PRB | Performance review body of the single european sky

Performance Review Body
Annex I – Member States' factsheets

The 2021 monitoring consists of six reports:

1. PRB Monitoring Report 2021
2. Traffic light system for environmental performance
3. **Annex I – Member States' factsheets**
4. Annex II – Member States' detailed analysis for experts
5. Annex III – Safety report
6. Annex IV – Investments report

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PRB Performance review body of the single european sky

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1 INTRODUCTION

1 The PRB Monitoring Report 2021 examines the performance of air navigation services (ANS) in Member States of the Single European Sky (SES). The SES area comprises EU Member States, Norway, and Switzerland (hereafter defined as Member States).

2 The PRB Annual Monitoring Report 2021 is complemented by one additional report and four annexes to the Union-wide report with a detailed analysis of performance at local levels:

- Traffic light system for environmental performance (produced by the PRB);
- Annex I – Member States' factsheets (this document);
- Annex II – Member States' detailed analysis for experts (produced by Eurocontrol);
- Annex III – Safety report (produced by EASA); and
- Annex IV – Investments report (produced by the PRB).

3 This "Annex I - Member States' factsheets" aims to provide readers with a snapshot of the 2021 (and combined years 2020-2021 for cost efficiency) air navigation services performance in each Member State through factsheets that summarise key data into concise charts. The PRB also provides its comments on Member States' performances highlighting any local issues that need to be addressed.

4 The factsheets comprise of three pages, the first page providing the comments from the PRB on the observed performance in each Member State per key performance area (KPA) and is based on the charts shown on the second and third page.

5 The charts shown on the second and third page are split into four sections, one for each KPA and each one has a factual caption that describes an important feature of the data shown.

6 Table 1 (page 5) presents an example of each graph that is shown in the factsheets with a description of how the reader can interpret the information it is conveying.

1.1 Important notes

Safety

7 For the third reference period (RP3), the European Commission set targets on the effectiveness of safety management (EoSM) for 2024 only. The PRB therefore compares performance in 2021 to the targets set for 2024, which indicates which Member States already achieved the RP3 safety targets or which Member States must improve.[1]

8 The data shown by the PRB is on a five-year rolling basis for the purposes of performance comparison, i.e. data is shown for key performance and performance indicators between 2017 and 2021. This means that RP2 (2017-2019) data is shown alongside RP3 (2020-2021) data.

9 In RP3, the levels of safety maturity were rescaled. In RP2, they ranged between level A and E (with level E as the best performance), whereas the levels now range between A and D (with level D as the best performance). Therefore, the reader should not assume that a Member State achieving level E in 2019 and level D in 2020 onwards had a safety maturity degradation.

10 Comparison of Runway incursion (RI) and separation minima infringement (SMI) occurrence rates between 2020 onwards and previous years should be done with caution. In RP3, only occurrences with 'safety impacts' are reportable, as opposed to 'all occurrences' in RP2. It should also be noted that rates at the local level are sensitive to the actual number of occurrences and the number of movements or flight hours, hence a difference of one occurrence in 2021 may result in a relatively higher or lower rate without necessarily implying improved or degraded safety performance.

Environment

11 In RP2, the Union-wide environment target was broken down into FAB level reference values. The PRB shows the FAB level reference values between 2017 and 2019.

12 For 2020, the national horizontal flight efficiency indicator (KEA) reference values are shown. For

[1] EoSM targets are set for 2024 only. When Member States are said to have achieved or not achieved the RP3 safety targets, this refers to the 2024 target levels.

2021, environment targets from the revised 2021 RP3 performance plans are shown.[2]

13 For the terminal performance indicators, the PRB shows the data for regulated airports that reported data only.[3]

Capacity

14 In RP2, delays were measured based on flight information regions (FIRs), whereas, in RP3 they are measured based on the air navigation service providers' (ANSPs) area of responsibility. Therefore, the performance between 2017-2019 and 2020 onwards is not directly comparable since the PRB shows the delay data at the FIR level between 2017 and 2019 and the ANSP boundaries for 2020 and 2021. For most Member States the difference is negligible, but for the Maastricht Upper Area Control Centre (MUAC) Member States, i.e. Belgium, Luxembourg, Germany and the Netherlands, the difference can be significant.

15 In RP2, capacity targets were set at FAB level and optionally broken down into national targets. The PRB shows the FAB level targets between 2017 and 2019 unless national targets were set. For 2020, since the 2019 draft performance plans were not formally adopted, the target shown is actually the local (FAB or ANSP) breakdown values. This is because the draft 2019 performance plans were not formally adopted. For 2021, capacity targets from the revised 2021 RP3 performance plans are shown.

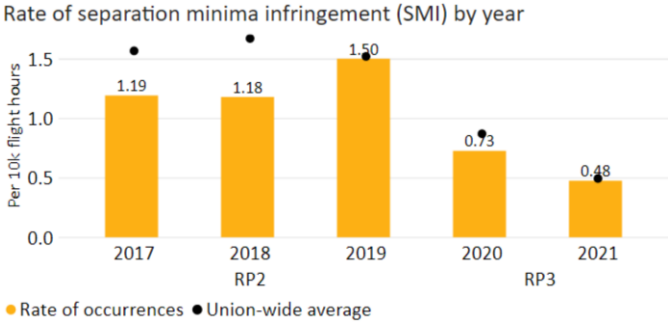
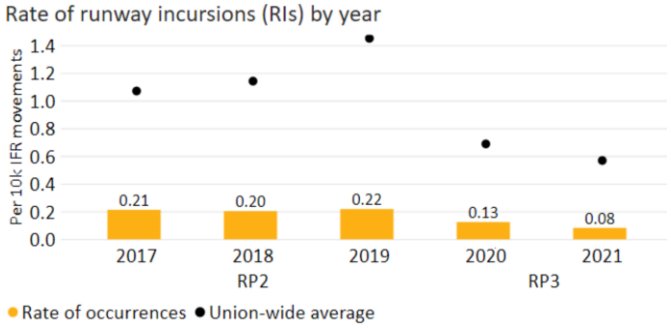
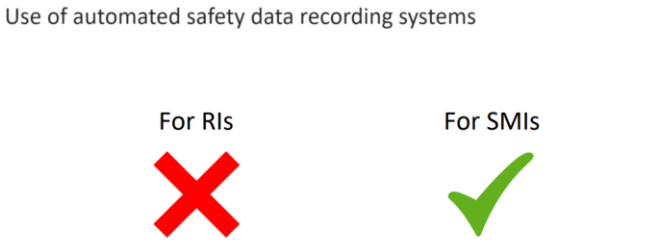
Cost-efficiency

16 The en route and terminal cost-efficiency performance are monitored by one KPI: The determined unit costs. The KPI is calculated at charging zone level per year and per reference period, as the ratio between the determined costs and the determined traffic.

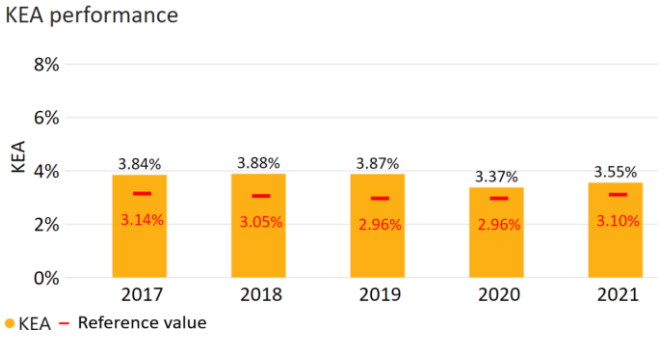
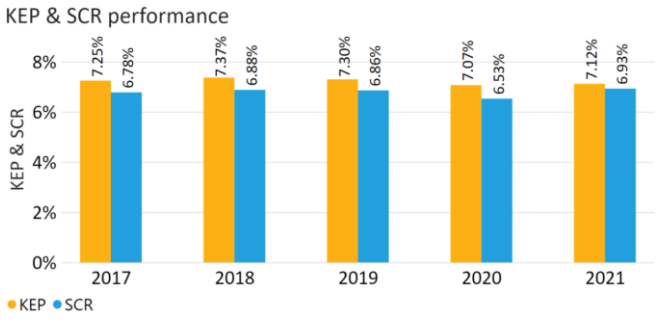
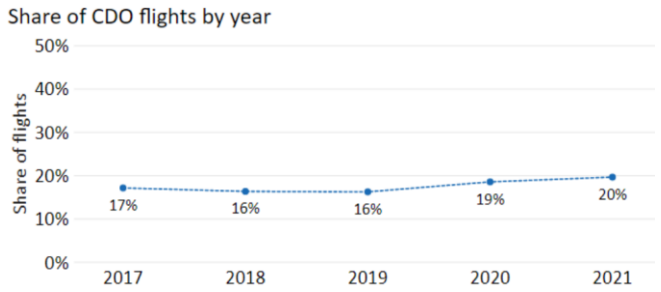
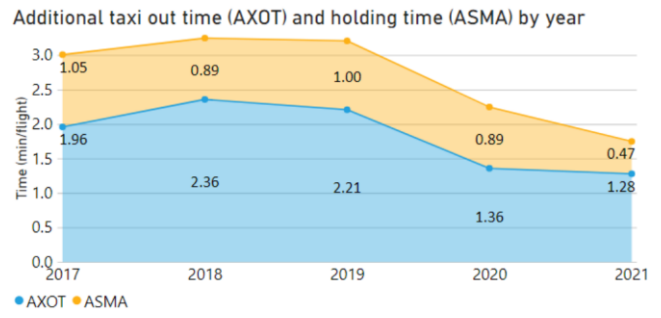
17 The Regulation includes a new indicator for monitoring: The actual unit cost incurred by users (AUCU). The AUCU is calculated separately for en route and terminal as the sum of the determined unit costs and the adjustments stemming from the year divided by the actual traffic. The AUCU is presented in nominal euros.

18 As for exceptional measures Regulation, the comparison of determined unit costs and actual unit costs is performed for the combined year 2020/2021, as well as for the AUCU.[4]

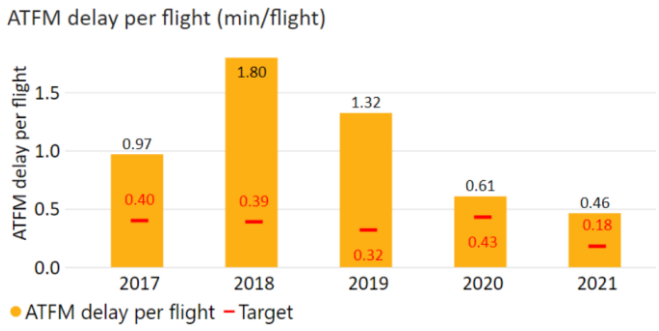
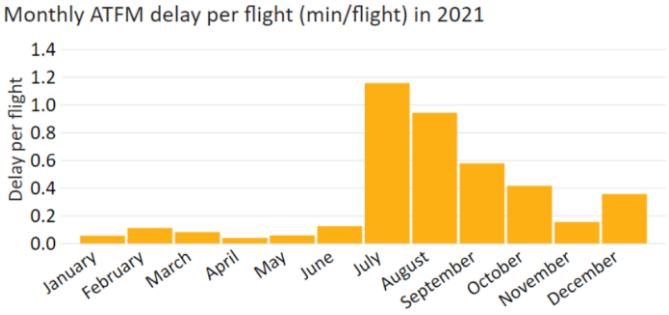
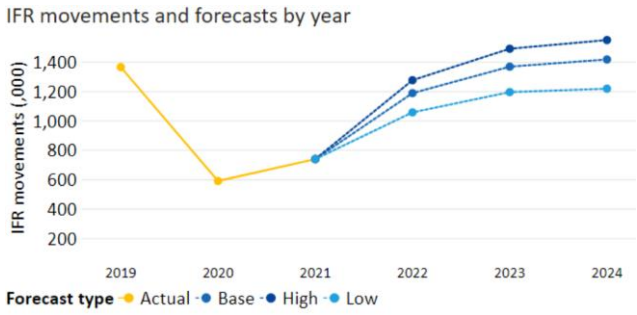
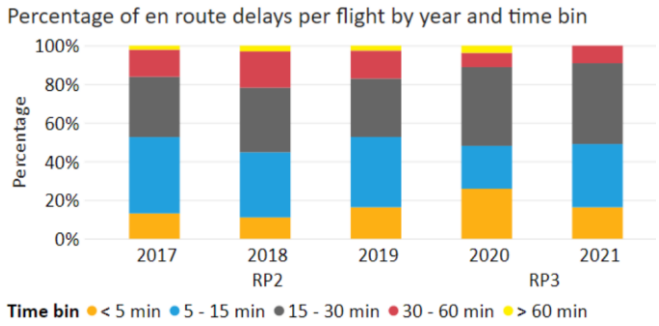
[2] The performance plans of FABEC, Greece, Cyprus, Sweden, Malta, Poland, Romania, Latvia were not formally adopted.
[3] In some instances, additional airport data for 2020 has been made available since the previous edition of this monitoring report, leading to minor discrepancies with 2020 values published in October 2021.
[4] Commission Implementing Regulation (EU) 2020/1627.

KPA	Chart	Description
Safety		Shows the minimum level of EoSM achieved by the Member State's main ANSP.[5] Performance in each safety management objective is shown. The dotted red and yellow lines show the 2024 (RP3) target for each management objective.
Safety		Shows the rates of separation minima infringement (SMI) that occurred in the Member State. The black dots show the Union-wide average rate of occurrences.
Safety		Shows the rate of occurrences of runway incursions (RIs) for the regulated airports in the Member States which have reported relevant data. The black dots show the Union-wide average rate of occurrences.
Safety		Shows whether the Member State used automated safety data recording systems and for which occurrence type it is operational. A red cross indicates the Member State did not use automated systems in 2021 while a green tick indicates that it did.

[5] The EoSM scores are provided according to the latest scores held by EASA and may be different to those stated in previous monitoring reports. The reader should note the section 1.1, paragraph 9 concerning the safety KPA when interpreting this graph.

KPA	Chart	Description
Environment		Shows the achieved horizontal flight inefficiency (KEA) and the FAB reference value for each year between 2017 and 2021. For 2020 onwards, the reference value is at a national level.[6]
Environment		Shows the planned horizontal flight inefficiency (KEP) and shortest constrained route (SCR) at the Member States' regulated airports between 2017 and 2021.*
Environment		Shows the share of flights that conducted fully continuous descent operations (CDO) – as defined by the Eurocontrol taskforce on vertical flight efficiency – at the Member States' regulated airports between 2017 and 2021.[7]
Environment		Shows the average additional time to taxi-out and additional holding time spent by airspace users at the Member States' regulated airports between 2017 and 2021.*

[6] Between 2016 and 2019 the FAB reference values are shown as Member States submitted FAB-level performance plans for RP2.
[7] European CCO/CDO task force's definition of CCO/CDO can be found here.
* Note that the scope of regulated airports in this Annex I includes those as per Article 1(3) of Commission Implementing Regulation (EU) 2019/317 (IFR movements ≥ 80 000) and those as per Article 1(4) (added on a voluntary basis). Annex II only accounts for airports included as per Article 1(3), hence discrepancies between values in the two annexes can be explained by this differing scope.

KPA	Chart	Description
Capacity		Shows the average yearly en route air traffic flow management (ATFM) delay incurred per flight by airspace users flying in the Member State's airspace between 2017 and 2021.[8] Between 2017 and 2019, the national or FAB capacity targets are shown with red lines, but for 2020 onwards the red line is the local (ANSP) breakdown value.
Capacity		Shows the average monthly en route ATFM delay incurred per flight by airspace users flying in the Member State's airspace in each month of 2021.
Capacity		Shows the actual number of instrument flight rules (IFR) movements managed by the Member State and the high, base and low forecasts from the STATFOR June 2021 forecast for 2022 onwards.
Capacity		Shows the share of flights that were delayed by time category between 2017 and 2021.

[8] Data between 2017-2019 is based on FIR (national) boundaries while 2020 onwards data is based on AUA (ANSP area of responsibility) boundaries. The reader should note the section 1.2, paragraph 11 and 12 concerning the capacity KPA when interpreting this graph.

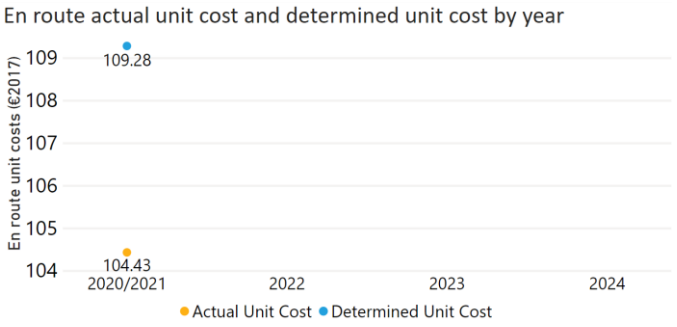
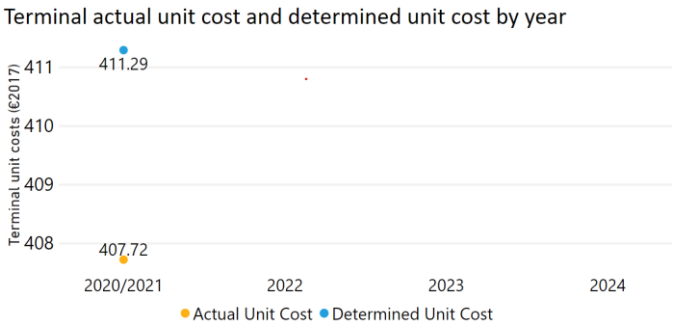
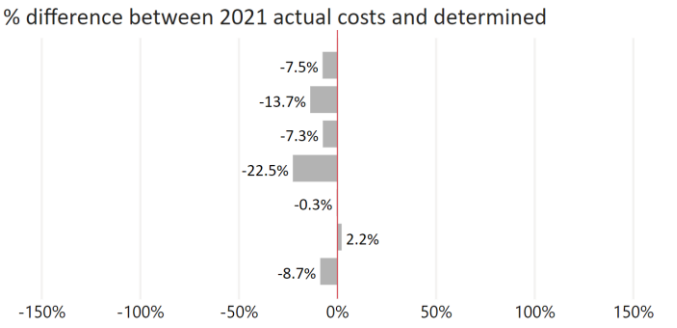
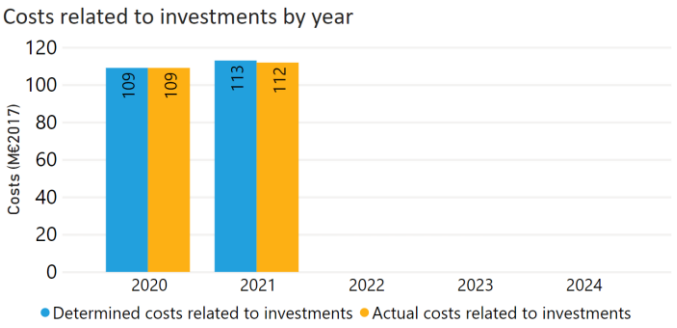
KPA	Chart	Description
Cost-efficiency		Shows the en route actual unit cost and determined unit cost at charging zone level for the combined year 2020/2021.
Cost-efficiency		Shows the terminal actual unit cost and determined unit cost at charging zone level for the combined year 2020/2021.
Cost-efficiency		Shows the comparison of the changes in actual costs across various cost categories in 2021 at charging zone level.
Cost-efficiency		Shows the comparison between the determined and actual costs related to investments in the performance plan at main ANSP level.[9]

Table 1 – Description of the various charts shown in the Member States factsheets organised per KPA.

[9] The data labels in the graphs are displayed without decimals, minor inconsistencies between the data in the text and the graphs may appear due to rounding.

Comments from the Performance Review Body:

Safety:

- Austro Control did not achieve the targets for the EoSM in any of the safety management objectives in 2021, however, improvements to achieve the next level of maturity have been identified and included in the strategic planning processes.
- Austro Control developed an improvement plan including enhancements in the area of risk management, an amendment of audit checklists, and implementation of measures derived from the safety culture survey.
- The overall safety performance of the organisation is stable, the rate of occurrences has decreased compared with previous years and remain below the Union-wide average.
- Austro Control should improve its safety management by implementing automated safety data recording systems.

Environment:

- Austria achieved a KEA performance of 1.87% compared to its target of 1.96% and contributed positively to the Union-wide target. KEA performance improved by 0.3 percentage points in comparison to 2020.
- Lower traffic figures and the implementation of free route airspace contributed positively to achieving the target.
- Both KEP and SCR improved in comparison with 2020's performance and reached the lowest values since 2017.
- Only one out of six Austrian airports that are regulated reported terminal environment data.
- The share of flights operating CDO at Austrian airports decreased in 2021 compared to 2020. Austria notes that their focus is CDO, with the performance being the best since 2017.
- The additional time airspace users spent taxiing out decreased by 6% compared to 2020. Additional time in terminal airspace decreased by 26% compared to 2020.

Capacity:

- Austria registered near zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.1.
- Delays should be considered in the context of lower traffic: IFR movements in 2021 were 46% lower than in 2019.
- Traffic is expected to grow with 2019 levels likely being reached in 2023 (in base and high growth scenarios). The number of ATCOs in OPS is not planned to increase significantly, the capacity issues experienced in 2019 may reappear.

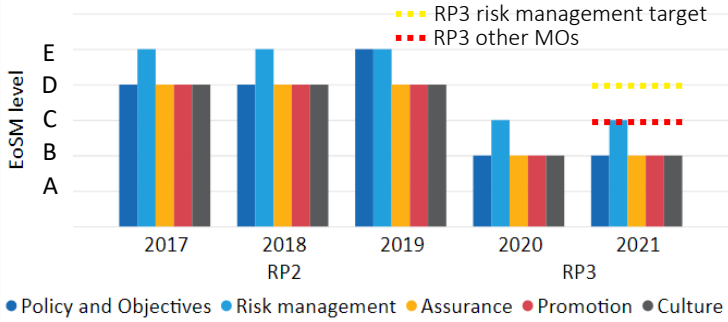
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Austria was 104.43€$_{2017}$, -4.4% lower than the determined unit cost (109.28€$_{2017}$). The terminal actual unit cost was 407.72€$_{2017}$, -0.9% lower than the determined unit cost (411.29€$_{2017}$).
- The en route 2021 actual service units (1,799K) were in line with the determined service units (1,807K).
- The en route 2021 actual total costs were -17M€$_{2017}$ (-8.7%) lower than determined. The main decreases were attributable to staff (-9.3M€$_{2017}$, or -7.5%) and other operating costs (-4.7M€$_{2017}$, or -14%). The NSA explained that costs variations were mainly due to residual effects from cost savings in 2020 and the prolonged situation of COVID-19.
- Austro Control spent 29M€$_{2017}$ in 2021 related to costs of investments, -11% less than determined (33M€$_{2017}$). Some investments were delayed due to the prolonged COVID-19 situation.
- The discrepancies regarding total costs and costs of investments are significant, especially as the performance plan has been submitted at the end of 2021. The PRB invites the NSA to analyse the discrepancies and identify their reasons, including potential inaccurate planning and possible misusing of the regulatory framework to finance the liquidity.
- The en route actual unit cost incurred by users in 2020/2021 was 112.01€, while the terminal actual unit cost incurred by users was 428.53€.

Austria Factsheet

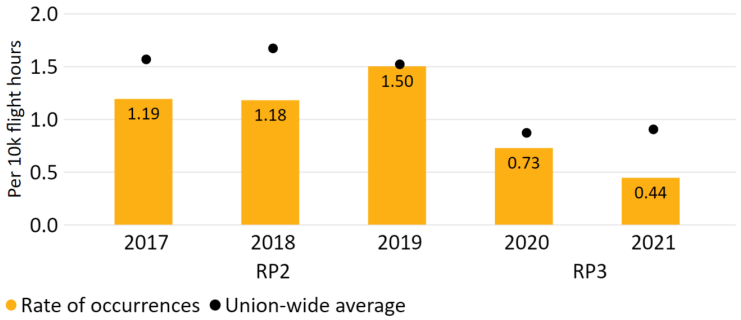
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



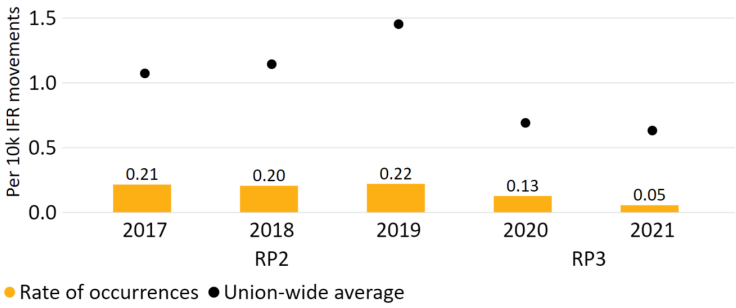
Austria (Austro Control) has not achieved the targets in any of the safety management objectives in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMI per flight hour marginally decreased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



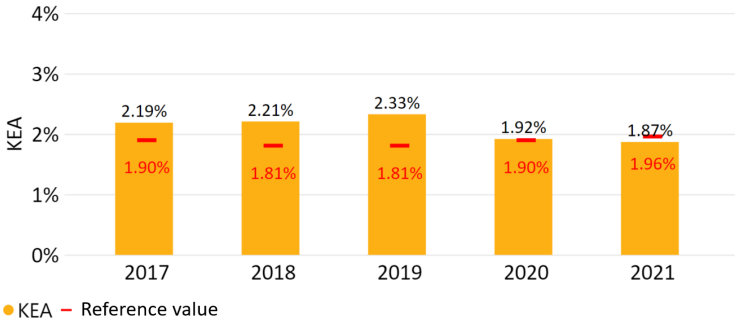
The rate of RI per movements in 2021 is at a similar level relative to 2020.

Use of automated safety data recording systems

Austria does not use automated safety data recording systems neither for RIs nor SMIs.

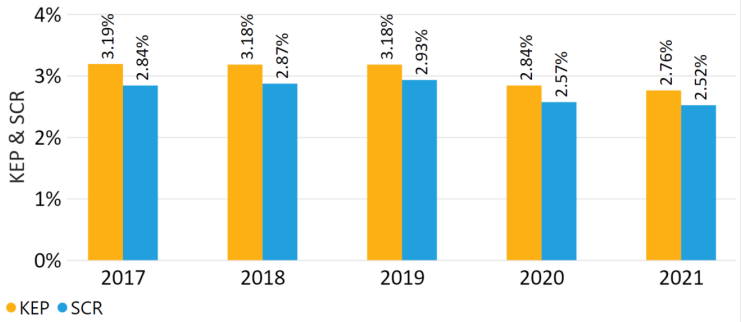
Environment

KEA performance



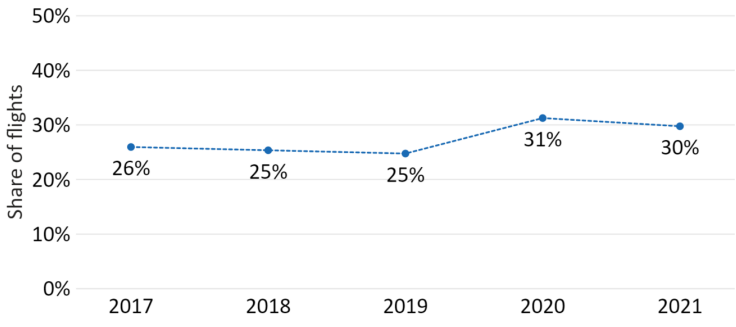
Austria achieved its 2021 KEA target by 0.09 percentage points, and performance improved relative to 2020.

KEP & SCR performance



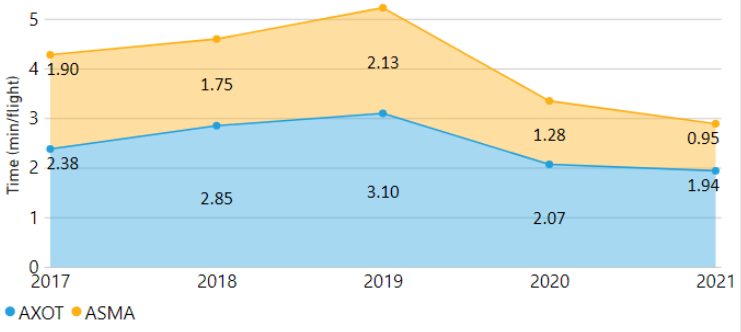
Austria was able to make shorter constrained routes available to airspace users who were then able to plan shorter routes in 2021.

Share of CDO flights by year



Austria's CDO performance worsened in 2021 compared to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

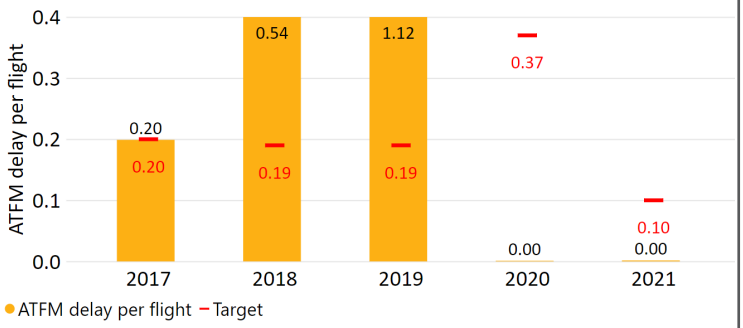


Terminal airspace users spent an additional 2.89 minutes per flight either taxiing or holding at Vienna airport.

Austria Factsheet

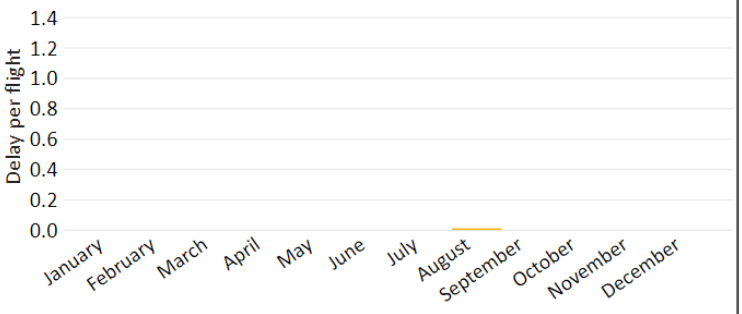
Capacity

ATFM delay per flight (min/flight)



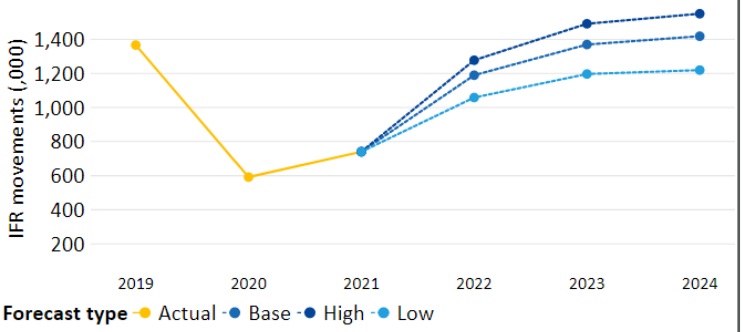
Austria recorded near zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Austria were 2% above the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin

n/a

The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

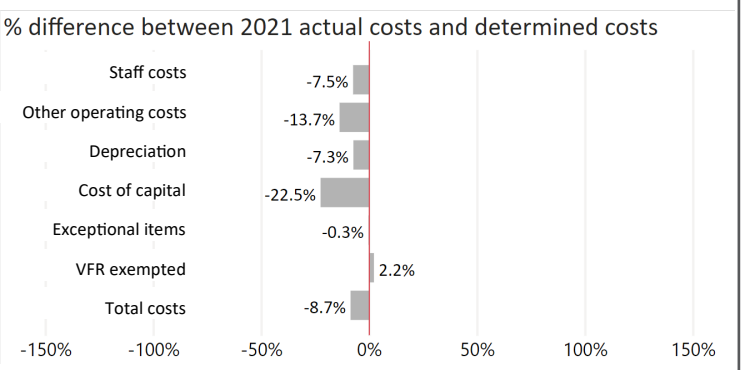
En route actual unit cost and determined unit cost by year

The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

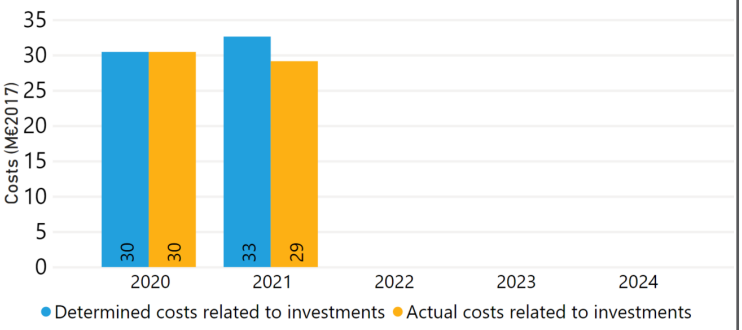
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



Austria decreased all costs categories in 2021 compared to determined cost.

Costs related to investments by year



Austro Control 2021 costs related to investments are -11% lower than planned due to delayed investments.

Comments from the Performance Review Body:

Safety:

- Skeyes did not achieve the targets on three management objectives in 2021, but the Safety Development Plan is established with measures and corrective actions to ensure required RP3 target levels will be met in 2024.
- As a part of the Belgian Plan for Aviation Safety, the NSA permanently monitors the separation minima infringements and runway incursions, conducts associated investigations and implements specific safety recommendations' actions.
- Skeyes should improve its safety management by implementing automated safety data recording systems.
- ANA Lux did not achieve any of the targets in 2021 and its performance is lagging the expected improvements as per the performance plan. ANA Lux needs to improve in seven EoSM questions by the end of RP3.
- The NSA prepared and approved a corrective plan to improve the performances given that ANA Lux did not achieve its intermediate EoSM targets in two management objectives. The NSA closely supervises its implementation in the frame of its continuous oversight.
- ANA Lux uses the Occurrence Reporting Monitoring to report the safety occurrences. The specific training programme was developed and implemented to improve awareness of occurrences both at the ground and air side.
- ANA Lux should improve its safety management by implementing automated safety data recording systems.

Environment:

- Belgium achieved a KEA performance of 3.55% compared to its target of 3.10% and did not contribute positively to the Union-wide target. KEA performance deteriorated by 0.18 percentage points in comparison to 2020.
- Traffic levels fluctuated in 2021, with a sharp increase in May/June, which had an impact on KEA performance. However, higher traffic levels were managed with similar KEA performance throughout 2017-2019.
- Both KEP and SCR slightly deteriorated in comparison to 2020.
- The share of flights operating CDO in 2021 remained similar to 2020 levels.
- The additional time airspace users spent in terminal airspace improved by 47% in comparison to 2019. Additional taxi time slightly improved as well.

Capacity:

- Belgium registered 0.01 minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.07.
- Delays should be considered in the context of lower traffic: in Belgium, IFR movements in 2021 were 49% lower than in 2019.
- Traffic is expected to grow with 2019 levels likely being reached in 2023 (in high growth scenario). An increase in the number of ATCOs in OPS is planned during RP3 in Brussels ACC.

Cost-efficiency:

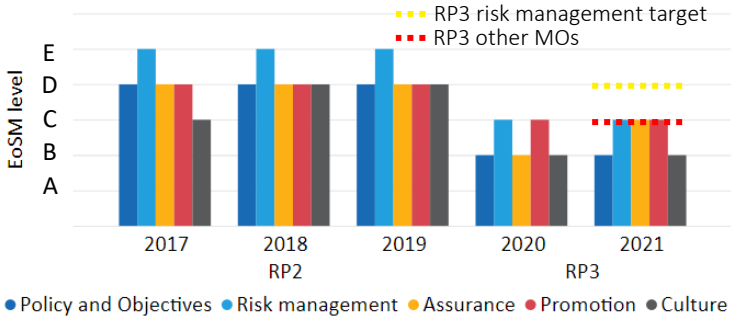
- The en route 2020/2021 actual unit cost of Belgium-Luxembourg was 183.76€$_{2017}$, -3.0% lower than the determined unit cost (189.52€$_{2017}$).
- The terminal actual unit cost of Belgium was 385.89€$_{2017}$, -3.1% lower than the determined unit cost (398.33€$_{2017}$). The terminal actual unit cost of Luxembourg was 333.73€$_{2017}$, -3.0% lower than the determined unit cost (344.18€$_{2017}$).
- The en route 2021 actual service units (1,167K) were in line with the determined service units (1,161K).
- The en route 2021 actual total costs were -12M€$_{2017}$ (-5.5%) lower than determined, mainly due to lower other operating costs (-8.1M€$_{2017}$, or -15%) and lower staff costs (-3.1M€$_{2017}$, or -2.1%). The NSA did not provide explanations for the variations of costs.
- Skeyes spent 13.0M€$_{2017}$ in 2021 related to costs of investments, -3.0% less than determined (13.4M€$_{2017}$), due to both lower depreciation and cost of capital stemming from a lower net book value. The NSA explained that there have been changes in the planned schedule of some investments.
- The en route actual unit cost incurred by users of Belgium-Luxembourg in 2020/2021 was 195.76€, while the terminal actual unit cost incurred by users was 324.46€ for Belgium and 303.05€ for Luxembourg.

* There is not an approved performance plan for FABEC. This factsheet is based on information within the latest submitted draft performance plan.

Belgium-Luxembourg Factsheet

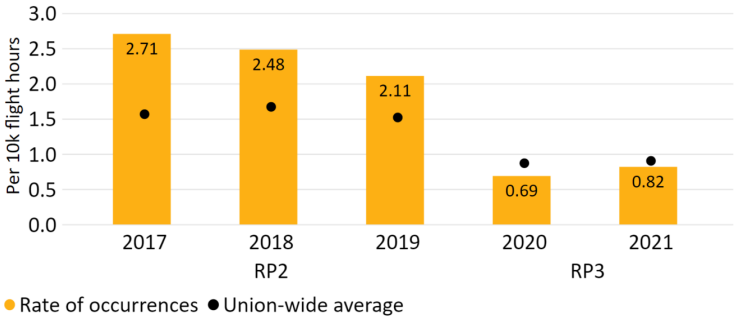
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



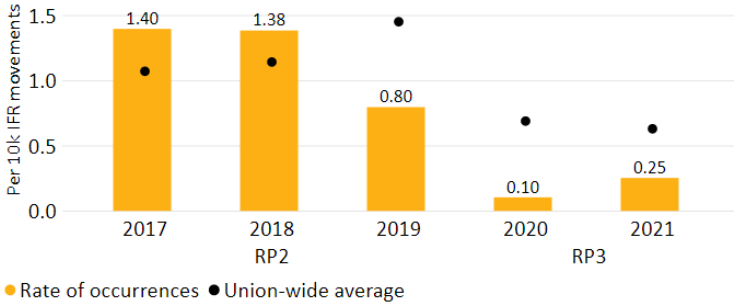
Skeyes has not yet achieved the intermediate target in 2021 but it has improved one management objective over 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour marginally increased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



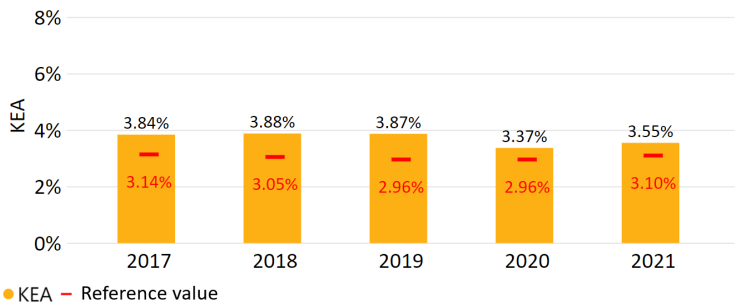
The rate of RIs per movement increased in 2021 relative to 2020.

Use of automated safety data recording systems

Belgium-Luxembourg does not use automated safety data recording systems neither for RIs nor SMIs.

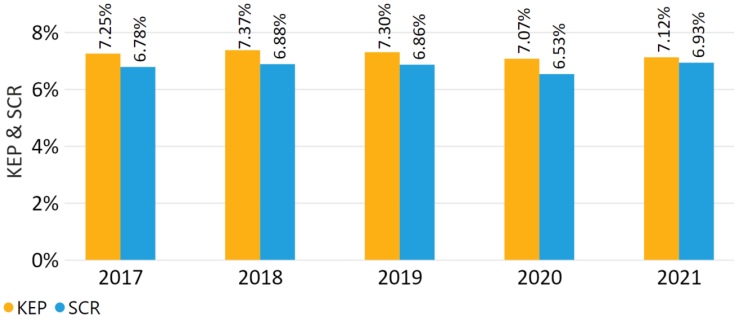
Environment

KEA performance



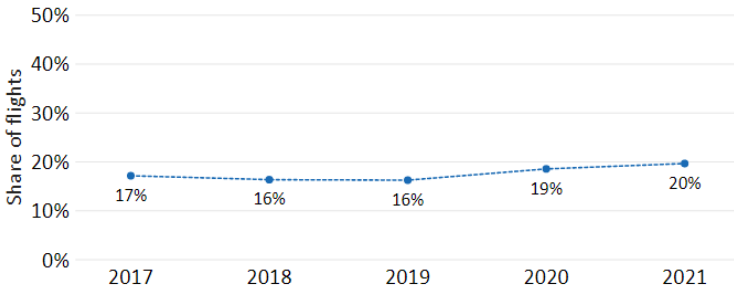
Belgium-Luxembourg did not achieve its 2021 KEA target by 0.45 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



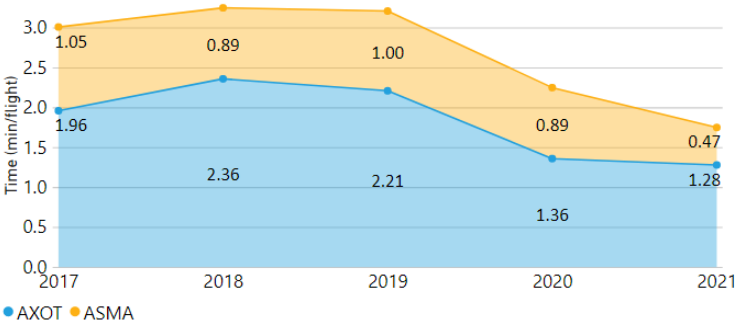
Belgium-Luxembourg did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

Share of CDO flights by year



Belgium's CDO performance improved relative to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

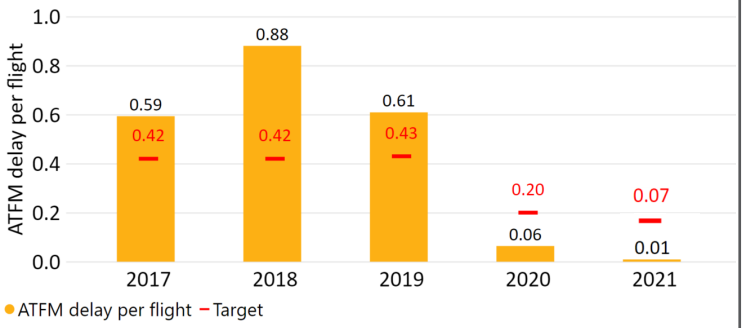


Terminal airspace users spent an additional 1.75 minutes per flight either taxiing or holding at Brussels airport.

Belgium-Luxembourg Factsheet

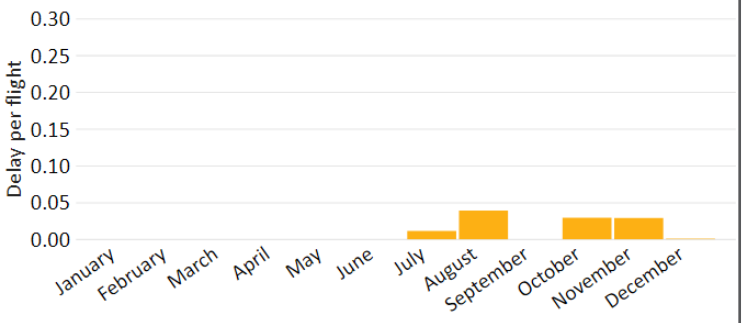
Capacity

ATFM delay per flight (min/flight)



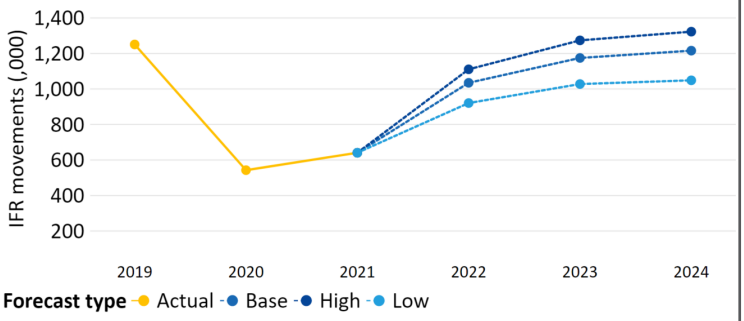
Delays in Belgium decreased year-on-year by 80% in 2021. Belgium performed better than the local breakdown value in 2021.

Monthly ATFM delay per flight (min/flight) in 2021



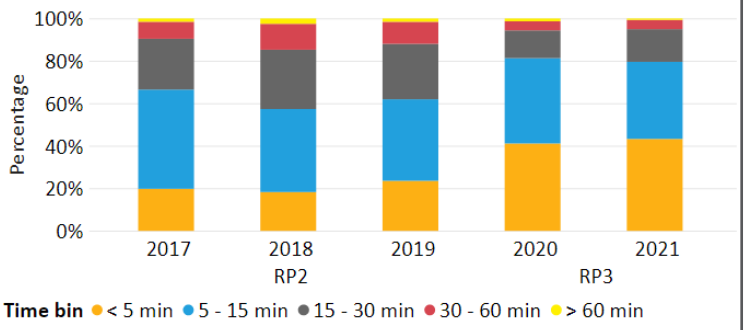
ATFM delays in July and August were driven by ATC capacity, while in October and November, staffing was the leading cause.

IFR movements and forecasts by year



IFR movements in Belgium were 2% below the base scenario of the 2021 October forecast in 2021.

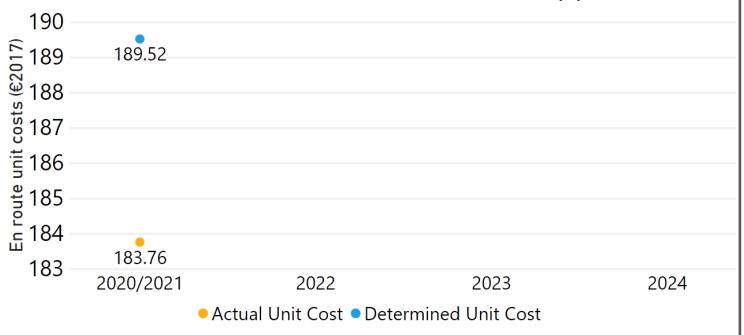
Percentage of en route delays per flight by year and time bin



There were more longer duration delays: the share of delays longer than 15 minutes increased.

Cost-efficiency

En route actual unit cost and determined unit cost by year

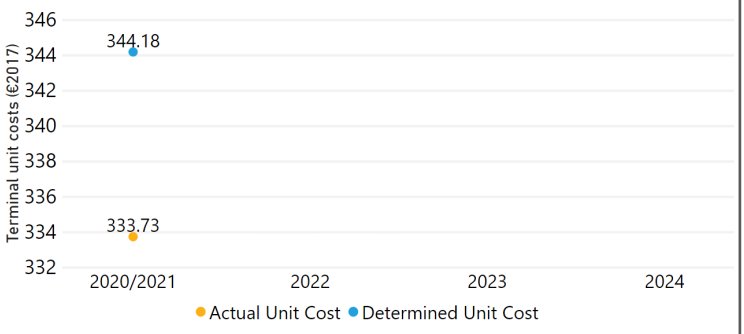


The 2020/2021 en route actual unit cost of Belgium-Luxembourg was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

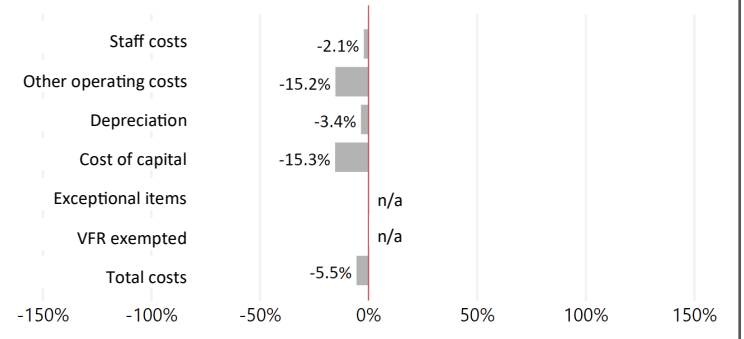
The 2020/2021 terminal actual unit cost of Belgium was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



The 2020/2021 terminal actual unit of Luxembourg was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs

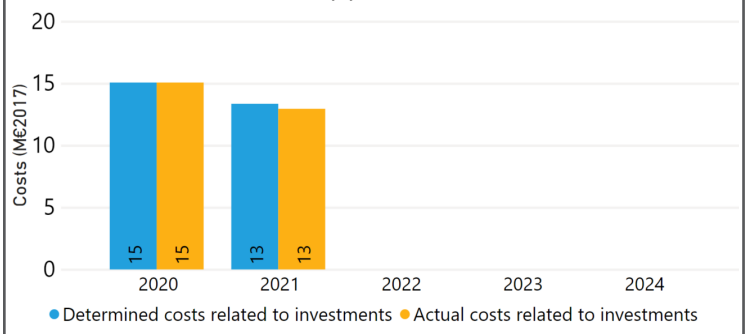


Belgium-Luxembourg decreased all cost categories in 2021 compared to determined costs.

Belgium-Luxembourg Factsheet

Cost-efficiency

Costs related to investments by year



Skeyes 2021 costs related to investments are -3.0% lower than planned.

Comments from the Performance Review Body:

Safety:

- BULATSA has not yet achieved the targets on safety risk management, but it has already exceeded the target on safety promotion. BULATSA continued the performance as planned in the performance plan.
- Bulgaria adopted the National Safety Plan including specific safety measures to achieve the acceptable level of safety performance. Particular actions were undertaken to improve BULATSA EoSM level in safety risk management.
- Bulgaria recorded a stable safety performance, with no reported occurrences of runway incursions in 2021. Bulgaria did not provide monitoring data for separation minima infringements (SMIs).

Environment:

- Bulgaria achieved a KEA performance of 2.48% compared to its target of 2.25% and did not contribute positively towards achieving the Union-wide target.
- It should be noted that KEA performance improved in comparison to 2020 despite a higher number of movements.
- Despite the shortest constrained route increasing in comparison to 2020, KEP performance improved by 0.26 percentage points.
- The NSA states the reasons for potential non meeting of environmental targets are outside of the ANSP's control and related to the geopolitical situation, airspace restrictions and user preferences.
- Bulgaria has no airports that are regulated under the RP3 performance and charging scheme.

Capacity:

- Bulgaria registered zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.04.
- Delays should be considered in the context of lower traffic: In Bulgaria, IFR movements in 2021 were 41% lower than in 2019.
- Traffic is expected to grow, with 2019 levels likely being reached in 2023 (in base and high growth scenarios). However, delay performance was good in 2019 and no immediate capacity issues are foreseen.

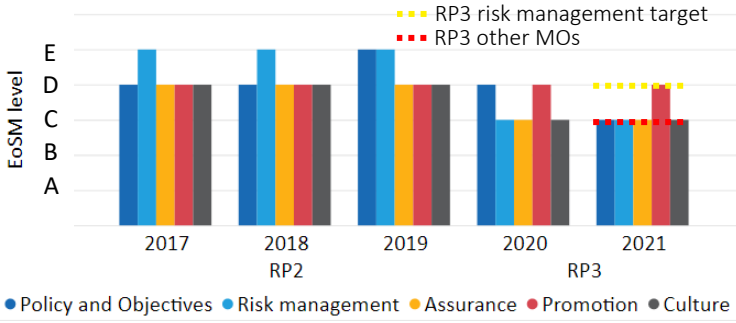
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Bulgaria was 46.94€$_{2017}$, -4.0% lower than the determined unit cost (48.89€$_{2017}$). Bulgaria does not have a terminal charging zone.
- The en route 2021 actual service units (2,270K) were +1.7% higher than determined (2,232K).
- The en route 2021 actual total costs were -6.0M€$_{2017}$ (-6.0%) lower than determined. The decrease was mainly attributable to lower staff costs (-4.5M€$_{2017}$, or -7.5%), the primary reason was a prolonged decrease in salaries of BULATSA due to the deterioration of the COVID-19 situation.
- Other operating costs decreased by -2.0M€$_{2017}$ (-12%) mainly due to the postponement of a service level agreement, decreases of external services, and trainings. It is unclear why the service level agreement has been postponed, which might lead to potential future issues on the quality of service provision.
- BULATSA spent 18.6M€$_{2017}$ in 2021 related to costs of investments, +0.9% more than determined (18.5M€$_{2017}$) due to slightly higher depreciation costs.
- The en route actual unit cost incurred by users in 2020/2021 was 50.83€.

Bulgaria Factsheet

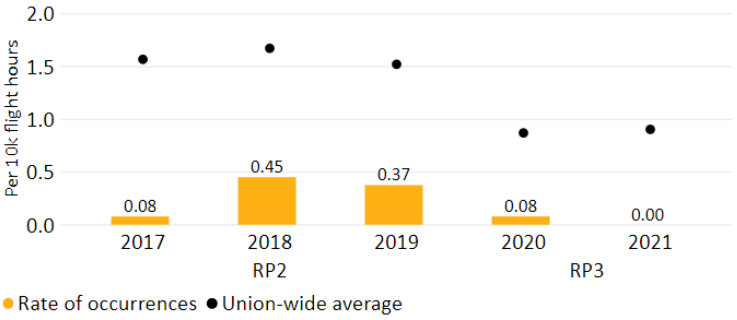
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



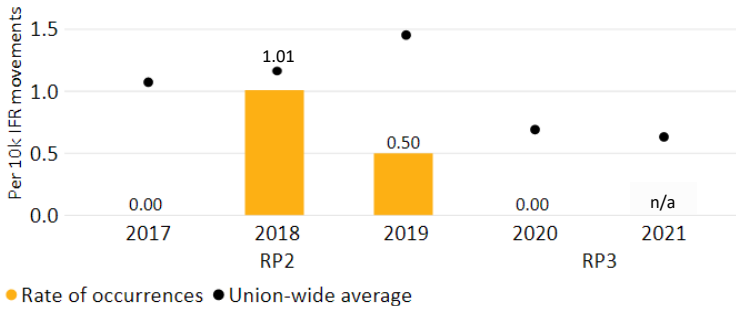
Bulatsa has not yet achieved the targets on safety risk management, but it has already exceeded the target on safety promotion.

Rate of separation minima infringement (SMI) by year



Bulgaria did not provide monitoring data on SMIs in 2021.

Rate of runway incursions (RIs) by year



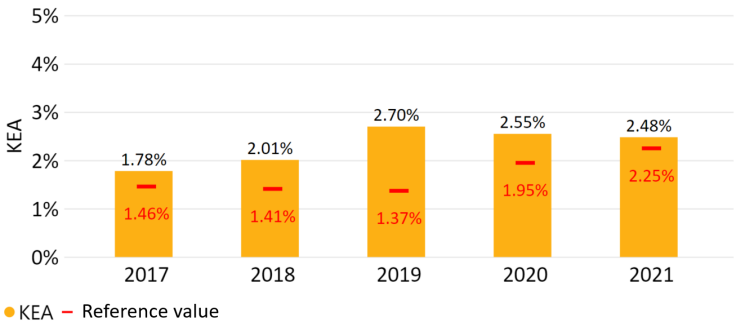
Bulgaria is not obliged to report RIs as no airport is regulated under the performance and charging scheme.

