PRB | Performance review body of the single european sky

Performance Review Body Monitoring Report

Czech Republic - 2023

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1 OVERVIEW

1.1 Contextual information

National performance plan adopted following Commission Decision (EU) 2022/772 of 13 April 2022

List of ACCs 1
Prague ACC

No of airports in the scope of the performance plan:
- **≥80'K** 1
- **<80'K** 0

Exchange rate (1 EUR=)
2017: 26.3115 CZK
2023: 23.9676 CZK

Share of Union-wide:
- **traffic (TSUs) 2023** 1.6%
- **en route costs 2023** 1.7%

Share en route / terminal costs 2023 87% / 13%

En route charging zone(s)
Czech Republic

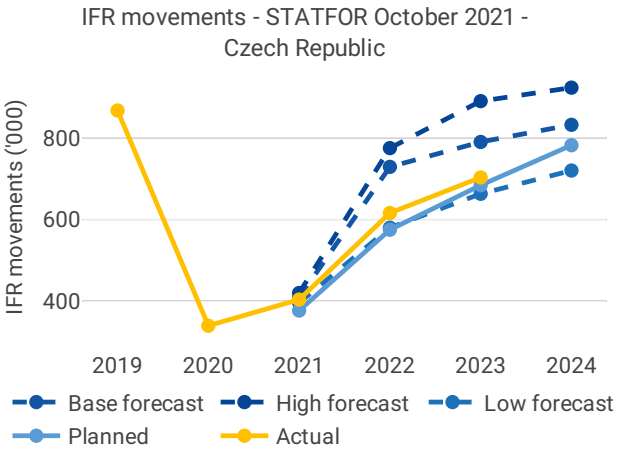
Terminal charging zone(s)
Czech Republic

Main ANSP
- ANS CR

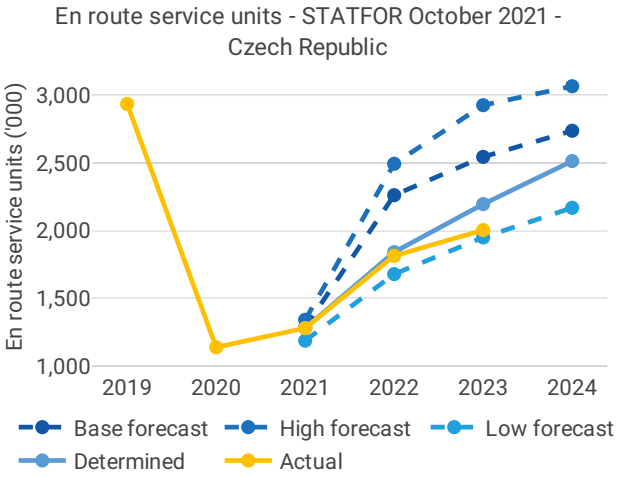
Other ANSPs
–

MET Providers
- CHMI

1.2 Traffic (En route traffic zone)

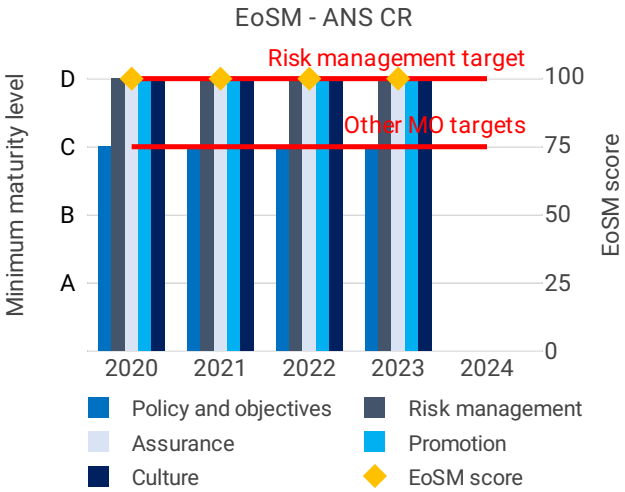


- Czech Republic recorded 703K actual IFR movements in 2023, +14% compared to 2022 (616K).
- Actual 2022 IFR movements were +2.9% above the plan (684K).
- Actual 2022 IFR movements represent 81% of the actual 2019 level (867K).



- Czech Republic recorded 2,004K actual en route service units in 2023, +11% compared to 2022 (1,814K).
- Actual 2023 service units were -8.7% below the plan (2,196K).
- Actual 2023 service units represent 68% of the actual 2019 level (2,068K).

1.3 Safety (Main ANSP)

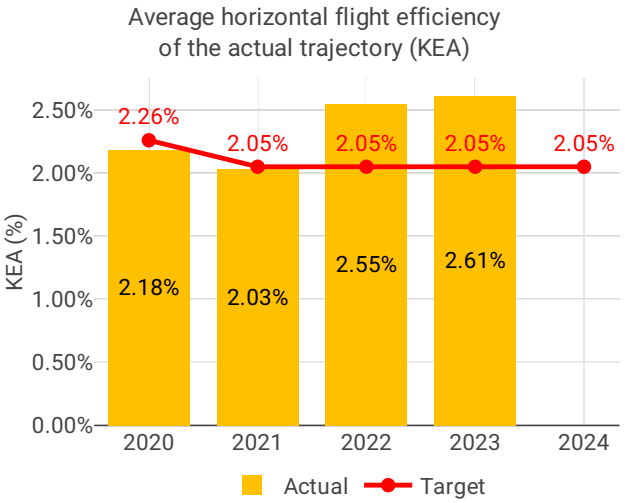


• ANS CR has already exceeded the RP3 EoSM targets in 2020. ANS CR undertook further actions to enhance its SMS function and to align it to Regulation (EU) 2017/373 in the area of fatigue risk management, team resource management.

• Despite the traffic increase, the rate of separation minima infringements decreased in 2023. The rate of runway incursions marginally increased. The NSA closely monitors the rate of occurrences and assesses the effectiveness of implemented measures through regular meetings of the Safety Board.

• ANS CR was one of the few ANSPs that used the automated safety data recording systems for SMIs and Ris.

1.4 Environment (Member State)



• The Czech Republic achieved a KEA performance of 2.61% compared to its target of 2.05% and did not contribute positively towards achieving the Union-wide target.

• The NSA states the main reason for not meeting the target is the severe impact of flight trajectories due to Russia's war of aggression against Ukraine.

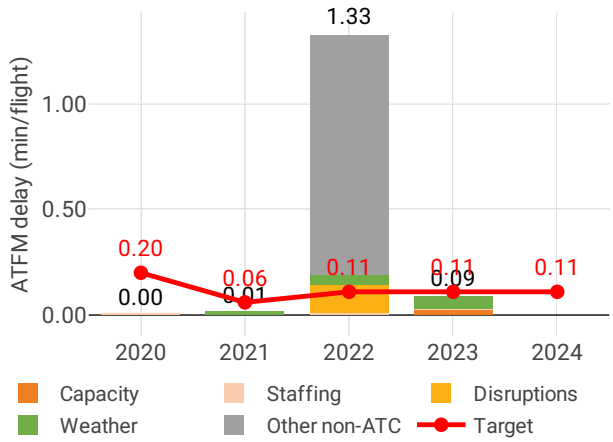
• Both KEP and SCR deteriorated in comparison with 2022.

• The share of CDO flights marginally decreased from 25.00% to 24.61% in 2023.

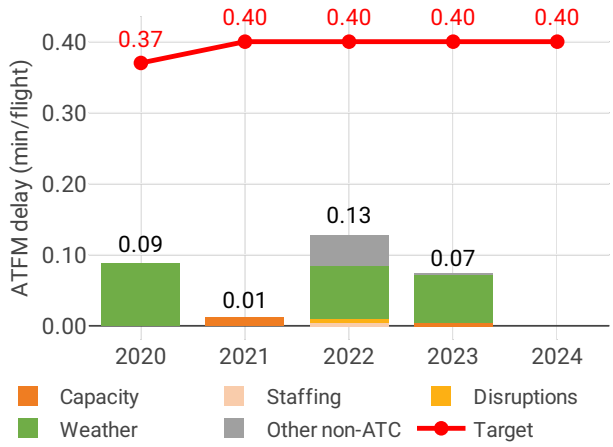
• During 2023, additional time in terminal airspace remained at 0.69 min/flight, while additional taxi out time increased from 1.90 to 2.30 min/flight.

1.5 Capacity (Member State)

Average en route ATFM delay per flight by delay groups



Average arrival ATFM delay per flight by delay groups



• The Czech Republic registered 0.11 minutes of average en route ATFM delay per flight during 2023 which has been adjusted to 0.09 during the post-ops adjustment process, thus achieving the local target value of 0.11. Delays in the Czech Republic decreased by 1.24 minutes per flight year-on-year.

• Delays were highest between June and October, mostly driven by adverse weather and ATC Capacity issues.

• The share of delayed flights with delays longer than 15 minutes in the Czech Republic decreased by 8 p.p. compared to 2022 and was higher than 2019 values.

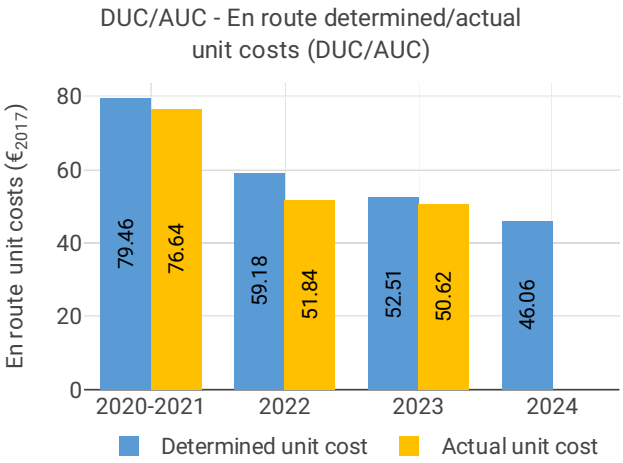
• The average number of IFR movements was 27% below 2019 levels in the Czech Republic in 2023.

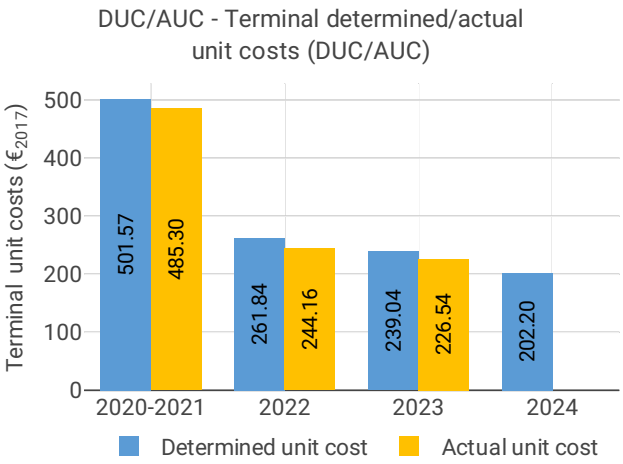
• The number of ATCOs in OPS is expected to increase by 38% by 2024, with the actual value being below the 2023 plan in Prague by 10 FTEs.

