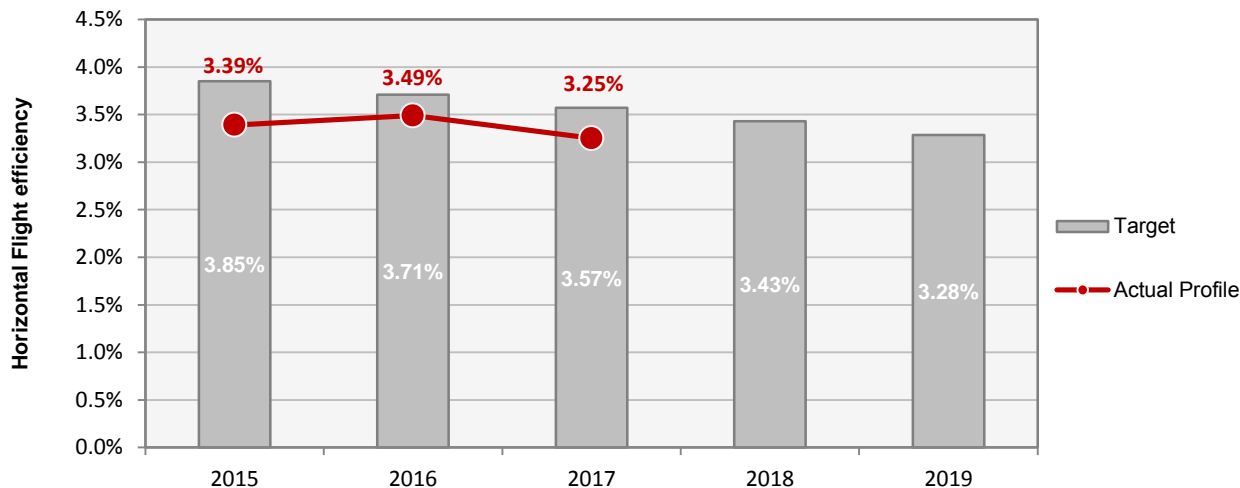
Monitoring of SAFETY for 2017

Effectiveness of Safety Management							
			2015 Value	2016 Value	2017 Value	2018 Value	2019 Target
Union-wide targets	at State level	For all MOs					C
	at ANSP level	For Safety Culture MO					C
		For all other MOs					D
FAB level	States / Regulatory authorities	For all MOs	A	A	B		
	ANSPs	For Safety Culture MO	C	C	C		
	ANSPs	For all other MOs	D	D	D		
Application of the severity classification of the Risk Analysis Tool (RAT)							
Ground Score			2015 Value	2016 Value	2017 Target	2018 Value	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%		100%
	Runway Incursions (RIs)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	100%	100%		
	Runway Incursions (RIs)		100%	100%	100%		
Overall Score			2015 Value	2016 Value	2017 Target	2018 Target	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%	>= 80%	>= 80%
	Runway Incursions (RIs)				>= 80%	>= 80%	>= 80%
	ATM Specific Occurrences (ATM-S)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		39%	54%	79%		
	Runway Incursions (RIs)		7%	26%	61%		
	ATM Specific Occurrences (ATM-S)		27%	23%	66%		
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)							
Observations							
The lowest level in all EoS M Component/area of the States is Level B which is below the 2019 EoS M target level. All components are at this level.							

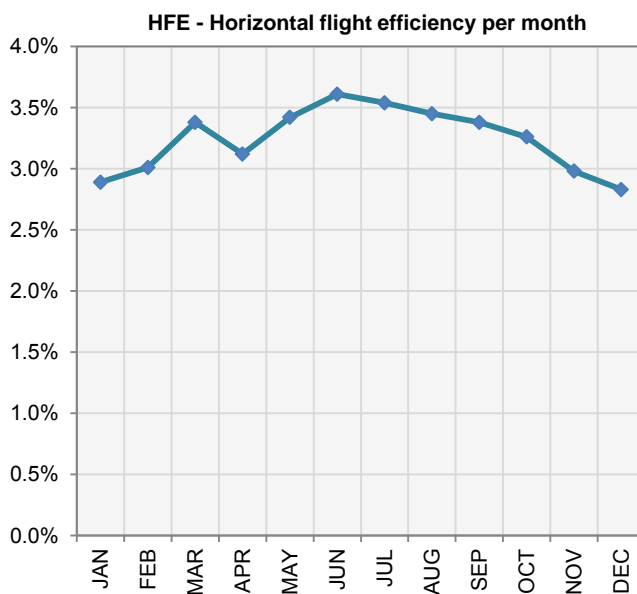
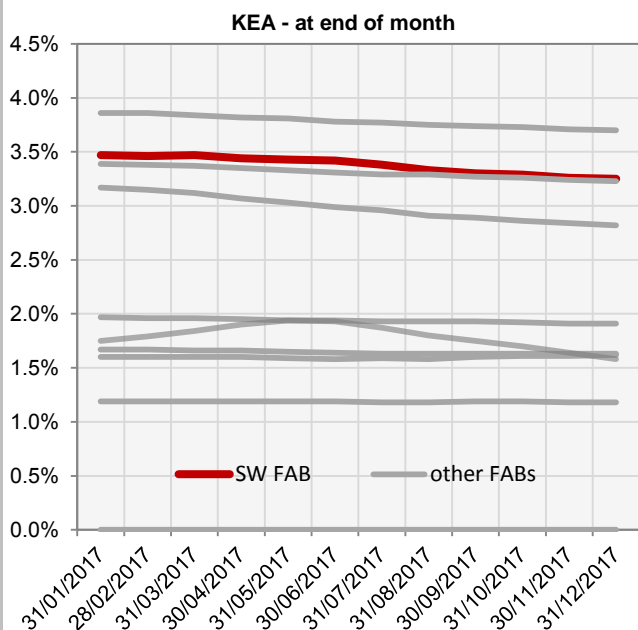
SW FAB

Monitoring of ENVIRONMENT for 2017

KEA					
	2015	2016	2017	2018	2019
FAB Target	3.85%	3.71%	3.57%	3.43%	3.28%
Actual performance	3.39%	3.49%	3.25%		



Monthly KEA and HFE evolution in 2017												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA (at end of month)	3.47%	3.46%	3.47%	3.44%	3.43%	3.42%	3.38%	3.33%	3.30%	3.29%	3.26%	3.25%
HFE	2.89%	3.01%	3.38%	3.12%	3.42%	3.61%	3.54%	3.45%	3.38%	3.26%	2.98%	2.83%



HFE refers to the ratio of flown distance and achieved distance over all (portions of) trajectories in the month, while KEA is the ratio 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.

Corrective measures applied, as reported by the FAB

Although a great part of the accountability for the accomplishment of KEA values remains within the Airspace Users remit, the following measures are implemented/planned by ENAIRE and should contribute to its reduction during the rest of the RP2 period (coherent with NOP 17/19-21 and NOP 18/19-22):

Implemented:

- The implementation (2017) of direct routes (published in the RAD) will offer more flexible options to the users.
- Analysis of the RAD reroutings, based on their impact on Environment.
- Increase of DCTs authorizations in tactical phase

Planned:

- Implementation of FRA in Madrid/Lisboa/Brest area (2018-2019).
- Implementation of DCTs (InterFir) (2018).
- Continuous implementation of Flexible Use of Airspace (FUA), improving civil-military coordination to allow more flexible options for users, through increased availability of routes affected by military activity, implementation and modification of routes through Military zones and the optimization of these to allow tracing more direct routes.

In the case of Portugal, as free route is in operation since 2009, flight efficiency initiatives are being implemented at Terminal airspace level. In order to further reduce fuel burn, gaseous emissions, noise and fuel costs, CDO procedures were implemented in our major airports allowing users to follow flexible and optimum flight paths that deliver major environmental benefits. Additional benefits are foreseen by improving the network with planned cross-border initiatives at an Inter-FAB level (FABEC airspace) and third countries (Casablanca free route project extension).

Observations

NM recommendations (ERNIP 2018, Part 2):

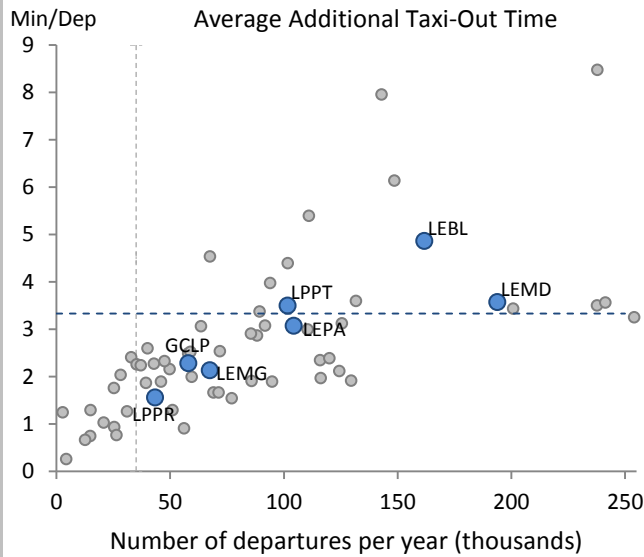
In order to meet the European target, cross-border FRA projects implementation must be considered for the entire SW FAB.

The interface between SW FAB, FABEC needs to be addressed with priority.

1. Overview

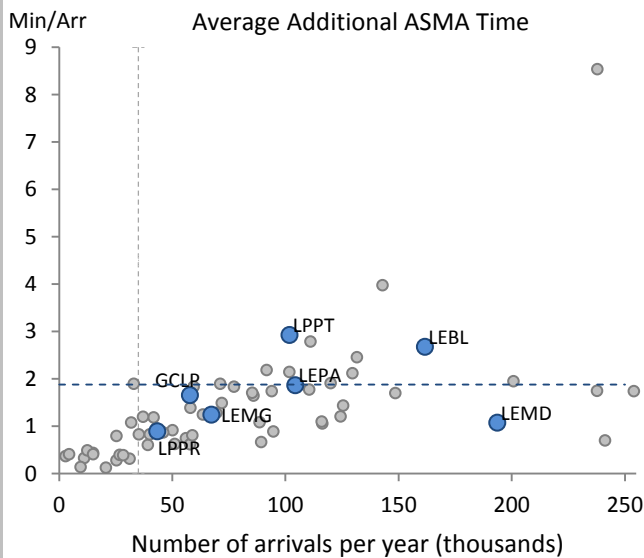
SW FAB states identify a total of 15 airports as subject to RP2 monitoring. However, only the busiest 7 have established the proper reporting through the airport data flow to allow such monitoring. Member States shall empower the respective airport reporting entity to establish the airport operator data flow and/or address the remaining data issues. In general terms, the environmental performance indicators in the SW FAB airports are commensurate with their levels of traffic, with Madrid showing in addition very good values together with some of the busiest airports in Europe.

2. Additional Taxi-Out Time



According to the available data, only 3 airports (LEBL, LEMD and LPPT) within SW FAB area have additional taxi-out times above the average of airports in RP2 in 2017 (3.33 min/dep.).

3. Additional ASMA Time



Regarding additional time in terminal airspace, only Lisbon (LPPT) and Barcelona (LEBL) sit above the RP2 average (1.89 min/arr.), while Madrid has remarkably low additional ASMA times given its traffic. Lisbon, on the other hand, has one of the highest additional times in Europe.

Minutes of ATFM en-route delay						Observations
	2015	2016	2017	2018	2019	
FAB Reference Value	0.30	0.31	0.31	0.30	0.30	
FAB Target	0.30	0.31	0.31	0.30	0.30	
Actual performance	0.46	0.42	0.40			

SW FAB assessment of capacity performance

SW FAB improved the "ATFM en-route delay" compared to 2016 with a high increase of traffic of 6.7% and a high reduction of "Capacity ATC" delay near 10%. Furthermore, the improvement of ATFM en-route delay was negatively impacted due to unexpected meteorological events that increased the weather delays above 75%. It is necessary to bear in mind that the traffic forecasts set in 2014 for the preparation of the SOWEPP are overwhelmed with the current traffic figures, so the delay objectives set are based on values that are completely out of date.

In the case of Spain, although its contribution (0.35) was above the contribution value expected (0.28) in 2017, an improvement of 5% was achieved comparing to 2016 and ATC Capacity causes were reduced by a 10% (specially in the most constraining ACCs, with an improvement of 17% in Barcelona ACC and of 23% in Canarias ACC). The ATFM en-route delay related to meteorology duplicated its impact in 2017, representing almost 20% of the total ATFM en-route delay of Spain. This delay was mainly located in Barcelona ACC (almost 80% of the total weather delay) and was generated during the months with more traffic demand (Summer). Without taking into account weather delays, the ATFM en-route delay of 2017 improves 9.3% compared to 2016. The result taking weather delay out in 2017 is 0.28.

2017 Capacity planning was carried out by ENAIRE in accordance with the framework agreed with the Network Manager for the Summer of 2017. Capacity increases achieved in 2017 for the Spanish Control Centres complied with those required by the Network Manager with the exception of Barcelona. In the ACCs of Madrid, Canarias and Sevilla the traffic increments above forecasted were compensated by important capacity increases greater than the NOP planned increases. Leading to the accomplishment of the corresponding reference values. For Palma ACC, although capacity was increased as planned in the NOP, it was not enough to cope with the traffic increase.

ENAIRE obtained a significantly lower result (-60.3%) with respect to the result of the European average en-route ATFM delay per flight (EUROCONTROL area) for 2017 (0.88).

Part of the minutes of ATFM delay were reassigned after the application of the Post-Ops process by the Network Manager (mainly those associated with strikes in France, which represented more than 30 000 minutes).

In the case of Portugal, Lisbon FIR, the ATFM delay per flight (0.19 min/flight) improved again although it was registered a 9.5% increase of traffic, higher than the High traffic forecast of +9.1% (EUROCONTROL Seven Year forecast, February 2017), and significantly higher than the EUROCONTROL Seven Year forecast, September 2016 high forecast (+5.7%). Since the beginning of RP2 Lisbon FIR traffic growth was 28% which has forced NAV Portugal to implement a corrective Plan in collaboration with the NM, to contain the delays assuming NAV Portugal the inherent costs of those measures. For the remaining years of RP2 capacity increases will be subject to the acceptance by the EU of a revised Performance Plan, in order to allow an increase in costs to deliver the necessary capacity to cope with the unexpected increase in traffic.

During 2017, nearly half of the total ATFM delays (45%), was due to ATM equipment mainly in on single day in March. Without considering that unexpected ATM equipment situation Lisbon FIR could have accomplished with the ATFM delay target of 0.14 min/flight, which demonstrates the operational effectiveness of the corrective measures applied in collaboration with the NM.

Monitoring process for capacity performance

The Monitoring Process has been streamlined to be more efficient. The en-route delay indicator was monitored against the FAB level target during 2017 on a monthly basis against an alert mechanism in the context of the RP2 SOWEPP Monitoring Process. Issues were identified in midyear, OB (body within the SW FAB structure that represent the ANSPs) was consulted for reasons and set out corrective measures.

After the FAB level answer was received, AESA and ANAC continued a National level monitoring contacting each corresponding ANSP.

AESA identified after analysing the data versus the alerts and the information made available by ENAIRE that the target was not going to be met by the end of the year. Consequently, in compliance to Regulation (EU) No 390/2013 Article 18.4, AESA submitted a notification to the EC in October analysing the situation and providing information about:

- An insight of how the implementation of planned activities were affecting performance;
- Information on unscheduled activities that finally contributed to a better performance by the end of the year;
- A preview of some measures to come that would focus on elements to be improved.

The overall conclusion was that the set of measures deployed would not be sufficient to meet the Spain target by the end of the year, which ended up being true. Causes for not meeting the target, identified in the letter sent to the CE, have finally been confirmed: difficulties to identify the actual capacity impact of measures (especially regarding ACC Barcelona) together with the unusual occurrence of weather events and overall traffic above forecast. However, the efforts made by ENAIRE helped mitigating the impact by the end of the year and have introduced a progressive positive effect.

Application of Corrective Measures for Capacity

The measures adopted by Spain within the Capacity Plan in 2017 in order to reduce delay figures specially addressed the most constrained sectors. The main corrective measures applied were:

- ALL ACCs:

Technical availability of AGDL ATN and pseudo-tracks in Peninsula and Baleares; STAM implementation; Implantation of DCTs published; Update of Automated System (SACTA)

- BARCELONA ACC:

Increment of Maximum Sector Capacity (PONEN); SOPs for ENR coordination; Review/Increment of en route sector capacity

- PALMA ACC:

Redesign of internal procedures to manage LEIB arrivals and departures; New procedures RNAV1 (SID/STAR) in LEIB; Approach procedures in LEPA – RWY06L, 24L/R, A-CDM Implantation in Palma de Mallorca (LEPA)

- CANARIAS ACC:

Advanced Tower in Gran Canaria (GCLP) and Tenerife Sur (GCTS);

After 2 consecutive years of significant high increase of traffic, 2015 and 2016, at the beginning of 2017 with the joint preparation with the NM of the new NOP edition, it was pointed out that the traffic trend would continue to pressure capacity delivery and only a systemic approach would improve the capacity target. Consequently, NAV Portugal and the NM worked together to define and agree on the mitigation plan for 2017, 2018 and 2019.

As a result of the NM/NAV Portugal collaboration it was agreed to anticipate for 2017 the measures prescribed until 2019 in the last version of NOP 2017-2021, as the necessary ones to address the capacity shortfall:

- Implementation of advanced ATFCM techniques (STAM) in cooperation with NM. NAV Portugal in collaboration with the NM has successfully deployed the enhanced ATFCM procedures including STAM;

- Re-sectorisation actions, including vertical split of sectors (South Sector). NAV Portugal has concluded the vertical split of South sector during the second half of 2017, one of the most constrained sectors during winter time which resulted in increased capacity in Lisbon ACC;

- Recruitment and availability of ATCOs to ensure optimised sector opening schemes aligned to the traffic demand. NAV Portugal has already initiated a new admission program that will impact mainly 2019 and RP3.

- Availability of ATCOs to open up to 9-11 sectors. During summer 2017 Lisbon ACC opened up to 12 sectors to respond to peak traffic demand.

During the second half of 2017, NAV Portugal has deployed a large majority of these actions with a positive impact in capacity. According with the NM, 2017 shows a significant increase in capacity of around 13%.

Capacity Planning

A Capacity Plan was developed and agreed by Spain in conjunction with the Network Manager in the context of the Network Operations Plan 2018-2019/22, taking into account that the main contributors to the Spanish ATFM en-route delays are the ACCs of Barcelona and Canarias. The main elements of this Capacity Plan with impact in the Summer of 2018 and 2019 are:

- ALL ACCs:

Update of Automated System; Optimisation of configurations and sector capacities; Progressive increase of controller staff (especially in the centres with greater needs); STAM implementation; Implementation of DCTs (InterFir); new flow control measures.

- BARCELONA ACC:

Redesign of TMA (LEBL Arrivals, RNAV-1 transition); Interfaces with Bordeaux and Marseille; FUA improvements; Staff increase; Sectorization improvements (UM985, BALSE).

- CANARIAS ACC:

Increased and optimized sectorization (implantation of 2 cores; splitting of NE sector); Redesign of the TMA.

- MADRID ACC:

New sectorization and interface with Bordeaux (BAMBI); Redesign of TMA (simultaneous independent approaches to Barajas);

- PALMA ACC:

Improvements in the procedures of departures/arrivals in Palma airport; Redesign of the TMA; Staff increase; Improvement of taxi sector (OR GMC-C in LEPA);

- SEVILLA ACC:

Redesign of the TMA; Splitting of LECSSEV; Staff Increase

In the case of Portugal, NAV Portugal is working in close collaboration with Portuguese NSA – ANAC - and EC/PRB in order to revise its Performance Plan for the remaining years of RP2, in order to allow an increase in capacity to cope with unexpected increase in traffic. The process is to be concluded in 2018 and if positively assessed by the PRB, the capacity plan and maximum configuration to be open could be aligned with the NOP capacity requirements, based on the current traffic prediction from STATFOR (September 2017).

Assessment of Capacity Performance

It is noted that SW FAB failed to achieve their en-route capacity target in 2017, following a similar result in 2016. It is noted that traffic increased by approximately 7% on 2016 levels, which were an increase of 8% on 2015 levels. In 2017, SW FAB already handled 3% more traffic than forecast (in 2014) for the high traffic scenario at the end of RP2 (2019). SW FAB has experienced a 19% increase in traffic since the beginning of RP2.

EUROCONTROL 7 year forecast February 2014 – SW FAB										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	1648		1708		1783		1848		1921	1997
Base	1625	1727	1667	1782	1711	1930	1750	2059	1795	1841
Low	1600		1622		1629		1643		1662	1681

The increased efforts of the ANSPs to accommodate the significant rise in traffic, with an improvement in the overall level of capacity performance, are recognised. SW FAB report the implementation of capacity improvements during the year and the implementation of additional corrective measures when it became apparent that the annual target was not going to be met. However, it is apparent that further capacity enhancements are required. The Network Manager, in the latest version of the NOP 2018-2022 expects continued capacity problems in Portugal and in Spain (Barcelona and Palma ACCs) for the remainder of RP2.

En route Capacity Incentive Scheme

SW FAB provided details of an en route capacity incentive scheme in their revised performance plan v2.0, dated July 2016. This incentive scheme was based on a FAB target of 0.31 minutes per flight with a dead-band between 0.54-0.16 minutes per flight. The incentive scheme was based on all causes of delays but there were caveats regarding 'unusually high' incidences of certain delays codes activating an exclusion system based on Article 15(g) of Regulation 391/2013.

Compliance Issues Relating to FAB Capacity Incentive Scheme

The PRB raised several compliance issues with the SW FAB incentive scheme including:

- Incentive scheme does not encourage the entities to achieve a high level of performance;
- It does not apply Article 15(g) of the charging regulation in a consistent manner;
- There is no mention of a verifiable method of reconciling attributed delay classification to actual events which raises the possibility of errors or gaming.

The SWFAB monitoring report did not contain any information regarding addressing the listed compliance issues.

Result of FAB Capacity Incentive Scheme

Since actual performance for 2017, 0.40 minutes per flight, fell into the deadband of the incentive mechanism no penalty is incurred.

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 CIDEFO. 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).

AMC manual revision was completed on May 1st, 2017. Final approval still needed by CIDEFO.

Several meetings have been held and discussions are ongoing in order to implement new conditional routes, to revise restricted areas and to re-align ATS routes. The annual benefit is estimated in 147.000 nm.

- LED21 restructuration: there is a military proposal for LED21 restructuration still under discussion and pending on agreement about ATS routes affected by LED21 extension.
- Efficiency improvement for LEMD-LEBL city pair (affected by LED104): new conditional route SENIA-ADUXO is still under validation.
- LED98 optimisation and conditional routes availability improvement: pending on discussion of potential solutions.
- LER63 optimisation for LEAM arrivals and departures: pending of solution.
- New conditional route in lower airspace to connect VIBAS and BERUM (GEML operations; affected by LED165, LED167 and LED169) is still currently under validation.
- U/T100 (military airway) connectivity with ATS network and LERT and LEMO procedures (Step 2): a new connection between VJF and UT100 airway is still under design validation.

Observations on Military dimension of the plan

The information on the efforts of civil and military authorities in SW FAB to improve capacity for general air traffic through improved cooperation and coordination is appreciated.

Application of FUA

No new information was provided by SW FAB.

Observations of the Application of FUA

It is noted that SW FAB has not actually provided information on how SW FAB authorities determine if the optimum benefits for both civil and military airspace users have been provided.

SW FAB

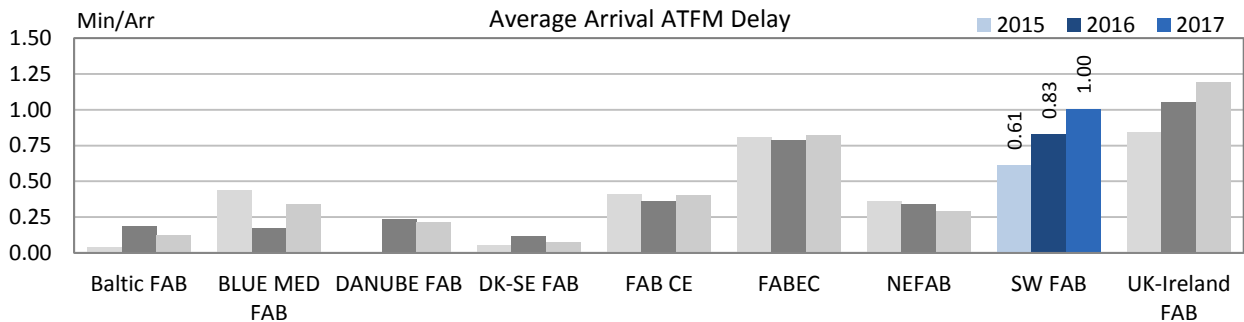
Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

In 2017, a further significant deterioration of the aggregated arrival ATFM delay has been observed on SW FAB level (2015: 0.61 min/arr.; 2016: 0.83 min/arr.; 2017: 1.00 min/arr.) which ranges well above the European average in 2017 of 0.74 min/arr.

Next to FABEC and UK-Ireland FAB, SW FAB performance influences the European average significantly. Efforts are required to reduce the high level of arrival ATFM delay that represents 17% of all arrival ATFM in the SES monitoring airports and 13% of the traffic.

2. Arrival ATFM Delay



The main driver for the increase in the aggregated arrival ATFM delay is Lisbon (LPPT), followed by Barcelona (LEBL) and Madrid (LEMD).

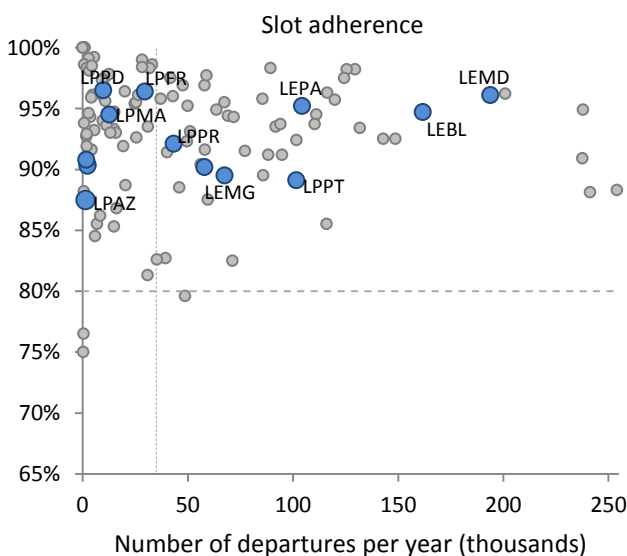
3. Arrival ATFM Delay – National Targets and Incentive Schemes

The SW FAB performance plan sets a national target on arrival ATFM delay with a breakdown per airport for each of the years of the reference period for Spain. For Portugal, the breakdown is provided for two airports while the other 7 airports are aggregated into a third summary value. The national targets set are consistent with the observed performance at the beginning of the reference period.

While in 2015 both Portugal and Spain met their national target, in 2016 and 2017 the achieved ATFM delay per arrival exceeds the national target in both cases.

The SW FAB performance plan presents no incentive schemes for the national targets on arrival ATFM delay.

4. ATFM Slot Adherence



The adherence to ATFM slots at all airports in the SW FAB is above 85%. A group of airports in SW FAB also show best-in-class performance with adherences above 95%.

5. Pre-departure Delay

The Airport Operator Data Flow is implemented for the Spanish airports and allows for reporting on ATC Pre-departure delay. Nevertheless, attention must be paid to the high share of unreported or unidentified delay. ATC pre-departure delay at Lisbon is the highest in the SES area.

Annual Monitoring Report 2017
Local level view
Portugal

PORTUGAL

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	50	B	B	B	B	C
NAV Portugal	91	D	D	D	D	E
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
			RAT application (%)			
			ATM Ground	ATM Overall		
Separation Minima Infringements (SMIs)			100%	100%		
Runway Incursions (RIs)			100%	100%		
ATM Specific Occurrences (ATM-S)				100%		
Source of RAT data:			NAV-P			
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level			Number of questions answered			
			YES	NO		
Policy and its implementation			6	3		
Legal/Judiciary			7	0		
Occurrence reporting and Investigation			2	0		
TOTAL			15	3		
NAV Portugal			Number of questions answered			
			YES	NO		
Policy and its implementation			9	4		
Legal/Judiciary			2	1		
Occurrence reporting and Investigation			8	0		
TOTAL			19	5		
Observations						
None of the four reviewed EoSM Components/areas of the State meet the 2019 EoSM target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.						
Out of 34 questions in Components 1-4 (not including Component - Safety Culture), eight are below Level C.						

PORTUGAL

Monitoring of Airports Contribution to ENVIRONMENT for 2017

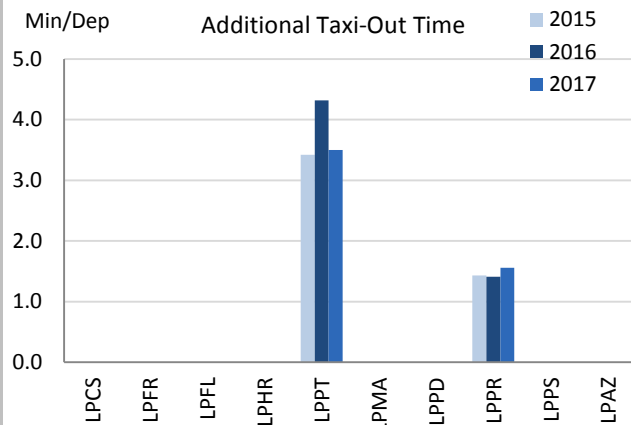
1. Overview

The scope of RP2 monitoring for Portugal comprises 10 airports in 2016, from which the Airport Operator Data Flow is only established for 2 (Porto and Lisbon).

Cascais (LPCS) is added to the list of airports in 2016 after its inclusion in the Charging Zone. Portugal shall encourage the respective airport reporting entities to initiate the implementation of the Airport Operator Data Flow.

The performance at the 2 Portuguese airports that can be monitored (where traffic has increased between 10 and 11%) is to a certain extent commensurate with that traffic.

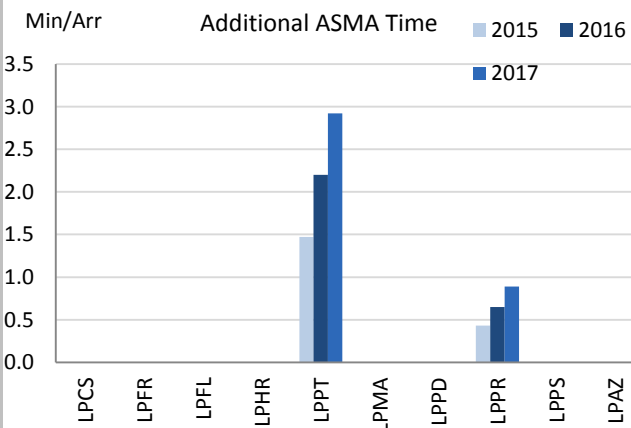
2. Additional Taxi-Out Time



After the worsening of the additional taxi-out times at Lisbon (LPPT) in 2016, and despite the traffic growth in 2017, the performance has improved and gone back to the levels of 2015 (i.e. LPPT: 2015: 3.42 min/dep.; 2016: 4.32 min/dep.; 2017: 3.50 min/dep.).

At Porto (LPPR) the average additional taxi-out time has marginally increased to 1.56 min/dep. in 2017, but it is still below other European airports with that level of traffic.

3. Additional ASMA Time



The average additional time in the terminal airspace in Lisbon has significantly increased for the second year in a row (i.e. LPPT: 2015: 1.47 min/arr.; 2016: 2.20 min/arr.; 2017: 2.92 min/arr.) and it is now the third highest additional ASMA time in Europe. The increase can be observed during the entire year, but it is especially noteworthy in the Summer months.

Additional ASMA times at Porto have also suffered an important increase in the second half of 2017, when they were up to 1 minute above the value of that same month in 2016.

4. Appendix

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

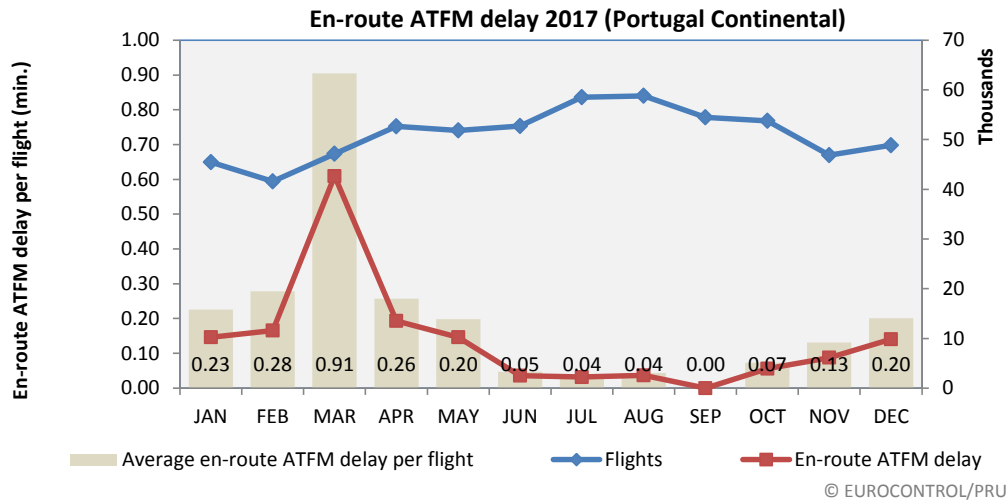
Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Cascais	LPCS	n/a	n/a	n/a			n/a	n/a	n/a		
Faro	LPFR	n/a	n/a	n/a			n/a	n/a	n/a		
Flores	LPFL	n/a	n/a	n/a			n/a	n/a	n/a		
Horta	LPHR	n/a	n/a	n/a			n/a	n/a	n/a		
Lisbon	LPPT	3.42	4.32	3.50			1.47	2.20	2.92		
Madeira	LPMA	n/a	n/a	n/a			n/a	n/a	n/a		
Ponta Delgada	LPPD	n/a	n/a	n/a			n/a	n/a	n/a		
Porto	LPPR	1.43	1.41	1.56			0.43	0.65	0.89		
Porto Santo	LPPS	n/a	n/a	n/a			n/a	n/a	n/a		
Santa Maria	LPAZ	n/a	n/a	n/a			n/a	n/a	n/a		

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.19	0.15	0.14	0.14	0.13	
Deadband +/-	0.00	0.00	0.00	0.00	0.00	
Actual performance	0.48	0.21	0.19			

National capacity incentive scheme

N/A: incentive scheme defined at FAB level.