Use of automated safety data recording systems

Bulgaria does not use automated safety data recording systems.

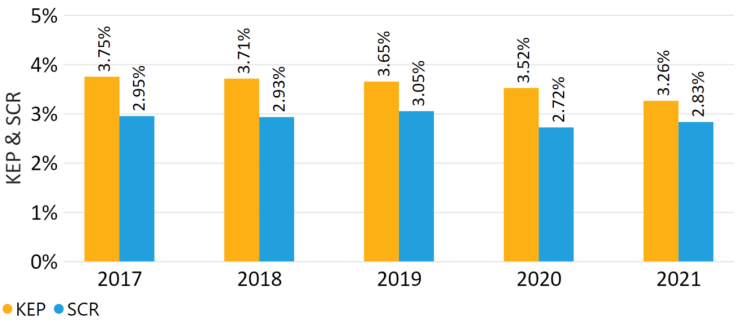
Environment

KEA performance



Bulgaria did not achieve its 2021 KEA target by 0.23 percentage points, but performance improved relative to 2020.

KEP & SCR performance



Bulgaria did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

No Bulgarian airport is regulated under the performance and charging scheme.

Bulgaria did not declare any of its airports as subject to the performance and charging Regulation.

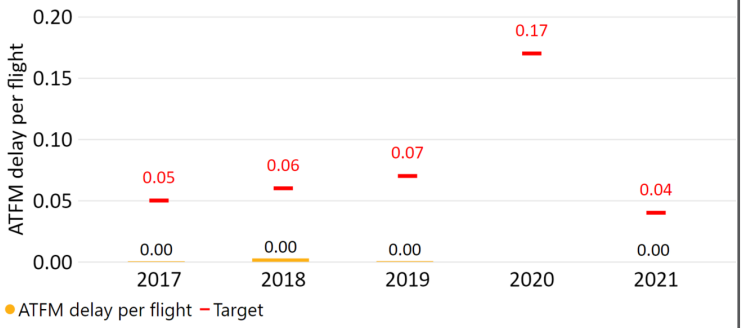
No Bulgarian airport is regulated under the performance and charging scheme.

Bulgaria did not declare any of its airports as subject to the performance and charging Regulation.

Bulgaria Factsheet

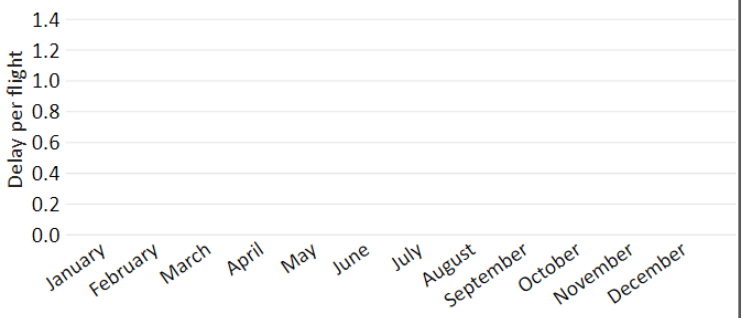
Capacity

ATFM delay per flight (min/flight)



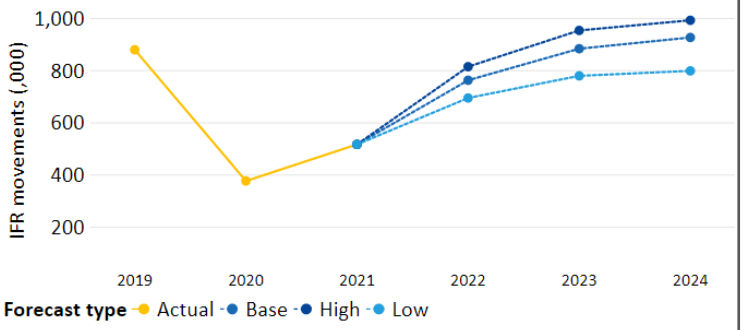
Bulgaria recorded zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



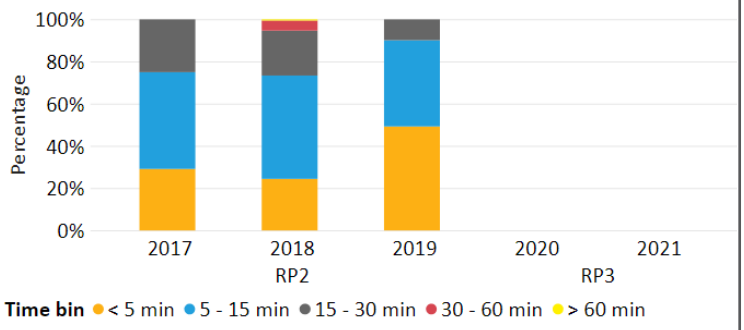
The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Bulgaria were 4% above the high scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

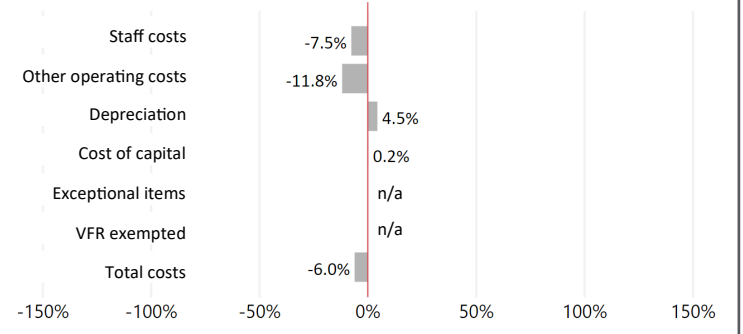
En route actual unit cost and determined unit cost by year

The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Bulgaria does not have a terminal charging zone.

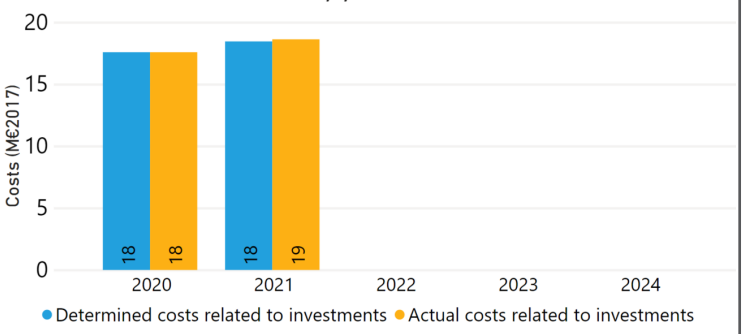
Bulgaria did not declare any terminal charging zones as subject to the performance and charging Regulation.

% difference between 2021 actual costs and determined costs



Bulgaria decreased total costs by -6.0% in 2021, mainly due to lower staff costs than planned.

Costs related to investments by year



BULATSA 2021 costs related to investments were +0.9% higher than planned.

Comments from the Performance Review Body:

Safety:

- Croatia Control improved performance in safety policy and objectives area and consequently achieved the target in 2021. Croatia Control still needs to improve in the area of risk management. Proactive safety management system established at CCL gives confidence that the ANSP will achieve the targets before the end of RP3. The Croatian NSA monitors safety performance of CCL via its continuous oversight function.
- Croatia recorded a stable performance with respect to the safety occurrences with increased in rate of runway incursions (RIs) and no occurrences of separation minima infringements (SMIs) in 2021.
- Croatia monitors safety performance using specific safety tools, including the automated safety data recording systems for the recording of separation minima infringements.
- Croatia Control should improve its safety management by implementing automated safety data recording systems for runway incursions.

Environment:

- Croatia continues to meet the KEA target for the fifth year in a row and its performance is the best since 2017, despite the traffic increased compared to 2020.
- The extension of SECSI FRA to Albania and North Macedonia further increased flight efficiency in the cross border free route airspace area in Southeast Europe.
- Croatia improved SCRs and further improved KEP by 0.19 percentage points.
- SCR and KEP values are similar, meaning airspace users plan routes that are very close to the shortest available.
- Croatia has no airports that are regulated under the RP3 performance and charging scheme.

Capacity:

- Croatia registered 0.07 minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.09. The delays accrued in the period between July and September during the 2021 summer traffic recovery with ATC capacity, weather, and ATC staffing being the main delay causes.
- Delays should be considered in the context of lower traffic: in Croatia, IFR movements in 2021 were 35% lower than in 2019.
- Traffic is expected to grow with 2019 levels likely being reached in 2022 (in high growth scenario) or by 2024 (in base growth scenario). An increase in the number of ATCOs in OPS is planned during RP3 enabling Croatia to prepare for the traffic recovery.

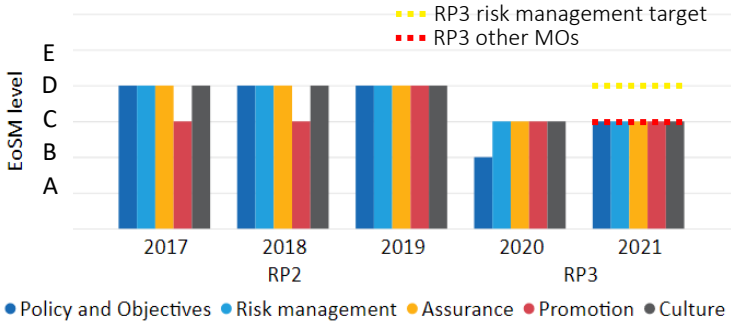
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Croatia was 65.22€$_{2017}$, -6.1% lower than the determined unit cost (69.46€$_{2017}$). Croatia does not have a terminal charging zone.
- The en route 2021 actual service units (1,519K) were in line with the determined service units (1,510K).
- The en route 2021 actual total costs were -9.8M€$_{2017}$ (-12%) lower than determined. The significant decrease was mainly attributable to lower staff costs (-5.1M€$_{2017}$, or -10%) and other operating costs (-3.8M€$_{2017}$, or -20%) mainly due to: (i) higher inflation than planned; and (ii) continuation of the cost containment measures from 2020 (e.g. salary cuts, decrease trainings, etc.). The NSA should provide an analysis of the impact on future performance caused by the significantly lower than determined staff costs.
- Croatia Control spent 11M€$_{2017}$ in 2021 related to costs of investments, -10% less than determined (13M€$_{2017}$) due to delays in the investment plan in order to preserve liquidity.
- The discrepancies regarding total costs and costs of investments are significant, especially as the performance plan has been submitted at the end of 2021. The PRB invites the NSA to analyse the discrepancies and identify their reasons, including potential inaccurate planning and possible misusing of the regulatory framework to finance the liquidity.
- The en route actual unit cost incurred by users in 2020/2021 was 65.86€.

Croatia Factsheet

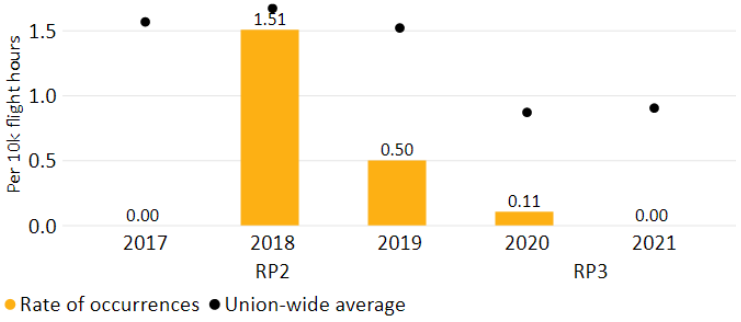
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



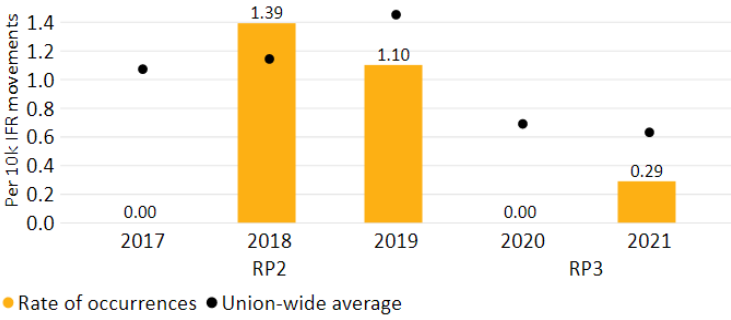
Although Croatia Control has not achieved the target on safety risk management, it has improved one management objective.

Rate of separation minima infringement (SMI) by year



Croatia did not record any SMIs in 2021.

Rate of runway incursions (RIs) by year



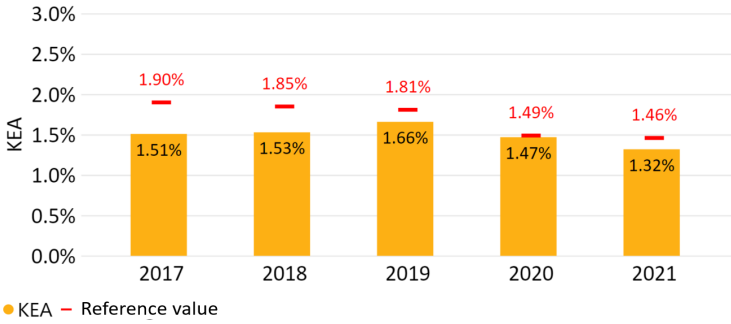
The rate of RIs per movement increased in 2021 relative to 2020. RIs are from airports not covered by Croatia's Performance Plan.

Use of automated safety data recording systems

Croatia uses the automated safety data recording systems for separation minima infringements.

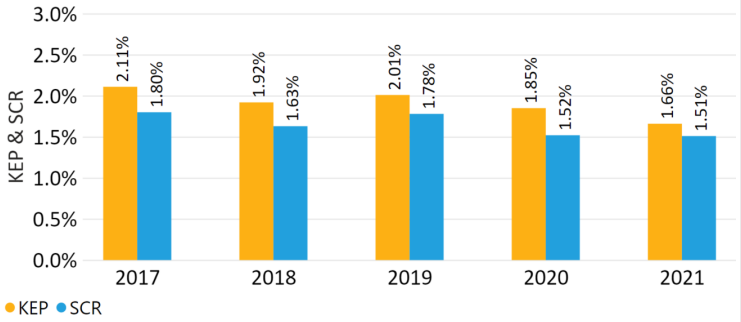
Environment

KEA performance



Croatia achieved its 2021 KEA target by 0.14 percentage points, and performance improved relative to 2020.

KEP & SCR performance



Croatia made shorter constrained routes (SCR) available to airspace users in 2021, who were then able to plan shorter routes.

No Croatian airport is regulated under the performance and charging scheme.

Croatia did not declare any of its airports as subject to the performance and charging Regulation.

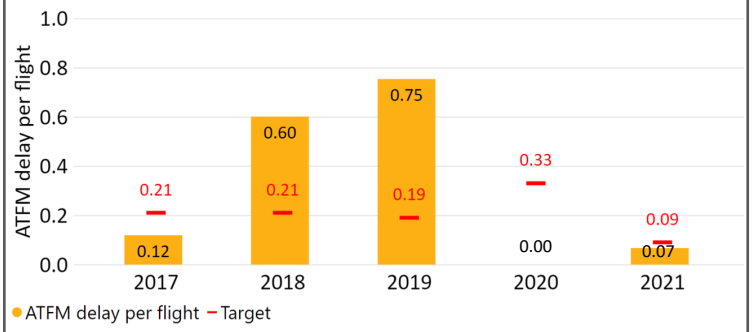
No Croatian airport is regulated under the performance and charging scheme.

Croatia did not declare any of its airports as subject to the performance and charging Regulation.

Croatia Factsheet

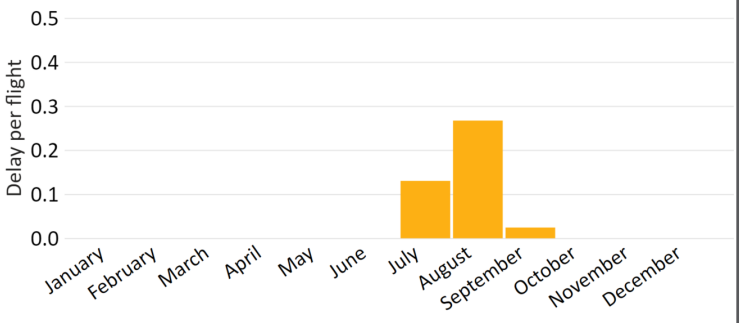
Capacity

ATFM delay per flight (min/flight)



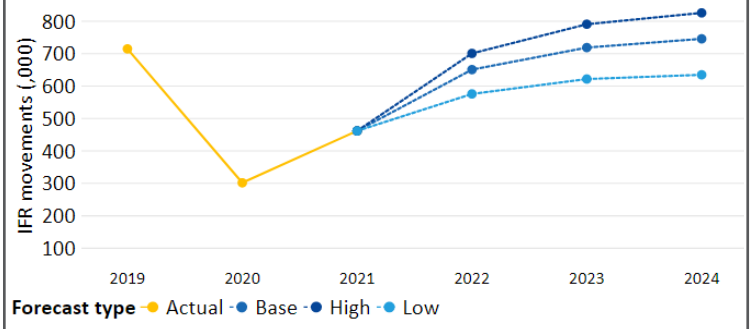
Delays increased by 0.07 minutes per flight year-on-year in 2021. Croatia performed better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



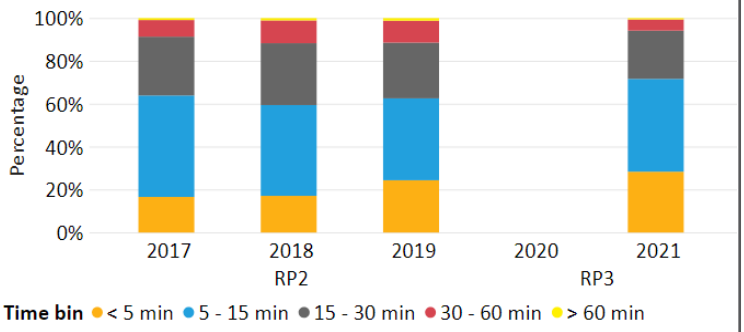
ATFM delays occurred during July, August, and September, and were mostly driven by ATC capacity, weather and ATC staffing.

IFR movements and forecasts by year



IFR movements in Croatia were 6% above the high scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



The share of delays shorter than 15 minutes increased compared to 2019.

Cost-efficiency

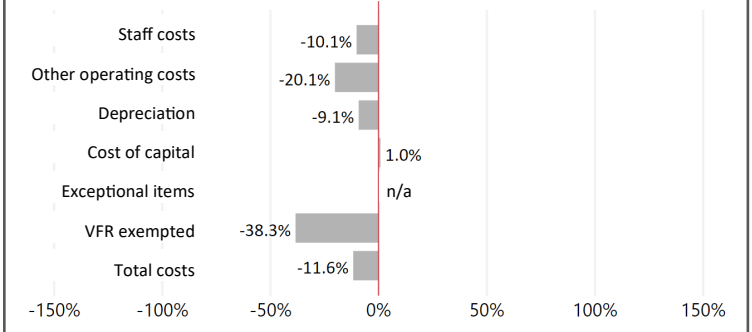
En route actual unit cost and determined unit cost by year

The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Croatia does not have a terminal charging zone.

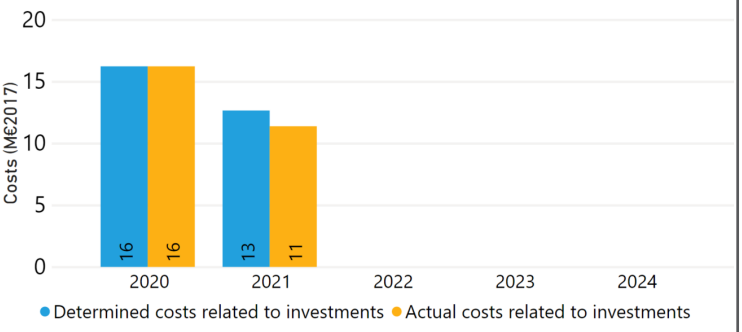
Croatia did not declare any terminal charging zones as subject to the performance and charging Regulation.

% difference between 2021 actual costs and determined costs



Croatia decreased all costs categories in 2021 compared to determined, except of cost of capital.

Costs related to investments by year



Croatia Control 2021 costs related to investments are -10% lower than planned due to delays in the investment plan.

Comments from the Performance Review Body:

Safety:

- DCAC Cyprus is required to improve its safety performance in all five management objectives. DCAC Cyprus has initiated some improvements in its safety management function, however the actions were suspended due to the pandemic and only restarted recently. DCAC Cyprus is lagging the expected performance as per the performance plan and requires significant improvements in its safety management to achieve the RP3 targets. The Member State adopted the National Safety Plan for 2022 to significantly improve safety oversight of DCAC Cyprus based on specific indicators.
- Cyprus recorded higher occurrence rates for both separation minima infringements and runway incursions relative to 2020. The NSA has implemented the "NSA procedure for the monitoring of ANS Performance" that examines safety performance with respect to occurrences twice per year.
- DCAC Cyprus should improve its safety management by implementing automated safety data recording systems.

Environment:

- Cyprus achieved a KEA performance of 4.49% compared to its target of 3.84% and did not contribute positively towards achieving the Union-wide target.
- KEA performance is the worst since 2017 despite lower traffic levels.
- The NSA states that new direct routes have been implemented and these are expected to improve performance to the levels targeted in the performance plan, should airspace users choose to use them.
- In 2021, the SCR indicator deteriorated to the level observed in 2019, meaning airspace users were unable to plan more shorter routes.
- KEP performance also worsened, likely as a result of the deterioration of the SCR.
- Cyprus has no airports that are regulated under the RP3 performance and charging scheme.

Capacity:

- Cyprus registered near zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.1.
- Delays should be considered in the context of lower traffic: in Cyprus, IFR movements in 2021 were 39% lower than in 2019.
- Traffic is expected to grow with 2019 levels likely being reached in 2023 (in base and high growth scenarios). An increase in the number of ATCOs in OPS is planned during RP3. However, monitoring of the capacity and delay evolution is required to avoid the delay situation experienced in 2019.

Cost-efficiency:

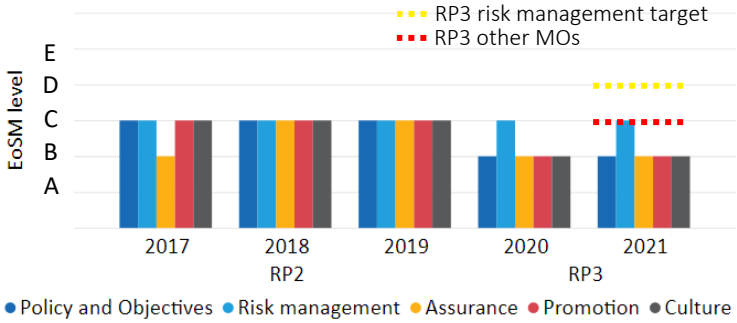
- The en route 2020/2021 actual unit cost of Cyprus was 47.10€$_{2017}$, -5.5% lower than the determined unit cost (49.85€$_{2017}$). Cyprus does not have a terminal charging zone.
- The en route 2021 actual service units (1,266K) were +3.0% higher than determined (1,230K).
- In 2021, actual total costs were -3.1M€$_{2017}$ lower (-5.7%) than determined. The main reduction was on staff costs (-1.1M€$_{2017}$, or -5.1%), mainly due to the postponement of hiring and early retirement in MET entity. Other operating costs decreased by -1.8M€$_{2017}$ (-6.5%), mainly due to a decrease in travels and Eurocontrol costs.
- DCAC Cyprus spent 2.3M€$_{2017}$ in 2021 related to costs of investments, -6.8% lower than determined (2.4M€$_{2017}$) mainly due to delays of projects caused by the pandemic.
- The en route actual unit cost incurred by users in 2020/2021 was 48.81€.

* There is not an approved performance plan for Cyprus. This factsheet is based on information within the latest submitted draft performance plan.

Cyprus Factsheet

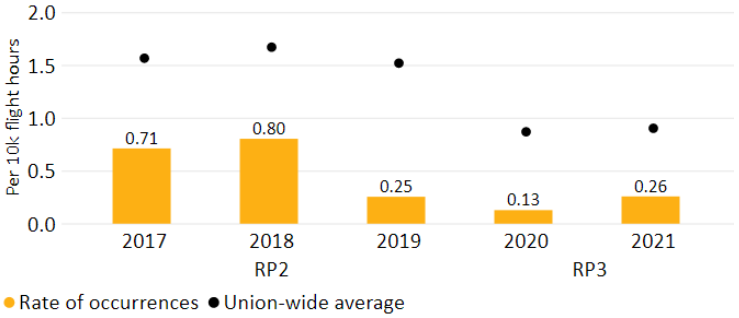
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



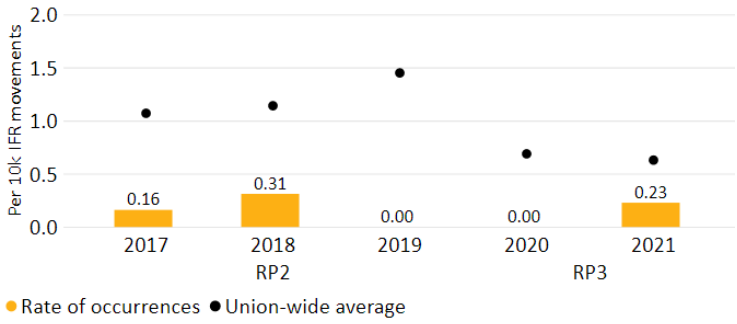
DCAC Cyprus did not achieve the targets in 2021 and its performance is lagging the expected improvements plan.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour increased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



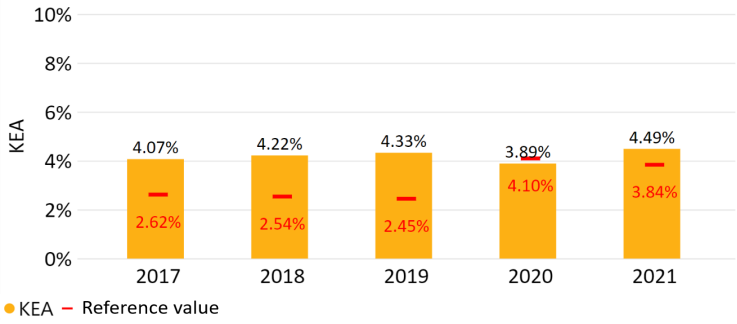
The rate of RIs per movement increased in 2021 relative to 2020. RIs are from airports not covered by Cyprus' Performance Plan.

Use of automated safety data recording systems

Cyprus does not use automated safety data recording systems either for RIs or SMIs.

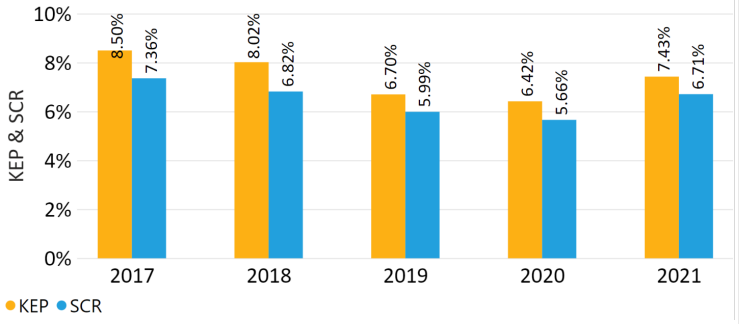
Environment

KEA performance



Cyprus did not achieve its 2021 KEA target by 0.65 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



Cyprus did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

No Cypriot airport is regulated under the performance and charging scheme.

Cyprus did not declare any of its airports as subject to the performance and charging Regulation.

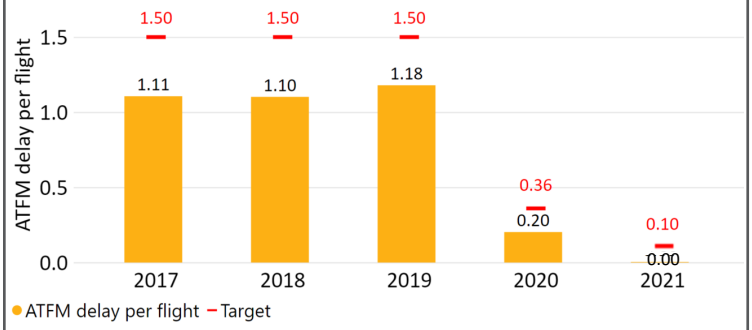
No Cypriot airport is regulated under the performance and charging scheme.

Cyprus did not declare any of its airports as subject to the performance and charging Regulation.

Cyprus Factsheet

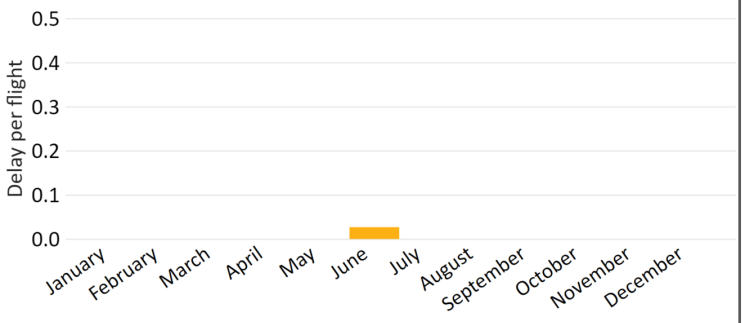
Capacity

ATFM delay per flight (min/flight)



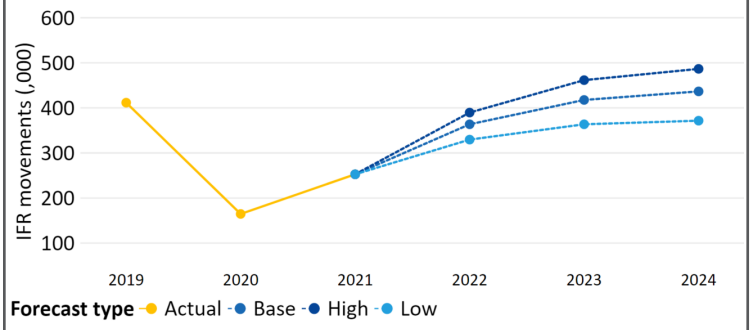
Cyprus recorded near zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



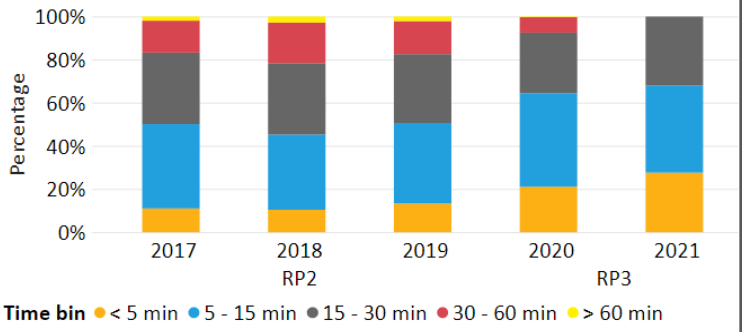
The very limited number of ATFM delays occurred during June, and were due to non-ATC reasons.

IFR movements and forecasts by year



IFR movements in Cyprus were almost equal to the base scenario of the STATFOR 2021 base forecast.

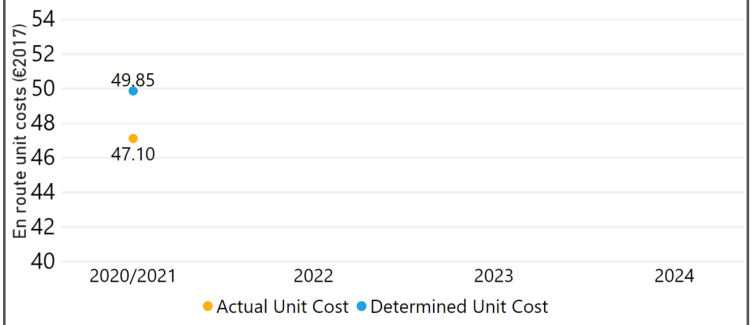
Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

En route actual unit cost and determined unit cost by year

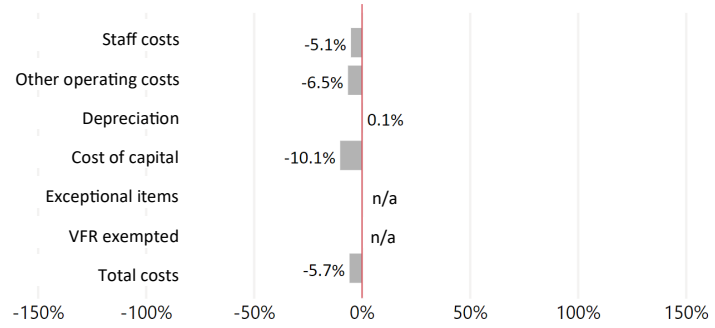


The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Cyprus does not have a terminal charging zone.

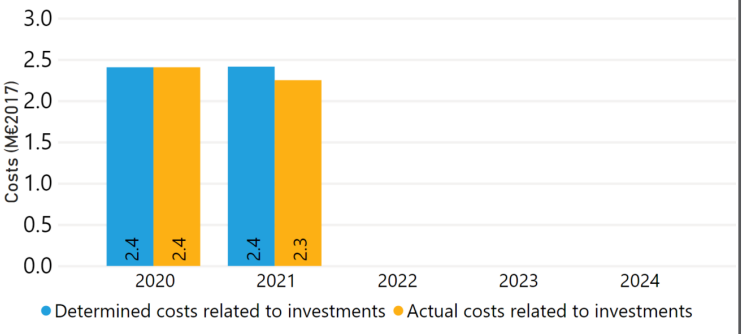
Cyprus did not declare any terminal charging zones as subject to the performance and charging Regulation.

% difference between 2021 actual costs and determined costs



In 2021, actual total costs were -5.7% lower than determined, mainly driven by a reduction of staff and other operating costs.

Costs related to investments by year



DCAC Cyprus 2021 costs related to investments were -6.8% lower than planned due to delays of projects caused by the pandemic.

Comments from the Performance Review Body:

Safety:

- In 2021, safety performance of the Czech Republic was stable and not affected by the pandemic. ANS CR, that has already exceeded the EoSM targets in the previous year, undertook further actions to enhance its SMS function and to align it to Regulation (EU) 2017/373.
- Czech Republic recorded an increase in the rate of runway incursions and Prague airport (LKPR) recorded the second highest rate of RIs at 6.4 per 100,000 movements. ANS CR should consider looking into the reasons contributing to the rate and take appropriate mitigating actions, if necessary.
- The rate of separation minima infringements decreased in 2021 and is below the Union-wide average rates. The NSA closely monitors the rate of occurrences and assesses the effectiveness of implemented measures.
- ANS CR monitors safety performance using specific automated safety recording tools for occurrences, and it is one of only a handful of ANSPs to do so.

Environment:

- Czech Republic achieved a KEA performance of 2.03% compared to its target of 2.05% and contributed positively towards achieving the Union-wide target. This is the best performance since 2017.
- The NSA states the main step taken to improve KEA was the implementation of free route airspace in February 2021, which allows shorter routes and increases the options for route planning.
- Both KEP and SCR were further reduced in comparison with 2020 and are at the lowest since 2017. The value of these two indicators is similar, meaning airspace users plan close to the shortest route available.
- The proportion of CDO flights remains at similar levels to 2020.
- During 2021, additional time in terminal airspace decreased from 0.67 to 0.50, however, additional taxi out time increased from 1.36 to 1.76 min/flight. Both values are lower than those seen in RP2.

Capacity:

- Czech Republic registered 0.01 minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.06.
- Delays should be considered in the context of lower traffic: In Czech Republic, IFR movements in 2021 were 53% lower than in 2019.
- Between February and May 2022, Czech Republic has been one of the five Member States to be the most affected by the airspace closures East of the SES area, which impacted its traffic recovery.
- 2019 traffic levels are not likely being reached during RP3. A slight increase in the number of ATCOs in OPS is planned during RP3 with no capacity related delays envisaged.

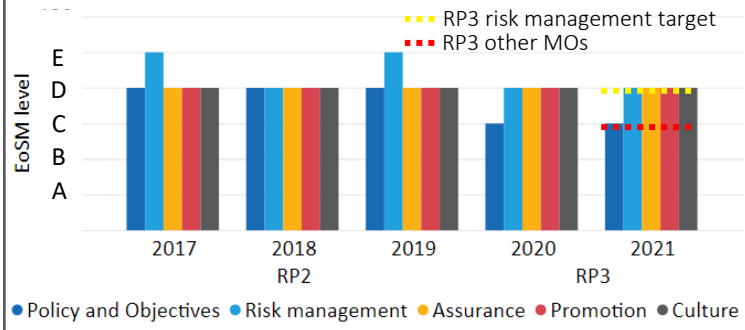
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Czech Republic was 76.64€$_{2017}$, -3.5% lower than the determined unit cost (79.46€$_{2017}$). The terminal actual unit cost was 485.30€$_{2017}$, -3.2% lower than the determined unit cost (501.57€$_{2017}$).
- The en route 2021 actual service units (1,280K) were equal to the determined service units.
- In 2021, actual total costs were -6.8M€$_{2017}$ lower (-7.5%), with a decrease in all cost categories. The decrease was mainly driven by lower other operating costs (-4.7M€$_{2017}$, or -21%) and staff costs (-1.4M€$_{2017}$, or -3.4%). The NSA only explained the reasons for the variances between 2019 actual and 2021 (e.g. due to a decrease of travel, decrease of staff, etc.).
- ANS CR spent 25.7M€$_{2017}$ in 2021 related to costs of investments, -2.5% lower than planned (26.4M€$_{2017}$), mainly due to a higher share of financing through debt that led to a lower WACC.
- The en route actual unit cost incurred by users in 2020/2021 was 84.11€, while the terminal actual unit cost incurred by users was 526.46€.

Czech Republic Factsheet

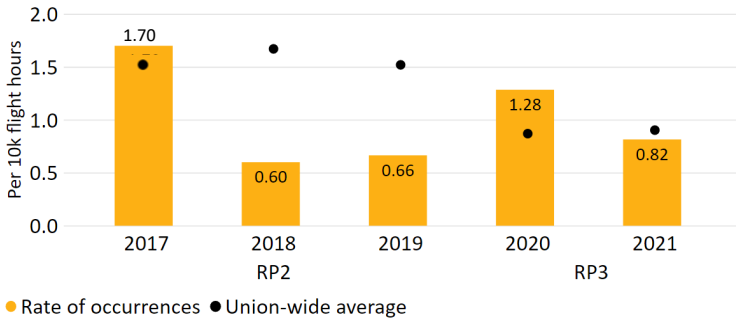
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



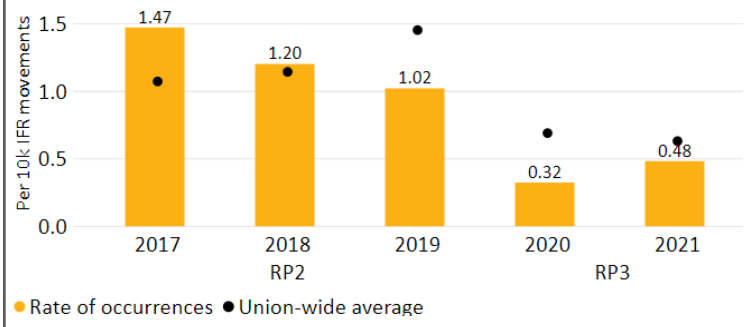
ANS CR exceeded the targets achieving level D in four management objectives already in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour decreased in 2021 relative to 2020 rate.

Rate of runway incursions (RIs) by year



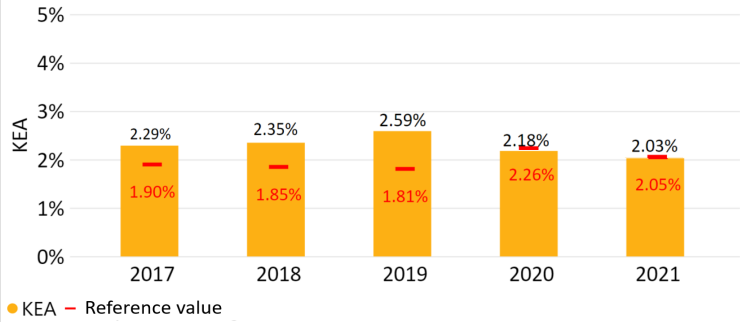
The rate of RIs per movement increased in 2021 relative to 2020.

Use of automated safety data recording systems

Czech Republic uses the automated safety data recording systems for runway incursions and separation minima infringements.

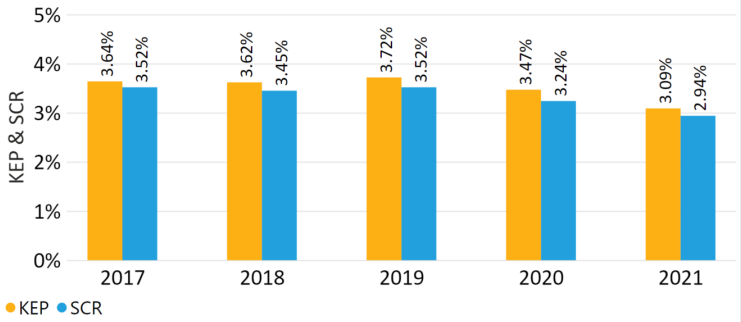
Environment

KEA performance



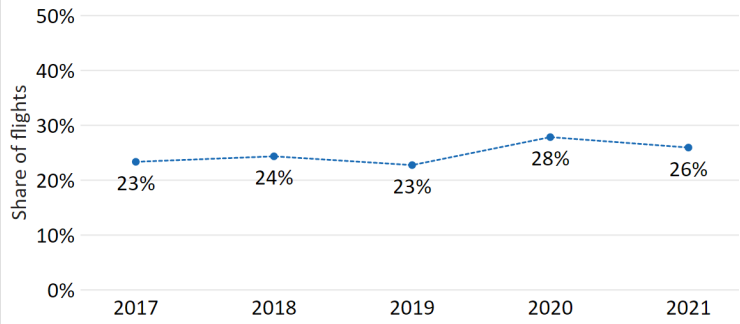
Czech Republic achieved its 2021 KEA target by 0.02 percentage points, and performance improved relative to 2020.

KEP & SCR performance



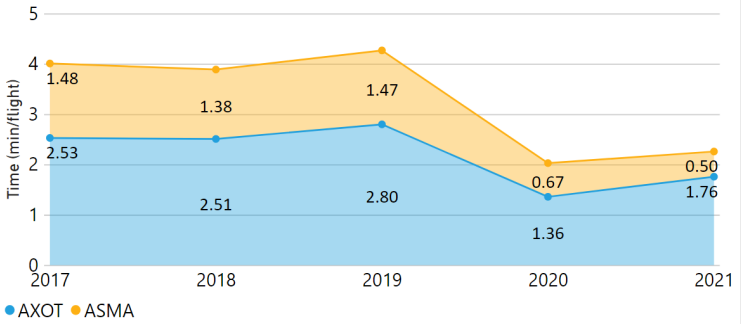
Czech Republic made shorter constrained routes available to airspace users in 2021, who were able to plan shorter routes.

Share of CDO flights by year



Czech Republic's CDO performance worsened in 2021 compared to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

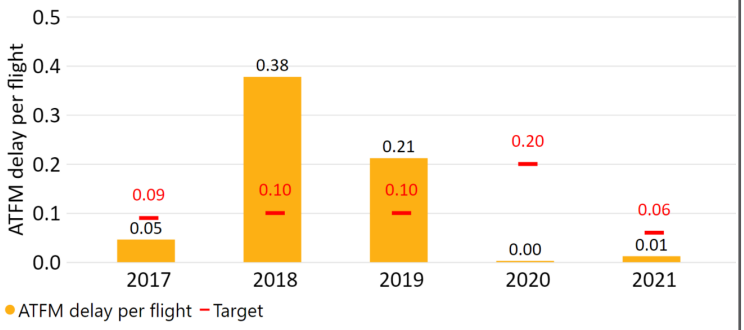


Terminal airspace users spent an additional 2.26 minutes per flight either taxiing or holding at Václav Havel Prague airport.

Czech Republic Factsheet

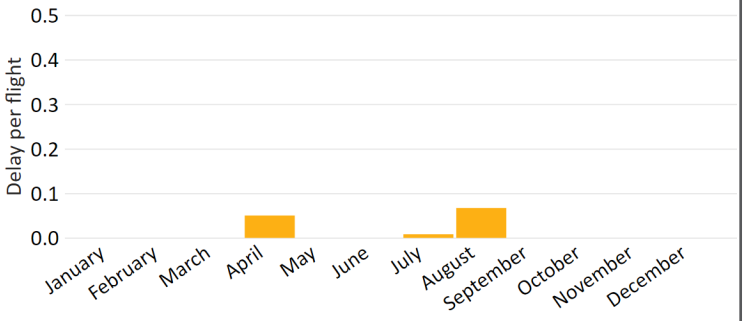
Capacity

ATFM delay per flight (min/flight)



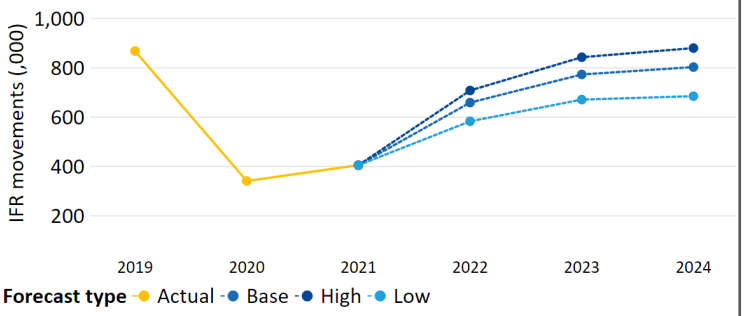
Delays increased by 0.01 minutes per flight year-on-year in 2021. Croatia performed better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



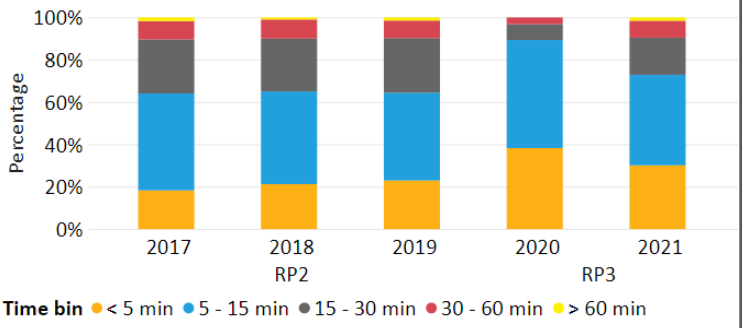
Delays in April were caused by ATC related disruptions, whereas delays in July and August were mostly due to adverse weather.

IFR movements and forecasts by year



IFR movements in Czech Republic were 1% below the base scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



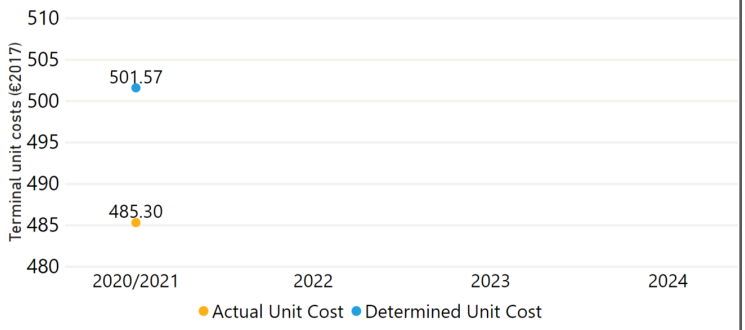
Delays below 15 minutes decreased year-on-year, while the share of delays longer than 15 minutes increased.

Cost-efficiency

En route actual unit cost and determined unit cost by year

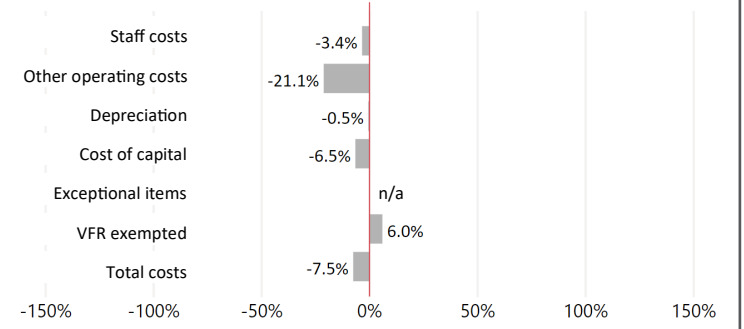
The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



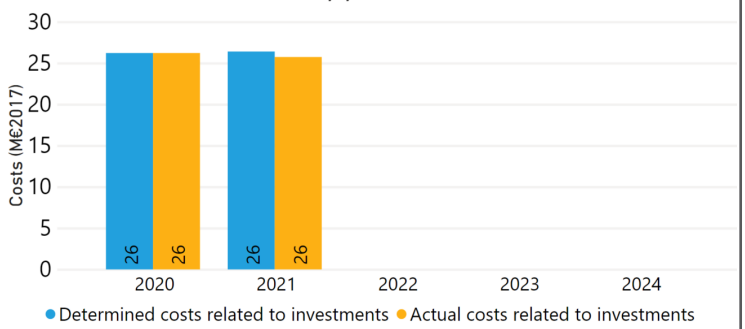
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



In 2021, Czech Republic decreased costs in all cost categories.

Costs related to investments by year



ANS CR 2021 costs related in investments were -2.5% lower than determined, mainly due to lower cost of capital.

Comments from the Performance Review Body:

Safety:

- NAVIAIR did not achieve the targets for the EoSM for three safety management objectives, but it has improved the performance in two management objectives in advance to the performance plan. The NSA monitors continuously safety performance through its oversight function.
- Denmark recorded a decrease of the rate of separation minima infringements (SMIs) per flight hour relative to 2020. The rate of runway incursions per movement increased in 2021. Both rates are below the Union-wide average rates.
- NAVIAIR should improve its safety management by implementing automated safety data recording systems.

Environment:

- Denmark achieved a KEA performance of 1.08% compared to its target of 1.14% and contributed positively to achieving the Union-wide target. These are the best levels of performance since 2017.
- The NSA states that KEA is the result of low traffic levels, and it is not anticipated to remain this low as traffic rises to previous levels.
- KEP continues to improve in 2021, while SCR is at the worst levels since 2021.
- FRA is implemented in the airspace above FL285 but reasons for the SCR deterioration are not mentioned.
- Share of CDO flights remain at similar levels to 2020.
- Additional time in terminal airspace was reduced by 42% in comparison with 2020, however, additional taxi out time increased by 9%.

Capacity:

- Denmark registered zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.03.
- En route ATFM delays in Denmark were also zero on average during the past years.
- Traffic recovery in Denmark has been slower than in many other Member States (also due to non-COVID-19 related issues), and 2019 traffic levels are not likely to be reached during RP3. However, a decrease in the number of ATCOs in OPS is planned by the end of RP3 which, depending on the evolution of the geopolitical situation and associated traffic demand, may require the monitoring of capacity development.

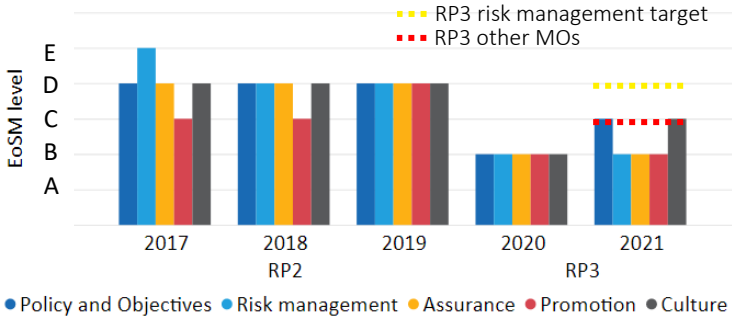
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Denmark was 124.06€$_{2017}$, -1.4% lower than the determined unit cost (125.78€$_{2017}$). The terminal actual unit cost was 346.72€$_{2017}$, -2.4% lower than the determined unit cost (355.16€$_{2017}$).
- The en route 2021 actual service units (785K) were +2.3% higher than determined (767K).
- In 2021, despite variations within cost categories, actual total costs were in line (-0.3M€$_{2017}$, or -0.4%) with determined. Denmark had negative 2021 determined exceptional items in order to reflect the necessity of further future cost-reduction, which materialised in 2021 actual costs as a decrease in all cost categories with the only exception of staff costs.
- NAVIAIR spent 20M€$_{2017}$ in 2021 related to costs of investments, -3.3% lower than determined (20.7M€$_{2017}$), mainly due to a decrease in the average interest on debts.
- The en route actual unit cost incurred by users in 2020/2021 was 125.95€, while the terminal actual unit cost incurred by users was 360.39€.

Denmark Factsheet

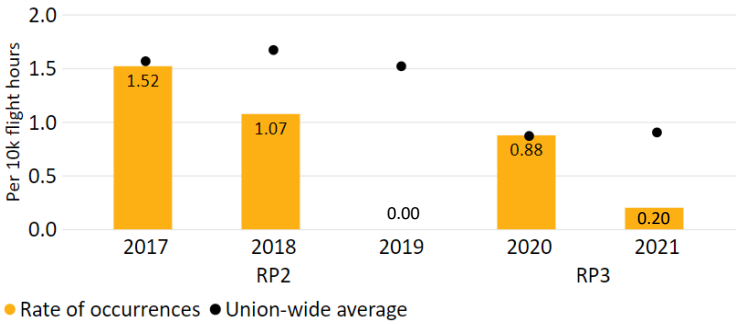
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



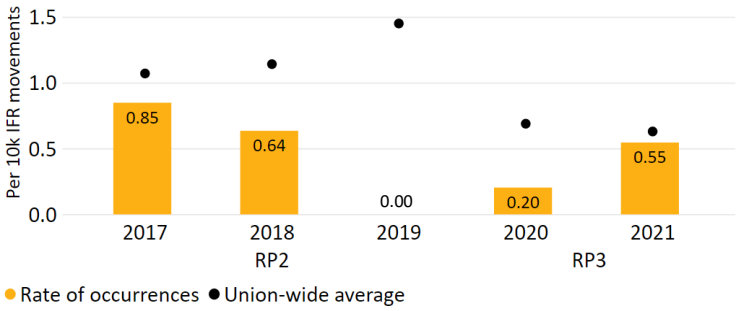
NAVIAIR did not achieve the targets in three safety management objectives, but improved in two management objectives in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour decreased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



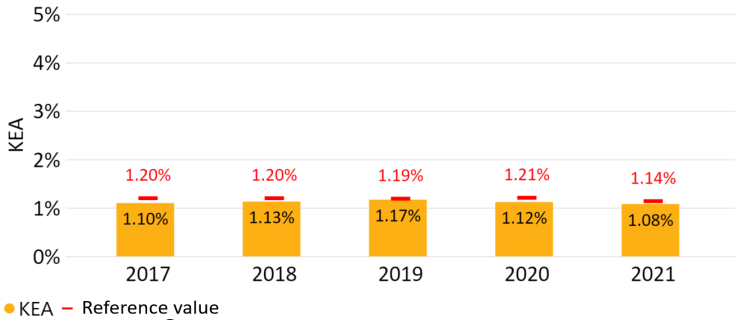
The rate of RIs per movement increased in 2021 relative to 2020. The rate is below the Union-wide average.

