PERFORMANCE REVIEW BOARD
of the Single European Sky

Performance Review Board
Monitoring Report
Romania - 2024

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Contents

1 OVERVIEW

1.1 Contextual information

National performance plan adopted following Commission Decision (EU) 2022/2424 of 5 December 2022

List of ACCs 1
Bucharest ACC

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

Exchange rate (1 EUR=)
2017: 4.56629 RON
2024: 4.97195 RON

Share of Union-wide:
- **traffic (TSUs) 2024** 4.8%
- **en route costs 2024** 3.4%

Share en route / terminal costs 2024 91% / 9%

En route charging zone(s)
Romania

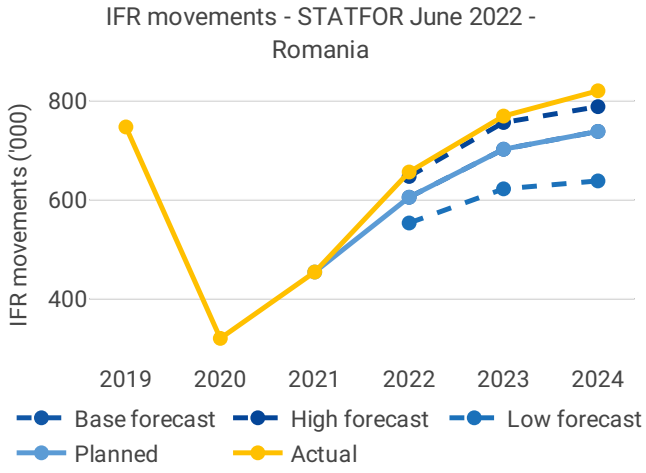
Terminal charging zone(s)
Romania

Main ANSP
- ROMATSA

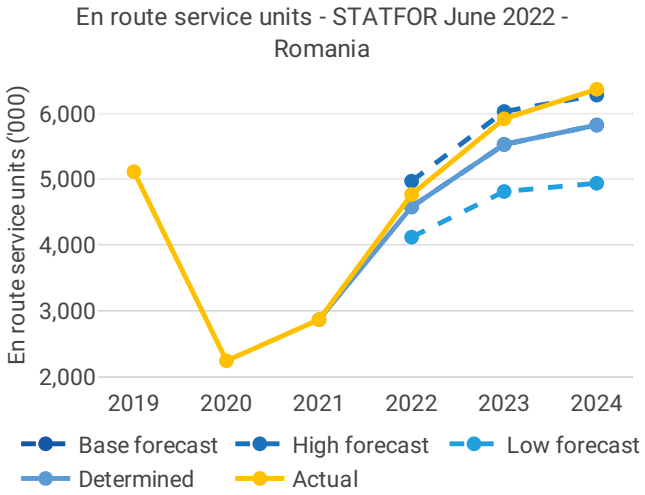
Other ANSPs
–

MET Providers
–

1.2 Traffic (En route traffic zone)

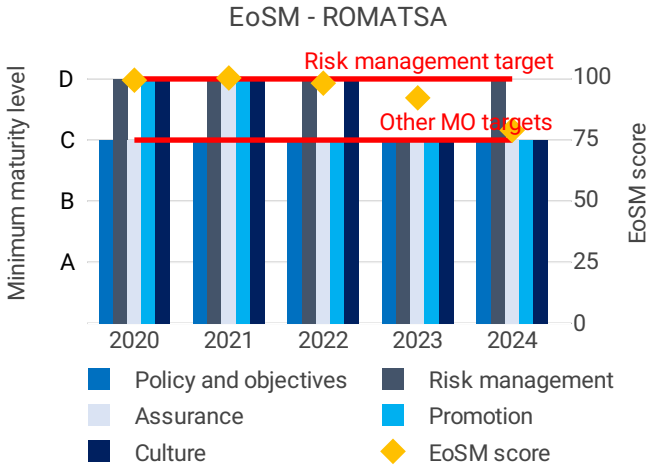


- Romania recorded 820K actual IFR movements in 2024, +6.6% compared to 2023 (769K).
- Actual 2024 IFR movements were +11.1% above the plan (738K).
- Actual 2024 IFR movements are +9.8% above the actual 2019 level (747K).