• The yearly total of sector opening hours in Prague ACC was 42,409, showing a 3.4% increase compared to 2022. Sector opening hours are 9.5% below 2019 levels.

• Prague ACC registered 14.6 IFR movements per one sector opening hour in 2023, being 17.9% below 2019 levels.

1.6 Cost-efficiency (En route/Terminal charging zone(s))





• The en route 2023 actual unit cost of Czech Republic was 50.62 €2017, -3.6% lower than the determined unit cost (52.51 €2017). The terminal 2023 actual unit cost was 226.54 €2017, -5.2% lower than the determined unit cost (239.04 €2017).

• The en route 2023 actual service units (2.0M) were -8.7% lower than the determined service units (2.2M).

• The en route 2023 actual total costs were -14 M€2017 (-12%) lower than determined, as all categories registered lower-than-planned costs. The gap was mainly a result of the underspend in other operating costs (-5.8 M€2017, or -24%), which the NSA attributed to the cost containment measures implemented in the areas of repairs, travel expenses, and software support.

• ANS CR spent 32 M€2017 in 2023 related to costs of investments for both en route and terminal charging zones, -11% less than determined (37 M€2017), primarily due to the postponement of some investment projects.

• The en route actual unit cost incurred by users in 2023 was 74.58€ (+18% above the 2023 DUC), while the terminal actual unit cost incurred by users was 316.01€ (+9.2% above the 2023 DUC). The difference between the AUCU and the DUC for the en route charging zone is primarily attributed to the inflation adjustment (+22 M€), while for the terminal charging zone, it is mainly due to lower than planned SUs (-9.7%).

• The en route regulatory result for ANS CR amounted to +19 M€, or 14% of the 2023 revenue. This may indicate that the airspace users are charged for costs which have not materialised in 2023.

• The PRB will take into consideration the implementation of the RP3 performance plan when assessing the RP4 cost-efficiency targets.

2 SAFETY - CZECH REPUBLIC

2.1 PRB monitoring

• ANS CR has already exceeded the RP3 EoSM targets in 2020. ANS CR undertook further actions to enhance its SMS function and to align it to Regulation (EU) 2017/373 in the area of fatigue risk management, team resource management.

• Despite the traffic increase, the rate of separation minima infringements decreased in 2023. The rate of runway incursions marginally increased. The NSA closely monitors the rate of occurrences and assesses the effectiveness of implemented measures through regular meetings of the Safety Board.

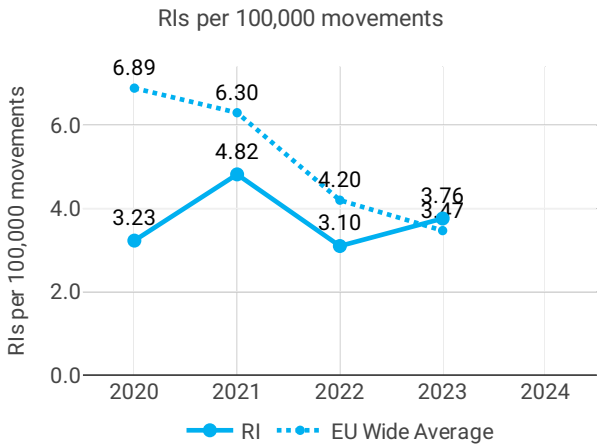
• ANS CR was one of the few ANSPs that used the automated safety data recording systems for SMIs and RIs.

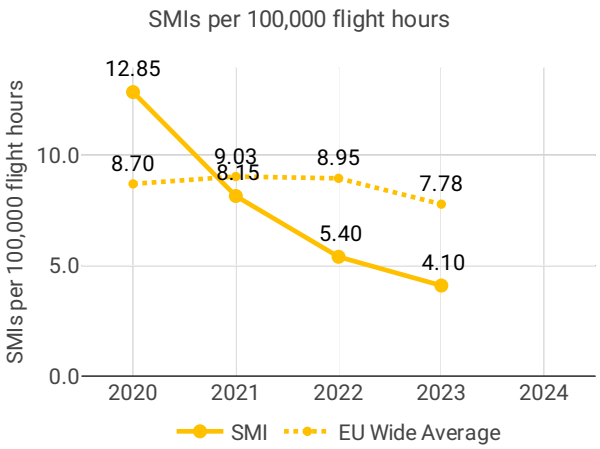
2.2 Effectiveness of Safety Management (EoSM) (KPI#1)

Focus on EoSM

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

2.3 Occurrences - Rate of runway incursions (RIs) (PI#1) & Rate of separation minima infringements (SMIs) (PI#2)





3 ENVIRONMENT - CZECH REPUBLIC

3.1 PRB monitoring

• The Czech Republic achieved a KEA performance of 2.61% compared to its target of 2.05% and did not contribute positively towards achieving the Union-wide target.

• The NSA states the main reason for not meeting the target is the severe impact of flight trajectories due to Russia's war of aggression against Ukraine.

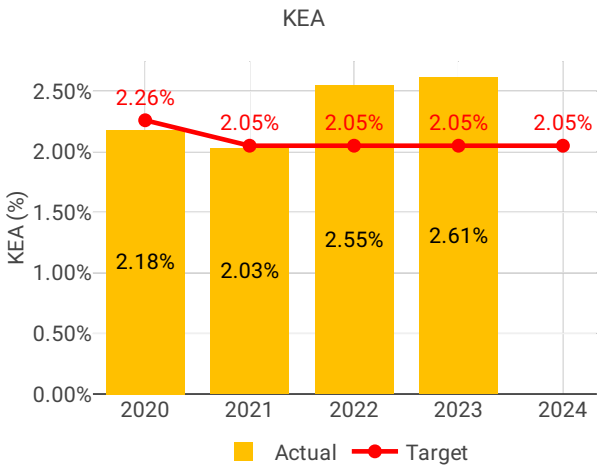
• Both KEP and SCR deteriorated in comparison with 2022.

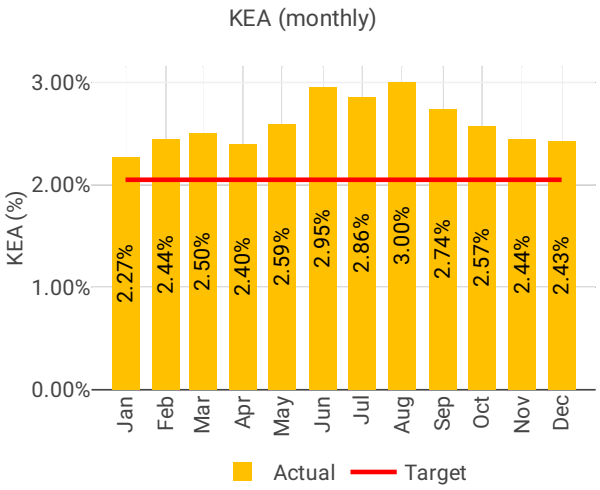
• The share of CDO flights marginally decreased from 25.00% to 24.61% in 2023.

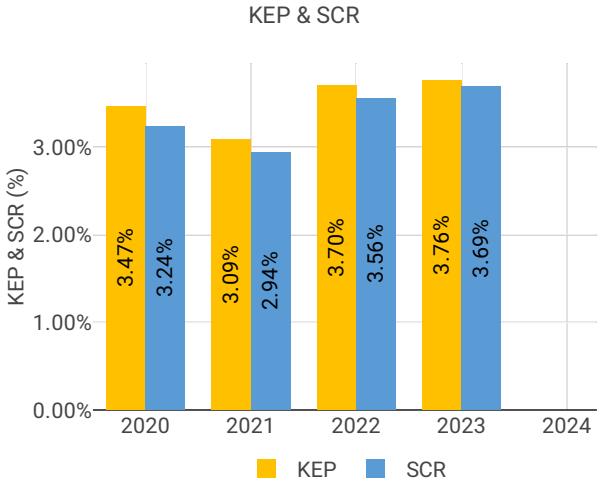
• During 2023, additional time in terminal airspace remained at 0.69 min/flight, while additional taxi out time increased from 1.90 to 2.30 min/flight.

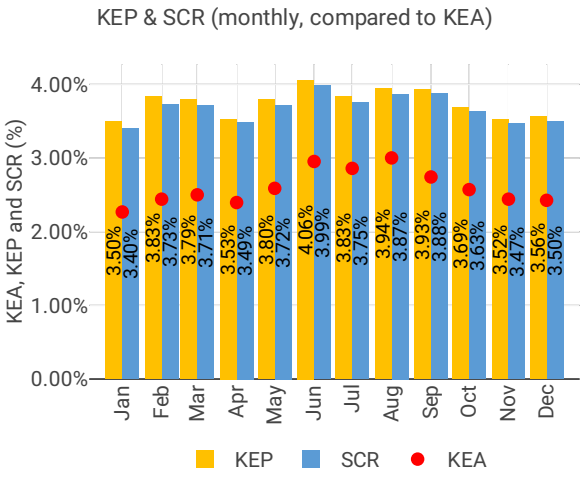
3.2 En route performance

3.2.1 Horizontal flight efficiency of the actual trajectory (KEA) (KPI#1), of the last filed flight plan (KEP) (PI#1) & shortest constrained route (SCR) (PI#2)