Use of automated safety data recording systems

Denmark does not use automated safety data recording systems for runway incursions or SMIs.

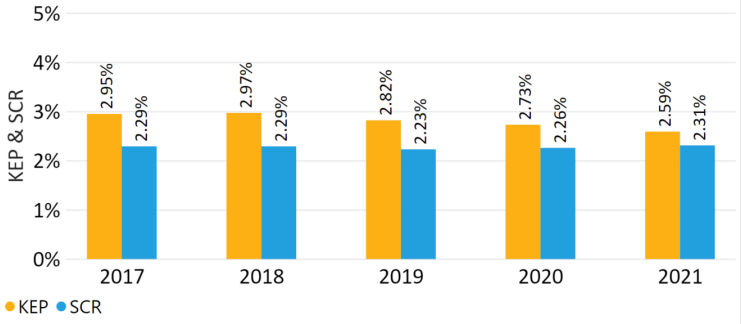
Environment

KEA performance



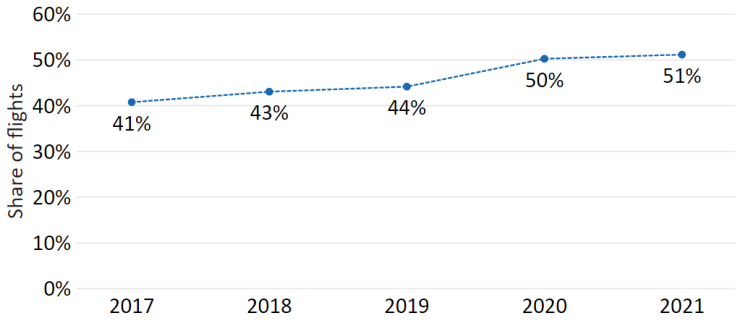
Denmark achieved its 2021 KEA target by 0.06 percentage points, and performance improved relative to 2020.

KEP & SCR performance



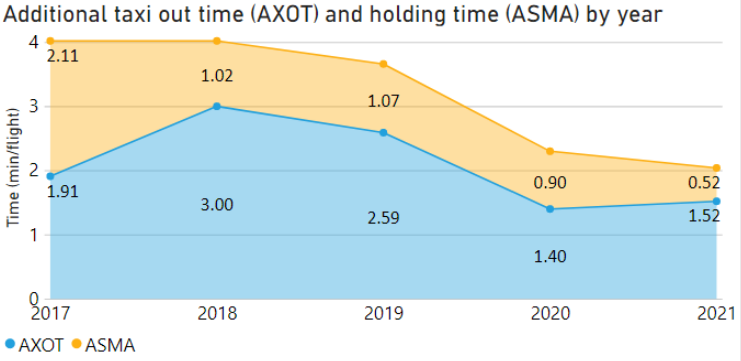
Planned routes were shorter in 2021, despite Denmark not making shorter constrained routes available to airspace users.

Share of CDO flights by year



Denmark's CDO performance improved in 2021 relative to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

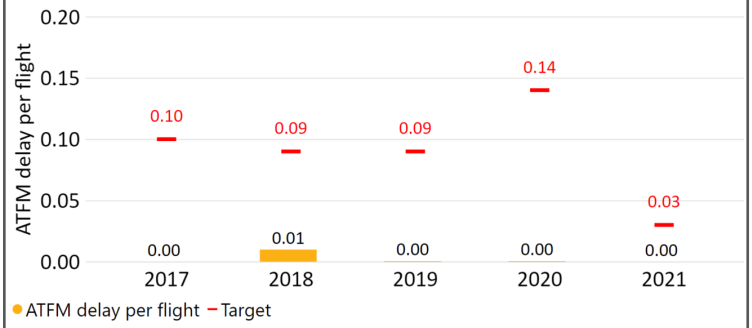


Terminal airspace users spent an additional 2.04 minutes per flight either taxiing or holding at Danish airports.

Denmark Factsheet

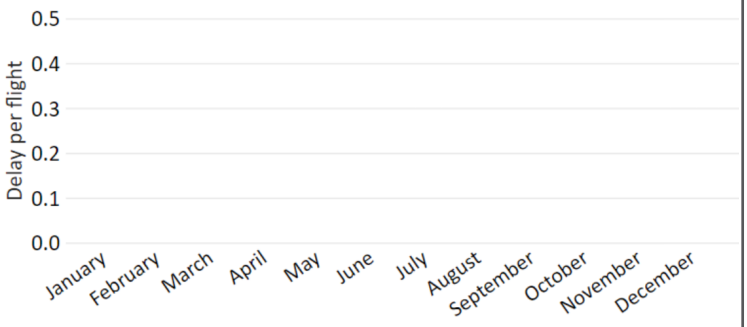
Capacity

ATFM delay per flight (min/flight)



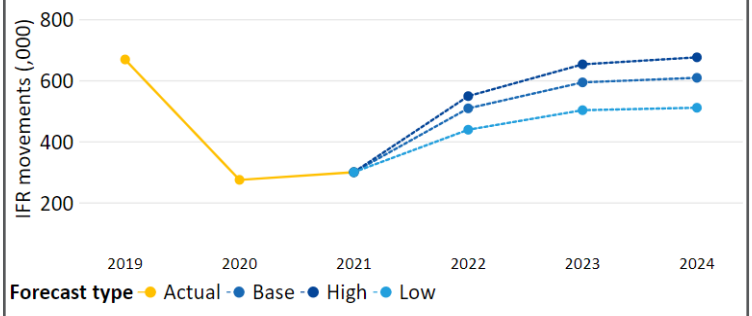
Denmark recorded zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



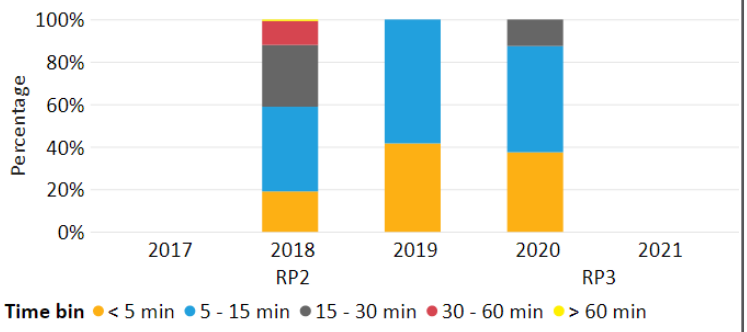
The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Denmark were 3% above the high scenario of the STATFOR 2021 BASE forecast.

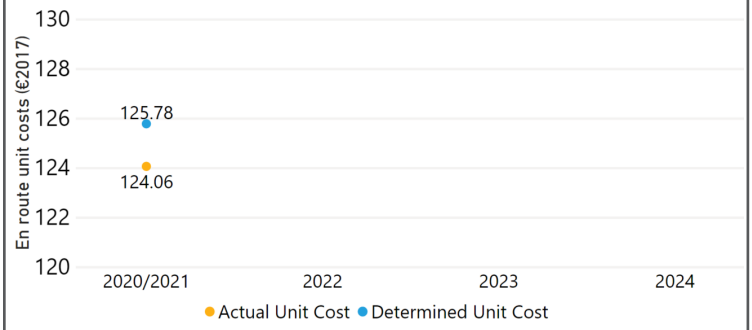
Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

En route actual unit cost and determined unit cost by year

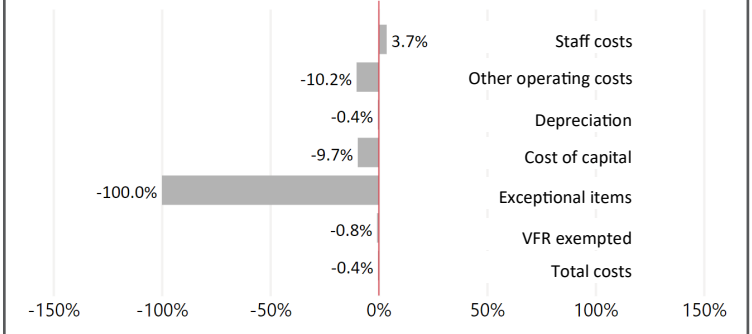


The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

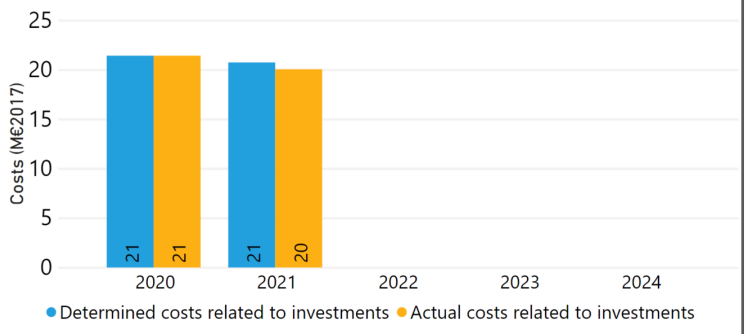
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



In 2021, actual total costs were in line with determined.

Costs related to investments by year



NAVIAIR 2021 costs related to investments were -3.3% lower than determined, mainly due to a decrease in average debt interest.

Comments from the Performance Review Body:

Safety:

- In 2021, Estonia continued demonstrating good safety performance. EANS has already achieved the EoSM target levels and additional improvements coming from the implementation of Regulation (EU) 2017/373 are foreseen.
- Estonia recorded an increase of the rate of runway incursions per movement. The rate of separation minima infringements per flight hour decreased in 2021. Both rates are above the Union-wide average rates. The NSA closely monitors the rate of occurrences and assesses the effectiveness of implemented measures.
- EANS should improve its safety management by implementing automated safety data recording systems.

Environment:

- Estonia's KEA performance of 1.43% is almost identical to 2019. The target was 1.22%, which means Estonia did not contribute positively towards achieving the Union-wide target.
- The NSA states that Estonia has cross-border free route airspace with NEFAB + DK-SE FAB and the overflying traffic is as direct as possible.
- SCR is at the worst levels since 2017 and the KEP parameter is the second worst since 2017.
- The share of CDO flights has worsened since 2020 and is the lowest since 2017.
- Additional time in terminal airspace remained the same as for 2020, however, additional taxi out time increased by 21%.

Capacity:

- Estonia registered zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.01.
- En route ATFM delays in Estonia were also zero on average during the past years.
- Traffic recovery in Estonia has been slower than in many other Member States (also due to non-COVID-19 related issues) and 2019 traffic levels are not likely to be reached during RP3. A slight increase in the number of ATCOs in OPS is planned by the end of RP3 with no capacity related delays envisaged.

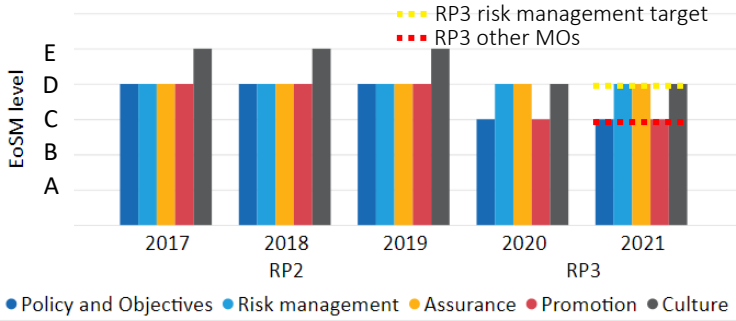
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Estonia was 57.90€$_{2017}$, -3.8% lower than the determined unit cost (60.19€$_{2017}$). The terminal actual unit cost was 251.23€$_{2017}$, -7.2% lower than the determined unit cost (270.66€$_{2017}$).
- The en route 2021 actual service units (467K) were +5.0% higher than determined (445K).
- In 2021, actual total costs were -0.7M€$_{2017}$ lower (-2.6%) than determined. The main driver was the reduction of other operating costs (-0.9M€$_{2017}$, or -12%) due to the implementation of extensive cost-cutting on travelling, rental, and training expenses.
- EANS spent 6.4M€$_{2017}$ in 2021 related to costs of investments, +8.4% higher than determined (5.9M€$_{2017}$) mainly due to significantly higher share of financing through equity than planned.
- The en route actual unit cost incurred by users in 2020/2021 was 60.50€, while the terminal actual unit cost incurred by users was 209.52€.

Estonia Factsheet

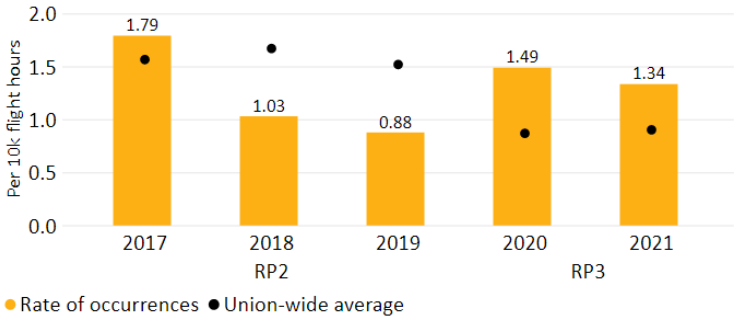
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



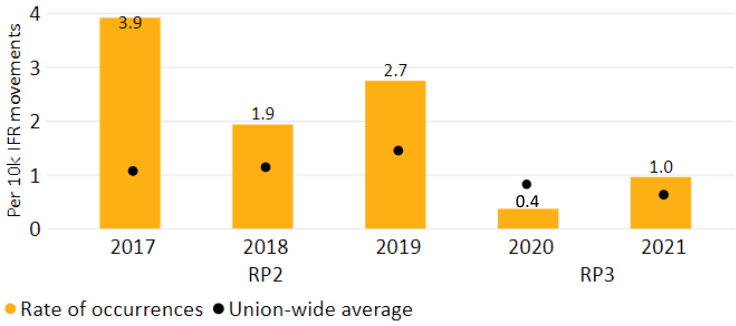
EANS exceeded the targets achieving level D in three management objectives in 2021 already.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour decreased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



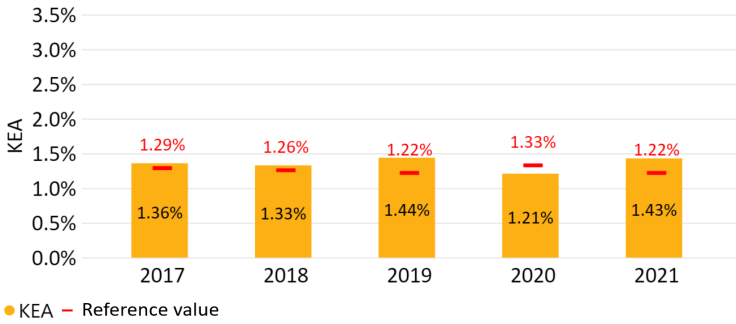
The rate of RIs per movement increased in 2021 relative to 2020.

Use of automated safety data recording systems

Estonia does not use automated safety data recording systems for runway incursions or SMIs.

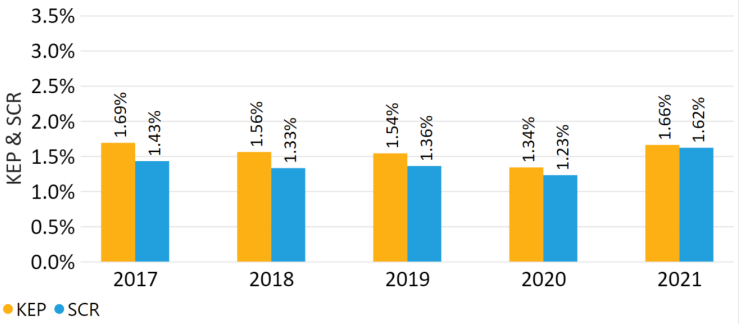
Environment

KEA performance



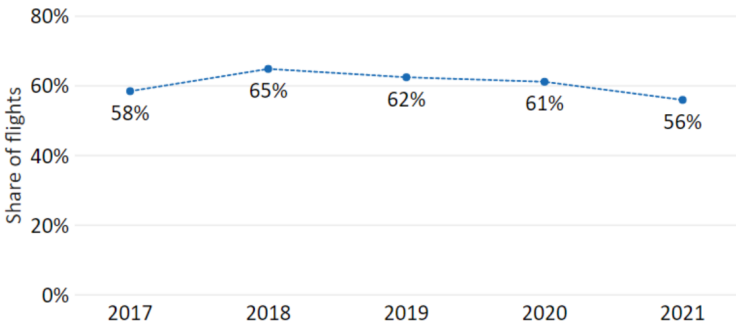
Estonia did not achieve its 2021 KEA target by 0.21 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



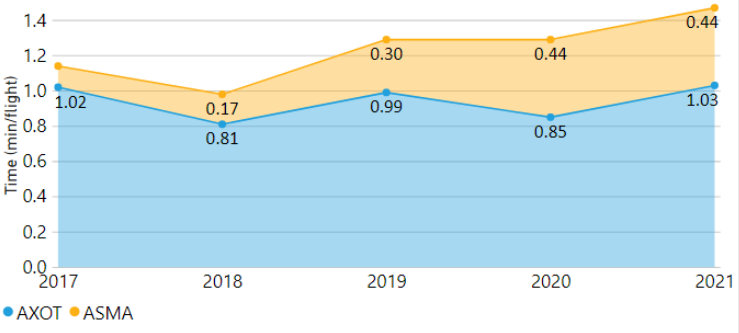
Estonia did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

Share of CDO flights by year



Estonia's CDO performance worsened in 2021 compared to 2020 reaching the lowest performance in the last five years.

Additional taxi out time (AXOT) and holding time (ASMA) by year

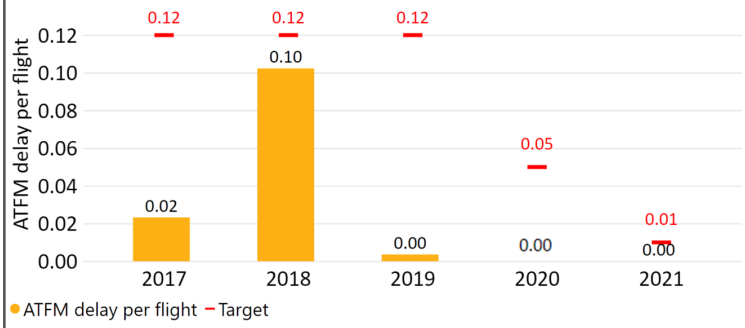


Terminal airspace users spent an additional 1.47 minutes per flight either taxiing or holding at Estonian airports.

Estonia Factsheet

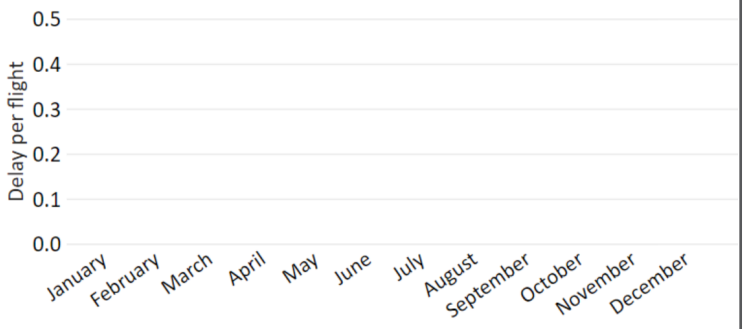
Capacity

ATFM delay per flight (min/flight)



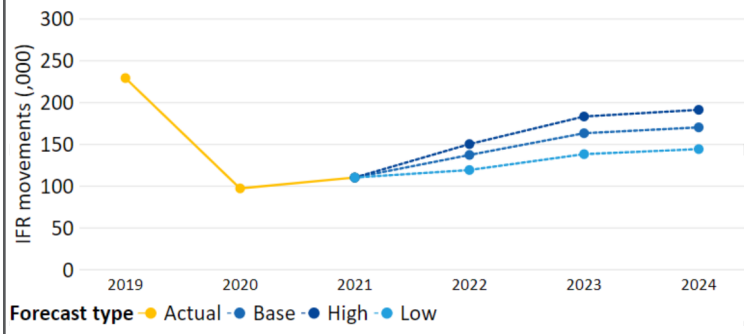
Estonia recorded zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



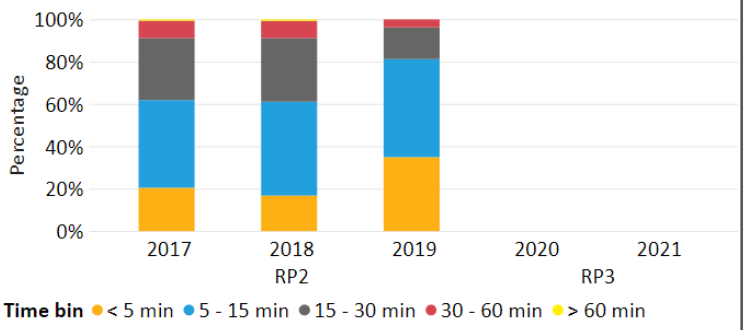
The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Estonia were 6% above the high scenario of the STATFOR 2021 base forecast.

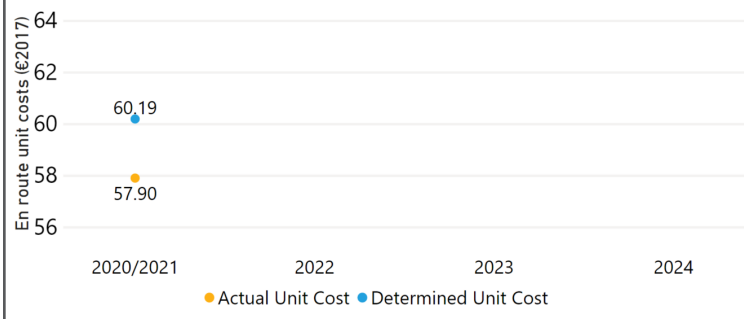
Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

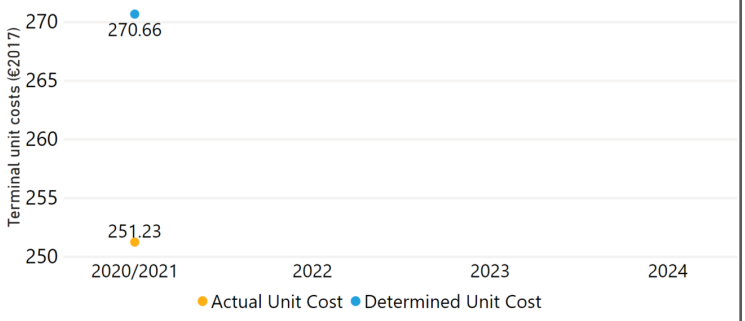
Cost-efficiency

En route actual unit cost and determined unit cost by year



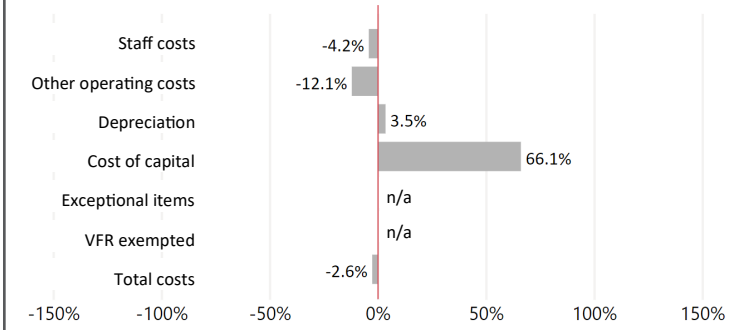
The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



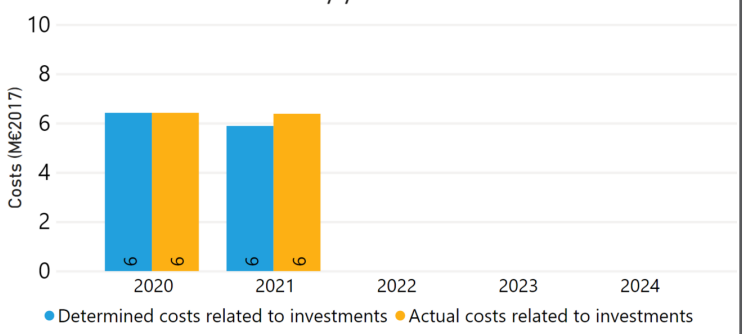
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



Despite an increase in depreciation costs and cost of capital, 2021 total actual costs were -2.6% lower than determined.

Costs related to investments by year



EANS 2021 costs related to investments were +8.4% higher than planned.

Comments from the Performance Review Body:

Safety:

- Fintraffic ANS achieved the RP3 EoSM targets in four management objectives and must improve in only one area: safety risk management, which is currently under the review of the Finnish Transport and Communications Agency.
- Finland recorded a stable number of safety occurrences, with a rate of runway incursions similar to 2020 and a decrease in the rate of separation minima infringements. Both rates are below the Union-wide average rates.
- Fintraffic ANS should improve its safety management by implementing automated safety data recording systems.

Environment:

- Finland achieved a KEA performance of 0.77% compared to its target of 0.88% and contributed positively towards achieving the Union-wide target. These are the best levels of performance since 2017.
- The NSA states that Finland has cross-border free route airspace with NEFAB + DK-SE FAB and the overflying traffic is as direct as possible, leading to the strong horizontal en route flight efficiency performance.
- Both KEP and SCR improved since 2020 and reached the best levels in five years.
- The share of CDO flights improved by 4%.
- Additional time in terminal airspace reduced by 40%, while additional taxi out time increased by 10%.

Capacity:

- Finland registered zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.03.
- En route ATFM delays in Finland were also zero on average during the past years.
- Traffic recovery in Finland has been slower than in many other Member States (also due to non-COVID-19 related issues) and 2019 traffic levels are not likely to be reached during RP3. An increase in the number of ATCOs in OPS is planned by the end of RP3 with no capacity related delays envisaged.

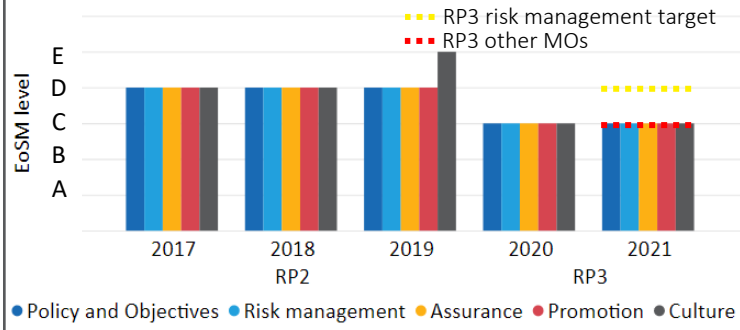
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Finland was 76.32€$_{2017}$, -6.3% lower than the determined unit cost (81.42€$_{2017}$). The terminal actual unit cost was 337.89€$_{2017}$, -8.0% lower than the determined unit cost (367.09€$_{2017}$).
- The en route 2021 actual service units (495K) were +2.9% higher than determined (481K).
- In 2021, actual total costs were -3.8M€$_{2017}$ lower (-9.5%) than determined. The main driver was the reduction of other operating costs (-2.0M€$_{2017}$, or -13%) due to lower training costs and lower travel costs. Staff costs (-1.3M€$_{2017}$, or -7.0%) were lower than determined due to temporary lay-offs and postponement of the recruitment, a decrease in head count, cancellation of bonuses, and lower pension costs.
- Fintraffic ANS spent 6.7M€$_{2017}$ in 2021 related to costs of investments, -5.8% lower than determined (7.1M€$_{2017}$) due to the postponement of investments.
- The discrepancies regarding total costs and costs of investments are significant, especially as the performance plan has been submitted at the end of 2021. The PRB invites the NSA to analyse the discrepancies and identify their reasons, including potential inaccurate planning and possible misusing of the regulatory framework to finance the liquidity.
- The en route actual unit cost incurred by users in 2020/2021 was 71.52€, while the terminal actual unit cost incurred by users was 372.16€.

Finland Factsheet

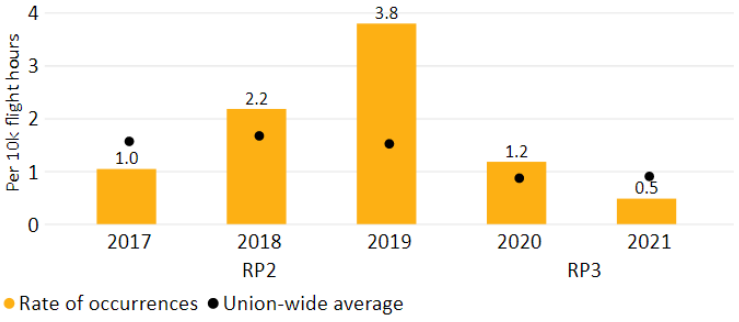
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



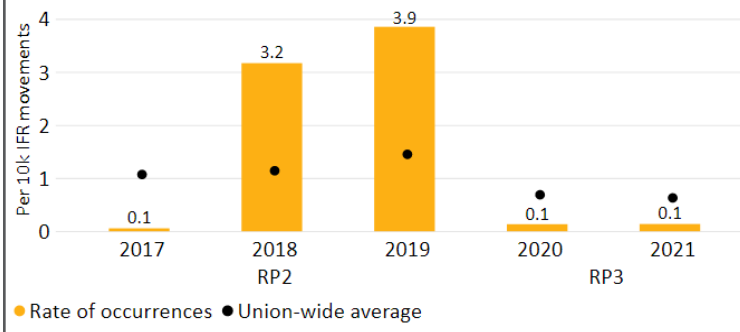
Fintraffic ANS achieved the targets for all safety management objectives except safety risk management.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour decreased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



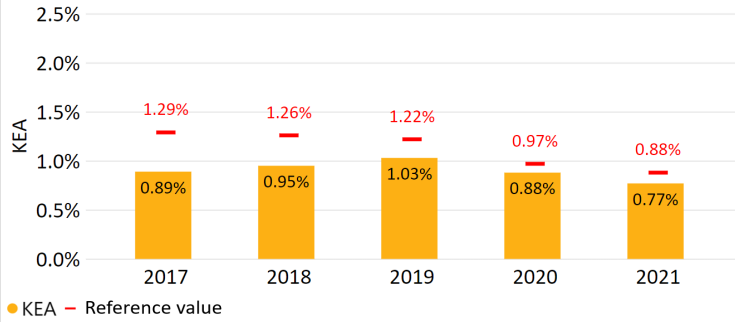
The rate of RIs per movement in 2021 increased marginally relative to 2020.

Use of automated safety data recording systems

Finland does not use automated safety data recording systems for runway incursions or SMIs.

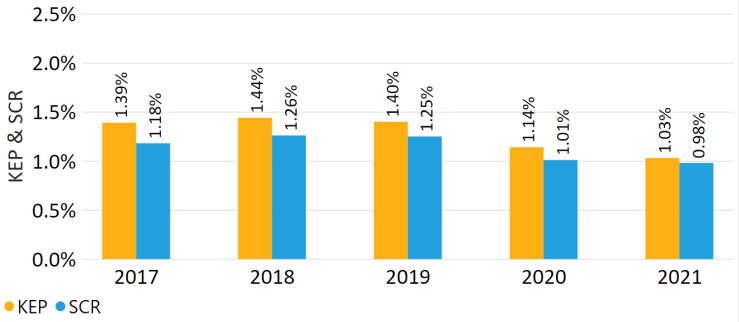
Environment

KEA performance



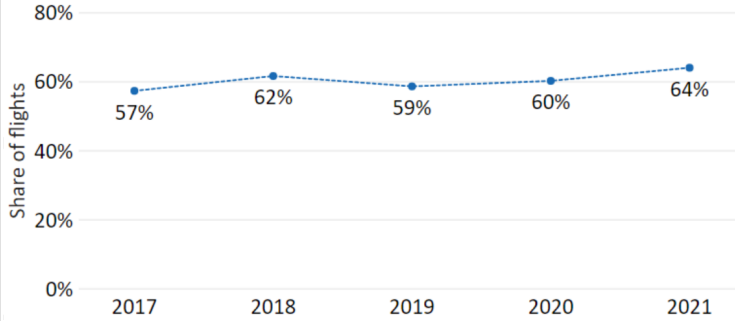
Finland achieved its 2021 KEA target by 0.11 percentage points, and performance improved relative to 2020.

KEP & SCR performance



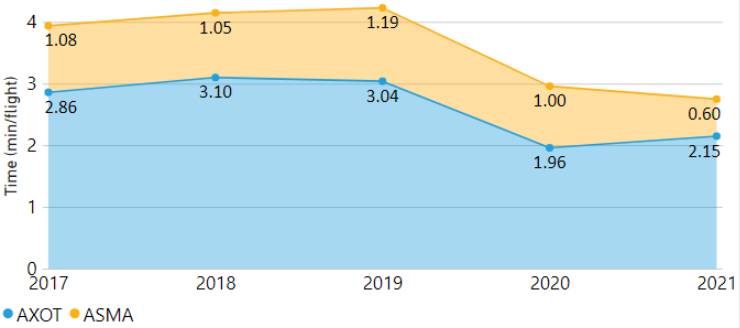
Finland made shorter constrained routes (SCR) available to airspace users in 2021, who were then able to plan shorter routes.

Share of CDO flights by year



Finland's CDO performance improved in 2021.

Additional taxi out time (AXOT) and holding time (ASMA) by year

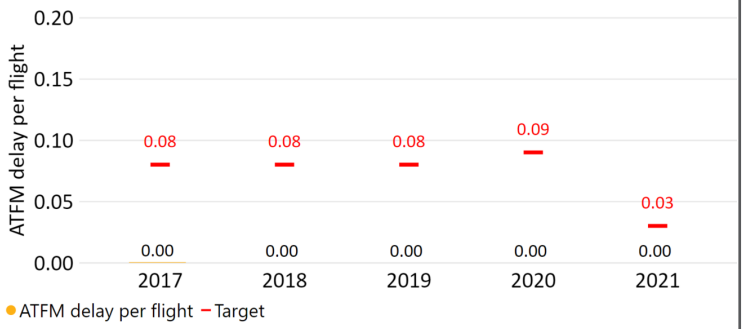


Terminal airspace users spent an additional 2.75 minutes per flight either taxiing or holding at Helsinki-Vantaa airport.

Finland Factsheet

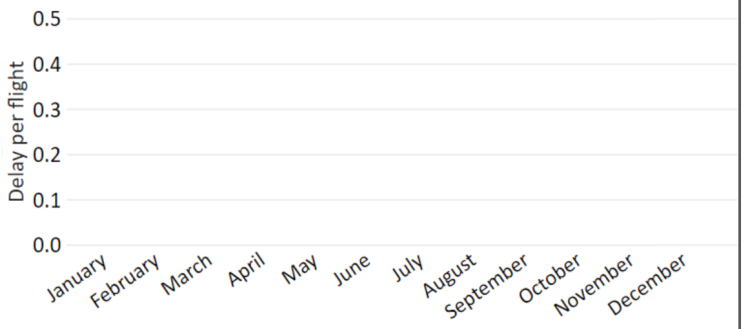
Capacity

ATFM delay per flight (min/flight)



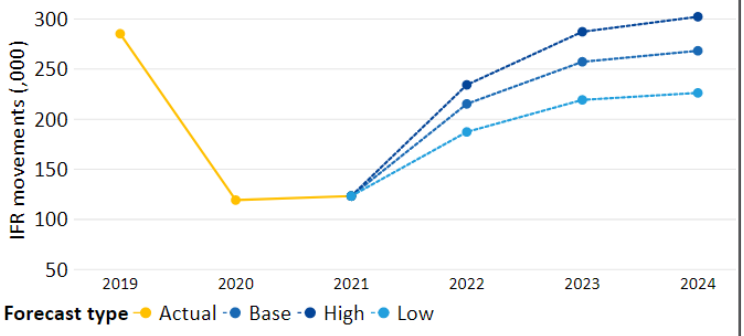
Finland recorded zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



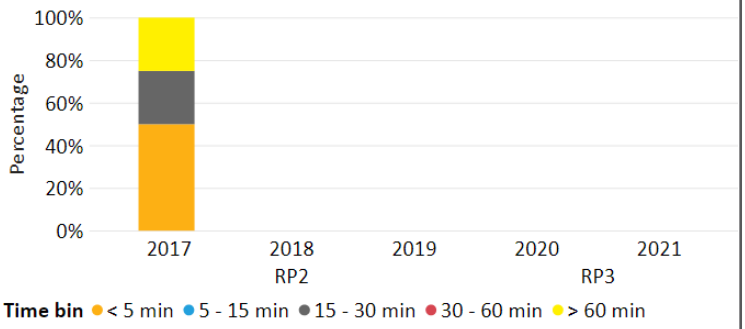
The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Finland were 4% above the base scenario of the STATFOR 2021 base forecast in 2021.

Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

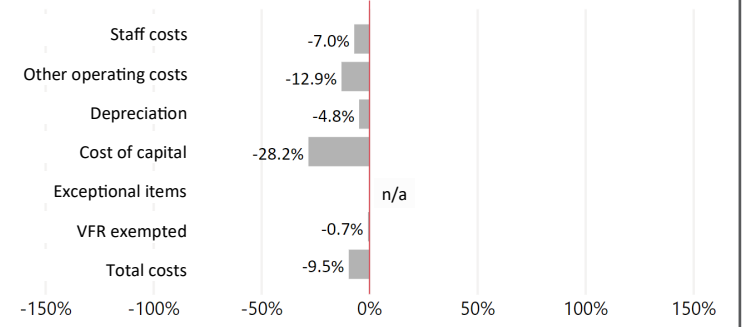
En route actual unit cost and determined unit cost by year

The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

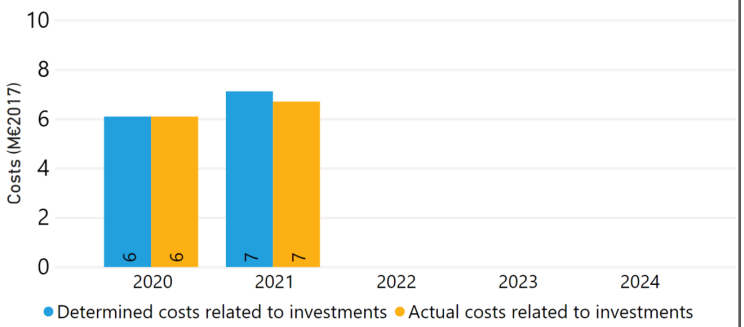
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



Finland decreased all cost categories in 2021 compared to determined costs.

Costs related to investments by year



Fintraffic ANS 2021 costs related to investments were -5.8% lower than planned due to the postponement of investments.

Comments from the Performance Review Body:

Safety:

- In 2021, DSNA continued demonstrating good safety performance. DSNA implemented all necessary measures in the area of safety culture, reaching level C and achieving the targets in all five management objectives.
- France recorded a decrease in the rate of runway incursions relative to 2020 and an increased rate of separation minima infringements. DSNA observed the highest number of SMIs with ANS contribution in 2021 (228) and a rate of 16.7 SMIs per 100,000 flight hours. The rate increased by 32,1% with respect to 2020. DSNA should continue assessing occurrences and risk mitigate them according to their SMS, if necessary.
- DSNA monitors and analyses the safety data using automated recording tools for separation minima infringements. The French NSA oversight addresses those elements.
- DSNA should improve its safety management by implementing automated safety data recording systems for runway incursions.

Environment:

- France achieved a KEA performance of 3.25% compared to its target of 2.92% and did not contribute positively towards achieving the Union-wide target. KEA performance is at similar levels to 2020.
- The NSA stated that 2020 and 2021 performance was affected by a decrease in overflights (which are usually the best performing flights, positively impacting overall performance) in addition to increased military activity in these years.
- Both KEP and SCR have slightly reduced in 2021.
- The percentage of flights achieving CDOs decreased compared to pre-COVID-19 values.
- Both additional time in terminal airspace and additional taxi out time increased, but are still significantly below 2019 values.

Capacity:

- France registered 0.45 minutes of average en route ATFM delay per flight during 2021, thus missing the local breakdown value of 0.18.
- Delays were higher than the breakdown value despite the lower traffic: In France IFR movements in 2021 were 46% lower than in 2019.
- The delays were mainly caused by limited ATC capacity, staffing and severe weather at Reims and Marseille ACCs with the training activities for 4-FLIGHT implementation, OJT and competency maintenance contributing to staffing issues. Specifically during the traffic recovery in summer 2021, the main delay causes in Brest, Marseille and Reims ACCs were ATC capacity and ATC staffing.
- Traffic is expected to grow, with 2019 levels likely being reached in 2023 (in high growth scenario). The number of ATCOs in OPS is planned to increase during RP3 in Bordeaux, Marseille, Paris and Brest ACC with no significant increase in Reims. The implementation of the new ATM system should also improve capacity in affected ACCs.

Cost-efficiency:

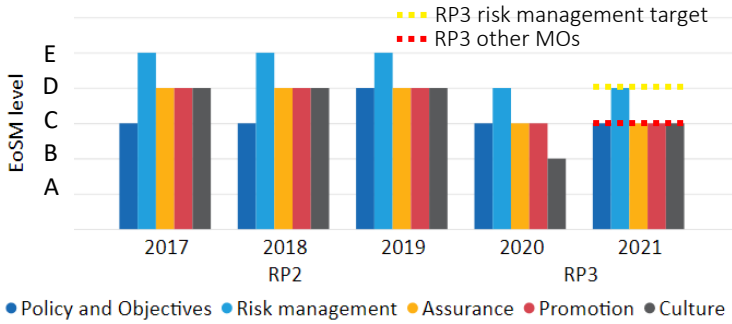
- The en route 2020/2021 actual unit cost of France was 129.22€$_{2017}$, -2.1% lower than the determined unit cost (132.06€$_{2017}$). The terminal zone 1 actual unit cost was 178.34€$_{2017}$, -6.1% lower than the determined unit cost (189.83€$_{2017}$), while terminal zone 2 actual unit cost was 670.03€$_{2017}$, +1.7% higher than the determined unit cost (659.13€$_{2017}$).
- The en route 2021 actual service units (11,181K) were +1.9% higher than determined (10,969K).
- In 2021, actual total costs were -28M€$_{2017}$ lower (-2.2%) than determined, despite the increase in cost of capital and other operating costs.
- The decrease in total costs was driven by lower staff costs (-19M€$_{2017}$, or -2.6%) due to staff costs containment, and lower depreciation (-17M€$_{2017}$, or -10%). The reduction in depreciation was mainly due to the postponement of investments commissioning and because a part of the investment costs was transferred to project-related OPEX costs.
- According to 2021 reporting tables, DSNA spent 208M€$_{2017}$ in 2021 related to costs of investments, -7.1% lower than determined (224M€$_{2017}$) mostly driven by lower depreciation costs.
- The en route actual unit cost incurred by users in 2020/2021 was 135.73€, while the terminal zone 1 actual unit cost incurred by users was 329.27€ and 447.86€ for terminal zone 2.

* There is not an approved performance plan for FABEC. This factsheet is based on information within the latest submitted draft performance plan.

France Factsheet

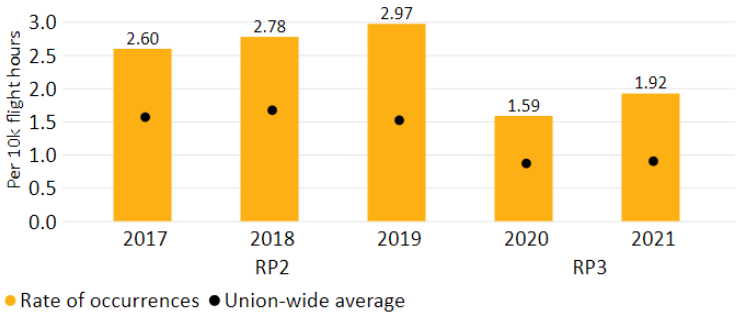
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



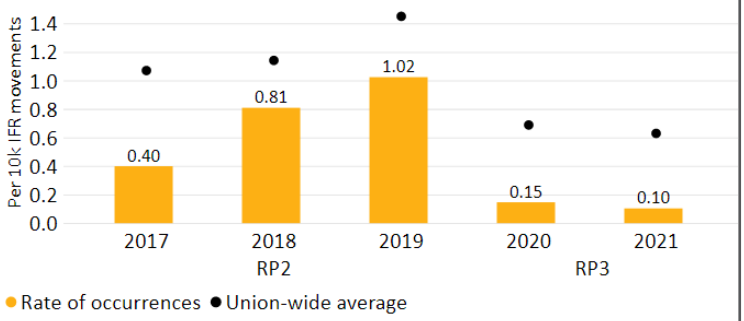
DSNA has improved its performance and achieved all the targets in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour increased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



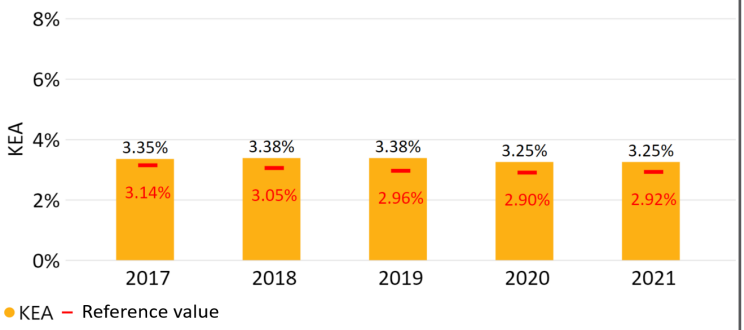
The rate of RIs per movement decreased in 2021 relative to 2020.

Use of automated safety data recording systems

France does not use automated safety data recording systems for runway incursions nor separation minima infringements.

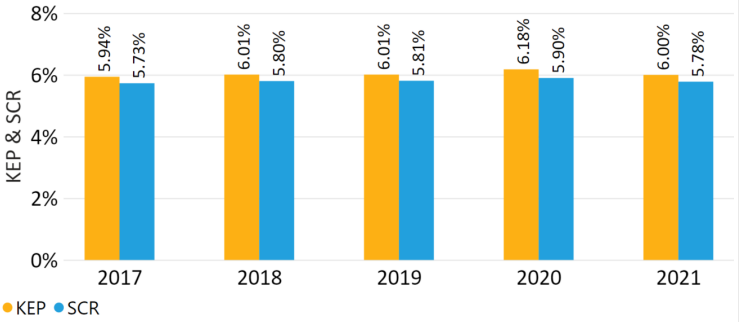
Environment

KEA performance



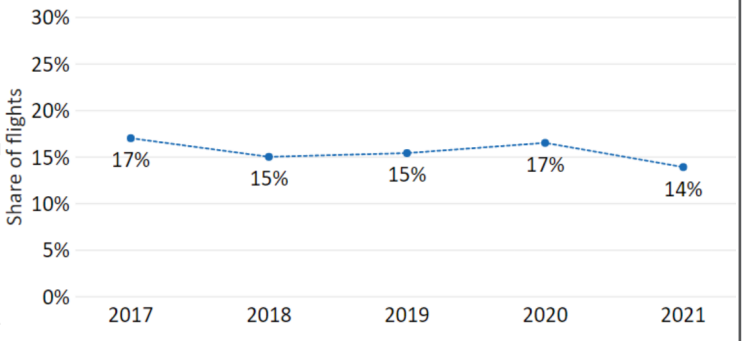
France's KEA performance remained the same relative to 2020.

KEP & SCR performance



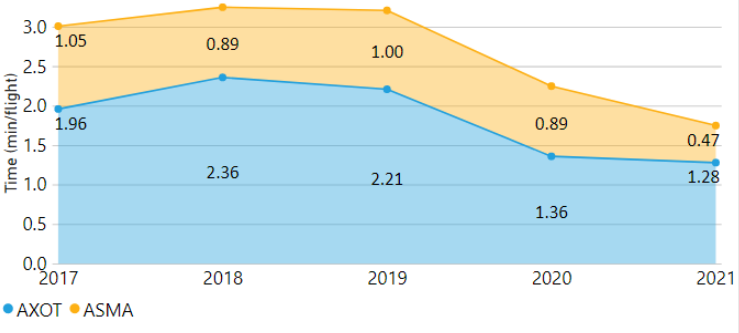
France made shorter constrained routes (SCR) available to air-space users in 2021, who were then able to plan shorter routes.

Share of CDO flights by year



France's CDO performance worsened in 2021 compared to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

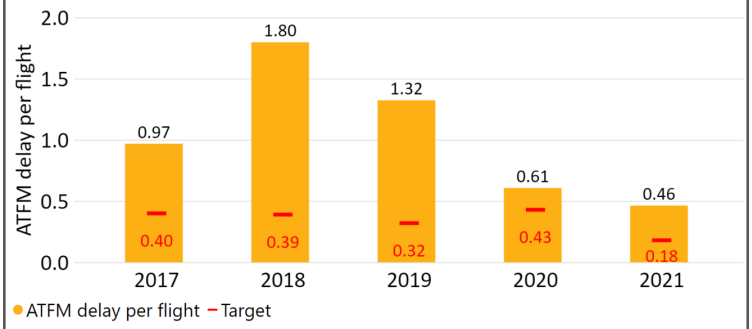


Terminal airspace users spent an additional 2.32 minutes per flight either taxiing or holding at French airports.

France Factsheet

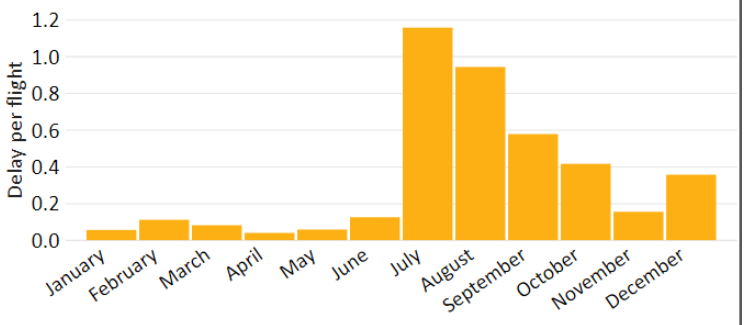
Capacity

ATFM delay per flight (min/flight)



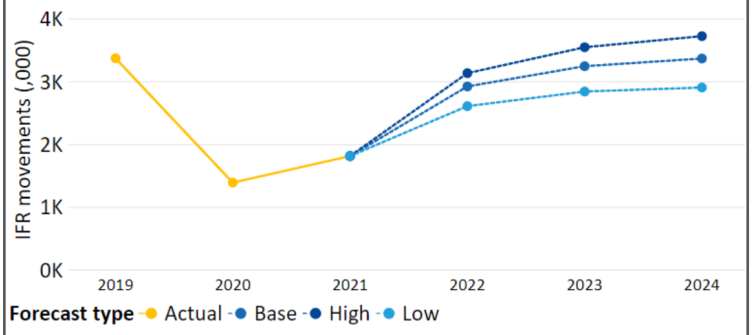
Delays in France decreased year-on-year by 25% in 2021. France performed worse than the local breakdown value in 2021.

Monthly ATFM delay per flight (min/flight) in 2021



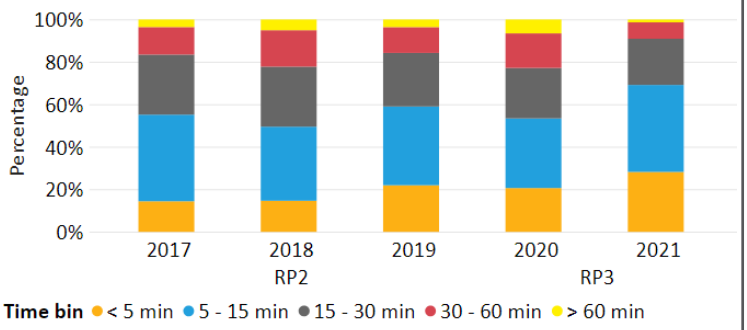
Most of the delays were accumulated between July and October, and the leading drivers were ATC staffing and ATC capacity.

IFR movements and forecasts by year



IFR movements in France were aligned with the base scenario of the STATFOR 2021 base forecast.

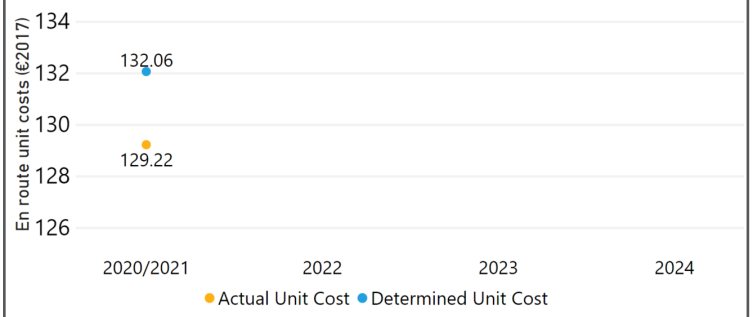
Percentage of en route delays per flight by year and time bin



There were more shorter duration delays; delays longer than 15 minutes decreased by 16 percentage points year-on-year.

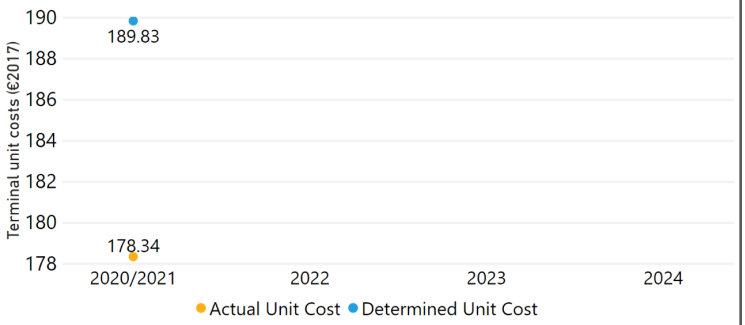
Cost-efficiency

En route actual unit cost and determined unit cost by year



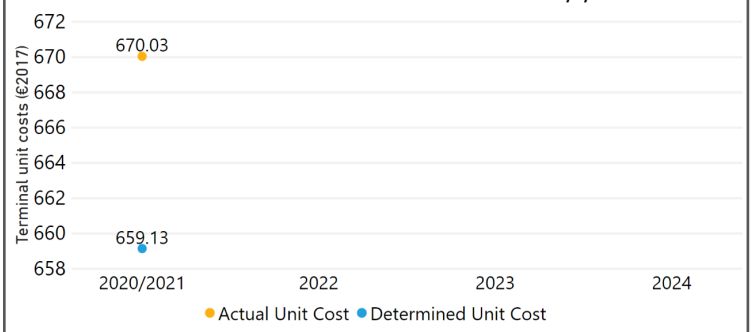
The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



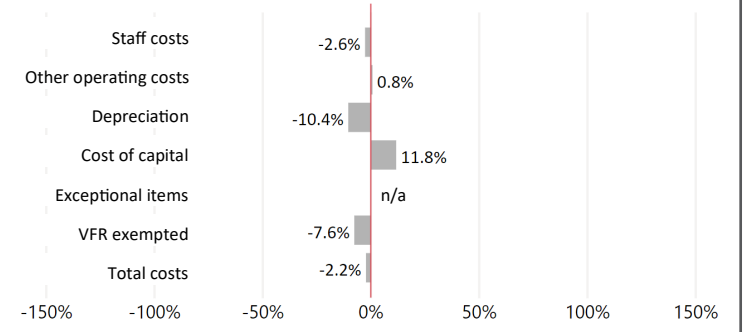
The 2020/2021 terminal zone 1 actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



The 2020/2021 terminal zone 2 determined unit cost was higher than the actual unit cost.