Observations regarding national capacity performance



En-route ATFM delay per flight (Portugal)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.19	0.02	0.01	0.16	0.65	0.27	0.50	0.48	0.21	0.19

Even though Portugal did not achieve its national target in 2017, en-route capacity performance continues to improve year on year. The improvement is despite a 10% rise in traffic from 2016, which itself witnessed a 10% rise on 2015 levels. The traffic handled in 2017 is already 4% greater than the highest traffic levels predicted in the STATFOR forecast available when the national/FAB performance targets were being set and the associated capacity plans developed.

EUROCONTROL 7 year forecast February 2014 – Portugal (Lisbon FIR)									
	2014	2015	2016	2017	2018	2019			
	actual	actual	actual	actual					
High	483	507	529	547	568	589			
Base	476	480	494	505	514	536			
Low	469	480	481	482	485	488			

NAV Portugal has addressed the capacity shortfall by implementing efforts to reduce delays such as advanced ATFCM techniques (STAM) and by improving the deployment of existing capacity (optimising sector openings and availability of ATCOs) and by adding additional capacity through re-sectorisation and recruiting additional ATCOs. The Network Manager states that Lisbon ACC performed better than expected in 2017, with a reported increase in capacity of approximately 13%.

However, the NOP 2018-2022 raises concerns about capacity performance in Lisbon ACC for the remainder of RP2. Very high delays are expected in 2018 and 2019, due to a combination of high traffic growth, lack of available ATCOs and the need for a new ATM system. The lack of available ATCOs is reportedly due to limited overtime.

Planning and Effective Use of CDRs

No data was provided at national level, since Portugal has implemented free route airspace operations.

Observations on Planning and Effective Use of CDRs

It is noted that Portugal has implemented free route airspace operations throughout the Lisbon FIR, making CDRs obsolete. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network.

Effective booking procedures

No data was provided.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

PORTUGAL

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

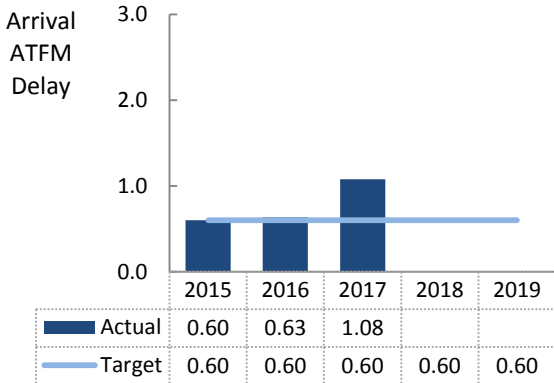
Currently ANS at 10 Portuguese airports are subject to RP2 monitoring. With the monitoring of 2016, performance at Cascais (LPCS) was added to the monitoring.

Portugal has established a national target on arrival ATFM delay. The average arrival ATFM delay increased significantly from 0.63 min/arr. in 2016 to 1.08 min/arr. in 2017 and widely exceeds the target.

Adherence to ATFM slots varies across the different airports between 87% and 96% approx.

The level of implementation of the airport operator data specification is still only limited to Lisbon (LPPT) and Porto (LPPR). To ensure the consistent monitoring of pre-departure delay, Portugal is encouraged to strengthen the level of implementation of the Airport Operator Data Flow across the airports. Lisbon shows the highest ATC pre-departure delay in Europe (2.60 min/dep.).

2. Arrival ATFM Delay



The traffic at the Portuguese airports under monitoring has considerably increased in 2017 by 11% with respect to 2016. At the same time the national average arrival ATFM delay for 2017, which is driven by the delays at Porto (LPPR) and Lisbon (LPPT) has considerably increased and now both airports show respectively one of the highest arrival ATFM delays for airports in their category in terms of movements.

3. Arrival ATFM Delay – National Target and Incentive Scheme

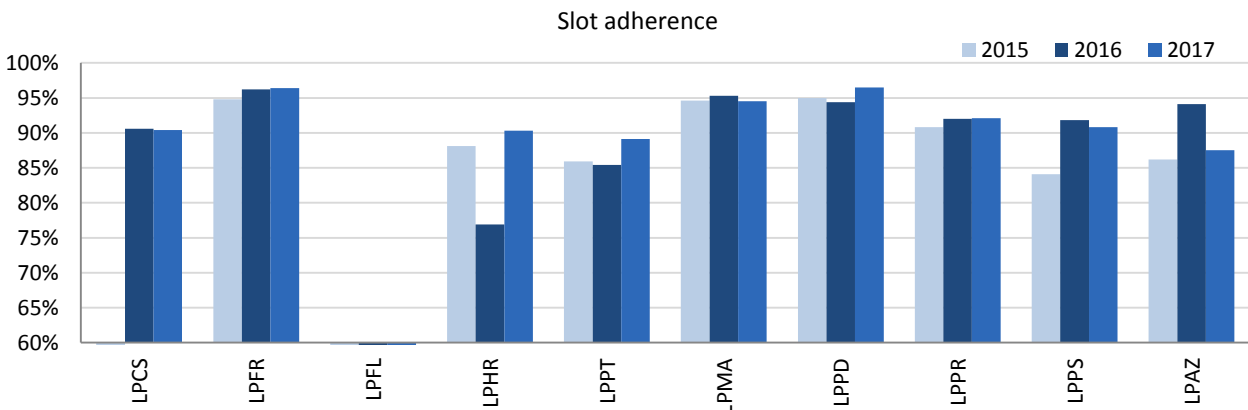
The SW FAB performance plan establishes a national target on arrival ATFM delay (0.60 min/arr.) with a breakdown for the two major airports (i.e. Lisboa and Porto) and aggregates the remaining 7 airports into a single value for each of the years of the reference period. Cascais (LPCS) is not included in this group as this airport has now been added to the monitoring. Therefore no reference is established for LPCS.

The national target on arrival ATFM delay is not met. At airport level, while almost all the smaller airports (except Madeira, that exceeds its reference value by 0.04 min/arr.) perform better than their reference target value, the actual values at both Lisbon and Porto are significantly higher than their reference value (i.e. LPPR: PP2017 = 0.75 min/arr vs Actual2017 = 1.22 min/arr. and LPPT: PP2017 = 0.50 min/arr vs Actual2017 = 1.65 min/arr.).

According to the SW FAB monitoring report the target was not met due to a level of traffic much higher than estimated when the plan was prepared. The monitoring report also mentions that this is particularly applicable to the Lisbon and Porto airports, where arrivals in 2017 were 23.7% and 28.7% above what was estimated in the plan, respectively.

The SW FAB performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for Portugal.

4. ATFM Slot Adherence



Since the beginning of RP2, slot adherence at Portuguese airports has improved in general and now all airports range above 85% and 7 out of 10 have more than 90% adherence.

Santa Maria (LPAZ), that had improved considerably in 2016, has reduced the slot compliance again and Horta (LPHR), under the 80% threshold last year, exceeds 90% compliance in 2017. Nevertheless, the low traffic levels at these airports make this compliance very volatile, as only a few flights might have a big impact.

For another year, there are no regulated departures at LPFL.

Slot adherence at Lisbon has improved and it approaches the 90%, so the 3 main airports in Portugal (Lisbon, Porto and Faro) show very good ATFM slot compliance around or above 90%.

5. Pre-departure Delay

The Airport Operator Data Flow has been established for Lisbon (LPPT) and Porto (LPPR) only at the end of 2016, so the calculation of the pre-departure delay is only possible as of 2017 for these 2 airports.

The accrued ATC pre-departure delay at both airports is significant and in the case of Lisbon reaches the highest value in the SES area, tripling the delay of similar airports in terms of movements.

The rest of Portuguese airports subject to RP2 monitoring are not reporting at the moment, so the calculation of this indicator is not possible.

6. Appendix

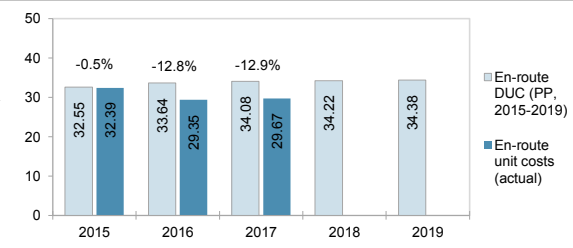
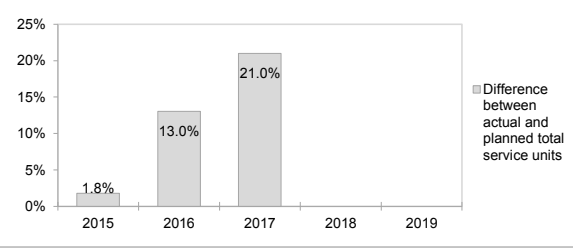
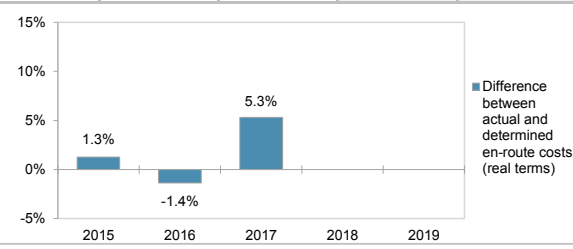
n/a: airport operator data flow not established, or more than two months of missing / non-validated data

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Cascais	LPCS	(blank)	0.00	0.00			n/a	90.6%	90.4%			n/a	n/a	n/a		
Faro	LPFR	0.06	0.00	0.00			94.8%	96.2%	96.4%			n/a	n/a	n/a		
Flores	LPFL	0.00	0.00	0.00			n/a	n/a	n/a			n/a	n/a	n/a		
Horta	LPHR	0.00	0.00	0.00			88.1%	76.9%	90.3%			n/a	n/a	n/a		
Lisbon	LPPT	0.79	0.88	1.65			85.9%	85.4%	89.1%			n/a	n/a	2.60		
Madeira	LPMA	0.01	0.02	0.06			94.6%	95.3%	94.5%			n/a	n/a	n/a		
Ponta Delgada	LPPD	0.00	0.00	0.00			95.0%	94.4%	96.5%			n/a	n/a	n/a		
Porto	LPPR	0.87	0.93	1.22			90.8%	92.0%	92.1%			n/a	n/a	0.59		
Porto Santo	LPPS	0.00	0.00	0.00			84.1%	91.8%	90.8%			n/a	n/a	n/a		
Santa Maria	LPAZ	0.00	0.00	0.00			86.2%	94.1%	87.5%			n/a	n/a	n/a		

PORTUGAL: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
<ul style="list-style-type: none"> Portugal ECZ represents 1.7% of the SES en-route ANS determined costs in 2017 ATSP: NAV Portugal FAB: SW FAB National currency: EUR 						
2. En-route DUC monitoring at Charging Zone level						
Portugal: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)		2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)		111 331 252	117 112 878	121 117 127	124 427 807	127 871 286
Inflation %		1.2%	1.5%	1.5%	1.5%	1.5%
Inflation index (100 in 2009)		110.5	112.2	113.8	115.5	117.3
Real en-route costs (EUR2009)		100 758 704	104 424 905	106 399 345	107 692 336	109 037 112
Total en-route Service Units		3 095 250	3 104 536	3 122 232	3 147 209	3 171 128
Real en-route unit cost per Service Unit (EUR2009)		32.55	33.64	34.08	34.22	34.38
Portugal: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)		110 975 595	112 678 540	124 561 665		
Inflation %		0.5%	0.6%	1.6%		
Inflation index (100 in 2009)		108.7	109.4	111.2		
Real en-route costs (EUR2009)		102 048 433	102 996 411	112 065 407		
Total en-route Service Units		3 150 186	3 509 556	3 777 024		
Real en-route unit cost per Service Unit (EUR2009)		32.39	29.35	29.67		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal EUR)	in value	-355 657	-4 434 338	3 444 537		
	in %	-0.3%	-3.8%	2.8%		
Inflation %	in p.p.	-0.7 p.p.	-0.9 p.p.	0.1 p.p.		
	in p.p.	-1.7 p.p.	-2.7 p.p.	-2.7 p.p.		
Real en-route costs (EUR2009)	in value	1 289 729	-1 428 495	5 666 062		
	in %	1.3%	-1.4%	5.3%		
Total en-route Service Units	in value	54 936	405 020	654 792		
	in %	1.8%	13.0%	21.0%		
Real en-route unit cost per Service Unit (EUR2009)	in value	-0.16	-4.29	-4.41		
	in %	-0.5%	-12.8%	-12.9%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
<p>In 2017, the actual en-route unit cost in real terms (29.67 €2009) is -12.9% lower than planned in the PP (34.08 €2009). This difference mainly results from the combination of higher than planned TSUs (+21.0%) and higher than planned en-route costs (+5.3%, or +5.7 M€2009).</p>						
En-route service units						
<p>The difference between actual and planned TSUs (+21.0%) exceeds the +10% threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +4.0 M€2009.</p> <p>Based on the STATFOR February 2018 TSUs forecasts, actual traffic is likely to remain significantly higher than planned until the end of RP2. Indeed, under all STATFOR February 2018 scenarios, the level of Portugal TSUs is likely to exceed the +10% threshold until the end of RP2. It is noteworthy that the traffic forecasts in the Portuguese PP were rather prudent since they were in line with the STATFOR February 2014 TSUs <u>low</u> scenario.</p>						
En-route costs						
<p>In nominal terms, actual en-route costs are +2.8% higher than planned. However, since the actual inflation index is lower than planned (-2.7 p.p.), actual en-route costs are +5.3% above the planned level when expressed in €2009.</p> <p>The higher than planned en-route costs in real terms are driven by higher costs for the ATSP, NAV Portugal (+5.9% or +5.3 M€2009), the SAR entities (+6.2% or +0.3 M€2009) and the MET Service Provider (+3.4% or +0.2 M€2009) while the costs reported for the NSAEUROCONTROL are lower (-0.3% or -0.02 M€2009). NAV PORTUGAL being the main contributor to the en-route cost base, a detailed analysis at ATSP level is provided in box 12.</p> <p>Costs exempt from cost-sharing are reported for a total amount of -0.8 M€2009 corresponding to EUROCONTROL costs. These costs will be eligible for carry-over (to be reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.</p>						



PORTUGAL: En-route charging zone

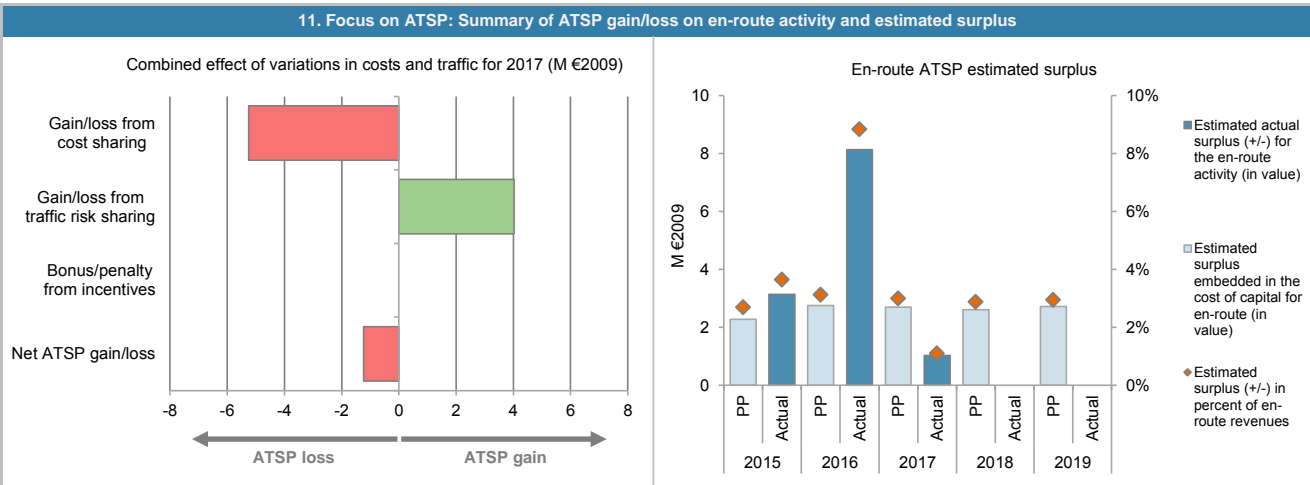
Monitoring of en-route COST-EFFICIENCY for 2017



PORTUGAL: En-route ATSP (NAV Portugal)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	84 614	88 012	89 772		
Actual costs for the ATSP	85 438	86 201	95 027		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-825	1 811	-5 256		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-825	1 811	-5 256		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	1.8%	13.0%	21.0%		
Determined costs for the ATSP (PP) - based on actual inflation	85 450	89 742	91 492		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	1 517	3 949	4 026		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	692	5 760	-1 230		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	35 910	43 412	42 420	41 166	42 807
Estimated proportion of financing through equity (in %)	98.3%	98.3%	98.3%	98.3%	98.3%
Estimated proportion of financing through equity (in value)	35 310	42 687	41 711	40 479	42 092
Estimated proportion of financing through debt (in %)	1.7%	1.7%	1.7%	1.7%	1.7%
Estimated proportion of financing through debt (in value)	599	725	708	687	715
Cost of capital pre-tax (in value)	2 277	2 752	2 689	2 610	2 714
Average interest on debt (in %)	0.5%	0.5%	0.5%	0.5%	0.5%
Interest on debt (in value)	3	3	3	3	3
Determined RoE pre-tax rate (in %)	6.4%	6.4%	6.4%	6.4%	6.4%
Estimated surplus embedded in the cost of capital for en-route (in value)	2 274	2 749	2 686	2 607	2 711
Overall estimated surplus (+/-) for the en-route activity	2 274	2 749	2 686	2 607	2 711
Revenue/costs for the en-route activity	84 614	88 012	89 772	90 870	92 021
Estimated surplus (+/-) in percent of en-route revenues	2.7%	3.1%	3.0%	2.9%	2.9%
Estimated ex-ante RoE pre-tax rate (in %)	6.4%	6.4%	6.4%	6.4%	6.4%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	38 574	37 367	35 653		
Estimated proportion of financing through equity (in %)	98.3%	98.3%	98.3%		
Estimated proportion of financing through equity (in value)	37 930	36 743	35 058		
Estimated proportion of financing through debt (in %)	1.7%	1.7%	1.7%		
Estimated proportion of financing through debt (in value)	644	624	595		
Cost of capital pre-tax (in value)	2 446	2 369	2 260		
Average interest on debt (in %)	0.5%	0.5%	0.5%		
Interest on debt (in value)	3	3	3		
Determined RoE pre-tax rate (in %)	6.4%	6.4%	6.4%		
Estimated surplus embedded in the cost of capital for en-route (in value)	2 443	2 366	2 258		
Net ATSP gain(+)/loss(-) on en-route activity	692	5 760	-1 230		
Overall estimated surplus (+/-) for the en-route activity	3 134	8 126	1 028		
Revenue/costs for the en-route activity	86 130	91 961	93 797		
Estimated surplus (+/-) in percent of en-route revenues	3.6%	8.8%	1.1%		
Estimated ex-post RoE pre-tax rate (in %)	8.3%	22.1%	2.9%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 NAV Portugal en-route costs vs. PP

In 2017, NAV Portugal actual en-route costs are +5.9% (+5.3 M€2009) higher, in real terms, than planned in the PP. Based on the Additional Information provided with the en-route Reporting Tables, the main drivers for this deviation are:

- higher staff costs (+9.1% or +6.5 M€2009) mainly due to traffic growth;
- higher other operating costs (+5.8% or +0.5 M€2009) mainly due to increased travel and living expenses, IT assistance and customer impairment;
- lower depreciation costs (-22.8% or -1.4 M€2009) mainly due to lower execution of the investment plan in previous years; and,
- lower cost of capital (-16.0% or -0.4 M€2009) due to a lower asset base.

NAV Portugal net gain/loss on en-route activity in 2017

As shown in box 9, NAV Portugal generated a net loss of -1.2 M€2009 on the en-route activity. This is a combination of the following elements:

- a loss of -5.3 M€2009 arising from the cost-sharing mechanism; and,
- a gain of +4.0 M€2009 arising from the traffic risk-sharing mechanism.

NAV Portugal overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net loss from the en-route activity mentioned above (-1.2 M€2009) and the surplus embedded in the actual cost of capital (+2.3 M€2009) amounts to +1.0 M€2009 (1.1% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 2.9%, which is lower than the 6.4% planned in the PP.

PORTUGAL: Terminal charging zone

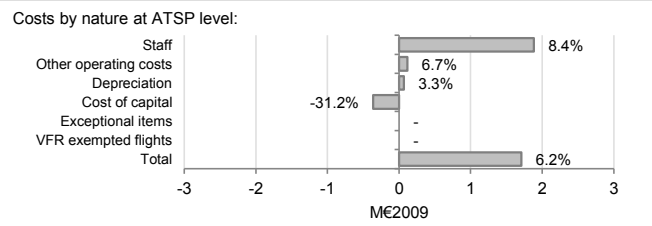
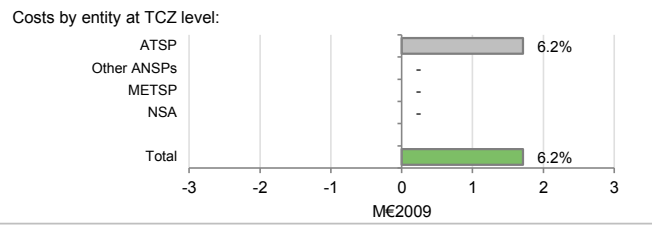
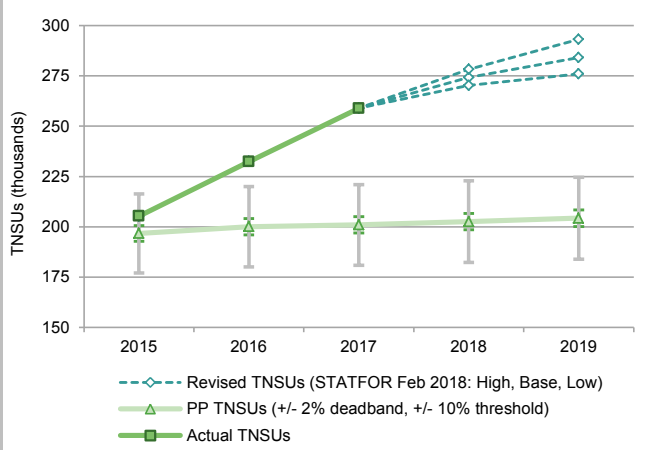
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services						
<ul style="list-style-type: none"> Portugal TCZ represents 2.6% of the SES terminal ANS determined costs in 2017 ATSP: NAV Portugal National currency: EUR Number of airports in charging zone in 2017: 10, of which: 			<ul style="list-style-type: none"> Is this TCZ applying traffic risk sharing? Yes Airports with fewer than 70,000 IFRs ATMs: 9 Airports with between 70,000 and 225,000 IFRs ATMs: 1 Airports with more than 225,000 IFRs ATMs: 0 			
2. Terminal DUC monitoring at Charging Zone level						
Portugal: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)		27 415 133	30 183 378	31 371 504	32 242 701	34 274 163
Inflation %		1.2%	1.5%	1.5%	1.5%	1.5%
Inflation index (100 in 2009)		110.5	112.2	113.8	115.5	117.3
Real terminal costs (EUR2009)		24 811 661	26 913 320	27 559 335	27 906 076	29 225 918
Total terminal Service Units		196 700	200 022	200 922	202 522	204 222
Real terminal unit cost per Service Unit (EUR2009)		126.14	134.55	137.16	137.79	143.11
Portugal: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)		28 136 876	28 465 925	32 533 176		
Inflation %		0.5%	0.6%	1.6%		
Inflation index (100 in 2009)		108.7	109.4	111.2		
Real terminal costs (EUR2009)		25 873 474	26 019 933	29 269 387		
Total terminal Service Units		205 314	232 390	258 955		
Real terminal unit cost per Service Unit (EUR2009)		126.02	111.97	113.03		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
Terminal costs (nominal EUR) in value		721 744	-1 717 453	1 161 672		
in %		2.6%	-5.7%	3.7%		
Inflation % in p.p.		-0.7 p.p.	-0.9 p.p.	0.1 p.p.		
Inflation index (100 in 2009) in p.p.		-1.7 p.p.	-2.7 p.p.	-2.7 p.p.		
Real terminal costs (EUR2009) in value		1 061 813	-893 387	1 710 052		
in %		4.3%	-3.3%	6.2%		
Total terminal Service Units in value		8 614	32 368	58 032		
in %		4.4%	16.2%	28.9%		
Real terminal unit cost per Service Unit (EUR2009) in value		-0.12	-22.58	-24.14		
in %		-0.1%	-16.8%	-17.6%		
3. Focus on terminal at State/Charging Zone level						
<p>This analysis focuses on Portugal Terminal Charging Zone (TCZ) comprising 10 airports: Lisboa, Porto, Faro, Madeira, Porto Santo, Ponta Delgada, Santa Maria, Horta, Flores and Cascais.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (113.03 €2009) is -17.6% lower than planned in the PP (137.16 €2009). This difference results from the combination of higher than planned TNSUs (+28.9%) and higher actual terminal costs (+6.2%, or +1.7 M€2009).</p> <p>Terminal service units The difference between actual and planned TNSUs (+28.9%) exceeds the +10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of terminal revenues is therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +1.2 M€2009.</p> <p>Based on the STATFOR February 2018 forecasts, actual traffic is likely to remain significantly higher than planned until the end of RP2. Indeed, under all STATFOR February 2018 scenarios, the level of Portugal TNSUs is likely to exceed the +10% threshold until the end of RP2. It is noteworthy that the traffic forecasts in the Portuguese PP were rather prudent since they were in line with the STATFOR February 2014 <u>low</u> scenario.</p> <p>Terminal costs In nominal terms, actual terminal costs are +3.7% higher than planned. However, since the actual inflation index is lower than planned (-2.7 p.p.), the actual terminal costs are +6.2% above the planned level when expressed in €2009.</p> <p>NAV Portugal is the only reporting entity in the terminal cost base. A detailed analysis at ATSP level is provided in box 12.</p> <p>There are no costs exempt from cost-sharing reported for the TCZ.</p>						

PORTUGAL: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

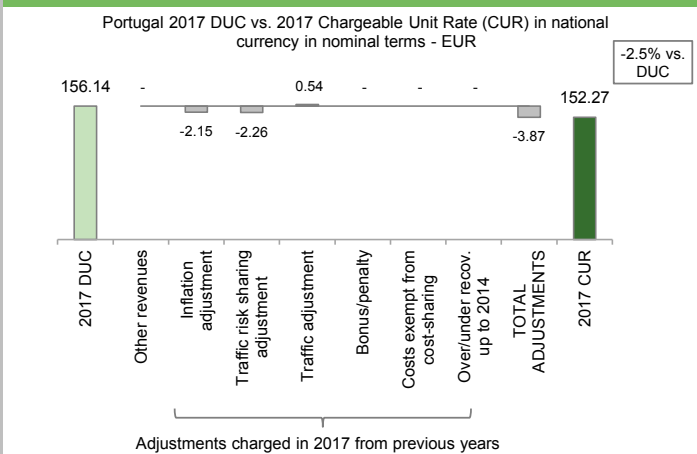


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

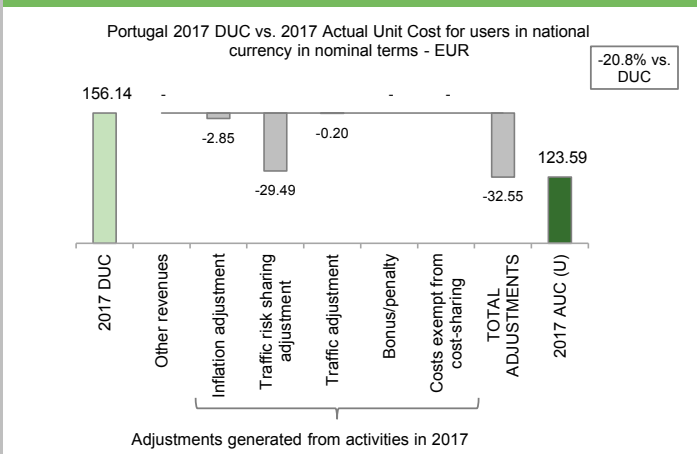


The CUR charged to airspace users in 2017 is 152.27 €. This is -2.5% lower than the nominal DUC (156.14 €). The difference between these two figures (-3.87 €) mainly relates to:

- the traffic risk-sharing adjustment (-2.26 €) reflecting the gain in revenues due to higher than planned TNSUs for the year 2015 which is reimbursed to airspace users in 2017; and,
- an inflation adjustment (-2.15 €) corresponding to the impact of a lower than planned inflation index in 2015 and the subsequent reimbursement to airspace users in 2017.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the RP2 performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (123.59 €) is -20.8% lower than the nominal DUC (156.14 €). The two most important factors contributing to the observed difference (-32.55 €) are:

- the traffic risk-sharing adjustment (-29.49 €) reflecting the gain in revenues due to higher than planned TNSUs for 2017 which will be reimbursed to airspace users in 2019; and,
- the inflation adjustment (-2.85 €) corresponding to the impact of a lower than planned inflation index for 2017, which will be reimbursed to airspace users in 2019.

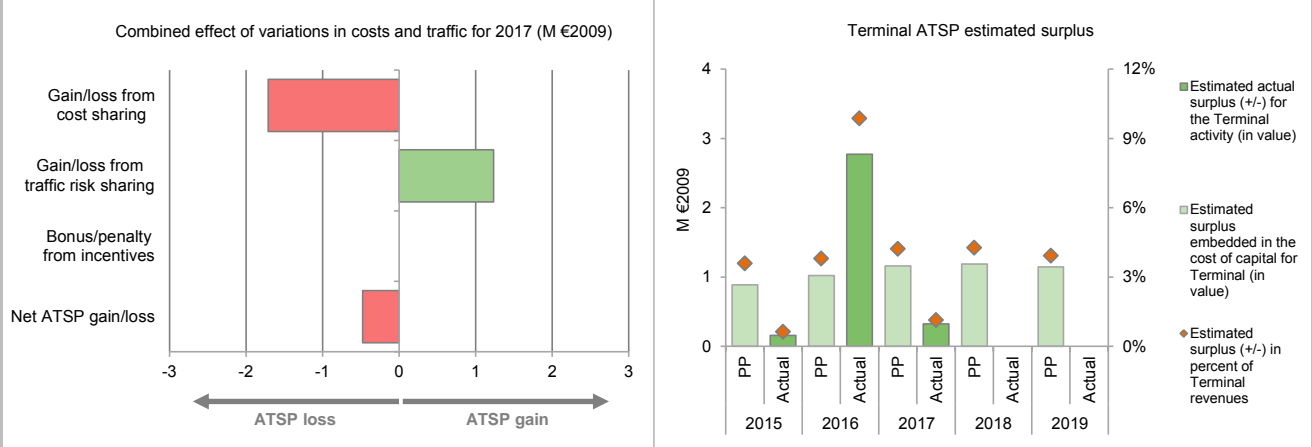
These costs and adjustments are divided by the **actual** TNSUs in 2017.

PORTUGAL: Terminal ATSP (NAV Portugal)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	24 812	26 913	27 559		
Actual costs for the ATSP	25 873	26 020	29 269		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-1 062	893	-1 710		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-1 062	893	-1 710		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	4.4%	16.2%	28.9%		
Determined costs for the ATSP (PP) - based on actual inflation	25 052	27 429	28 061		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	680	1 207	1 235		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-382	2 100	-475		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	14 035	16 139	18 345	18 767	18 091
Estimated proportion of financing through equity (in %)	98.3%	98.3%	98.3%	98.3%	98.3%
Estimated proportion of financing through equity (in value)	13 791	15 858	18 026	18 441	17 777
Estimated proportion of financing through debt (in %)	1.7%	1.7%	1.7%	1.7%	1.7%
Estimated proportion of financing through debt (in value)	244	280	319	326	314
Cost of capital pre-tax (in value)	889	1 023	1 162	1 189	1 146
Average interest on debt (in %)	0.4%	0.4%	0.4%	0.4%	0.4%
Interest on debt (in value)	1	1	1	1	1
Determined RoE pre-tax rate (in %)	6.4%	6.4%	6.4%	6.4%	6.4%
Estimated surplus embedded in the cost of capital for terminal (in value)	888	1 021	1 161	1 188	1 145
Overall estimated surplus (+/-) for the terminal activity	888	1 021	1 161	1 188	1 145
Revenue/costs for the terminal activity	24 812	26 913	27 559	27 906	29 226
Estimated surplus (+/-) in percent of terminal revenues	3.6%	3.8%	4.2%	4.3%	3.9%
Estimated ex-ante RoE pre-tax rate (in %)	6.4%	6.4%	6.4%	6.4%	6.4%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	8 541	10 585	12 607		
Estimated proportion of financing through equity (in %)	98.3%	98.3%	98.3%		
Estimated proportion of financing through equity (in value)	8 393	10 409	12 397		
Estimated proportion of financing through debt (in %)	1.7%	1.7%	1.7%		
Estimated proportion of financing through debt (in value)	148	177	210		
Cost of capital pre-tax (in value)	541	671	799		
Average interest on debt (in %)	0.4%	0.4%	0.4%		
Interest on debt (in value)	1	1	1		
Determined RoE pre-tax rate (in %)	6.4%	6.4%	6.4%		
Estimated surplus embedded in the cost of capital for terminal (in value)	541	670	798		
Net ATSP gain(+)/loss(-) on terminal activity	-382	2 100	-475		
Overall estimated surplus (+/-) for the terminal activity	159	2 771	323		
Revenue/costs for the terminal activity	25 492	28 120	28 794		
Estimated surplus (+/-) in percent of terminal revenues	0.6%	9.9%	1.1%		
Estimated ex-post RoE pre-tax rate (in %)	1.9%	26.6%	2.6%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 NAV Portugal terminal costs vs. PP

NAV Portugal actual terminal costs in the TCZ are +6.2% (+1.7 M€2009) higher, in real terms, than planned in the PP. Based on the Additional Information provided within the Terminal Reporting Tables, this deviation results from the following changes in the different cost categories:

- higher staff costs (+8.4%, or +1.9 M€2009) mainly due to the additional ATCO work hours in order to deal with the traffic growth (including overtime work and productivity compensation);
- higher other operating costs (+6.7%, or +0.1 M€2009) mainly due to travelling and living expenses, specialised services expenditure, security services and impairments of trade debtors;
- higher depreciation costs (+3.3%, or +0.1 M€2009); and,
- a lower cost of capital (-31.2%, or -0.4 M€2009) due to a lower asset base.