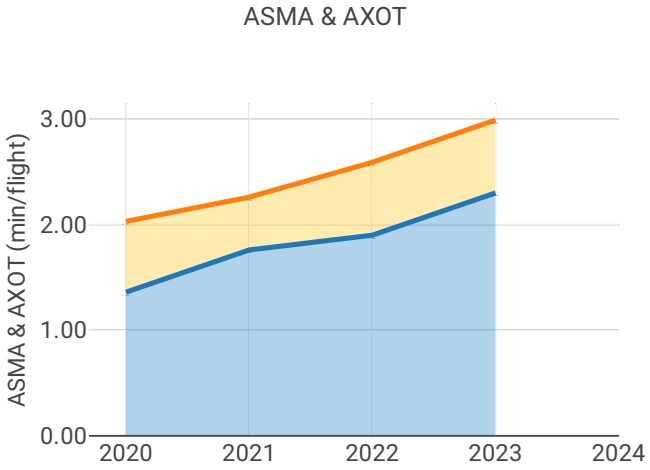


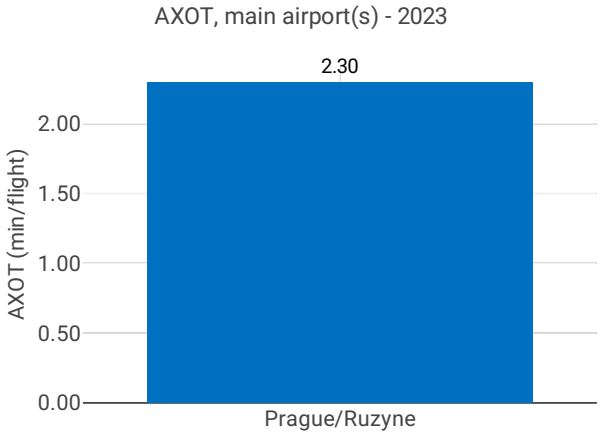


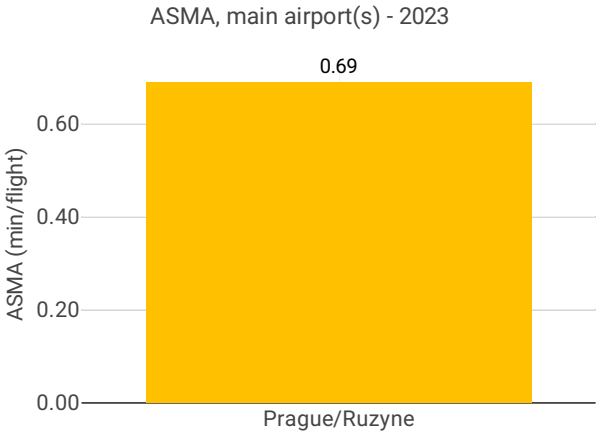


3.3 Terminal performance

3.3.1 Additional taxi-out time (AXOT) (PI#3) & Arrival Sequencing and Metering Area (ASMA) time (PI#4)







Focus on ASMA & AXOT

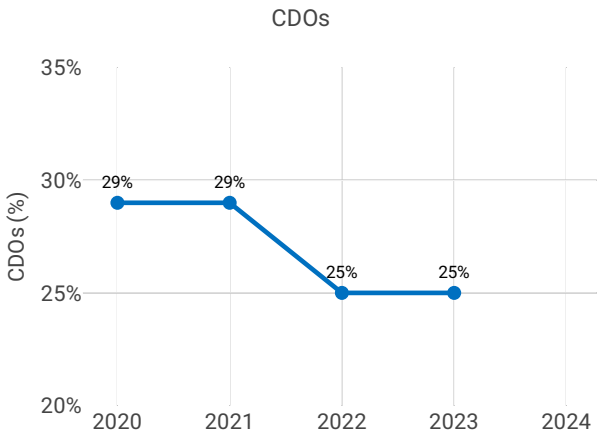
AXOT

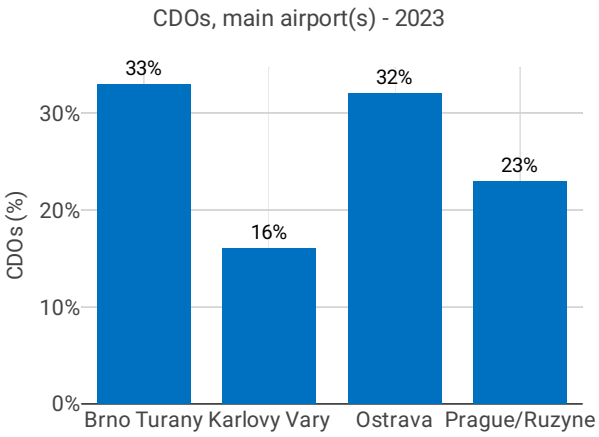
Additional taxi-out times at Prague increased in 2023 (LKPR; 2019: 2.8 min/dep.LKPR; 2020: 1.36 min/dep.; 2021: 1.76 min/dep.; 2022: 1.9 min/dep.; 2023: 2.3 min/dep.), but they were still 18% lower than in 2019.
According to the Czech Republic's monitoring report: *No formal initiatives were implemented. The development of PI #3 is mainly influenced by the volume of traffic (gradual return of traffic after the COVID-19 pandemic).*

ASMA

The yearly average of the additional times in the terminal airspace remained at the same level as the previous year (LKPR; 2019: 1.47 min/arr.; 2020: 0.67 min/arr.; 2021: 0.5 min/arr.; 2022: 0.69 min/arr.; 2023: 0.69 min/arr.), and it was still 53% lower than in 2019.
According to the Czech Republic's monitoring report: *No formal initiatives were implemented, but if traffic permits the aircrafts are allowed for direct routing.*
The PI monitoring is part of annual monitoring of the ANSP performance (on quarterly basis) to the CAA.

3.3.2 Share of arrivals applying continuous descent operations (CDOs) (PI#5)





Focus CDOs

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

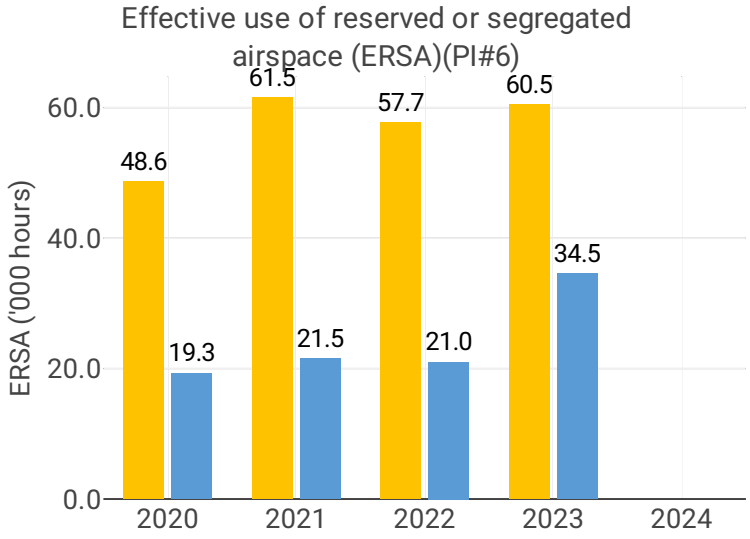
According to the Czech Republic's monitoring report: *There is no CDO officialy published procedure in FIR Prague, but if traffic permits clearence are issued in order to allow CDO.*

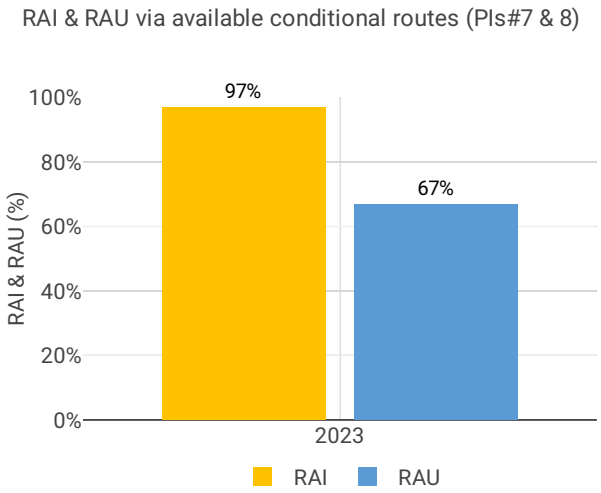
The PI monitoring is part of annual monitoring of the ANSP performance (on quaterly basis), which is provided to the CAA.

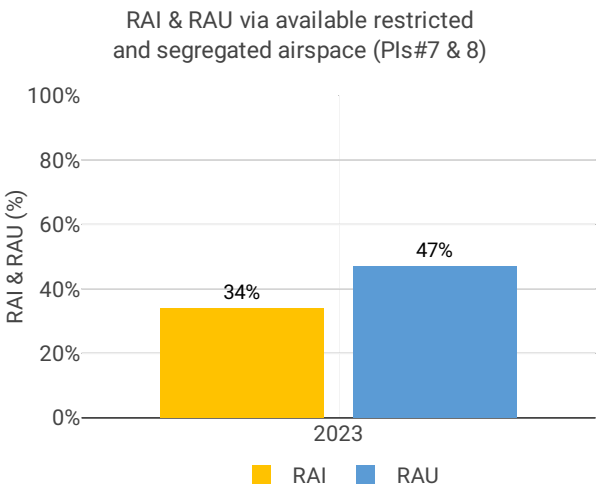
Airport level

	Additional taxi-out time (PI#3)					Additional ASMA time (PI#4)					Share of arrivals applying CDO (PI#5)				
Airport Name	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Prague/Ruzyne	1.36	1.76	1.90	2.30	NA	0.67	0.50	0.69	0.69	NA	28%	26%	23%	23%	NA
Karlovy Vary	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13%	16%	16%	16%	NA
Ostrava	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35%	37%	37%	32%	NA
Brno Turany	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	39%	37%	35%	33%	NA

3.4 Civil-Military dimension







Focus on Civil-Military dimension

Update on Military dimension of the plan

There is a significant impact of MIL activities on the ENV indicators. The military has the lead role in the AMC, the ANSPs has no power to evaluate the airspace reservation by the military. In any case, the implementation of FUA is regularly evaluated through monitoring organized by the CAA. The administrators of the individual TRA / TSA (mostly represented by MAA) submit the evaluation of the plans and the activation of these airspaces on a monthly basis to CAA, and any deficiencies are addressed within the ASMCG meetings or individually with specific administrators, if needed.
Airspace Charter of the Czech Republic describes the competent authorities (CIV and MIL), their responsibilities and principles by which a joint civilian-military body (ASM Committee - ASMC) carries out strategic planning for the use of the Czech Republic airspace. The Charter incorporates as annexes the descriptions of processes used to provide high quality services to airspace users and ATS providers through safe, accurate and timely planning, approval and promulgation of national airspace management measures and international cooperation. The Airspace Charter was udated at the end of 2021.
The airspace of the Czech Republic is open to flights and it is divided in accordance with the rules contained in Sections 44 - 44c) of Act No. 49/1997. Pursuant to Section 44(2) of the Act, the CAA issues, in agreement with the Ministry of Defence and after consulting the Person authorized to exercise state administration in the matters related to sport flying devices, measures of general nature under the Administrative Procedure Code on division of the airspace of the Czech Republic to ensure safe conduct of flights and efficient provision of air services. In fulfilment of that mandate, the CAA takes into account, where possible, the FUA specifications described in "EUROCONTROL Specifications for the Application of the Flexible Use of Airspace (FUA)". Consultation with airspace users, service providers and other relevant bodies is conducted with the aim of obtaining consensus, wherever possible, before making changes in the planning or design of airspace management. The consultations are performed in a transparent way following a predefined procedure. The ASMC ensures effective cooperation at all levels through the ASM Consultation Group (ASMCG). In application of Regulation (EC) No 2150/2005. the ASMC cooperates very closely with CAA and takes into account the findings and relevant corrective measures resulting from control activities (e.g. CAA, MAA, EASA). In accordance with ICAO requirements, the CAA publishes the airspace management policy and implementation of new airspace structures and follow-up procedures or their changes so that all airspace users and ATS providers have sufficient time to comply with the new requirements.
Dynamic Airspace Management is realized at ASM Level 2 and/or ASM Level 3. Areas published in AIP CR / MIL AIP or other pre-arranged areas can be used under FUA rules as AUP manageble with UUP function updates.
The ATM systems of the Czech Airforces are directly connected to the ANS CR systems in order to present current status of reserved areas to the ATCOs. The AIM/AIS provider promulgates the planning status of the airspaces concerned in AISVIEW web tool, which serves for airspace users as an information source.
On the local level the FUA is addressed within the AMC activities, on the FAB CE level the DAM/STAM projects are in progress.The AMC is newly certificated under the EU 2017/373. The regulation 2150/2005 is fully implemented within the Czech Republic.
With aim to improve FUA within the FAB CE member states an initiative concerning TSA/TRA harmonisation

was conducted at FAB CE regional level with the very first deliverebles. These FAB CE TSA/TRA Harmonisation deliverables consolidate findings and recommendations from various EUROCONTROL ASM related guidance materials, ICAO Doc 10088 'Manual on Civil-Military Coordination', and previous FAB CE ASM related activities to a consolidated Concept of Operations (CONOPS) for FAB CE and makes recommendations to achieve this CONOPS. It was noted that a coordinated and cohesive ASM implementation is an enabler for improved network performance on national, sub-regional and regional level and each participating Member State and their ANSPs are encouraged to undertake activities to achieve the state-of-play described in the CONOPS. The deliverebles contain some recommendations regarding Level 1 functions, as well as Level 2 and Level 3.
It was recognised that the overall ASM is State dependent and the purpose of this activity is not to attempt to override this State prerogative. However, as the topics contained in the activity and the resulting deliverables have been unanimously accepted by the participating States (via FAB CE Council and via FAB CE Joint Civil-Military Airspace Coordination Committee) and NSA (via NSA Coordination Committee) and ANSPs (via OPS SubC) the recommendations made should be considered for application by all States and ANSPs involved.
In a response of the War in Ukraine NATO corridors were created to ensure smoth operational MIL traffic from the West to the East and opposite in 2022. NATO corridors that were created within the framework of the ASM strategic level in the airspace of class " "C" " above FL 095 were at the beginning AMC manageable and later on they were handled as non AMC manageable, and their activation and deactivation is carried out at the tactical level. The corridors continued to be used in 2023.