% difference between 2021 actual costs and determined costs

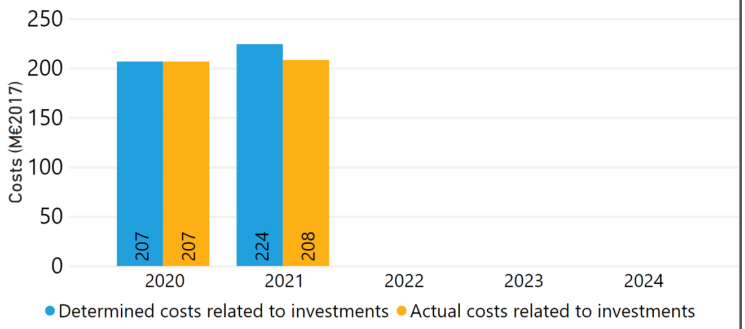


France decreased 2021 total actual costs by -2.2% compared to determined costs.

France Factsheet

Cost-efficiency

Costs related to investments by year



DSNA 2021 costs related to investments were -7.1% lower than planned driven by a decrease in depreciation costs.

Comments from the Performance Review Body:

Safety:

- DFS has successfully improved its performance in safety risk management, safety assurance, and safety promotion and achieved all the EoSM targets earlier than planned. DFS implements specific measures to ensure continuous improvement of safety performance.
- Germany reported a decrease in the rate of both runway incursions and separation minima infringements in 2021 relative to 2020. Both rates are below the Union-wide rates.
- The German NSA aims to improve the monitoring of safety occurrences. Therefore, a procedure was implemented based on regular reviews and in-depth auditing of specific cases.
- DFS should improve its safety management by implementing automated safety data recording systems.

Environment:

- KEA performance improved from 2020 and Germany achieved the target of 2.31% and contributed positively to achieving the Union-wide target.
- Both KEP and SCR values improved from 2020 and are at their best since 2017.
- The share of CDO flights dropped by three percentage points, remaining higher than pre-pandemic levels.
- Additional time in terminal airspace remained at similar level to 2020 while additional taxi out time increased from 1.63 min/flight to 1.85 min/flight.
- The NSA states it is continuously developing airport-CDM at German airports in order to reduce taxi times at airports, including a long-term perspective on a total airport management system.

Capacity:

- Germany registered 0.22 minutes of average en route ATFM delay per flight during 2021, thus missing the local breakdown value of 0.18.
- Delays were higher than the breakdown value despite the lower traffic: In Germany, IFR movements in 2021 were 50% lower than in 2019.
- The delays were mainly caused by limited ATC capacity, staffing and severe weather at Bremen and Karlsruhe ACCs with new traffic patterns, increased volatility contributing during the summer period in ACCs already affected by staffing issues. Specifically, during the traffic recovery in summer 2021, the main delay causes were ATC capacity and ATC staffing in Bremen ACC, and ATC capacity and weather in Karlsruhe ACC.
- Traffic is expected to grow, with 2019 levels likely being reached in 2023 (in high growth scenario) or 2024 (in base growth scenario). A significant increase in the number of ATCOs in OPS is planned during RP3 in Bremen and Karlsruhe ACCs with a smaller increase in Langen and Münich ACCs.

Cost-efficiency:

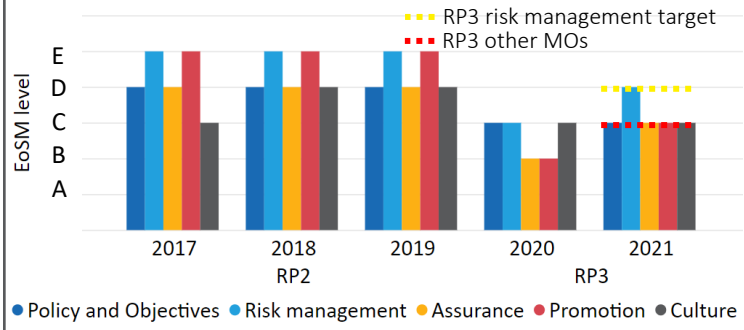
- The en route 2020/2021 actual unit cost of Germany was 123.97€$_{2017}$, -4.2% lower than the determined unit cost (129.44€$_{2017}$). The terminal actual unit cost was 411.50€$_{2017}$, -2.7% lower than the determined unit cost (422.78€$_{2017}$).
- The en route 2021 actual service units (7,679K) were +1.5% higher than determined (7,563K).
- In 2021, actual total costs were -64M€$_{2017}$ lower (-6.9%) than determined. The reduction was mainly driven by -25M€$_{2017}$ (-3.8%) in staff costs, due to the continuation of 2020 measures in reaction to the decrease of traffic, and by -27M€$_{2017}$ (-132%) in cost of capital.
- DFS spent 82M€$_{2017}$ in 2021 related to costs of investments, -13% lower than determined (93M€$_{2017}$), mainly driven by a negative 2021 actual cost of capital, the NSA explained that it is stemming from a positive financial result (considering that Germany has no return on equity during RP3). Some investments have also been delayed.
- The en route actual unit cost incurred by users in 2020/2021 was 132.65€, while the terminal actual unit cost incurred by users was 436.34€.

* There is not an approved performance plan for FABEC. This factsheet is based on information within the latest submitted draft performance plan.

Germany Factsheet

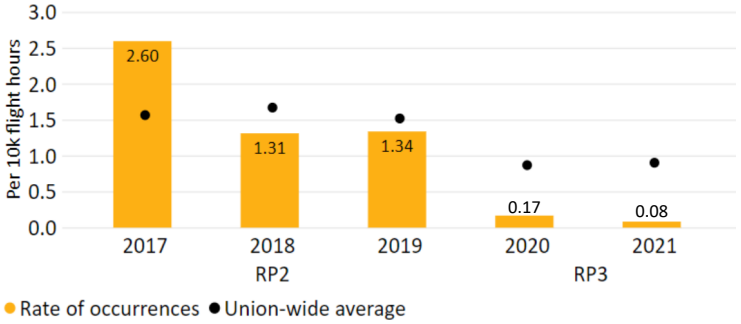
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



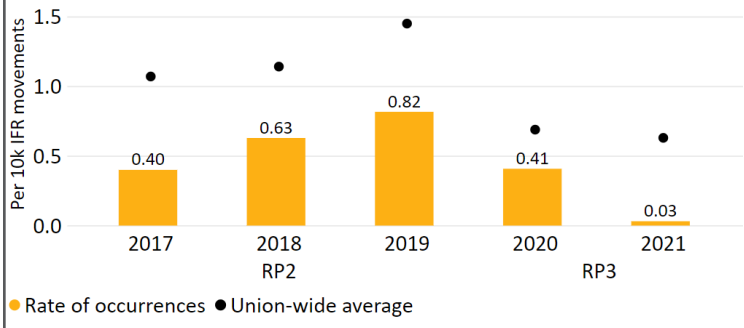
DFS achieved the targets for all five management objectives in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs decreased in 2021 relative to 2022 and is below the Union-wide rate.

Rate of runway incursions (RIs) by year



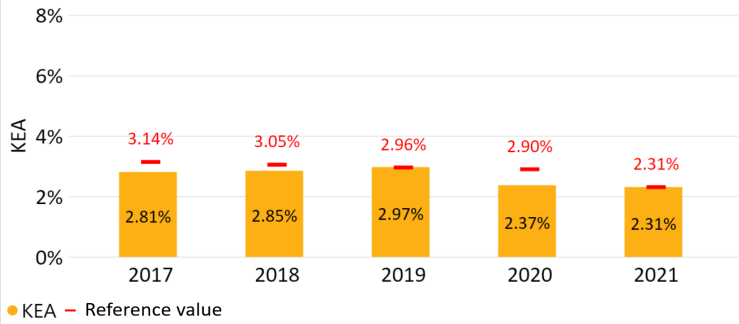
The rate of RIs decreased in 2021 relative to 2022 and is below the Union-wide rate.

Use of automated safety data recording systems

Germany does not use automated safety data recording systems for runway incursions or separation minima infringements.

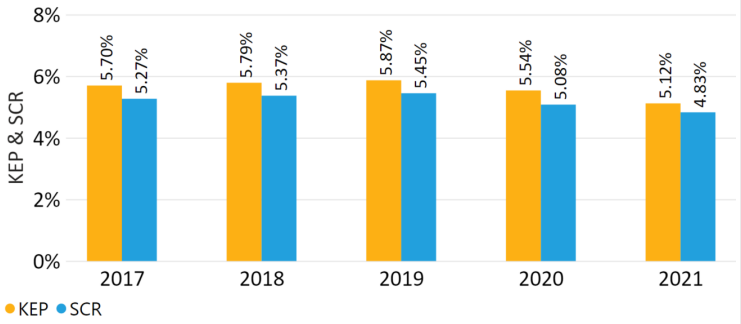
Environment

KEA performance



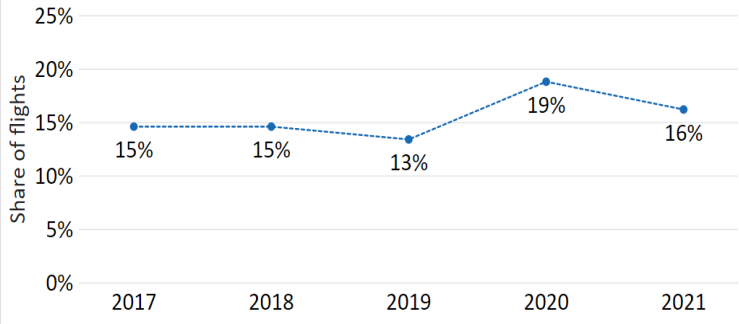
Germany achieved its 2021 KEA target exactly, and performance improved relative to 2020.

KEP & SCR performance



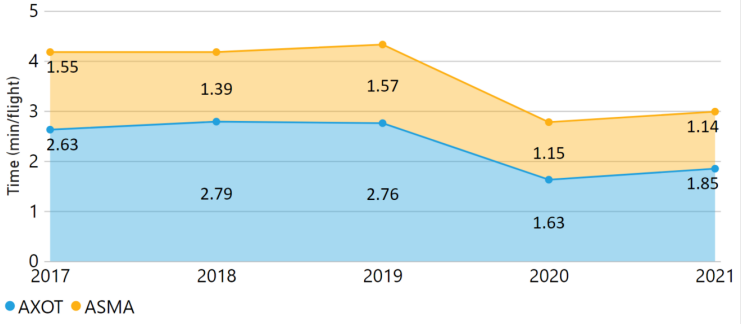
Germany made shorter constrained routes (SCR) available to air-space users in 2021, who were then able to plan shorter routes.

Share of CDO flights by year



Germany's CDO performance worsened in 2021 compared to 2020 and is still low.

Additional taxi out time (AXOT) and holding time (ASMA) by year

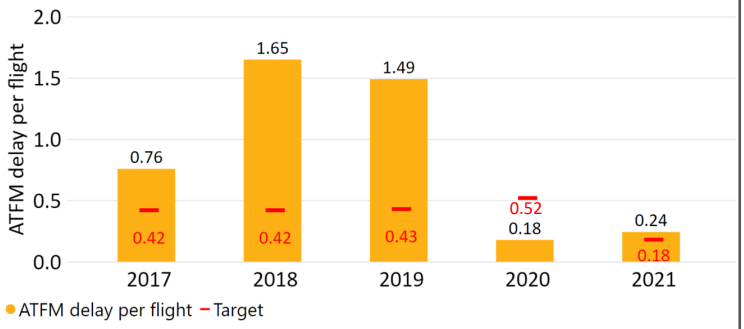


Terminal airspace users spent an additional 2.99 minutes per flight either taxiing or holding at German airports.

Germany Factsheet

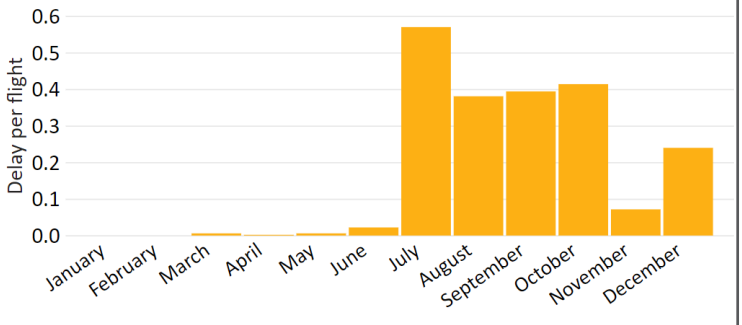
Capacity

ATFM delay per flight (min/flight)



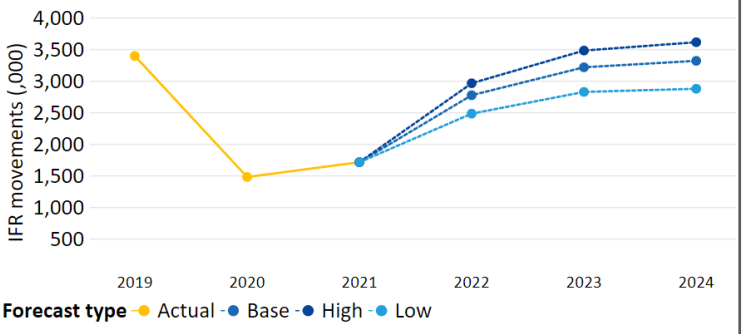
Delays in Germany decreased year-on-year by 29% in 2021. Germany performed worse than the local breakdown value in 2021.

Monthly ATFM delay per flight (min/flight) in 2021



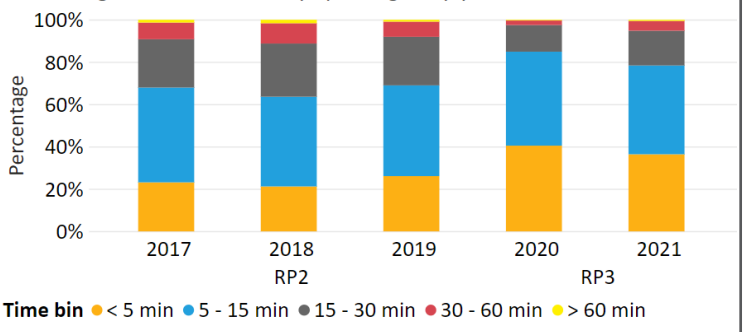
Delays started accumulating from July and were mainly driven by ATC capacity and weather related reasons.

IFR movements and forecasts by year



IFR movements in Germany were 2% above the high scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



There was a shift towards longer duration delays: the share of delays longer than 15 minutes increased by 7 percentage points.

Cost-efficiency

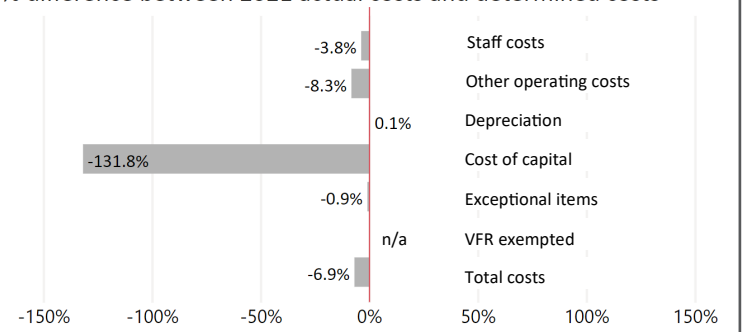
En route actual unit cost and determined unit cost by year

The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

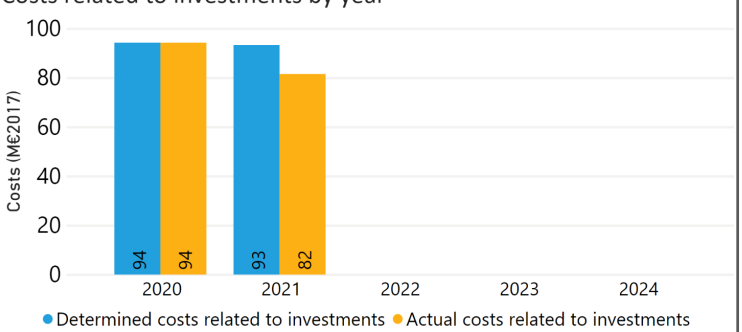
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



In 2021, actual total costs were -6.9% lower than determined, mainly driven by a decrease in staff and cost of capital.

Costs related to investments by year



DFS 2021 costs related to investments were -13% lower than planned, mainly stemming from a positive financial result.

Comments from the Performance Review Body:

Safety:

- HASP is required to improve its safety performance function only in the safety risk management area. Over 2021, a specific action plan was identified aiming at the adaptation of the safety management function in line with Regulation (EU) 373/2017. Significant initiatives are planned both by the NSA and the ANSP to restructure and improve the safety organisation in all five management areas.
- Greece recorded a stable number of safety occurrences with a decrease in the rate of separation minima infringements and an increase in runway incursions in 2021. Both rates are below the Union-wide average rates. The occurrences and the effectiveness of mitigations are closely monitored and analysed by the NSA.
- HASP should improve its safety management by implementing automated safety data recording systems for occurrences.

Environment:

- Greece achieved a KEA performance of 2.54% compared to its target of 2.00% and did not contribute positively towards achieving the Union-wide target. KEA has worsened since 2020.
- The NSA states that the target was missed mainly due to military activity causing traffic to diverge from optimal routes.
- KEP increased by 0.10 percentage points and SCR increased by 0.14 percentage points. Both indicators are at the worse levels in five years.
- The share of CDO flights has remained stable since 2018.
- Both additional taxi out time and additional time in terminal airspace increased compared to 2020, but still remain below 2019 values.

Capacity:

- Greece registered 0.43 minutes of average en route ATFM delay per flight during 2021, thus missing the local breakdown value of 0.1.
- Delays were higher than the breakdown value despite the lower traffic: in Greece IFR movements in 2021 were 36% lower than in 2019.
- Capacity performance was affected by ATC staffing (contributing to more than 80% of the delay) caused by the amendment of HASP recruitment plans as a result of COVID-19.
- Traffic recovery is robust with both ACCs experiencing up to 90% of 2019 traffic during the summer. Traffic is expected to grow, with 2019 traffic levels likely being reached in 2022 (in high growth scenario) or 2023 (in base growth scenario). The number of ATCOs in OPS is planned to increase significantly by the end of RP3. However, the 2021 delay performance was similar to that of 2019, even with significantly lower traffic.

Cost-efficiency:

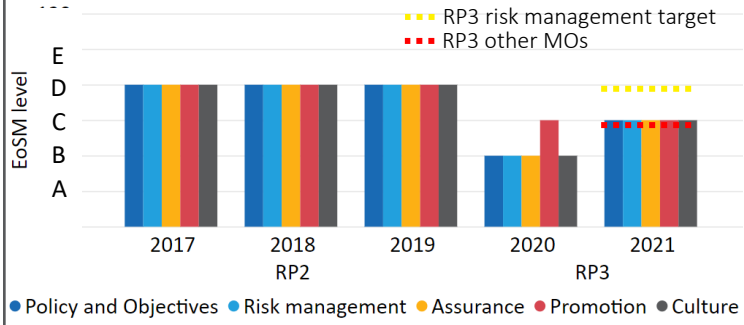
- The en route 2020/2021 actual unit cost of Greece was 37.28€$_{2017}$, -8.4% lower than the determined unit cost (40.71€$_{2017}$). The terminal actual unit cost was 202.78€$_{2017}$, -13% lower than the determined unit cost (233.62€$_{2017}$).
- The en route 2021 actual service units (4,048K) were +1.9% higher than determined (3,973K).
- In 2021, actual total costs were -20M€$_{2017}$ lower (-13%) than determined. The reduction was mainly due to lower staff costs (-16M€$_{2017}$, or -14%), caused by changes of the recruitment plan due to the pandemic. Other operating costs were also significantly lower (-3.8M€$_{2017}$, or -11%), no explanation was provided by the NSA.
- HASP spent 1.6M€$_{2017}$ in 2021 related to costs of investments, in line with determined.
- The en route actual unit cost incurred by users in 2020/2021 was 40.72€, while the terminal actual unit cost incurred by users was 216.32€.

* There is not an approved performance plan for Greece. This factsheet is based on information within the latest submitted draft performance plan.

Greece Factsheet

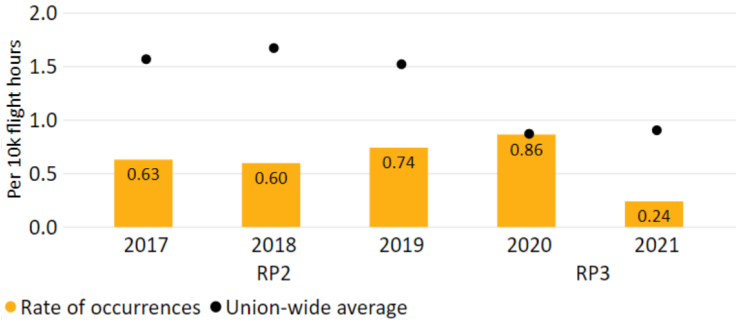
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



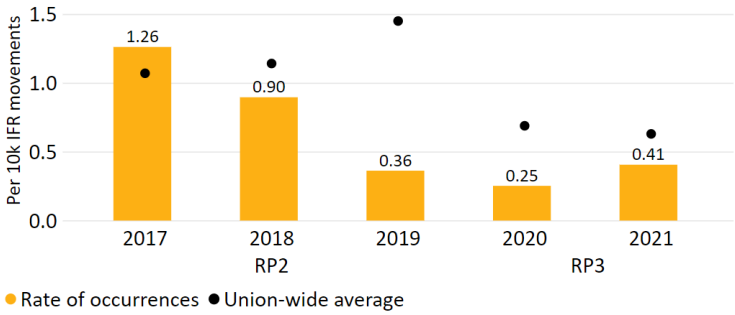
HANSP achieved the targets for all safety management objectives except safety risk management in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour decreased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



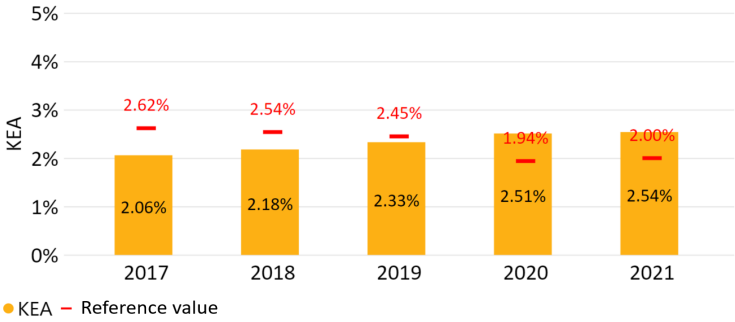
The rate of RIs per movement increased in 2021 relative to 2020.

Use of automated safety data recording systems

Greece does not use automated safety data recording systems for runway incursions or separation minima infringements.

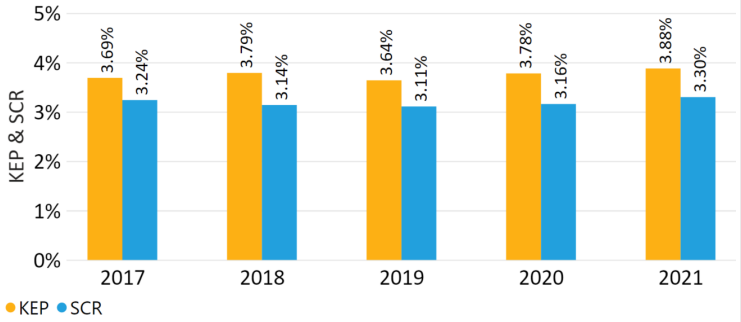
Environment

KEA performance



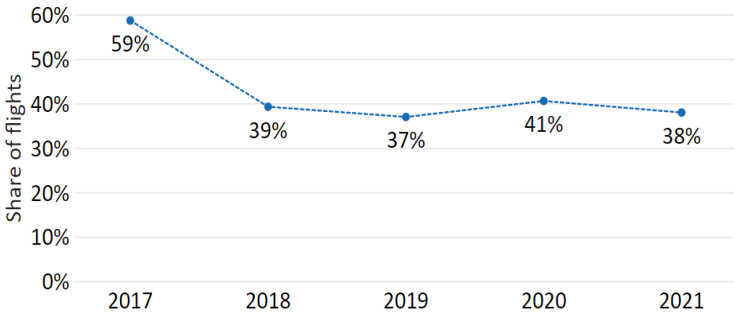
Greece did not achieve its 2021 KEA target by 0.54 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



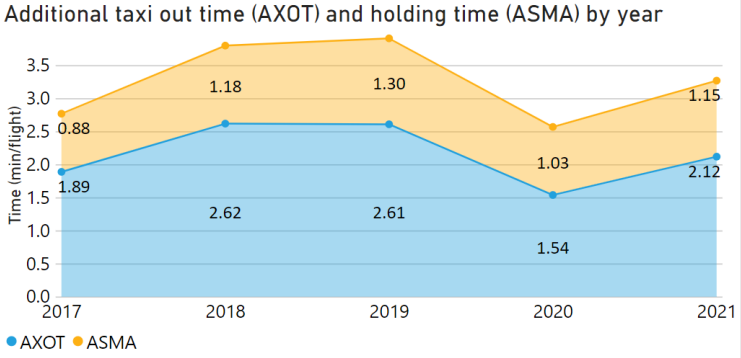
Greece did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

Share of CDO flights by year



Greece's CDO performance worsened in 2021 compared to 2020. However, it is a similar performance as achieved in the past.

Additional taxi out time (AXOT) and holding time (ASMA) by year

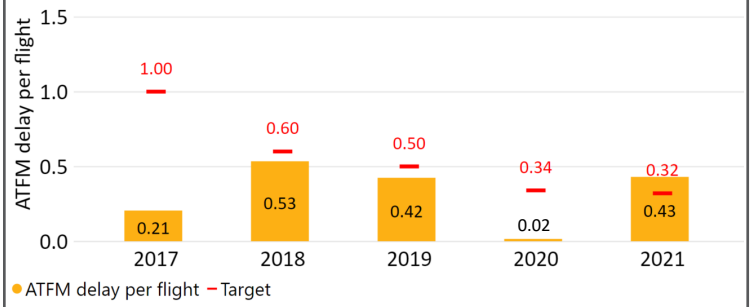


Terminal airspace users spent an additional 3.27 minutes per flight either taxiing or holding at Athens airport.

Greece Factsheet

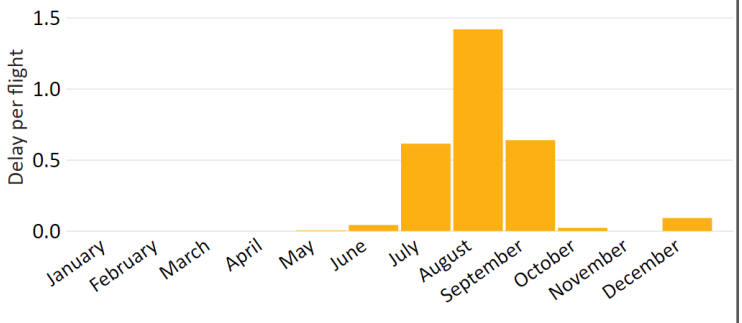
Capacity

ATFM delay per flight (min/flight)



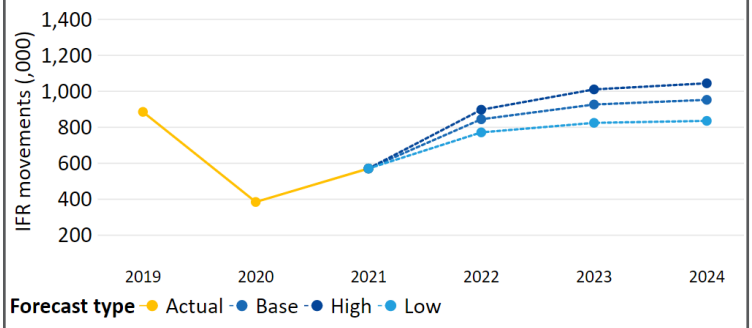
Delays in Greece increased year-on-year by 0.43 minutes in 2021 and were at the same level as in 2019.

Monthly ATFM delay per flight (min/flight) in 2021



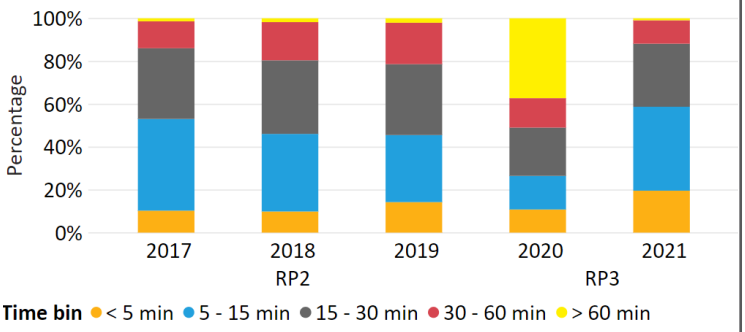
Most of the delays accumulated during July, August and September, and were very much driven by ATC staffing reasons.

IFR movements and forecasts by year



IFR movements in Greece were 1% above the base scenario of the STATFOR 2021 base forecast.

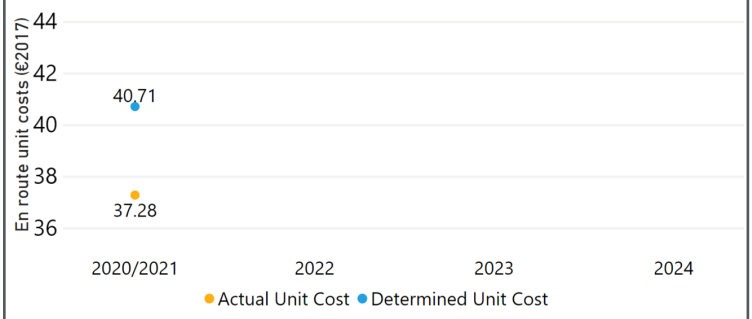
Percentage of en route delays per flight by year and time bin



There was a shift towards shorter duration delays; the share of delays more than 15 minutes decreased by 33 percentage points.

Cost-efficiency

En route actual unit cost and determined unit cost by year

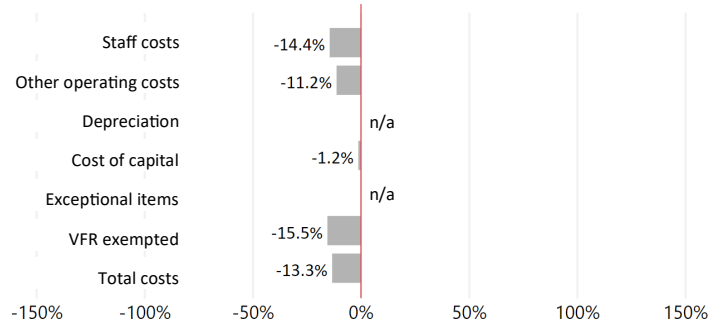


The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

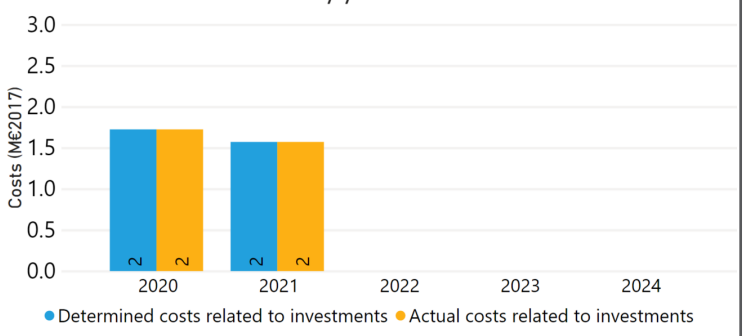
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



Greece decreased total costs by -13% in 2021 compared to determined mainly due to a decrease in staff and other operating costs.

Costs related to investments by year



HASP 2021 costs related to investments were in line with planned.

Comments from the Performance Review Body:

Safety:

- HungaroControl demonstrated good safety performance, remaining at the RP3 EoSM target levels in all management objectives. HungaroControl achieved maturity, exceeding the maturity planned for 2021 in four out of five safety objectives.
- Hungary recorded a stable number of safety occurrences with no occurrences of runway incursions in 2021, but a higher rate of separation minima infringements relative to 2020. Both rates are below the Union-wide average rate.
- HungaroControl should improve its safety management by implementing automated safety data recording systems for runway incursions.

Environment:

- Hungary achieved a KEA performance of 1.64% compared to its target of 1.50% and did not contribute positively towards achieving the Union-wide target. KEA slightly increased by 0.13 percentage points in comparison to 2020.
- In January 2021 Slovakia joined SEE FRA, offering cross border FRA with Bulgaria, Hungary and Romania. The NSA stated that the difference compared to the target is beyond of the control of the ANSP, and it might be linked to airspace user choices.
- However, SEE FRA only enables cross border operations with two out of seven of Hungary's neighbouring countries and airspace restrictions/reservations may also have impeded performance.
- KEP reached the best level over the past five years, however, SCR deteriorated to 2019 levels.
- Share of CDO flights slightly increased in comparison to 2020, and is higher than pre-pandemic years.
- Additional time in terminal airspace remained at similar levels to 2020, while additional taxi out time increased by 22%.

Capacity:

- Hungary registered 0.01 minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.06.
- Delays should be considered in the context of lower traffic: in Hungary, IFR movements in 2021 were 45% lower than in 2019.
- Hungary has received additional traffic due to airspace closures East of the SES airspace which may expedite the recovery. 2019 traffic levels are likely to be reached in 2022 (in high growth scenario) or 2023 (in base growth scenario). A slight increase in the number of ATCOs in OPS is planned in Budapest ACC by the end of RP3.
- Based on the analysis of previous capacity profiles, the PRB estimates Hungary to face a capacity gap once IFR movements rise above 77% of 2019 levels. The PRB recommends that capacity improvement measures are implemented before traffic begins to recover.

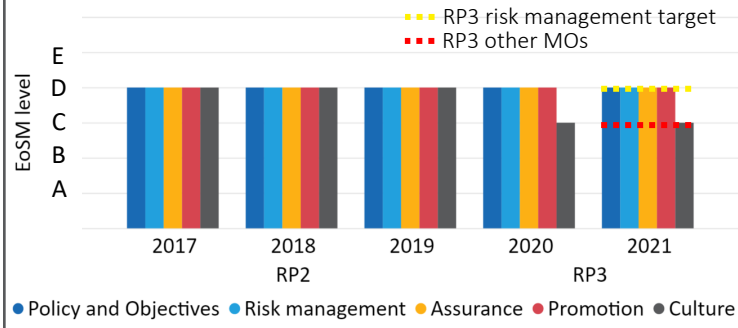
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Hungary was 55.73€$_{2017}$, -2.3% lower than the determined unit cost (57.05€$_{2017}$). The terminal actual unit cost was 479.21€$_{2017}$, -3.0% lower than the determined unit cost (494.02€$_{2017}$).
- The en route 2021 actual service units (1,727K) were in line with determined service units (1,727K).
- In 2021, actual total costs were -4.2M€$_{2017}$ lower (-4.5%) than determined. Hungary decreased all cost categories except cost of capital (+0.9%). The reduction was mainly due to lower staff costs (-3.5M€$_{2017}$, or -7.8%) mostly driven by a decrease in headcounts (mainly non-ATCO) and a restructuration of ATCO wage system to make it traffic dependent.
- HungaroControl spent 27M€$_{2017}$ in 2021 related to costs of investments, +12% more than determined (24M€$_{2017}$). This was mainly driven by a higher than planned property management fee (i.e. leasing fee), however the NSA explained that the increase should be compensated in the next years.
- The en route actual unit cost incurred by users in 2020/2021 was 53.38€, while the terminal actual unit cost incurred by users was 464.71€.

Hungary Factsheet

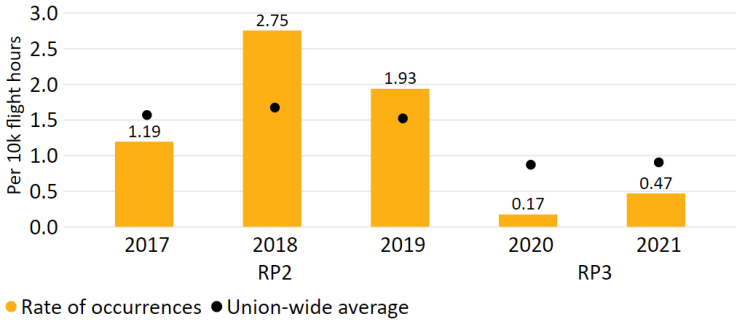
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



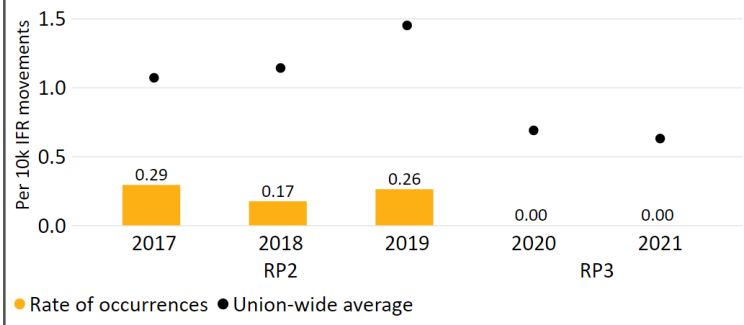
HungaroControl exceeded the targets achieving level D in four management objectives already in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour increased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



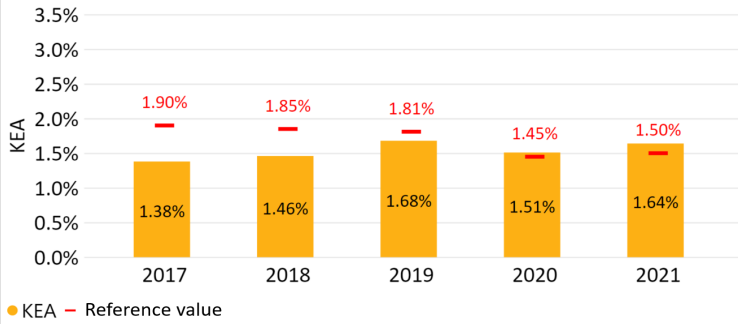
No RIs were reported in 2021 same as for 2020.

Use of automated safety data recording systems

Hungary uses automated safety data recording systems for SMI separation minima infringements.

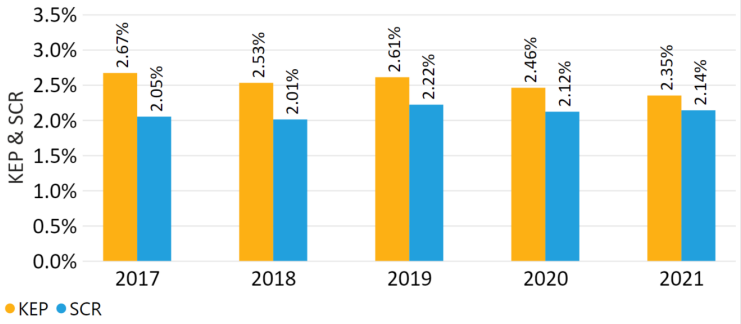
Environment

KEA performance



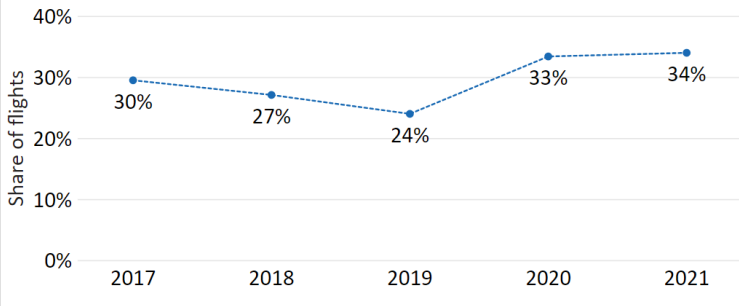
Hungary did not achieve its 2021 KEA target by 0.14 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



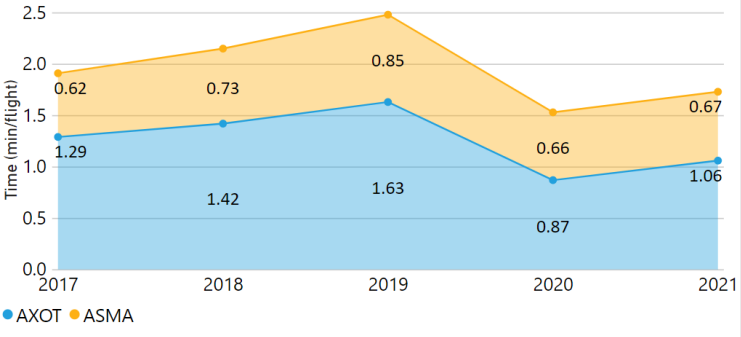
Planned routes were shorter in 2021, despite Hungary not making shorter constrained routes available to airspace users.

Share of CDO flights by year



Hungary's CDO performance improved relative to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

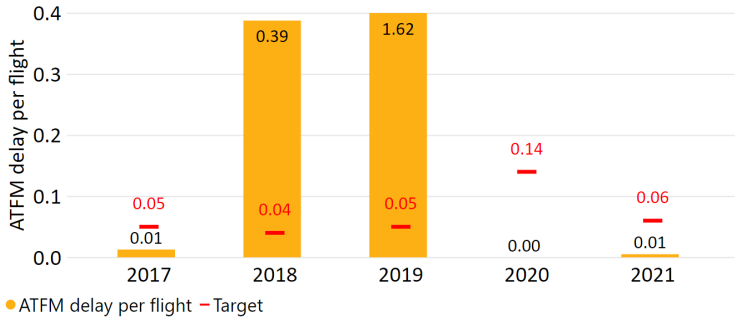


Terminal airspace users spent an additional 1.73 minutes per flight either taxiing or holding at Budapest airport.

Hungary Factsheet

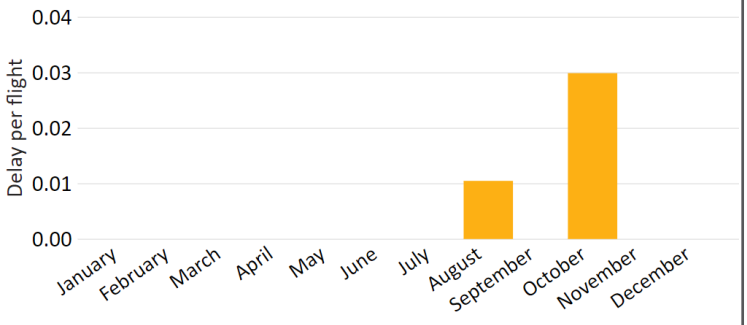
Capacity

ATFM delay per flight (min/flight)



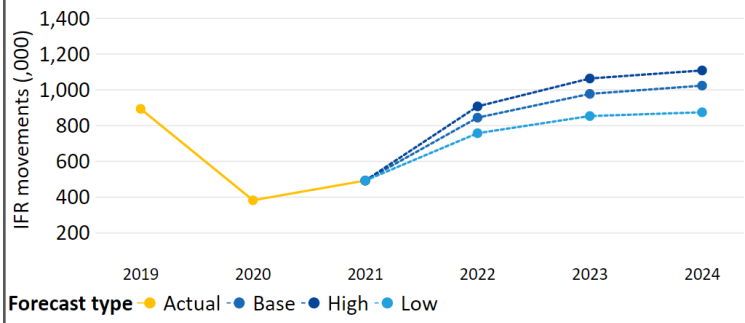
Delays increased by 0.01 minutes per flight year-on-year in 2021. Hungary performed better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



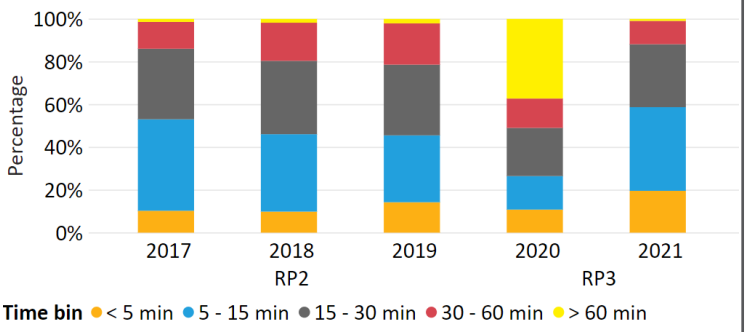
The very limited ATFM delays occurred during August and October, driven by adverse weather and ATC staffing.

IFR movements and forecasts by year



IFR movements in Hungary were 4% above the high scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



There have been more short delays: delays shorter than 15 minutes were 11 percentage points lower than in 2019.

Cost-efficiency

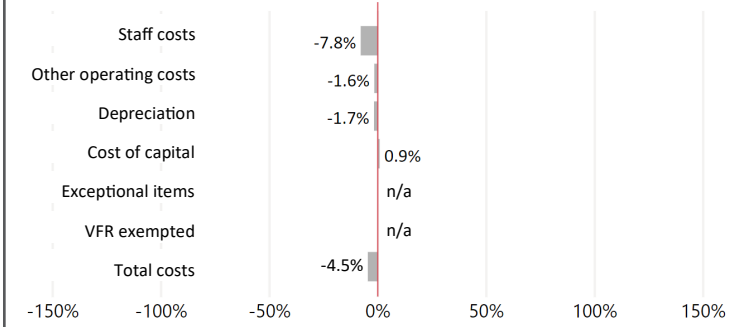
En route actual unit cost and determined unit cost by year

The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

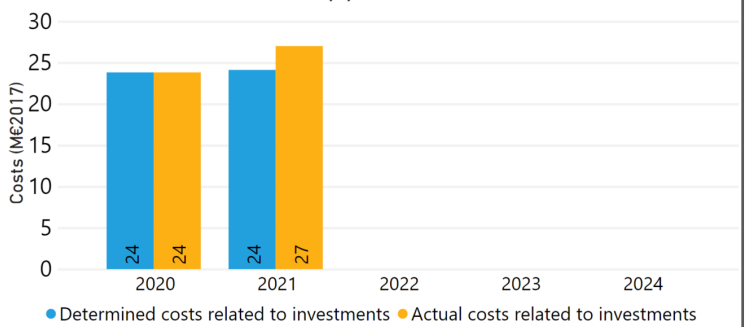
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



Hungary decreased total costs by -4.5% in 2021, mainly driven by a reduction of staff costs.

Costs related to investments by year



HungaroControl 2021 costs related to investments were +12% higher than planned mainly driven by higher leasing costs.

Comments from the Performance Review Body:

Safety:

- IAA ANSP achieved the RP3 EoSM targets in four out of five management objectives, missing the target for safety risk management despite planning to achieve it since 2020. The Irish NSA conducted oversight of the IAA ANSP management function in 2021 and concluded that IAA ANSP needs to improve the safety risk management. The measures identified are mainly related to implementation of Regulation (EU) 2017/373.
- Ireland recorded a marginally higher rate of separation minima infringements relative to 2020 and lower rate of runway incursions. Both rates are below the Union-wide average rates.
- The NSA has established associated safety targets and alert thresholds in order to provide quantifiable measures related to the achieved level of safety.
- IAA ANSP should improve its safety management by implementing automated safety data recording systems.

Environment:

- Ireland achieved a KEA performance of 1.01% compared to its target of 1.13% and contributed positively towards achieving the Union-wide target. KEA is at the best levels seen in the last five years.
- Both KEP and SCR continued to improve, and the values are at their lowest levels in five years.
- The share of CDO flights increased by three percentage points.
- Additional time in terminal airspace more than halved from 1.19 min/flight to 0.57 min/flight and additional taxi out time reduced from 2.37 min/flight to 1.32 min/flight in 2021.

Capacity:

- Ireland registered zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.01.
- En route ATFM delays in Ireland were also zero on average during the past years.
- Traffic is expected to grow with 2019 levels likely being reached in 2023 in all growth scenarios and a slight increase in the number of ATCOs in OPS is planned in Dublin and Shannon ACCs by the end of RP3.

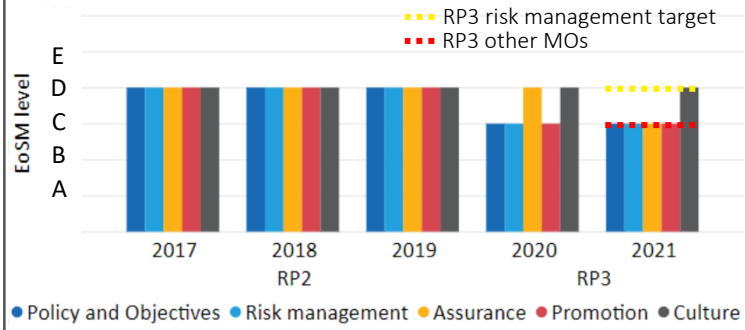
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Ireland was 45.48€$_{2017}$, -3.7% lower than the determined unit cost (47.25€$_{2017}$). The terminal actual unit cost was 267.36€$_{2017}$, -6.0% lower than the determined unit cost (284.45€$_{2017}$).
- The en route 2021 actual service units (2,419K) were +4.6% higher than determined (2,312K).
- In 2021, actual total costs were -4.6M€$_{2017}$ lower (-4.5%) than determined. Ireland decreased all cost categories except staff costs due to the cancellation of some cost reduction measures in response to higher traffic levels. The total reduction was mainly driven by lower other operating costs (-4.6M€$_{2017}$, or -12.4%) due to cost containment measures.
- IAA ANSP spent 13M€$_{2017}$ in 2021 related to costs of investments, -13% lower than determined (15M€$_{2017}$). The difference was mainly due to a delay of the operational date of a new visual control tower at the airport of Dublin (initially planned in July 2021 and delayed to November 2021). Considering that the performance plan has been submitted at the end of 2021, the PRB invites the NSA to revise the planning process which might not have been accurate enough and that may require improvements.
- The en route actual unit cost incurred by users in 2020/2021 was 44.40€, while the terminal actual unit cost incurred by users was 242.96€.

Ireland Factsheet

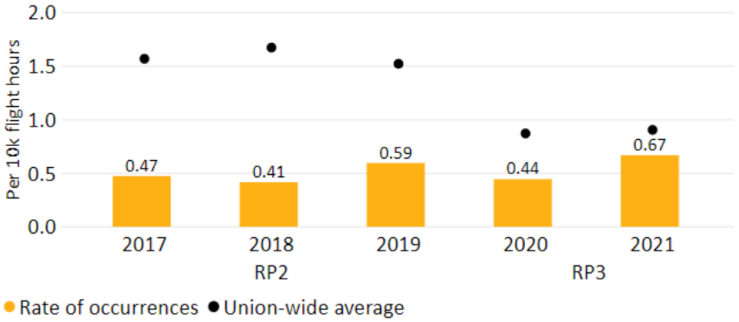
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



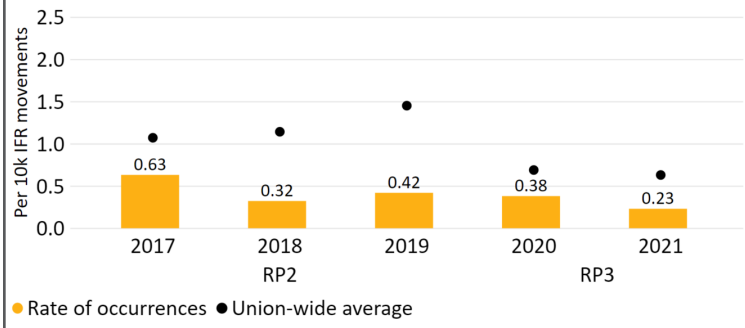
IAA ANSP achieved the targets for all the safety management objectives except for safety risk management.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour increased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



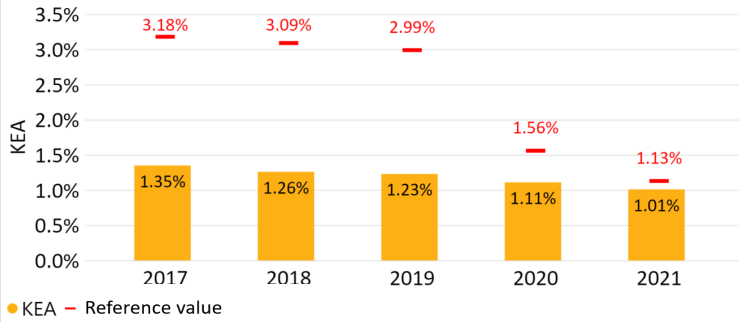
The rate of RIs per movement decreased in 2021 relative to 2020.

Use of automated safety data recording systems

Ireland does not use automated safety data recording systems for runway incursions or separation minima infringements.

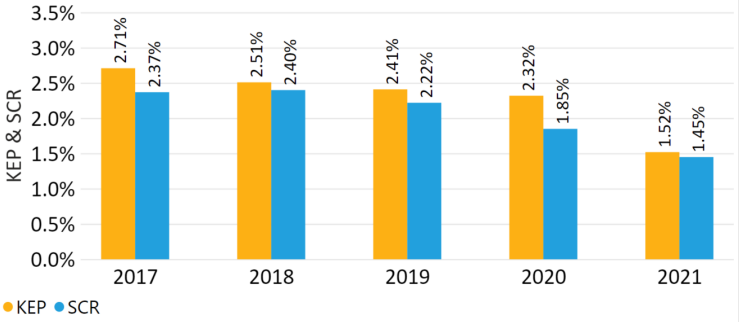
Environment

KEA performance



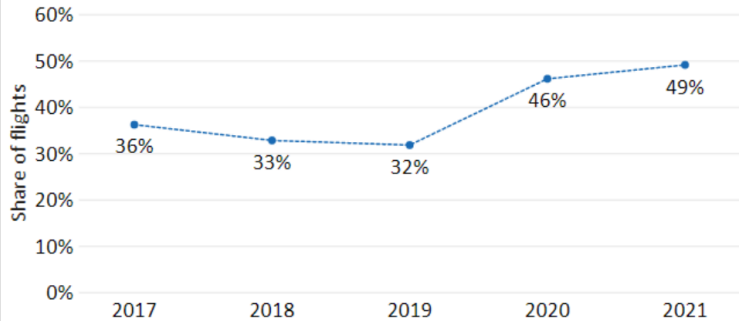
Ireland achieved its 2021 KEA target by 0.12 percentage points, and performance improved relative to 2020.

KEP & SCR performance



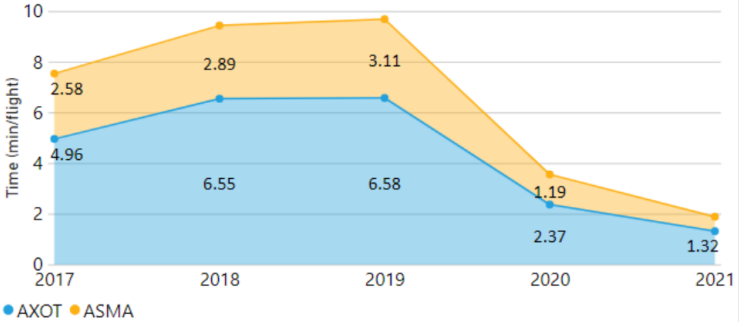
Ireland made shorter constrained routes (SCR) available to airspace users in 2021, who were then able to plan shorter routes.