NAV Portugal 2017 net gain/loss on terminal activity

As shown in box 9, the terminal activity generated a net loss of -0.5 M€2009 in 2017. This is a combination of the following elements:

- a loss of -1.7 M€2009 as a result of the cost-sharing mechanism; and
- a gain of +1.2 M€2009 as a result of the traffic risk-sharing mechanism.

NAV Portugal 2017 overall estimated surplus for the terminal activity

Ex-post, the overall estimated surplus taking into account the net loss from the terminal activity mentioned above (-0.5 M€2009) and the surplus embedded in the cost of capital (+0.8 M€2009) amounts to +0.3 M€2009 (1.1% of the 2017 terminal revenues). The resulting ex-post rate of return on equity is 2.6%, which is lower than the 6.4% planned in the PP.

PORTUGAL: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs

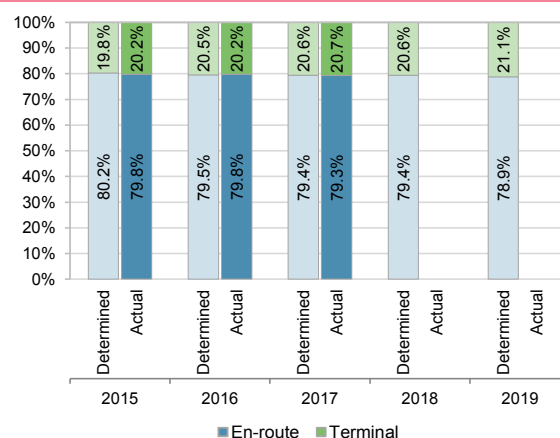
Portugal: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		100 758 704	104 424 905	106 399 345	107 692 336	109 037 112
Real terminal costs (EUR2009)		24 811 661	26 913 320	27 559 335	27 906 076	29 225 918
Real gate-to-gate costs (EUR2009)		125 570 365	131 338 226	133 958 680	135 598 412	138 263 031
En-route share (%)		80.2%	79.5%	79.4%	79.4%	78.9%
Portugal: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		102 048 433	102 996 411	112 065 407		
Real terminal costs (EUR2009)		25 873 474	26 019 933	29 269 387		
Real gate-to-gate costs (EUR2009)		127 921 907	129 016 344	141 334 794		
En-route share (%)		79.8%	79.8%	79.3%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	2 351 543	-2 321 882	7 376 114		
	in %	1.9%	-1.8%	5.5%		
En-route share	in p.p.	-0.5 p.p.	0.3 p.p.	-0.1 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs are +5.5% (+7.4 M€2009) higher than planned due to the combination of higher en-route costs (+5.3%, or +5.7 M€2009) and higher terminal costs (+6.2%, or +1.7 M€2009).

The actual share of en-route in gate-to-gate ANS costs (79.3%) is in line with that planned in the PP for 2017 (79.4%).

For NAV Portugal, the estimated gate-to-gate economic surplus in 2017 amounts to 1.4 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 1.1% of gate-to-gate ANS revenues.

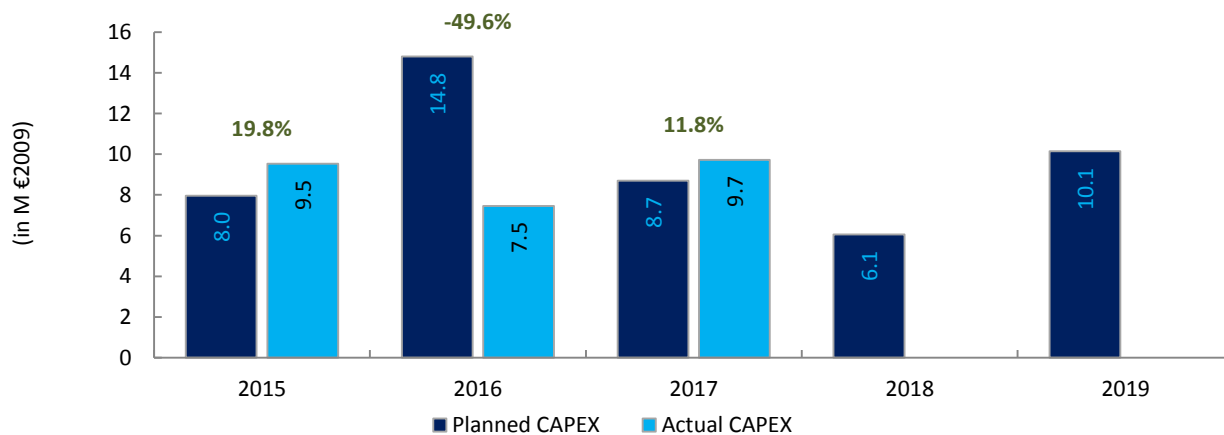


3. Technical notes on en-route and terminal information reported by Portugal

PORTUGAL

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: NAV Portugal (Continental)						
FAB: SW FAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	8.8	16.6	9.9	7.0	11.9	54.2
Main CAPEX (in nominal M)	8.7	16.3	9.9	7.0	11.8	53.7
Inflation %	1.2%	1.5%	1.5%	1.5%	1.5%	
Inflation index (100 in 2009)	110.5	112.2	113.8	115.5	117.3	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	8.0	14.8	8.7	6.1	10.1	47.7
Main CAPEX (in M €2009)	7.9	14.5	8.7	6.1	10.1	47.2
% Main of Total CAPEX	98.9%	98.2%	100.0%	100.0%	99.2%	99.1%
Real gate-to-gate ANSP costs (in M €2009)	109.4	114.9	117.3	118.8	121.2	581.7
Total CAPEX as % of Real gate-to-gate ANSP costs	7.3%	12.9%	7.4%	5.1%	8.4%	8.2%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	10.4	8.2	10.8			
Main CAPEX (in nominal M)	7.9	5.4	6.7			
Inflation %	0.5%	0.6%	1.6%			
Inflation index (100 in 2009)	108.7	109.4	111.2			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	9.5	7.5	9.7			
Main CAPEX (in M €2009)	7.3	4.9	6.0			
% Main of Total CAPEX	76.2%	66.1%	61.8%			
Real gate-to-gate ANSP costs (in M €2009)	111.3	112.2	124.3			
Total CAPEX as % of Real gate-to-gate ANSP costs	8.6%	6.6%	7.8%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	1.6	-8.4	0.9			
Total CAPEX (in M €2009)	1.6	-7.3	1.0			
Total CAPEX (in %, M €2009)	19.8%	-49.6%	11.8%			



Annual Monitoring Report 2017
Local level view
Spain

SPAIN

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	62	B	C	C	C	B
ENAIRE	93	D	E	D	D	C
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	77%				
Runway Incursions (RIs)	100%	58%				
ATM Specific Occurrences (ATM-S)		63%				
Source of RAT data:	AESA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	9	0				
Legal/Judiciary	6	1				
Occurrence reporting and Investigation	2	0				
TOTAL	17	1				
ENAIRE	Number of questions answered					
	YES	NO				
Policy and its implementation	13	0				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	6	2				
TOTAL	21	3				
Observations						
<p>One component (Safety policy and Objectives) out of the four reviewed EoSM Components/areas of the State does not meet the 2019 EoSM target Level C. After verification some answers above the target level were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p> <p>Out of 34 questions in Components 1-4 (not including Component - Safety Culture), only three are below Level C.</p>						

SPAIN

Monitoring of Airports Contribution to ENVIRONMENT for 2017

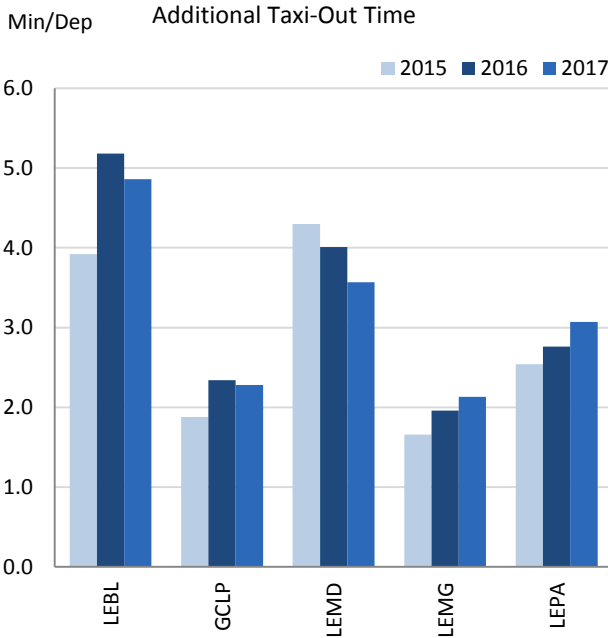
1. Overview

Spain included five airports under RP2 monitoring. All of them have successfully established the airport operator data flow, allowing a correct monitoring of both environment indicators.

The environmental indicators at Spanish airports show values in line with the traffic levels at these airports, except for the additional ASMA times in Madrid which are within best-in-class for Europe for airports above 200000 movements per year.

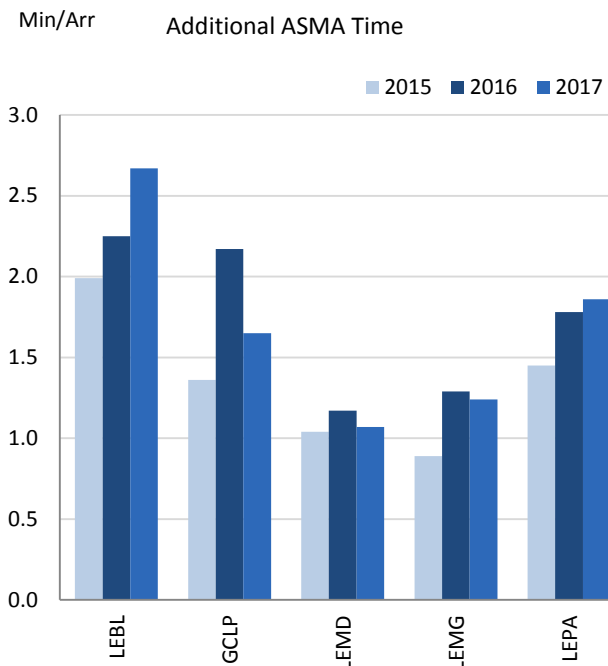
With a total increase in traffic at these airports around 5%, Málaga has seen the biggest growth (+10%) with respect to 2016.

2. Additional Taxi-Out Time



As the Spanish NSA reports, 2017 actual figures show an increase in the additional taxi-out time with respect to 2016 in Málaga (LEMG) and Palma de Mallorca (LEPA), while it decreases in Gran Canaria (GCLP), Barcelona (LEBL) and Madrid (LEMD). The metric typically rises during high season (summer) except for Gran Canaria and Madrid that has a more stable profile. However, on some occasions a few days of specific issues can result in a significant impact on the global results, for example in Barcelona storms or runway limitations.

3. Additional ASMA Time



2017 figures show a significant increase in the additional time in terminal airspace in Barcelona (LEBL) and to a lesser extent in Palma de Mallorca (LEPA). In Barcelona, this increase particularly relevant in high season and during the winter months.

In Gran Canaria (GCLP), after the considerable impact in the ASMA results of the Military Events in 2016, the additional times in 2017 have gone back down and now sit below the RP2 average (1.89 min/arr.).

For the other airports, small variations can be observed with respect to 2016, with improved performance at Madrid (LEMD) and Málaga (LEMG), and slightly worse at Palma de Mallorca (LEPA)

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Barcelona	LEBL	3.92	5.18	4.86			1.99	2.25	2.67		
Gran Canaria	GCLP	1.88	2.34	2.28			1.36	2.17	1.65		
Madrid/ Barajas	LEMD	4.30	4.01	3.57			1.04	1.17	1.07		
Málaga	LEMG	1.66	1.96	2.13			0.89	1.29	1.24		
Palma de Mallorca	LEPA	2.54	2.76	3.07			1.45	1.78	1.86		

SPAIN

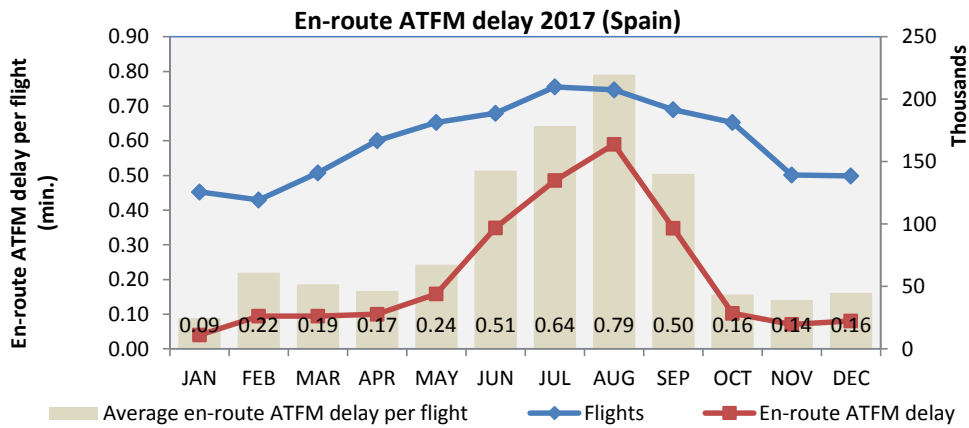
Monitoring of CAPACITY for 2017

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.30	0.29	0.28	0.27	0.27	
Deadband +/-	0.00	0.00	0.00	0.00	0.00	
Actual performance	0.33	0.37	0.35			

National capacity incentive scheme

N/A: incentive scheme defined at FAB level.

Observations regarding national capacity performance



En-route ATFM delay per flight (Spain)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.57	0.78	1.93	1.56	0.48	0.41	0.30	0.33	0.37	0.35

En-route capacity performance in Spain improved in 2017 (0.35 minutes per flight), in comparison to 2016 (0.37 minutes per flight), although the national target for en-route ATFM delays was not achieved (0.28 minutes per flight).

For Spain (Continental) traffic rose by more than 6% from 2016 levels, which itself saw an increase of more than 7% on 2015 levels. The number of flights already handled in 2017 was above the highest traffic predicted for 2018 in the STATFOR forecast available when the national /FAB performance targets were being set and the associated capacity plans developed. Spain (Continental) has been handling more traffic than predicted for each year of RP2 to date.

EUROCONTROL 7 year forecast February 2014 – Spain (Continental)									
	2014	2015	2016	2017	2018	2019			
	actual	actual	actual	actual					
High	1577	1639	1711	1772	1842	1914			
Base	1555	1600	1642	1679	1723	1767			
Low	1531	1556	1563	1577	1596	1615			

EUROCONTROL 7 year forecast February 2014 – Spain (Canarias)									
	2014	2015	2016	2017	2018	2019			
	actual	actual	actual	actual					
High	315	327	337	349	362	374			
Base	307	312	316	322	328	334			
Low	298	297	312	299	300	301			

ENAIRES has addressed the capacity shortfall by implementing efforts to reduce delays such as advanced ATFCM measures (STAM). It has also implemented actions to increase capacity such as splitting sectors and increasing some sector capacities. Further plans to increase capacity include updating ATM systems; optimising sector capacities and configurations; a progressive increase in the number of controller staff; and redesign of the interface between several ACCs.

In the latest version of the Network Operations Plan 2018-2022, the Network Manager expects capacity shortfalls in Barcelona and Palma ACCs for the remainder of RP2, associated with continued high traffic growth.

Planning and Effective Use of CDRs

Spain	2015 Value	2016 Value	2017 Value	2018 Value	2019 Value
Number of aircraft filing flight plans via CDRs		150.272	130.248		
Number of aircraft that could have planned		231.905	230.495		
Rate of planning		44%	30%		

Additional comments

Rate of planning corresponds to the average value calculated for each CDR, and it is therefore not calculated from the two values reported above.

Spain	2015 Value	2016 Value	2017 Value	2018 Value	2019 Value
Number of aircraft using CDRs		110.960	114.684		
Number of aircraft that could have planned		231.905	230.495		
Effective use of CDRs		26%	21%		

Additional comments

Effective use of CDRs corresponds to the average value calculated for each CDR, and it is therefore not calculated from the two values reported above.

Observations on Planning and Effective Use of CDRs

Spain provides values for the rate of planning of CDRs and the effective use of CDRs with the caveat that they are not calculated on the reported figures. Therefore it is impossible to draw any conclusions from these figures.

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
42%	47%	52%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
N/A	1%	<1%		

Share of restricted / segregated time (via UUP process) that was actually used				
2015	2016	2017	2018	2019
N/A	N/A	71%		

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

SPAIN

Monitoring of Airports Contribution to CAPACITY for 2017

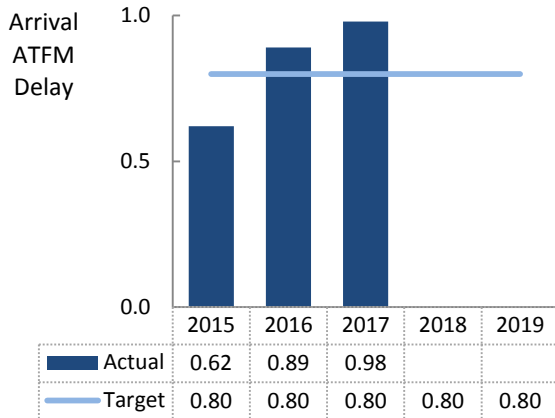
1. Overview

Spain identifies 5 airports as subject to RP2 monitoring. The established national target on arrival ATFM delay was exceeded in 2017 by 0.18 min/arr.

Regarding the adherence to ATFM slots, the performance varies depending on the airport, but all of them have a compliance around or above 90%.

The reported pre-departure delay requires further validation due to the extended use of ambiguity codes.

2. Arrival ATFM Delay



With an average traffic increase at the Spanish airports (subject to monitoring) of 5%, the national average of arrival ATFM delay reaches 0.98 min/arr. in 2017. This value represents, after the increase of 44% in 2016, another 10% over the previous year.

SW FAB highlights the significant improvement in the delay reported to causes of ATC capacity (-85%), which has been eclipsed by the great impact of the delay due to meteorological causes, which represents more than 50% of the total delay obtained in 2017. AESA identified after analysing the data versus the alerts and the information made available by ENAIRE that the target was not going to be met by the end of the year. Consequently, in compliance to Regulation (EU) No 390/2013 Article 18.4, AESA submitted a notification to the EC in October analysing the situation and providing information on the measures applied and planned.

The overall conclusion was that the set of measures deployed would not be sufficient to meet the Spain target by the end of the year, which ended up being true. Causes for not meeting the target, identified in the letter sent to the EC, have finally been confirmed: difficulties to identify the actual capacity impact of measures (especially regarding ACC Barcelona) together with the unusual occurrence of weather events and overall traffic above forecast. However, the efforts made by ENAIRE helped mitigating the impact by the end of the year and have introduced a progressive positive effect.

At airport level, the highest arrival ATFM delay is found once again at Barcelona (LEBL), where the actual performance is 1.72 min/arr.

SW FAB reports that Barcelona is the most congested airport of the Spanish network. According to the reported reasons for the regulations, the ATFM arrival delay was due to aerodrome capacity (22.3%), environmental issues (28.7%) and meteorology (47.2%). Meteorology delay increased above 60% while aerodrome capacity delay was reduced 28%. Delays associated to ATC Capacity were near zero. SW FAB's monitoring report mentions that approach capacity will be increased through the improvement of the Barcelona TMA, including the creation of a RNAV transition which will provide capacity with lower dependency of the scenario. Other planned short term improvements are Electronic Flight Strips and Departure-Data Clearance.

In Gran Canaria (GCLP) the delays have slightly improved in 2017, but they are still triple of the delays in 2015. SW FAB reports that the delay was mainly associated to meteorology (16.2%) and aerodrome capacity (70.1%). Only 3% of delays were associated with ATC Capacity. Arrivals separation minima had to be increased significantly in the periods when one of the two runways was out of service due to maintenance works in the runway and taxiway. Planned short term measures include the improvement of the LoA and Visual Approaches Charts (VAC).

In Málaga (LEMG) the arrival ATFM delay notably increased compared to 2016, especially meteorological and aerodrome capacity causes. These delays were generated during summer due to the heavy traffic increase above 10%. Delays associated to ATC Capacity were 7%. Planned short term improvements include the implementation of AMAN and Departure-Data Clearance.

In Madrid the reference value was met. SW FAB reports that this was despite severe weather conditions that generated 60% of total ATFM delay. 39% of the delay was allocated to Aerodrome Capacity. Planned short term improvements include the implementation of High Intensity Runway Operations (HIRO) and improvements in Low Visibility Procedures (LVP).

In Palma de Mallorca (LEPA) the reference value was also met, with a very similar distribution of the reasons for that delay to Madrid (i.e. 40.5% allocated to Aerodrome Capacity and 57% allocated to Weather). Planned short term improvements include the implementation of Departure-Data Clearance and the modification of taxiway sectors (OR GMC-C).

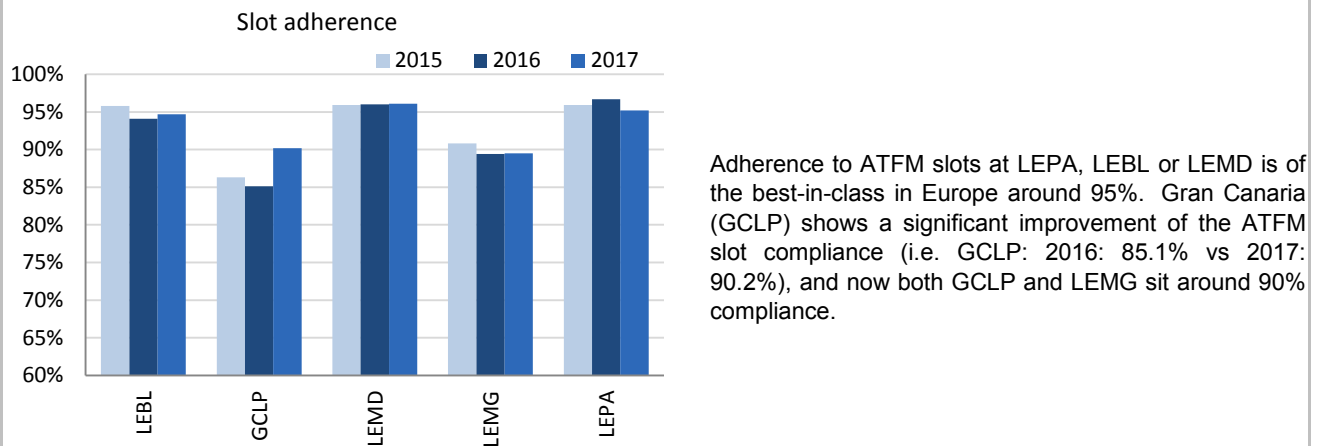
3. Arrival ATFM Delay – National Target and Incentive Scheme

The SW FAB performance plan sets a consistent national target on arrival ATFM delay with a breakdown per airport for each of the years of the reference period. The target is constant throughout RP2.

Given the actual performance, the national target is not met in 2017, while the local reference values are met only for Madrid and Palma de Mallorca.

The SW FAB performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for Spain.

4. ATFM Slot Adherence



5. Pre-departure Delay

The Airport Operator Data Flow is established for all Spanish airports subject to RP2 monitoring. Nevertheless, the share of delayed flights with no delay code attribution and/or ambiguity delay codes is too high and it risks the calculation of the ATC pre-departure delay indicator.

Spain shall encourage the proper reporting of the pre-departure delays at all airports.

According to the reported figures, the average pre-departure delay due to capacity restrictions at the airport of departure has increased at all Spanish airports in 2017, except Gran Canaria where it has remained constant. The most significant increase has taken place at Palma de Mallorca airport between May and October and in Madrid/Barajas airport in May.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Barcelona	LEBL	0.68	1.62	1.72			95.8%	94.1%	94.7%			0.50	0.73	0.79		
Gran Canaria	GCLP	0.17	0.58	0.55			86.3%	85.1%	90.2%			0.33	0.38	0.38		
Madrid/ Barajas	LEMD	0.34	0.51	0.62			95.9%	96.0%	96.1%			0.61	0.48	0.57		
Málaga	LEMG	0.04	0.01	0.15			90.8%	89.4%	89.5%			0.32	0.34	0.50		
Palma de Mallorca	LEPA	1.69	1.20	1.26			95.9%	96.7%	95.2%			0.23	0.30	0.61		

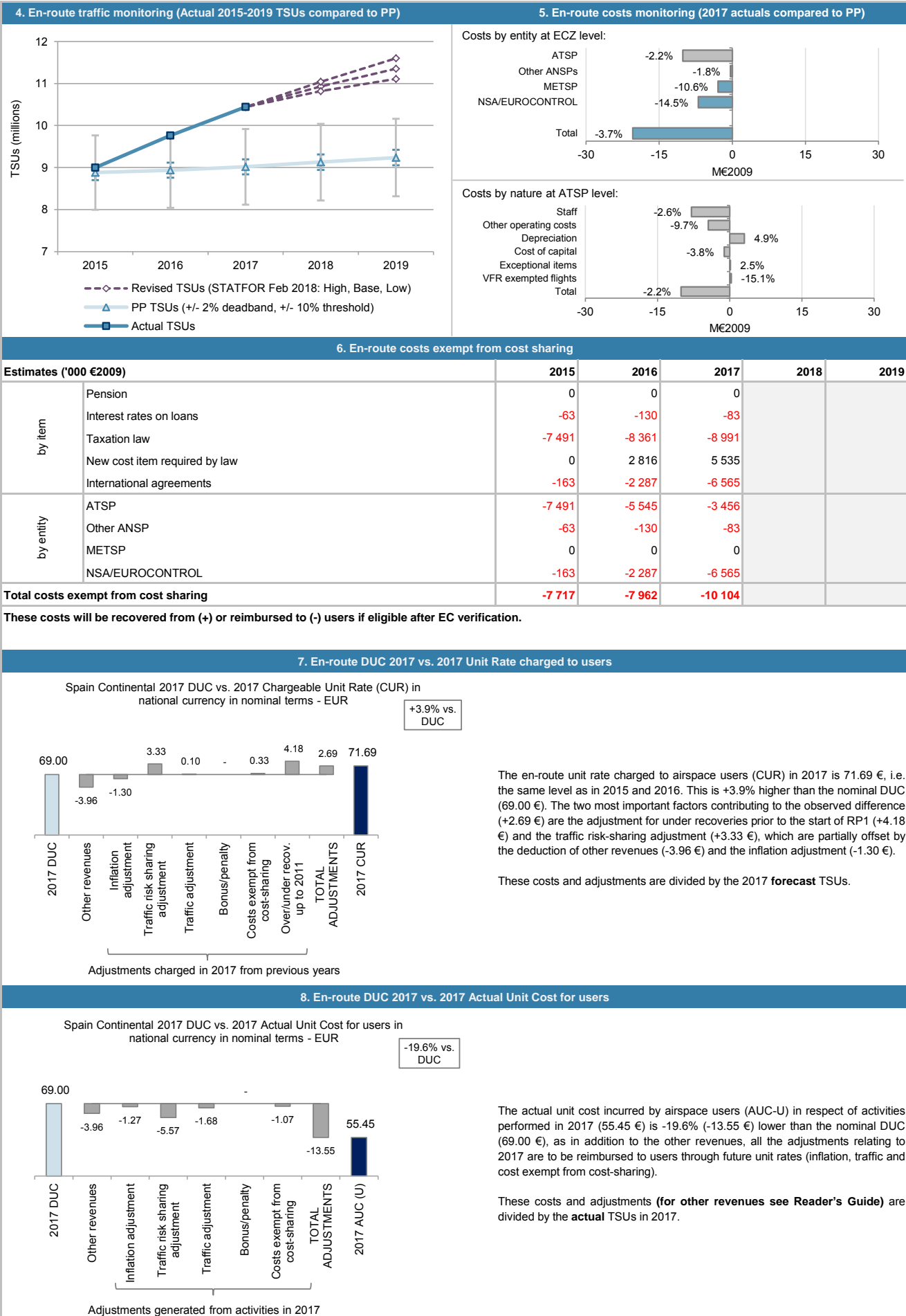
SPAIN CONTINENTAL: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· Spain Continental ECZ represents 9.0% of the SES en-route ANS determined costs in 2017						
· ATSP: ENAIRE						
· FAB: SW FAB						
· National currency: EUR						
2. En-route DUC monitoring at Charging Zone level						
Spain Continental: Data from RP2 PP (EC Decision 2015/348 of 2 March 2015)	2015D	2016D	2017D	2018D	2019D	
En-route costs (nominal EUR)	620 443 569	622 072 583	622 240 962	625 580 952	627 777 294	
Inflation %	0.8%	0.9%	1.0%	1.0%	1.1%	
Inflation index (100 in 2009)	110.6	111.6	112.7	113.9	115.1	
Real en-route costs (EUR2009)	561 172 369	557 638 172	552 025 959	549 379 889	545 563 910	
Total en-route Service Units	8 880 000	8 936 000	9 018 000	9 128 000	9 238 000	
Real en-route unit cost per Service Unit (EUR2009)	63.20	62.40	61.21	60.19	59.06	
Spain Continental: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
En-route costs (nominal EUR)	592 195 475	589 472 196	586 391 358			
Inflation %	-0.6%	-0.3%	2.0%			
Inflation index (100 in 2009)	108.5	108.1	110.3			
Real en-route costs (EUR2009)	545 935 983	545 060 616	531 580 286			
Total en-route Service Units	8 997 417	9 761 348	10 440 757			
Real en-route unit cost per Service Unit (EUR2009)	60.68	55.84	50.91			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
En-route costs (nominal EUR)	in value -28 248 094	in value -32 600 387	in value -35 849 604			
	in % -4.6%	in % -5.2%	in % -5.8%			
Inflation %	in p.p. -1.4 p.p.	in p.p. -1.2 p.p.	in p.p. 1.0 p.p.			
Inflation index (100 in 2009)	in p.p. -2.1 p.p.	in p.p. -3.4 p.p.	in p.p. -2.4 p.p.			
Real en-route costs (EUR2009)	in value -15 236 386	in value -12 577 556	in value -20 445 673			
	in % -2.7%	in % -2.3%	in % -3.7%			
Total en-route Service Units	in value 117 417	in value 825 348	in value 1 422 757			
	in % 1.3%	in % 9.2%	in % 15.8%			
Real en-route unit cost per Service Unit (EUR2009)	in value -2.52	in value -6.56	in value -10.30			
	in % -4.0%	in % -10.5%	in % -16.8%			
3. Focus on en-route at State/Charging Zone level						
<p>En-route unit cost</p> <p>In 2017, the actual en-route unit cost, in real terms, for Spain Continental (50.91 €2009) is some -16.8% lower than the en-route DUC target (61.21 €2009). This difference results from the combination of higher than planned TSUs (+15.8%) and lower than planned en-route costs (-3.7%, or -20.4 M€2009). Lower than planned actual costs, in real terms, result from both lower than planned costs in nominal terms (-5.8%) and still a lower than planned actual inflation index (-2.4 p.p. vs. plan), even though the 2017 actual inflation rate is higher than planned (+1.0 p.p.).</p> <p>En-route service units</p> <p>The difference between actual and planned TSUs for Spain Continental (+15.8%) falls outside the +10% threshold foreseen in the traffic risk-sharing mechanism. The resulting additional en-route revenues relating to the traffic risk sharing are therefore shared between the airspace users and the ATSP (ENAIRE), the latter retaining +20.4 M€2009.</p> <p>Considering the STATFOR February 2018 TSUs forecasts, the level of Spain Continental TSUs is likely to remain substantially higher than planned, and exceed the +10% threshold, for the rest of RP2. It is noteworthy that the traffic forecasts underpinning the en-route DUC targets were in line with the STATFOR February 2014 TSUs <u>low</u> case forecast scenario (see box 4).</p> <p>En-route costs</p> <p>In nominal terms, the 2017 actual en-route costs are -5.8% (or -35.8 M€) lower than planned for Spain Continental. However, since the actual inflation index remains also lower than planned (-2.4 p.p.), actual en-route costs are -3.7% lower than planned in real terms (-20.4 M€2009).</p> <p>The overall difference (-20.4 M€2009) between actual and planned costs in 2017 for Spain Continental reflects the fact that all the reporting entities recorded lower than planned costs: ENAIRE (-2.2%, or -10.1 M€2009), the NSAs/EUROCONTROL (-14.5%, or -7.0 M€2009), AEMET (-10.6%, or -2.9 M€2009), and the other ANSP (EA-Air Force) (-1.8%, or -0.4 M€2009). A detailed analysis of the main en-route ATSP (ENAIRE) costs is provided in box 12.</p> <p>Costs exempt from cost-sharing are reported for a net amount of -10.1 M€2009 in 2017, primarily corresponding to unforeseen changes in the national taxation law (VAT) for ENAIRE (-9.0 M€2009). Other costs exempt from cost sharing include -6.6 M€2009 relating to EUROCONTROL costs and some -0.08 M€2009 relating to interest rates on loans for other ANSP. See also Note 1 at the end.</p>						