Military - related measures implemented or planned to improve capacity

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

Initiatives implemented or planned to improve PI#6

Airspace Charter of the Czech Republic describes the competent authorities (CIV and MIL), their responsibilities and principles by which a joint civilian-military body (ASM Committee - ASMC) carries out strategic planning for the use of the Czech Republic airspace. The Charter incorporates as annexes the descriptions of processes used to provide high quality services to airspace users and ATS providers through safe, accurate and timely planning, approval and promulgation of national airspace management measures and international cooperation. The Airspace Charter was udated at the end of 2021.
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Dynamic Airspace Management is realized at ASM Level 2 and/or ASM Level 3. Areas published in AIP CR / MIL AIP or other pre-arranged areas can be used under FUA rules as AUP manageble with UUP function updates. FUA evaluation is performed monthly by individual TRA / TSA administrators and reported to the CAA. Deficiencies are addressed both within the ASMCG meetings and individually with individual administrators, if needed.
With aim to improve FUA within the FAB CE member states an initiative concerning TSA/TRA harmonisation was conducted at FAB CE regional level with the very first deliverebles. These FAB CE TSA/TRA Harmonisation deliverables consolidate findings and recommendations from various EUROCONTROL ASM related guidance materials, ICAO Doc 10088 'Manual on Civil-Military Coordination', and previous FAB CE ASM related activities to a consolidated Concept of Operations (CONOPS) for FAB CE and makes recommendations to achieve this CONOPS. It was noted that a coordinated and cohesive ASM implementation is an enabler for improved network performance on national, sub-regional and regional level and each participating Member State and their ANSPs are encouraged to undertake activities to achieve the state-of-play described in the CONOPS. The deliverables contain some recommendations regarding Level 1 functions, as well as Level 2 and Level 3.
NATO corridors that were created within the framework of the ASM strategic level in the airspace of class " "C" " above FL 095 were at the beginning AMC manageable and later on they were handled as non AMC manageable, and their activation and deactivation is carried out at the tactical level. The corridors continued to be used in 2023.
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Initiatives implemented or planned to improve PI#7

No data available.

Initiatives implemented or planned to improve PI#8

No data available.

4 CAPACITY - CZECH REPUBLIC

4.1 PRB monitoring

• The Czech Republic registered 0.11 minutes of average en route ATFM delay per flight during 2023 which has been adjusted to 0.09 during the post-ops adjustment process, thus achieving the local target value of 0.11. Delays in the Czech Republic decreased by 1.24 minutes per flight year-on-year.

• Delays were highest between June and October, mostly driven by adverse weather and ATC Capacity issues.

• The share of delayed flights with delays longer than 15 minutes in the Czech Republic decreased by 8 p.p. compared to 2022 and was higher than 2019 values.

• The average number of IFR movements was 27% below 2019 levels in the Czech Republic in 2023.

• The number of ATCOs in OPS is expected to increase by 38% by 2024, with the actual value being below the 2023 plan in Prague by 10 FTEs.

• The yearly total of sector opening hours in Prague ACC was 42,409, showing a 3.4% increase compared to 2022. Sector opening hours are 9.5% below 2019 levels.

• Prague ACC registered 14.6 IFR movements per one sector opening hour in 2023, being 17.9% below 2019 levels.

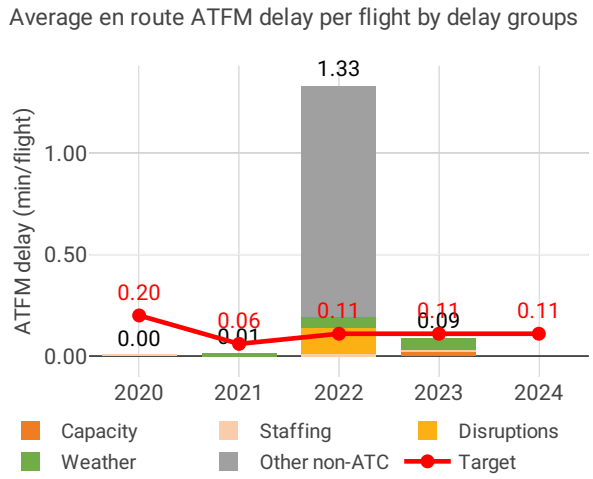
• The Czech Republic registered an average airport arrival ATFM delay of 0.07 minutes per flight in 2023, achieving the local target of 0.40 minutes.

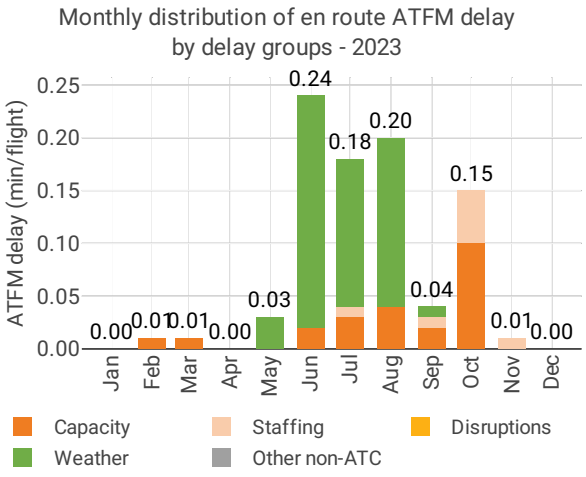
• Compared to 2022, average arrival ATFM delays in the Czech Republic were 43% lower in 2023, while the number of IFR arrivals increased by 18%.

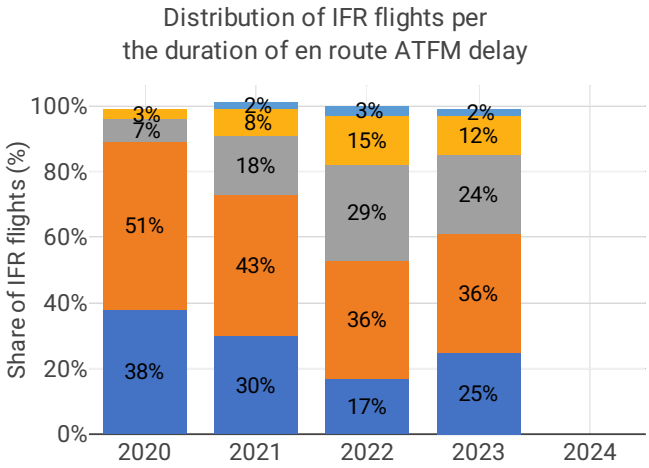
• The main reason for delays was weather, accounting for 95% of delays.

4.2 En route performance

4.2.1 En route ATFM delay (KPI#1)







Focus on en route ATFM delay

Summary of capacity performance

The Czech Republic experienced a 14% increase in traffic from 616k flights in 2022 to 703k flights in 2023. Despite the significant increase in traffic, ATFM delays decreased from 730k minutes in 2022 to 56k minutes of delay in 2023. (Note: 84% of ATFM delays in 2022 were attributed, either to the war in Ukraine, or, to the implementation of the Top Sky ATM system.)
Traffic levels and ATFM delays are still significantly below 2019 levels (867k flights and 184k minutes of delay).
There were an additional 14k minutes of delay originating in the Czech Republic that were re-attributed to DFS via the NM post operations delay attribution process, according to the NMB agreement for eNM/S23 measures, to ameliorate capacity shortfalls in Karlsruhe UAC.

NSA's assessment of capacity performance

The steady growth of air traffic in the Czech airspace continued during 2023. Compared to the last year of the pre-crisis development, i.e. 2019, which also serves as a basic reference, traffic reached 74% (in IFR movements). In the long term comparison, the volume of traffic in 2023 is thus the same as in 2007. For the full year 2023, 621 496 movements were recorded in the Czech Republic's airspace compared to 550 194 in 2022. The average daily number of movements reached 1 701. The development of the volume of traffic in Czech airspace was again different from the European average. The reason for this traffic development in the Czech Republic's airspace is solely due to the impact of the war in Ukraine and the related shift of the main air traffic flows southwards. Sanctions on Russian and Belarusian carriers, including the closure of Ukrainian airspace, are also having the same effect. The absence of carriers from these countries represents a decrease of approximately 200 flights per day.
In 2023, 59,224 minutes of delay were recorded on ACC Prague. The average delay value per flight performed in FIR Prague was 0.10 min/year. Following the delay reattribution process, for the DFS measures applied during Summer 2023, 13.529 minutes of delay were later reattributed from ANS Czech Republic to DFS. The total number of movements (IFR at ACC by NOP) in 2023 was 619 283 (-25.66% compared to 2019 and +16.23% compared to 2022). In 2023, 12,081 minutes of delay were recorded at APP Prague. The average delay due to ATFM for the whole year 2023 was 0.09 min/year.
No capacity issue was recorded during the year 2023. The ANSP systems are well prepared for future capacity requirements.

Monitoring process for capacity performance

The monitoring process is based on quarterly monitoring repotts prepared by ANS CR. These are based on the company Annual plan and cover all KPAs.

Capacity planning

After the deployment of the new main ATM system (2022) and its stabilisation in previous periods, thanks to the continued training of new ATCOs and the gradual implementation of the ATS Optimisation project in the Czech Republic (as outlined in the Czech Performance Plan for RP3), the Czech Republic has built sufficient capacity to adhere to the required level of performance.