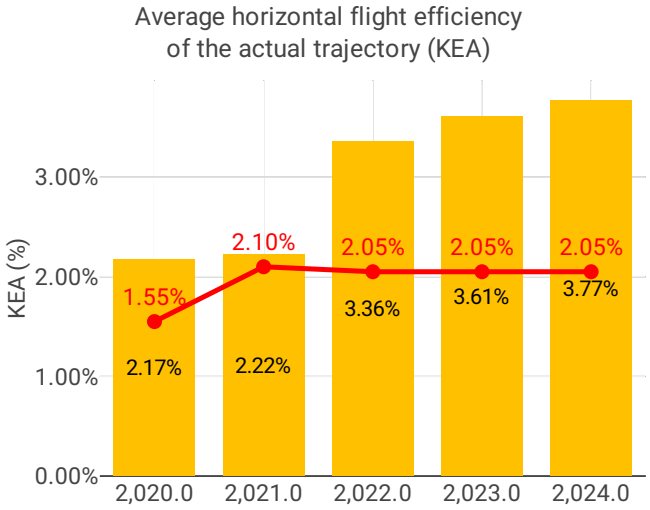
- Romania recorded 6,369K actual service units in 2024, +7.6% compared to 2023 (5,920K).
- Actual 2024 service units were +9.3% above the plan (5,825K).
- Actual 2024 service units are +24.5% above the actual 2019 level (5,117K).

1.3 Safety (Main ANSP)



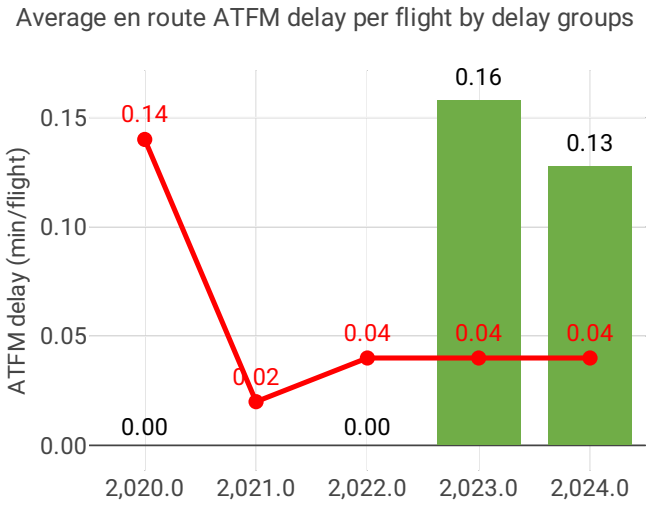
- ROMATSA achieved the RP3 target maturity levels in 2021 but recorded a degrading performance between 2022 and 2023 falling below the target levels. The measures implemented enabled ROMATSA to recover and achieve the RP3 target levels.
- Romania recorded stable performance with respect to safety occurrences, with no runway incursions in 2024, and the same rate of separation minima infringements compared to 2023.

1.4 Environment (Member State)



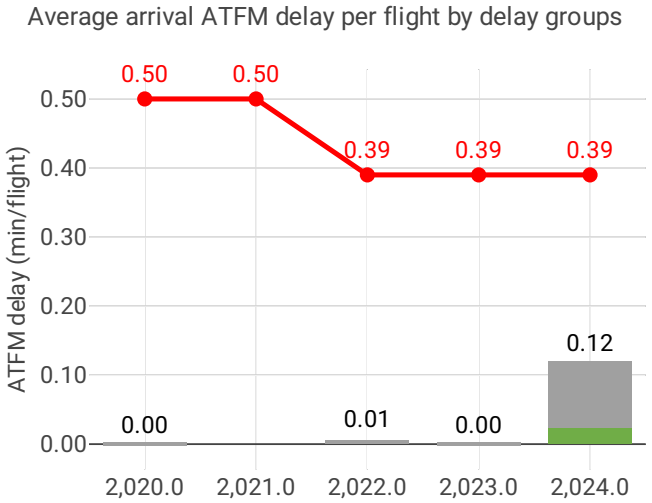
- Romania achieved a KEA performance of 3.77% compared to its target of 2.05% and did not contribute positively towards achieving the Union-wide target.
- The NSA states that reasons for deterioration include neighbouring airspace unavailability due to conflict zones, being upstream or downstream of ATM network inefficiencies, and airspace users' preferences.
- Both KEP and SCR remained stable compared to 2023.
- The share of CDO flights increased from 40.70% to 42.90% in 2024.
- Additional taxi out time increased marginally from 2.17 to 2.24 min/flight, while additional time in terminal airspace remained stable in 2024 compared to 2023.