SPAIN CONTINENTAL: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017



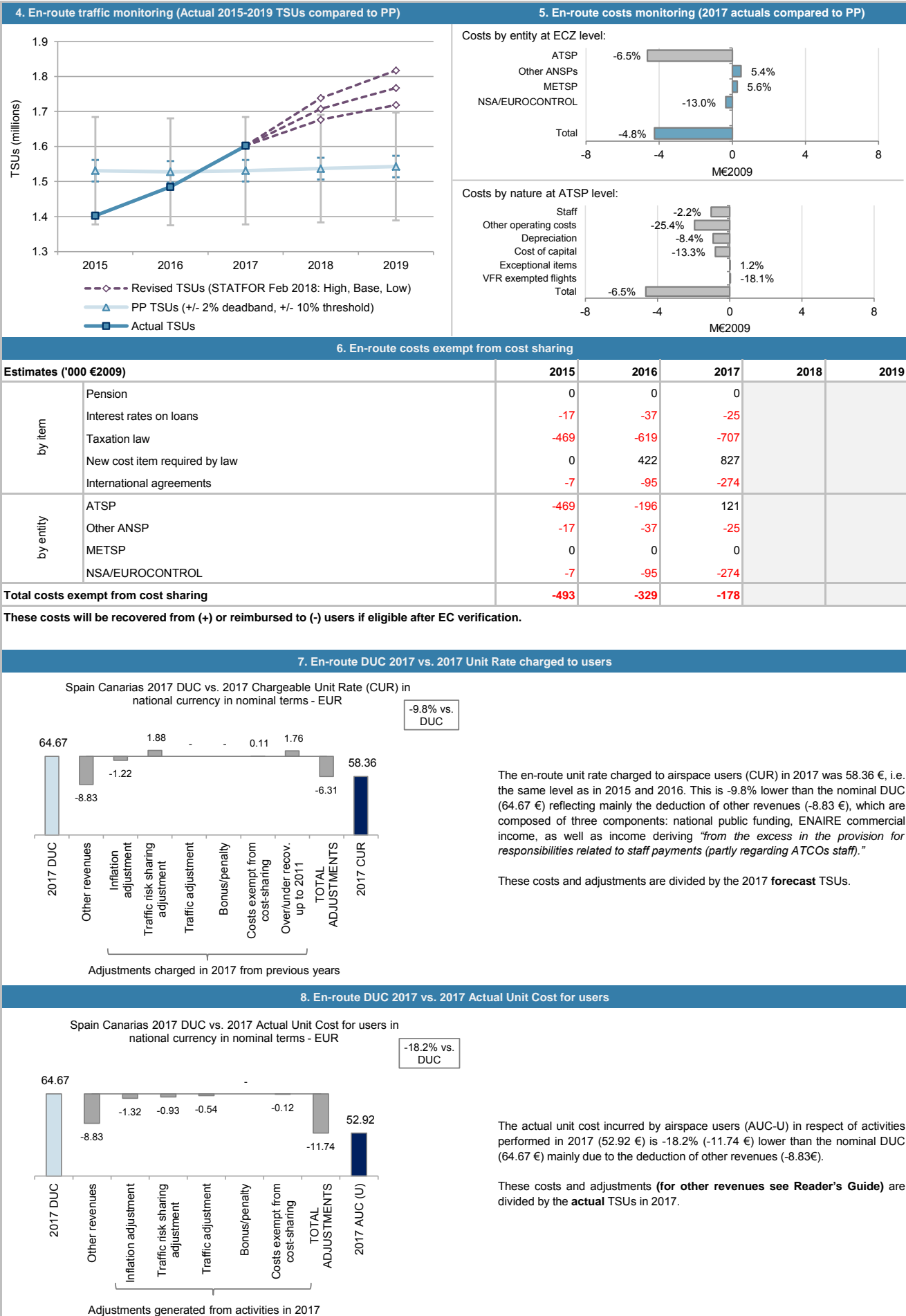
SPAIN CANARIAS: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
<ul style="list-style-type: none"> Spain Canarias ECZ represents 1.4% of the SES en-route ANS determined costs in 2017 ATSP: ENAIRE FAB: SW FAB National currency: EUR 						
2. En-route DUC monitoring at Charging Zone level						
Spain Canarias: Data from RP2 PP (EC Decision 2015/348 of 2 March 2015)	2015D	2016D	2017D	2018D	2019D	
En-route costs (nominal EUR)	98 528 223	98 750 683	99 003 882	98 495 359	98 326 935	
Inflation %	0.8%	0.9%	1.0%	1.0%	1.1%	
Inflation index (100 in 2009)	110.6	111.6	112.7	113.9	115.1	
Real en-route costs (EUR2009)	89 115 786	88 522 066	87 832 072	86 497 790	85 450 091	
Total en-route Service Units	1 531 000	1 528 000	1 531 000	1 537 000	1 543 000	
Real en-route unit cost per Service Unit (EUR2009)	58.21	57.93	57.37	56.28	55.38	
Spain Canarias: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
En-route costs (nominal EUR)	98 587 390	96 004 724	92 194 141			
Inflation %	-0.6%	-0.3%	2.0%			
Inflation index (100 in 2009)	108.5	108.1	110.3			
Real en-route costs (EUR2009)	90 886 212	88 771 607	83 576 586			
Total en-route Service Units	1 402 349	1 484 755	1 602 003			
Real en-route unit cost per Service Unit (EUR2009)	64.81	59.79	52.17			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
En-route costs (nominal EUR)	in value 59 166	-2 745 959	-6 809 741			
	in % 0.1%	-2.8%	-6.9%			
Inflation %	in p.p. -1.4 p.p.	-1.2 p.p.	1.0 p.p.			
Inflation index (100 in 2009)	in p.p. -2.1 p.p.	-3.4 p.p.	-2.4 p.p.			
Real en-route costs (EUR2009)	in value 1 770 426	249 541	-4 255 486			
	in % 2.0%	0.3%	-4.8%			
Total en-route Service Units	in value -128 651	-43 245	71 003			
	in % -8.4%	-2.8%	4.6%			
Real en-route unit cost per Service Unit (EUR2009)	in value 6.60	1.86	-5.20			
	in % 11.3%	3.2%	-9.1%			
3. Focus on en-route at State/Charging Zone level						
<p>En-route unit cost In 2017, the actual en-route unit cost for Spain Canarias (52.17 €2009) is -9.1% lower than planned (57.37 €2009). This difference results from the combination of higher than planned TSUs (+4.6%) and lower than planned en-route costs (-4.8%, or -4.3 M€2009). Lower than planned actual costs, in real terms, result from both lower than planned costs in nominal terms (-6.9%) and still a lower than planned actual inflation index (-2.4 p.p. vs. plan) although the 2017 actual inflation rate is higher than planned (+1.0 p.p.).</p> <p>En-route service units The difference between actual and planned TSUs for Spain Canarias (+4.6%) falls outside the ±2% dead-band, but is inside the ±10% alert threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP (ENAIRE) and airspace users, with the gain retained by ENAIRE, for Spain-Canarias, amounting to +2.0 M€2009. Looking forward, and based on the STATFOR February 2018 TSUs forecasts, for Spain Canarias en-route charging zone, the traffic is expected to remain much higher than planned for the rest of RP2 (see box 4). It is noteworthy that the traffic forecasts underpinning the en-route DUC targets for Spain Canarias were in line with the <u>low</u> case scenario of the STATFOR September 2014 TSUs forecast.</p> <p>En-route costs The 2017 actual en-route costs are lower than planned in nominal terms (-6.9%) for Spain Canarias. Since the inflation index for 2017 remains lower than planned (-2.4 p.p.), the actual en-route costs in real terms are -4.8% below plans (or -4.3 M€2009). The overall difference between the 2017 actual and planned en-route costs in real terms (-4.3 M€2009) for Spain Canarias is driven mainly by lower ENAIRE costs (-6.5%, or -4.7 M€2009). NSAs/EUROCONTROL costs are also lower than planned (-13.0%, or -0.4 M€2009), while higher than planned actual costs are recorded for the other ANSP (EA-Air Force) (+5.4%, or +0.5 M€2009) and AEMET (+5.6%, or +0.3 M€2009), mainly due to the higher than planned staff costs for both entities.</p> <p>Costs exempt from cost-sharing are reported for a net amount of -0.2 M€2009 in 2017, primarily corresponding to unforeseen changes in the national taxation law (VAT/IGIC) for ENAIRE (-0.7 M€2009). Other costs exempt from cost sharing include smaller amounts relating to interest rates on loans for other ANSP (-0.03 M€2009) and EUROCONTROL costs (-0.3 M€2009). See also Note 1 at the end.</p>						

SPAIN CANARIAS: En-route charging zone

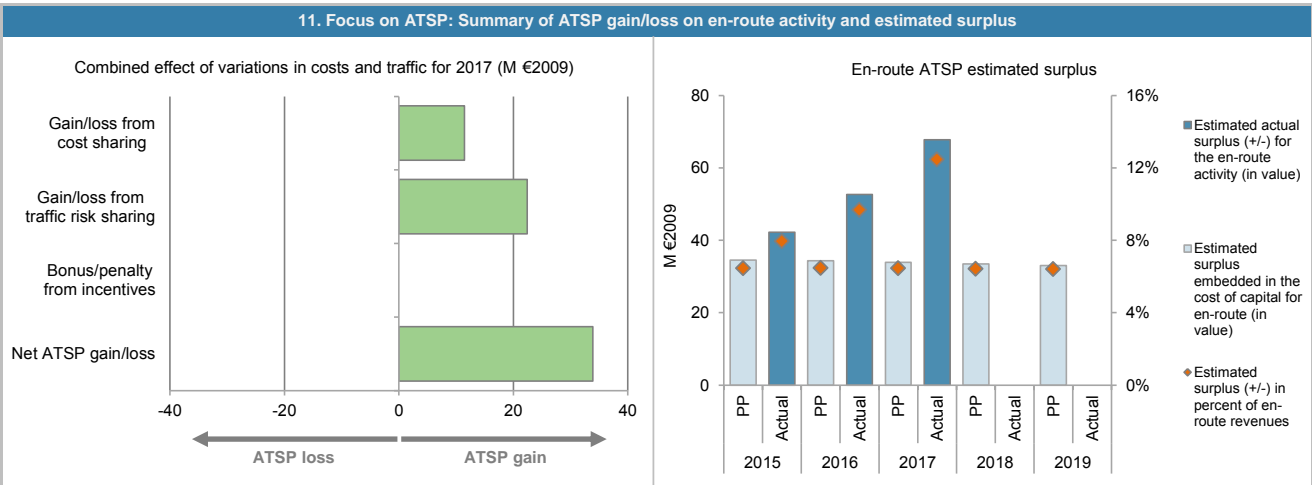
Monitoring of en-route COST-EFFICIENCY for 2017



SPAIN: En-route ATSP (ENAIRE)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	536 016	531 160	524 599		
Actual costs for the ATSP	525 448	524 252	509 809		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	10 568	6 908	14 789		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-7 960	-5 741	-3 335		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	2 608	1 167	11 454		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-0.1%	7.5%	14.2%		
Determined costs for the ATSP (PP) - based on actual inflation	546 337	547 892	536 053		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	3 344	18 098	22 416		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	5 952	19 265	33 869		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	662 856	653 138	639 297	625 967	612 676
Estimated proportion of financing through equity (in %)	76.1%	76.9%	77.8%	78.7%	79.7%
Estimated proportion of financing through equity (in value)	504 175	502 502	497 579	492 931	488 193
Estimated proportion of financing through debt (in %)	23.9%	23.1%	22.2%	21.3%	20.3%
Estimated proportion of financing through debt (in value)	158 680	150 635	141 718	133 036	124 483
Cost of capital pre-tax (in value)	37 615	37 382	36 908	36 455	35 998
Average interest on debt (in %)	1.9%	2.0%	2.1%	2.2%	2.4%
Interest on debt (in value)	3 057	3 049	3 020	2 993	2 964
Determined RoE pre-tax rate (in %)	6.9%	6.8%	6.8%	6.8%	6.8%
Estimated surplus embedded in the cost of capital for en-route (in value)	34 559	34 333	33 887	33 462	33 033
Overall estimated surplus (+/-) for the en-route activity	34 559	34 333	33 887	33 462	33 033
Revenue/costs for the en-route activity	536 016	531 160	524 599	520 447	515 378
Estimated surplus (+/-) in percent of en-route revenues	6.4%	6.5%	6.5%	6.4%	6.4%
Estimated ex-ante RoE pre-tax rate (in %)	6.9%	6.8%	6.8%	6.8%	6.8%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	683 007	646 922	636 747		
Estimated proportion of financing through equity (in %)	77.4%	75.4%	78.2%		
Estimated proportion of financing through equity (in value)	528 950	487 988	497 656		
Estimated proportion of financing through debt (in %)	22.6%	24.6%	21.8%		
Estimated proportion of financing through debt (in value)	154 057	158 934	139 091		
Cost of capital pre-tax (in value)	37 613	34 589	34 945		
Average interest on debt (in %)	0.9%	0.8%	0.8%		
Interest on debt (in value)	1 356	1 248	1 053		
Determined RoE pre-tax rate (in %)	6.9%	6.8%	6.8%		
Estimated surplus embedded in the cost of capital for en-route (in value)	36 257	33 341	33 892		
Net ATSP gain(+)/loss(-) on en-route activity	5 952	19 265	33 869		
Overall estimated surplus (+/-) for the en-route activity	42 209	52 606	67 762		
Revenue/costs for the en-route activity	531 400	543 516	543 679		
Estimated surplus (+/-) in percent of en-route revenues	7.9%	9.7%	12.5%		
Estimated ex-post RoE pre-tax rate (in %)	8.0%	10.8%	13.6%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 ENAIRE en-route costs vs. PP

SPAIN CONTINENTAL

In 2017, ENAIRE actual en-route costs for Spain Continental, in real terms, are -2.2% (-10.1 M€2009) lower than planned. Based on the June 2018 reporting tables, this difference results from the combination of:

- Lower than planned staff costs in real terms (-2.6%, or -8.0 M€2009), reported to be "partly explained by differences in staff numbers between Plan estimate and reality and besides by the necessary redistribution of ATCOs workforce due to traffic increase from control centers to airports".
 - Lower than planned other operating costs in real terms (-9.7%, or -4.5 M€2009), reported to be "partly explained by the impact of the modification in the VAT legislation that has resulted in lower costs for ENAIRE" and is reported under costs exempt from cost sharing.
 - Higher than planned depreciation costs in real terms (+4.9%, or +3.0 M€2009), even though "In 2017 the above mentioned effect related to VAT has also some influence on actual depreciation costs".
 - Lower than planned cost of capital in real terms (-3.8%, or -1.2 M€2009), due to lower than planned actual average interest rate on debts (0.8% instead of 2.1%) and also "the above mentioned effect in VAT has also some influence on cost of capital costs".
- A small deviation is observed for exceptional costs (+2.5%, or +0.1 M€2009).

SPAIN CANARIAS

In 2017, ENAIRE actual en-route costs for Spain Canarias, in real terms, are lower than planned (-6.5%, or -4.7 M€2009). According to the information reported in the June 2018 reporting tables, this difference results from the combination of:

- Lower than planned staff costs in real terms (-2.2%, or -1.0 M€2009), "partly explained by differences in staff numbers between Plan estimate and reality and besides by the necessary redistribution of ATCOs workforce due to traffic increase from control centers to airports".
 - Significantly lower than planned other operating costs in real terms (-25.4%, or -2.0 M€2009), "partly explained by the impact of the modification in the indirect taxes legislation that has resulted in lower costs for ENAIRE".
 - Lower than planned depreciation costs in real terms (-8.4%, or -0.9 M€2009). "In 2017 the above mentioned effect related to VAT has also some influence on actual depreciation costs."
 - Lower than planned cost of capital in real terms (-13.3%, or -0.8 M€2009), reflecting both lower than planned asset base (-8.8%, or -9.1 M€2009) and lower actual average interest on debts (0.8%, instead of 2.1%). Finally, "In 2017 the above mentioned effect in VAT has also some influence on cost of capital costs".
- Small deviation in real terms is observed for exceptional costs (+1.2%, or +0.01 M€2009) reported to be due to "the amount related to the IAS compliance, that will be distributed in 15 years [with effect from] 2008".

ENAIRE net gain/loss on en-route activity in 2017

As shown in box 9, ENAIRE generated an overall net gain of +33.9 M€2009 from en-route activity in Spain Continental and Spain Canarias en-route charging zones. This is a combination of two separate elements:

- A gain of +11.5 M€2009 arising from the cost-sharing mechanism (+6.7 M€2009 gain for Spain Continental and +4.8 M€2009 gain for Spain Canarias); and,
- a gain of +22.4 M€2009 arising from the traffic risk-sharing mechanism (+20.4 M€2009 gain for Spain Continental and +2.0 M€2009 gain for Spain Canarias).

No bonuses or penalties relating to the incentives on en-route capacity were reported since actual performance in 2017 was within the dead-band set in the PP for RP2.

ENAIRE overall estimated surplus for the en-route activity

Ex-post, the 2017 overall estimated surplus for en-route, taking into account the net gain from the en-route activity mentioned above (+33.9 M€2009) and the surplus embedded in the actual cost of capital for both Spain-Continental and Spain-Canarias en-route charging zones (+33.9 M€2009), amounts to +67.8 M€2009 (12.5% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 13.6%, which is higher than the 6.8% planned in the PP.

Spain points out that, as part of the State charging policy, the unit rates for Spain Canarias are artificially reduced by other revenues, recorded under item 5.4 - National public funding in the en-route reporting tables (Route Table 2 ANSP), which ENAIRE does not receive. These "revenues" (i.e. reductions of the unit rates) are therefore financed by (or reducing) the ENAIRE overall surplus for en-route.

Considering the relevant amount of these "revenues" for 2017 (6.4 M€ or 5.8 M€2009), the overall estimated surplus for en-route amounts to +61.9 M€2009 (11.4% of the 2017 en-route revenues) and the resulting ex-post rate of return on equity is 12.4%.

SPAIN: Terminal charging zone

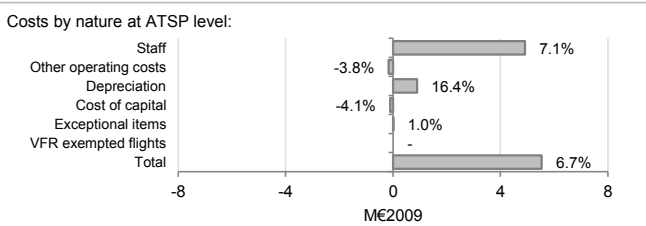
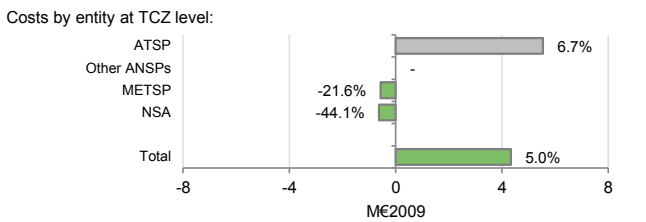
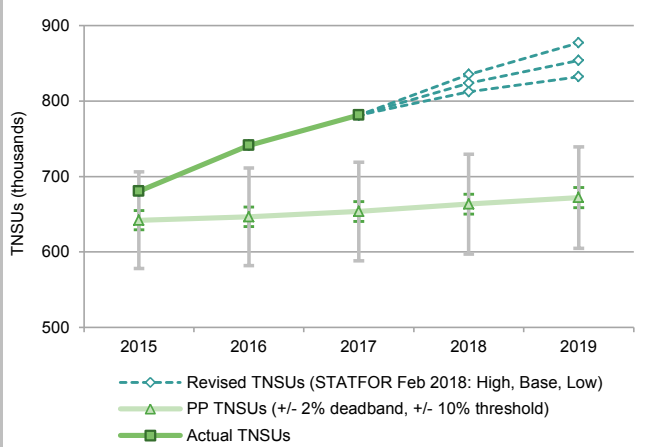
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services					
· Spain TCZ represents 8.0% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes	
· ATSP:	ENAIRES	· Airports with fewer than 70,000 IFRs ATMs:		0	
· National currency:	EUR	· Airports with between 70,000 and 225,000 IFRs ATMs:		3	
· Number of airports in charging zone in 2017:	5,	of which:	· Airports with more than 225,000 IFRs ATMs:	2	
2. Terminal DUC monitoring at Charging Zone level					
Spain: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	99 791 938	99 110 291	97 634 776	96 511 608	95 268 935
Inflation %	0.8%	0.9%	1.0%	1.0%	1.1%
Inflation index (100 in 2009)	110.6	111.6	112.7	113.9	115.1
Real terminal costs (EUR2009)	90 258 778	88 844 426	86 617 459	84 755 676	82 792 565
Total terminal Service Units	641 951	646 445	653 556	663 359	671 983
Real terminal unit cost per Service Unit (EUR2009)	140.60	137.44	132.53	127.77	123.21
Spain: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	104 648 408	107 715 681	100 333 656		
Inflation %	-0.6%	-0.3%	2.0%		
Inflation index (100 in 2009)	108.5	108.1	110.3		
Real terminal costs (EUR2009)	96 473 772	99 600 245	90 955 285		
Total terminal Service Units	680 549	741 105	781 477		
Real terminal unit cost per Service Unit (EUR2009)	141.76	134.39	116.39		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)	in value	4 856 470	8 605 390	2 698 879	
	in %	4.9%	8.7%	2.8%	
Inflation %	in p.p.	-1.4 p.p.	-1.2 p.p.	1.0 p.p.	
Inflation index (100 in 2009)	in p.p.	-2.1 p.p.	-3.4 p.p.	-2.4 p.p.	
Real terminal costs (EUR2009)	in value	6 214 994	10 755 819	4 337 826	
	in %	6.9%	12.1%	5.0%	
Total terminal Service Units	in value	38 598	94 660	127 921	
	in %	6.0%	14.6%	19.6%	
Real terminal unit cost per Service Unit (EUR2009)	in value	1.16	-3.04	-16.14	
	in %	0.8%	-2.2%	-12.2%	
3. Focus on terminal at State/Charging Zone level					
<p>This analysis focuses on Spain Terminal Charging Zone (TCZ) comprising 5 airports: Barcelona, Gran Canaria, Madrid Barajas, Malaga and Palma de Mallorca, for which the traffic risk sharing applies.</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (116.39 €2009) is lower (-12.2%) than the terminal DUC reported in the PP (132.53 €2009). This difference reflects the combination of higher than planned TNSUs (+19.6%) and higher than planned terminal costs in real terms (+5.0% or +4.3 M€2009).</p> <p>Terminal service units The difference between actual and planned TNSUs (+19.6%) exceeds the +10% threshold foreseen in the traffic risk sharing mechanism. The resulting additional terminal revenues are therefore shared between ENAIRES and the airspace users, with the gain retained by ENAIRES amounting to +3.7 M€2009.</p> <p>Considering the STATFOR February 2018 traffic forecasts, it appears that the TNSUs are very likely to remain significantly higher than planned for the rest of RP2, under all STATFOR forecast scenarios. Indeed, if these forecasts materialise, the TNSUs will remain well above the +10% threshold in both 2018 and 2019. It is noteworthy that the TNSU forecast underpinning the terminal ANS DUC targets was rather cautious since it was below the STATFOR February 2014 low case scenario.</p> <p>Terminal costs In nominal terms, the 2017 actual terminal costs are +2.8% higher than planned. Since the 2017 actual inflation index remains lower than planned (-2.4 p.p.), in real terms, the actual terminal costs are +5.0% above plans (+4.3 M€2009). The overall difference between actual and planned costs for 2017 (+4.3 M€2009) is primarily driven by the higher than planned actual costs for ENAIRES (+6.7%, or +5.5 M€2009), as other entities achieved lower than planned costs, including AEMET (-21.6%, or -0.6 M€2009) and NSAs (-44.1%, or -0.6 M€2009). A detailed analysis of ENAIRES costs is provided in box 12. Costs exempt from cost-sharing are reported for a total amount of +0.4 M€2009. It is noted that Spain claims a new cost item in 2017 in Spain TCZ under the "New cost required by law" item, including retroactively for year 2016. These costs will be carried-over to the following reference period(s), if deemed eligible by the European Commission.</p>					

SPAIN: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

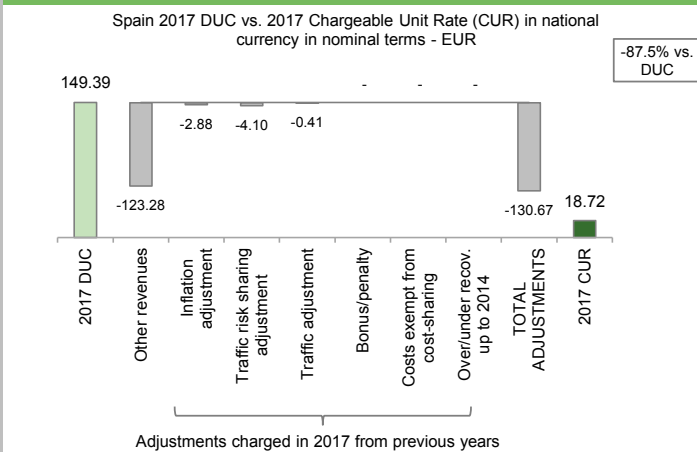


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	-747	-820	-861		
	New cost item required by law	0	633	1 229		
	International agreements	0	0	0		
by entity	ATSP	-747	-186	368		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		-747	-186	368		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

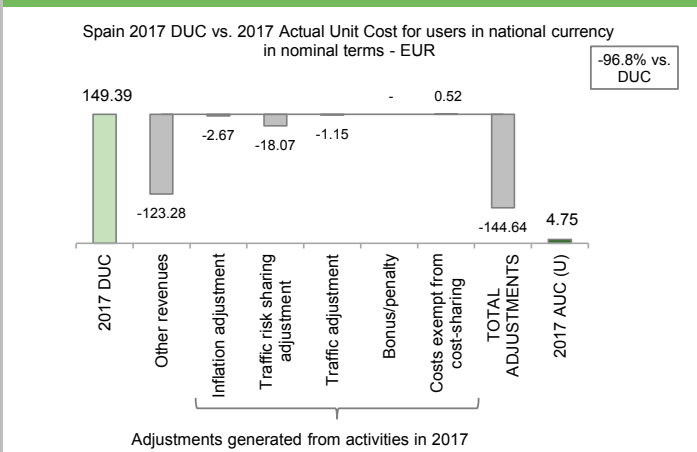
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The terminal unit rate charged to airspace users (CUR) in 2017 is 18.72 €. This is -87.5% lower than the nominal DUC (149.39 €) reflecting mainly a deduction of other revenues (-123.28 €), which are composed of two components: the revenues from agreements with the airport manager regarding aerodrome services provision with regard to the airports in the charging zone and ENAIRE commercial income (publications and other minor technical and consulting activities). Traffic risk-sharing adjustment (-4.10 €) and inflation adjustment (-2.88 €) also contribute albeit with a relatively minor impact.

These costs and adjustments are divided by the 2017 forecast TNSUs.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The terminal actual unit cost incurred by airspace users (AUC-U) in 2017 is 4.75 €, which is -96.8% lower than the terminal nominal DUC (149.39 €) reflecting mainly a significant deduction of other revenues (-123.28 €). Other adjustments relating to terminal activities performed in 2017, which will be reimbursed to users through future unit rates are the traffic risk sharing adjustment (-18.07 €), the inflation adjustment (-2.67 €) and the traffic adjustment for costs not subject to traffic risk sharing (-1.15 €). Small positive adjustment is observed in respect of cost exempt from cost-sharing (+0.52 €).

These costs and adjustments (for other revenues see Reader's Guide) are divided by the actual TNSUs in 2017.

SPAIN: Terminal ATSP (ENAIRE)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	86 182	84 779	82 555		
Actual costs for the ATSP	92 985	96 876	88 095		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-6 803	-12 097	-5 540		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	-747	-186	368		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-7 551	-12 284	-5 172		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	6.0%	14.6%	19.6%		
Determined costs for the ATSP (PP) - based on actual inflation	87 841	87 449	84 358		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	2 814	3 848	3 712		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-4 737	-8 436	-1 460		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	48 175	47 460	46 439	45 463	44 494
Estimated proportion of financing through equity (in %)	76.1%	76.9%	77.8%	78.7%	79.7%
Estimated proportion of financing through equity (in value)	36 642	36 514	36 145	35 801	35 454
Estimated proportion of financing through debt (in %)	23.9%	23.1%	22.2%	21.3%	20.3%
Estimated proportion of financing through debt (in value)	11 533	10 946	10 295	9 662	9 040
Cost of capital pre-tax (in value)	2 734	2 716	2 681	2 648	2 614
Average interest on debt (in %)	1.9%	2.0%	2.1%	2.2%	2.4%
Interest on debt (in value)	222	222	219	217	215
Determined RoE pre-tax rate (in %)	6.9%	6.8%	6.8%	6.8%	6.8%
Estimated surplus embedded in the cost of capital for terminal (in value)	2 512	2 495	2 462	2 430	2 399
Overall estimated surplus (+/-) for the terminal activity	2 512	2 495	2 462	2 430	2 399
Revenue/costs for the terminal activity	86 182	84 779	82 555	80 710	78 746
Estimated surplus (+/-) in percent of terminal revenues	2.9%	2.9%	3.0%	3.0%	3.0%
Estimated ex-ante RoE pre-tax rate (in %)	6.9%	6.8%	6.8%	6.8%	6.8%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	67 014	66 165	46 858		
Estimated proportion of financing through equity (in %)	77.4%	75.4%	78.2%		
Estimated proportion of financing through equity (in value)	51 898	49 910	36 622		
Estimated proportion of financing through debt (in %)	22.6%	24.6%	21.8%		
Estimated proportion of financing through debt (in value)	15 115	16 255	10 236		
Cost of capital pre-tax (in value)	3 690	3 538	2 572		
Average interest on debt (in %)	0.9%	0.8%	0.8%		
Interest on debt (in value)	133	128	77		
Determined RoE pre-tax rate (in %)	6.9%	6.8%	6.8%		
Estimated surplus embedded in the cost of capital for terminal (in value)	3 557	3 410	2 494		
Net ATSP gain(+)/loss(-) on terminal activity	-4 737	-8 436	-1 460		
Overall estimated surplus (+/-) for the terminal activity	-1 179	-5 026	1 034		
Revenue/costs for the terminal activity	88 249	88 440	86 635		
Estimated surplus (+/-) in percent of terminal revenues	-1.3%	-5.7%	1.2%		
Estimated ex-post RoE pre-tax rate (in %)	-2.3%	-10.1%	2.8%		



SPAIN: Gate-to-gate

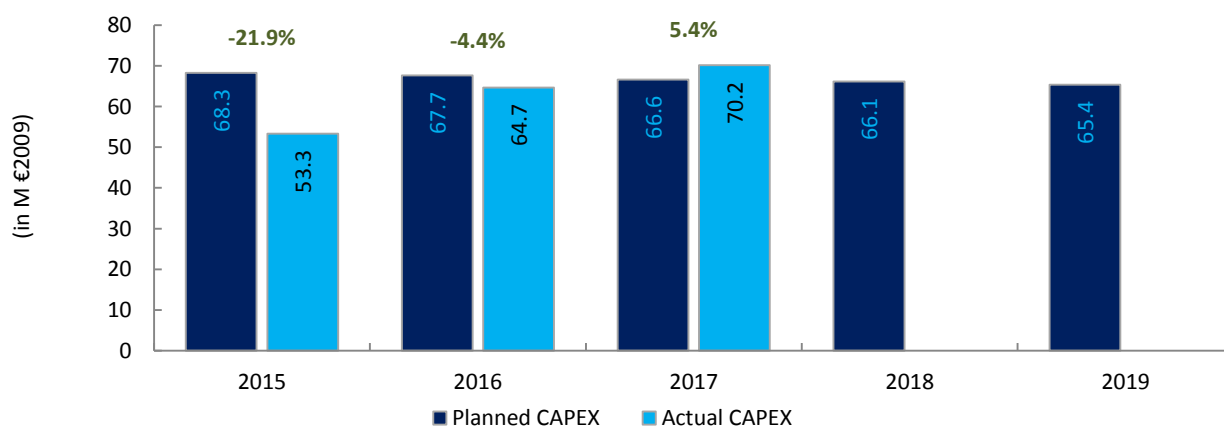
Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs																																													
SPAIN: Data from RP2 Performance Plan																																													
		2015D	2016D	2017D	2018D	2019D																																							
Real en-route costs (EUR2009)		650 288 155	646 160 238	639 858 031	635 877 678	631 014 001																																							
Real terminal costs (EUR2009)		90 258 778	88 844 426	86 617 459	84 755 676	82 792 565																																							
Real gate-to-gate costs (EUR2009)		740 546 933	735 004 664	726 475 490	720 633 354	713 806 566																																							
En-route share (%)		87.8%	87.9%	88.1%	88.2%	88.4%																																							
SPAIN: Actual data from Reporting Tables																																													
		2015A	2016A	2017A	2018A	2019A																																							
Real en-route costs (EUR2009)		636 822 195	633 832 223	615 156 872																																									
Real terminal costs (EUR2009)		96 473 772	99 600 245	90 955 285																																									
Real gate-to-gate costs (EUR2009)		733 295 967	733 432 468	706 112 158																																									
En-route share (%)		86.8%	86.4%	87.1%																																									
Difference between Actuals and Planned (Actuals vs. PP)																																													
		2015	2016	2017	2018	2019																																							
Real gate-to-gate costs (EUR2009)	in value	-7 250 966	-1 572 196	-20 363 332																																									
	in %	-1.0%	-0.2%	-2.8%																																									
En-route share	in p.p.	-1.0 p.p.	-1.5 p.p.	-1.0 p.p.																																									
2. Share of en-route and terminal in gate-to-gate actual costs (2017)																																													
<p>In 2017, actual gate-to-gate ANS costs are -2.8% (-20.4 M€2009) lower than planned due to the combination of overall lower costs for both Spain Continental (-20.4 M€2009) and Spain Canarias (-4.3 M€2009) en-route charging zones, but higher terminal costs (+4.3 M€2009).</p> <p>The actual share of en-route in gate-to-gate ANS costs (87.1%) is -1.0 p.p. below plans for 2017 (88.1%), resulting from both lower than planned en-route costs and higher than planned terminal costs.</p> <p>For ENAIRE, the estimated "gate-to-gate" economic surplus in 2017 amounts to +68.8 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 10.9% of gate-to-gate ANS revenues.</p>																																													
<table border="1"> <caption>Share of en-route and terminal in gate-to-gate actual costs (2017)</caption> <thead> <tr> <th>Year</th> <th>Type</th> <th>En-route (%)</th> <th>Terminal (%)</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2015</td> <td>Determined</td> <td>87.8%</td> <td>12.2%</td> </tr> <tr> <td>Actual</td> <td>86.8%</td> <td>13.2%</td> </tr> <tr> <td rowspan="2">2016</td> <td>Determined</td> <td>87.9%</td> <td>12.1%</td> </tr> <tr> <td>Actual</td> <td>86.4%</td> <td>13.6%</td> </tr> <tr> <td rowspan="2">2017</td> <td>Determined</td> <td>88.1%</td> <td>11.9%</td> </tr> <tr> <td>Actual</td> <td>87.1%</td> <td>12.9%</td> </tr> <tr> <td rowspan="2">2018</td> <td>Determined</td> <td>88.2%</td> <td>11.8%</td> </tr> <tr> <td>Actual</td> <td>88.4%</td> <td>11.6%</td> </tr> <tr> <td rowspan="2">2019</td> <td>Determined</td> <td>88.4%</td> <td>11.6%</td> </tr> <tr> <td>Actual</td> <td>88.4%</td> <td>11.6%</td> </tr> </tbody> </table>							Year	Type	En-route (%)	Terminal (%)	2015	Determined	87.8%	12.2%	Actual	86.8%	13.2%	2016	Determined	87.9%	12.1%	Actual	86.4%	13.6%	2017	Determined	88.1%	11.9%	Actual	87.1%	12.9%	2018	Determined	88.2%	11.8%	Actual	88.4%	11.6%	2019	Determined	88.4%	11.6%	Actual	88.4%	11.6%
Year	Type	En-route (%)	Terminal (%)																																										
2015	Determined	87.8%	12.2%																																										
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2019	Determined	88.4%	11.6%																																										
	Actual	88.4%	11.6%																																										
3. Technical notes on en-route and terminal information reported by SPAIN																																													
Note 1: Costs exempt from cost-sharing and surplus																																													
<p>It is noted that the outcome of the 2015 and 2016 assessment of the NSA reports on costs exempt from cost-sharing have not yet been taken into account in the June 2018 reporting tables and therefore this has an impact on the surplus calculations shown in the 2017 monitoring report.</p> <p>In addition, Spain claims a new cost item in 2017 under the "New cost required by law" item, including retroactively for year 2016. These costs will be carried-over to the following reference period(s), if deemed eligible by the European Commission.</p>																																													

SPAIN

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: ENAIRE						
FAB: SW FAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	75.5	75.5	75.1	75.3	75.2	376.6
Main CAPEX (in nominal M)	49.8	49.8	49.6	50.0	50.0	249.2
Inflation %	0.8%	0.9%	1.0%	1.0%	1.1%	
Inflation index (100 in 2009)	110.6	111.6	112.7	113.9	115.1	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	68.3	67.7	66.6	66.1	65.4	334.1
Main CAPEX (in M €2009)	45.0	44.6	44.0	43.9	43.5	221.0
% Main of Total CAPEX	65.9%	66.0%	66.1%	66.3%	66.5%	66.1%
Real gate-to-gate ANSP costs (in M €2009)	622.2	615.9	607.2	601.2	594.1	3 040.6
Total CAPEX as % of Real gate-to-gate ANSP costs	11.0%	11.0%	11.0%	11.0%	11.0%	11.0%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	57.9	69.9	77.4			
Main CAPEX (in nominal M)	37.2	45.4	52.5			
Inflation %	-0.6%	-0.3%	2.0%			
Inflation index (100 in 2009)	108.5	108.1	110.3			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	53.3	64.7	70.2			
Main CAPEX (in M €2009)	34.3	41.9	47.6			
% Main of Total CAPEX	64.3%	64.9%	67.8%			
Real gate-to-gate ANSP costs (in M €2009)	618.4	621.1	597.9			
Total CAPEX as % of Real gate-to-gate ANSP costs	8.6%	10.4%	11.7%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-17.7	-5.5	2.4			
Total CAPEX (in M €2009)	-15.0	-3.0	3.6			
Total CAPEX (in %, M €2009)	-21.9%	-4.4%	5.4%			



Note: According to Spain, the CAPEX results from 2016 onwards are accounted without taxes, as a consequence of the application of a Regulation from the Spanish State. In order to obtain a correct comparison between results and planned figures, it's necessary to use the Performance Plan investment figures without taxes, which is 63.1 M€ (nominal terms) in 2017 (instead of 75.1 M€ with taxes). This shows that actual result in nominal terms (77.4 M€) is higher than planned by +14.3 M€ instead of +2.4 M€.