Application of Corrective Measures for Capacity (if applicable)

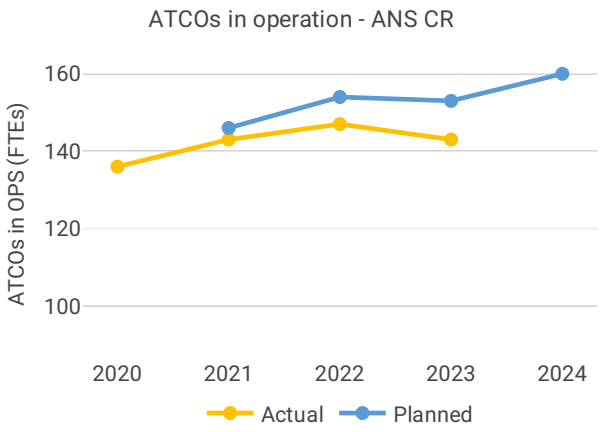
Corrective measures were introduced in 2022, in response to the capacity performance at the time. Three main actions were taken:
1. Staff usage - Full utilisation of operational staff with maximum use of overtime (up to the legal limit);
2. Optimisation project - Cross licensing and training of ATCO students on layer "L";
3. External factors - Coordination with the Czech Air Force in order to limit the impact of their activities on civil aviation.

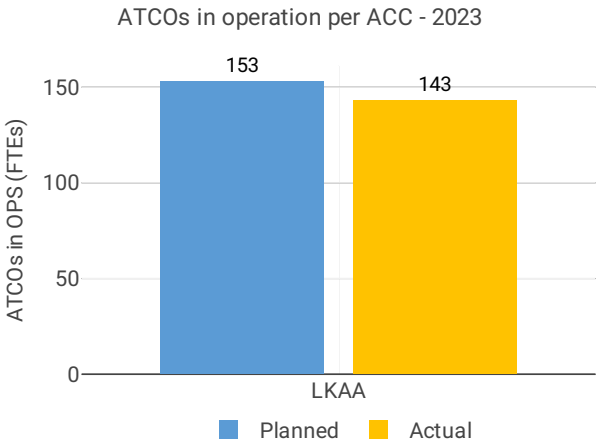
Additional Information Related to Russia's War of Aggression Against Ukraine It is difficult to distinguish the individual influences on traffic planning by air carriers, but in the Czech Republic there have been major changes in the structure of traffic, particularly on the west-east axis, where flight flows have shifted to the north and south. As a result, according to the latest STATFOR forecasts, the Czech Republic will not reach pre-COVID traffic levels before the end of RP4.

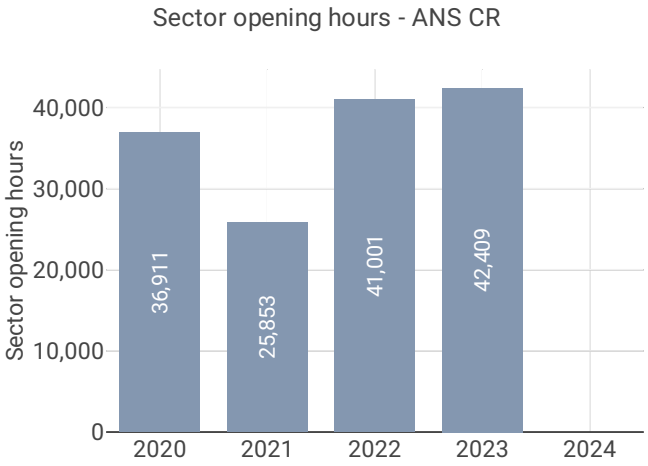
En route Capacity Incentive Scheme

ANS CR: According to the incentive scheme defined in the monitoring report, the ANSP, ANS CR, is due a bonus of 3,758,571 CZK.In accordance with Article 3(3)(a) of Implementing Regulation (EU) 2020/1627: The incentive scheme shall cover only the calendar years 2022 to 2024.

4.2.2 Other indicators





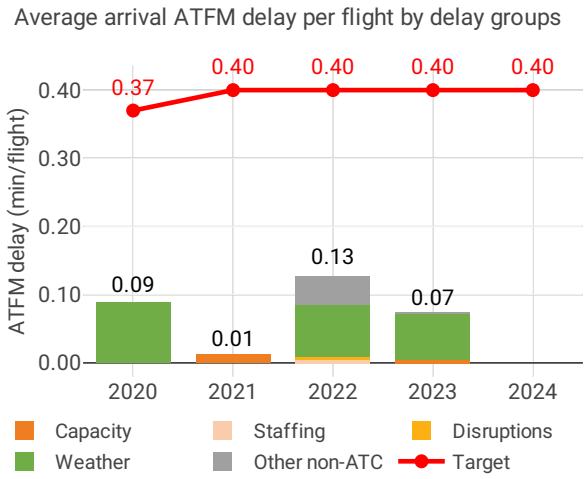


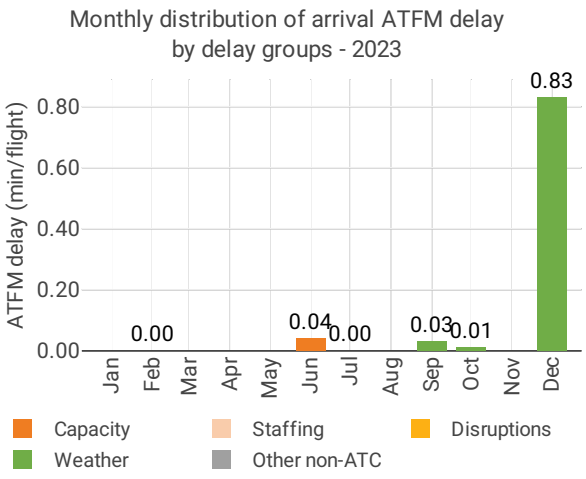
Focus on ATCOs in operations

The number of operational ATCOs is 6,5 % below the expected level, this deviation is non-material and is caused mainly by decelerated training due to the COVID impact and a higher number of ATCOs retiring. Intensive training of additional ATCOs is currently underway.

4.3 Terminal performance

4.3.1 Arrival ATFM delay (KPI#2)





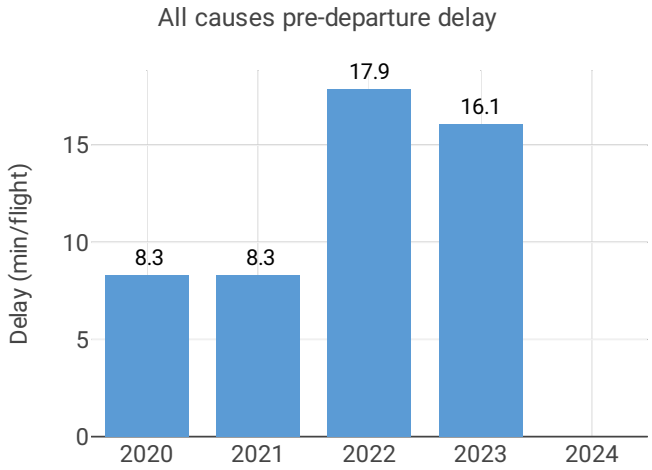
Focus on arrival ATFM delay

Czech Republic has included only Prague in their last Performance Plan for RP3 monitoring.
The Airport Operator Data Flow, necessary for the monitoring of the additional times, is correctly established at Prague and the monitoring of all environment indicators can be performed.
Traffic this airport in 2023 was still 25% lower than in 2019, but 18% higher than in 2022.
Average arrival ATFM delays in 2023 was 0.07 min/arr, compared to 0.13 min/arr in 2022. The target was met.
ATFM slot adherence has improved (2023: 97%; 2022: 96.1%).

Delays at Prague (LKPR: 2019: 0.18 min/arr.; 2020: 0.09 min/arr.; 2021: 0.01 min/arr.; 2022: 0.13 min/arr.; 2023: 0.07 min/arr.) decreased in 2023. 95% of the delays were attributed to weather, and 5% attributed to ATC Capacity.
According to the Czech monitoring report: I*n line with long-term trend in the terminal capacity and with contribution of the low traffic the target was met.*
There were no significant ATFM delay at Prague/Ruzyne airport.
Russia's aggression against Ukraine has major impact on LKPR OPS. Because of ban on flights to/from Russia and Belarus and no flight zone in Ukraine LKPR suffers from significant traffic reduction.

The Czech performance plan sets a national target on arrival ATFM delay for all RP3 of 0.4 min/arr. This target was met in 2023 with an actual performance of 0.07 min/arr.
According to the Czech monitoring report, this performance corresponds to the maximum bonus (0.50%), computed by the NSA as CZK*2717741,44* .

4.3.2 Other terminal performance indicators (PI#1-3)



Airport level

	Avg arrival ATFM delay (KPI#2)				Slot adherence (PI#1)			
Airport name	2020	2021	2022	2023	2020	2021	2022	2023
Brno Turany	NA	NA	NA	NA	100.0%	98.2%	99.2%	99.6%
Karlovy Vary	NA	NA	NA	NA	100.0%	100.0%	97.3%	98.3%
Ostrava	NA	NA	NA	NA	100.0%	98.0%	99.4%	98.9%
Prague/Ruzyne	0.09	0.01	0.13	0.07	94.7%	95.3%	96.1%	97.0%

	ATC pre departure delay (PI#2)				All causes pre departure delay (PI#3)			
Airport name	2020	2021	2022	2023	2020	2021	2022	2023
Brno Turany	NA	NA	NA	NA	NA	NA	NA	NA
Karlovy Vary	NA	NA	NA	NA	NA	NA	NA	NA
Ostrava	NA	NA	NA	NA	NA	NA	NA	NA
Prague/Ruzyne	0.22	NA	0.04	NA	8.3	8.3	17.9	16.1

Focus on performance indicators at airport level

ATFM slot adherence

The slot adherence in 2023 was 97%, a slight improvement with respect to 2022 (96.1%). With regard to the 3% of flights that did not adhere, 1.1% was early and 1.9% was late.
According to the Czech monitoring report: *The ATFM slot adherence was within the required range and was even better than in the previous year. In order to keep these levels, ANS CR monitors the value on a monthly basis and continuously educates ATCOs.*
The ATFM slot adherence is part of the regular reporting on the implementation of the ANSP, which is sent quarterly to NSA.

ATC pre-departure delay

The quality of the airport data reported by Prague (the only Czech airport subject to monitoring of this indicator) is too low, preventing the calculation of this indicator.
The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Prague.
However, there are several quality checks before EUROCONTROL can produce the final value which is established as the average minutes of pre-departure delay (delay in the actual off block time) associated to the IATA delay code 89 (through the APDF, for each delayed flight, the reasons for that delay have to be transmitted and coded according to IATA delay codes.
However, sometimes the airport operator has no information concerning the reasons for the delay in the off block, or they cannot convert the reasons to the IATA delay codes. In those cases, the airport operator might:
- Not report any information about the reasons for the delay for that flight (unreported delay)
- Report a special code to indicate they do not have the information (code ZZZ)
- Report a special code to indicate they do not have the means to collect and/or translate the information (code 999)

To be able to calculate with a minimum of accuracy the PI for a given month, the minutes of delay that are not attributed to any IATA code reason should not exceed 40% of the total minutes of pre-departure delay observed at the airport.
Finally, to be able to produce the annual figure, at least 10 months of valid data is requested by EUROCONTROL.
The share of unidentified delay reported by Prague was above 40% for 10 months in 2022, preventing the calculation of this indicator.