1.5 Capacity (Member State)



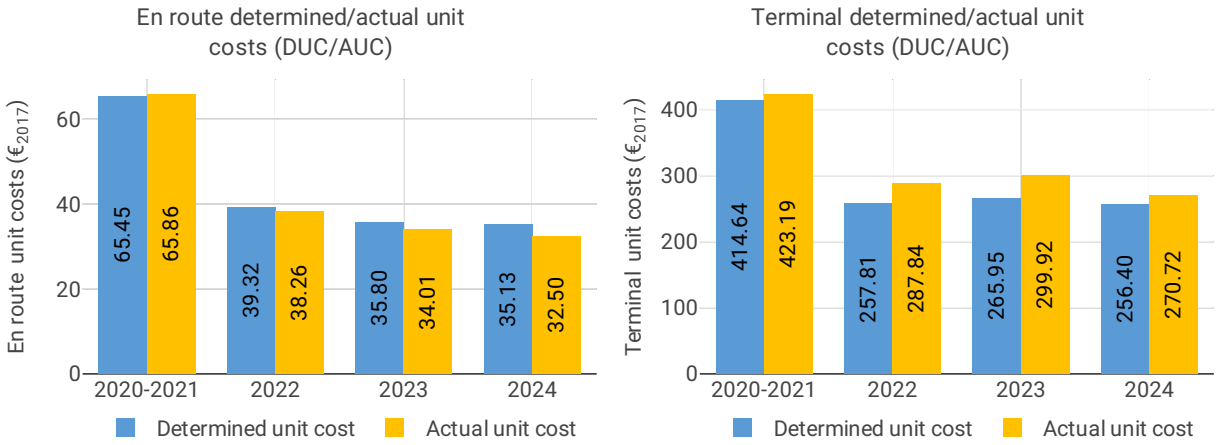
- Romania registered 0.15 minutes of average en route ATFM delay per flight during 2024, which has been adjusted to 0.13 during the post-ops adjustment process, thus not achieving the local target value of 0.04. Delays in Romania decreased by 0.03 minutes per flight year-on-year.
- Delays in Romania were highest in June and July, due to adverse weather conditions.

- The share of delayed flights with delays longer than 15 minutes in Romania increased by 17 percentage points compared to 2023 and was higher than 2019 values.
- The average number of IFR movements was 10% above 2019 levels in Romania in 2024.
- The number of ATCOs in OPS is 251.5, being below the 2024 plan in Bucharest by 11 FTEs.
- The yearly total of sector opening hours in Bucharest ACC was 69,204, showing a 0.3% decrease compared to 2023. Sector opening hours are 0.8% above 2019 levels.
- Bucharest ACC registered 11.73 IFR movements per one sector opening hour in 2024, being 9.3% above 2019 levels.



- Romania registered an average airport arrival ATFM delay of 0.12 minutes per flight in 2024, thus achieving the local target of 0.39 minutes.
- Compared to 2023, average arrival ATFM delays in Romania increased from zero to 0.12 minutes in 2024, while the number of IFR arrivals increased by 6%.
- The main drivers of delays were other, non-ATC related causes, accounting for 80% of delays, and weather, responsible for 20%.