Taking this into account, the accumulated 2015 and 2016 investment was 8% below the plan, and for period 2015-2017 the real investment has been 2% above the planned one.

Annual Monitoring Report 2017
Local level view
UK-IRELAND FAB

UK-IRELAND FAB

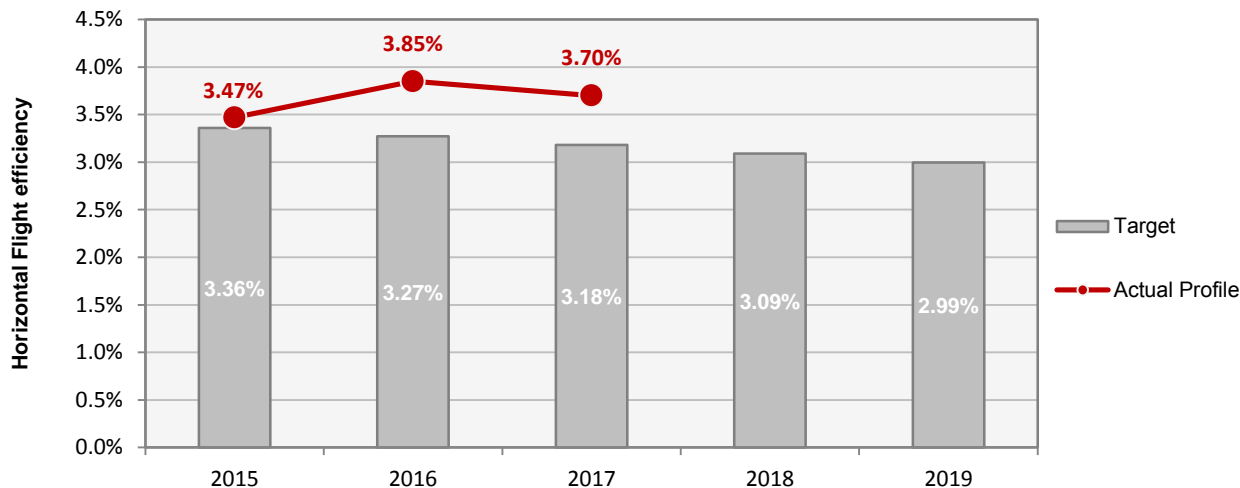
Monitoring of SAFETY for 2017

Effectiveness of Safety Management							
			2015 Value	2016 Value	2017 Value	2018 Value	2019 Target
Union-wide targets	at State level	For all MOs					C
	at ANSP level	For Safety Culture MO					C
		For all other MOs					D
FAB level	States / Regulatory authorities	For all MOs	B	B	B		
	ANSPs	For Safety Culture MO	D	D	D		
	ANSPs	For all other MOs	C	D	D		
Application of the severity classification of the Risk Analysis Tool (RAT)							
Ground Score			2015 Value	2016 Value	2017 Target	2018 Value	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%		100%
	Runway Incursions (RIs)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	100%	100%		
	Runway Incursions (RIs)		100%	100%	100%		
Overall Score			2015 Value	2016 Value	2017 Target	2018 Target	2019 Target
Union-wide targets	Separation Minima Infringements (SMIs)				>= 80%	>= 80%	>= 80%
	Runway Incursions (RIs)				>= 80%	>= 80%	>= 80%
	ATM Specific Occurrences (ATM-S)				>= 80%		100%
FAB level	Separation Minima Infringements (SMIs)		100%	100%	100%		
	Runway Incursions (RIs)		100%	100%	100%		
	ATM Specific Occurrences (ATM-S)		100%	100%	100%		
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)							
Observations							
The lowest level in all EoSM Component/area of the States is Level B, achieved in Safety Policy and Objectives, which is below the 2019 EoSM target level. All other components are already at or above the 2019 EoSM target level.							

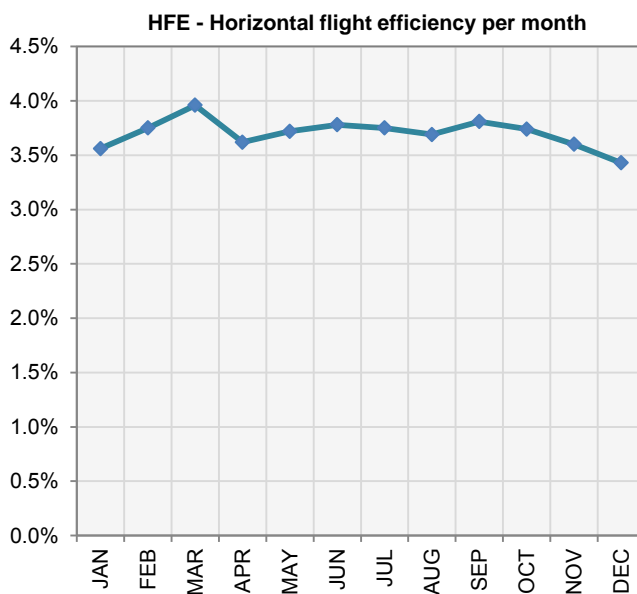
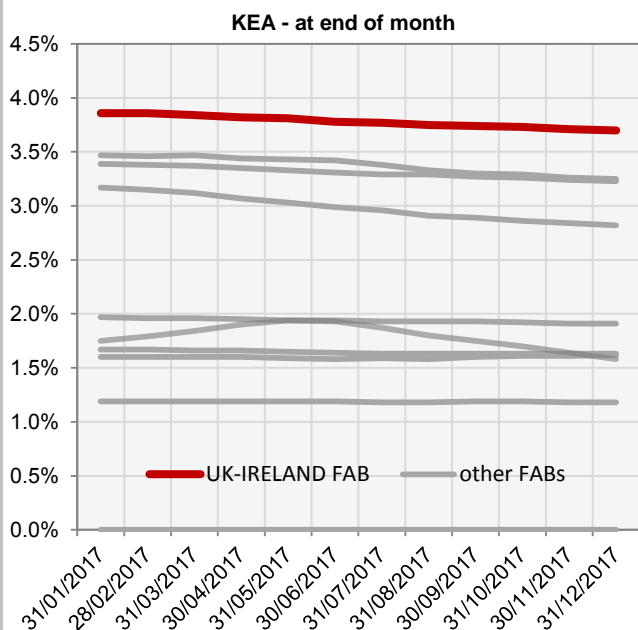
UK-IRELAND FAB

Monitoring of ENVIRONMENT for 2017

KEA					
	2015	2016	2017	2018	2019
FAB Target	3.36%	3.27%	3.18%	3.09%	2.99%
Actual performance	3.47%	3.85%	3.70%		



Monthly KEA and HFE evolution in 2017												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
KEA (at end of month)	3.86%	3.86%	3.84%	3.82%	3.81%	3.78%	3.77%	3.75%	3.74%	3.73%	3.71%	3.70%
HFE	3.56%	3.75%	3.96%	3.62%	3.72%	3.78%	3.75%	3.69%	3.81%	3.74%	3.60%	3.43%



HFE refers to the ratio of flown distance and achieved distance over all (portions of) trajectories in the month, while KEA is the ratio 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.

UK-IRELAND FAB**Monitoring of ENVIRONMENT for 2017****Corrective measures applied, as reported by the FAB**

Given the broader approach to environmental efficiency taken by the UK - covering both horizontal and vertical, and terminal and en-route - the UK has applied financial incentives to the 3Di measure of flight efficiency. NATS' performance in 2017 remains within the deadband.

In respect of KEA, no corrective measures have been applied as the UK CAA considers the overall environmental and network performance to have improved.

Observations

NM recommendations (ERNIP 2018, Part 2):

Cross-border FRA projects implementation must be considered for the entire UK/IE FAB.

In addition to consider cross-border operations with neighbouring FABs (FABEC, DK/SWE FAB and NEFAB).

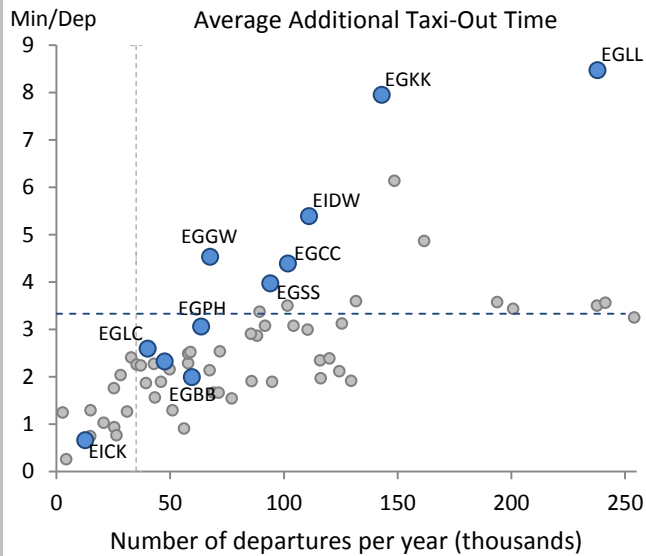
The BOREALIS project will fully deliver after RP2.

1. Overview

UK-Ireland FAB identifies 12 airports as subject to RP2 monitoring. Most of them have correctly established the Airport Data Flow, and only Shannon (EINN) is not providing any data yet.

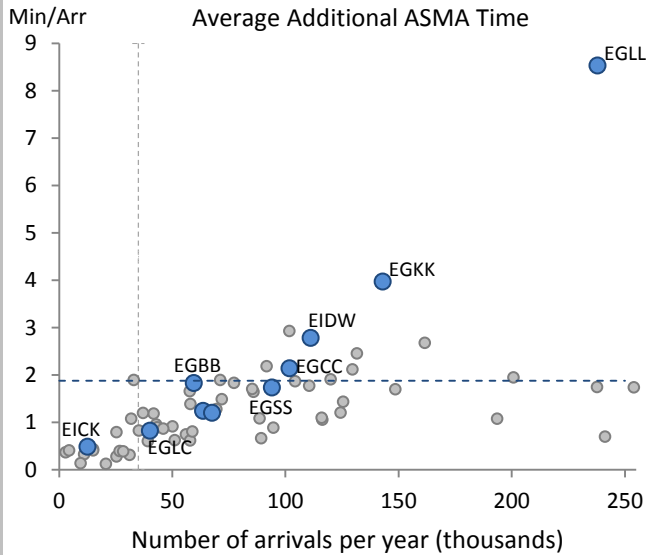
While the high level of capacity utilisation at some of these airports is recognised, the level of inefficiencies across UK-Ireland FAB negatively impacts the ANS contribution to the KPA Environment.

2. Additional Taxi-Out Time



In general the airports in the UK-Ireland FAB sit in the higher part of the scatter plot that relate the performance regarding additional taxi-out time to the traffic levels for all airports in RP2.

3. Additional ASMA Time



Regarding additional time in terminal airspace, the airports within UK-Ireland FAB show a performance commensurate with their levels of traffic with the exception of London Gatwick (EGKK), London Heathrow (EGLL) and to some extent Dublin (EIDW). Additional ASMA time at Heathrow is more than 6 minutes above the RP2 average (1.89 min/arr.).

UK-IRELAND FAB

Monitoring of CAPACITY for 2017

Minutes of ATFM en-route delay						Observations
	2015	2016	2017	2018	2019	
FAB Reference Value	0.25	0.26	0.26	0.26	0.26	
FAB Target	0.25	0.26	0.26	0.26	0.26	
Actual performance	0.08	0.30	0.16			

UK-IRELAND FAB assessment of capacity performance

2017 target has been achieved.

Monitoring process for capacity performance

NSAs monitor ANSP capacity performance on a quarterly basis.

NATS is required under its licence to provide the CAA with an operational report on a quarterly basis, setting out its performance. The CAA uses this report, along with the Service and Investment Plan (submitted on a twice yearly basis) and the Annual Business Report (submitted once a year), to monitor NATS' capacity performance across the year and remain aware if there are any performance issues that may mean the targets may risk not being met.

Actual performance is validated through the PRU dashboard and ANSP engagement with the Network Manager. We note the delay allocation procedure that has been implemented by the Network Manager to consider cases where delay may have been misallocated.

Application of Corrective Measures for Capacity

IRELAND:

No corrective measures have been required in Ireland.

UK:

No corrective measures have been required in the UK.

Capacity Planning

UK-Ireland FAB capacity reference values are based on the capacity plans of the ANSPs. Those reference values have been adopted as the UK-Ireland FAB targets, meaning that capacity planning and performance values are consistent.

Assessment of capacity performance

2017 en-route capacity performance in UK-Ireland FAB was considerably better than the performance in 2016 and the FAB target of 0.26 minutes ATFM delay was achieved. In fact, the UK-Ireland FAB provided a positive contribution to network performance by attaining an actual en-route delay of 0.16 minutes per flight. Traffic levels rose by 3.5% from the traffic level experienced in 2016. Traffic evolution for UK-Ireland FAB is shown below. Traffic levels have been above the high traffic scenario predicted in the STATFOR forecast available when the FAB performance plans and associated capacity plans were determined, in two of the three years of RP2 to date. In the latest version of the NOP, the Network Manager predicts that the UK-Ireland FAB will not experience any capacity issues for the remainder of RP2 and should meet its required capacity target.

EUROCONTROL 7 year forecast February 2014 – UK IRL FAB										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	2298		2362		2439		2502		2573	2645
Base	2275	2299	2327	2358	2373	2488	2410	2576	2454	2500
Low	2250		2279		2296		2311		2331	2351

En route Capacity Incentive Scheme

The UK-Ireland FAB applied a common FAB-wide en-route capacity incentive scheme (C2), described in Chapter 4 of the UK-Ireland FAB performance plan, submitted in July 2015.

The UK has implemented further incentive schemes for NATS related to en-route capacity (C3 & C4). These are described in Chapter 4 of the UK-Ireland FAB performance plan for RP2, submitted in June 2014. The results of these additional incentive schemes are presented in the UK specific section following.

Result of FAB Capacity Incentive Scheme

The UK-Ireland joint incentive mechanism for C2 provides that no bonus will be payable to either NERL or the IAA for a relevant year unless the FAB target for that year has been met; and similarly no penalty will be payable unless the FAB target for that year has been missed.

IRELAND:

Overall FAB performance, as indicated by scores above, allows for a bonus of 1% of en-route revenue to be granted for 2017. In respect of Ireland, the bonus is calculated as follows:

Bonus 2017 Calculation

Billed Revenue: €130 447 225.08 (Per EUROCONTROL)

Total unit rate: 29.54

ANSP unit rate: 25.20

Payable on ANSP Income: €111 291 369.13

At 1%: €1 112,914

UNITED KINGDOM:

The maximum bonus/penalty associated with C2 is 0.25% of ANSP en route revenue (with a further 0.75% being applied to the additional UK capacity incentive measures C3 and C4).

C2 Bonus for 2017 is 0.14% (£916 799) of ANSP en route revenue, of a possible maximum of 0.25% (£1 647 761) of ANSP en-route revenue.

Update on Military dimension of the plan

No new information was provided on how civil military coordination and cooperation is expected to provide additional capacity for general air traffic.

Observations on Military dimension of the plan

Nil

Application of FUA

New information provided by UK-Ireland FAB:

The UK monitors the post operational use of AMC Managed Areas (AMAs) on a monthly basis to establish how the airspace was actually used. These figures are assessed by the CAA and are used by the MoD as a tool to drive improvement in their application of the FUA concept. During 2017 it became increasingly apparent that the integrity of the data used to compile the airspace use statistics was not as robust as could be which resulted in a decrease in airspace efficiency. The method of data collation and analysis is being addressed as part of a series of trials aimed at meeting the needs of new military platforms.

Observations of the Application of FUA

The efforts of the UK to assess the actual use of AMC managed areas (AMAs) are noted, however it is not apparent how the State evaluates how effective the allocation of the airspace (for military operations and training) was in comparison to the simultaneous needs of general air traffic and therefore, to assess if the airspace was managed effectively for the benefit of all airspace users.

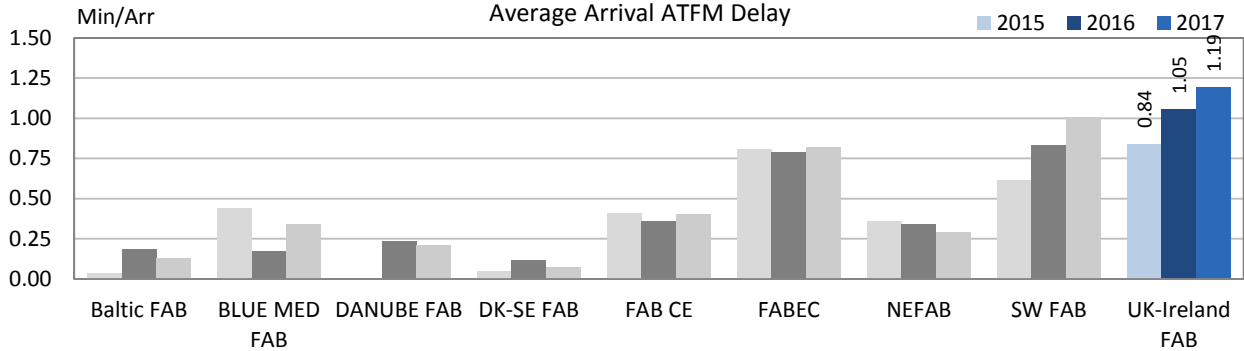
UK-IRELAND FAB

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

UK-Ireland FAB exceeds the European the average on arrival ATFM delay of 0.74 min/arr. by more than 60% resulting in 1.19 min/arr. Next to FABEC and SW FAB, UK-Ireland FAB performance influences the European average significantly. Efforts are required to reduce the high level of arrival ATFM delay.

2. Arrival ATFM Delay



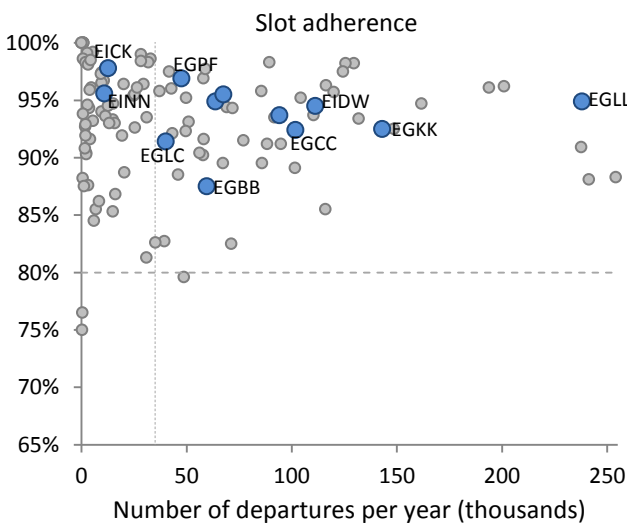
Across Europe, UK-Ireland FAB achieves the worst performance in terms of arrival ATFM delay (i.e. 1.19 min/arr.) that has even worsened with respect to 2016. This is strongly driven by the performance at London airports.

3. Arrival ATFM Delay – National Targets and Incentive Schemes

The UK-Ireland FAB performance plan establishes a national target on arrival ATFM delay for the United Kingdom and Ireland. The targets are consistent with the observed historic performance/performance at the beginning of the reference period. The United Kingdom established a stepwise decreasing target to induce high performance vis-à-vis the expected traffic growth. Ireland works with a stepwise increasing target to balance limitations due to the absence of airport infrastructure related enhancements with the expected traffic growth. While Ireland meets the national target on arrival ATFM delay in all years of the RP2 so far, United Kingdom misses the target for the third year in a row.

The UK-Ireland FAB performance plan presents no incentive scheme for the national target on arrival ATFM delay.

4. ATFM Slot Adherence



Airports in the UK-Ireland FAB show very good performance regarding the adherence to ATFM slots, with values at 90% and even above 95% in several cases. The only exception is Birmingham that still ranges above the 85% threshold.

5. Pre-departure Delay

The Airport Operator Data Flow is implemented at 10 of the 12 airports subject to RP2 monitoring in the UK-Ireland FAB. However the number of delayed flights with no attributed delay causes, and/or the use of ambiguity codes vary widely. Accordingly in some cases the indicator is not representative and is disregarded (i.e. n/a label in the table in the appendix).

Annual Monitoring Report 2017
Local level view
Ireland

IRELAND

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	86	B	D	D	C	C
IAA	91	D	D	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	IAA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	9	0				
Legal/Judiciary	7	0				
Occurrence reporting and Investigation	2	0				
TOTAL	18	0				
IAA	Number of questions answered					
	YES	NO				
Policy and its implementation	13	0				
Legal/Judiciary	2	1				
Occurrence reporting and Investigation	7	1				
TOTAL	22	2				
Observations						
<p>Only one question out of 36 in the EoS M Component/area of the State in Safety Policy and Objectives does not meet the 2019 EoS M target level. After verification some answers were downgraded to align them with EASA audit results to the end of 2017 or because the justification was not sufficient. Detailed feedback has been sent to the State focal point by the EASA Standardisation team.</p>						

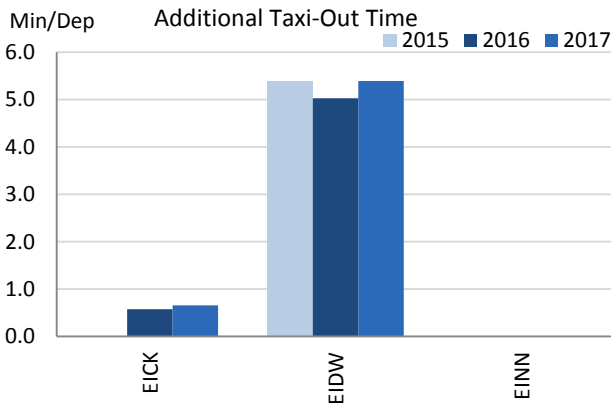
IRELAND

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

Ireland includes 3 airports under RP2 monitoring. After the successful implementation of the Airport Operator Data Flow at Cork airport, Shannon is the only remaining airport that does not provide the required data for the monitoring. Ireland shall empower the airport reporting entity at Shannon (EINN) to establish the Airport Operator Data Flow and/or address the remaining data issues. The three monitored airports in Ireland have experienced an overall traffic growth of 4% with respect to 2016.

2. Additional Taxi-Out Time



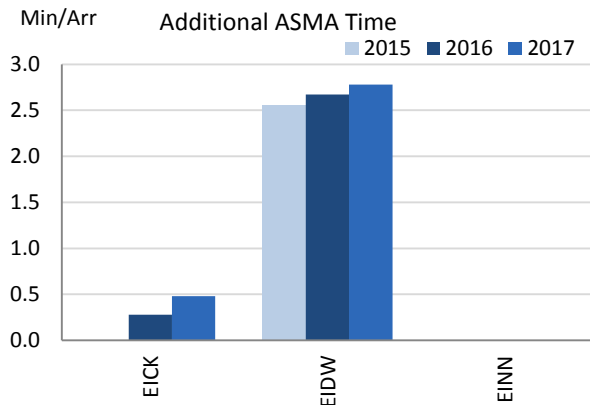
Average additional taxi-out times at Dublin Airport, where the traffic has increased by 4%, are higher in 2017 than 2016 resulting in 5.39 min/dep. average. According to the Irish NSA this is however largely due to the inefficient and complex taxiway layout at the airport, where taxi-out times are a result of infrastructure deficiencies.

This average ATXOT at EIDW is still the highest amongst European airports with similar share of traffic, and only three airports in Europe exceed this value.

Irish NSA reports: "Dublin airport is a single runway operation, currently operating at full capacity during peak periods. The design of the taxiway, apron and stand infrastructure is such there are a number of constraints which can cause taxi-out times to increase. The aerodrome manoeuvring area is populated with several bottlenecks which restrict the service providers ability to deal efficiently with departure peaks. In order to safely operate the infrastructure, it is necessary to apply several airport restrictions on entry and exit to taxiways and the runway. These restrictions which are outside the control of the IAA significantly contribute to taxi-out times and delays. In addition, with Dublin airport operating at full capacity for extended periods, the lack of a second runway and the lack of rapid exit taxiways on the existing runway (noting the importance of preventing runway incursions) may contribute to the additional taxi-out times."

The Irish NSA also points out that there are many variables influencing the taxi-out times that are out of the control of the ANSP.

3. Additional ASMA Time



Regarding additional time in the terminal airspace, both Dublin and Cork show slightly higher average value than in 2016 (i.e. EIDW: 2016: 2.67min/arr. vs 2017: 2.78 min/arr.; EICK: 2016: 0.28 min/arr. vs 2017: 0.48 min/arr.).

While the performance at Cork (EICK) is commensurate with the level of traffic, additional times in the terminal area of Dublin are slightly higher than at similar airports in terms of movements.

Irish NSA reports: "Any arrival congestion at EIDW is a result of the airport operating at or close to capacity for long periods of the day, the infrastructure deficiencies at the aerodrome (lack of rapid exit taxiways, bottlenecks at runway threshold) as well as potentially inefficient slot allocation (not optimised to reduce arrival congestion) and weather related factors. The additional time in terminal airspace may also be related to the use of lateral holding procedures (Point Merge) as opposed to the traditional vertical holding pattern. Lateral holding has shown considerable benefits to the Airspace Users in reduced fuel consumption and to the environment in lowering Co2 emissions around terminal areas. These benefits outweigh any impact on ASMA Time."

The NSA also estimates that as congestion levels increase at EIDW during the construction phase of a second runway and improvements to existing infrastructure, it is likely that ASMA times will increase.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Cork	EICK	n/a	0.58	0.66			n/a	0.28	0.48		
Dublin	EIDW	5.39	5.03	5.39			2.56	2.67	2.78		
Shannon	EINN	n/a	n/a	n/a			n/a	n/a	n/a		

IRELAND

Monitoring of CAPACITY for 2017

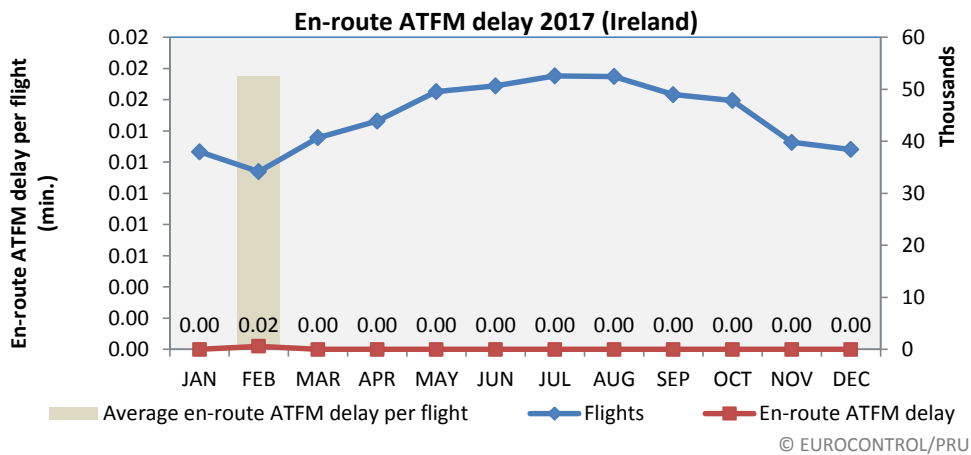
En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.13	0.13	0.14	0.14	0.14	Exclusive use of CRSTMP codes means that the PRB is unable to independently validate the results for incentive purposes. Actual performance reported here is for all causes of delay.
Deadband +/-	0.00	0.00	0.00	0.00	0.00	
Actual performance	0.00	0.00	0.00			

National capacity incentive scheme

Overall FAB performance, as indicated by scores above, allows for a bonus of 1% of en-route revenue to be granted for 2017. In respect of Ireland, the bonus is calculated as follows:

Bonus 2017 Calculation:
 Billed Revenue: €130 447 225.08 (Per EUROCONTROL)
 Total unit rate: 29.54
 ANSP unit rate: 25.20
 Payable on ANSP Income: €111 291 369.13
 At 1%: €1 112 914

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (Ireland)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Ireland continues to demonstrate excellent en-route capacity performance. The achievement of zero delay provided a positive contribution to network performance. The high performance of the IAA is recognised since traffic levels in Ireland have consistently been above the high traffic scenario predicted by STATFOR and available when the FAB performance plans and associated capacity plans were being determined. It is noted that the Network Manager does not expect capacity problems in Ireland for the remainder of RP2.

EUROCONTROL 7 year forecast February 2014 – Ireland									
	2014	2015	2016	2017	2018	2019			
		actual		actual		actual		actual	
High	538		557		573		589		607 624
Base	534	537	552	566	564	610	576	621	589 602
Low	528		540		547		553		560 568

Planning and Effective Use of CDRs

Ireland did not provide any data: there are no CDRs in Ireland.

Observations on Planning and Effective Use of CDRs

The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations become more widespread though the network.

Effective booking procedures

Ireland did not provide any information on this indicator.

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

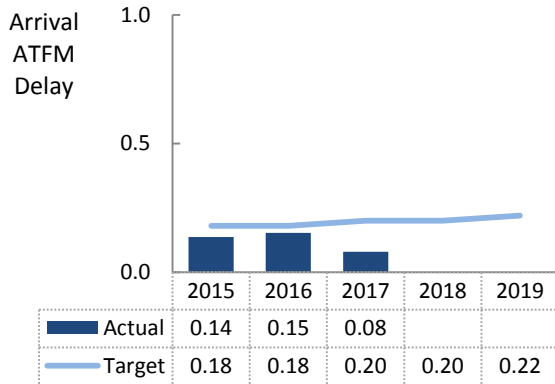
IRELAND

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

Ireland achieves a remarkable performance in terms of ANS contributions to capacity at airports. Ireland identifies 3 airports as subject to RP2. The national target on arrival ATFM delay is fully met by the Irish airports for the second year in a row and all 3 airports show best-in-class performance concerning the adherence to ATFM slots. At the time being, the Airport Operator Data Flow is implemented at 2 airports in Ireland (EIDW and EICK). Nonetheless, validation of the reported delay is required due to the high share of unexplained delay.