Share of CDO flights by year



Ireland's CDO performance improved in 2021 compared to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

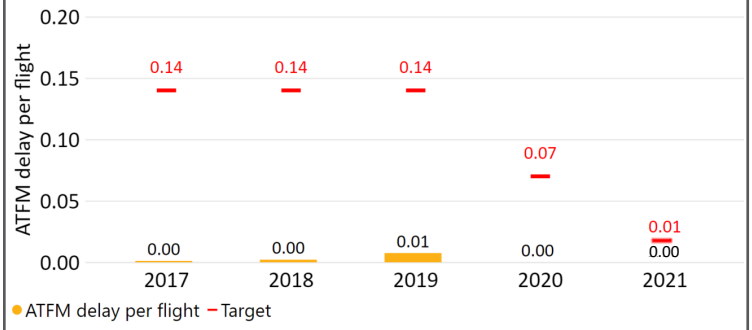


Terminal airspace users spent an additional 1.89 minutes per flight either taxiing or holding at Irish airports.

Ireland Factsheet

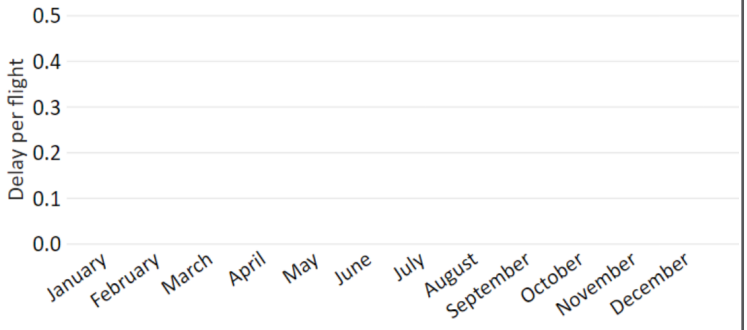
Capacity

ATFM delay per flight (min/flight)



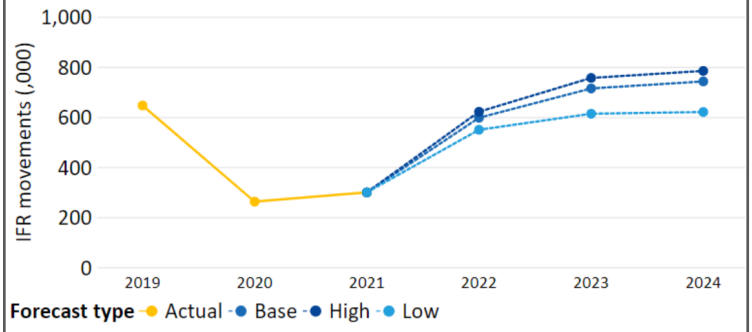
Ireland recorded zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



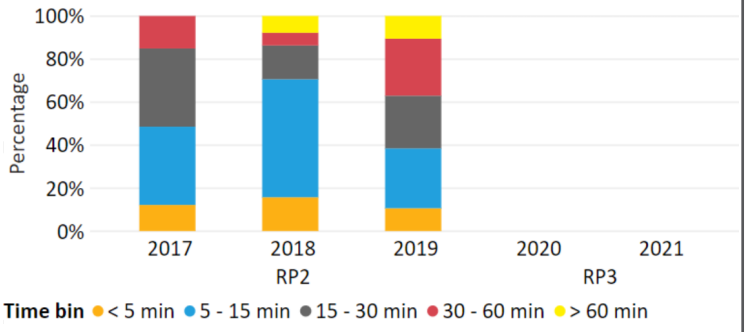
The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Ireland were 3% below the low scenario of the STAFOR 2021 base forecast.

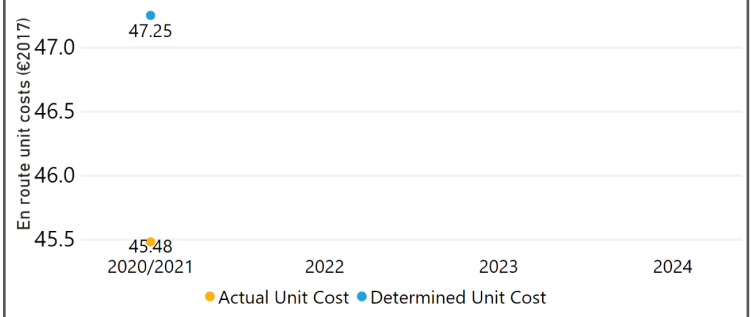
Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

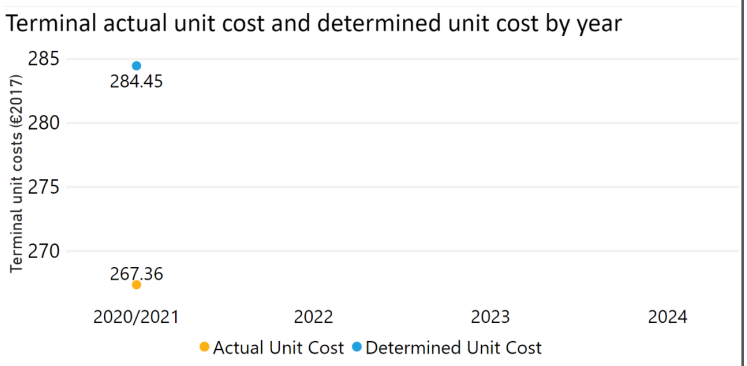
Cost-efficiency

En route actual unit cost and determined unit cost by year



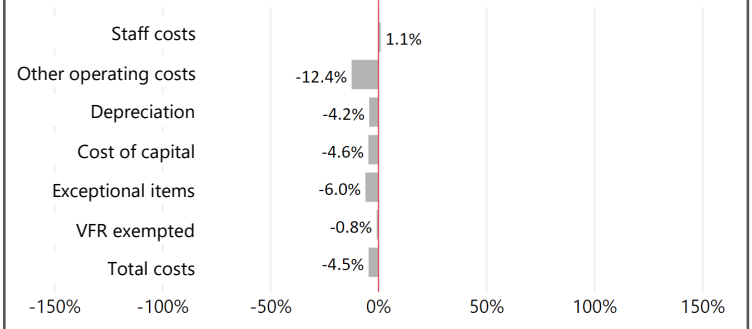
The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



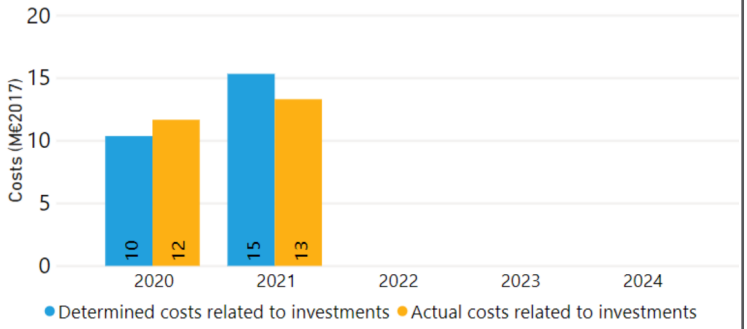
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



Ireland decreased all cost categories in 2021 compared to determined, except staff costs.

Costs related to investments by year



IAA ANSP 2021 costs related to investments were -13% lower than planned.

Comments from the Performance Review Body:

Safety:

- ENAV has maintained its good safety performance, remaining at the RP3 EoSM target levels in all management objectives. The achieved maturity exceeds the maturity levels planned.
- ENAV has resumed to normal operations after the challenging COVID-19 period and its safety performance is now stable. The oversight activity was conducted during 2021 to ensure compliance with Regulation (EU) 2017/373.
- Italy recorded a decrease of the rates of separation minima infringements and runway incursions in 2021 relative to 2020. Both rates are below the Union-wide average rates.
- ENAV should improve its safety management by implementing automated safety data recording systems.

Environment:

- Italy achieved a KEA performance of 2.79% compared to its target of 2.67% and did not contribute positively towards achieving the Union-wide target. KEA improved by 0.06 percentage points from 2020.
- The NSA has requested the recalculation (and this action is currently still in progress) of the output's KPI attributed by PRU/NM.
- Both KEP and SCR improved since 2020 and are at their best levels in five years.
- Share of CDO flights is lower compared to 2020, but higher than pre-pandemic levels.
- Additional taxi out time and additional time in terminal airspace remained the same as in 2020.

Capacity:

- Italy registered 0.05 minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.07.
- En route ATFM delays in Italy were also near zero on average during past years.
- Traffic is expected to grow, with 2019 levels likely being reached in 2023 (in high growth scenario) or 2024 (in base growth scenario). A slight increase in the number of ATOCs in OPS is planned in all ACCs except Rome (slight decrease) by the end of RP3.

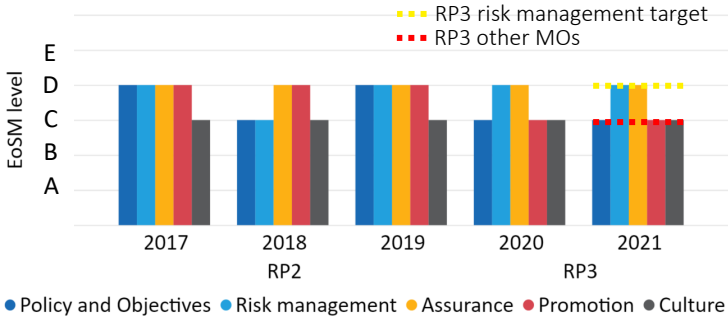
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Italy was 119.35€$_{2017}$, -3.5% lower than the determined unit cost (123.72€$_{2017}$). The terminal zone 1 actual unit cost was 390.28€$_{2017}$, -3.9% lower than the determined unit cost (406.06€$_{2017}$) and the terminal zone 2 actual unit cost was 324.60€$_{2017}$, -3.9% lower than the determined unit cost (337.73€$_{2017}$).
- The en route 2021 actual service units (5,783K) were +4.9% higher than determined (5,514K).
- In 2021, actual total costs were -9.4M€$_{2017}$ lower (-1.6%) than determined. Italy decreased all cost categories except cost of capital. The reduction was mainly due to lower other operating costs (-8.4M€$_{2017}$, or -6.3%). The NSA justifies the difference due to difficulties to predict the recovery from COVID-19 while drafting the performance plan.
- Cost of capital increased by +2.1M€$_{2017}$ (+4.4%), due to an increase in the average interest on debt (from 1.9% to 3.0%).
- ENAV spent 138M€$_{2017}$ in 2021 related to costs of investments, -2.4% less than determined (141M€$_{2017}$). This was mainly driven by a decrease in depreciation costs due to a reduction of the revenues through funding, which should however be deducted from the unit rate instead of the cost base.
- The en route actual unit cost incurred by users in 2020/2021 was 123.86€, while the terminal zone 1 actual unit cost incurred by users was 410.81€ and 338.47€ for terminal zone 2.

Italy Factsheet

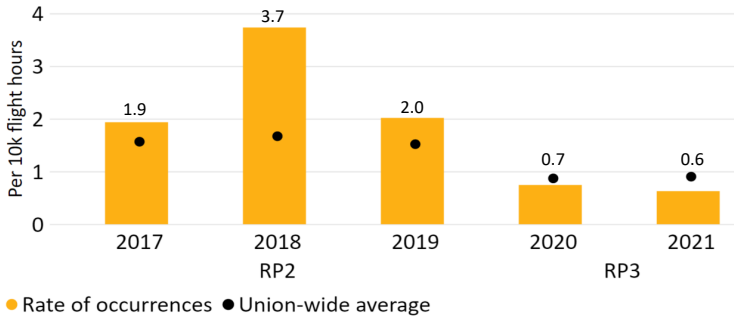
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



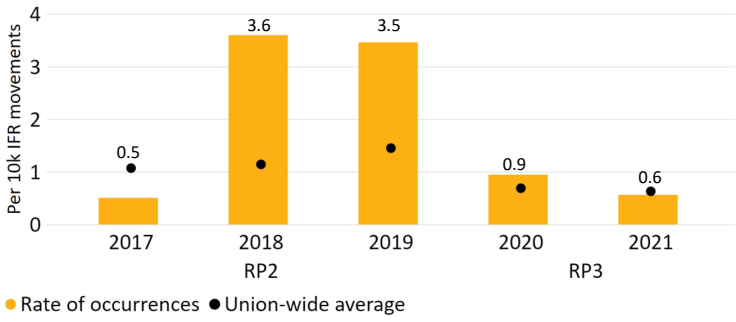
ENAV achieved the EoSM target levels in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour in 2021 decreased relative to 2020.

Rate of runway incursions (RIs) by year



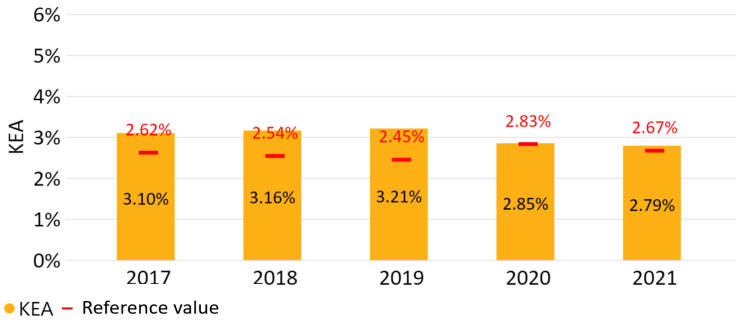
The rate of RIs per movement decreased in 2021 relative to 2020.

Use of automated safety data recording systems

Italy does not use automated safety data recording systems neither for runway incursions nor separation minima infringements.

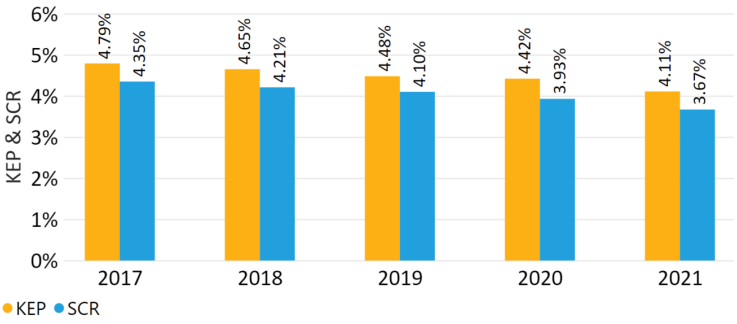
Environment

KEA performance



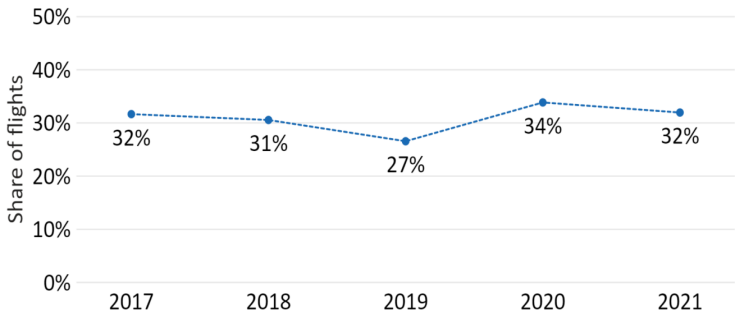
Italy did not achieve its 2021 KEA target by 0.12 percentage points, but performance improved relative to 2020.

KEP & SCR performance



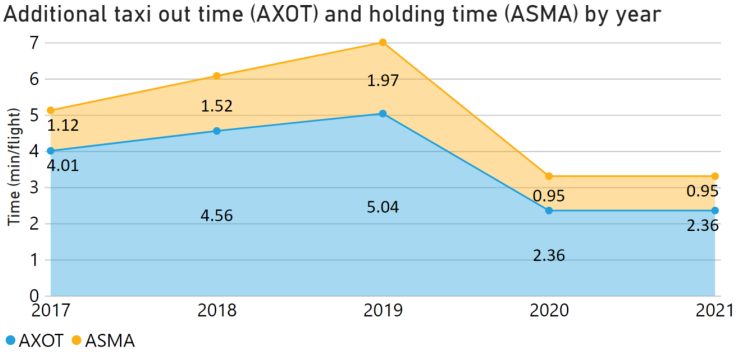
Italy made shorter constrained routes (SCR) available to airspace users in 2021, who were then able to plan shorter routes.

Share of CDO flights by year



Italy's CDO performance worsened in 2021 compared to 2020. However, it is a similar performance as achieved in the past.

Additional taxi out time (AXOT) and holding time (ASMA) by year

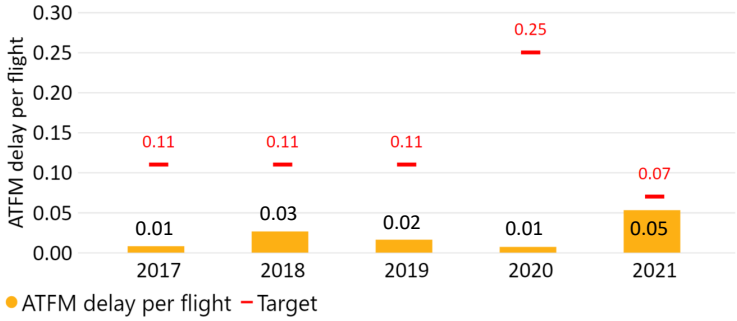


Terminal airspace users spent an additional 3.31 minutes per flight either taxiing or holding at Italian airports.

Italy Factsheet

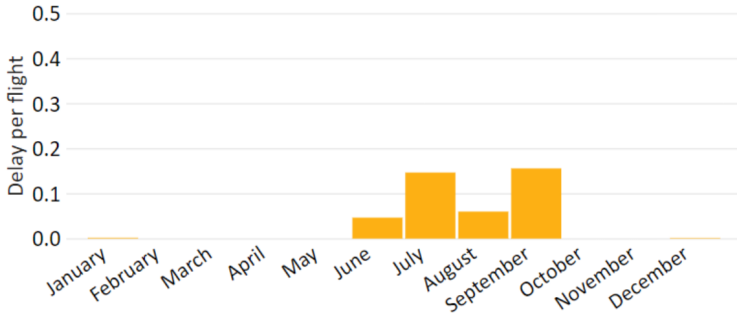
Capacity

ATFM delay per flight (min/flight)



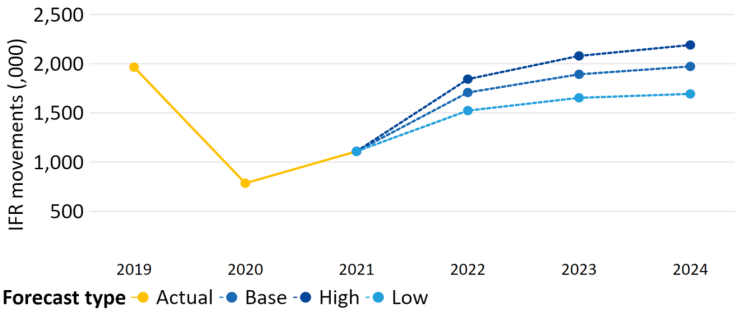
Delays increased by 0.04 minutes per flight year-on-year in 2021. Italy performed better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



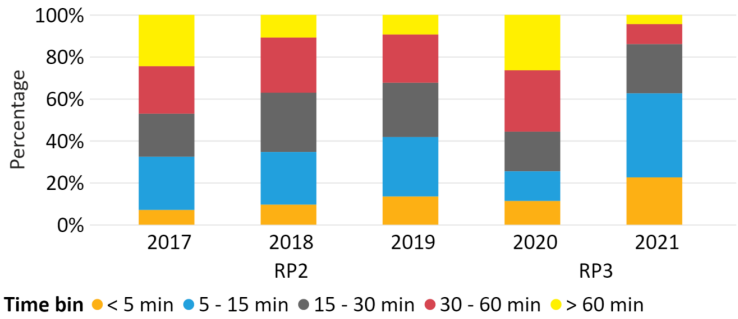
The limited ATFM delays occurred during June and September, and were driven by ATC related disruptions and adverse weather.

IFR movements and forecasts by year



IFR movements in Italy were 2% above the base scenario of the STATFOR 2021 base forecast.

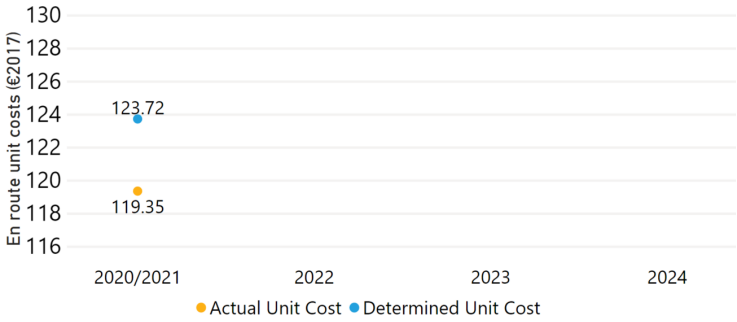
Percentage of en route delays per flight by year and time bin



There was a shift towards shorter duration delays: the share of delays longer than 15 minutes decreased by 37%.

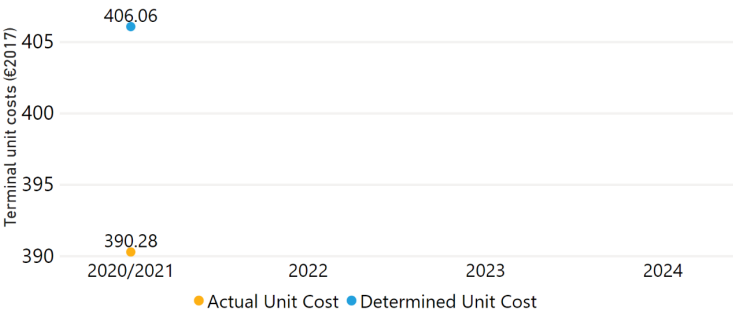
Cost-efficiency

En route actual unit cost and determined unit cost by year



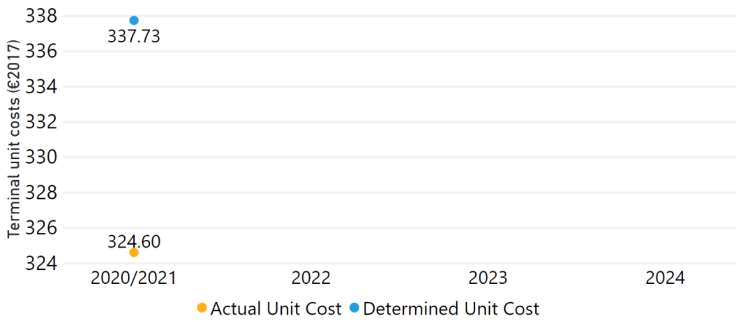
The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



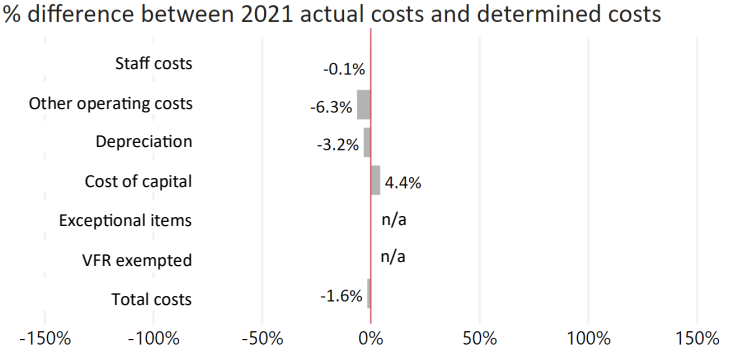
The 2020/2021 terminal zone 1 actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



The 2020/2021 terminal zone 2 actual unit cost was lower than the determined unit cost.

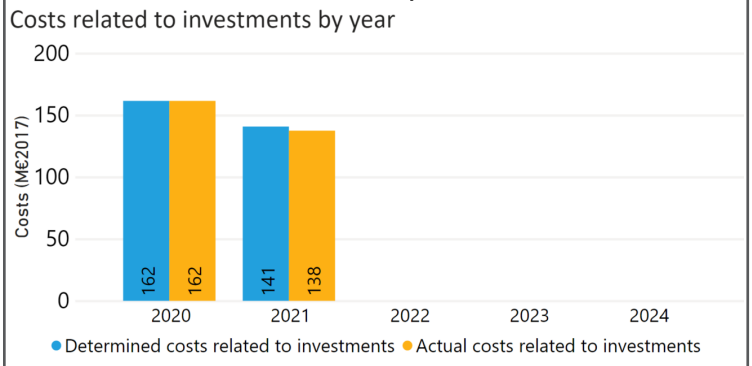
% difference between 2021 actual costs and determined costs



Despite an increase in cost of capital, 2021 total actual costs were -1.6% lower than determined.

Italy Factsheet

Cost-efficiency



ENAV 2021 costs related to investments were -2.4% lower than planned due to a reduction of the revenues through funding.

Comments from the Performance Review Body:

Safety:

- LGS achieved its RP3 EoSM targets in four out of five management objectives. LGS needs to improve in the safety risk management objective, but the achieved level is consistent with intermediate targets as per performance plan. Over 2021, LGS identified specific actions in safety risk management and assurance to align the safety management function to Regulation (EU) 2017/373.
- Latvia recorded a good performance with respect to safety risks with no separation minima infringements and no runway incursions in 2021. LSG has implemented specific measures aiming at improving safety performance including procedures, ATCO training, and specific equipment.
- LGS uses specific safety recording tools for separation minima infringements and runway incursions, being one of the few ANSPs doing so.

Environment:

- Latvia achieved a KEA performance of 1.62% compared to its target of 1.25% and did not contribute positively towards achieving the Union-wide target. KEA is at the worse levels in five years.
- The NSA states that air traffic flows and performance were impacted by inefficiencies linked to the sanctions against Belarus.
- Both KEP and SCR followed the same trend, and are at the worst levels in five years.
- The share of CDO flights has been continuously decreasing since 2017 and is currently at the lowest level in five years.
- Additional time in terminal airspace decreased by 29% in comparison to 2020, while additional taxi out time increased by 48%.

Capacity:

- Latvia registered zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.01.
- En route ATFM delays in Latvia were also near zero on average during past years.
- Traffic recovery in Latvia has continued to be impacted by the airspace closures East of the SES area and 2019 traffic levels are not likely to be reached during RP3 in any growth scenario. The number of ATCOs in OPS is planned to remain the same until the end of RP3.

Cost-efficiency:

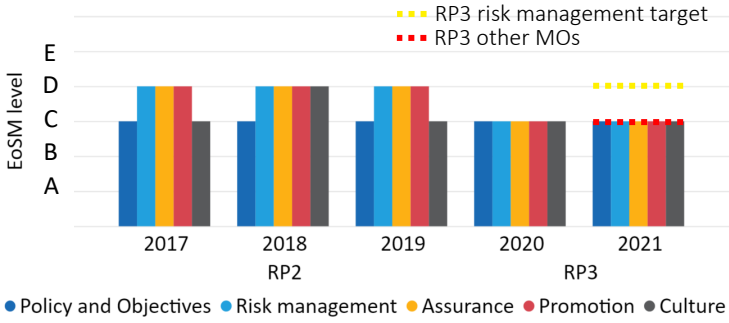
- The en route 2020/2021 actual unit cost of Latvia was 37.32€$_{2017}$, -6.9% lower than the determined unit cost (40.07€$_{2017}$). The terminal actual unit cost was 288.43€$_{2017}$, -4.2% lower than the determined unit cost (301.22€$_{2017}$).
- The en route 2021 actual service units (542K) were +4.8% higher than determined (517K).
- In 2021, actual total costs of Latvia were -1.7M€$_{2017}$ (-8.8%) lower than determined. The reduction was mainly driven by lower staff costs (-0.7M€$_{2017}$, or-6.2%) resulting from a reduction of 21 headcounts, and by lower other operating costs (-0.5M€$_{2017}$, or -13%) due to a decrease of trainings and business trips.
- LGS spent 5.7M€$_{2017}$ in 2021 related to costs of investments, -6.2% less than determined (6.0M€$_{2017}$), due to the fact that only ongoing projects proceeded as planned.
- The en route actual unit cost incurred by users in 2020/2021 was 41.61€, while the terminal actual unit cost incurred by users was 312.59€.

* There is not an approved performance plan for Latvia. This factsheet is based on information within the latest submitted draft performance plan.

Latvia Factsheet

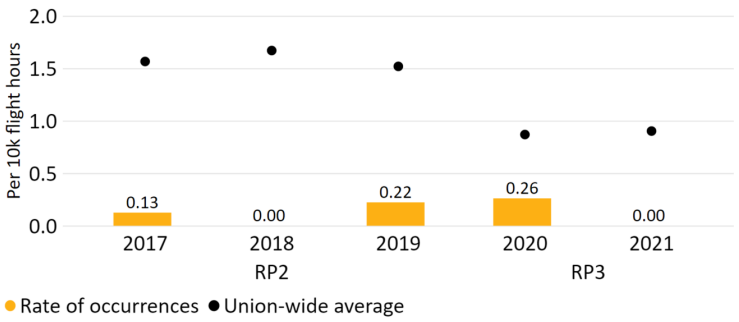
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



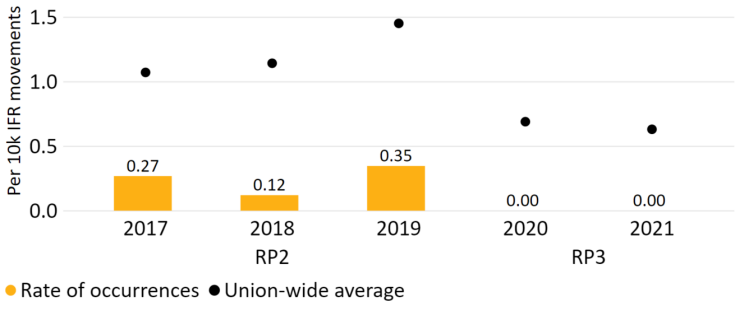
LGS did not achieve the target for safety risk management but achieved the targets for all other safety management objectives.

Rate of separation minima infringement (SMI) by year



Latvia did not record any SMIs in 2021.

Rate of runway incursions (RIs) by year



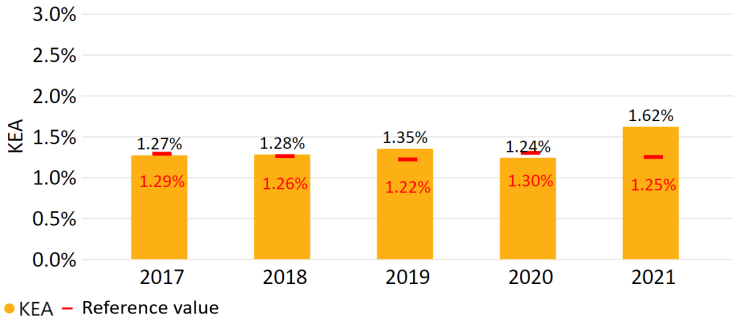
Latvia did not record any RIs in 2021.

Use of automated safety data recording systems

Latvia uses the automated safety data recording systems for runway incursions and separation minima infringements.

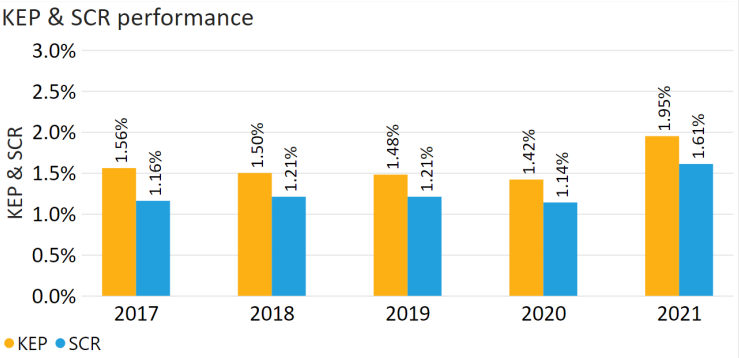
Environment

KEA performance



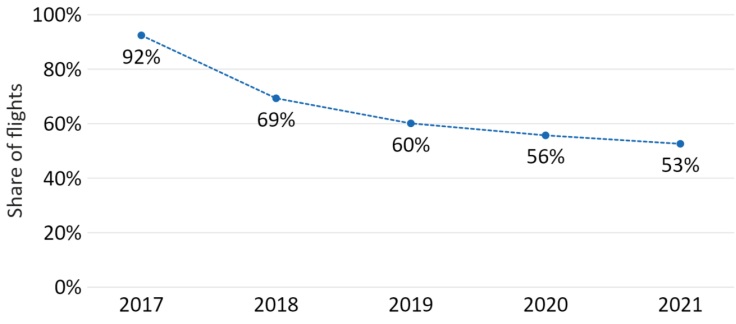
Latvia did not achieve its 2021 KEA target by 0.37 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



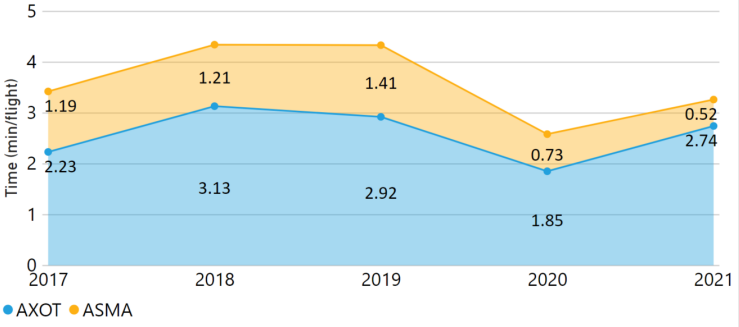
Latvia did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

Share of CDO flights by year



Latvia's CDO performance worsened in 2021 compared to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

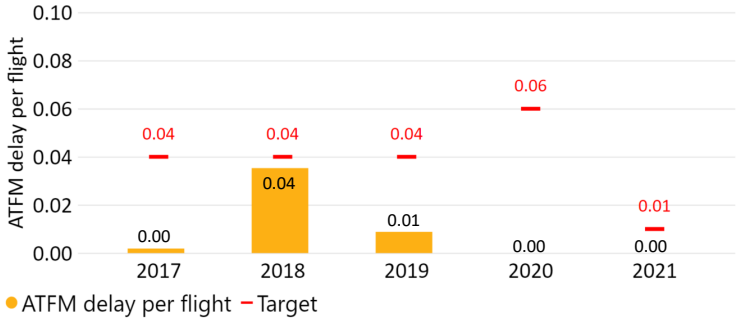


Terminal airspace users spent an additional 3.26 minutes per flight either taxiing or holding at Riga airport.

Latvia Factsheet

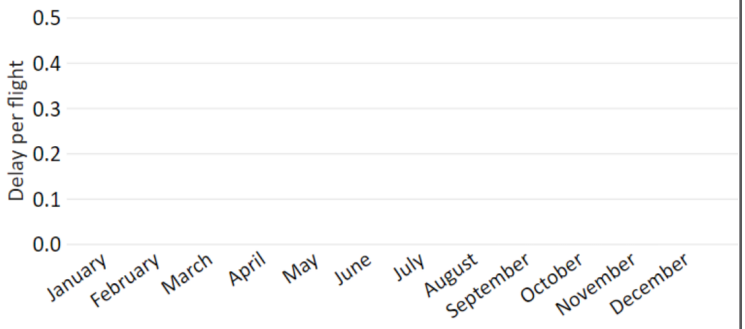
Capacity

ATFM delay per flight (min/flight)



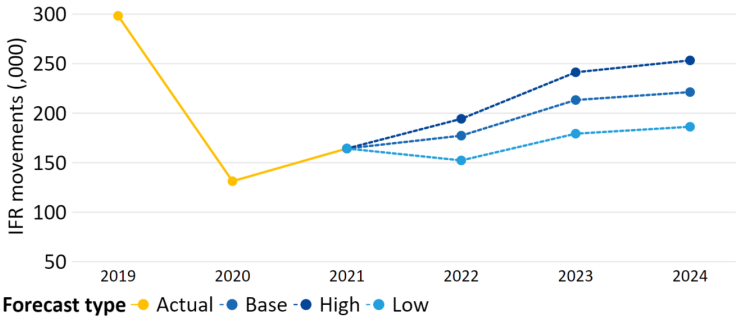
Latvia recorded zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



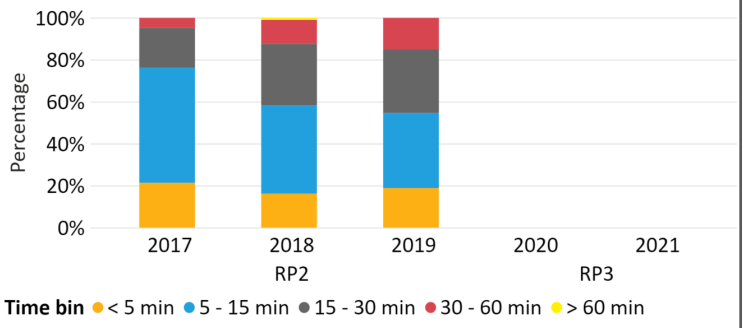
The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Latvia were 15% above the high scenario of the STATFOR 2021 base forecast.

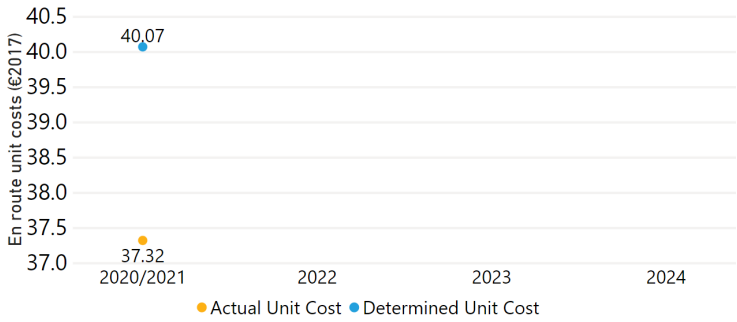
Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

En route actual unit cost and determined unit cost by year

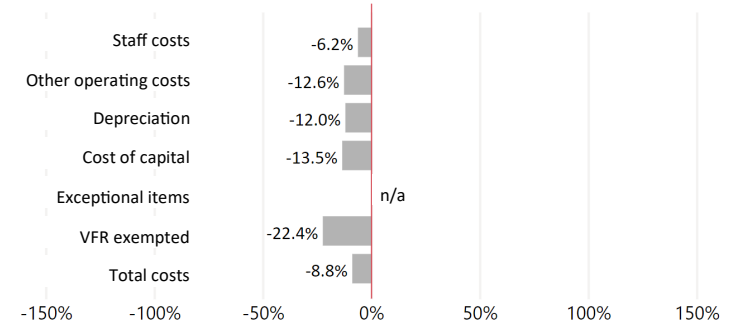


The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

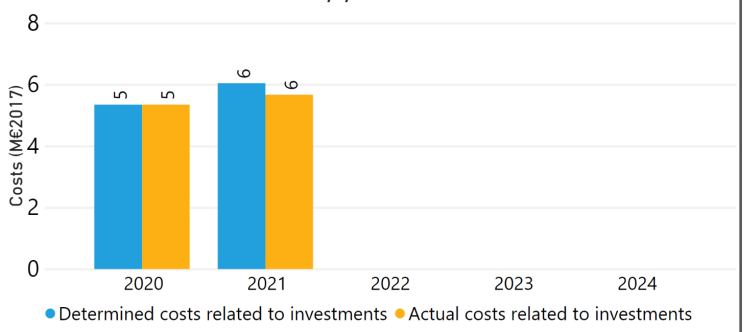
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



Latvia decreased all costs categories in 2021 compared to determined costs.

Costs related to investments by year



LGS investment costs were -6.2% less than determined, due to only ongoing projects that have proceeded as planned.

Comments from the Performance Review Body:

Safety:

- SE Oro Navigacjia, that achieved the EoSM targets in 2020, demonstrated good safety performance and continued safety improvements over 2021. SE Oro Navigacjia exceeded the RP3 EoSM targets in safety policy and objectives, safety promotion and culture. The recent audit of the safety function confirmed the efficiency of the measures undertaken to align the ANSP safety management function to the Regulation (EU) 2017/373.
- Lithuania recorded a good performance with respect to safety risks with no separation minima infringements and no runway incursions reported in 2021. The safety occurrences are closely monitored against acceptable and tolerated levels of safety adopted by Lithuania for 2017-2021.
- SE Oro Navigacjia should improve its safety management by implementing automated safety data recording systems.

Environment:

- Lithuania achieved a KEA performance of 3.01% compared to its target of 1.93% and did not contribute positively towards achieving the Union-wide target. KEA worsened by 58% in comparison to 2020.
- SCR and KEP worsened by 46% and 58% respectively compared to 2020.
- Lithuania states that performance in 2021 was significantly affected by the consequences of an incident in Belarus airspace in May 2021, leading to EU carriers avoiding their airspace since.
- The NSA also highlights that Lithuania's geographical location (neighbouring Kaliningrad and Belarus) is a barrier to environmental performance.
- Lithuania has no airports that are regulated under the RP3 performance and charging scheme.

Capacity:

- Lithuania registered zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.01.
- En route ATFM delays in Lithuania were also zero on average during the past years.
- Traffic recovery in Lithuania has been slow and with the airspace closures East of the SES area and the 2019 levels are not likely to be reached during RP3 in any growth scenario. The number of ATCOs in OPS is planned to increase slightly by the end of RP3.

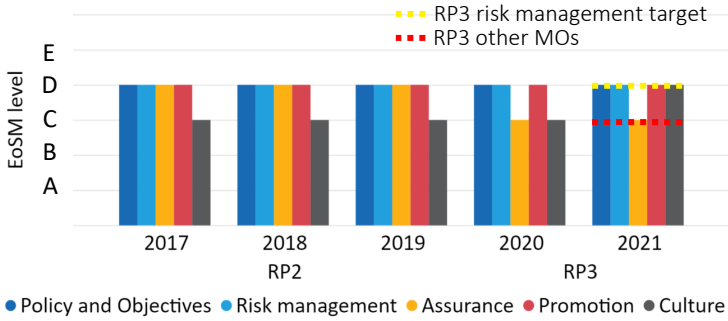
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Lithuania was 49.75€$_{2017}$, slightly lower (-1.5%) than the determined unit cost (50.51€$_{2017}$). Lithuania does not have a terminal charging zone.
- The en route 2021 actual service units (443K) were +4.2% higher than determined (425K).
- In 2021, actual total costs were +0.3M€$_{2017}$ (+1.6%) higher compared to determined cost. The NSA explains that the increases are due to a rise in flow of overflights in June 2021 impacting the application of cost-allocation principles.
- However, the increases were partially offset by a non-planned negative amount in exceptional items (-0.2M€$_{2017}$), being the result of a property revaluation in the end of 2021.
- SE Oro Navigacija spent 4.0M€$_{2017}$ in 2021 related to costs of investments, +3.3% higher than determined (3.9M€$_{2017}$). The difference was due to both a slight increase of net book value of fixed assets, and the application of cost-allocation principles.
- The en route actual unit cost incurred by users in 2020/2021 was 52.59€.

Lithuania Factsheet

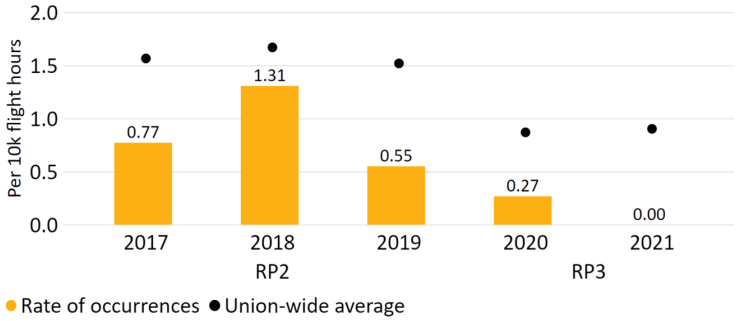
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



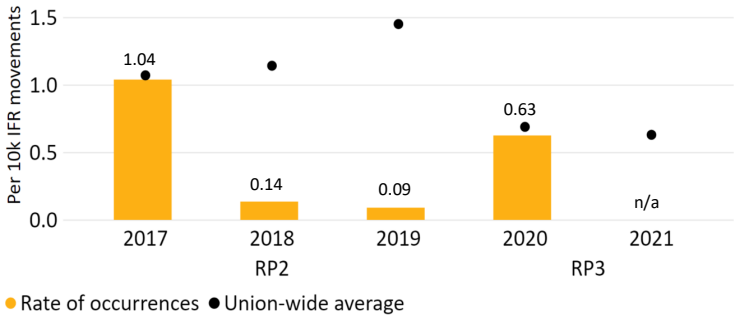
SE Oro Navigacija exceeded the EoSM targets in 2021 in advance of the performance plan.

Rate of separation minima infringement (SMI) by year



Lithuania did not record any SMIs in 2021.

Rate of runway incursions (RIs) by year



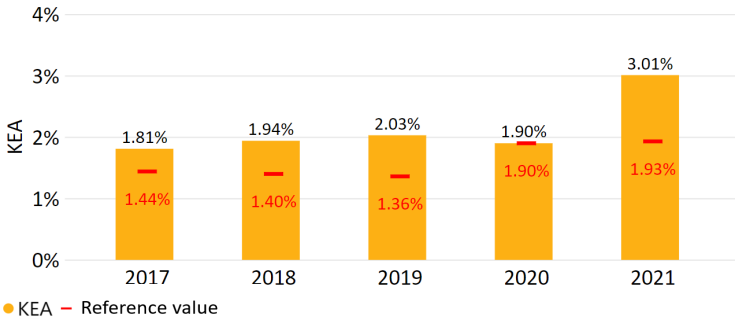
Lithuania is not obliged to report RIs as no airport is regulated under the performance and charging scheme.

Use of automated safety data recording systems

Lithuania does not use automated safety data recording systems.

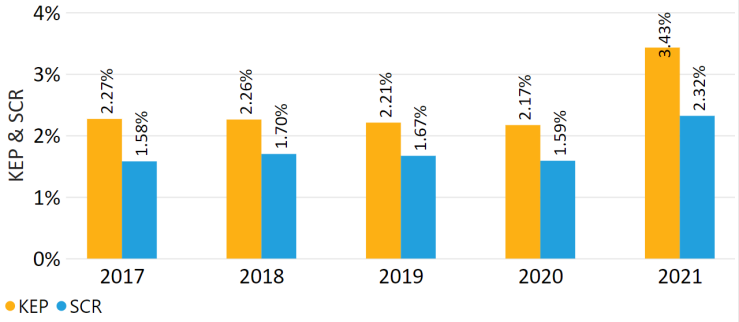
Environment

KEA performance



Lithuania did not achieve its 2021 KEA target by 1.08 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



Lithuania did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

No Lithuanian airport is regulated under the performance and charging scheme.

Lithuania did not declare any of its airports as subject to the performance and charging Regulation.

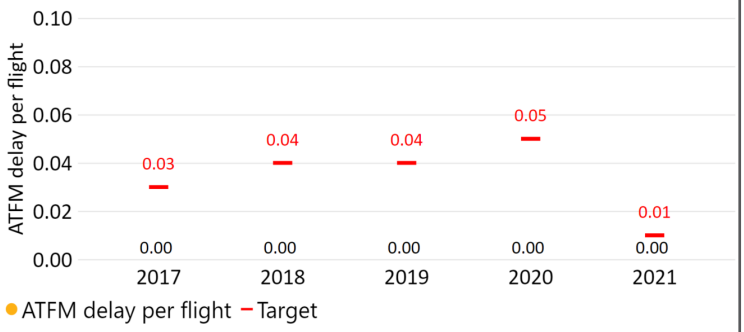
No Lithuanian airport is regulated under the performance and charging scheme.

Lithuania did not declare any of its airports as subject to the performance and charging Regulation.

Lithuania Factsheet

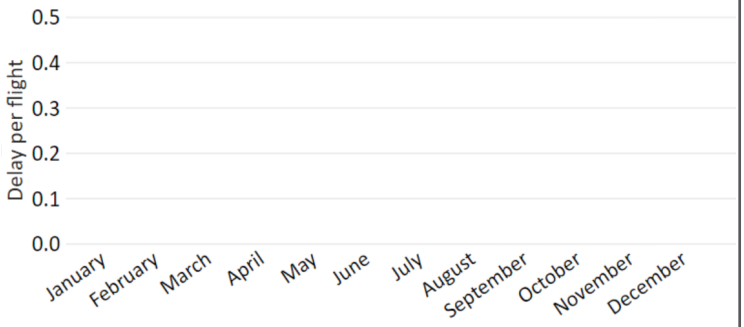
Capacity

ATFM delay per flight (min/flight)



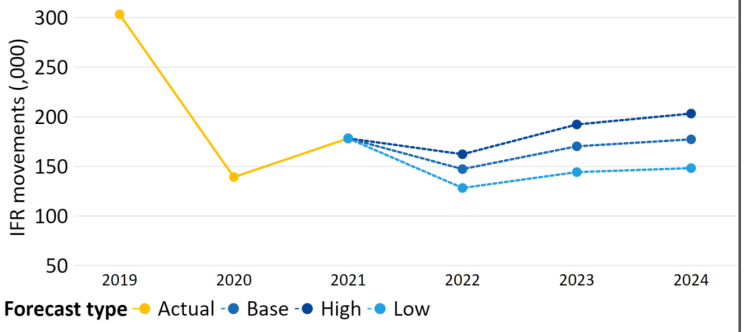
Lithuania recorded zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



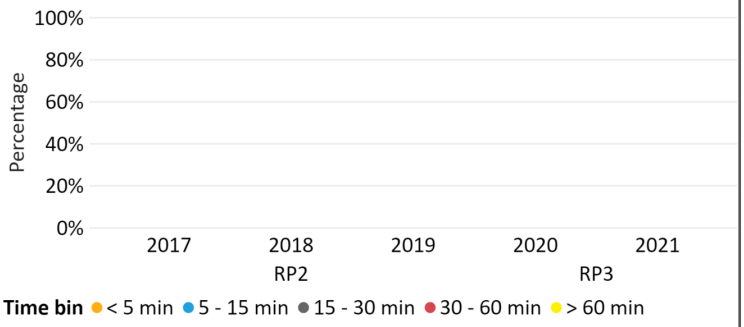
The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Lithuania were 11% above the high scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

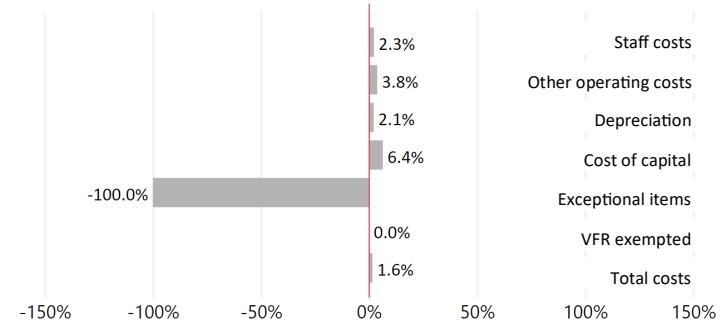
En route actual unit cost and determined unit cost by year

The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Lithuania does not have a terminal charging zone.

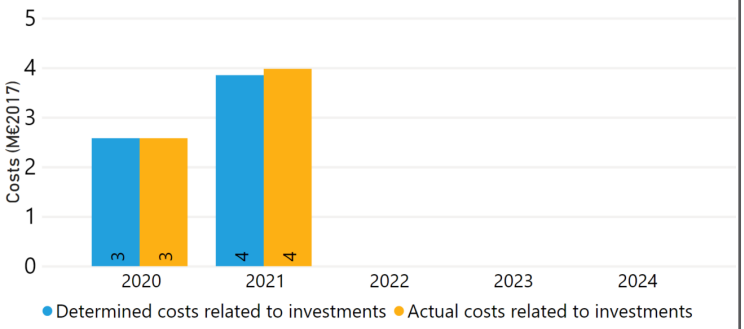
Lithuania did not declare any terminal charging zones as subject to the performance and charging Regulation.

% difference between 2021 actual costs and determined costs



In 2021, total costs increase (+1.6%) has been partially offset by a negative amount in exceptional items.

Costs related to investments by year



SE Oro Navigacija 2021 costs related to investments were +3.3% higher than planned.

Comments from the Performance Review Body:

Safety:

- MATS, that achieved the EoSM targets in 2020, demonstrated good safety performance and continued safety improvements over 2021. MATS exceeded the RP3 EoSM target in safety culture.
- Malta's runway incursion rate increased in 2021, which can be explained by the large increase in general aviation traffic. Specific mitigation actions were identified for the aerodrome users and ATCOs including constant monitoring, investigations, and ATCOs briefings to mitigate the risks and ensure that the occurrences are maintained at safe level.
- MATS should improve its safety management by implementing automated safety data recording systems.

Environment:

- Malta achieved a KEA performance of 3.11% compared to its target of 1.82% and did not contribute positively towards achieving the Union-wide target. Performance worsened by 23% compared to 2020.
- The NSA states that the KEA deterioration is caused by changes in traffic flow and intensity and by new data reported to the Network Manager by Turkey (affecting origin and destination considered for the calculation).
- However, the case of Turkish data reported to the Network Manager occurred in 2019. The effect was not restricted to Malta.
- Both KEP and SCR have been degrading since 2017 and are now the worst in five years.
- The share of CDO flights has remained similar over the last five years.
- Additional taxi out time and additional time in terminal airspace increased in comparison to 2020, but are still lower than pre-pandemic years.

Capacity:

- Malta registered zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.01.
- En route ATFM delays in Malta were also zero on average during the past years.
- Traffic is expected to grow, with 2019 levels likely being reached in 2023 (in high and base growth scenarios). A significant increase in the number of ATOCs in OPS is planned by 2022, no capacity issues are foreseen.

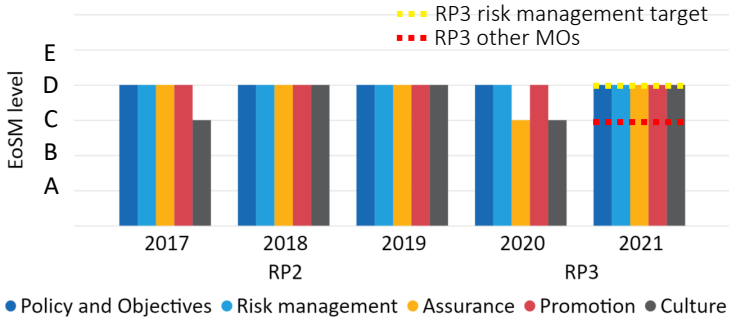
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Malta was 43.63€$_{2017}$, slightly lower (-1.0%) than the determined unit cost (44.08€$_{2017}$). The terminal actual unit cost was 275.44€$_{2017}$, -8.4% lower than the determined unit cost (300.69€$_{2017}$).
- The en route 2021 actual service units (504K) were -4.6% lower than determined (528K).
- In 2021, actual total costs of Malta were -1.5M€$_{2017}$ (-6.9%) lower compared to determined. The reduction was mainly driven by -0.5M€$_{2017}$ lower other operating costs (-6.8%), and -0.8M€$_{2017}$ lower depreciation costs (-31%). The NSA did not provide explanations for the variations of costs.
- MATS spent 2.8M€$_{2017}$ in 2021 related to costs of investments, significatively lower (-28%) than determined (3.9M€$_{2017}$), due to both a reduction on depreciation and cost of capital.
- The en route actual unit cost incurred by users in 2020/2021 was 44.79€, while the terminal actual unit cost incurred by users was 305.05€.