All causes pre-departure delay

Prague is the only Czech airport subject to the monitoring of this indicator.
The total (all causes) delay in the actual off block time at Prague in 2023 improved with respect to 2022 (LKPR: 2020: 8.30 min/dep.; 2021: 8.32 min/dep.; 2022: 17.92 min/dep.; 2023: 16.12 min/dep.).
According to the Czech monitoring report:
The main causes of the delay are: En-route delay - 19,55%; Airline delay - 15, 42%; Airport delay - 5,75%; Weather - 5,4%; Security & Immigration - 1,39% and Other - 52,41%. The variety of the measures has been made by the airport operator during the 2023 for increasing the capacity in the operational and safety areas. There is list of the main operational measures:
- *Regular operational coordination meetings,*
- *Automation of TOBT time entry for General and Business Aviation flights ,*
- *Storm scenario - synchronized MET information sharing and automated sending of storm activity alerts via email to all stakeholders,*
- *in PAXMAN - prediction of passenger arrival curves for terminal hubs and sharing with LP and ICP operations*
- *Throughput simulation on T1 pass filters,*
- *Verification of airport fixed resource capacity through a model scenario,*
- *Adjustment of check-in counter charging as an incentive to use resources more efficiently,*
- *Plan to reinforce GAV control room staffing during special events (e.g. EU Summit),*
- *Increase of 9 FTEs of boarding bridge driver-operators compared to S22,*
- *Reinforcement of the PCL team by using 10 drivers to maintain the airfields in winter,*

- Ongoing recruitment of FTE/DPP drivers with the aim of scheduling these primarily to cover operational peaks,
- Shifting some aircraft/carriers previously using remote stands to contact stands during peak periods (FR 10%, W6 30%),
- Inspection of specific parts and systems of Cobus buses beyond regular maintenance.
The following measures were taken in the area of Safety:
- Accurate and effective strategic, pre-tactical planning of operational needs and operational management of BEK staff. Automated planning of BEK staffing needs according to accurate operational forecasts. Pre-tactical verification of the provision of operational needs.
- Rapid extension of the Digital Employee project for fast and secure communication with BEK staff (HPP and FTE). Creation of a free shift exchange.
- Verification of BEK's technology resource capacity, contingency plan for technology use in case of failure/shortage to minimize impact on capacity and passenger satisfaction.
- Managed cutting of operational peaks, increasing the probability of breaching waiting time as per SLA.
- Verification of BEK staffing capacity against model flight schedule.
- Plan to staff VIP lounges and T3 in case of increased traffic/excursions.
- Increasing BEK's HPP staffing levels to 100%, part-time and FTE staff. Active recruitment and training of staff is ongoing.
- Expansion of use of FTE staff, up-skilling.
- Revision of BEK's operational procedures.
- Individual approach to new staff - reducing turnover and increasing satisfaction.
- Revision of control system, support for system solutions, fair treatment of workers.
- Planned upgrade of dispatch phones.
- Ensuring all necessary.
- Providing all necessary training during the winter season, cancelling planned training and skills development activities during the summer season.
- Individual interviews with all BEK staff - motivation to cope with the summer season.
- Design of performance and stabilization bonuses for BEK staff.
- Coordination meeting with OLE - taking over BEK workplaces.
And many other operational measures such as:
- Change in allocation of standing flights (remote vs. boarding bridges) in favor of boarding bridges.
- adjusting the composition of operations teams and their shifts evaluating the model week forecast demand for airport resources
- inclusion of the PRM team in the model week evaluation

5 COST-EFFIENCY - CZECH REPUBLIC

5.1 PRB monitoring

• The en route 2023 actual unit cost of Czech Republic was 50.62 €2017, -3.6% lower than the determined unit cost (52.51 €2017). The terminal 2023 actual unit cost was 226.54 €2017, -5.2% lower than the determined unit cost (239.04 €2017).

• The en route 2023 actual service units (2.0M) were -8.7% lower than the determined service units (2.2M).

• The en route 2023 actual total costs were -14 M€2017 (-12%) lower than determined, as all categories registered lower-than-planned costs. The gap was mainly a result of the underspend in other operating costs (-5.8 M€2017, or -24%), which the NSA attributed to the cost containment measures implemented in the areas of repairs, travel expenses, and software support.

• ANS CR spent 32 M€2017 in 2023 related to costs of investments for both en route and terminal charging zones, -11% less than determined (37 M€2017), primarily due to the postponement of some investment projects.

• The en route actual unit cost incurred by users in 2023 was 74.58€ (+18% above the 2023 DUC), while the terminal actual unit cost incurred by users was 316.01€ (+9.2% above the 2023 DUC). The difference

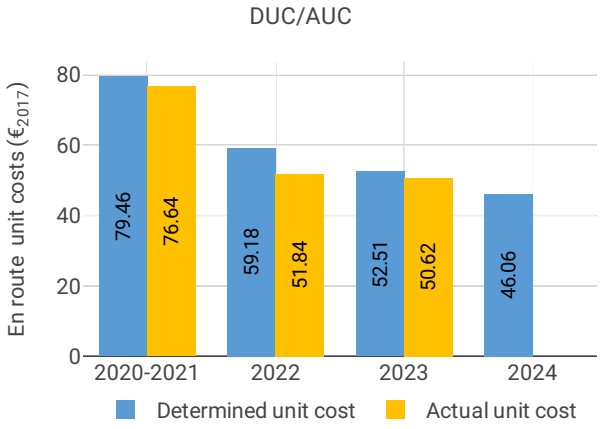
between the AUCU and the DUC for the en route charging zone is primarily attributed to the inflation adjustment (+22 M€), while for the terminal charging zone, it is mainly due to lower than planned SUs (-9.7%).

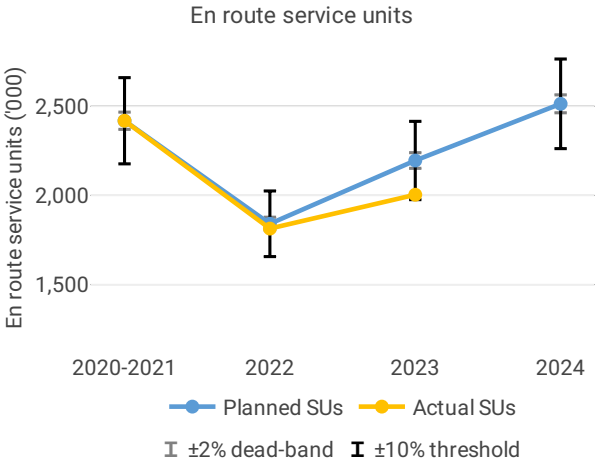
• The en route regulatory result for ANS CR amounted to +19 M€, or 14% of the 2023 revenue. This may indicate that the airspace users are charged for costs which have not materialised in 2023.

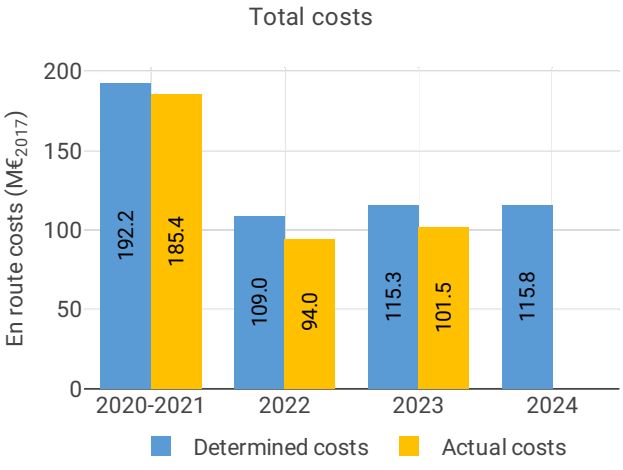
• The PRB will take into consideration the implementation of the RP3 performance plan when assessing the RP4 cost-efficiency targets.

5.2 En route charging zone

5.2.1 Unit cost (KPI#1)

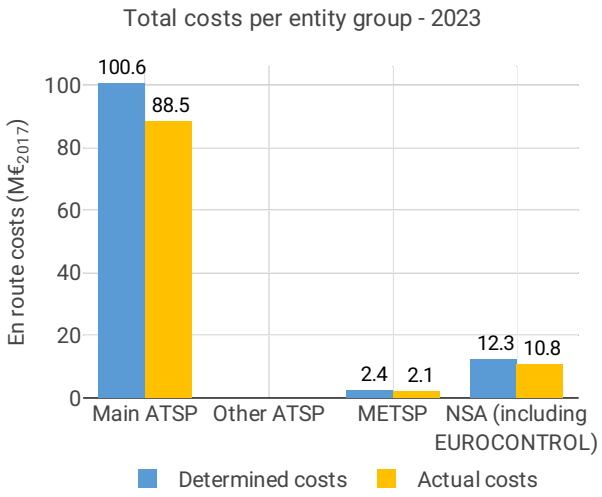


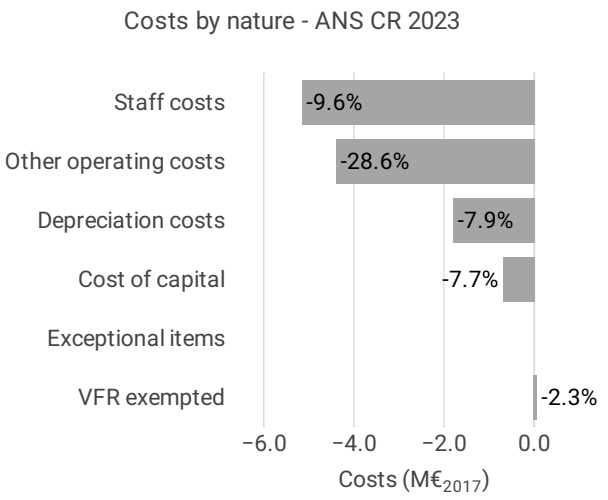




Actual and determined data

Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	196	109	128	NA
Determined costs	203	118	126	128
Difference costs	-7	-8	2	NA
Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	2.0%	2.0%	2.0%
Determined inflation index	NA	112.8	115	117.3
Actual inflation rate	NA	14.8%	12.0%	NA
Actual inflation index	NA	128.2	143.6	NA
Difference inflation index (p.p.)	NA	+15.4	+28.6	NA





Focus on unit cost

AUC vs. DUC

In 2023, the en route AUC was -3.6% (or -49.81 CZK2017, -1.89 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned en route costs in real terms (-12.0%, or -364.3 MCZK2017, -13.8 M€2017) and significantly lower than planned TSUs (-8.7%). It should be noted that actual inflation index in 2023 was +28.6 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (-8.7%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users.