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



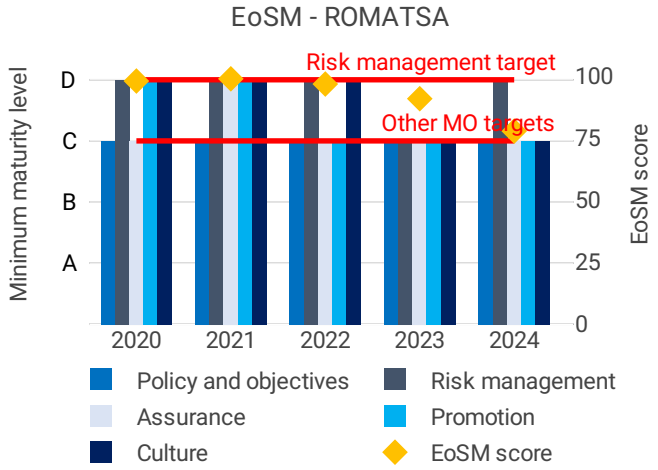
- The en route 2024 actual unit cost of Romania was 32.50€2017, -7.5% lower than the determined unit cost (35.13€2017). The terminal 2024 actual unit cost was 270.72€2017, +5.6% higher than the determined unit cost (256.40€2017).
- The en route 2024 actual service units of Romania (6.4M) were +9.3% higher than the determined service units (5.8M).
- The en route 2024 actual total costs were slightly higher than determined (+2.4M€2017, or +1.2%). Higher staff costs for ROMATSA (+4.8M€2017, or +3.1%) was partially compensated by lower than planned other operating costs (-3.4M€2017, or -17%). The NSA noted that staff costs are above planned due to higher pension costs, inflation, and wage compensations awarded due to higher traffic than planned and the achievement of capacity targets.
- ROMATSA costs of investments were 18M€2017 in 2024 for both en route and terminal charging zones, -3.9% lower than determined (19M€2017).
- The en route actual unit cost incurred by users in 2024 was 44.15€ (+5.8% higher than the 2024 DUC), while the terminal actual unit cost incurred by users in 2024 was 338.04€ (+9.6% higher than the 2024 DUC). The difference between the AUCU and the DUC is mainly driven by the positive inflation adjustment for both the en route and terminal charging zones.

2 SAFETY - ROMANIA

2.1 PRB monitoring

- ROMATSA achieved the RP3 target maturity levels in 2021 but recorded a degrading performance between 2022 and 2023 falling below the target levels. The measures implemented enabled ROMATSA to recover and achieve the RP3 target levels.
- Romania recorded stable performance with respect to safety occurrences, with no runway incursions in 2024, and the same rate of separation minima infringements compared to 2023.

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



Focus on EoSM

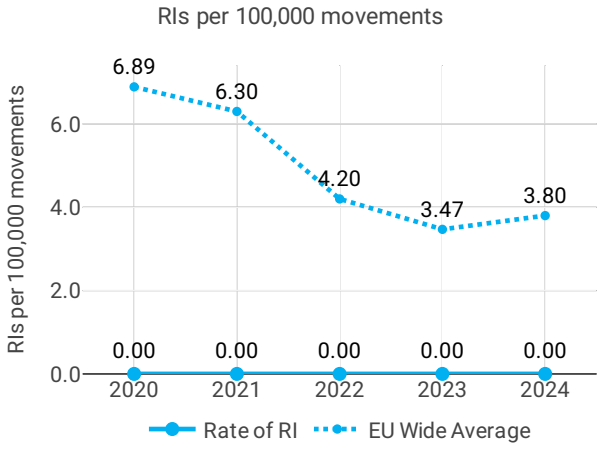
All five EoSM components of the ANSP meet the RP3 target level. Over 2024, significant improvements were observed for " Safety Risk Management" enabling these areas to reach the target level D.

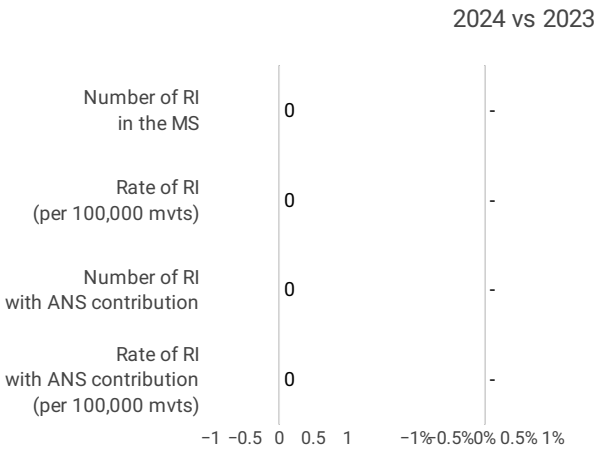
ROMATSA exceeded the RP3 target maturity levels in 2021 reaching maturity level D on four out of five Management Objectives. In 2022 and 2023, the achieved maturity levels decreased to level C for all Management Objectives. In 2024, ROMATSA implemented targeted measures, particularly in the area of occurrence analysis and monitoring, which enabled the organisation to recover and achieve the required RP3 target level D in this management objective.