2. Arrival ATFM Delay

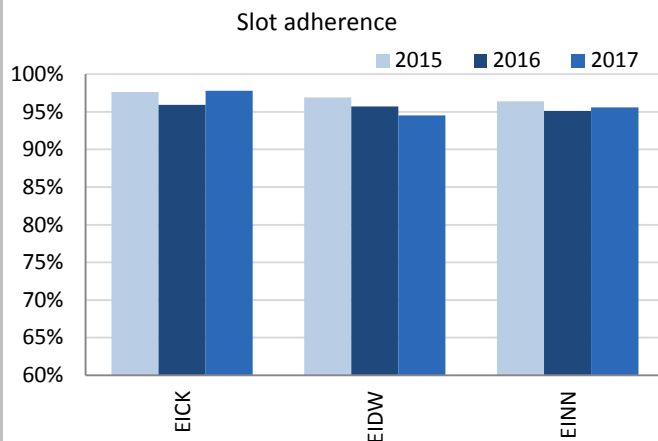


Since the beginning of RP2, in Ireland only Dublin presents arrival ATFM delay. While in 2016 the delays were mainly attributed to Weather, in 2017 half of the delays are attributed to Aerodrome Capacity. Delays at Dublin are reduced to half of last year (2016: 0.19 min/arr. vs 2017: 0.10 min/arr.) with the consequent positive impact on the national average evolution.

3. Arrival ATFM Delay – National Target and Incentive Scheme

Ireland established a national target on arrival ATFM delay for 2017 of 0.20 min/arr. with a breakdown for Dublin. The target is met at national level and the actual performance at Dublin (EIDW) also exceeds its reference value (EIDW: 2017: PP= 0.20 min/arr. vs Actual= 0.10 min/arr.) The UK-Ireland FAB performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for Ireland.

4. ATFM Slot Adherence



The performance regarding ATFM slot adherence at the 3 Irish airports under RP2 monitoring is consistently around the 95% threshold, which marks best-in-class performance.

5. Pre-departure Delay

The ATC pre-departure delay at Dublin has considerably decreased in 2017, despite Dublin airport operating at full capacity for long periods throughout the day, according to the UK-Ireland FAB monitoring report

In line with the reporting observed last year, the high share of pre-departure delay attributed to ambiguity codes does not allow for the calculation of the indicator at Cork (EICK). At Dublin this share is lower, but the share of ambiguity delay codes is still high and it risks the calculation of the ATC pre-departure delay indicator in the future.

The Airport Operator Data Flow, required for the monitoring of the ATC pre-departure delay, is not established for Shannon. Ireland shall encourage the implementation of the Airport Operator Data Flow in Shannon and a proper reporting of the pre-departure delays through this data flow at all airports.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Cork	EICK	0.00	0.00	0.00			97.6%	95.9%	97.8%			n/a	n/a	n/a		
Dublin	EIDW	0.17	0.19	0.10			96.9%	95.7%	94.5%			0.53	0.66	0.38		
Shannon	EINN	0.00	0.00	0.00			96.4%	95.1%	95.6%			n/a	n/a	n/a		

IRELAND: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
<ul style="list-style-type: none"> · Ireland ECZ represents 1.9% of the SES en-route ANS determined costs in 2017 · ATSP: IAA · FAB: UK-Ireland FAB · National currency: EUR 						
2. En-route DUC monitoring at Charging Zone level						
Ireland: Data from RP2 Performance Plan (EC Decision 2015/348 of 2 March 2015)		2015D	2016D	2017D	2018D	2019D
En-route costs (nominal EUR)		118 046 200	121 386 700	125 595 100	129 364 400	130 778 800
Inflation %		1.1%	1.2%	1.4%	1.7%	1.7%
Inflation index (100 in 2009)		103.7	105.0	106.4	108.2	110.1
Real en-route costs (EUR2009)		113 811 728	115 644 664	118 001 964	119 511 684	118 798 780
Total en-route Service Units		4 000 000	4 049 624	4 113 288	4 184 878	4 262 135
Real en-route unit cost per Service Unit (EUR2009)		28.45	28.56	28.69	28.56	27.87
Ireland: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
En-route costs (nominal EUR)		106 657 766	108 543 638	113 784 000		
Inflation %		0.0%	-0.2%	0.3%		
Inflation index (100 in 2009)		102.3	102.1	102.4		
Real en-route costs (EUR2009)		104 273 918	106 330 301	111 130 414		
Total en-route Service Units		4 182 450	4 467 595	4 465 253		
Real en-route unit cost per Service Unit (EUR2009)		24.93	23.80	24.89		
Difference between Actuals and Planned		2015	2016	2017	2018	2019
En-route costs (nominal EUR) in value		-11 388 434	-12 843 062	-11 811 100		
in %		-9.6%	-10.6%	-9.4%		
Inflation % in p.p.		-1.1 p.p.	-1.4 p.p.	-1.1 p.p.		
Inflation index (100 in 2009) in p.p.		-1.4 p.p.	-2.9 p.p.	-4.0 p.p.		
Real en-route costs (EUR2009) in value		-9 537 810	-9 314 363	-6 871 550		
in %		-8.4%	-8.1%	-5.8%		
Total en-route Service Units in value		182 450	417 971	351 965		
in %		4.6%	10.3%	8.6%		
Real en-route unit cost per Service Unit (EUR2009) in value		-3.52	-4.76	-3.80		
in %		-12.4%	-16.7%	-13.2%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
<p>In 2017, the actual en-route unit cost in real terms (24.89 €2009) is -13.2% lower than planned in the PP (28.69 €2009). This difference results from the combination of higher than planned TSUs (+8.6%) and lower than planned en-route costs (-5.8%, or -6.9 M€2009).</p>						
En-route service units						
<p>The difference between actual and planned TSUs (+8.6%) falls outside the ±2% dead band, but is inside the ±10% threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +4.1 M€2009. Considering the latest STATFOR <u>base</u> scenario (February 2018), actual traffic is likely to remain significantly higher than planned until the end of RP2.</p>						
En-route costs						
<p>In nominal terms, actual en-route costs are -9.4% lower than planned. However, since the actual inflation index is also lower than planned (-4.0 p.p.), actual en-route costs are -5.8% below the planned level when expressed in €2009.</p>						
<p>The lower than planned en-route costs in real terms are driven by a combination of lower costs for the IAA (-7.4% or some -7.3 M€2009), the MET Service Provider (-3.7% or -0.3 M€2009) and higher costs for the NSA/EUROCONTROL (+7.0%, or +0.7 M€2009). IAA being the main contributor to the en-route cost base, a detailed analysis at ATSP level is provided in box 12.</p>						
<p>Costs exempt from cost-sharing are reported for a total amount of -1.0 M€2009 corresponding to EUROCONTROL costs. These costs will be eligible for carry-over (reimbursed to airspace users) to the following reference period(s), if deemed allowed by the European Commission.</p>						

Year	Difference (%)
2015	-8.4%
2016	-8.1%
2017	-5.8%

Year	Difference (%)
2015	4.6%
2016	10.3%
2017	8.6%

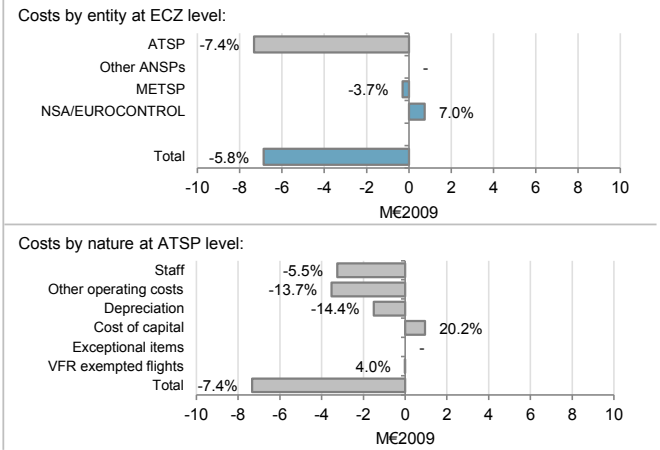
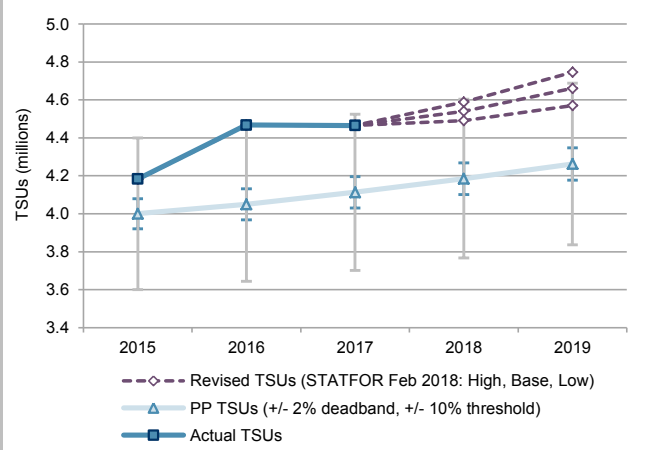
Year	En-route DUC (PP, €2009)	En-route unit costs (actual, €2009)
2015	28.45	24.93
2016	28.56	23.80
2017	28.69	24.89
2018	28.56	-
2019	-	27.87

Year	Difference (%)
2015	-12.4%
2016	-16.7%
2017	-13.2%

IRELAND: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) 5. En-route costs monitoring (2017 actuals compared to PP)

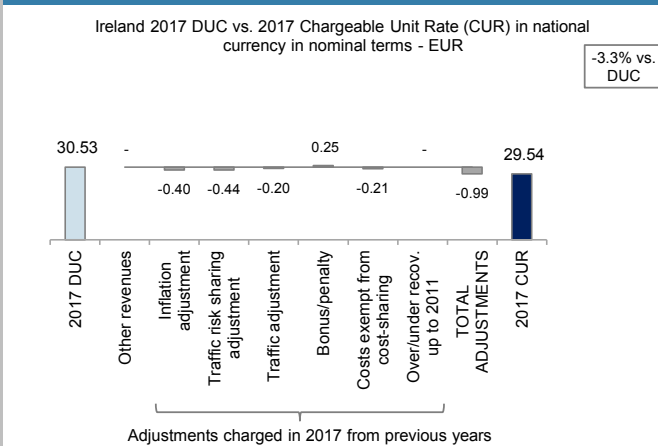


6. En-route costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	-247	-567	-963		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA/EUROCONTROL	-247	-567	-963		
Total costs exempt from cost sharing		-247	-567	-963		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. En-route DUC 2017 vs. 2017 Unit Rate charged to users

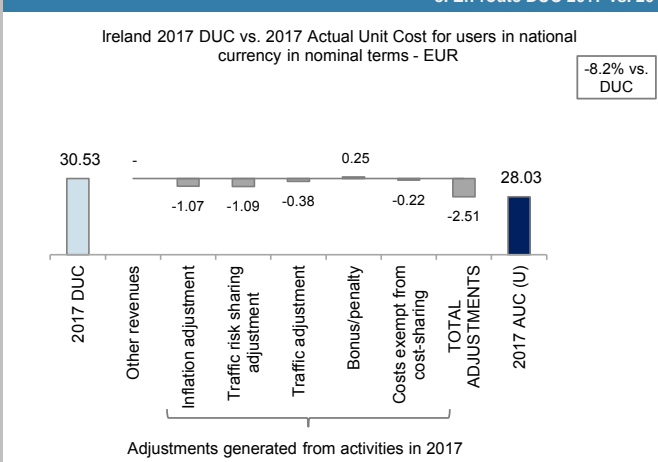


The CUR charged to airspace users in 2017 is 29.54 €. This is -3.3% lower than the nominal DUC (30.53 €). The difference between these two figures (-0.99 €) mainly relates to:

- the traffic risk sharing adjustment (-0.44 €) reflecting the gain in revenues due to higher than planned traffic in 2015 which is reimbursed to airspace users in 2017; and,
- the inflation adjustment (-0.40 €) which reflects the impact of a lower than planned inflation index for the year 2015, and the subsequent reimbursement to airspace users in 2017.

These costs and adjustments are divided by the **forecast** TSUs for 2017 as laid out in the RP2 performance plan.

8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (28.03 €) is -8.2% lower than the nominal DUC (30.53 €). The major factors contributing to the observed difference (-2.51 €) are:

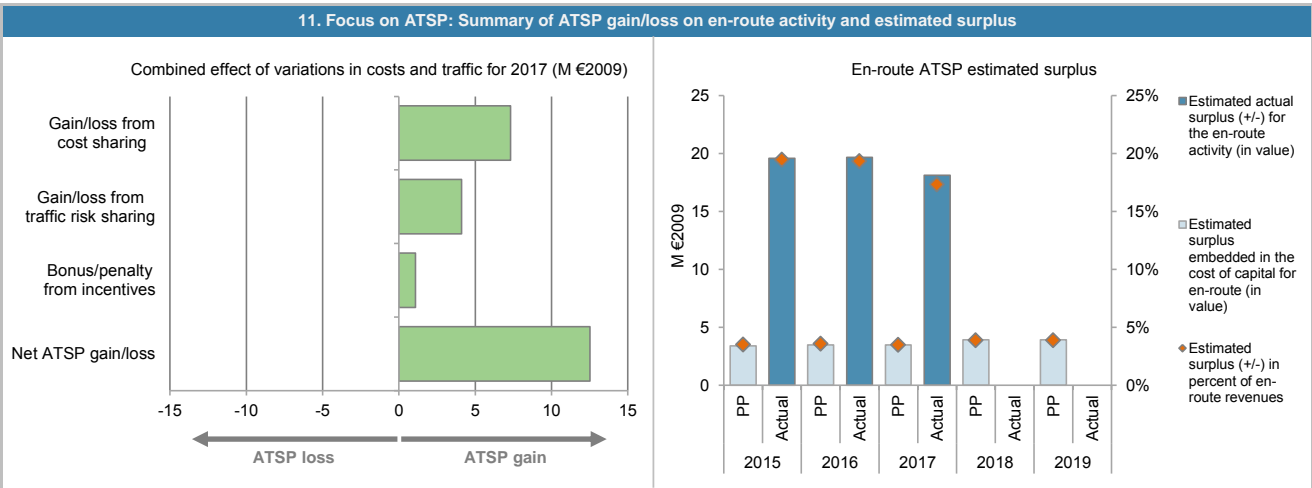
- the traffic risk sharing adjustment (-1.09 €) reflecting the gain in revenues due to higher than planned traffic in 2017, which will be reimbursed to airspace users in 2019; and,
- the inflation adjustment (-1.07 €) reflecting the impact of lower than planned inflation index in 2017, which will also be reimbursed to airspace users in 2019.

These costs and adjustments are divided by the **actual** TSUs in 2017.

IRELAND: En-route ATSP (IAA)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	96 844	97 378	99 417		
Actual costs for the ATSP	87 495	88 091	92 092		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	9 349	9 287	7 325		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	9 349	9 287	7 325		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	4.6%	10.3%	8.6%		
Determined costs for the ATSP (PP) - based on actual inflation	98 202	100 129	103 346		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	2 719	4 406	4 100		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	1 014	0	1 087		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	13 081	13 693	12 512		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	63 266	64 174	63 062	69 602	69 651
Estimated proportion of financing through equity (in %)	50.1%	49.9%	49.7%	49.4%	49.5%
Estimated proportion of financing through equity (in value)	31 674	32 047	31 358	34 418	34 444
Estimated proportion of financing through debt (in %)	49.9%	50.1%	50.3%	50.6%	50.5%
Estimated proportion of financing through debt (in value)	31 592	32 126	31 704	35 184	35 207
Cost of capital pre-tax (in value)	4 492	4 621	4 667	5 359	5 363
Average interest on debt (in %)	3.5%	3.6%	3.8%	4.1%	4.1%
Interest on debt (in value)	1 106	1 157	1 205	1 443	1 443
Determined RoE pre-tax rate (in %)	10.7%	10.8%	11.0%	11.4%	11.4%
Estimated surplus embedded in the cost of capital for en-route (in value)	3 386	3 464	3 462	3 917	3 920
Overall estimated surplus (+/-) for the en-route activity	3 386	3 464	3 462	3 917	3 920
Revenue/costs for the en-route activity	96 844	97 378	99 417	101 495	101 272
Estimated surplus (+/-) in percent of en-route revenues	3.5%	3.6%	3.5%	3.9%	3.9%
Estimated ex-ante RoE pre-tax rate (in %)	10.7%	10.8%	11.0%	11.4%	11.4%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	60 751	55 239	50 816		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	60 751	55 239	50 816		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	6 494	5 971	5 610		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	10.7%	10.8%	11.0%		
Estimated surplus embedded in the cost of capital for en-route (in value)	6 494	5 971	5 610		
Net ATSP gain(+)/loss(-) on en-route activity	13 081	13 693	12 512		
Overall estimated surplus (+/-) for the en-route activity	19 575	19 664	18 122		
Revenue/costs for the en-route activity	100 576	101 784	104 604		
Estimated surplus (+/-) in percent of en-route revenues	19.5%	19.3%	17.3%		
Estimated ex-post RoE pre-tax rate (in %)	32.2%	35.6%	35.7%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 IAA en-route costs vs. PP

In 2017, IAA actual en-route costs are -7.4% (-7.3 M€2009) lower, in real terms, than planned in the PP. Based on the Additional Information provided with the en-route Reporting Tables, the main drivers for this deviation are:

- lower staff costs (-5.5% or -3.2 M€2009) mainly due to higher than expected number of departures, retirements and delays in the recruitment plan;
- lower other operating costs (-13.7% or -3.5 M€2009) mainly due to savings across a range of technical and administrative expenses;
- lower depreciation costs (-14.4% or -1.5 M€2009), mainly due to changes in the timing of investment projects; and,
- higher cost of capital (+20.2% or +0.9 M€2009), resulting from a combination of a lower asset base with a higher weighted average cost of capital (since the IAA has no debt in 2017).

The lower than planned depreciation costs and asset base are the consequence of a significant capex underspend in 2017 (-81.2%, or -30.5 M€2009).

IAA net gain/loss on en-route activity in 2017

As shown in box 9, IAA generated a net gain of +12.5 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +7.3 M€2009 arising from the cost-sharing mechanism;
- a gain of +4.1 M€2009 arising from the traffic risk-sharing mechanism; and,
- a gain of +1.1 M€2009, corresponding to a bonus eligible for payment to IAA as part of the capacity target incentive mechanism. This amount corresponds to 1.0% of IAA en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission as part of the compliance review of the 2019 unit rates.

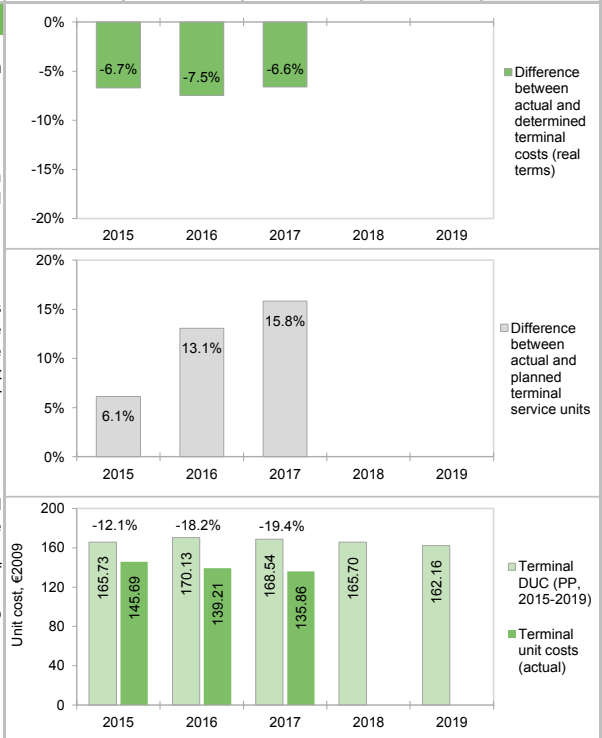
IAA overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+12.5 M€2009) and the surplus embedded in the actual cost of capital (+5.6 M€2009) amounts to +18.1 M€2009 (17.3% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 35.7%, which is significantly higher than the 11.0% planned in the PP.

IRELAND: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

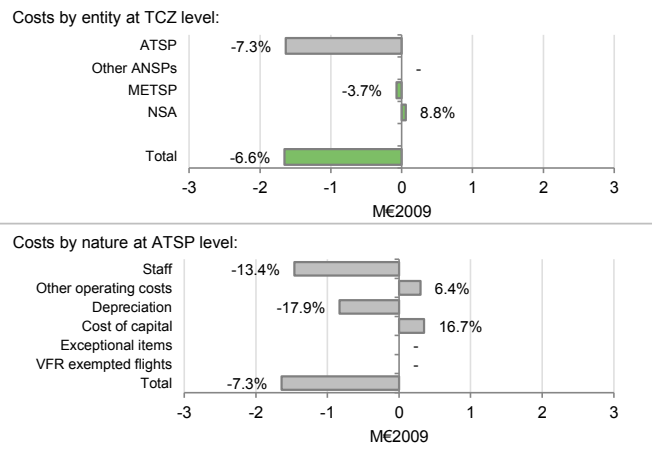
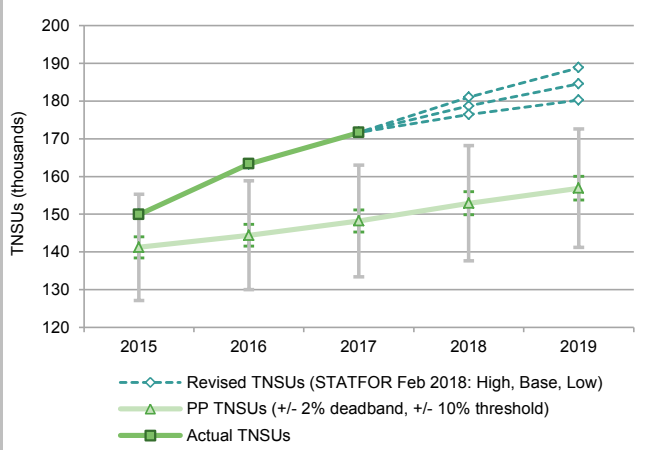
1. Contextual economic information: terminal air navigation services					
· Ireland TCZ represents 2.3% of the SES terminal ANS determined costs in 2017			· Is this TCZ applying traffic risk sharing?		Yes
· ATSP: IAA			· Airports with fewer than 70,000 IFRs ATMs:		2
· National currency: EUR			· Airports with between 70,000 and 225,000 IFRs ATMs:		1
· Number of airports in charging zone in 2017: 3, of which:			· Airports with more than 225,000 IFRs ATMs:		0
2. Terminal DUC monitoring at Charging Zone level					
Ireland: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Terminal costs (nominal EUR)	24 272 300	25 787 100	26 584 700	27 424 700	28 007 800
Inflation %	1.1%	1.2%	1.4%	1.7%	1.7%
Inflation index (100 in 2009)	103.7	105.0	106.4	108.2	110.1
Real terminal costs (EUR2009)	23 401 621	24 567 276	24 977 462	25 335 966	25 442 140
Total terminal Service Units	141 200	144 400	148 200	152 900	156 900
Real terminal unit cost per Service Unit (EUR2009)	165.73	170.13	168.54	165.70	162.16
Ireland: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Terminal costs (nominal EUR)	22 332 565	23 207 720	23 880 000		
Inflation %	0.0%	-0.2%	0.3%		
Inflation index (100 in 2009)	102.3	102.1	102.4		
Real terminal costs (EUR2009)	21 833 422	22 734 486	23 323 088		
Total terminal Service Units	149 863	163 305	171 665		
Real terminal unit cost per Service Unit (EUR2009)	145.69	139.21	135.86		
Difference between Actuals and Planned					
	2015	2016	2017	2018	2019
Terminal costs (nominal EUR)					
in value	-1 939 735	-2 579 380	-2 704 700		
in %	-8.0%	-10.0%	-10.2%		
Inflation %					
in p.p.	-1.1 p.p.	-1.4 p.p.	-1.1 p.p.		
Inflation index (100 in 2009)					
in p.p.	-1.4 p.p.	-2.9 p.p.	-4.0 p.p.		
Real terminal costs (EUR2009)					
in value	-1 568 198	-1 832 789	-1 654 373		
in %	-6.7%	-7.5%	-6.6%		
Total terminal Service Units					
in value	8 663	18 905	23 465		
in %	6.1%	13.1%	15.8%		
Real terminal unit cost per Service Unit (EUR2009)					
in value	-20.04	-30.92	-32.67		
in %	-12.1%	-18.2%	-19.4%		
3. Focus on terminal at State/Charging Zone level					
There is only one Terminal Charging Zone (TCZ) in Ireland comprising Dublin, Cork and Shannon airports.					
Terminal unit cost					
In 2017, the actual terminal unit cost in real terms (135.86 €2009) is -19.4% lower than planned in the PP (168.54 €2009). This difference results from the combination of higher than planned TNSUs (+15.8%) and lower actual terminal costs (-6.6%, or -1.7 M€2009).					
Terminal service units					
Traffic risk sharing applies in the TCZ. The difference between actual and planned TNSUs (+15.8%) exceeds the +10% threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of terminal revenues is therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +1.0 M€2009. Considering the latest STATFOR <u>base</u> scenario (February 2018), actual traffic is likely to remain significantly higher than planned until the end of RP2.					
Terminal costs					
In nominal terms, actual terminal costs are -10.2% lower than planned. However, since the actual inflation index is also lower than planned (-4.0 p.p.), the actual terminal costs are -6.6% below the planned level when expressed in €2009. The deviation between actual and planned terminal costs in real terms reflects a combination of lower costs for the IAA (-7.3% or -1.6 M€2009), the MET Service Provider (-3.7% or -0.1 M€2009) and higher costs for the NSA (+8.8% or +0.1 M2009). IAA being the main contributor to the terminal cost base, a detailed analysis at ATSP level is provided in box 12.					
There are no costs exempt from cost-sharing reported for the TCZ.					



IRELAND: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

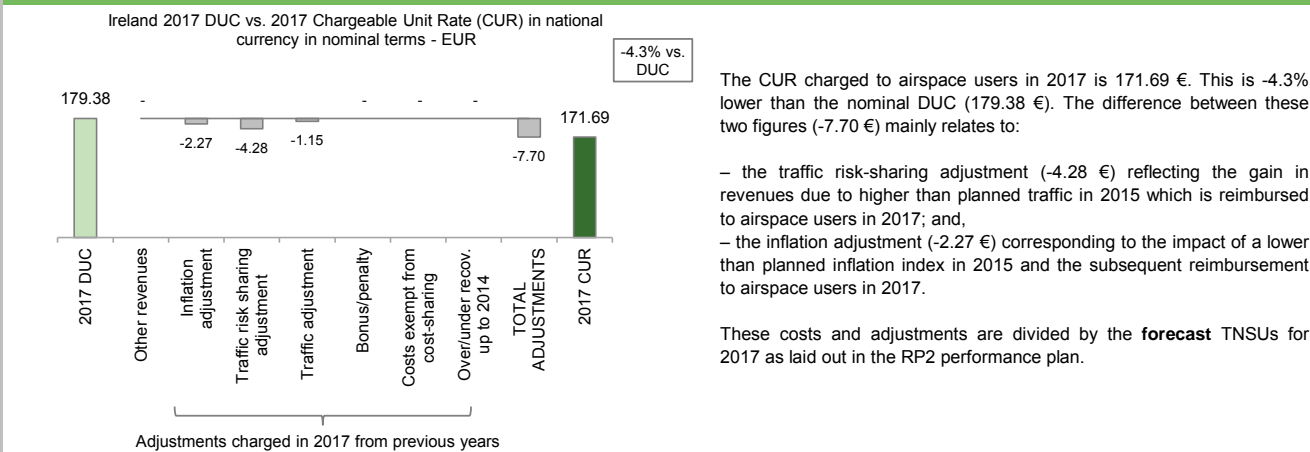


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users

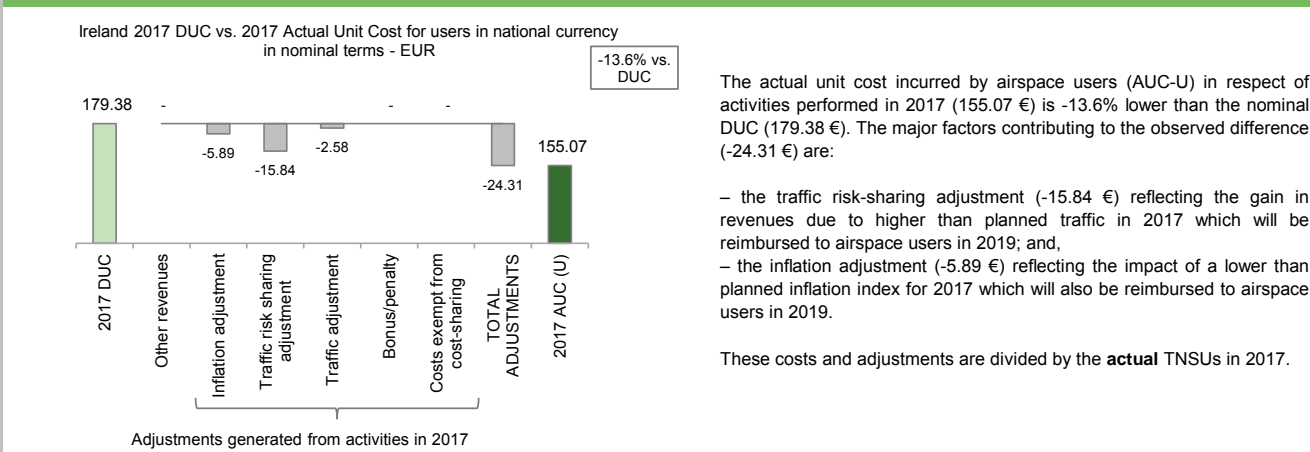


The CUR charged to airspace users in 2017 is 171.69 €. This is -4.3% lower than the nominal DUC (179.38 €). The difference between these two figures (-7.70 €) mainly relates to:

- the traffic risk-sharing adjustment (-4.28 €) reflecting the gain in revenues due to higher than planned traffic in 2015 which is reimbursed to airspace users in 2017; and,
- the inflation adjustment (-2.27 €) corresponding to the impact of a lower than planned inflation index in 2015 and the subsequent reimbursement to airspace users in 2017.

These costs and adjustments are divided by the **forecast** TNSUs for 2017 as laid out in the RP2 performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (155.07 €) is -13.6% lower than the nominal DUC (179.38 €). The major factors contributing to the observed difference (-24.31 €) are:

- the traffic risk-sharing adjustment (-15.84 €) reflecting the gain in revenues due to higher than planned traffic in 2017 which will be reimbursed to airspace users in 2019; and,
- the inflation adjustment (-5.89 €) reflecting the impact of a lower than planned inflation index for 2017 which will also be reimbursed to airspace users in 2019.

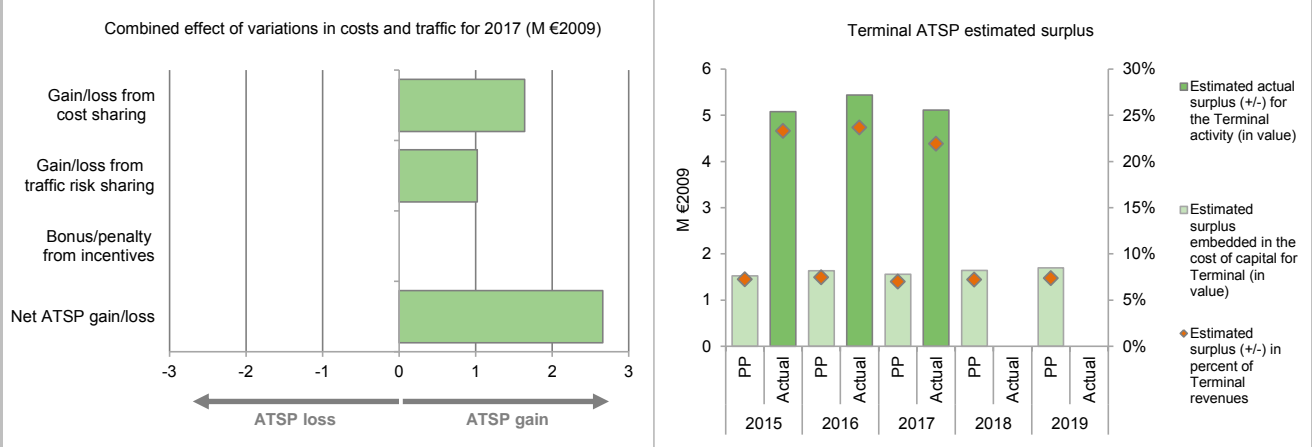
These costs and adjustments are divided by the **actual** TNSUs in 2017.

IRELAND: Terminal ATSP (IAA)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	21 113	21 994	22 350		
Actual costs for the ATSP	19 584	20 241	20 710		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	1 529	1 752	1 639		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	1 529	1 752	1 639		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	6.1%	13.1%	15.8%		
Determined costs for the ATSP (PP) - based on actual inflation	21 409	22 615	23 233		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	694	995	1 022		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	2 223	2 748	2 662		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	28 500	30 343	28 431	29 203	30 204
Estimated proportion of financing through equity (in %)	50.0%	50.0%	49.7%	49.3%	49.3%
Estimated proportion of financing through equity (in value)	14 246	15 168	14 135	14 407	14 896
Estimated proportion of financing through debt (in %)	50.0%	50.0%	50.3%	50.7%	50.7%
Estimated proportion of financing through debt (in value)	14 253	15 176	14 296	14 796	15 308
Cost of capital pre-tax (in value)	2 023	2 184	2 104	2 249	2 326
Average interest on debt (in %)	3.5%	3.6%	3.8%	4.1%	4.1%
Interest on debt (in value)	499	546	543	607	628
Determined RoE pre-tax rate (in %)	10.7%	10.8%	11.0%	11.4%	11.4%
Estimated surplus embedded in the cost of capital for terminal (in value)	1 524	1 638	1 560	1 642	1 698
Overall estimated surplus (+/-) for the terminal activity	1 524	1 638	1 560	1 642	1 698
Revenue/costs for the terminal activity	21 113	21 994	22 350	22 866	23 111
Estimated surplus (+/-) in percent of terminal revenues	7.2%	7.4%	7.0%	7.2%	7.3%
Estimated ex-ante RoE pre-tax rate (in %)	10.7%	10.8%	11.0%	11.4%	11.4%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	26 685	24 950	22 241		
Estimated proportion of financing through equity (in %)	100.0%	100.0%	100.0%		
Estimated proportion of financing through equity (in value)	26 685	24 950	22 241		
Estimated proportion of financing through debt (in %)	0.0%	0.0%	0.0%		
Estimated proportion of financing through debt (in value)	0	0	0		
Cost of capital pre-tax (in value)	2 855	2 695	2 455		
Average interest on debt (in %)	0.0%	0.0%	0.0%		
Interest on debt (in value)	0	0	0		
Determined RoE pre-tax rate (in %)	10.7%	10.8%	11.0%		
Estimated surplus embedded in the cost of capital for terminal (in value)	2 855	2 695	2 455		
Net ATSP gain(+)/loss(-) on terminal activity	2 223	2 748	2 662		
Overall estimated surplus (+/-) for the terminal activity	5 078	5 442	5 117		
Revenue/costs for the terminal activity	21 807	22 989	23 372		
Estimated surplus (+/-) in percent of terminal revenues	23.3%	23.7%	21.9%		
Estimated ex-post RoE pre-tax rate (in %)	19.0%	21.8%	23.0%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 IAA terminal costs vs. PP

IAA actual terminal costs are -7.3% (-1.6 M€2009) lower, in real terms, than planned in the PP. Based on the Additional Information provided within the Terminal Reporting Tables, the main drivers for this deviation are:

- staff costs (-13.4%, or -1.5 M€2009), mainly due to higher than expected number of departures, retirements and delays in the recruitment plan;
- higher other operating costs (+6.4%, or +0.3 M€2009);
- lower depreciation costs (-17.9%, or -0.8 M€2009) mainly due to changes in the timing of investment projects; and,
- a higher cost of capital (+16.7%, or +0.4 M€2009), resulting from a combination of a lower asset base with a higher weighted average cost of capital (since the IAA had no debt in 2017).