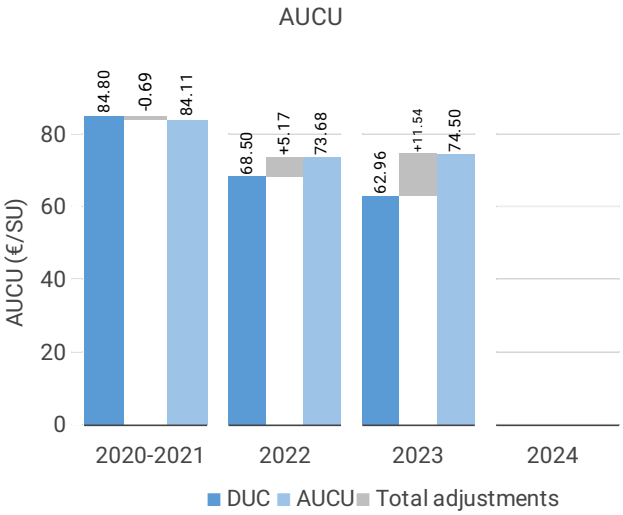
En route costs by entity

Actual real en route costs are -12.0% (-13.8 M€2017) lower than planned. This is the result of lower costs for the main ANSP, ANS CR (-12.0%, or -12.1 M€2017), the NSA/EUROCONTROL (-11.6%, or -1.4 M€2017) and the MET service provider (-14.4%, or -0.4 M€2017).

En route costs for the main ANSP at charging zone level

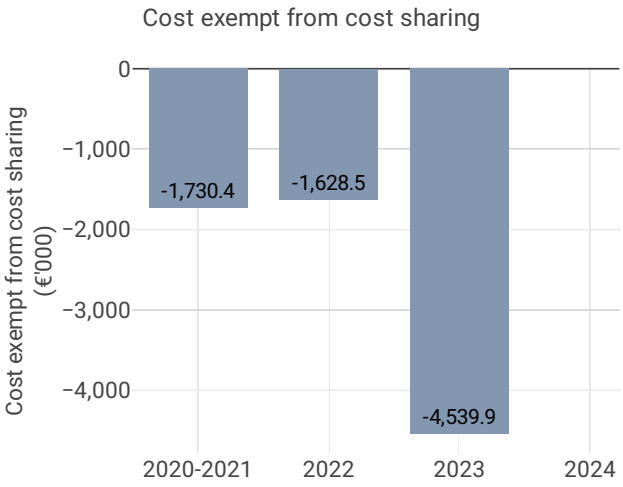
Significantly lower than planned en route costs in real terms for ANS CR in 2023 (-12.0%, or -12.1 M€2017) result from:
- Significantly lower staff costs in real terms (-9.6%), but higher costs in nominal terms (+12.9%), impacted by much higher-than-expected inflation rate;
- Significantly lower other operating costs (-28.6%), thanks to cost containment measures in the areas of repairs, travel expenses and software support;
- Significantly lower depreciation costs (-7.9%), reflecting deferred system upgrades and supplier delays in the DPS area, but also cash flow issues due to lower traffic levels leading to a reprioritisation of investment;
- Significantly lower cost of capital (-7.7%), as a result of "*a gap in some investments and consequently lower asset base*";
- Lower deduction for VFR exempted flights (-2.3%).

5.2.2 Actual unit cost incurred by the users (AUCU) (PI#1)



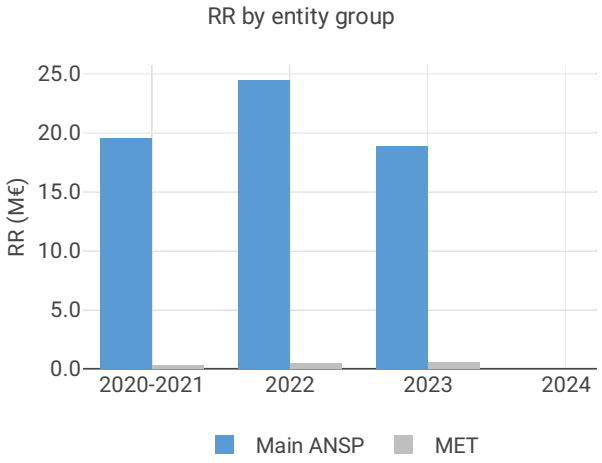
AUCU components (€/SU) – 2023

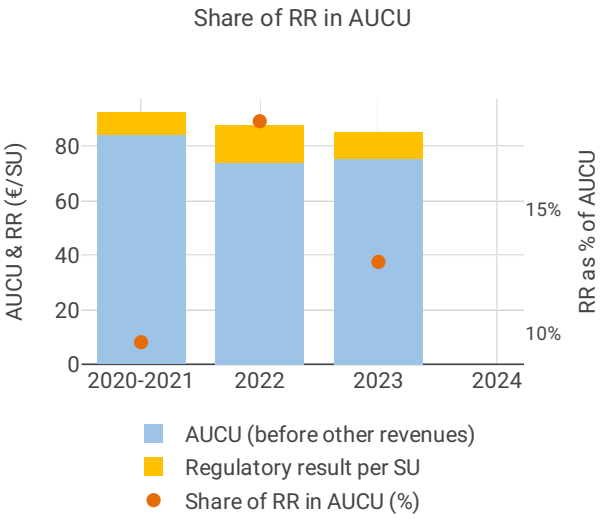
Components of the AUCU in 2023	€/SU
DUC	**62.96**
Inflation adjustment	11.05
Cost exempt from cost-sharing	-2.27
Traffic risk sharing adjustment	2.86
Traffic adj. (costs not TRS)	0.72
Finantial incentives	0.00
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	-0.82
Application of lower unit rate	0.00
Total adjustments	11.54
AUCU	**74.50**
AUCU vs. DUC	**+18.3%**

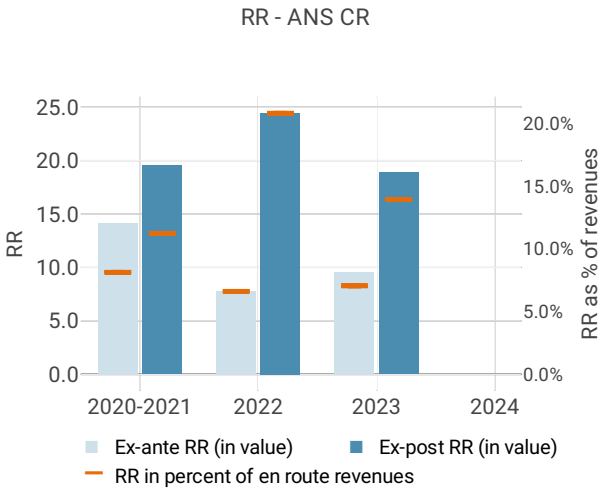


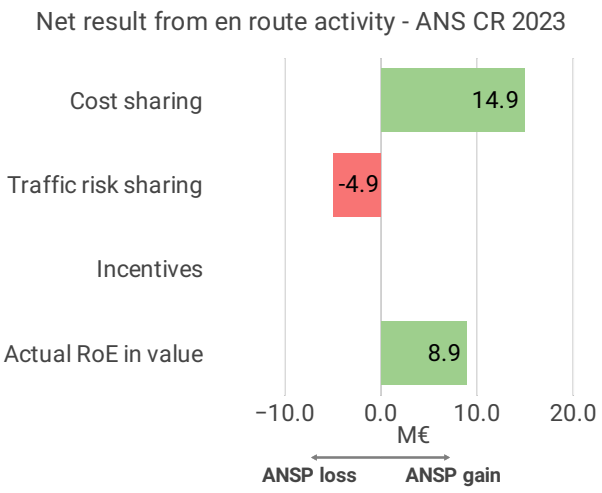
Cost exempt from cost sharing by item - 2023	€'000	€/SU
New and existing investments	-2,940.3	-1.47
Competent authorities and qualified entities costs	190.2	0.09
Eurocontrol costs	-1,757.7	-0.88
Pension costs	-32.0	-0.02
Interest on loans	0.0	0.00
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-4,539.9**	**-2.27**

5.2.3 Regulatory result (RR)









Focus on regulatory result

ANS CR net gain on activity in the Czech Republic en route charging zone in the year 2023

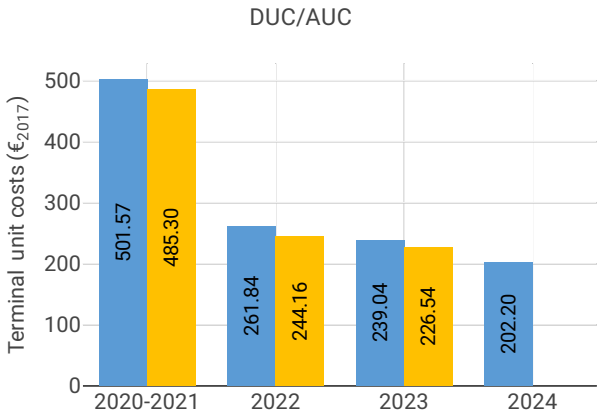
ANS CR reported a net gain of +243.7 MCZK, as a combination of a gain of +357.1 MCZK arising from the cost sharing mechanism, with a loss of -117.2 MCZK arising from the traffic risk sharing mechanism and a gain of +3.7 MCZK relating to financial incentives.

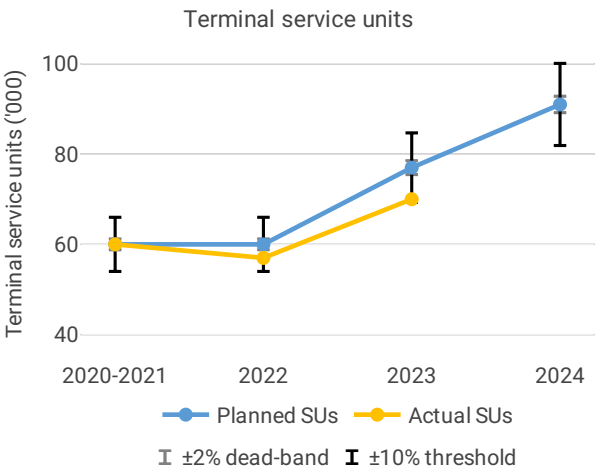
ANS CR overall regulatory results (RR) for the en route activity

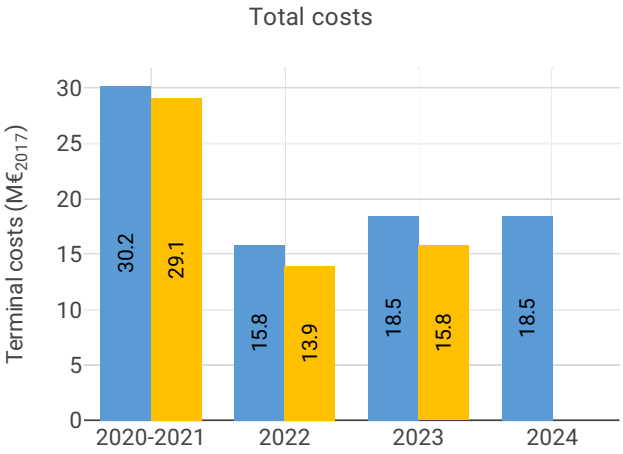
Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+243.7 MCZK) and the actual RoE (+212.5 MCZK) amounts to +456.2 MCZK (14.0% of the en route revenues). The resulting ex-post rate of return on equity is 19.2%, which is higher than the 9.0% planned in the PP.