ROMATSA, together with the NSA, implemented a national safety plan to ensure high safety performance of the ANSP.

2.3 Safety occurrences

2.3.1 Rate of runway incursions (RIs) (PI#1)





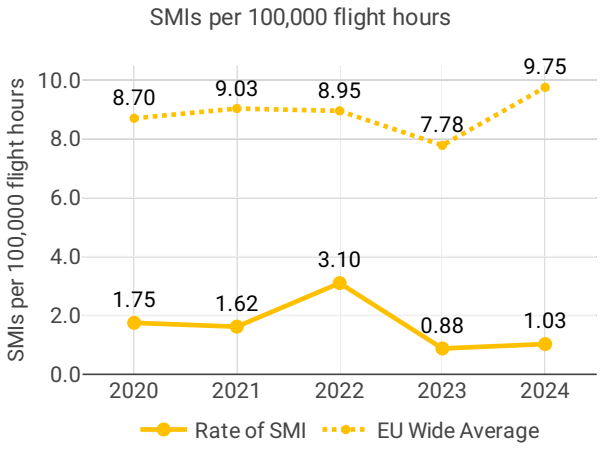
Rate of RIs per 100,000 airport movements - Romania				
#	Airport name	APT movements	Number of RI	Rate RI per 100,000
1	Bucharest - Otopeni	118,838	0	0.00
2	Bucharest - Băneasa	21,162	0	0.00

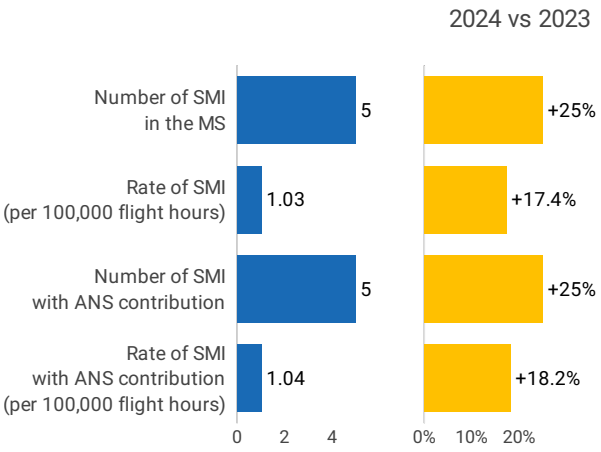
Focus on runway incursions

Romania recorded no RIs at the Member State level throughout RP3 including for 2024.

The NSA maintained proactive oversight through strengthened coordination among key stakeholders. In 2024, significant enhancements were made to the end-to-end occurrence management process covering data collection, storage, and analysis ensuring improved consistency, traceability, and responsiveness. As part of its oversight activities, the NSA conducted targeted audits and inspections at ROMATSA and introduced automated inter-operability between safety databases, enabling more efficient and integrated safety data exchange.

2.3.2 Rate of separation minima infringements (SMIs) (PI#2)





Rate of SMI with ANS contribution per 100,000 flight hours											
		Flight hours					Number of SMIs				
#	ANSP	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
1	ROMATSA	171,847	247,561	384,582	455,861	481,952	3	4	12	4	5

		Rate of SMI per 100,000 flight hours					% variation in rate of SMIs				
#	ANSP	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
1	ROMATSA	2	2	3	1	1		-7%	+93%	-72%	+18%

Focus on separation minima

After an increase in the number of occurrences up till 2022, the rate of SMIs at the Member State level recorded a downwards trend remaining well below the Union-wide average. Between 2023 and 2024 there was a marginal increase of the rate of SMIs, however in absolute numbers increasing only by one. Rate of SMIs with ANS contribution showed the same development during RP3 as the Member State level.

The NSA has strengthened continuous oversight by improving the process for collecting, storing, and analysing occurrences in cooperation with ANSP, CAA, and AIB. It has conducted audits and inspections at ROMATSA and established automated interfaces between safety databases of AIS and CAA/NSA. The NSA also performs specialised daily assessments through aeronautical inspectors, with findings reported accordingly.

2.3.3 Quality of occurences reporting

The number of occurrences reported at Member State level seems consistent with the occurrences reported at the ANSP level for SMIs and RIs.