Malta Factsheet

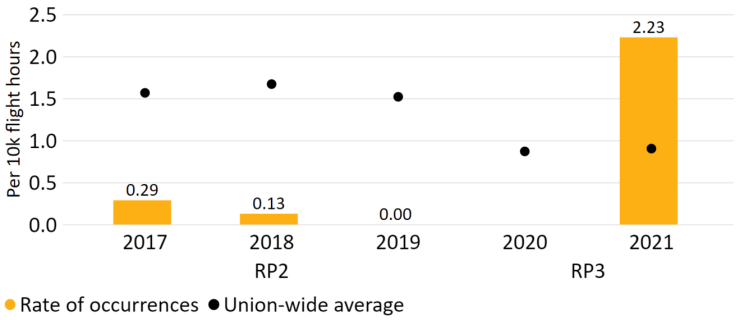
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



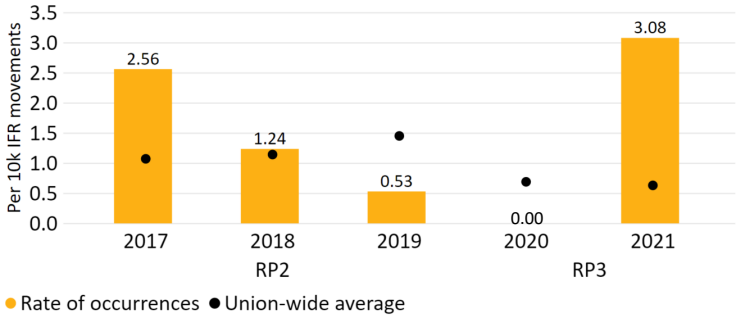
Malta (MATS) exceeded the targets achieving level D in all five management objectives.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour increased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



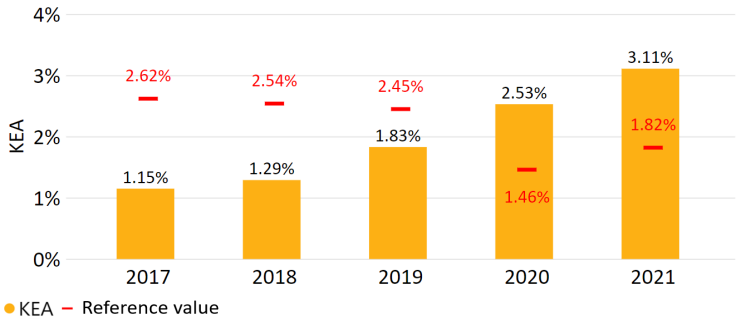
The rate of RIs per movement increased in 2021 relative to 2020.

Use of automated safety data recording systems

Malta does not use automated safety data recording systems.

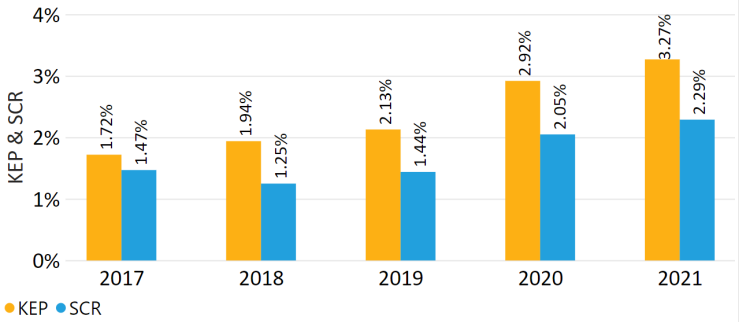
Environment

KEA performance



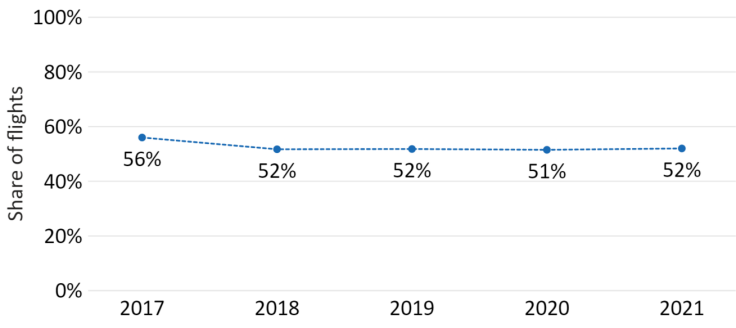
Malta did not achieve its 2021 KEA target by 1.29 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



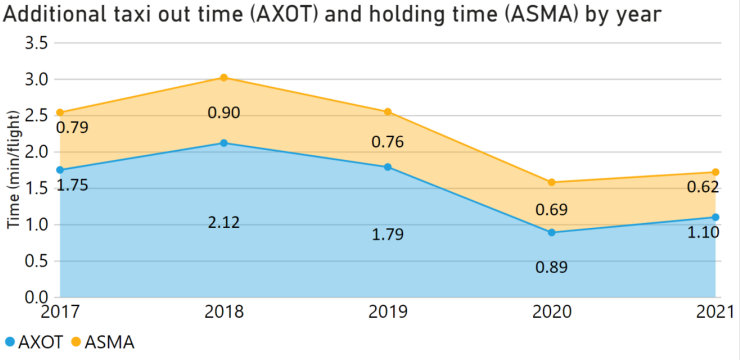
Malta did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

Share of CDO flights by year



The share of flights conducting CDO at Malta International Airport remained stable in 2021 compared to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

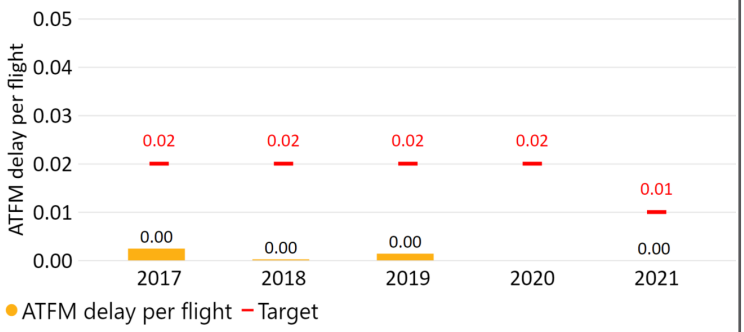


Terminal airspace users spent an additional 1.72 minutes per flight either taxiing or holding at Malta International Airport.

Malta Factsheet

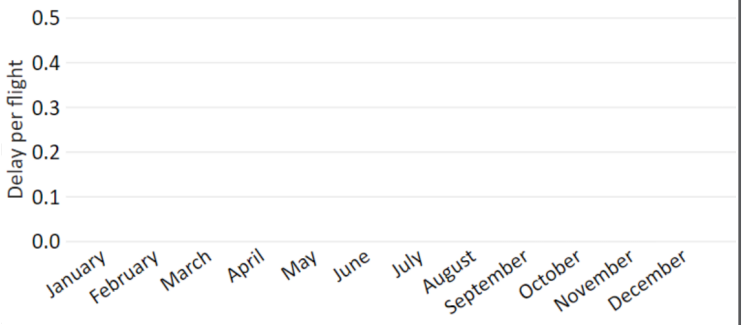
Capacity

ATFM delay per flight (min/flight)



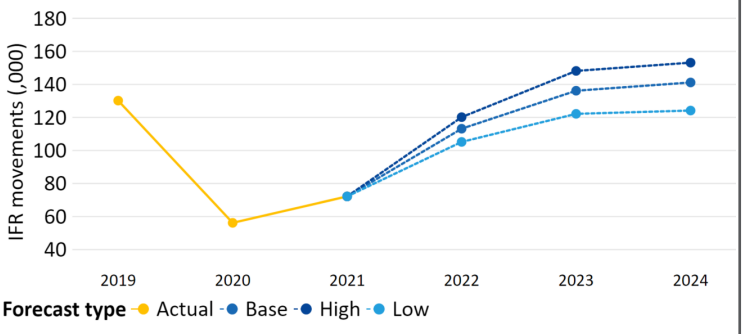
Malta recorded zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



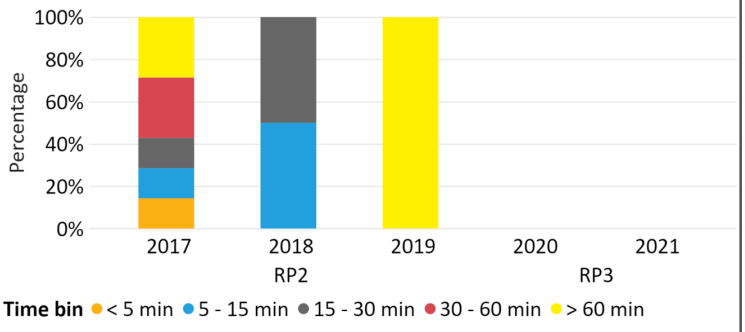
The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Malta were 4% below the low scenario of the STATFOR 2021 base forecast.

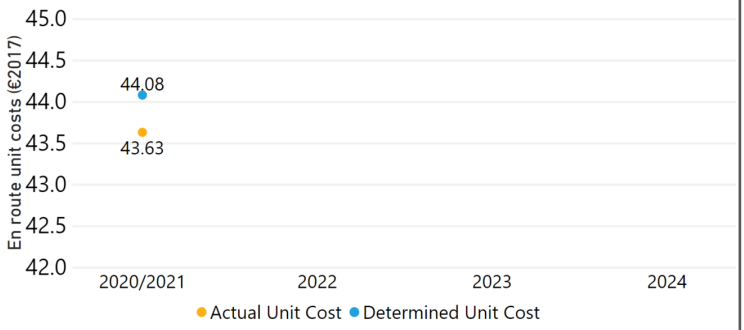
Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

En route actual unit cost and determined unit cost by year

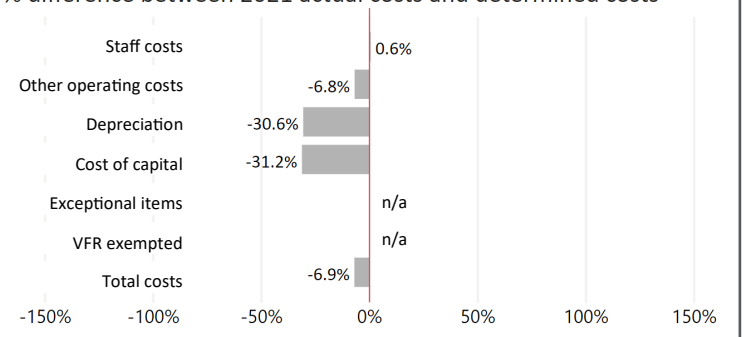


The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

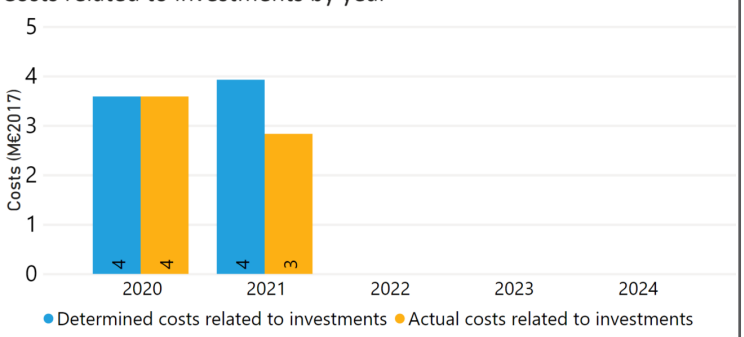
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



Malta decreased all cost categories in 2021, except staff costs.

Costs related to investments by year



MATS 2021 costs related to investments were -28% lower than planned.

Comments from the Performance Review Body:

Safety:

- LVNL has improved its safety performance reaching level D in safety risk management, and achieving the EoSM targets in 2021. Specific measures were implemented ensuring continuous safety improvements (annual update of safety manual, establishment of a risk-based safety plan, and update of safety risk target document and corresponding unit safety case).
- MUAC has continued demonstrating good safety performance and maintained the safety levels achieved in the previous year, remaining at the EoSM target levels.
- The Netherlands recorded a decrease in the rate of both separation minima infringements and runway incursions in 2021 relative to 2020. Nevertheless, LVNL has the highest rate of SMIs at 49.9 SMIs per 100,000 flight hours. The rate has experienced an increase of 31.7% with respect to 2020. LVNL should continue assessing occurrences and risk mitigate them according to their SMS, if necessary.
- LVNL should improve its safety management by implementing automated safety data recording systems for runway incursions.

Environment:

- The Netherlands achieved a KEA performance of 2.73% compared to its target of 2.63% and did not contribute positively towards achieving the Union-wide target. KEA deteriorated by 0.1 percentage points.
- FABEC states that for the Netherlands it would appear that the national contribution to the FABEC target is challenging but feasible. It is also mentioned that performance is susceptible to disturbances, e.g. weather conditions.
- Both KEP and SCR values have worsened and are at their highest values in five years.
- The share of CDO operations is lower compared to 2020, but higher than pre-pandemic levels.
- Additional time in terminal airspace decreased from 1.02 to 0.86min/flight, while additional taxi out time increased from 1.78 to 2.19 min/flight.

Capacity:

- The Netherlands registered 0.04 minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.06.
- Delays should be considered in the context of lower traffic: in the Netherlands, IFR movements in 2021 were 51% lower than in 2019.
- Amsterdam ACC accumulated 0.08 minutes of en route delay which exceeded the ACC reference value of 0.06. The NSA reported that this has been caused by changing traffic patterns around Amsterdam-Schipol airport.
- Traffic is expected to grow, with 2019 levels likely being reached in 2023 in high growth scenario while expected to remain below 2019 levels in base growth scenario. A slight decrease in the number of ATCOs in OPS is planned by the end of RP3.

Cost-efficiency:

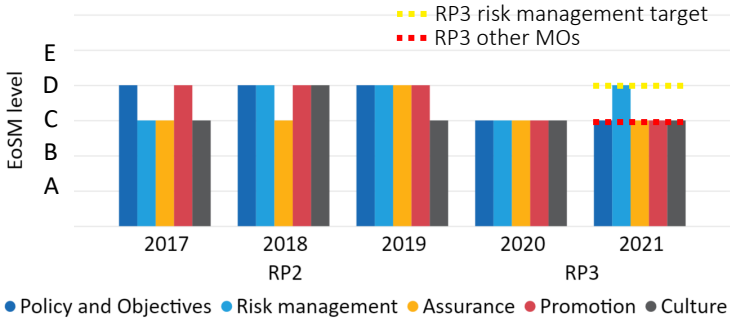
- The en route 2020/2021 actual unit cost of the Netherlands was 147.06€$_{2017}$, -3.1% lower than the determined unit cost (151.70€$_{2017}$). The terminal actual unit cost was 293.15€$_{2017}$, -1.8% lower than the determined unit cost (298.57€$_{2017}$).
- The en route 2021 actual service units (1,565K) were +3.3% higher than determined (1,515K).
- In 2021, actual total costs were -6.5M€$_{2017}$ (-2.9%) lower compared to determined, with all cost categories being lower. The reduction was mainly driven by -3.6M€$_{2017}$ lower staff costs (-2.6%) driven by a freeze in salaries, and other operating costs (-1.8M€$_{2017}$, or -2.7%) due to cost containment measures.
- LVNL spent 21.3M€$_{2017}$ in 2021 related to costs of investments, -3.9% less than determined (22.2M€$_{2017}$), due to the postponement and delays of some investment projects due to COVID-19.
- The en route actual unit cost incurred by users in 2020/2021 was 151.58€, while the terminal actual unit cost incurred by users was 301.50€.

* There is not an approved performance plan for FABEC. This factsheet is based on information within the latest submitted draft performance plan.

The Netherlands Factsheet

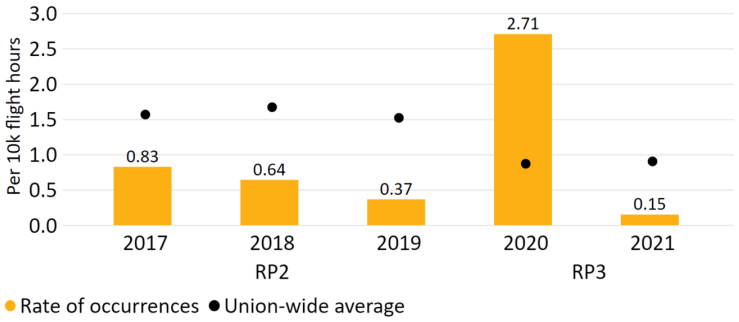
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



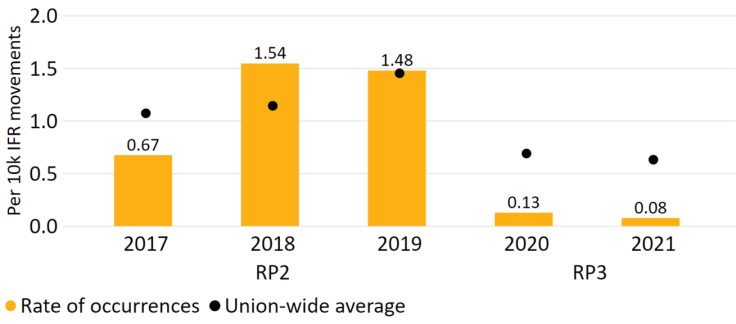
LVNL achieved the targets in 2021 as planned in the performance plan.

Rate of separation minima infringement (SMI) by year



The Netherlands reported a decrease in rate of separation SMIs in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



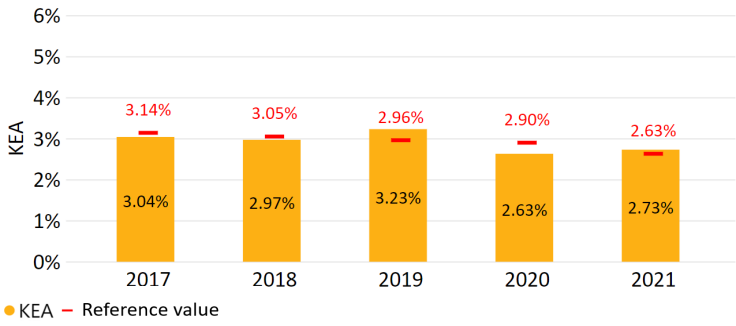
The rate of RIs decreased in 2021 relative to 2020. The rate is below the Union-wide average rate.

Use of automated safety data recording systems

The Netherlands (MUAC and LVNL) uses the automated safety data recording systems for separation minima infringements.

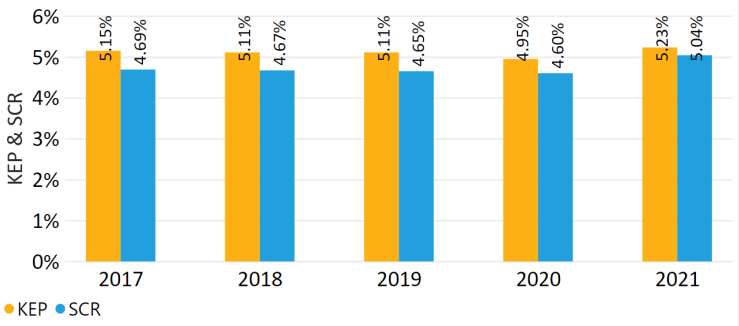
Environment

KEA performance



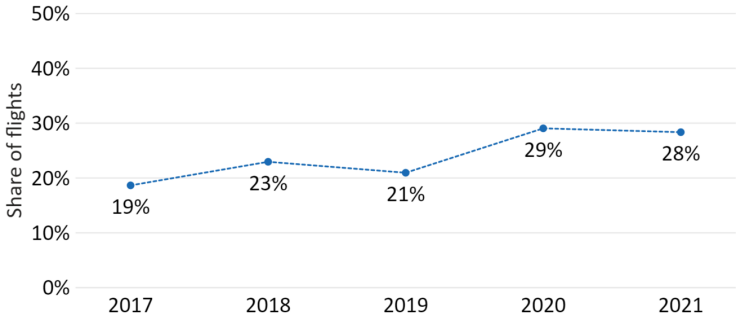
The Netherlands did not achieve its 2021 KEA target by 0.1 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



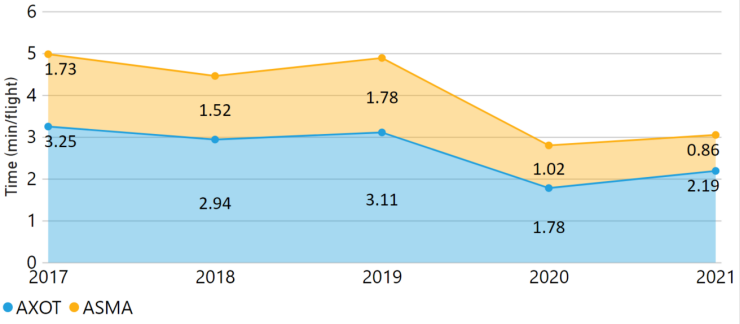
The Netherlands did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

Share of CDO flights by year



The Netherlands' CDO performance worsened in 2021 compared to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

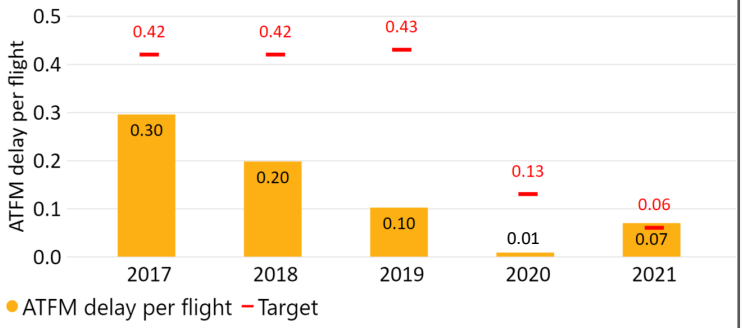


Terminal airspace users spent an additional 3.05 minutes per flight either taxiing or holding at Amsterdam airport.

The Netherlands Factsheet

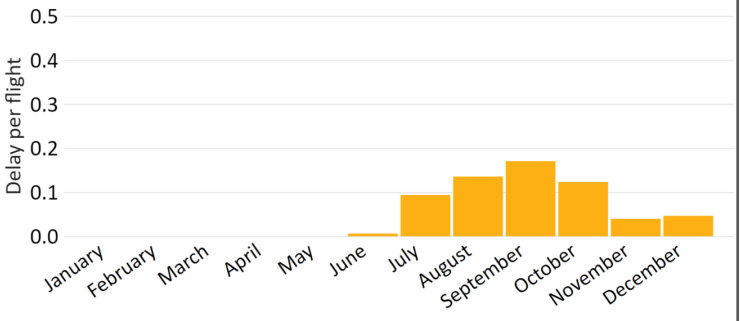
Capacity

ATFM delay per flight (min/flight)



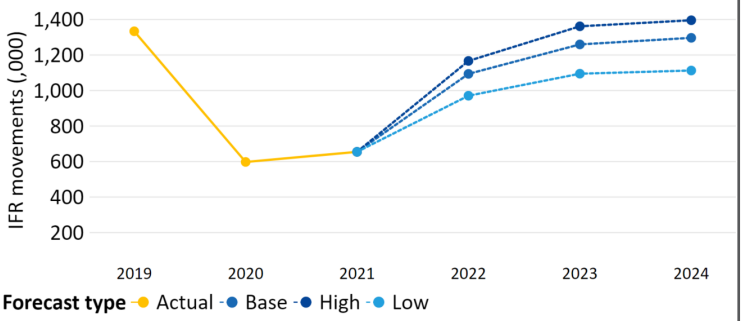
Delays in the Netherlands increased year-on-year by 0.06 in 2021. It performed better than the local breakdown value in 2021.

Monthly ATFM delay per flight (min/flight) in 2021



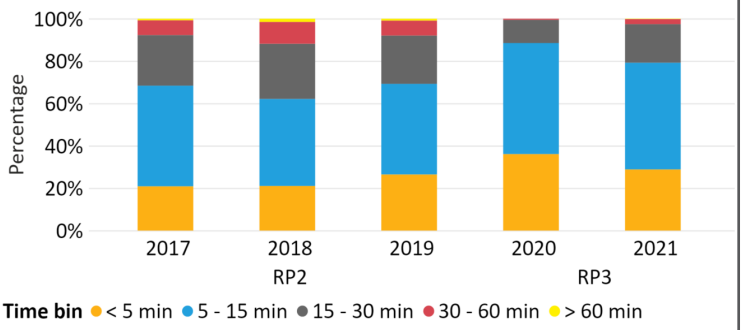
Most of the delays occurred between July and October, and were driven by ATC capacity. Weather was also a significant driver.

IFR movements and forecasts by year



IFR movements in the Netherlands were 1% above the base scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



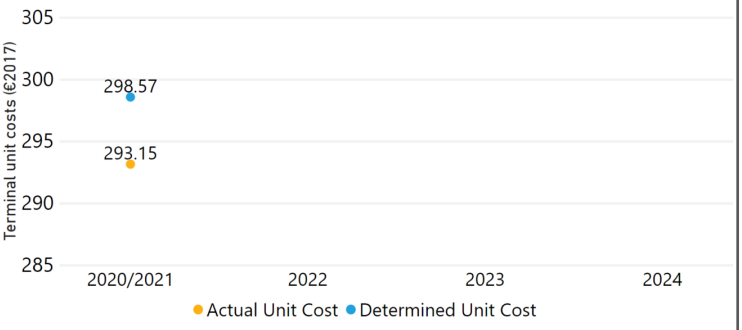
There were longer duration delays: share of delays longer than 15 minutes increased by eight percentage points year-on-year.

Cost-efficiency

En route actual unit cost and determined unit cost by year

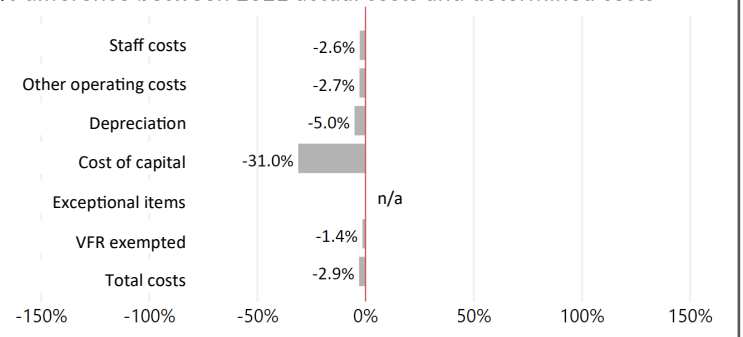
The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



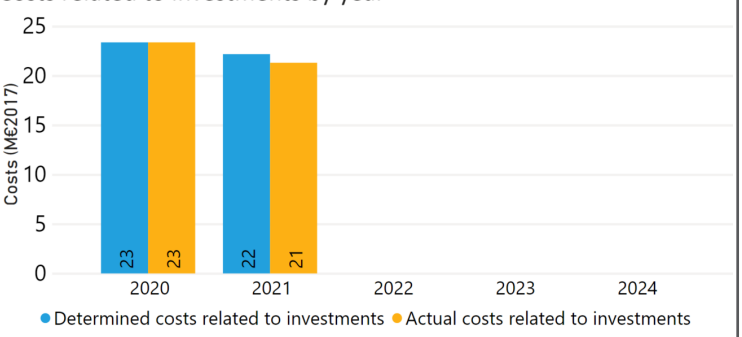
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



The Netherlands decreased all costs categories in 2021 compared to determined cost.

Costs related to investments by year



LVNL 2021 costs related to investments were -3.9% lower than planned due to the postponement and delays in some projects.

Comments from the Performance Review Body:

Safety:

- Avinor ANS continued demonstrating good safety performance and maintained the safety levels achieved in 2020, remaining at the EoSM target levels. Avinor ANS undertook significant initiatives in the area of performance monitoring and safety culture to ensure continuous improvement of safety management function.
- Norway recorded an increase in the rate of runway incursions but a decrease of the rate of separation minima infringements in 2021 relative to 2020. Both rates are higher than the respective Union-wide average rate. Of the airports with more than 80,000 movements, Gardermoen has the second highest rate of RIs at 6.4 per 100,000 movements. Avinor ANS should consider looking into the reasons contributing to this rate and take appropriate mitigating actions, if necessary.
- Avinor ANS should improve its safety management by implementing automated safety data recording systems.

Environment:

- Norway achieved a KEA performance of 1.34% compared to its target of 1.55% and contributed positively towards achieving the Union-wide target. KEA improved by 12% compared to 2020.
- Norway further improved KEP and SCR values, which are now similar to each other meaning airlines plan efficient routes.
- The share of CDO flights improved by two percentage points from 2020 and is currently at 70%.
- Additional time in terminal airspace was reduced by 17% in comparison to 2020, while additional taxi out time increased by 7%.

Capacity:

- Norway registered near zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.06.
- En route ATFM delays in Norway were also near zero on average during the past years.
- Traffic is expected to grow, with 2019 levels likely being reached in 2023 in high growth scenario but expected to remain below 2019 levels in base growth scenarios. A slight increase in the number of ATCOs in OPS is planned in Bodo ACC with a more significant increase in Oslo and Stavanger ACCs by the end of RP3.

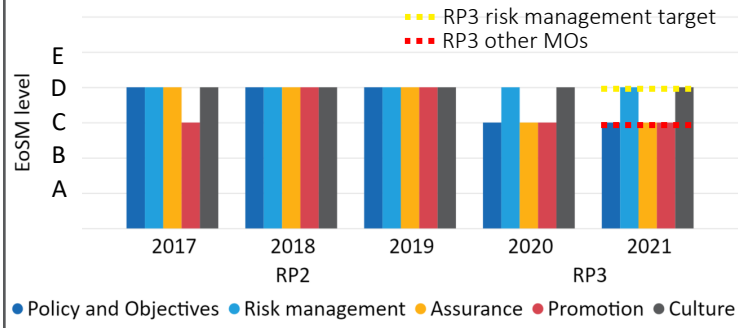
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Norway was 83.07€$_{2017}$, -1.8% lower than the determined unit cost (84.59€$_{2017}$). The terminal actual unit cost was 305.85€$_{2017}$, +1.2% higher than the determined unit cost (302.34€$_{2017}$).
- The en route 2021 actual service units (1,445K) were +2.8% higher than determined (1,407K).
- In 2021, actual total costs were -0.8M€$_{2017}$ (-0.7%) lower compared to determined costs. The reduction was mainly driven by -1.0M€$_{2017}$ lower staff costs (-1.4%), and -0.8M€$_{2017}$ lower depreciation costs (-5.9%) mainly due the decommissioning of radar components.
- Avinor ANS spent 20.6M€$_{2017}$ in 2021 related to costs of investments, +1.9% higher than the determined (20.3M€$_{2017}$), caused by a higher net book value than planned, specifically due to the increase of investment in a new ATM-system.
- The en route actual unit cost incurred by users in 2020/2021 was 48.11€, while the terminal actual unit cost incurred by users was 159.82€.

Norway Factsheet

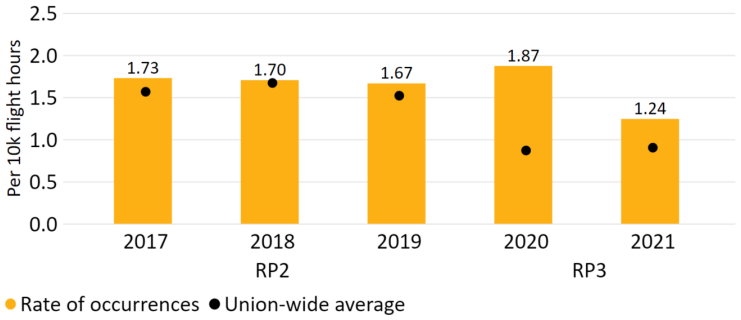
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



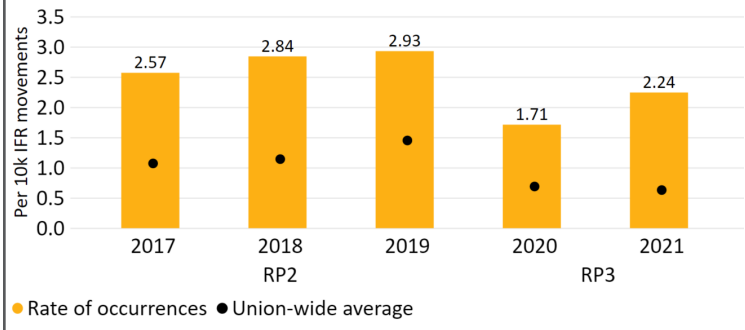
Avinor exceeded the targets in one management area.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour decreased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



The rate of RIs per movement increased in 2021 relative to 2020.

Use of automated safety data recording systems

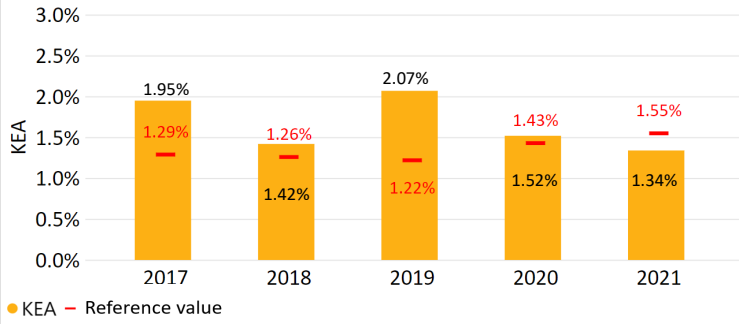
For RIs

For SMIs

Norway does not use automated safety data recording systems.

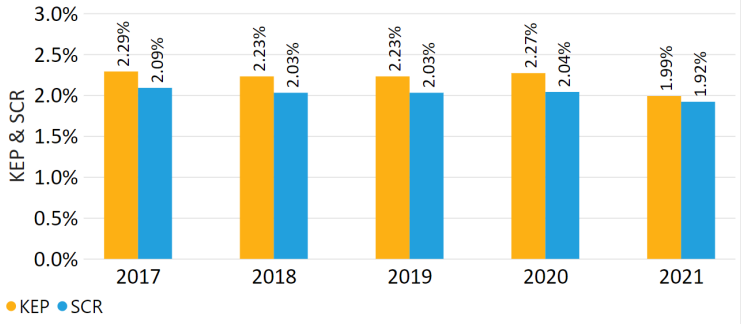
Environment

KEA performance



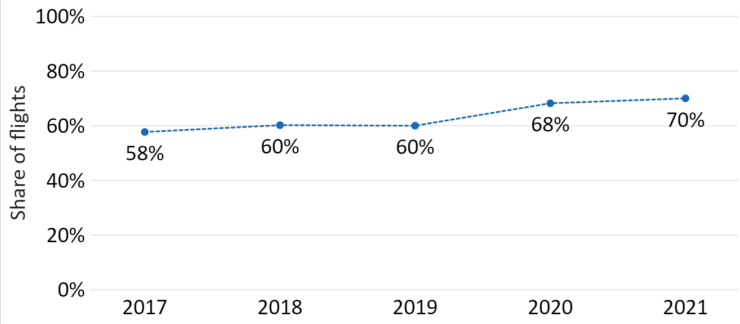
Norway achieved its 2021 KEA target by 0.21 percentage points, and performance improved relative to 2020.

KEP & SCR performance



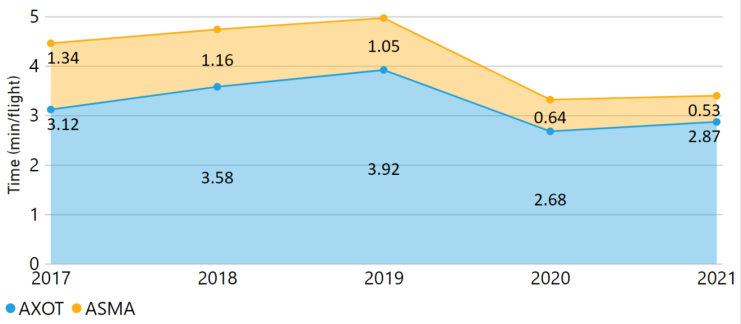
Norway made shorter constrained routes (SCR) available to air-space users in 2021, who were then able to plan shorter routes.

Share of CDO flights by year



Norway improved its CDO performance in 2021 to the best level for five years.

Additional taxi out time (AXOT) and holding time (ASMA) by year

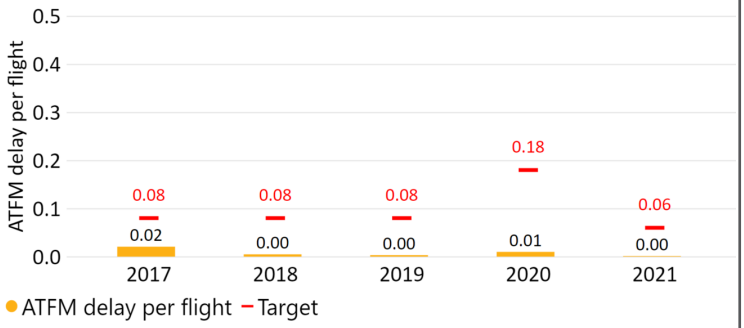


Terminal airspace users spent an additional 3.40 minutes per flight either taxiing or holding at Oslo airport.

Norway Factsheet

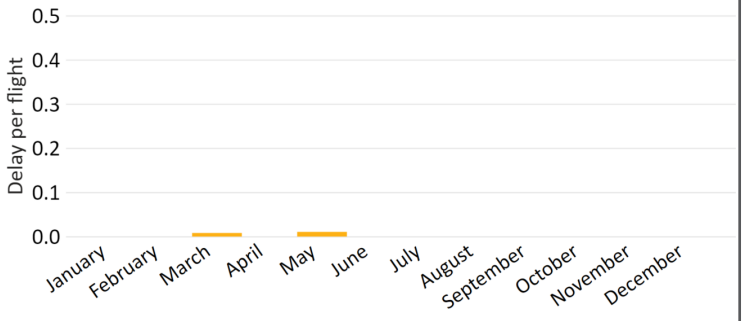
Capacity

ATFM delay per flight (min/flight)



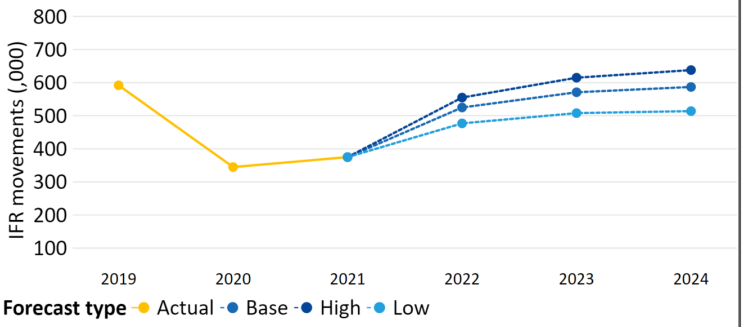
Norway recorded near zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



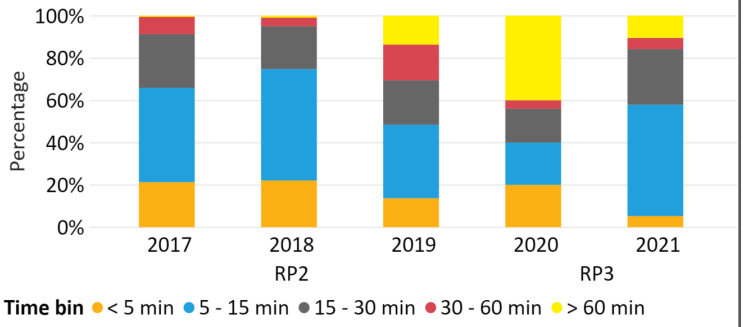
The very limited delays occurred during March and May and were caused by ATC related disruptions.

IFR movements and forecasts by year



IFR movements in Norway were 4% above the high scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



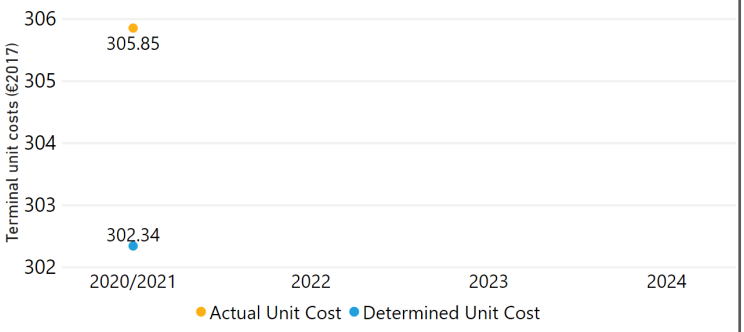
The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

En route actual unit cost and determined unit cost by year

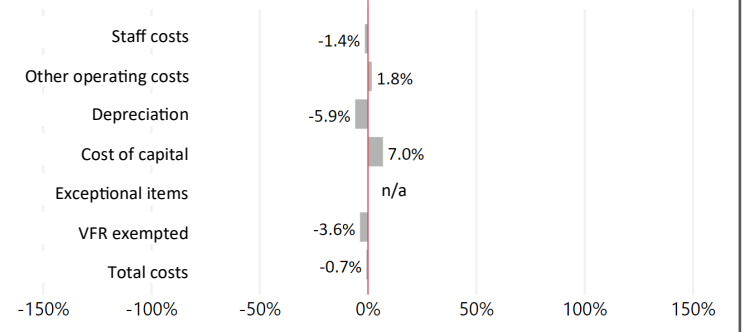
The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



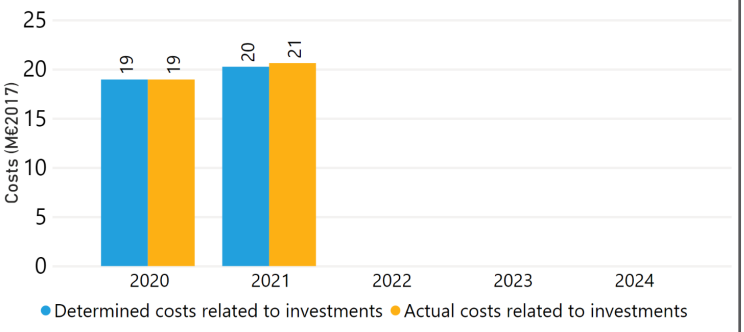
The 2020/2021 terminal determined unit cost was lower than the actual unit cost.

% difference between 2021 actual costs and determined costs



In 2021, the decrease of staff and depreciation costs was partially offset by the increase in cost of capital and operating costs.

Costs related to investments by year



Avinor ANS 2021 investment costs were +1.9% higher than determined due to an increase of investment in a new ATM-system.

Comments from the Performance Review Body:

Safety:

- PANSA achieved the RP3 EoSM targets in 2021 and exceeded the target maturity for safety culture and safety promotion. PANSA successfully implemented measures defined in their safety management development roadmap, leading PANSA to achieve the level D for all five management objectives.
- Port Lotniczy Bydgoszcz S.A. and Warmia i Mazury sp. z o.o. need to improve in the area of safety risk management but achieved the targets for the four other management objectives. Both ANSPs are in line with the maturity levels according to Poland's performance plan.
- Poland recorded a higher rate of runway incursions and lower rate of separation minima infringements in 2021 relative to 2020. The rate of runway incursions is above the Union-wide average rate.
- Poland should improve its safety management by implementing automated safety data recording systems.

Environment:

- Poland achieved a KEA performance of 2.33% compared to its target of 1.65% and did not contribute positively towards achieving the Union-wide target. KEA worsened by 40% compared to 2020.
- Poland states this situation was caused largely by elements linked to the geopolitical situation leading to users from the Russian Federation avoiding the airspace of Ukraine, European users avoiding that of Belarus, and flights circumnavigating Kaliningrad.
- SCR was the highest in five years, which the NSA states may be due to restricted airspace beyond Poland's control. KEP was also the highest in five years and increased by 20% compared to 2020.
- The share of CDO flights has slightly decreased compared to 2020, but is still higher than during pre-pandemic years.
- Additional time in terminal airspace has improved by 0.16 min/flight, while additional taxi out time has increased by 0.12min/flight.

Capacity:

- Poland registered 0.07 minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.07. The main delay causes were ATC staffing and ATC capacity, and the delays were mostly generated in December 2021 due to staffing issues at Warsaw ACC.
- Delays should be considered in the context of lower traffic: in Poland, IFR movements in 2021 were 48% lower than in 2019.
- Poland has received additional traffic due to airspace closures East of the SES airspace. Despite this, 2019 traffic levels are not likely to be reached during RP3. An increase in the number of ATCOs in OPS is planned in Warsaw ACC by the end of RP3.

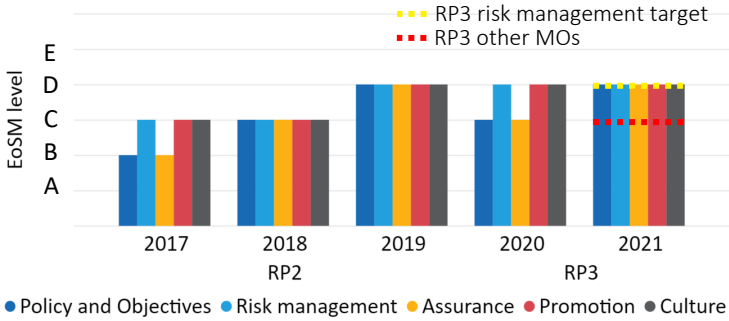
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Poland was 65.34$_{2017}$, -13% lower than the determined unit cost (75.24€$_{2017}$). The terminal zone 1 actual unit cost was 152.00€$_{2017}$, -16% lower than the determined unit cost (181.05€$_{2017}$) and the terminal zone 2 actual unit cost was 344.23€$_{2017}$, -16% lower than the determined unit cost (410.47€$_{2017}$).
- The en route 2021 actual service units (2,586K) were slightly higher (+1.4%) than the determined (2,549K).
- In 2021, actual total costs of Poland were -44M€$_{2017}$ (-24%) lower than determined. The significant decrease was mainly driven by -39M€$_{2017}$ lower staff costs (-35%), mostly due to changes to the renumeration scheme. In a first version of the monitoring report, Poland reported actual costs -37% lower than determined. The explanation for this change is unclear. The PRB recommends the Commission to request a transparent and clear explanation of this cost item given its direct impact on future performance and its alerting structure.
- PANSA spent 38M€$_{2017}$ in 2021 related to costs of investments, +4.2% higher than determined (37M€$_{2017}$), Poland indicates that growing inflation and the increase in interest rates account for the difference.
- The discrepancies regarding total costs are significant, especially as the performance plan has been submitted at the end of 2021. The PRB invites the NSA to analyse the discrepancies and identify their reasons, including potential inaccurate planning, treatment of the unspent staff costs, and possible misusing of the regulatory framework to finance the liquidity.
- The en route actual unit cost incurred by users in 2020/2021 was 74.06€, while the terminal zone 1 actual unit cost incurred by users was 183.17€ and 410.25€ for terminal zone 2.

Poland Factsheet

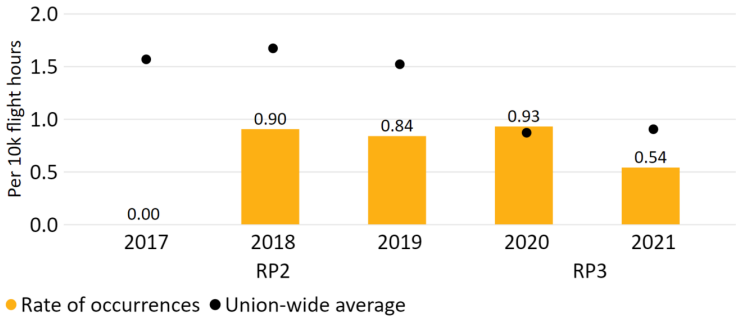
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



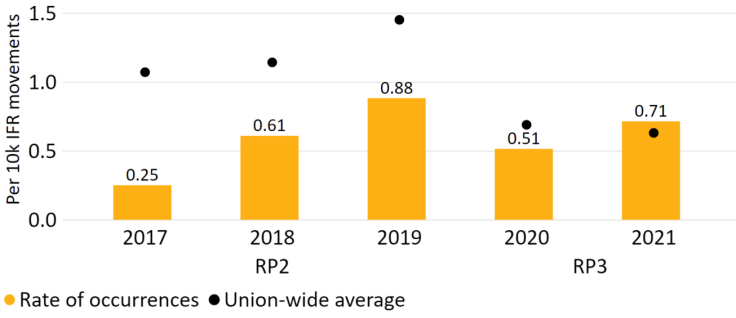
PANSA exceeded the targets achieving level D in all five management objectives already in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour decreased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



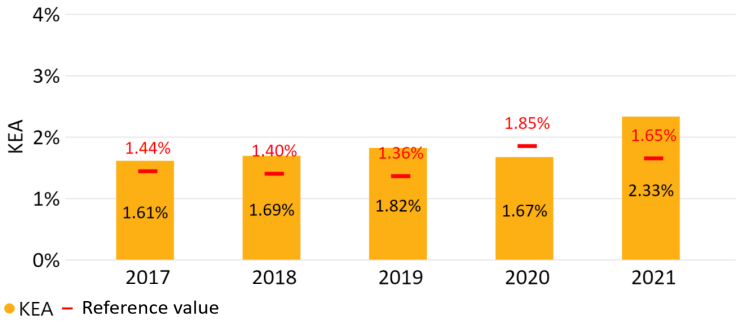
The rate of RIs per movement increased in 2021 relative to 2020.

Use of automated safety data recording systems

Poland does not use automated safety data recording systems.

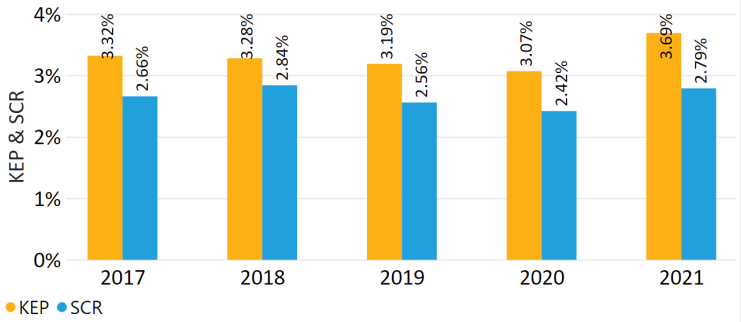
Environment

KEA performance



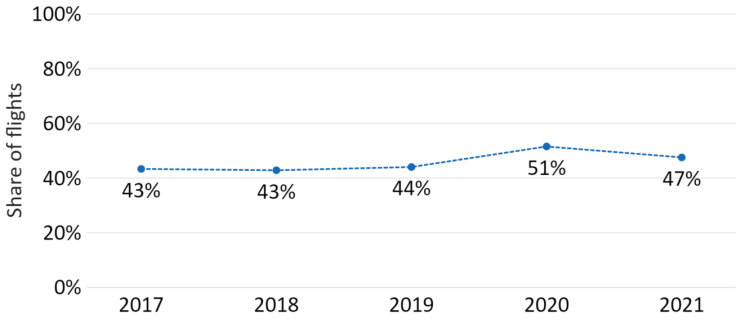
Poland did not achieve its 2021 KEA target by 0.68 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



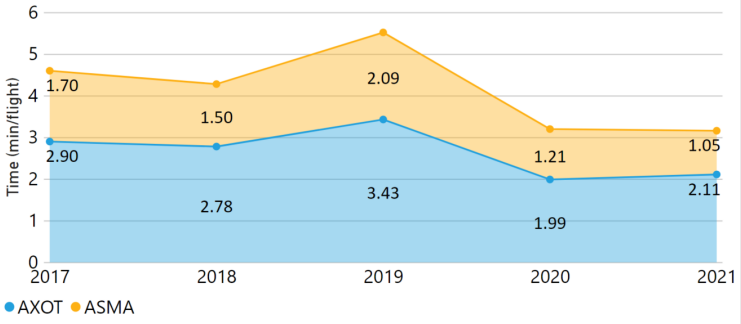
Poland did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

Share of CDO flights by year



Poland's CDO performance worsened in 2021 compared to 2020. However, it is a similar performance as achieved in the past.

Additional taxi out time (AXOT) and holding time (ASMA) by year

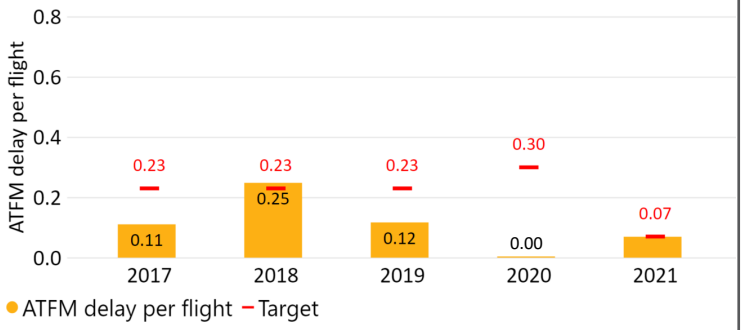


Terminal airspace users spent an additional 3.16 minutes per flight either taxiing or holding at Warsaw airport.

Poland Factsheet

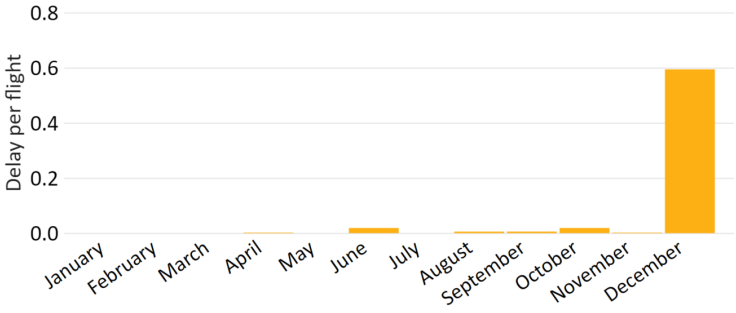
Capacity

ATFM delay per flight (min/flight)



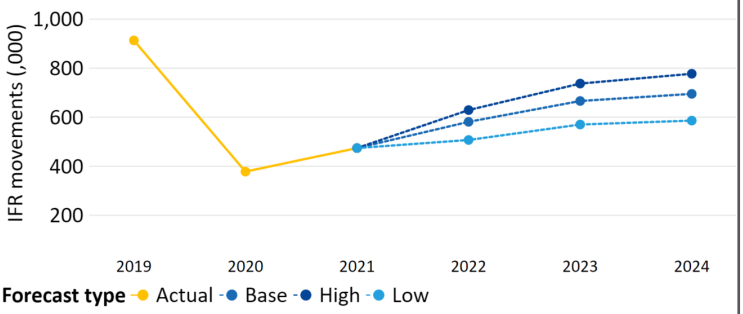
Delays increased by 0.07 minutes per flight year-on-year in 2021. Poland performed better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



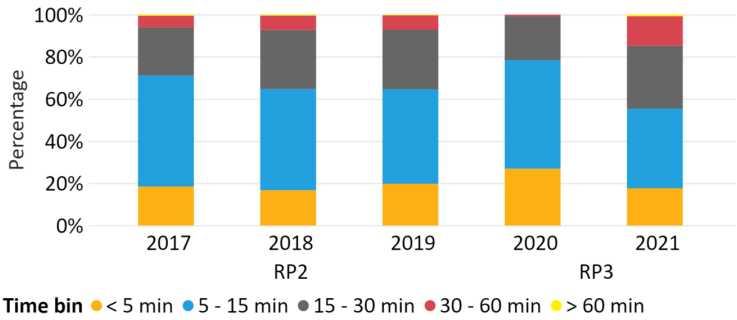
Most of the delays occurred during December, and were driven by ATC staffing.

IFR movements and forecasts by year



IFR movements in Poland were aligned with the high scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



There was a shift towards longer duration delays: the share of delays longer than 15 minutes increased in 2021.