5.3 Terminal charging zone

5.3.1 Unit cost (KPI#1)

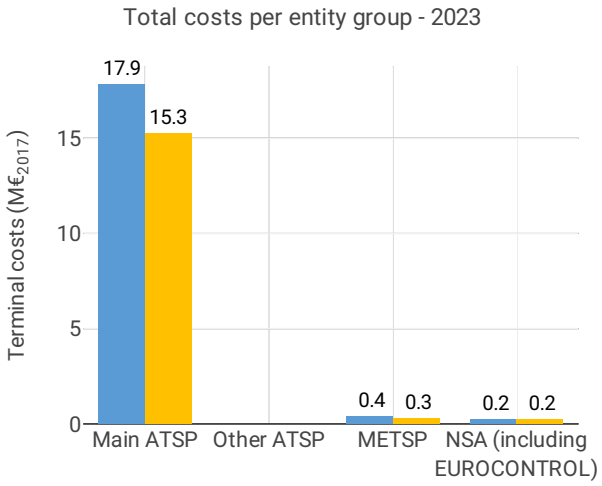


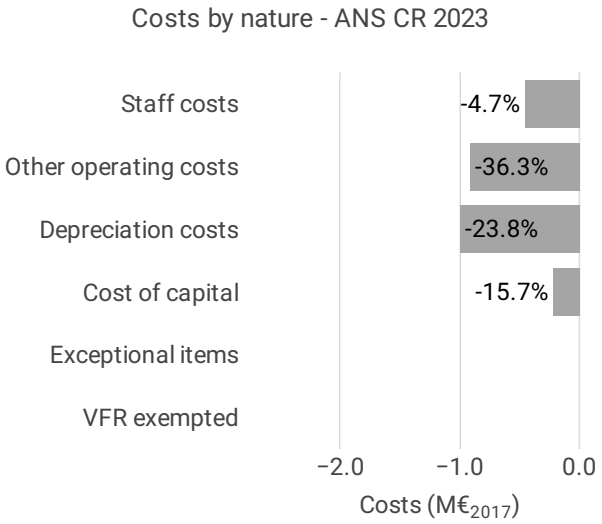




Actual and determined data

Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	31	17	21	NA
Determined costs	32	17	20	21
Difference costs	-1	-1	0	NA
Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	2.0%	2.0%	2.0%
Determined inflation index	NA	112.8	115	117.3
Actual inflation rate	NA	14.8%	12.0%	NA
Actual inflation index	NA	128.2	143.6	NA
Difference inflation index (p.p.)	NA	+15.4	+28.6	NA





Focus on unit cost

AUC vs. DUC

In 2023, the terminal AUC was -5.2% (or -328.91 CZK2017, -12.5 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned terminal costs in real terms (-14.4%, or -70.0 MCZK2017, -2.7 M€2017) and significantly lower than planned TNSUs (-9.7%). It should be noted that actual inflation index in 2023 was +28.6 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-9.7%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users.

Terminal costs by entity

Actual real terminal costs are -14.4% (-2.7 M€2017) lower than planned. This is the result of lower costs for the main ANSP, ANS CR (-14.5%, or -2.6 M€2017), the MET service provider (-16.6%, or -0.1 M€2017) and the NSA (-3.5%, or 0.01 M€2017).

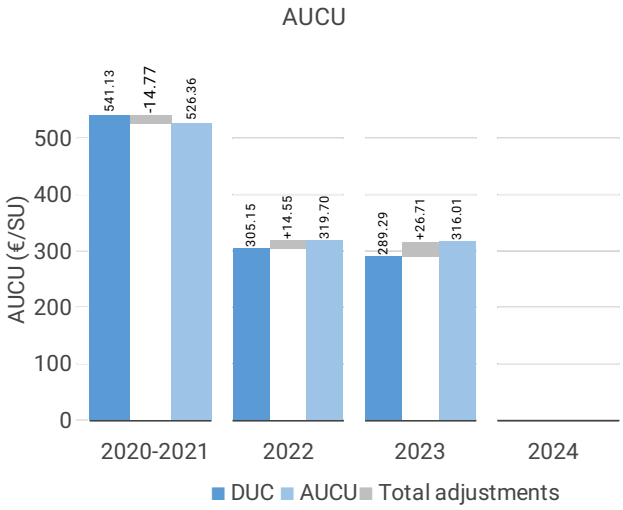
Terminal costs for the main ANSP at charging zone level

Significantly lower than planned terminal costs in real terms for ANS CR in 2023 (-14.5%, or -2.6 M€2017) result from:

- Lower staff costs (-4.7%), but higher costs in nominal terms (+19.0%), impacted by much higher-than-expected inflation rate;
- Significantly lower other operating costs (-36.3%), thanks to cost containment measures in the areas of

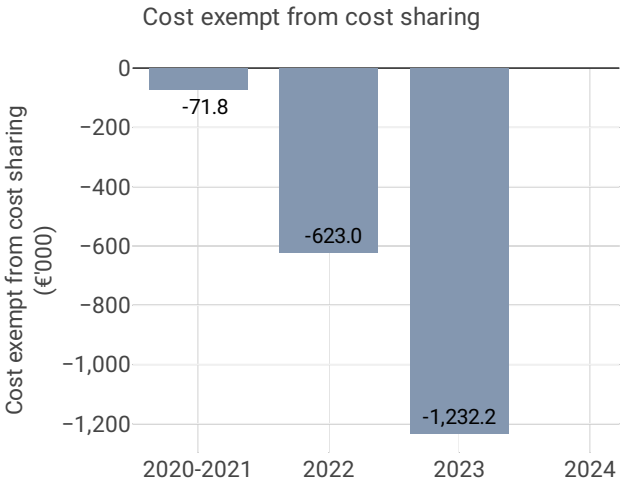
repairs, travel expenses and software support;
- Significantly lower depreciation (-23.8%), reflecting deferred system upgrades and supplier delays in the DPS area, but also cash flow issues due to lower traffic levels leading to a reprioritisation of investment;
- Significantly lower cost of capital (-15.7%), as a result of "*a gap in some investments and consequently lower asset base*".

5.3.2 Actual unit cost incurred by the users (AUCU) (PI#1)



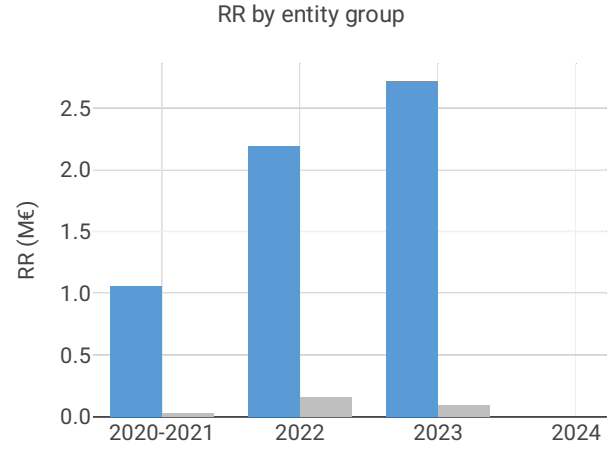
AUCU components (€/SU) – 2023

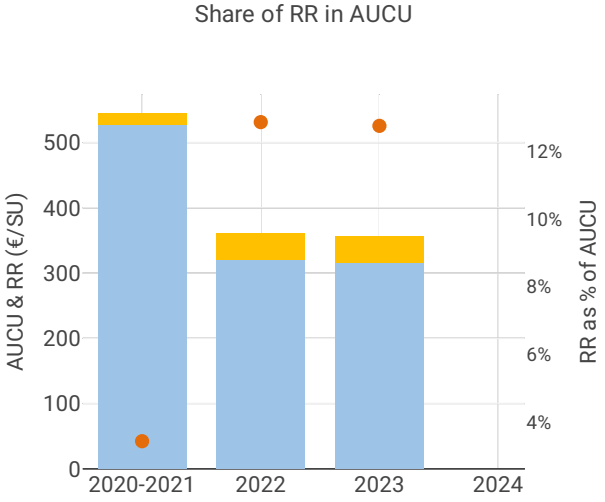
Components of the AUCU in 2023	€/SU
DUC	**289.29**
Inflation adjustment	56.53
Cost exempt from cost-sharing	-17.67
Traffic risk sharing adjustment	16.67
Traffic adj. (costs not TRS)	1.00
Finantial incentives	1.63
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	-31.43
Total adjustments	26.71
AUCU	**316.01**
AUCU vs. DUC	**+9.2%**

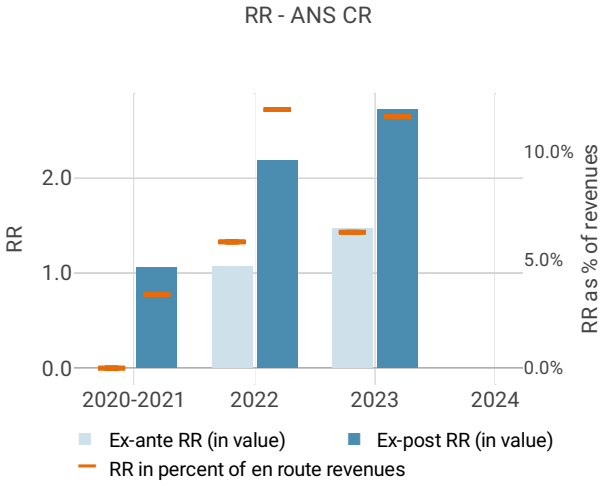


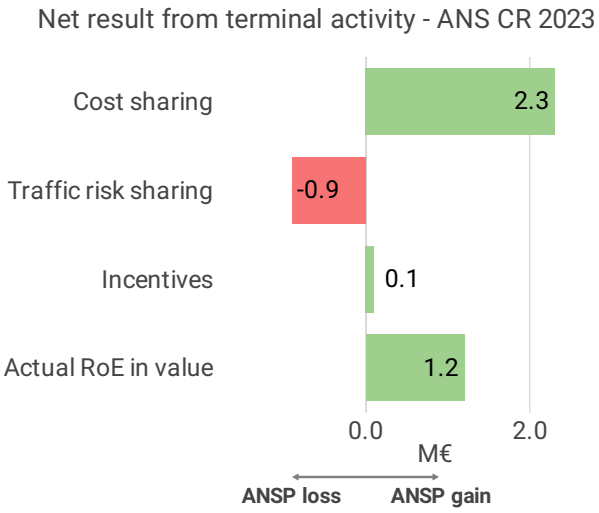
Cost exempt from cost sharing by item - 2023	€'000	€/SU
New and existing investments	-1,323.6	-18.98
Competent authorities and qualified entities costs	-8.9	-0.13
Eurocontrol costs	0.0	0.00
Pension costs	100.4	1.44
Interest on loans	0.0	0.00
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-1,232.2**	**-17.67**

5.3.3 Regulatory result (RR)









Focus on regulatory result

ANS CR net gain on activity in the Czech Republic terminal charging zone in the year 2023

ANS CR reported a net gain of +35.3 MCZK, as a combination of a gain of +54.8 MCZK arising from the cost sharing mechanism, with a loss of -22.3 MCZK arising from the traffic risk sharing mechanism and a gain of +2.7 MCZK relating to financial incentives.

ANS CR overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+35.3 MCZK) and the actual RoE (+29.9 MCZK) amounts to +65.1 MCZK (11.6% of the terminal revenues). The resulting ex-post rate of return on equity is 19.5%, which is higher than the 9.0% planned in the PP.