2.4 Use of automated safety data recording system (ASDRS) (PI#3)

Use of automated safety data recording system - 2024	
For RIs	For SMIs
✗	✗

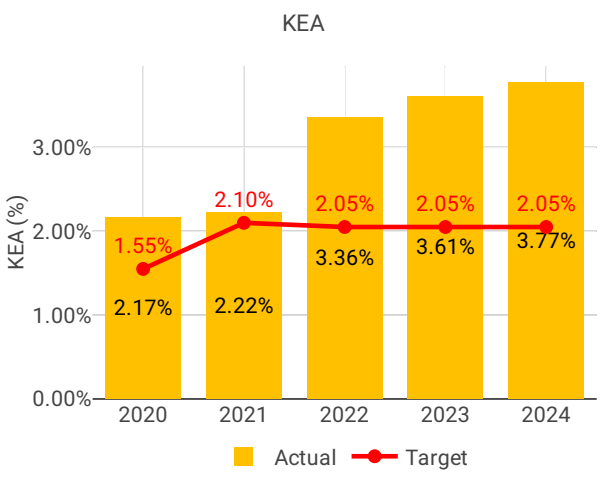
3 ENVIRONMENT - ROMANIA

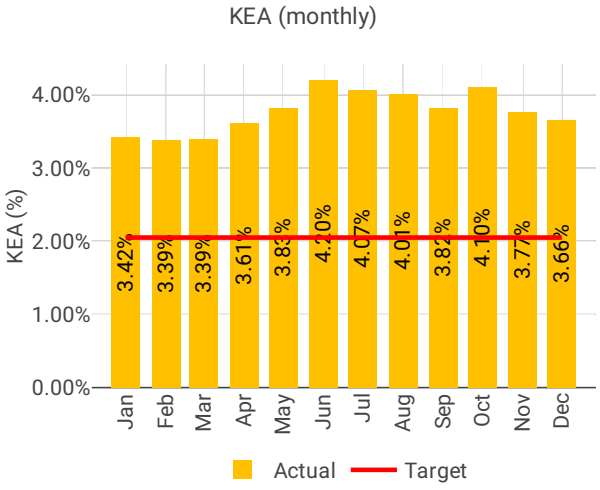
3.1 PRB monitoring

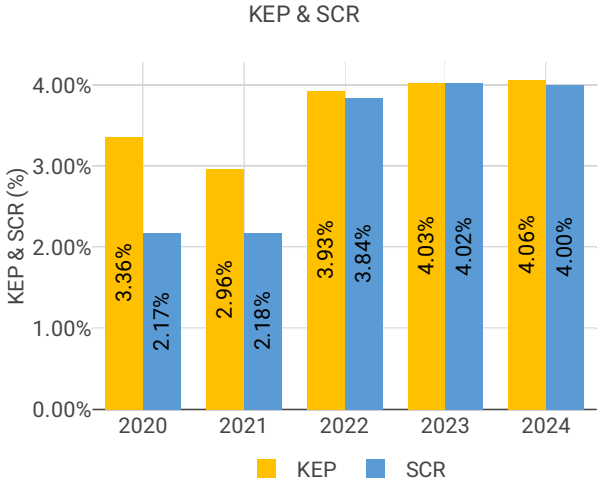
- Romania achieved a KEA performance of 3.77% compared to its target of 2.05% and did not contribute positively towards achieving the Union-wide target.
- The NSA states that reasons for deterioration include neighbouring airspace unavailability due to conflict zones, being upstream or downstream of ATM network inefficiencies, and airspace users' preferences.
- Both KEP and SCR remained stable compared to 2023.
- The share of CDO flights increased from 40.70% to 42.90% in 2024.
- Additional taxi out time increased marginally from 2.17 to 2.24 min/flight, while additional time in terminal airspace remained stable in 2024 compared to 2023.