Cost-efficiency

En route actual unit cost and determined unit cost by year

The 2020/2021 en route actual unit cost was lower than the determined unit cost.

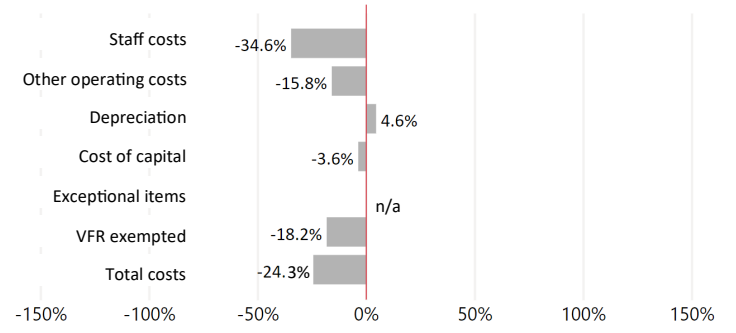
Terminal actual unit cost and determined unit cost by year

The terminal zone 1 actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

The terminal zone 2 actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs

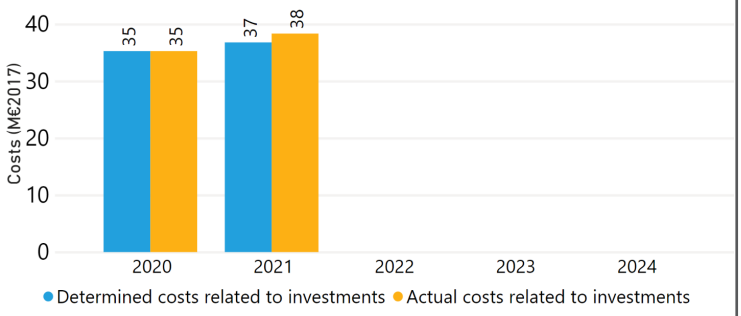


Total actual costs in 2021 were significantly lower (-24%) than determined due to an important reduction of staff costs.

Poland Factsheet

Cost-efficiency

Costs related to investments by year



PANSA reported higher actual costs related to investments compared to determined due to an increase in contractor prices.

Comments from the Performance Review Body:

Safety:

- NAV Portugal has continued the high safety performance and further exceeded the EoSM targets level in four management areas. NAV Portugal implemented continuous monitoring process with the development of new tools and indicators to ensure maintaining current safety performance.
- Portugal recorded stable performance with respect to safety occurrences. Rates increases relative to 2020, however rates in 2020 were low since no occurrences were reported. The NSA monitors the occurrences rate and implementation of specific measures through the regular audits, associated with the continuous supervision processes.
- NAV Portugal should improve its safety management by implementing automated safety data recording systems.

Environment:

- Portugal achieved a KEA performance of 1.65% compared to its target of 1.80% and contributed positively towards achieving the Union-wide target. KEA improved by 0.14 percentage points compared to 2020.
- SCR remained at similar levels to 2020, while KEP improved by 3%.
- The share of CDO flights decreased by two percentage points.
- Both additional time in terminal airspace and additional taxi out time have improved by 23% and by 16% respectively.

Capacity:

- Portugal registered 0.07 minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.09. The two main delay causes in Lisbon ACC were ATC capacity and ATC staffing during summer 2021.
- Delays should be considered in the context of lower traffic: in Portugal, IFR movements in 2021 were 47% lower than in 2019.
- Traffic is expected to grow, with 2019 levels likely being reached in 2023 (in high growth scenario) or 2024 (in base growth scenario) in Lisbon FIR. A significant increase in the number of ATCOs in OPS is planned in Lisbon ACC by the end of RP3.

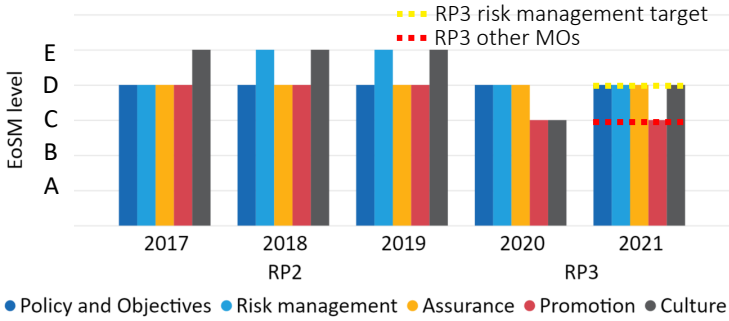
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Portugal was 64.95€$_{2017}$, -1.3% lower than the determined unit cost (65.82€$_{2017}$). The terminal 2020/2021 actual unit cost was 240.11€$_{2017}$, in line with the determined unit cost (240.39€$_{2017}$).
- The en route 2021 actual service units (1,988K) were +3.3% higher than determined (1,925K).
- In 2021, Portugal increased total costs by +1.1M€$_{2017}$ (+0.9%) compared to determined costs. The increase was driven by an increase of +7.0% in staff costs (+5.4M€$_{2017}$) due to an increase in pension fund costs, contingent liabilities, and non-materialised capitalised work.
- All the other cost categories decreased compared to determined. Cost of capital decreased by -34% (-1.1M€$_{2017}$) due to a postponement in the implementation of the new ATM System.
- NAV Portugal spent 13M€$_{2017}$ in 2021 related to costs of investments, -3.0% less than determined (14M€$_{2017}$), due to a postponement in the implementation of the new ATM System (TOPLIS – TOPSKY) as requested by the Network Manager in order to avoid simultaneous transitions of ATM systems with the Reims and Marseille ACCs (also planned for the beginning of 2022).
- The en route actual unit cost incurred by users in 2020/2021 was 66.27€, while the terminal actual unit cost incurred by users was 246.22€.

Portugal Factsheet

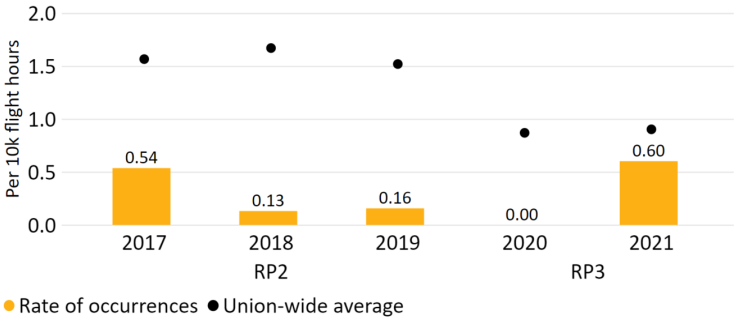
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



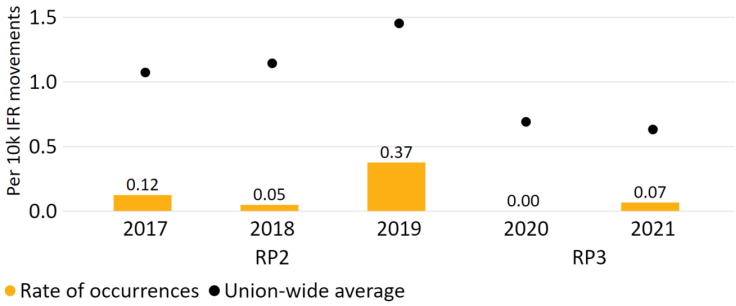
NAV Portugal exceeded the targets achieving level D in four management objectives already in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour increased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



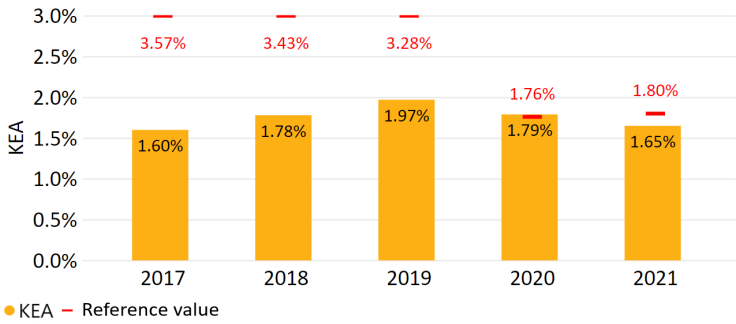
The rate of RIs per movement marginally increased in 2021 relative to 2020.

Use of automated safety data recording systems

Portugal does not use automated safety data recording systems.

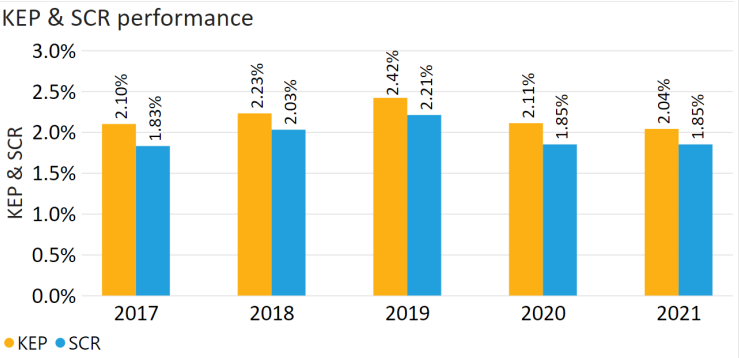
Environment

KEA performance



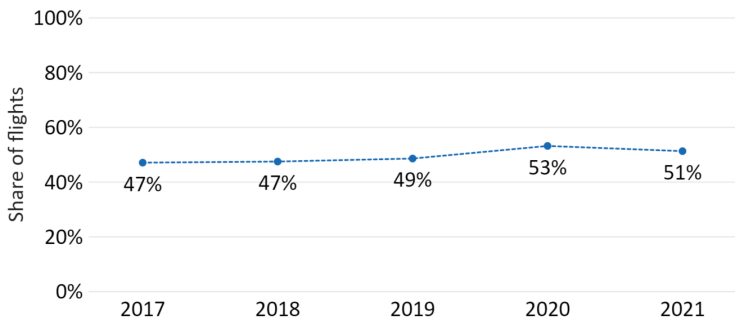
Portugal achieved its 2021 KEA target by 0.15 percentage points, and performance improved relative to 2020.

KEP & SCR performance



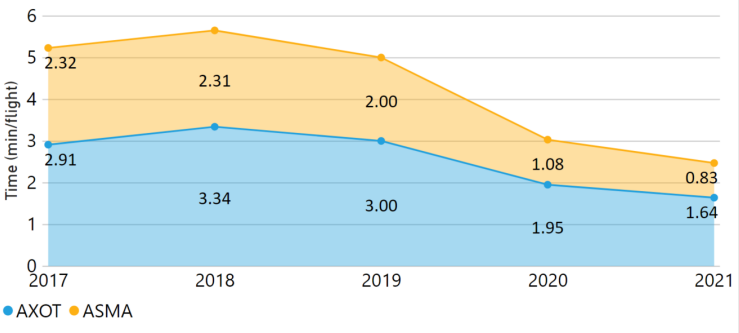
Portugal did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

Share of CDO flights by year



Portugal's CDO performance remained stable in 2021 compared to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

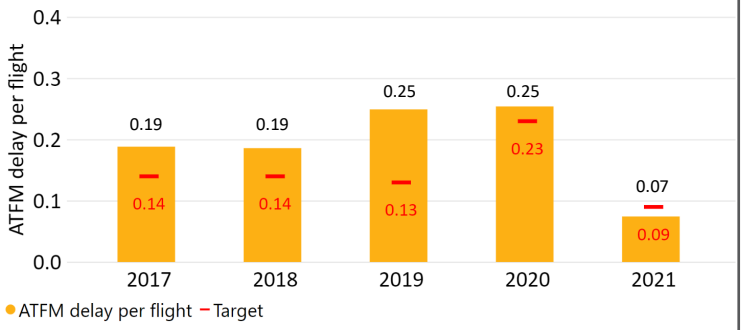


Terminal airspace users spent an additional 2.47 minutes per flight either taxiing or holding at Portuguese airports.

Portugal Factsheet

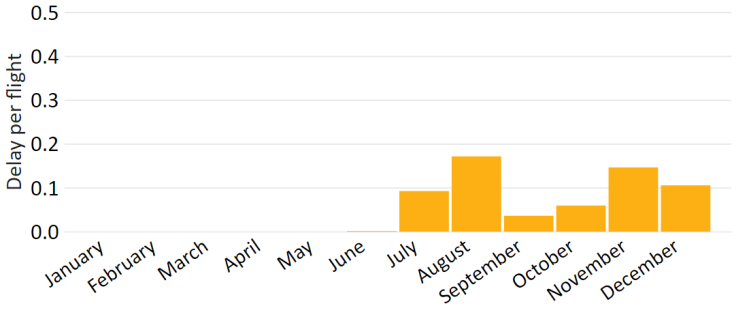
Capacity

ATFM delay per flight (min/flight)



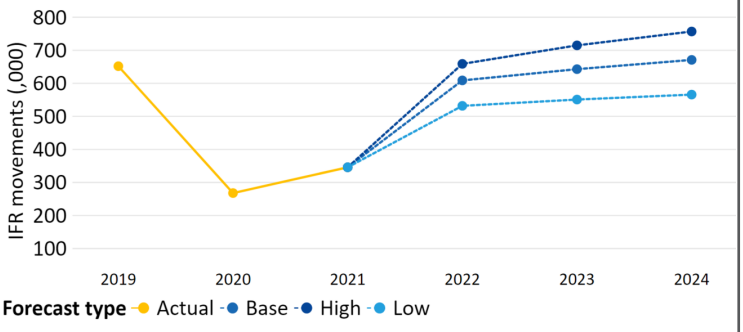
Delays in Portugal decreased year-on-year by 72% in 2021. Portugal performed better than the local breakdown value in 2021.

Monthly ATFM delay per flight (min/flight) in 2021



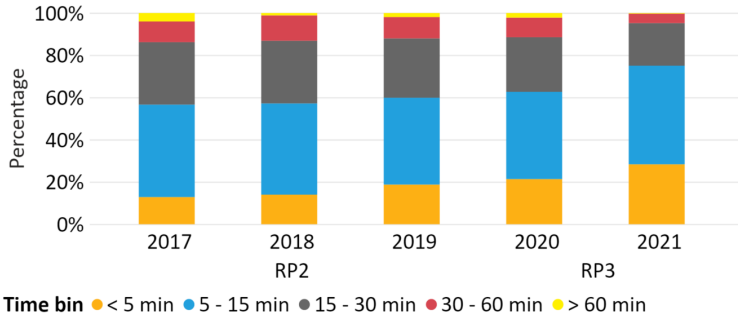
Most delays occurred in July and in August, then in November and December, largely due to ATC capacity and ATC staffing reasons.

IFR movements and forecasts by year



IFR movements in Portugal were 1% above the base scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



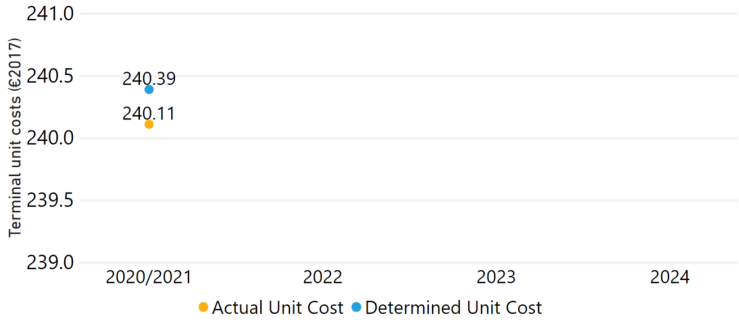
There were shorter duration delays: Share of delays longer than 15 minutes decreased by 13 percentage points year-on-year.

Cost-efficiency

En route actual unit cost and determined unit cost by year

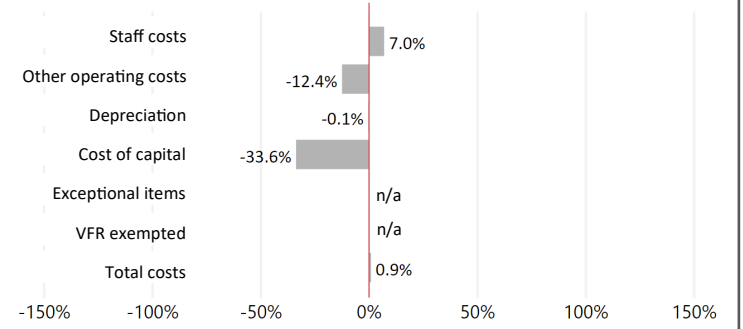
The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



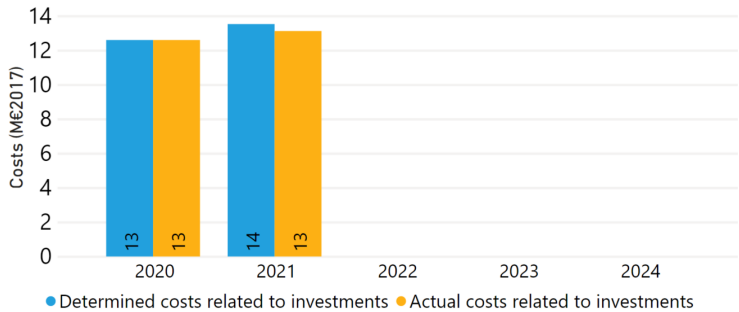
The 2020/2021 terminal actual unit cost and determined were in line.

% difference between 2021 actual costs and determined costs



Despite a significant decrease in other operating costs and cost of capital, actual costs are higher than determined due to staff costs.

Costs related to investments by year



NAV Portugal 2021 costs related to investments are -3.0% lower than determined due to a postponed project.

Comments from the Performance Review Body:

Safety:

- ROMATSA demonstrated high safety performance in 2021 and has further exceeded the EoSM targets level in one additional management objective ahead of the plan. ROMATSA, together with the NSA, have implemented various measures and corrective actions to ensure maintaining high safety performance.
- Romania recorded stable performance with respect to safety occurrences, with no runway incursions and a marginal decrease in the rate of separation minima infringements relative to 2020. The NSA closely monitors the safety occurrences via continuous oversight function.
- ROMATSA should improve its safety management by implementing automated safety data recording systems.

Environment:

- Romania achieved a KEA performance of 2.22% compared to its target of 2.10% and did not contribute positively towards achieving the Union-wide target. KEA worsened by 0.05 percentage points compared to 2020.
- The NSA states that in spite of the significant traffic reduction, the areas avoided by airspace users (Black Sea, Eastern Ukraine, and Crimea Area), related RAD restrictions and applicable traffic bans (between Ukraine and Russia) remained unchanged in the area in 2021.
- Despite the reasons mentioned above, KEP is at the lowest values in five years and SCR is just 0.01 percentage points worse than the lowest value occurred in 2020.
- The share of CDO flights has decreased in comparison to 2020, but is still higher than pre-pandemic levels.
- Additional time in terminal airspace and additional taxi time have further decreased in 2021 by 23% and 15% respectively.

Capacity:

- Romania registered zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.02.
- Delays should be considered in the context of lower traffic: in Romania, IFR movements in 2021 were 39% lower than in 2019.
- Romania has received additional traffic due to airspace closures East of the SES airspace potentially expediting the recovery. The 2019 levels are likely to be reached in 2023 in high and base growth scenarios. An increase in the number of ATCOs in OPS is planned in Bucharest ACC by the end of RP3.

Cost-efficiency:

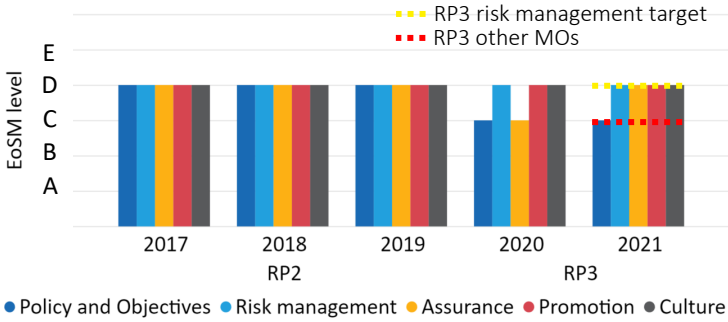
- The en route 2020/2021 actual unit cost of Romania was 65.86€$_{2017}$, in line with the determined unit cost (65.45€$_{2017}$). The terminal 2020/2021 actual unit cost was 423.19€$_{2017}$, +2.1% higher than the determined unit cost (414.64€$_{2017}$).
- The en route 2021 actual service units (2,870K) were -1.0% lower than determined (2,898K).
- In 2021, Romania increased total costs by +0.2M€$_{2017}$ (+0.1%) compared to determined. Other operating costs decreased significantly by -5.4M€$_{2017}$ (-20%) mainly due to a delay in flight validation services. This is offset by an increase in staff costs of +4.9M€$_{2017}$ (+4.0%), which increased due to a higher than planned defined benefits provision for pensions.
- ROMATSA spent 19.0M€$_{2017}$ in 2021 related to costs of investments, +1.9% more than determined (18.7M€$_{2017}$).
- The en route actual unit cost incurred by users in 2020/2021 was 67.34€, while the terminal actual unit cost incurred by users was 438.35€.

* There is not an approved performance plan for Romania. This factsheet is based on information within the latest submitted draft performance plan.

Romania Factsheet

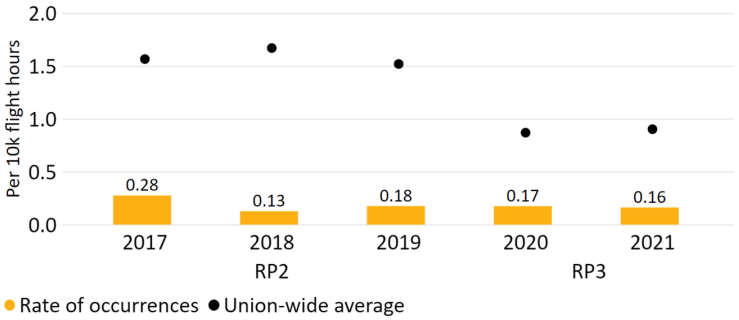
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



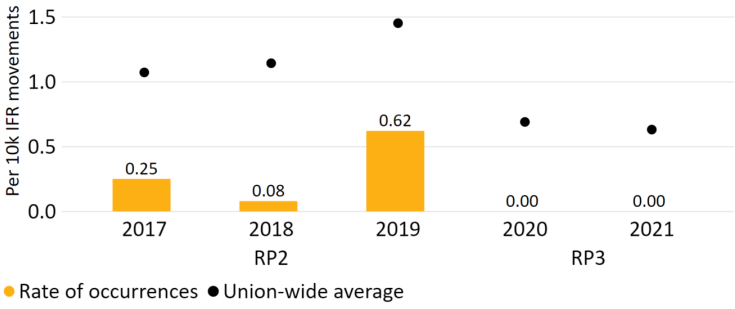
ROMATSA exceeded the targets achieving level D in four management objectives already in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour decreased marginally in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



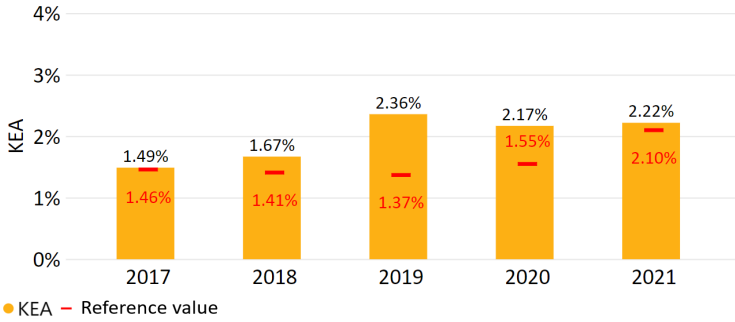
Romania did not record any RIs occurrences in 2021.

Use of automated safety data recording systems

Romania does not use automated safety data recording systems.

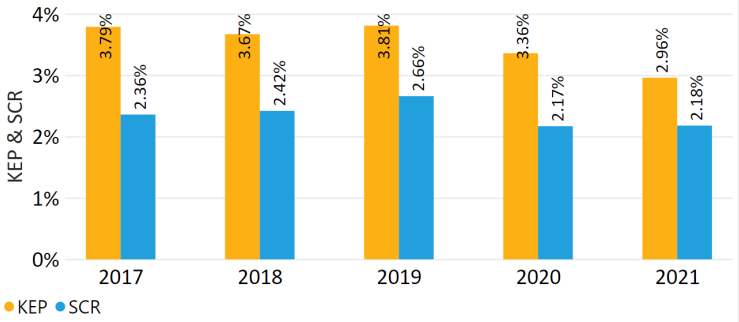
Environment

KEA performance



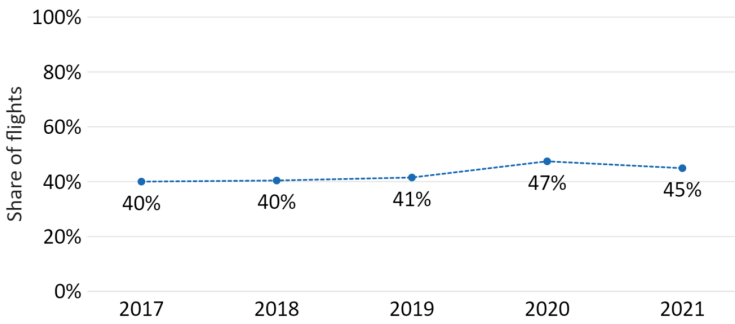
Romania did not achieve its 2021 KEA target by 0.12 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



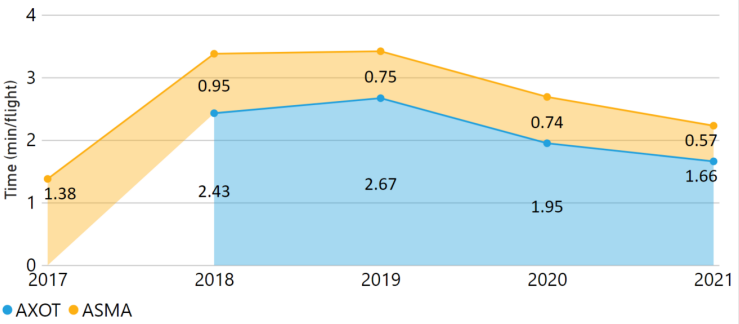
Romania did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

Share of CDO flights by year



Romania's CDO performance worsened in 2021 compared to 2020. It is a similar performance as achieved in the past.

Additional taxi out time (AXOT) and holding time (ASMA) by year

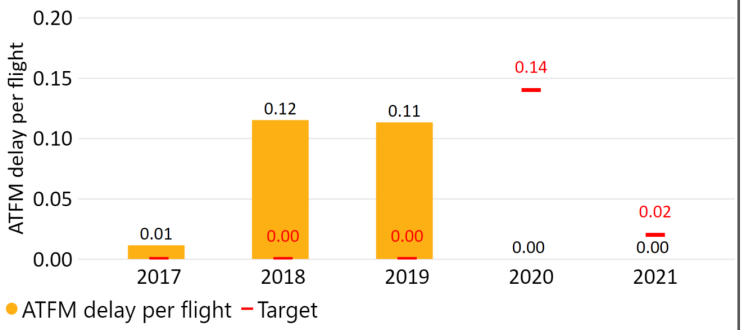


Terminal airspace users spent an additional 2.23 minutes per flight either taxiing or holding at Bucharest airport.

Romania Factsheet

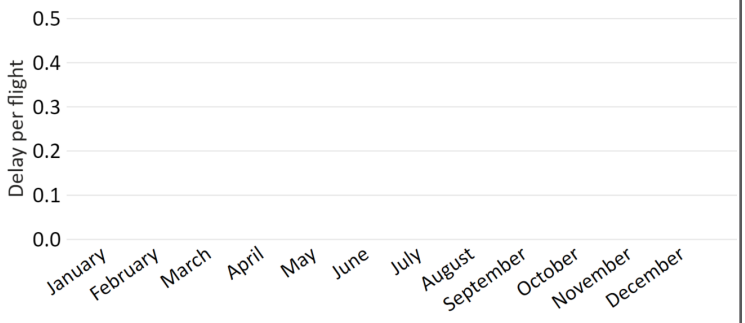
Capacity

ATFM delay per flight (min/flight)



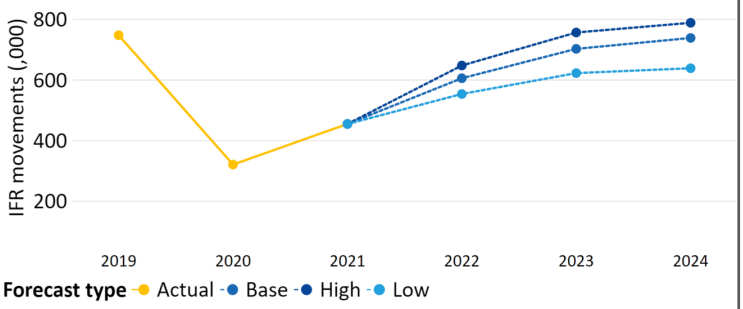
Romania recorded zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



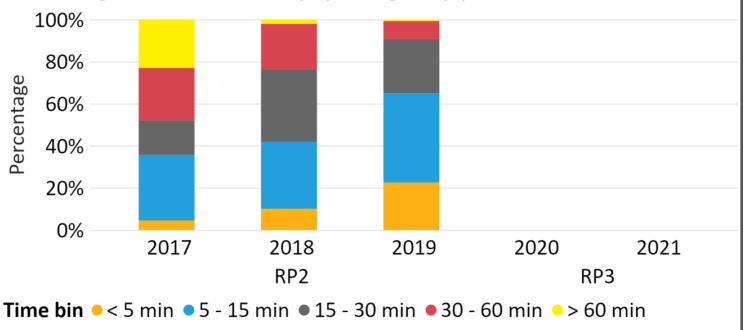
The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Romania were 6% above the high scenario of the STATFOR 2021 base forecast.

Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

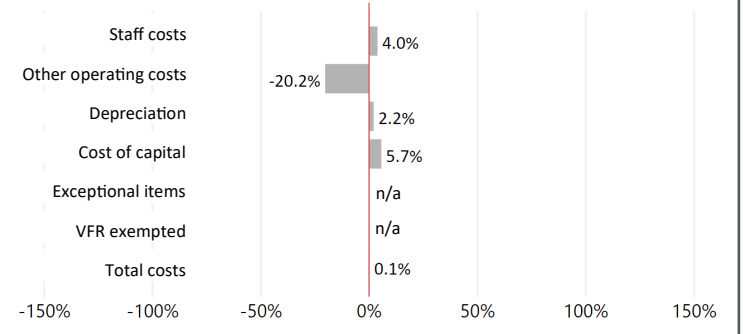
En route actual unit cost and determined unit cost by year

The 2020/2021 en route actual unit cost and determined were in line.

Terminal actual unit cost and determined unit cost by year

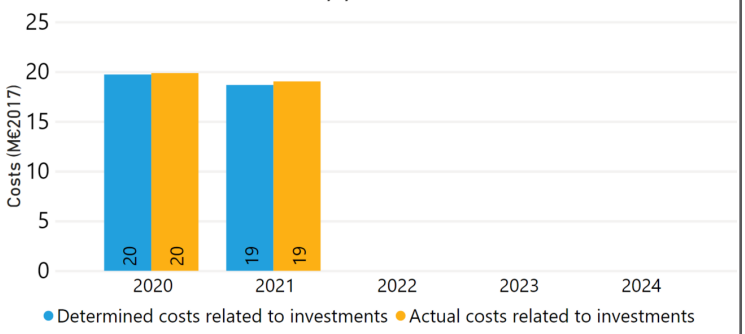
The 2020/2021 terminal determined unit cost was lower than the actual unit cost.

% difference between 2021 actual costs and determined costs



The 2021 actual costs were in line with the determined costs.

Costs related to investments by year



ROMATSA 2021 costs related to investments in 2021 were +1.9% higher than determined.

Comments from the Performance Review Body:

Safety:

- LPS SR successfully improved in the area of policy and objectives, promotion and culture management objectives achieving the targets in advance of the plan.
- Slovakia recorded stable performance with respect to safety occurrences, with no occurrences recorded for runway incursions and increase in separation minima infringements relative to 2020. The NSA closely monitors the separation minima infringements throughout the year and has established acceptable and tolerable levels of safety.
- LPS SR should improve its safety management by implementing automated safety data recording systems for runway incursions.

Environment:

- Slovakia achieved a KEA performance of 2.29% compared to its target of 2.15% and did not contribute positively towards achieving the Union-wide target. KEA worsened by 0.07 percentage points compared to 2020.
- The NSA states that, despite FRA operations above FL245, there has not been a significant improvement of KEA. The NSA suggests a lack of airspace user capability or willingness to make use of FRA within the South East and Central European region.
- However, cross border FRA in 2021 only enabled cross border operations with one out of five of Slovakia's neighbours and air-space restrictions/reservations may also have impeded performance.
- Both KEP and SCR improved in 2021 and are at their lowest values in five years.
- Slovakia has no airports that are regulated under the RP3 performance and charging scheme.

Capacity:

- Slovakia registered near zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.05.
- En route ATFM delays in Slovakia were also zero on average during the past years.
- Traffic is expected to grow, with 2019 levels likely being reached in 2024 in the high growth scenario but not in the base growth scenarios. A slight increase in the number of ATCOs in OPS is planned at Bratislava ACC during RP3.

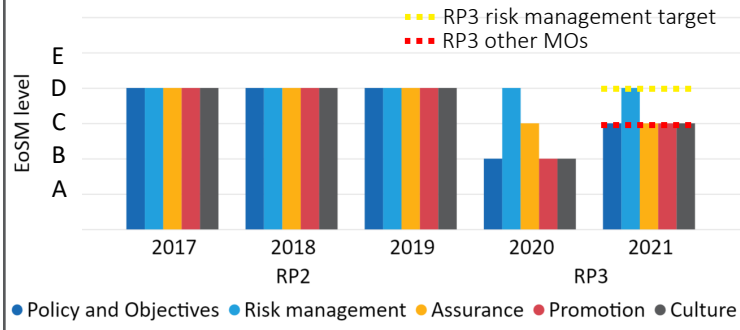
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Slovakia was 73.90€$_{2017}$, -8.2% lower than the determined unit cost (80.51€$_{2017}$). Slovakia does not have a terminal charging zone.
- The en route 2021 actual service units (612K) were in line with the determined service units (609K).
- In 2021, Slovakia decreased total costs by -6.9M€$_{2017}$ (-16%) compared to determined costs. Slovakia decreased costs in all cost categories, except for depreciation costs. The decrease in total costs was mainly driven by a significant decrease in staff costs (-6.5M€$_{2017}$, or -24%) due to the non-payment of the variable salaries, a COVID-19 measure taken in 2020 (for cashflow reasons). The NSA should provide an analysis of the impact on future performance caused by the significantly lower than determined staff costs.
- The discrepancies regarding total costs are significant, especially as the performance plan has been submitted at the end of 2021. The PRB invites the NSA to analyse the discrepancies and identify their reasons, including potential inaccurate planning and possible misusing of the regulatory framework to finance the liquidity.
- LPS SR spent 7.1M€$_{2017}$ in 2021 related to costs of investments, +22% more than determined (5.8M€$_{2017}$), due to higher depreciation costs (+1.3M€$_{2017}$, or +31%). The NSA explains that the increase is due to the fact that determined costs of investments have been lowered in the plan by the amount underspent in RP2.
- The en route actual unit cost incurred by users in 2020/2021 was 80.67€.

Slovakia Factsheet

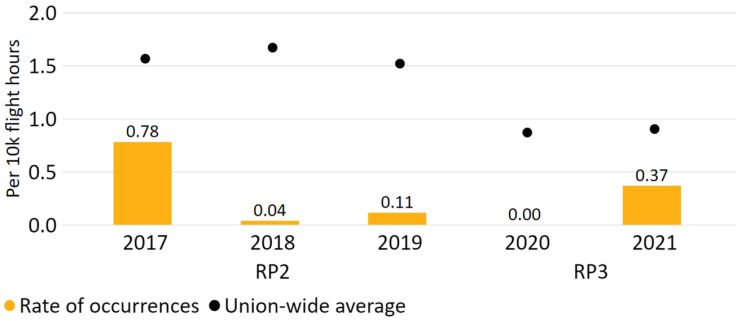
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



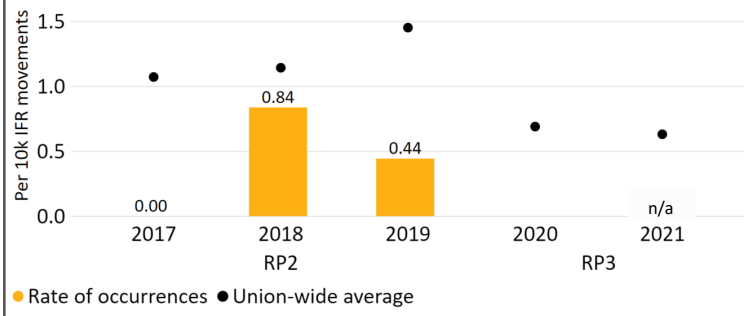
LPS SR achieved the target levels for all five management in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour increased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



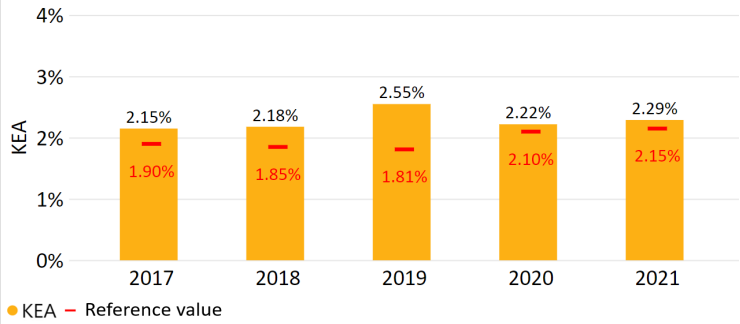
Slovakia is not obliged to report RIs as no airport is regulated under the performance and charging scheme.

Use of automated safety data recording systems

Slovakia uses automated safety data recording systems for recording of separation minima infringements.

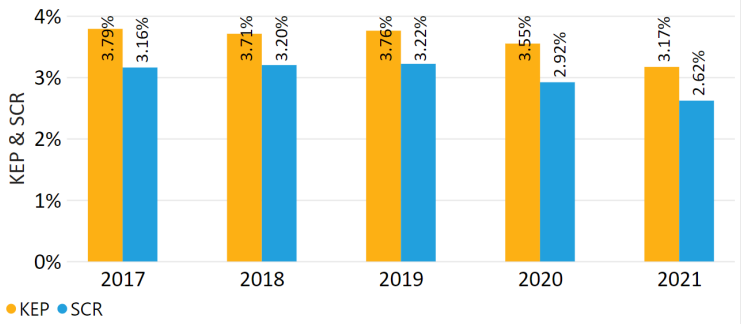
Environment

KEA performance



Slovakia did not achieve its 2021 KEA target by 0.14 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



Slovakia made shorter constrained routes (SCR) available to airspace users in 2021, who were then able to plan shorter routes.

No Slovakian airport is regulated under the performance and charging scheme.

Slovakia did not declare any of its airports as subject to the performance and charging Regulation.

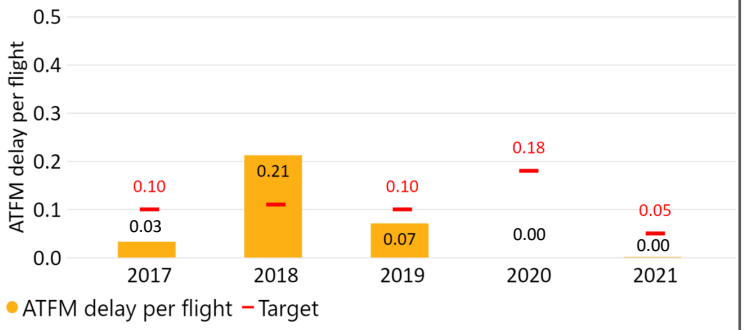
No Slovakian airport is regulated under the performance and charging scheme.

Slovakia did not declare any of its airports as subject to the performance and charging Regulation.

Slovakia Factsheet

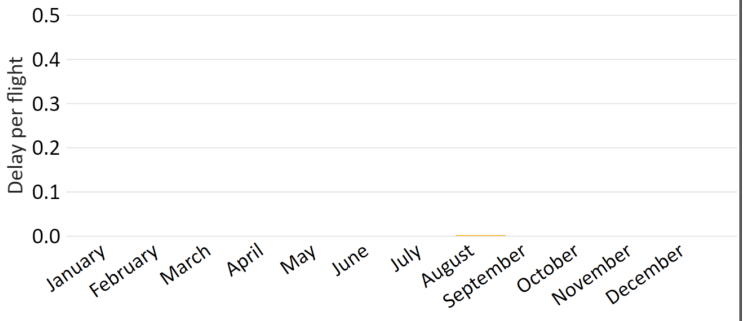
Capacity

ATFM delay per flight (min/flight)



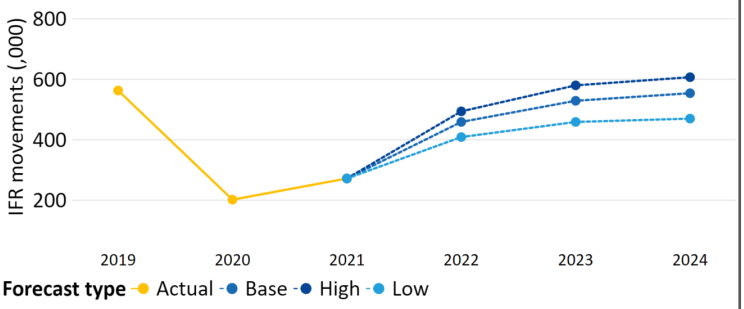
Slovakia recorded near zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



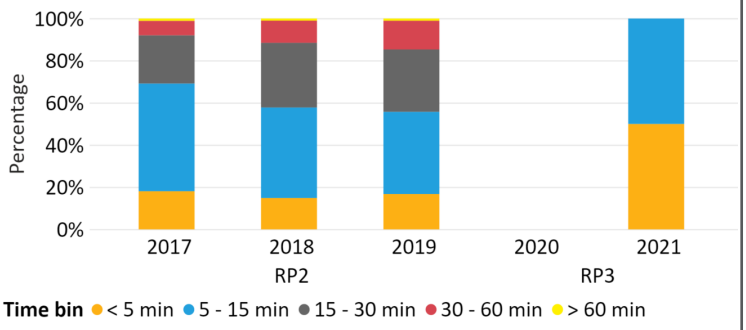
The very limited delays occurred in August and were driven by ATC capacity reasons.

IFR movements and forecasts by year



IFR movements in Slovakia were 1% above the base scenario of the STATFOR 2021 base forecast.

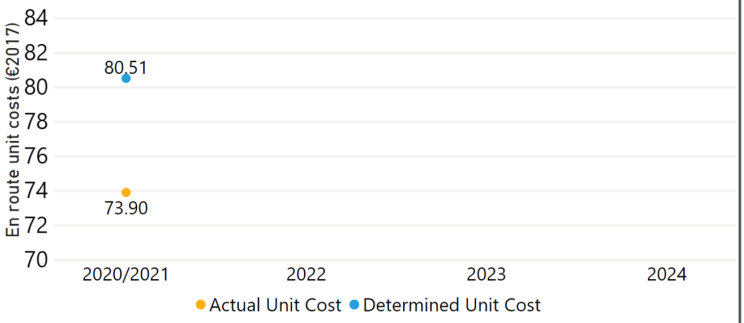
Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

En route actual unit cost and determined unit cost by year

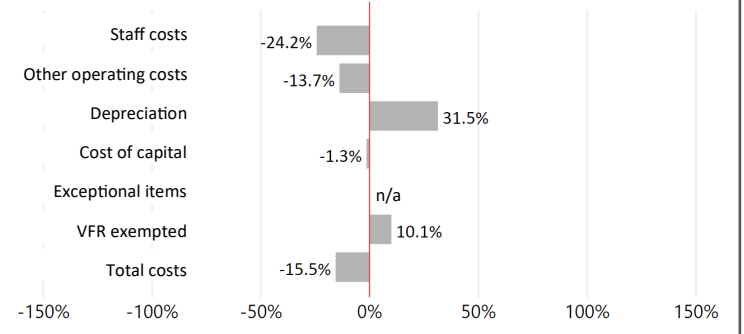


The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Slovakia does not have a terminal charging zone.

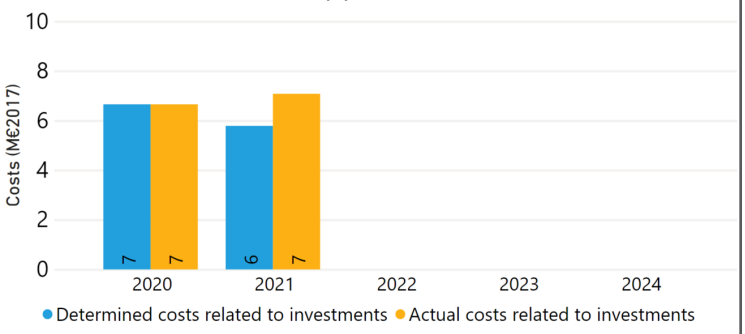
Slovakia did not declare any terminal charging zones as subject to the performance and charging Regulation.

% difference between 2021 actual costs and determined costs



Slovakia decreased costs in all cost categories during 2021, except for depreciation costs.

Costs related to investments by year



LPS SR spent +22% more in 2021 than determined in cost related to investments.

Comments from the Performance Review Body:

Safety:

- Slovenia Control achieved the RP3 EoSM targets in four out of five management objectives, and only needs to make further improvements in the safety risk management objective. Slovenia Control, together with the NSA, implemented multiple review processes and continuous monitoring to ensure the maintenance of high safety performance.
- Slovenia recorded an increase of separation minima infringements and runway incursions relative to a very low level in 2020.
- Slovenia Control should improve its safety management by implementing automated safety data recording systems.

Environment:

- Slovenia achieved a KEA performance of 1.48% compared to its target of 1.55% and contributed positively towards the Union-wide target. KEA improved by 0.03 percentage points compared to 2020.
- SCR worsened by 3%, while KEP has improved by 2% compared to 2020.
- Slovenia states that FRA is already fully implemented, however, certain RAD restrictions were omitted due to COVID-19 in 2021.
- Slovenia has no airports that are regulated under the RP3 performance and charging scheme.

Capacity:

- Slovenia registered zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.05.
- En route ATFM delays in Slovenia were also zero on average during the past years.
- Traffic recovery in Slovenia has continued to be impacted by the airspace closures East of the SES area and Slovenia has been one of the most affected. 2019 levels are likely to be reached in 2023 in the high growth scenario, but not in the base growth. A slight increase in the number of ATCOs in OPS is planned at Ljubljana ACC during RP3 as the recruitment of new ATCOs is flexibly adapted based on traffic evolution.

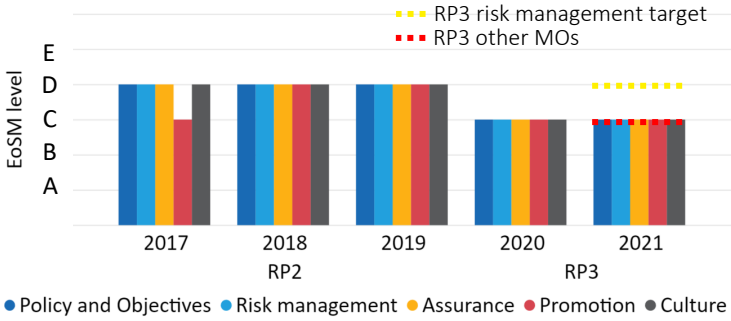
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Slovenia was 93.23€$_{2017}$, -8.1% lower than the determined unit cost (101.44€$_{2017}$). Slovenia does not have a terminal charging zone.
- The en route 2021 actual service units (370K) were +9.1% higher than determined (339K).
- In 2021, Slovenia decreased total costs by -2.1M€$_{2017}$ (-6.8%) compared to determined, mainly driven by decreases in staff costs (-1.4M€$_{2017}$, or -7.2%) due to negotiations with the social partners, and other operating costs (-0.7M€$_{2017}$, or -12%) due to the optimisation and postponement of contracts and maintenance of several assets.
- Slovenia Control spent 4.6M€$_{2017}$ in 2021 related to costs of investments, in line with determined.
- The en route actual unit cost incurred by users in 2020/2021 was 96.06€.

Slovenia Factsheet

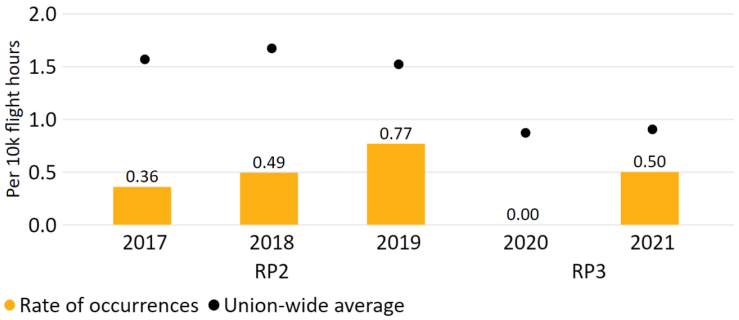
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



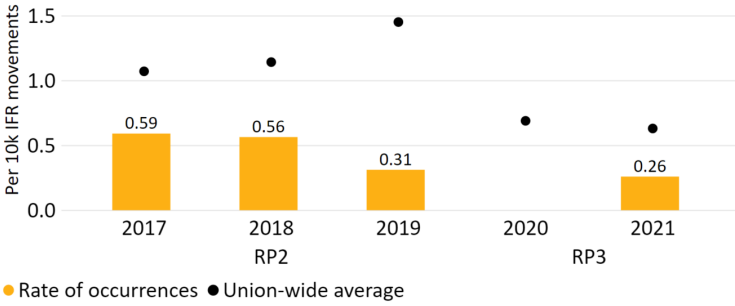
Slovenia Control did not achieve the target for safety risk management but achieved the targets for all other MOs.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour increased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



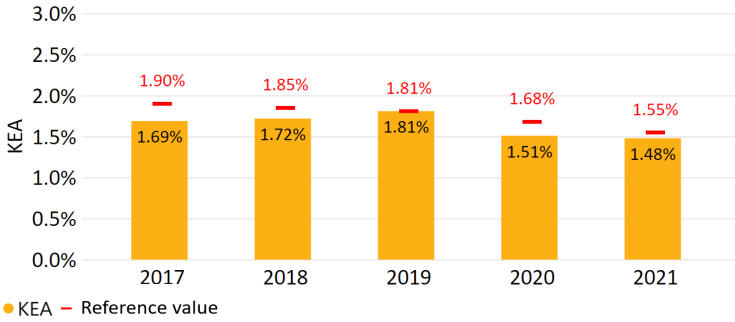
The rate of RIs per movement increased in 2021 relative to 2020. RIs are from airports not covered by Slovenia's performance plan.

Use of automated safety data recording systems

Slovenia does not use automated safety data recording systems.

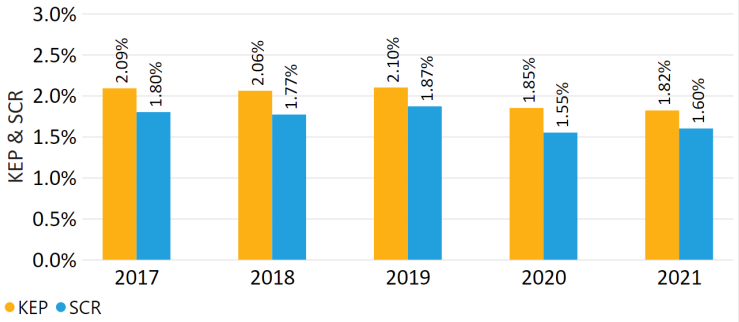
Environment

KEA performance



Slovenia achieved its 2021 KEA target by 0.07 percentage points, and performance improved relative to 2020.

KEP & SCR performance



Slovenia did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

No Slovenian airport is regulated under the performance and charging scheme.

Slovenia did not declare any of its airports as subject to the performance and charging Regulation.

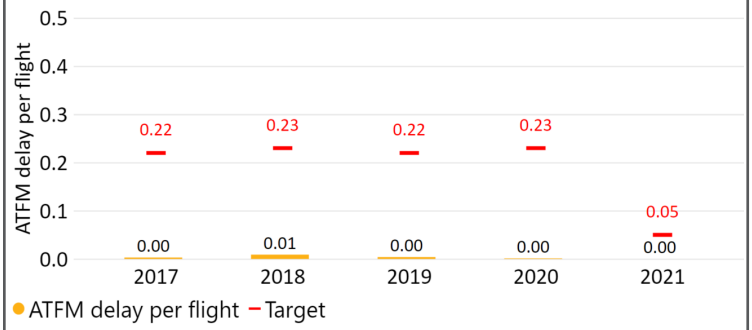
No Slovenian airport is regulated under the performance and charging scheme.

Slovenia did not declare any of its airports as subject to the performance and charging Regulation.

Slovenia Factsheet

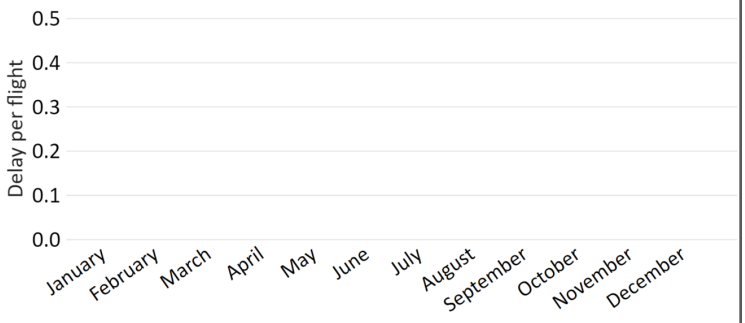
Capacity

ATFM delay per flight (min/flight)



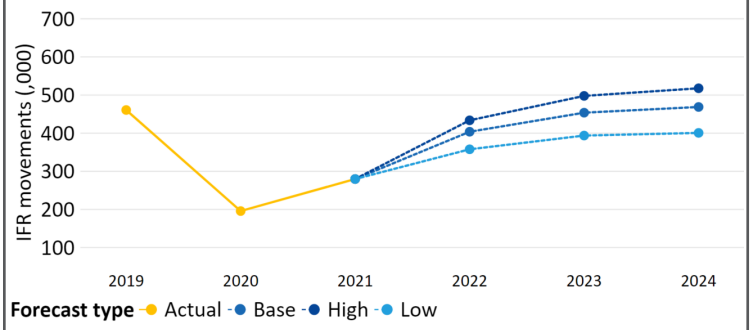
Slovenia recorded zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



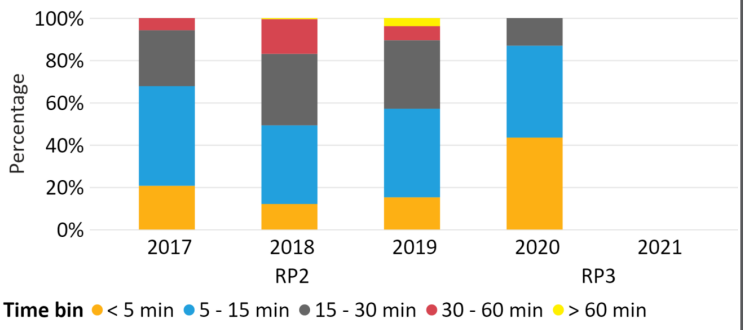
The low level of en route delays means a monthly statistical analysis was not applicable.