IAA 2017 net gain/loss on terminal activity

As shown in box 9, the terminal activity generated a net gain of +2.7 M€2009 in 2017. This is a combination of the following elements:

- a gain of +1.6 M€2009 as a result of the cost-sharing mechanism; and
- a gain of +1.0 M€2009 as a result of the traffic-risk sharing mechanism.

IAA 2017 overall estimated surplus for the terminal activity

Ex-post, the overall estimated surplus taking into account the net gain from the terminal activity mentioned above (+2.7 M€2009) and the surplus embedded in the cost of capital (+2.5 M€2009) amounts to +5.1 M€2009 (+21.9% of the 2017 terminal revenues). The resulting ex-post rate of return on equity is 23.0%, which is higher than the 11.0% planned in the PP.

IRELAND: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs					
Ireland: Data from RP2 Performance Plan					
	2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)	113 811 728	115 644 664	118 001 964	119 511 684	118 798 780
Real terminal costs (EUR2009)	23 401 621	24 567 276	24 977 462	25 335 966	25 442 140
Real gate-to-gate costs (EUR2009)	137 213 349	140 211 940	142 979 426	144 847 650	144 240 920
En-route share (%)	82.9%	82.5%	82.5%	82.5%	82.4%
Ireland: Actual data from Reporting Tables					
	2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)	104 273 918	106 330 301	111 130 414		
Real terminal costs (EUR2009)	21 833 422	22 734 486	23 323 088		
Real gate-to-gate costs (EUR2009)	126 107 341	129 064 787	134 453 503		
En-route share (%)	82.7%	82.4%	82.7%		
Difference between Actuals and Planned (Actuals vs. PP)					
	2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)					
in value	-11 106 008	-11 147 153	-8 525 923		
in %	-8.1%	-8.0%	-6.0%		
En-route share					
in p.p.	-0.3 p.p.	-0.1 p.p.	0.1 p.p.		

2. Share of en-route and terminal in gate-to-gate actual costs (2017)

In 2017, actual gate-to-gate ANS costs are -6.0% (-8.5 M€2009) lower than planned due to reductions in both en-route costs (-5.8%, or -6.9 M€2009) and terminal costs (-6.6%, or -1.7 M€2009).

The actual share of en-route in gate-to-gate ANS costs (82.7%) is in line with that planned in the PP for 2017 (82.5%).

For IAA, the estimated gate-to-gate economic surplus in 2017 amounts to 23.2 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 18.2% of gate-to-gate ANS revenues.

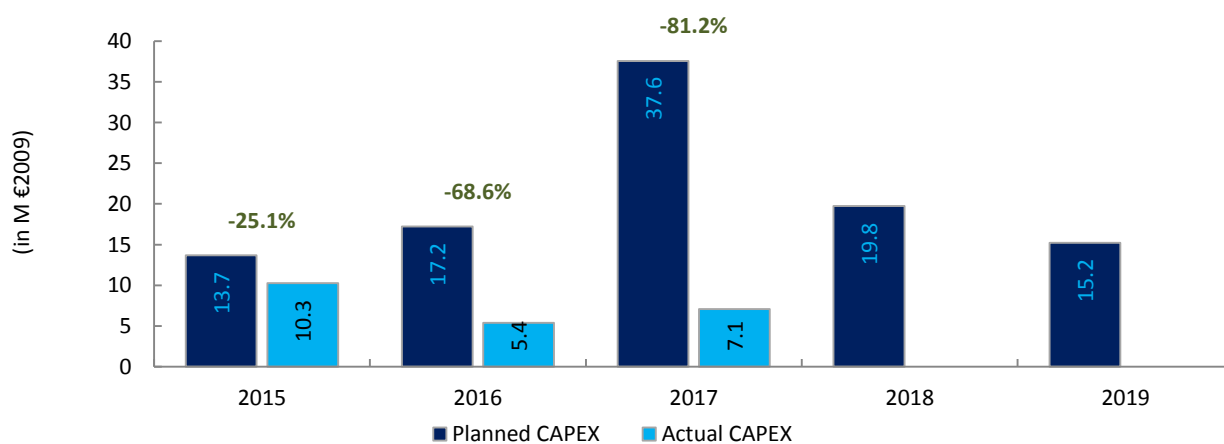
Year	Type	En-route (%)	Terminal (%)
2015	Determined	82.9%	17.1%
	Actual	82.7%	17.3%
2016	Determined	82.5%	17.5%
	Actual	82.4%	17.6%
2017	Determined	82.5%	17.5%
	Actual	82.7%	17.3%
2018	Determined	82.5%	17.5%
	Actual	82.4%	17.6%
2019	Determined	82.4%	17.6%
	Actual	82.4%	17.6%

3. Technical notes on en-route and terminal information reported by Ireland

IRELAND

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: IAA						
FAB: UK-Ireland FAB						
Currency: EUR						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	14.2	18.1	40.0	21.4	16.8	110.4
Main CAPEX (in nominal M)	8.1	11.5	37.6	21.0	15.8	93.8
Inflation %	1.1%	1.2%	1.4%	1.7%	1.7%	
Inflation index (100 in 2009)	103.7	105.0	106.4	108.2	110.1	
Exchange rate 2009	1	1	1	1	1	
Total CAPEX (in M €2009)	13.7	17.2	37.6	19.8	15.2	103.4
Main CAPEX (in M €2009)	7.8	10.9	35.3	19.4	14.3	87.7
% Main of Total CAPEX	56.8%	63.4%	94.0%	98.0%	94.1%	84.8%
Real gate-to-gate ANSP costs (in M €2009)	118.0	119.4	121.8	124.4	124.4	607.8
Total CAPEX as % of Real gate-to-gate ANSP costs	11.6%	14.4%	30.9%	15.9%	12.2%	17.0%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	10.5	5.5	7.2			
Main CAPEX (in nominal M)	7.9	3.3	3.9			
Inflation %	0.0%	-0.2%	0.3%			
Inflation index (100 in 2009)	102.3	102.1	102.4			
Exchange rate 2009	1	1	1			
Total CAPEX (in M €2009)	10.3	5.4	7.1			
Main CAPEX (in M €2009)	7.7	3.3	3.8			
% Main of Total CAPEX	75.6%	60.6%	53.3%			
Real gate-to-gate ANSP costs (in M €2009)	107.1	108.3	112.8			
Total CAPEX as % of Real gate-to-gate ANSP costs	9.6%	5.0%	6.3%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-3.7	-12.6	-32.7			
Total CAPEX (in M €2009)	-3.4	-11.8	-30.5			
Total CAPEX (in %, M €2009)	-25.1%	-68.6%	-81.2%			



Annual Monitoring Report 2017
Local level view
United Kingdom

UNITED KINGDOM

Monitoring of SAFETY for 2017

Effectiveness of Safety Management						
	Score	Safety Policy and Objectives	Safety Risk Management	Safety Assurance	Safety Promotion	Safety Culture
State level	88	C	C	D	D	E
NATS NERL	88	D	D	D	D	D
Note: For State level Safety Assurance does not include Q3.8 and Safety Culture is self-assessed. ANSP results are verified by the State.						
Application of the severity classification of the Risk Analysis Tool (RAT)						
	RAT application (%)					
	ATM Ground	ATM Overall				
Separation Minima Infringements (SMIs)	100%	100%				
Runway Incursions (RIs)	100%	100%				
ATM Specific Occurrences (ATM-S)		100%				
Source of RAT data:	UK CAA					
Note: The No of reported occurrences applicable to the RP2 Scope for the RAT application (AA-A to C and airports above 70k ATM movements)						
Just culture						
State level	Number of questions answered					
	YES	NO				
Policy and its implementation	9	0				
Legal/Judiciary	7	0				
Occurrence reporting and Investigation	2	0				
TOTAL	18	0				
NATS NERL	Number of questions answered					
	YES	NO				
Policy and its implementation	12	1				
Legal/Judiciary	3	0				
Occurrence reporting and Investigation	7	1				
TOTAL	22	2				
Observations						
All four reviewed EoS M Components/areas of the State meet Level C.						

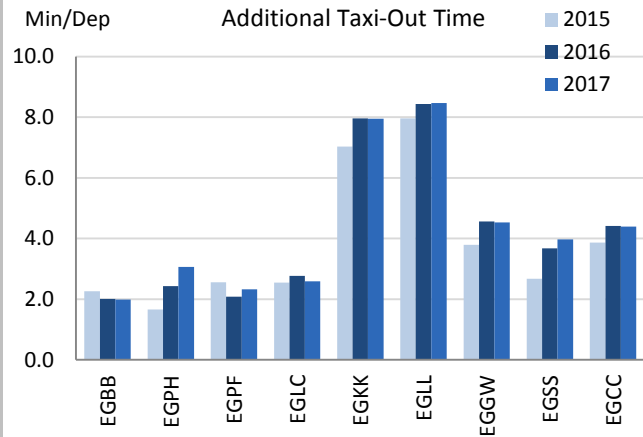
UNITED KINGDOM

Monitoring of Airports Contribution to ENVIRONMENT for 2017

1. Overview

There are nine airports in the United Kingdom subject to RP2 monitoring and although all of them provide data, there are still some remaining data issues that preclude the calculation of additional ASMA time in Glasgow (EGPF). The performance shown is directly related at some airports to the airport capacity/utilisation objectives, that are prioritised over other operational measures such as taxi-out time and time in the terminal area.

2. Additional Taxi-Out Time

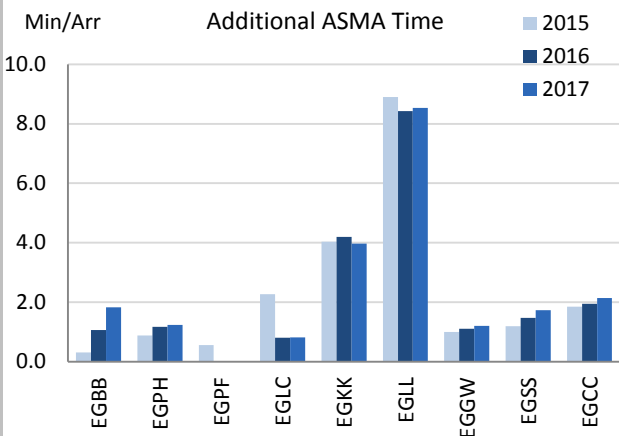


There is little variation in the additional taxi-out times at UK airports with respect to 2016. Heathrow (EGLL) and Gatwick (EGKK) stand out once more with the highest times of RP2 airports in Europe (8.47 and 7.95 min/dep. respectively), with values up to 5 minutes higher than the RP2 average of 3.33 min/dep.

Additional TXOT at Gatwick are significantly worse during the summer months.

UK's NSA notes that taxi-out time is affected by a number of factors and that where airport operators have capacity and utilisation performance objectives, the ANSP may be required to prioritise these over other operational measures like taxi-out time.

3. Additional ASMA Time



In terms of additional time in terminal airspace, only Birmingham observed a significant increase (i.e. EGBB: 2016: 1.06 min/arr. vs 2017: 1.83 min/arr.)

Heathrow remains the airport in Europe with the highest additional ASMA time (8.53 min/arr.), almost 7 min/arr. higher than the RP2 average (1.89 min/arr.), due to the capacity constraints.

Gatwick follows Heathrow in terms of ASMA and it is the second highest additional time in Europe, with 3.97 min/arr. In the same way as with the additional TXOT, additional times in the terminal area around Gatwick are much higher in Summer.

4. Appendix

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

Airport name	ICAO Code	Additional taxi-out time					Additional ASMA time				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Birmingham	EGBB	2.26	2.01	1.99			0.31	1.06	1.83		
Edinburgh	EGPH	1.66	2.43	3.06			0.88	1.17	1.24		
Glasgow	EGPF	2.56	2.08	2.32			0.56	n/a	n/a		
London/ City	EGLC	2.55	2.77	2.59			2.27	0.81	0.82		
London/ Gatwick	EGKK	7.03	7.96	7.95			4.04	4.20	3.97		
London/ Heathrow	EGLL	7.96	8.44	8.47			8.90	8.43	8.53		
London/ Luton	EGGW	3.79	4.56	4.53			1.00	1.11	1.20		
London/ Stansted	EGSS	2.67	3.68	3.97			1.19	1.47	1.73		
Manchester	EGCC	3.87	4.41	4.39			1.85	1.95	2.14		

UNITED KINGDOM

Monitoring of CAPACITY for 2017

En route Capacity incentive scheme						
	2015	2016	2017	2018	2019	Observations
National Capacity target	0.22	0.23	0.23	0.23	0.23	Exclusive use of CRSTMP codes means that the PRB is unable to independently validate the results for incentive purposes. Actual performance reported here is for all causes of delay.
Deadband +/-	0.00	0.00	0.00	0.00	0.00	
Actual performance	0.08	0.31	0.16			

National capacity incentive scheme

C2 is the indicator against which the UK and Ireland have adopted a common financial incentive, which is applied to each ANSP (see Capacity Incentives, section 3.2.1 of this report).

Its calculation is as for the KPI target for capacity, except only for those causes listed in Article 15(g) of the charging regulation (ATC capacity, ATC routing, ATC staffing, ATC equipment, airspace management and special event).

Actual performance in 2017 was:
UK - 0.10 against an incentive par value of 0.21

The maximum bonus/penalty associated with C2 is 0.25% of ANSP en-route revenue (with a further 0.75% being applied to the additional UK capacity incentive measures C3 and C4).

C2 Bonus for 2017 is 0.14% (£916 799) of ANSP en-route revenue. The UK CAA verifies that the calculations to determine any bonus/penalty is in line with the formulas in Condition 21 of the NERL Licence.

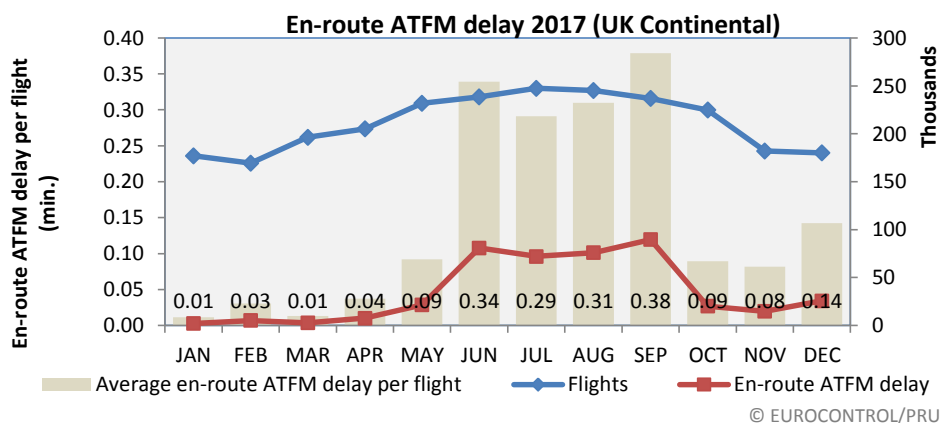
Additional national capacity incentive schemes

The UK IRL FAB performance plan also contains details of two further capacity-related incentive schemes in the United Kingdom: C3 - related to high impact of long and early delays; C4 - related to days with severe disruption (penalty only).

The United Kingdom report the achievement of a value of 12.6 below the deadband of 18.0 – 27.0, which enables a bonus of 0.25% of ANSP en route revenue giving £1 622 297.

No penalty was incurred because of severe disruption in accordance with the C4 incentive scheme.

Observations regarding national capacity incentive scheme



En-route ATFM delay per flight (United Kingdom)									
2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
0.54	0.17	0.15	0.19	0.07	0.13	0.06	0.08	0.31	0.16

EUROCONTROL 7 year forecast February 2014 – United Kingdom										
	2014		2015		2016		2017		2018	2019
		actual		actual		actual		actual		
High	2265		2329		2405		2468		2537	2608
Base	2242	2269	2294	2322	2339	2449	2377	2534	2420	2465
Low	2218		2248		2265		2279		2298	2318

En-route capacity performance improved significantly in the UK in 2017, in comparison to 2016, with a 3.5% rise in traffic. The high performance of NATS is recognised since traffic levels in the UK have generally (2014, 2016 & 2017) been above the high traffic scenario predicted by STATFOR and available when the FAB performance plans and associated capacity plans were being determined. In the latest Network Operations Plan (2018-2022) the Network Manager predicts that the United Kingdom will be able to meet the required level of en route capacity performance for the remainder of RP2.

Planning and Effective Use of CDRs

The United Kingdom did not provide any data on this indicator reporting that the Network Manager holds the data.

Observations on Planning and Effective Use of CDRs

It is noted that the United Kingdom, like many other States, does not monitor the planning and effective use of CDRs. The PRB has previously suggested that the use of such indicators should be reviewed in light of the increasing irrelevance as Free Route Airspace operations becomes more widespread through the network

Effective booking procedures

Share of restricted / segregated time that was actually used				
2015	2016	2017	2018	2019
38%	39%	32%		

Share of restricted / segregated time released with 3 hours' notice				
2015	2016	2017	2018	2019
7%	9%	9%		

Observations on Effective booking procedures

No performance-related benefits from monitoring this specific indicator have been noted, nor have any national efforts to change the value of the indicator.

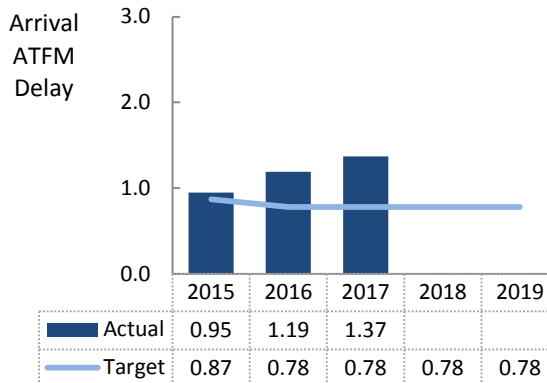
UNITED KINGDOM

Monitoring of Airports Contribution to CAPACITY for 2017

1. Overview

The United Kingdom identifies 9 airports as subject to RP2 monitoring. The established national target on arrival ATFM delay has been exceeded in 2017 by 0.59 min/arr. Regarding the adherence to ATFM slots, the performance in general has improved once again and most airports exceed the 90% compliance. The analysis of ATC pre-departure delay at several airports is not possible due to data quality issues.

2. Arrival ATFM Delay



There is an overall degradation in performance at UK airports in 2017. This translates in a significant increase of the national average (i.e. 2016: 1.19 min/arr.; 2017: 1.37 min/arr.) that exceeds the target and becomes the second highest national average in the SES area. The main driver for this increase is the performance at Gatwick, where the arrival ATFM delay has increased 35% compared to 2016, despite a traffic increase of only 2%. Gatwick (EGKK) was the second biggest contributor to the arrival ATFM delay in the SES area together with Heathrow, Amsterdam being the highest contributor. According to the reported reason for the regulations at Gatwick, half of the delays were due to Aerodrome Capacity, concentrated between May and October.

UK's CAA has engaged with the airports as to the reasons for the increase in delays, and they report that delays at UK airports were mainly a result of significant traffic growth and significant weather disruption delays in 2017 compared to 2016 (including the snow event in December 2017). At Birmingham Airport, the increased delay was also as a result of the application of a permanent tactical delay each morning during the summer schedule, where successive departure spacing increased from 6nm to 15nm.

3. Arrival ATFM Delay – National Target and Incentive Scheme

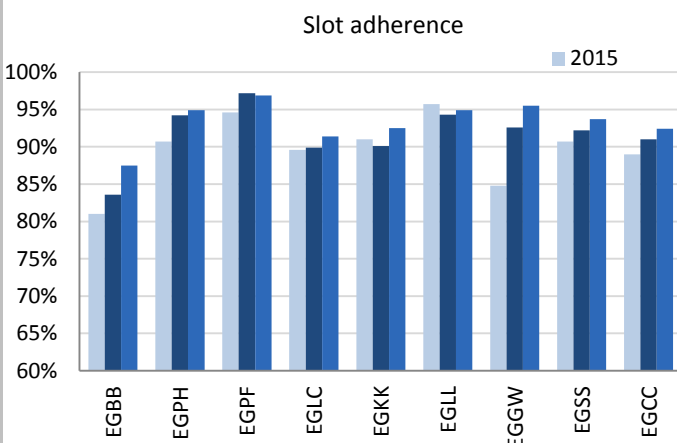
The UK-Ireland FAB PP establishes a national target on arrival ATFM delay for the United Kingdom with a breakdown per airport.

The performance improvements anticipated from the introduction of time-based separation at the major UK hub are not materializing and the national target is missed for the third year in a row (2017: PP= 0.78 min/arr. vs Actual= 1.37 min/arr.).

Only Heathrow (EGLL) and Edinburgh (EGPH) meet their PP's reference value. Gatwick (EGKK) exceeds its reference value by a factor of 5.5, with 3.18 min/arr.

The UK-Ireland FAB performance plan presents no (capacity) incentive scheme for the national target on arrival ATFM delay for The United Kingdom.

4. ATFM Slot Adherence



Overall adherence to ATFM slots in the UK has increased over RP2, and currently only Birmingham (EGBB) sits below 90% compliance.

5. Pre-departure Delay

The situation concerning the reporting of the pre-departure delays varies across the UK airports.

The Airport Operator Data Flow, required for the monitoring of the ATC pre-departure delay, is not yet established for London City (EGLC).

Glasgow (EGPF) transitioned to the Airport Operator Data Flow in the course of 2018 and the calculation of the indicator should be possible as of next year.

At Heathrow (EGLL) and Gatwick (EGKK) the quality of the pre-departure delay reporting does not allow for the calculation of this indicator, due to a high share of unreported delay and/or associated to ambiguity codes. Luton (EGGW) has improved the reporting drastically as of May 2017, but attention should be paid on a monthly basis.

Therefore the monitoring of ATC pre-departure delay in 2017 is only possible at 4 out of 9 UK airports. PRU is working in cooperation with UK NSA to raise awareness on this issue.

In these 4 airports (EGBB, EGPH, EGSS and EGCC) the delays have increased in 2017, exceeding the minute of delay per departure at Stansted. (EGSS 2017: 1.13 min/arr) which is the 5th highest in the SES area.

6. Appendix

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

Airport name	ICAO Code	Avg arrival ATFM delay					Slot adherence					Avg pre-departure delay				
		2015	2016	2017	2018	2019	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Birmingham	EGBB	0.00	0.06	0.23			81.0%	83.6%	87.5%			0.19	0.23	0.30		
Edinburgh	EGPH	0.00	0.02	0.00			90.7%	94.2%	94.9%			0.20	0.24	0.33		
Glasgow	EGPF	0.02	0.00	0.04			94.6%	97.2%	96.9%			n/a	n/a	n/a		
London/ City	EGLC	0.97	1.77	1.57			89.6%	89.9%	91.4%			n/a	n/a	n/a		
London/ Gatwick	EGKK	1.03	2.41	3.18			91.0%	90.1%	92.5%			0.74	1.21	n/a		
London/ Heathrow	EGLL	2.12	1.86	1.92			95.7%	94.3%	94.9%			n/a	n/a	n/a		
London/ Luton	EGGW	0.28	0.83	0.55			84.8%	92.6%	95.5%			n/a	n/a	n/a		
London/ Stansted	EGSS	0.34	0.81	0.93			90.7%	92.2%	93.7%			0.56	0.99	1.13		
Manchester	EGCC	0.25	0.10	0.52			89.0%	91.0%	92.4%			0.69	0.68	0.94		

UNITED KINGDOM: En-route charging zone

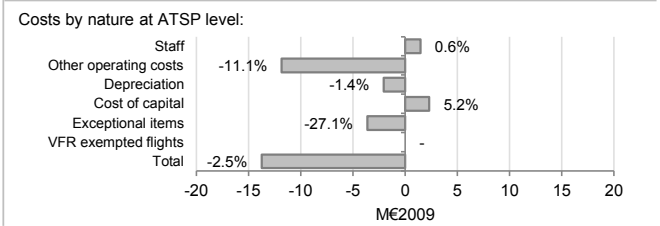
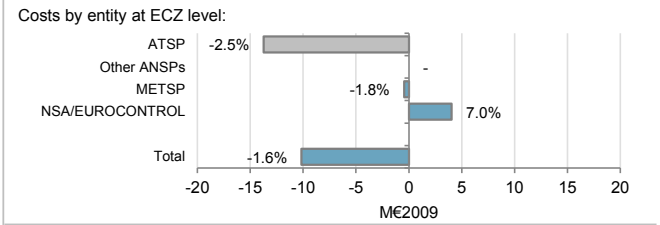
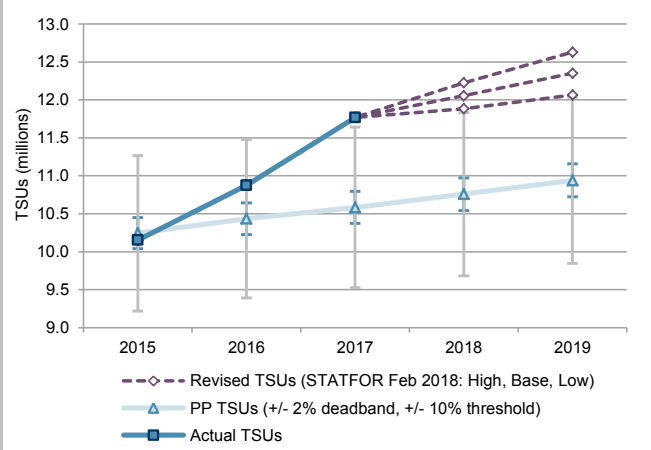
Monitoring of en-route COST-EFFICIENCY for 2017

1. Contextual economic information: en-route air navigation services						
· United Kingdom ECZ represents 10.3% of the SES en-route ANS determined costs in 2017						
· ATSP: NATS						
· FAB: UK-Ireland FAB						
· National currency: GBP Exchange rate 2009: 1 EUR = 0.890647 GBP						
2. En-route DUC monitoring at Charging Zone level						
United Kingdom: Data from RP2 PP (EC Decision 2015/348 of 2 March 2015)	2015D	2016D	2017D	2018D	2019D	
En-route costs (nominal GBP)	686 348 218	687 119 724	690 004 230	682 569 359	673 089 111	
Inflation %	1.9%	1.9%	2.0%	2.0%	2.0%	
Inflation index (100 in 2009)	118.2	120.5	122.9	125.3	127.8	
Real en-route costs (GBP2009)	580 582 809	570 397 867	561 561 156	544 617 914	526 523 219	
Total en-route Service Units	10 244 000	10 435 000	10 583 000	10 758 000	10 940 000	
Real en-route unit cost per Service Unit (GBP2009)	56.68	54.66	53.06	50.62	48.13	
Real en-route unit cost per Service Unit (EUR2009)	63.63	61.37	59.58	56.84	54.04	
United Kingdom: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A	
En-route costs (nominal GBP)	657 371 102	666 364 998	660 595 764			
Inflation %	0.0%	0.7%	2.7%			
Inflation index (100 in 2009)	115.6	116.4	119.6			
Real en-route costs (GBP2009)	568 619 925	572 392 813	552 519 151			
Total en-route Service Units	10 153 900	10 874 798	11 767 621			
Real en-route unit cost per Service Unit (GBP2009)	56.00	52.63	46.95			
Real en-route unit cost per Service Unit (EUR2009)	62.88	59.10	52.72			
Difference between Actuals and Planned	2015	2016	2017	2018	2019	
En-route costs (nominal GBP)	-28 977 116	-20 754 726	-29 408 466			
	in %	-4.2%	-3.0%	-4.3%		
Inflation %	-1.9 p.p.	-1.2 p.p.	0.7 p.p.			
Inflation index (100 in 2009)	-2.6 p.p.	-4.0 p.p.	-3.3 p.p.			
Real en-route costs (GBP2009)	-11 962 883	1 994 945	-9 042 004			
	in %	-2.1%	0.3%	-1.6%		
Total en-route Service Units	-90 100	439 798	1 184 621			
	in %	-0.9%	4.2%	11.2%		
Real en-route unit cost per Service Unit (GBP2009)	-0.68	-2.03	-6.11			
	in %	-1.2%	-3.7%	-11.5%		
Real en-route unit cost per Service Unit (EUR2009)	-0.76	-2.28	-6.86			
	in %	-1.2%	-3.7%	-11.5%		
3. Focus on en-route at State/Charging Zone level						
En-route unit cost						
In 2017, the actual en-route unit cost in real terms (52.72 €2009) is -11.5% lower than planned in the PP (59.58 €2009). This difference results from the combination of higher than planned TSUs (+11.2%) and lower than planned en-route costs (-1.6%, or -10.2 M€2009).						
En-route service units						
The difference between actual and planned TSUs (+11.2%) exceeds the +10% threshold foreseen in the traffic risk-sharing mechanism. The resulting gain of en-route revenues is therefore shared between the ATSP and the airspace users, with the gain retained by the ATSP amounting to +24.7 M€2009. Considering the latest STATFOR base scenario (February 2018), actual traffic is likely to remain significantly higher than planned until the end of RP2.						
En-route costs						
In nominal terms, actual en-route costs are -4.3% lower than planned. However, since the actual inflation index is also lower than planned (-3.3 p.p.), actual en-route costs are -1.6% below the planned level when expressed in €2009.						
The lower than planned en-route costs in real terms are driven by a combination of lower costs for the en-route ATSP, NERL (-2.5% or some -13.7 M€2009), the MET Service Provider (-1.8% or -0.5 M€2009) and higher costs for the NSA/EUROCONTROL (+7.0%, or +4.0 M€2009). NERL being the main contributor to the en-route cost base, a detailed analysis at ATSP level is provided in box 12.						
Costs exempt from cost-sharing are reported for a total amount of +9.4 M€2009 comprising +6.5 M€2009 for NERL pensions and +2.9 M€2009 for EUROCONTROL costs. These costs will be eligible for carry-over (charged to airspace users) to the following reference period(s), if deemed allowed by the European Commission.						

UNITED KINGDOM: En-route charging zone

Monitoring of en-route COST-EFFICIENCY for 2017

4. En-route traffic monitoring (Actual 2015-2019 TSUs compared to PP) 5. En-route costs monitoring (2017 actuals compared to PP)

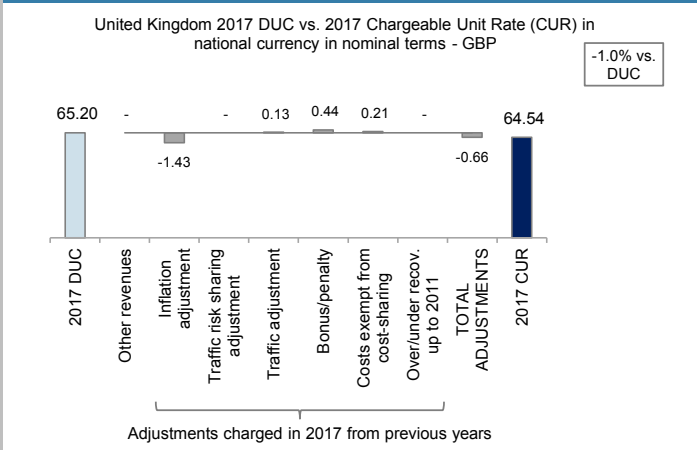


6. En-route costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	723	1 543	6 523		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	-3 845	-235	2 863		
by entity	ATSP	709	-466	6 433		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA/EUROCONTROL	-3 845	-235	2 863		
Total costs exempt from cost sharing		-3 122	1 308	9 386		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

7. En-route DUC 2017 vs. 2017 Unit Rate charged to users

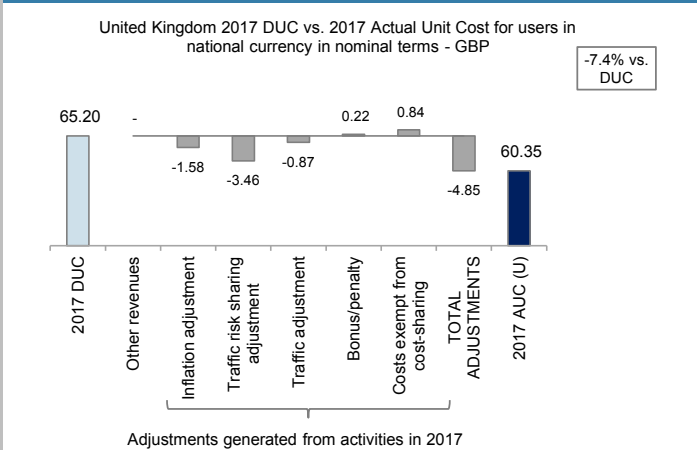


The CUR charged to airspace users in 2017 is 64.54 £. This is -1.0% lower than the nominal DUC (65.20 £). The difference between these two figures (-0.66 £) mainly relates to:

- the inflation adjustment (-1.43 £) which reflects the impact of a lower than planned inflation index for the year 2015, and the subsequent reimbursement to airspace users in 2017; and,
- a bonus (+0.44 £) relating to the capacity target incentive mechanism, which was charged to airspace users in 2017.