IFR movements and forecasts by year



IFR movements in Slovenia were 5% above the high scenario of the STATFOR 2021 base forecast.

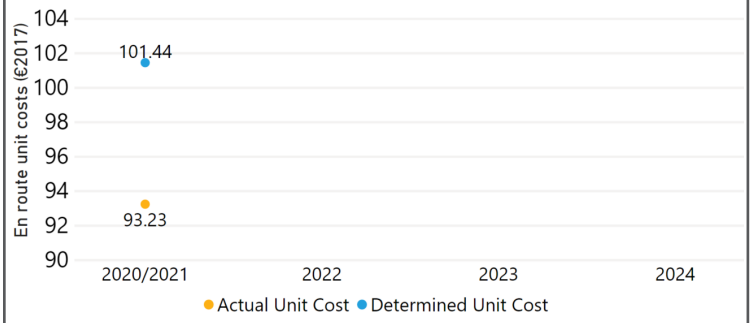
Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

En route actual unit cost and determined unit cost by year

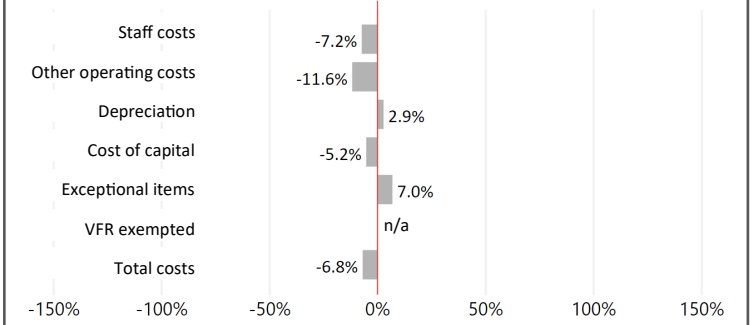


The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Slovenia does not have a terminal charging zone.

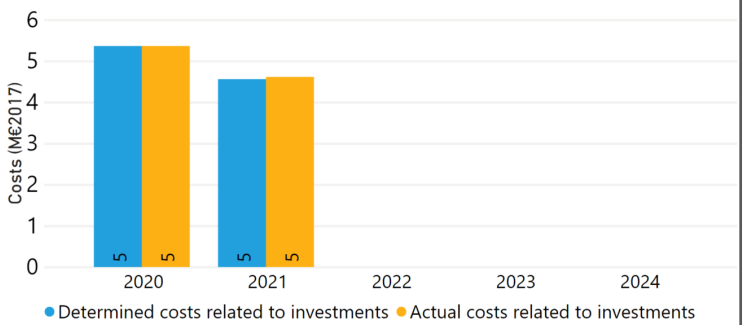
Slovenia did not declare any terminal charging zones as subject to the performance and charging Regulation.

% difference between 2021 actual costs and determined



In 2021 Slovenia decreased total costs -6.8% compared to determined.

Costs related to investments by year



Slovenia Control 2021 costs related to investments are in line with determined.

Comments from the Performance Review Body:

Safety:

- ENAIRE continued high safety performance in 2021 and maintained the RP3 EoSM targets levels achieved in previous year. ENAIRE implemented continuous monitoring process to ensure maintaining high safety performance.
- FERRONATS achieved the RP3 EoSM target in four out of five management objectives with only safety risk management requiring further improvement. Some elements of this area have been already improved up to required level D over 2021. The NSA is confident that the targets will be achieved by the end of RP3.
- Spain recorded stable performance with respect to safety occurrences, with higher rate of separation minima infringements and marginally higher rate of runway incursions relative to 2020. The rates for both were above the Union-wide average rates in 2021. Of the airports with more than 80,000 movements, Málaga (LEMG) has the highest rate of RIs at 8.5 per 100,000 movements. ENAIRE should consider looking into the reasons contributing to this rate and take appropriate mitigating actions, if necessary.
- Spain uses specific automated safety data recording systems for ACC and TMA sectors, being one of the few ANSPs doing so.

Environment:

- Spain achieved a KEA performance of 3.30% compared to its target of 3.08% and did not contribute positively towards achieving the Union-wide target. KEA worsened by 0.19 percentage points compared to 2020.
- The NSA states that the increase in KEA is due to changes in the routes to avoid the ashes caused by the eruption of the volcano in La Palma (September 2021) and new routings in the Agadir FIR (Morocco) that affected planning in the Canaries FIR. However, Spain's monthly KEA performance in September 2021 remained below that of June and similar to those of July and August of the same year.
- Both KEP and SCR slightly decreased in 2021 in comparison to 2020 and are at their lowest values in five years.
- The share of CDO flights has decreased in comparison to 2020, but is still higher than pre-pandemic situation. Additional time in terminal airspace has increased by 21% and additional taxi out time has increased by 33%.

Capacity:

- Spain registered 0.09 minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.12. Following the traffic recovery from July onwards more delays were generated with ATC capacity and weather being the main causes. At the end of the year, delays with 'other' causes increased due to the volcanic eruption on La Palma.
- Delays should be considered in the context of lower traffic: in Spain, IFR movements in 2021 were 45% lower than in 2019.
- Traffic is expected to grow, with 2019 levels likely being reached in 2023 in the high growth scenario or in 2024 in the base growth scenario for both continental and Canarias ACCs. The number of ATCOs in OPS is planned to remain effectively the same in Canarias ACC, with reductions in the numbers planned in the remaining ACCs during RP3.

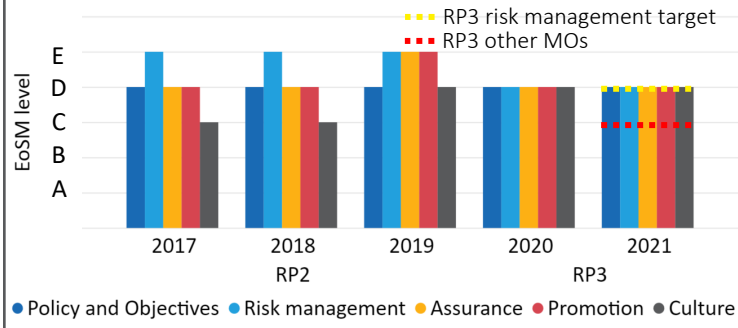
Cost-efficiency:

- The en route 2020/2021 actual unit cost of Spain Continental was 105.84€$_{2017}$, -1.7% lower than the determined unit cost (107.71€$_{2017}$). The en route 2020/2021 actual unit cost of Spain Canarias was 99.65€$_{2017}$, -5.1% lower than the determined unit cost (104.97€$_{2017}$).
- The terminal 2020/2021 actual unit cost of Spain was 221.77€$_{2017}$, -3.8% lower than the determined unit cost (230.44€$_{2017}$).
- The en route 2021 actual service units of Spain Continental (6,383K) were in line with the determined (6,370K). The en route 2021 actual service units of Spain Canarias (1,008K) were +6.1% higher than the determined (950K).
- In 2021, Spain Continental decreased total costs by -19M€$_{2017}$ (-3.3%) compared to determined costs. All cost categories decreased, except depreciation costs. The decrease was mainly due to staff (-11M€$_{2017}$, or -3.0%) and other operating costs (-7.3M€$_{2017}$, or -7.7%) in ENAIRE. The NSA explained that budgetary limitations and a restrictive expenditure policy have still been applied in 2021.
- In 2021, Spain Canarias decreased total costs by -3.6M€$_{2017}$ (-3.9%) compared to determined costs. As for Spain Continental, all cost categories have decreased, except depreciation costs. The NSA provided the same explanations as for Spain Continental, since the variations are mainly attributable to ENAIRE.
- ENAIRE spent 112M€$_{2017}$ in 2021 related to costs of investments, -1.0% less than determined (113M€$_{2017}$). The difference was due to a combination of lower en route depreciation costs attributable to a delay in investments (due to the COVID-19 pandemic), and slightly lower than planned terminal cost of capital induced by a lower net book value and WACC.
- The en route Spain Continental actual unit cost incurred by users in 2020/2021 was 112.68€, while the en route Spain Canarias actual unit cost incurred by users was 87.05€. The terminal actual unit cost incurred by users was 58.80€.

Spain Factsheet

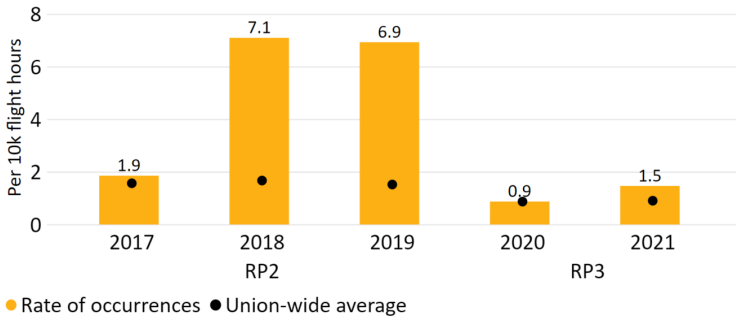
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



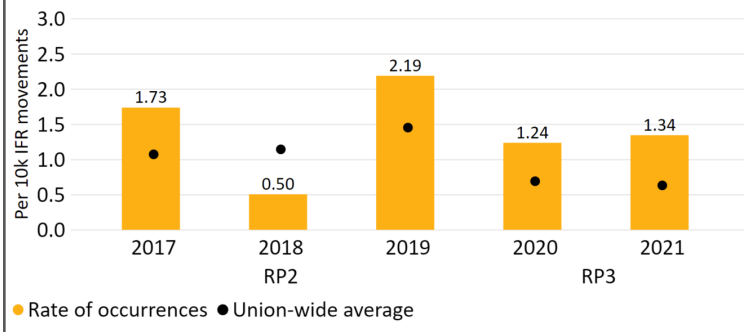
ENAIRE exceeded the targets achieving level D in all five management objectives already in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs per flight hour increased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



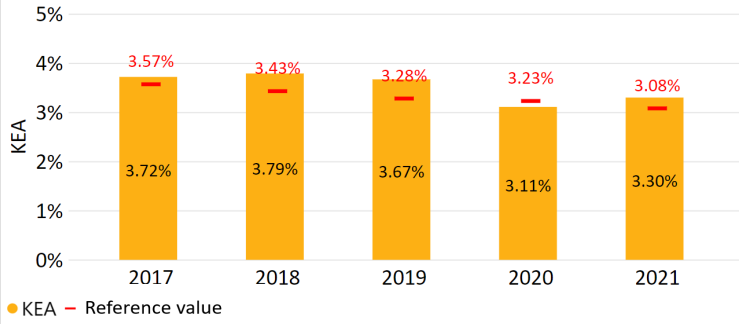
The rate of RIs per movement increased marginally in 2021 relative to 2020.

Use of automated safety data recording systems

Spain uses the automated safety data recording systems for both runway incursions and separation minima infringements.

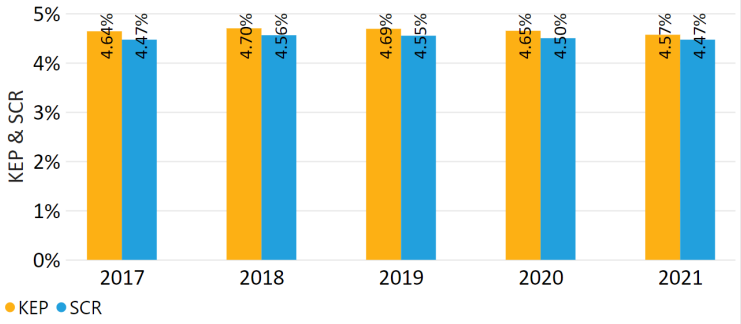
Environment

KEA performance



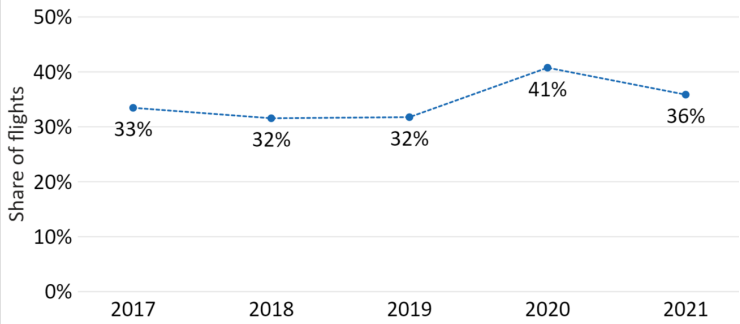
Spain did not achieve its 2021 KEA target by 0.22 percentage points, and performance worsened relative to 2020.

KEP & SCR performance



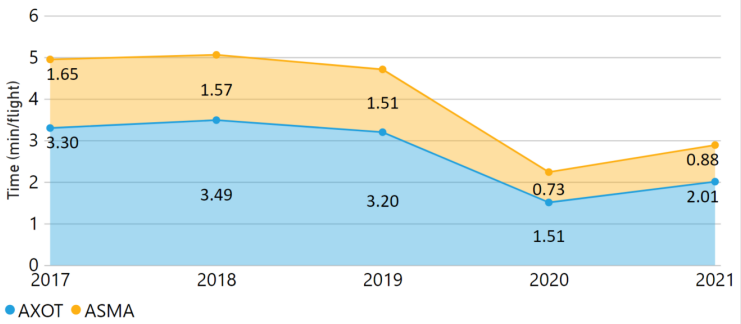
Spain made shorter constrained routes (SCR) available to airspace users in 2021, who were then able to plan shorter routes.

Share of CDO flights by year



Spain's CDO performance worsened in 2021 compared to 2020. However, it is similar to the performance achieved in the past.

Additional taxi out time (AXOT) and holding time (ASMA) by year

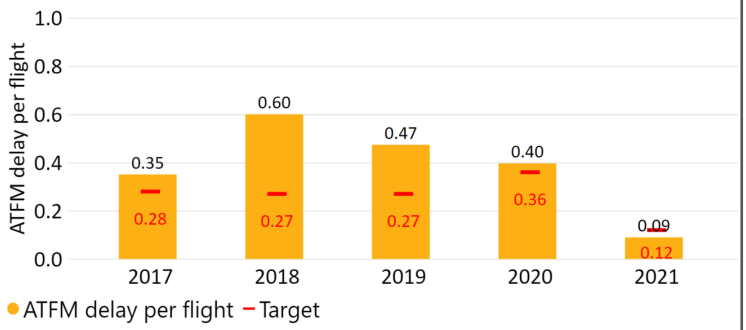


Terminal airspace users spent an additional 2.89 minutes per flight either taxiing or holding at Spanish airports.

Spain Factsheet

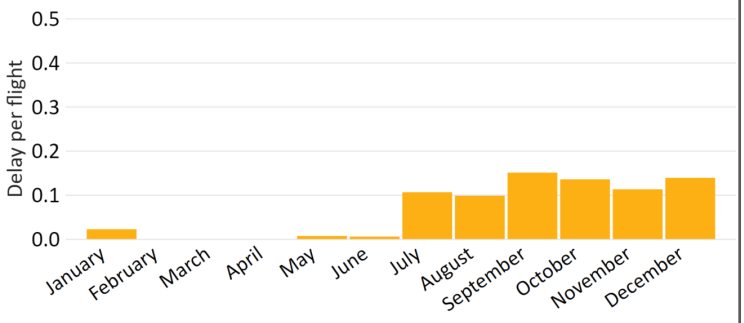
Capacity

ATFM delay per flight (min/flight)



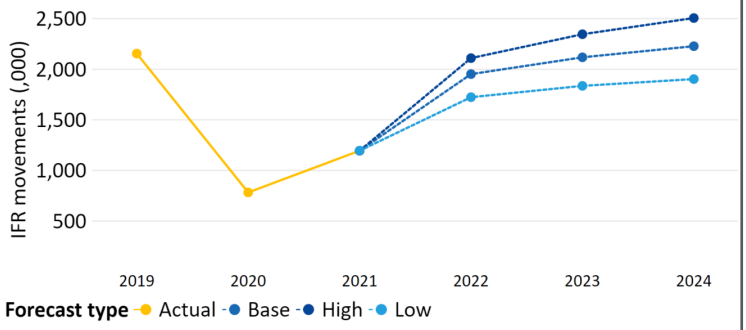
Delays in Spain decreased year-on-year by 78% in 2021. Spain performed better than the local breakdown value in 2021.

Monthly ATFM delay per flight (min/flight) in 2021



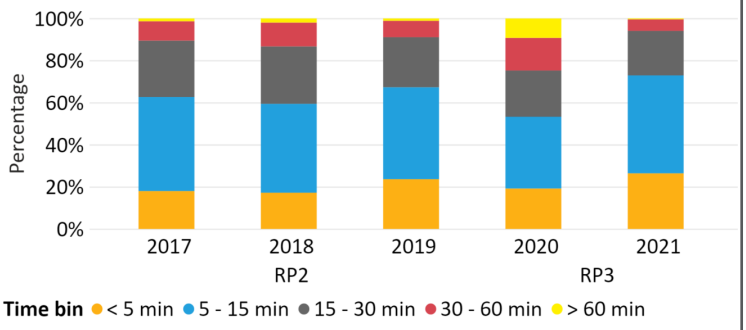
Most delays occurred during the second half of the year. ATC capacity was a persistent reason for delays.

IFR movements and forecasts by year



IFR movements in Spain were 2% above the base scenario of the STATFOR 2021 base forecast.

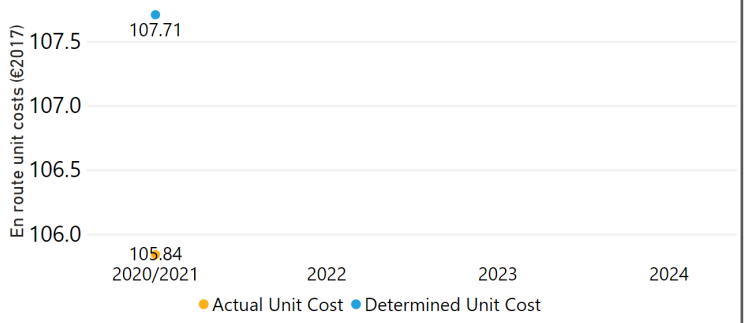
Percentage of en route delays per flight by year and time bin



There were shorter duration delays: share of delays longer than 15 minutes decreased by 21 percentage points year-on-year.

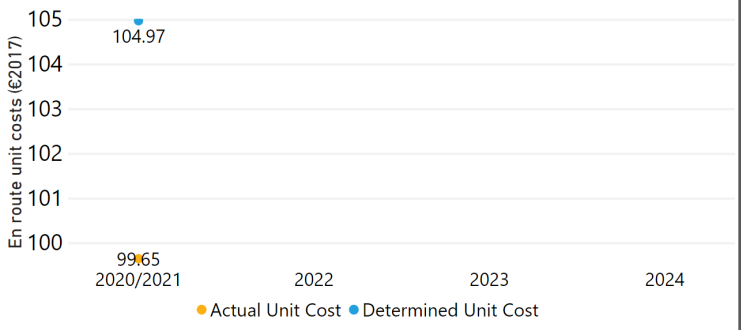
Cost-efficiency

En route actual unit cost and determined unit cost by year



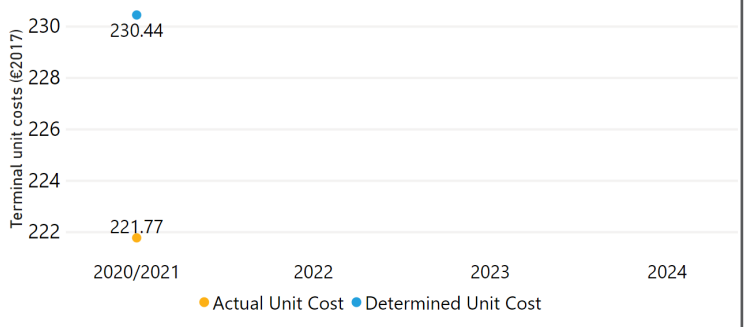
The 2020/2021 Spain Continental en route actual unit cost was lower than the determined unit cost.

En route actual unit cost and determined unit cost by year



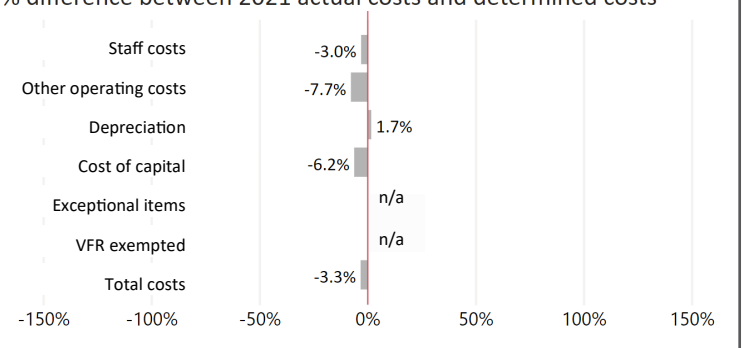
The 2020/2021 Spain Canarias en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year



The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

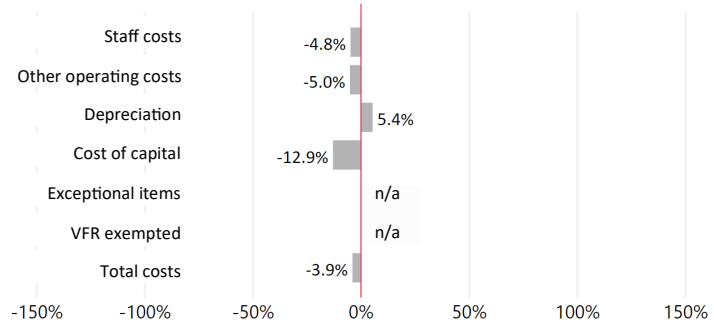
% difference between 2021 actual costs and determined costs



2021 actual total costs of Spain Continental were -3.3% lower than determined driven by staff and other operating costs.

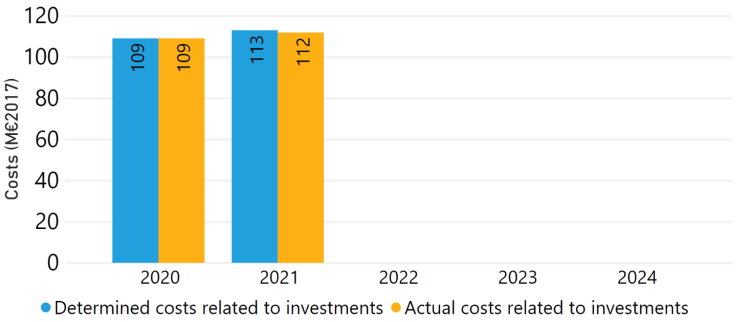
Cost-efficiency

% difference between 2021 actual costs and determined costs



2021 actual total costs of Spain Canarias were -3.9% lower than determined driven by staff and other operating costs.

Costs related to investments by year



ENAIRE 2021 investment costs were lower (-1.0%) than planned due to a delay in investments and lower cost of capital.

Comments from the Performance Review Body:

Safety:

- LFV continued good safety performance in 2021 and maintained the RP3 EoSM targets levels achieved in 2020.
- None of the remaining ANSPs achieved the targets. SDATS needs to improve in only one area, ARV – Arvidsjaur in two areas, whereas ACR needs to improve in three areas.
- Sweden recorded improved performance with respect to safety occurrences, with lower rate of both separation minima infringements and runway incursions relative to 2020. The rate for runway incursions remains above the Union-wide average. The NSA declared that they are unable to discriminate the occurrences with safety impact only.
- LFV should improve its safety management by implementing automated safety data recording systems.

Environment:

- Sweden achieved a KEA performance of 1.04%, matching its target, and contributing positively towards achieving the Union-wide target. KEA worsened by 0.01 percentage points compared to 2020.
- The NSA states that in Sweden the airspace is not closed off when the armed forces are shelling training sectors, but the opportunity exists to coordinate flights for fly-through (with some exceptions).
- Both SCR and KEP worsened compared to last year, but remain lower than pre-pandemic levels.
- The share of CDO flights remained constant over the past five years.
- Additional time in terminal airspace and additional taxi out time further improved in 2021 by 48% and 28% respectively.

Capacity:

- Sweden registered near zero minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.05.
- En route ATFM delays in Sweden were also near zero on average during the past years.
- Traffic recovery in Sweden has continued to be impacted by the airspace closures East of the SES area. Between February and May 2022, Sweden has been one of the five Member States to be the most affected by this and, as a result, 2019 traffic levels are not likely to be reached during RP3. An increase in the number of ATCOs in OPS is planned at both ACCs during RP3.

Cost-efficiency:

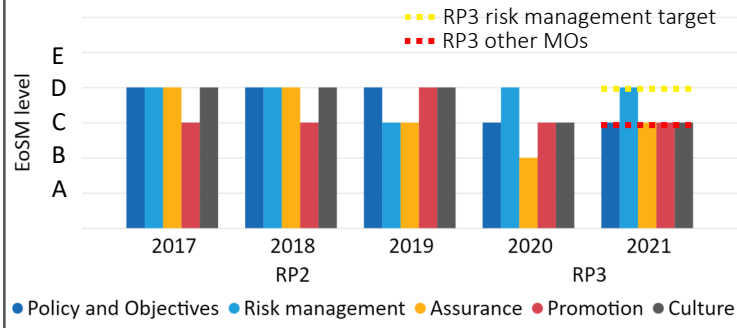
- The en route 2020/2021 actual unit cost of Sweden was 136.64€$_{2017}$, -3.4% lower than the determined unit cost (141.38€$_{2017}$). The terminal 2020/2021 actual unit cost was 395.08€$_{2017}$, -4.1% lower than the determined unit cost (411.99€$_{2017}$).
- The en route 2021 actual service units (1,795K) were +3.6% higher than determined (1,732K).
- In 2021, Sweden decreased total costs by -7.6M€$_{2017}$ (-3.6%) compared to determined costs. Sweden decreased all cost categories except cost of capital (+0.9M€$_{2017}$, or +23%) due to higher inflation rates than planned increasing the value of the pension debt.
- The decrease in total costs was mainly driven by lower other operating costs (-4.7M€$_{2017}$, or -7.7%) due to lower maintenance costs and travels, and lower pension costs than planned (-3.4M€$_{2017}$, or -8.3%). The NSA did not provide an explanation for the lower pension costs.
- LFV spent 16.8M€$_{2017}$ in 2021 related to costs of investments, -2.3% less than determined (17.2M€$_{2017}$), due to a delay in the investment plan (induced by the COVID-19 pandemic).
- The en route actual unit cost incurred by users in 2020/2021 was 133.35€, while the terminal actual unit cost incurred by users was 394.68€.

* There is not an approved performance plan for Sweden. This factsheet is based on information within the latest submitted draft performance plan.

Sweden Factsheet

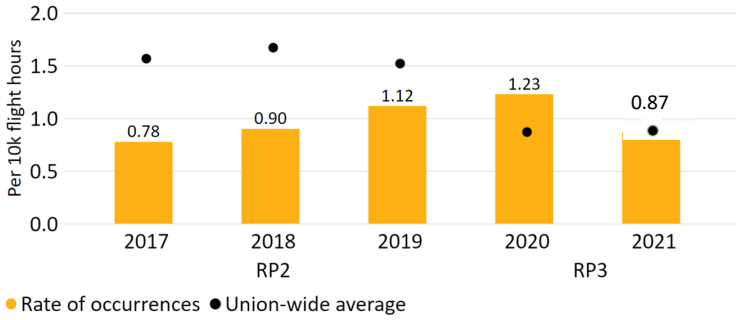
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



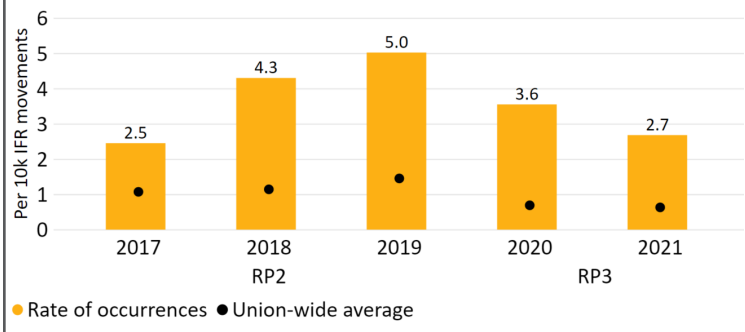
LFV achieved the EoSM targets levels in 2021.

Rate of separation minima infringement (SMI) by year



The rate of SMIs decreased in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



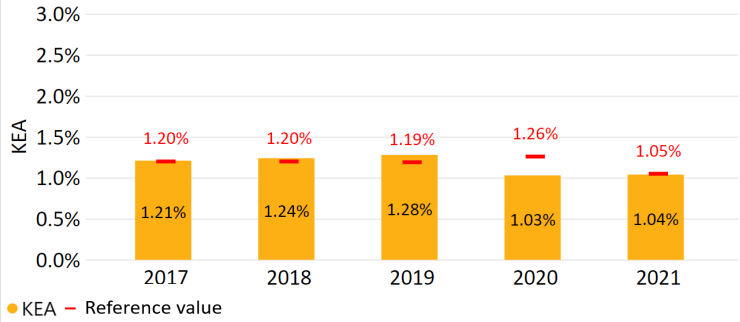
The rate of RIs per movement decreased in 2021 relative to 2020.

Use of automated safety data recording systems

Sweden does not use automated safety data recording systems.

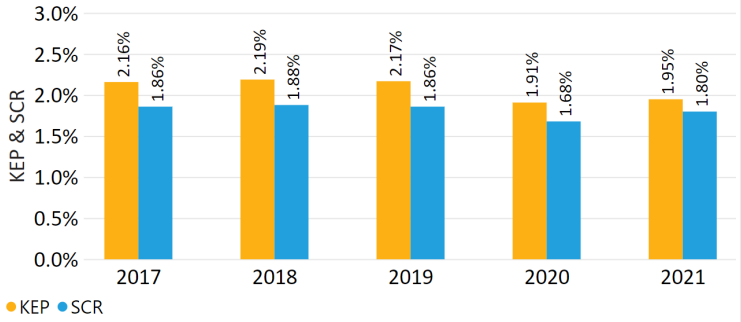
Environment

KEA performance



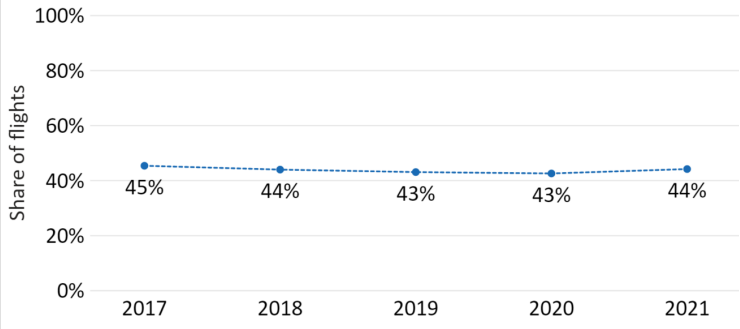
Sweden achieved its 2021 KEA target exactly, but performance worsened relative to 2020.

KEP & SCR performance



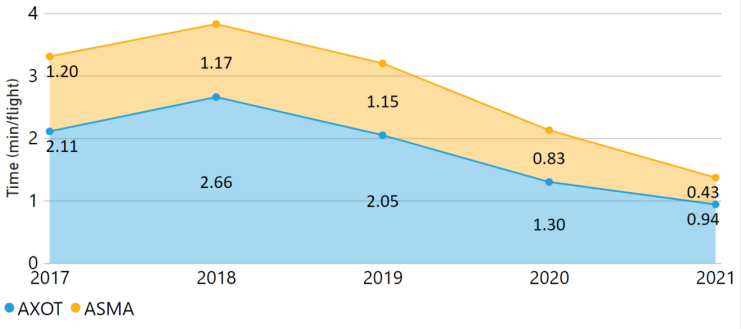
Sweden did not make shorter routes (SCR) available in 2021, leading to airspace users planning longer routes.

Share of CDO flights by year



Sweden's CDO performance was stable in 2021 compared to 2020.

Additional taxi out time (AXOT) and holding time (ASMA) by year

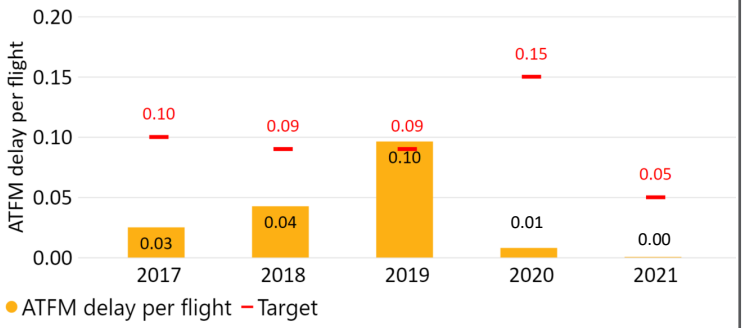


Terminal airspace users spent an additional 1.37 minutes per flight either taxiing or holding at Stockholm Arlanda airport.

Sweden Factsheet

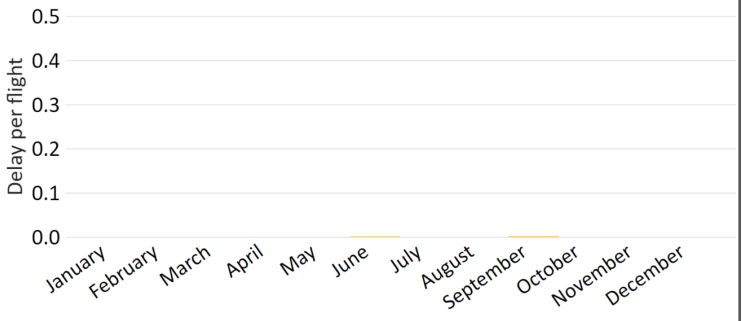
Capacity

ATFM delay per flight (min/flight)



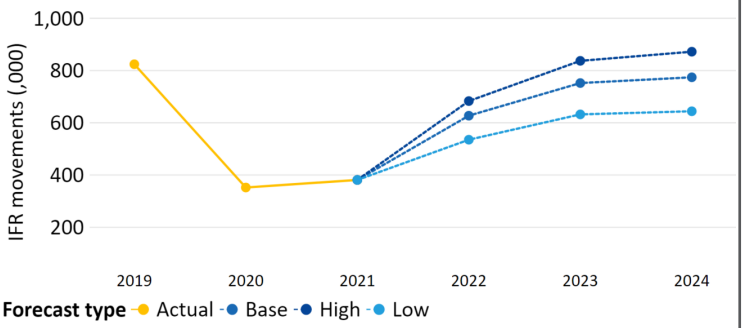
Sweden recorded near zero delays on average in 2021, thus performing better than the local breakdown value.

Monthly ATFM delay per flight (min/flight) in 2021



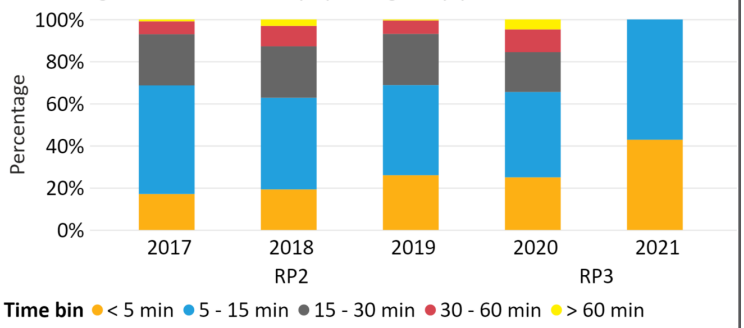
The very limited delays occurred in June and September, due to ATC related disruptions.

IFR movements and forecasts by year



IFR movements in Sweden were 6% above the base scenario of the STATFOR 2021 base forecast.

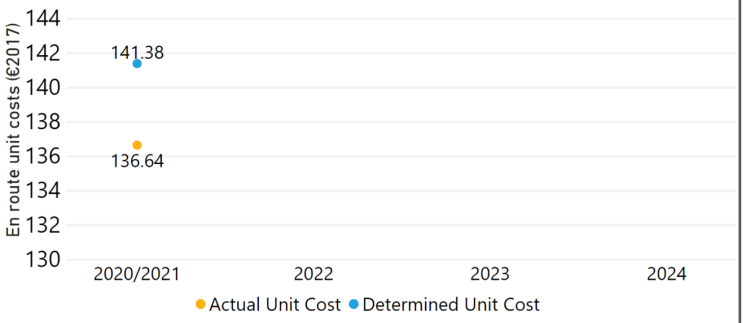
Percentage of en route delays per flight by year and time bin



The low number of flights affected by delays means a statistical analysis of delay distribution was not applicable.

Cost-efficiency

En route actual unit cost and determined unit cost by year

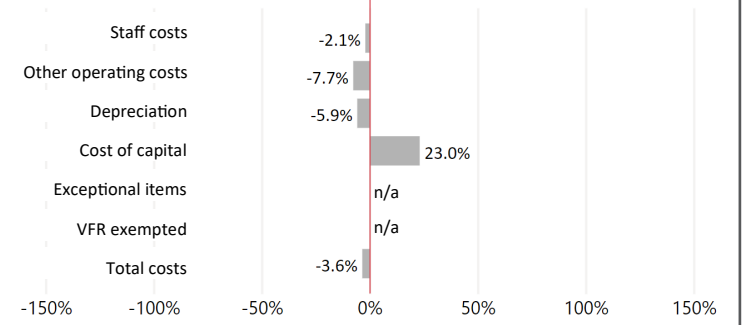


The 2020/2021 en route actual unit cost was lower than the determined unit cost.

Terminal actual unit cost and determined unit cost by year

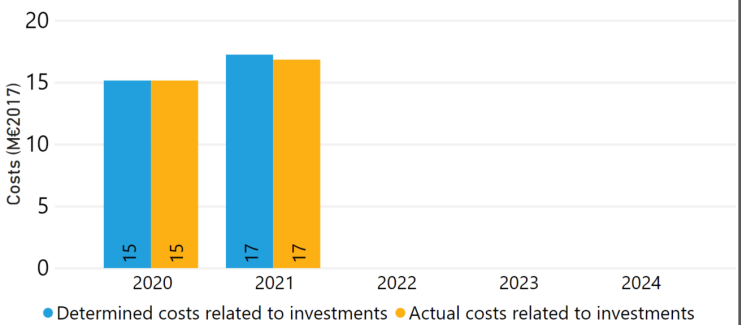
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



In 2021 Sweden decreased total costs by -3.6% compared to the determined.

Costs related to investments by year



LFV 2021 costs related to investments were -2.3% lower than planned due to a delay in the investment plan.

Comments from the Performance Review Body:

Safety:

- Skyguide achieved the RP3 EoSM targets in all management objectives, except in safety risk management which is however aligned to the plan. In 2021, the NSA reviewed Skyguide safety management function and concluded that the ANSP is expected to achieve the EoSM targets toward the end of RP3. Skyguide implemented specific measures in all safety management areas to maintain safety performance.
- Switzerland recorded a lower rate of runway incursions, but a high rate of separation minima infringements in 2021 relative to 2020. Both rates are below the Union-wide average rates.
- Skyguide should improve its safety management by implementing automated safety data recording systems for runway incursions.

Environment:

- Switzerland achieved a KEA performance of 3.87% compared to its target of 3.95% and contributed positively towards achieving the Union-wide target. KEA improved by 0.34 percentage points compared to 2020.
- Both SCR and KEP improved in 2021 by 5% and 6% respectively.
- The share of CDO flights remained at similar levels to 2020.
- Both additional time in terminal airspace and additional taxi out time improved in comparison to 2020 by 14% and 11% respectively.

Capacity:

- Switzerland registered 0.08 minutes of average en route ATFM delay per flight during 2021, thus meeting the local breakdown value of 0.12. Geneva ACC accumulated 0.03 minutes of en route delay which was below the ACC reference value of 0.10 and Zurich ACC accumulated 0.09 minutes of delay which was also below the ACC reference value of 0.10.
- Delays should be considered in the context of lower traffic: in Switzerland, IFR movements in 2021 were 47% lower than in 2019.
- Traffic is expected to grow, with 2019 levels likely being reached in 2023 in high growth scenario or 2024 in the base growth scenario. The number of ATCOs in OPS is planned to be reduced slightly in both ACCs during RP3.

Cost-efficiency:

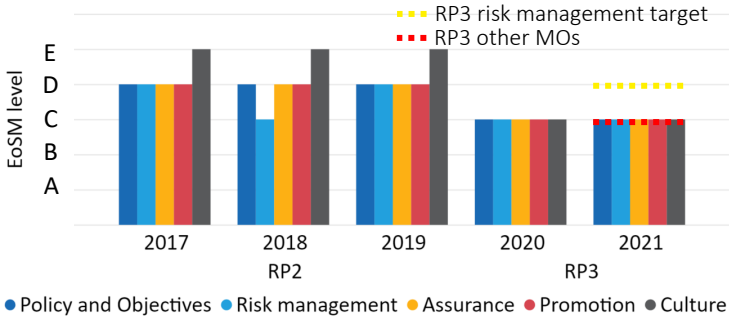
- The en route 2020/2021 actual unit cost of Switzerland was 206.71€$_{2017}$, +1.5% higher than the determined unit cost (203.64€$_{2017}$). The terminal 2020/2021 actual unit cost was 742.45€$_{2017}$, -4.5% lower than the determined unit cost (777.80€$_{2017}$).
- The en route 2021 actual service units (897K) were +2.1% higher than determined (879K).
- In 2021, Switzerland decreased total costs by -12M€$_{2017}$ (-7.3%) compared to determined costs. The decrease was mainly driven by a decrease in staff costs (-23M€$_{2017}$, or -18%), due to a provision on retirement age expected for 2021 but now postponed to 2022.
- However, the decrease in several cost categories is not transparent as it includes the non-invoicing of the financing of the delegated airspace, that was initially determined as negative exceptional items. In this regards, Switzerland should improve clarity in the reporting.
- Skyguide spent 43M€$_{2017}$ in 2021 related to costs of investments, in line with the determined.
- The en route actual unit cost incurred by users in 2020/2021 was 212.38€, while the terminal actual unit cost incurred by users was 814.95€.

* There is not an approved performance plan for FABEC. This factsheet is based on information within the latest submitted draft performance plan.

Switzerland Factsheet

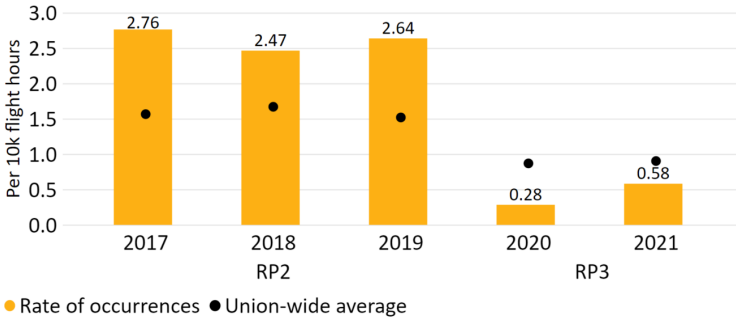
Safety

Main ANSP's effectiveness of safety management (EoSM) by year



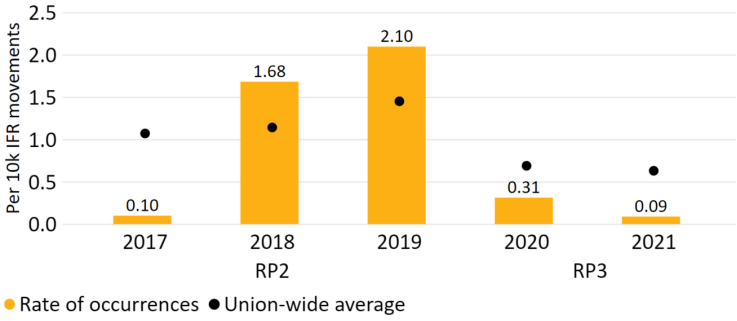
Switzerland did not achieve the target for safety risk management but achieved the targets for all other MOs.

Rate of separation minima infringement (SMI) by year



Switzerland reported an increase of the rate of separation SMIs in 2021 relative to 2020.

Rate of runway incursions (RIs) by year



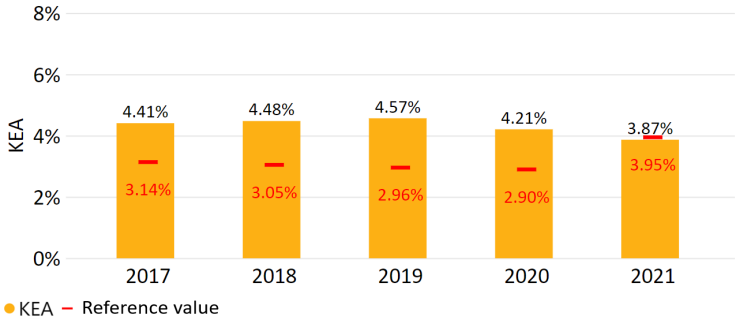
The rate of RIs per movement decreased in 2021 relative to 2020.

Use of automated safety data recording systems

Switzerland uses the automated safety data recording systems for separation minima infringements.

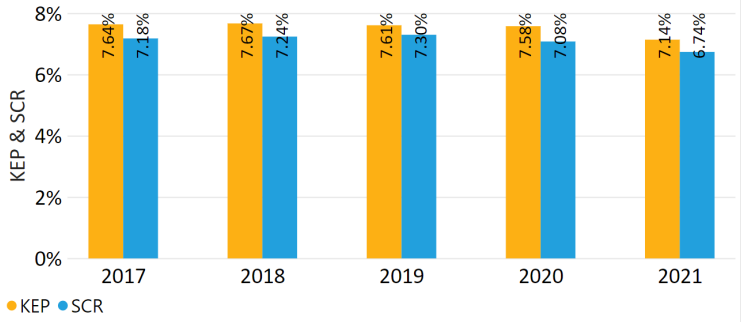
Environment

KEA performance



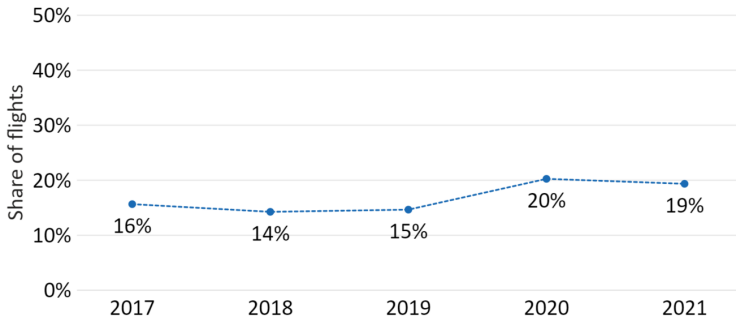
Switzerland achieved its 2021 KEA target, and performance improved relative to 2020.

KEP & SCR performance



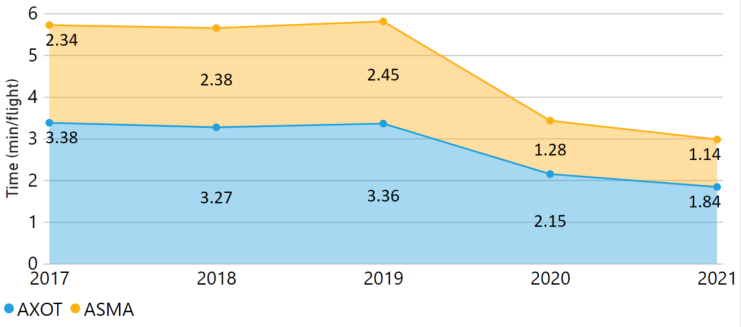
Switzerland made shorter constrained routes (SCR) available to airspace users in 2021.

Share of CDO flights by year



Switzerland's CDO performance worsened in 2021 compared to 2020. However, it is similar to what was achieved in the past.

Additional taxi out time (AXOT) and holding time (ASMA) by year

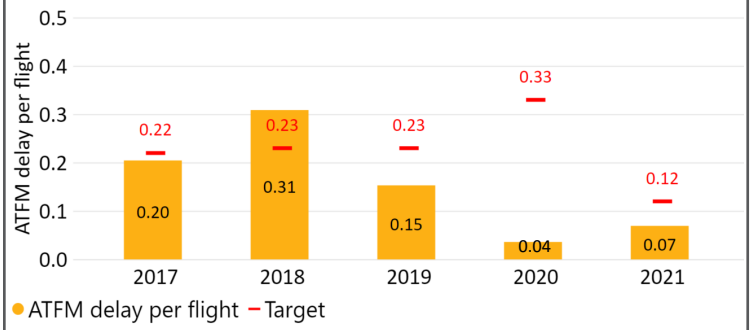


Terminal airspace users spent an additional 2.98 minutes per flight either taxiing or holding at Swiss airports.

Switzerland Factsheet

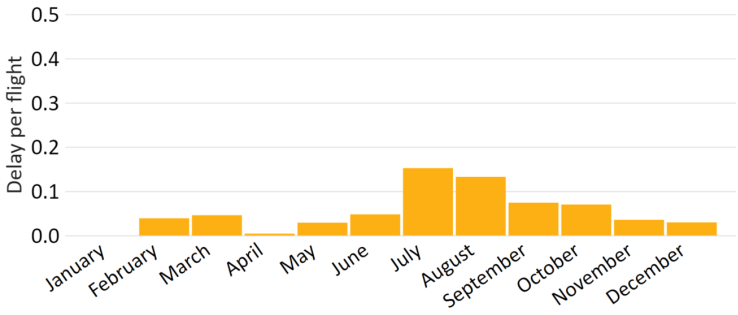
Capacity

ATFM delay per flight (min/flight)



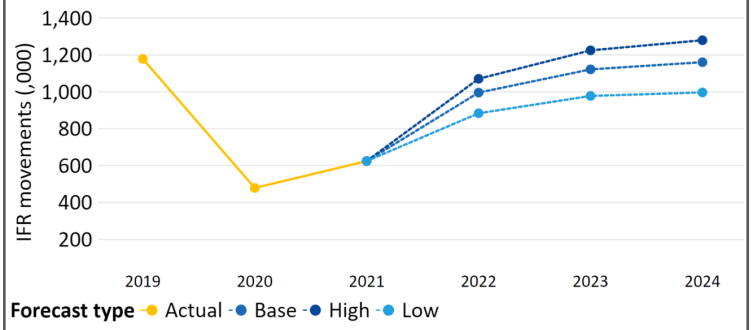
Delays in Switzerland increased year-on-year by 0.04 minutes in 2021.

Monthly ATFM delay per flight (min/flight) in 2021



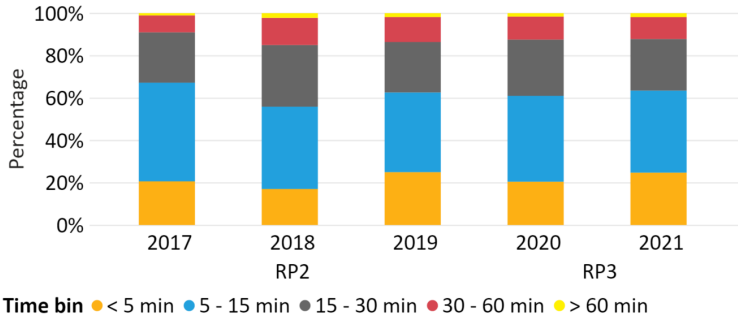
ATFM delays were the highest in July and August, when weather reasons were significant causes of delays.

IFR movements and forecasts by year



IFR movements in Switzerland were 1% above the base scenario of the STATFOR 2021 base forecast.

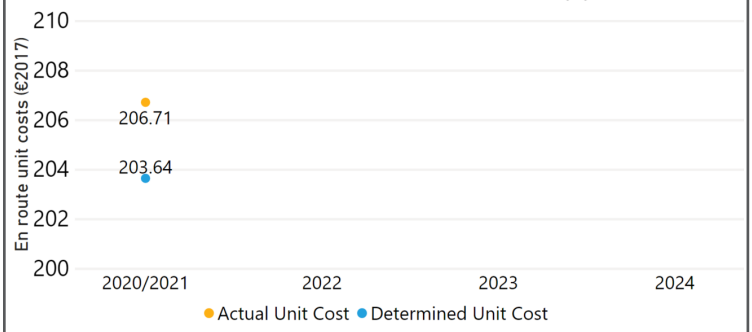
Percentage of en route delays per flight by year and time bin



There were shorter duration delays: share of delays longer than 15 minutes decreased by four percentage points year-on-year.

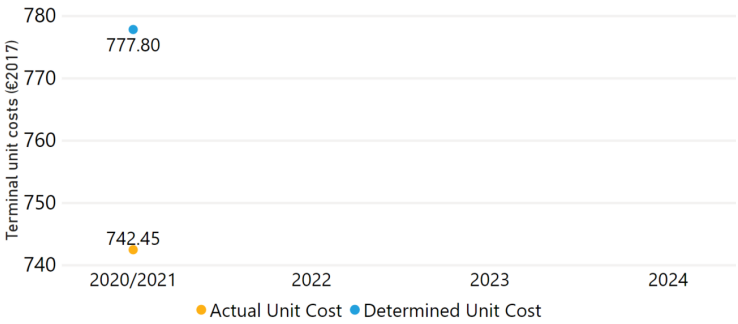
Cost-efficiency

En route actual unit cost and determined unit cost by year



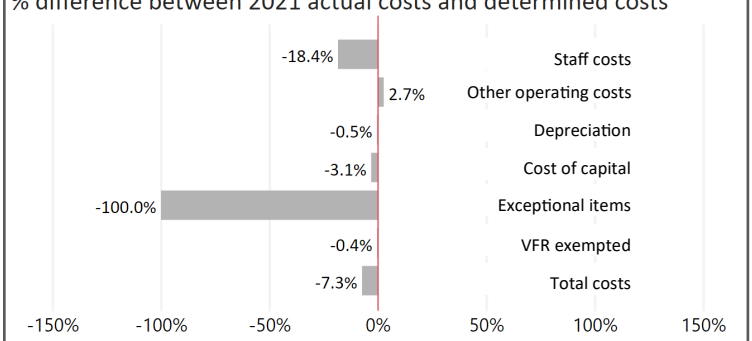
The 2020/2021 en route determined unit cost was lower than the actual unit cost.

Terminal actual unit cost and determined unit cost by year



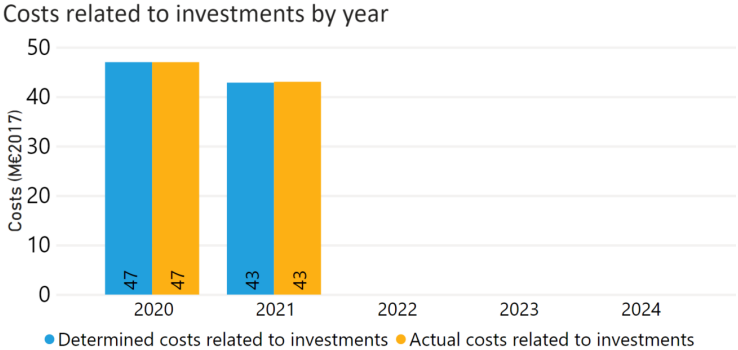
The 2020/2021 terminal actual unit cost was lower than the determined unit cost.

% difference between 2021 actual costs and determined costs



In 2021 Switzerland decreased total costs by -7.3% compared to the determined, mainly driven by a decrease in staff costs.

Costs related to investments by year



Skyguide 2021 costs related to investments are in line with determined.