These costs and adjustments are divided by the **forecast** TSUs for 2017 as laid out in the RP2 performance plan.

8. En-route DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (60.35 £) is -7.4% lower than the nominal DUC (65.20 £). The major factors contributing to the observed difference (-4.85 £) are:

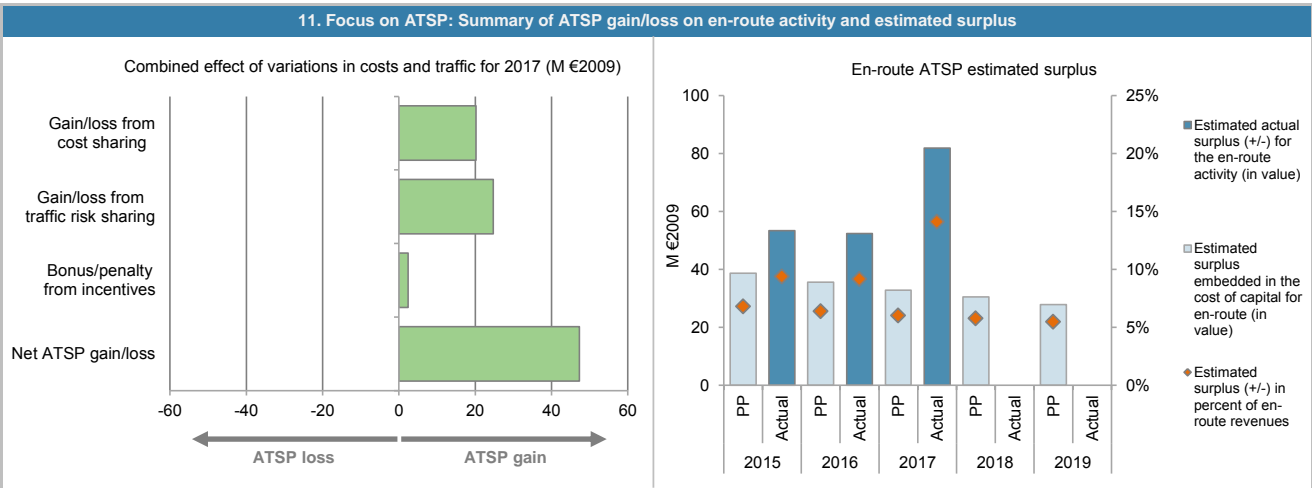
- the traffic risk sharing adjustment (-3.46 £) reflecting the gain in revenues due to higher than planned traffic in 2017, which will be reimbursed to airspace users in 2019; and,
- the inflation adjustment (-1.58 £) reflecting the impact of lower than planned inflation index in 2017, which will also be reimbursed to airspace users in 2019.

These costs and adjustments are divided by the **actual** TSUs in 2017.

UNITED KINGDOM: En-route ATSP (NATS)

Monitoring of en-route COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on en-route activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	568 718	556 914	547 025		
Actual costs for the ATSP	556 567	556 642	533 276		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	12 151	272	13 748		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	709	-466	6 433		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	12 859	-193	20 181		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	-0.9%	4.2%	11.2%		
Determined costs for the ATSP (PP) - based on actual inflation	581 552	576 269	562 177		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	-5 115	15 354	24 736		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	4 565	-614	2 384		
Net ATSP gain(+)/loss(-) on en-route activity ('000 €2009)	12 309	14 546	47 301		
10. Focus on ATSP: En-route ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	885 353	814 071	751 630	697 425	637 957
Estimated proportion of financing through equity (in %)	40.0%	40.0%	40.0%	40.0%	40.0%
Estimated proportion of financing through equity (in value)	354 451	325 913	300 915	279 214	255 406
Estimated proportion of financing through debt (in %)	60.0%	60.0%	60.0%	60.0%	60.0%
Estimated proportion of financing through debt (in value)	530 902	488 158	450 715	418 211	382 551
Cost of capital pre-tax (in value)	51 908	47 728	44 068	40 890	37 403
Average interest on debt (in %)	2.5%	2.5%	2.5%	2.5%	2.5%
Interest on debt (in value)	13 273	12 204	11 268	10 455	9 564
Determined RoE pre-tax rate (in %)	10.9%	10.9%	10.9%	10.9%	10.9%
Estimated surplus embedded in the cost of capital for en-route (in value)	38 635	35 525	32 800	30 434	27 839
Overall estimated surplus (+/-) for the en-route activity	38 635	35 525	32 800	30 434	27 839
Revenue/costs for the en-route activity	568 718	556 914	547 025	528 185	508 537
Estimated surplus (+/-) in percent of en-route revenues	6.8%	6.4%	6.0%	5.8%	5.5%
Estimated ex-ante RoE pre-tax rate (in %)	10.9%	10.9%	10.9%	10.9%	10.9%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	940 369	865 853	791 273		
Estimated proportion of financing through equity (in %)	40.0%	40.0%	40.0%		
Estimated proportion of financing through equity (in value)	376 148	346 341	316 509		
Estimated proportion of financing through debt (in %)	60.0%	60.0%	60.0%		
Estimated proportion of financing through debt (in value)	564 221	519 512	474 764		
Cost of capital pre-tax (in value)	55 106	50 739	46 369		
Average interest on debt (in %)	2.5%	2.5%	2.5%		
Interest on debt (in value)	14 106	12 988	11 869		
Determined RoE pre-tax rate (in %)	10.9%	10.9%	10.9%		
Estimated surplus embedded in the cost of capital for en-route (in value)	41 000	37 751	34 500		
Net ATSP gain(+)/loss(-) on en-route activity	12 309	14 546	47 301		
Overall estimated surplus (+/-) for the en-route activity	53 309	52 297	81 801		
Revenue/costs for the en-route activity	568 876	571 188	580 578		
Estimated surplus (+/-) in percent of en-route revenues	9.4%	9.2%	14.1%		
Estimated ex-post RoE pre-tax rate (in %)	14.2%	15.1%	25.8%		



12. Focus on en-route ATSP: General conclusions

Actual 2017 NERL en-route costs vs. PP

In 2017, NERL actual en-route costs are -2.5% (-13.7 M€2009) lower, in real terms, than planned in the PP. Based on the Additional Information provided with the en-route Reporting Tables, the main drivers for this deviation are:

- slightly higher staff costs (+0.6% or +1.5 M€2009 in real terms). However, in nominal terms, the staff costs are lower than planned (-2.1% or -6.0 M€) mainly due to lower defined benefit pension costs (through scheme members opting out);
- lower other operating costs (-11.1% or -11.8 M€2009) mainly due to cost savings and rebates on business rates;
- lower depreciation costs (-1.4% or -2.1 M€2009), resulting from changes in the timing of investment projects;
- higher cost of capital (+5.2% or +2.3 M€2009), due to a higher asset base. In addition to fixed assets, the Regulatory Asset Base (RAB) includes working capital and capitalised finance costs as well as adjustments for pensions. It is noteworthy that the RAB is also indexed to inflation; and,
- lower exceptional costs (-27.1% or -3.6 M€2009) mainly due to reduced costs from the Future Airspace facilitation programme and lower redundancies.

NERL net gain/loss on en-route activity in 2017

As shown in box 9, NERL generated a net gain of +47.3 M€2009 on the en-route activity. This is a combination of three elements:

- a gain of +20.2 M€2009 arising from the cost-sharing mechanism;
- a gain of +24.7 M€2009 arising from the traffic risk-sharing mechanism; and,
- a gain of +2.4 M€2009, corresponding to a bonus eligible for payment to NERL as part of the capacity target incentive mechanism. This amount corresponds to 0.4% of NERL en-route revenues (based on the ATSP chargeable unit rate in 2017 times the actual TSUs). The inclusion of this bonus in the chargeable cost base will be examined by the European Commission as part of the compliance review of the 2019 unit rates.

NERL overall estimated surplus for the en-route activity

Ex-post, the overall estimated surplus taking into account the net gain from the en-route activity mentioned above (+47.3 M€2009) and the surplus embedded in the actual cost of capital (+34.5 M€2009) amounts to +81.8 M€2009 (14.1% of the 2017 en-route revenues). The resulting ex-post rate of return on equity is 25.8%, which is significantly higher than the 10.9% planned in the PP.

UK - ZONE C: Terminal charging zone

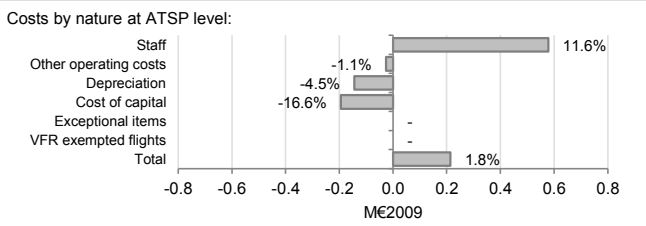
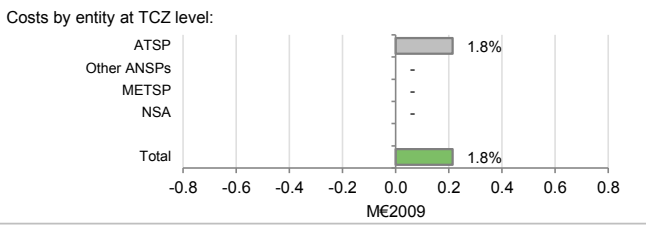
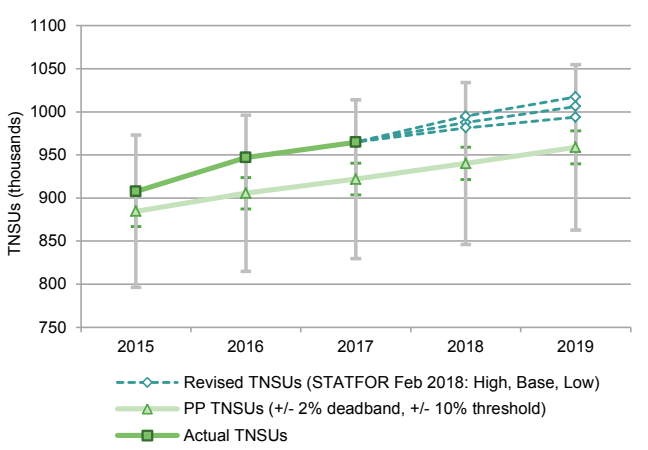
Monitoring of terminal COST-EFFICIENCY for 2017

1. Contextual economic information: terminal air navigation services																							
· UK - Zone C TCZ represents 1.1% of the SES terminal ANS determined costs in 2017		· Is this TCZ applying traffic risk sharing?		Yes																			
· ATSP: NATS		· Airports with fewer than 70,000 IFRs ATMs:		0																			
· National currency: GBP		· Airports with between 70,000 and 225,000 IFRs ATMs:		3																			
· Number of airports in charging zone in 2017: 5,		of which:		· Airports with more than 225,000 IFRs ATMs: 2																			
2. Terminal DUC monitoring at Charging Zone level																							
UK - Zone C: Data from RP2 Performance Plan	2015D	2016D	2017D	2018D	2019D																		
Terminal costs (nominal GBP)	12 011 867	12 371 198	12 749 490	13 092 087	13 398 855																		
Inflation %	1.9%	1.9%	2.0%	2.0%	2.0%																		
Inflation index (100 in 2009)	118.2	120.5	122.9	125.3	127.8																		
Real terminal costs (GBP2009)	10 160 853	10 269 688	10 376 195	10 446 096	10 481 239																		
Total terminal Service Units	884 691	905 513	921 933	940 093	958 830																		
Real terminal unit cost per Service Unit (GBP2009)	11.49	11.34	11.25	11.11	10.93																		
Real terminal unit cost per Service Unit (EUR2009)	12.90	12.73	12.64	12.48	12.27																		
UK - Zone C: Actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A																		
Terminal costs (nominal GBP)	12 019 496	12 474 203	12 634 000																				
Inflation %	0.0%	0.7%	2.7%																				
Inflation index (100 in 2009)	115.6	116.4	119.6																				
Real terminal costs (GBP2009)	10 396 753	10 715 065	10 567 017																				
Total terminal Service Units	907 600	946 771	964 876																				
Real terminal unit cost per Service Unit (GBP2009)	11.46	11.32	10.95																				
Real terminal unit cost per Service Unit (EUR2009)	12.86	12.71	12.30																				
Difference between Actuals and Planned	2015	2016	2017	2018	2019																		
Terminal costs (nominal GBP)	7 629	103 005	-115 490																				
	in %	0.1%	0.8%	-0.9%																			
Inflation %	-1.9 p.p.	-1.2 p.p.	0.7 p.p.																				
Inflation index (100 in 2009)	-2.6 p.p.	-4.0 p.p.	-3.3 p.p.																				
Real terminal costs (GBP2009)	235 900	445 377	190 823																				
	in %	2.3%	4.3%	1.8%																			
Total terminal Service Units	22 909	41 258	42 943																				
	in %	2.6%	4.6%	4.7%																			
Real terminal unit cost per Service Unit (GBP2009)	in value	-0.03	-0.02	-0.30																			
	in %	-0.3%	-0.2%	-2.7%																			
Real terminal unit cost per Service Unit (EUR2009)	in value	-0.03	-0.03	-0.34																			
	in %	-0.3%	-0.2%	-2.7%																			
3. Focus on terminal at State/Charging Zone level																							
<p>This analysis focuses on UK Terminal Charging Zone C (TCZ C), which corresponds to the London approach services provided at the five London airports (Heathrow, Gatwick, Stansted, Luton and London City). These airports are common to TCZ B, for which UK has to submit information to the European Commission on a confidential basis. The monitoring of TCZ B is therefore excluded from this report. Additional information on the particularities of the UK TCZs are presented at the end of this report (see box 3, technical Note 1).</p> <p>Terminal unit cost In 2017, the actual terminal unit cost in real terms (12.30 €2009) is -2.7% lower than planned in the PP (12.64 €2009). This difference results from the combination of higher than planned TNSUs (+4.7%) and slightly higher actual terminal costs (+1.8%, or +0.2 M€2009).</p> <p>Terminal service units Traffic risk sharing applies in the TCZ. The difference between actual and planned TNSUs (+4.7%) falls outside the ±2% dead-band but inside the ±10% alert threshold foreseen in the traffic risk-sharing mechanism. The resulting additional terminal revenues relating to the traffic risk sharing are therefore shared between the ATSP (NERL) and the airspace users, with the gain retained by the ATSP amounting to +0.3 M€2009. Considering the latest STATFOR base scenario (February 2018), actual traffic is likely to remain higher than planned until the end of RP2.</p> <p>Terminal costs In nominal terms, actual terminal costs are -0.9% lower than planned. However, since the actual inflation index is also lower than planned (-3.3 p.p.), the actual terminal costs are +1.8% above the planned level when expressed in €2009. NERL being the only entity for which costs are reported in TCZ C, the observed deviations between actual and planned costs are entirely driven by NERL. A detailed analysis of these deviations is provided in box 12.</p> <p>There are no costs exempt from cost-sharing reported for TCZ C.</p>																							
<table border="1"> <caption>Difference between actual and determined terminal costs (real terms)</caption> <thead> <tr> <th>Year</th> <th>Difference (%)</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>2.3%</td> </tr> <tr> <td>2016</td> <td>4.3%</td> </tr> <tr> <td>2017</td> <td>1.8%</td> </tr> <tr> <td>2018</td> <td>0%</td> </tr> <tr> <td>2019</td> <td>0%</td> </tr> </tbody> </table>						Year	Difference (%)	2015	2.3%	2016	4.3%	2017	1.8%	2018	0%	2019	0%						
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<table border="1"> <caption>Terminal DUC (PP, 2015-2019) and Terminal unit costs (actual)</caption> <thead> <tr> <th>Year</th> <th>Terminal DUC (PP, €2009)</th> <th>Terminal unit costs (actual, €2009)</th> </tr> </thead> <tbody> <tr> <td>2015</td> <td>12.90</td> <td>12.86</td> </tr> <tr> <td>2016</td> <td>12.73</td> <td>12.71</td> </tr> <tr> <td>2017</td> <td>12.64</td> <td>12.30</td> </tr> <tr> <td>2018</td> <td>12.48</td> <td></td> </tr> <tr> <td>2019</td> <td>12.27</td> <td></td> </tr> </tbody> </table>						Year	Terminal DUC (PP, €2009)	Terminal unit costs (actual, €2009)	2015	12.90	12.86	2016	12.73	12.71	2017	12.64	12.30	2018	12.48		2019	12.27	
Year	Terminal DUC (PP, €2009)	Terminal unit costs (actual, €2009)																					
2015	12.90	12.86																					
2016	12.73	12.71																					
2017	12.64	12.30																					
2018	12.48																						
2019	12.27																						

UK - ZONE C: Terminal charging zone

Monitoring of terminal COST-EFFICIENCY for 2017

4. Terminal traffic monitoring (Actual 2015-2019 TNSUs compared to PP) 5. Terminal costs monitoring (2017 actuals compared to PP)

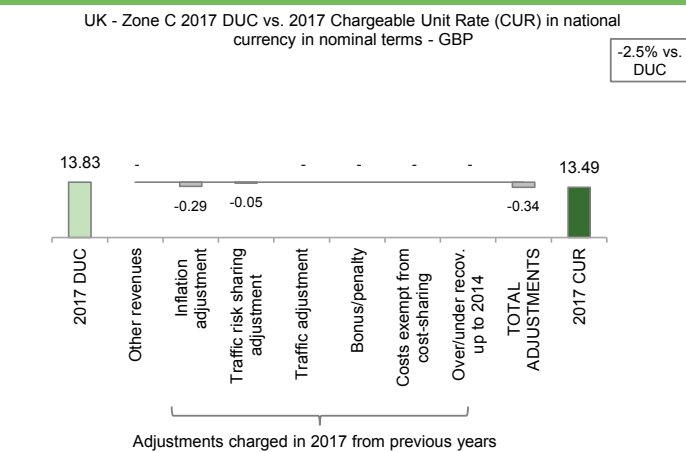


6. Terminal costs exempt from cost sharing

Estimates ('000 €2009)		2015	2016	2017	2018	2019
by item	Pension	0	0	0		
	Interest rates on loans	0	0	0		
	Taxation law	0	0	0		
	New cost item required by law	0	0	0		
	International agreements	0	0	0		
by entity	ATSP	0	0	0		
	Other ANSP	0	0	0		
	METSP	0	0	0		
	NSA	0	0	0		
Total costs exempt from cost sharing		0	0	0		

These costs will be recovered from (+) or reimbursed to (-) users if eligible after EC verification.

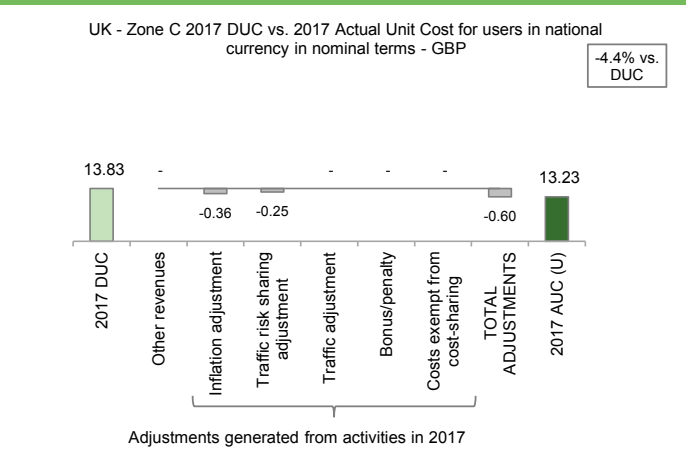
7. Terminal DUC 2017 vs. 2017 Unit Rate charged to users



The CUR charged to airspace users in 2017 is 13.49 £. This is -2.5% lower than the nominal DUC (13.83 £). The difference between these two figures (-0.34 £) mainly relates to the inflation adjustment (-0.29 £) corresponding to the impact of a lower than planned inflation index in 2015 and the subsequent reimbursement to airspace users in 2017.

These costs and adjustments are divided by the forecast TNSUs for 2017 as laid out in the RP2 performance plan.

8. Terminal DUC 2017 vs. 2017 Actual Unit Cost for users



The actual unit cost incurred by airspace users (AUC-U) in respect of activities performed in 2017 (13.23 £) is -4.4% lower than the nominal DUC (13.83 £). The difference between these two figures (-0.60 £) relates to:

- the inflation adjustment (-0.36 £) reflecting the impact of a lower than planned inflation index for 2017 which will be reimbursed to airspace users in 2019; and,
- the traffic risk-sharing adjustment (-0.25 £) reflecting the gain in revenues due to higher than planned traffic in 2017 which will be reimbursed to airspace users in 2019.

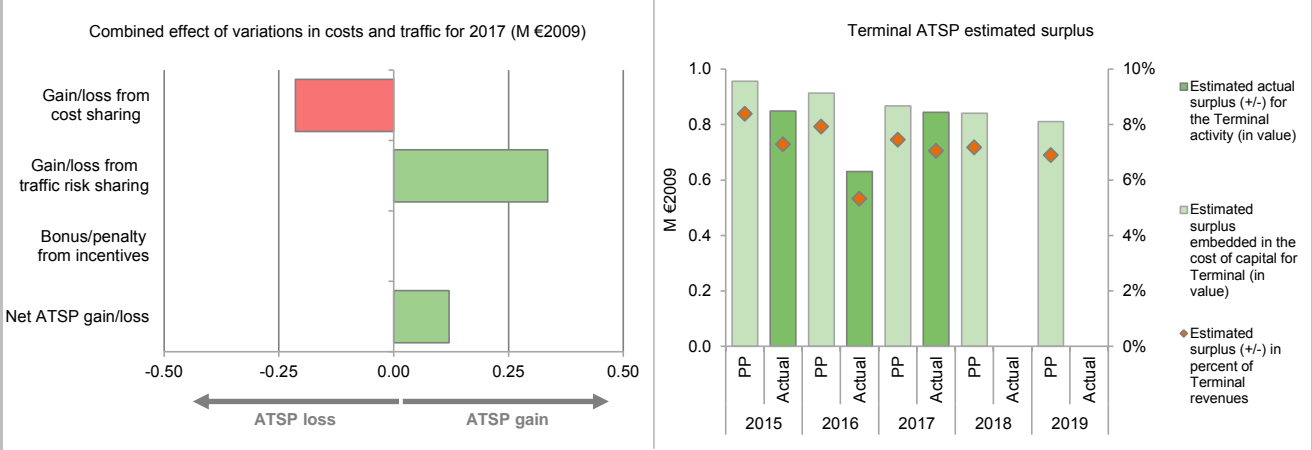
These costs and adjustments are divided by the actual TNSUs in 2017.

UNITED KINGDOM: Terminal ATSP (NATS)

Monitoring of terminal COST-EFFICIENCY for 2017

9. Focus on ATSP: Net ATSP gain/loss on terminal ANS activity					
Cost sharing ('000 €2009)	2015	2016	2017	2018	2019
Determined costs for the ATSP (PP) - based on planned inflation	11 408	11 531	11 650		
Actual costs for the ATSP	11 673	12 031	11 864		
Difference in costs: gain (+)/Loss (-) retained/borne by the ATSP	-265	-500	-214		
Amounts excluded from cost sharing to be recovered from (+) or reimbursed to (-) users	0	0	0		
Gain (+)/Loss (-) to be retained by the ATSP in respect of cost sharing	-265	-500	-214		
Traffic risk sharing ('000 €2009)	2015	2016	2017	2018	2019
Difference in total service units (actual vs PP) %	2.6%	4.6%	4.7%		
Determined costs for the ATSP (PP) - based on actual inflation	11 666	11 931	11 973		
Gain (+)/Loss (-) to be retained by the ATSP in respect of traffic risk sharing	254	330	335		
Incentives ('000 €2009)	2015	2016	2017	2018	2019
Gain (+)/Loss (-) to be retained by the ATSP in respect of incentives (bonus/penalty)	0	0	0		
Net ATSP gain(+)/loss(-) on terminal activity ('000 €2009)	-11	-170	121		
10. Focus on ATSP: Terminal ATSP estimated surplus *					
* This calculation of the economic surplus retained by the ATSP is based on the determined RoE and on the information provided in the Reporting Tables. This is different from the accounting profit/loss reported in the P&L accounts of the ATSP.					
ATSP estimated surplus ('000 €2009) from RP2 Performance Plan	2015P	2016P	2017P	2018P	2019P
Total asset base	21 911	20 928	19 885	19 265	18 591
Estimated proportion of financing through equity (in %)	40.0%	40.0%	40.0%	40.0%	40.0%
Estimated proportion of financing through equity (in value)	8 772	8 379	7 961	7 713	7 443
Estimated proportion of financing through debt (in %)	60.0%	60.0%	60.0%	60.0%	60.0%
Estimated proportion of financing through debt (in value)	13 139	12 550	11 924	11 552	11 148
Cost of capital pre-tax (in value)	1 285	1 227	1 166	1 130	1 090
Average interest on debt (in %)	2.5%	2.5%	2.5%	2.5%	2.5%
Interest on debt (in value)	328	314	298	289	279
Determined RoE pre-tax rate (in %)	10.9%	10.9%	10.9%	10.9%	10.9%
Estimated surplus embedded in the cost of capital for terminal (in value)	956	913	868	841	811
Overall estimated surplus (+/-) for the terminal activity	956	913	868	841	811
Revenue/costs for the terminal activity	11 408	11 531	11 650	11 729	11 768
Estimated surplus (+/-) in percent of terminal revenues	8.4%	7.9%	7.4%	7.2%	6.9%
Estimated ex-ante RoE pre-tax rate (in %)	10.9%	10.9%	10.9%	10.9%	10.9%
ATSP estimated surplus ('000 €2009) based on actual data from Reporting Tables	2015A	2016A	2017A	2018A	2019A
Total asset base	19 730	18 349	16 571		
Estimated proportion of financing through equity (in %)	40.0%	40.0%	40.1%		
Estimated proportion of financing through equity (in value)	7 892	7 340	6 639		
Estimated proportion of financing through debt (in %)	60.0%	60.0%	59.9%		
Estimated proportion of financing through debt (in value)	11 838	11 009	9 932		
Cost of capital pre-tax (in value)	1 156	1 075	972		
Average interest on debt (in %)	2.5%	2.5%	2.5%		
Interest on debt (in value)	296	275	248		
Determined RoE pre-tax rate (in %)	10.9%	10.9%	10.9%		
Estimated surplus embedded in the cost of capital for terminal (in value)	860	800	724		
Net ATSP gain(+)/loss(-) on terminal activity	-11	-170	121		
Overall estimated surplus (+/-) for the terminal activity	849	630	844		
Revenue/costs for the terminal activity	11 662	11 861	11 985		
Estimated surplus (+/-) in percent of terminal revenues	7.3%	5.3%	7.0%		
Estimated ex-post RoE pre-tax rate (in %)	10.8%	8.6%	12.7%		

11. Focus on ATSP: Summary of ATSP gain/loss on terminal activity and estimated surplus



12. Focus on terminal ATSP: General conclusions

Actual 2017 NERL terminal costs vs. PP

NERL actual terminal costs are +1.8% (+0.2 M€2009) higher, in real terms, than planned in the PP. Based on the Additional Information provided within the Terminal Reporting Tables, the main drivers for this deviation are:

- higher staff costs (+11.6%, or +0.6 M€2009), mainly reflecting a higher number of staff;
- lower other operating costs (-1.1%, or +0.03 M€2009);
- lower depreciation costs (-4.5%, or -0.1 M€2009) resulting from changes in the timing of investment projects; and,
- a lower cost of capital (-16.6%, or -0.2 M€2009) mainly due to a lower asset base.

NERL 2017 net gain/loss on terminal activity

As shown in box 9, the terminal activity generated a net gain of +0.1 M€2009 in 2017. This is a combination of the following elements:

- a loss of -0.2 M€2009 as a result of the cost-sharing mechanism; and
- a gain of +0.3 M€2009 as a result of the traffic-risk sharing mechanism.

NERL 2017 overall estimated surplus for the terminal activity

Ex-post, the overall estimated surplus taking into account the net gain from the terminal activity mentioned above (+0.1 M€2009) and the surplus embedded in the cost of capital (+0.7 M€2009) amounts to +0.8 M€2009 (7.0% of the 2017 terminal revenues). The resulting ex-post rate of return on equity is 12.7%, which is higher than the 10.9% planned in the PP.

UNITED KINGDOM: Gate-to-gate

Monitoring of gate-to-gate COST-EFFICIENCY for 2017

1. Monitoring of gate-to-gate ANS costs

United Kingdom: Data from RP2 Performance Plan		2015D	2016D	2017D	2018D	2019D
Real en-route costs (EUR2009)		651 866 349	640 430 909	630 509 232	611 485 711	591 169 362
Real terminal costs (EUR2009)		11 408 395	11 530 593	11 650 176	11 728 661	11 768 119
Real gate-to-gate costs (EUR2009)		663 274 745	651 961 502	642 159 408	623 214 372	602 937 480
En-route share (%)		98.3%	98.2%	98.2%	98.1%	98.0%
United Kingdom: Actual data from Reporting Tables		2015A	2016A	2017A	2018A	2019A
Real en-route costs (EUR2009)		638 434 672	642 670 792	620 357 056		
Real terminal costs (EUR2009)		11 673 259	12 030 653	11 864 428		
Real gate-to-gate costs (EUR2009)		650 107 931	654 701 445	632 221 485		
En-route share (%)		98.2%	98.2%	98.1%		
Difference between Actuals and Planned (Actuals vs. PP)		2015	2016	2017	2018	2019
Real gate-to-gate costs (EUR2009)	in value	-13 166 814	2 739 943	-9 937 923		
	in %	-2.0%	0.4%	-1.5%		
En-route share	in p.p.	-0.1 p.p.	-0.1 p.p.	-0.1 p.p.		

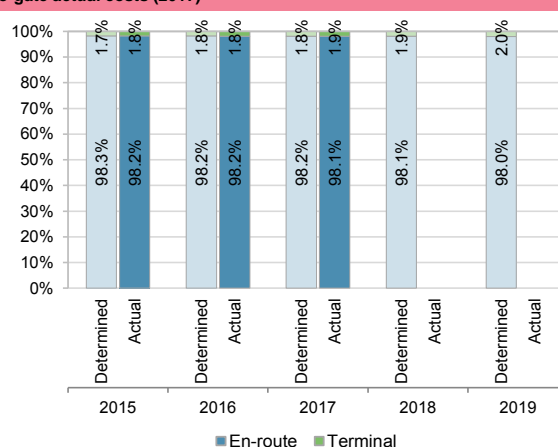
2. Share of en-route and terminal in gate-to-gate actual costs (2017)

As noted in the introduction of the terminal analysis (see box 3), only TCZ C is included in this report since the actual data relating to TCZ B (airports where terminal ANS are provided on a contractual basis) has to be provided to the European Commission on a confidential basis. Therefore, the gate-to-gate results shown in this page only reflect the aggregate view of UK en-route and London Approach services, not the results of terminal ANS services provided at the nine airports comprised in TCZ B.

In 2017, actual gate-to-gate ANS costs are -1.5% (-9.9 M€2009) lower than planned due to the combination of lower en-route costs (-1.6%, or -10.2 M€2009) and higher terminal costs (+1.8%, or +0.2 M€2009).

The actual share of en-route in gate-to-gate ANS costs (98.1%) is in line with that planned in the PP for 2017 (98.2%).

For NERL, the estimated gate-to-gate economic surplus in 2017 amounts to 82.6 M€2009 (see boxes 10 for the detailed analysis at charging zone level), corresponding to 13.9% of gate-to-gate ANS revenues.



3. Technical notes on en-route and terminal information reported by United Kingdom

Note 1:

Information relating to UK TCZ B has to be provided to the European Commission on a confidential basis (nine airports – airports where terminal ANS are provided on a contractual basis) and is not part of this Monitoring Report.

UK TCZ C (London Approach) is not directly comparable with other TCZs since the service provided is of a hybrid nature, making the transition between en-route and terminal services for the five London Airports (which are also part of TCZ B).

UNITED KINGDOM

Monitoring of CAPEX for 2017

Contextual Information						
ANSP: NATS (Continental)						
FAB: UK-Ireland FAB						
Currency: GBP						
Data from RP2 National Performance Plan	2015P	2016P	2017P	2018P	2019P	RP2P
Total CAPEX (in nominal M)	136.5	134.9	118.1	109.4	101.6	600.5
Main CAPEX (in nominal M)	122.7	123.5	107.6	98.8	87.3	540.0
Inflation %	1.9%	1.9%	2.0%	2.0%	2.0%	
Inflation index (100 in 2009)	118.2	120.5	122.9	125.3	127.8	
Exchange rate 2009	0.890647	0.890647	0.890647	0.890647	0.890647	
Total CAPEX (in M €2009)	129.7	125.7	107.9	98.0	89.2	550.5
Main CAPEX (in M €2009)	116.6	115.1	98.3	88.5	76.7	495.2
% Main of Total CAPEX	89.9%	91.6%	91.1%	90.3%	86.0%	90.0%
Real gate-to-gate ANSP costs (in M €2009)	580.1	568.4	558.7	539.9	520.3	2 767.5
Total CAPEX as % of Real gate-to-gate ANSP costs	22.4%	22.1%	19.3%	18.2%	17.2%	19.9%
Actual data from FAB Monitoring Report	2015A	2016A	2017A	2018A	2019A	RP2A
Total CAPEX (in nominal M)	132.8	146.7	176.5			
Main CAPEX (in nominal M)	116.1	138.2	160.6			
Inflation %	0.0%	0.7%	2.7%			
Inflation index (100 in 2009)	115.6	116.4	119.6			
Exchange rate 2009	0.890647	0.890647	0.890647			
Total CAPEX (in M €2009)	129.0	141.5	165.7			
Main CAPEX (in M €2009)	112.7	133.3	150.8			
% Main of Total CAPEX	87.4%	94.2%	91.0%			
Real gate-to-gate ANSP costs (in M €2009)	568.2	568.7	545.1			
Total CAPEX as % of Real gate-to-gate ANSP costs	22.7%	24.9%	30.4%			
Actuals vs Planned in absolute value & percentage	2015	2016	2017	2018	2019	RP2
Total CAPEX (in nominal M)	-3.7	11.8	58.4			
Total CAPEX (in M €2009)	-0.7	15.8	57.8			
Total CAPEX (in %, M €2009)	-0.5%	12.5%	53.6%			