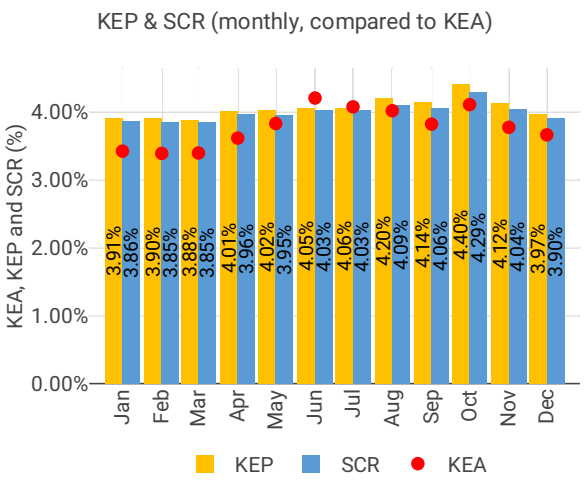
3.2 En route performance

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)



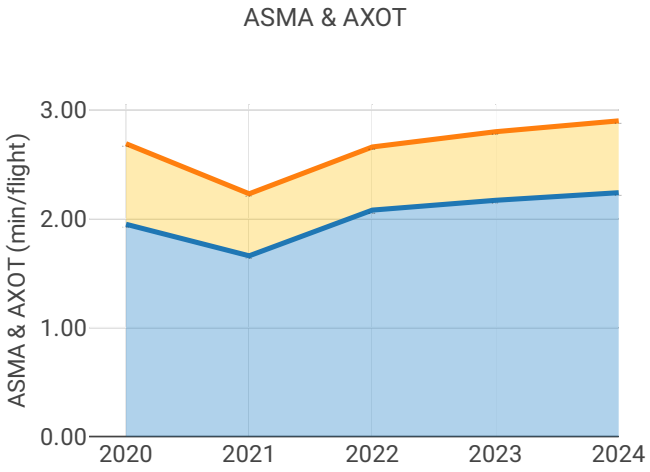


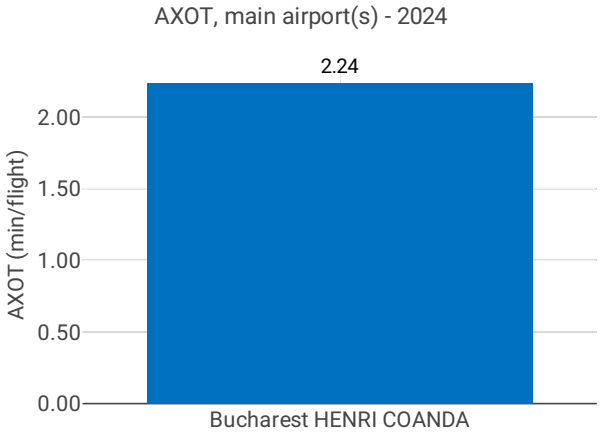


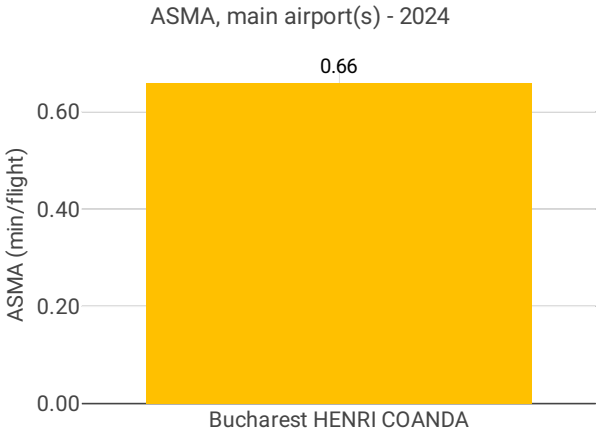


3.3 Terminal performance

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 Bucharest/Otopeni (LROP; 2019: 2.67 min/dep.; 2020: 1.95 min/dep.; 2021: 1.66 min/dep.; 2022: 2.08 min/dep.; 2023: 2.17 min/dep.; 2024: 2.24 min/dep.) marginally increased in 2024, but was still below the SES average of 2.91 min/dep.

In the Romanian monitoring report, ROMATSA mentions the following measures and initiatives:

a) Implemented:

- clearance delivery position;

- ASMGCS at Otopeni TWR - advanced surface management ground control system;

- Common procedure between Bucharest Airports National Company and TWR Otopeni for repairing works periods on the manoeuvring area, i.e. pre-established alternative standard taxi routes;

- Common procedure regarding ATFM (according to EU Reg 255/2010) regarding the regulation of traffic in situations that may influence the airport's capacity.

b) Planned:

- Modernisation ASMGCS - Implementation of Advanced Tower Messaging - upgrading the local ATC system at Otopeni TWR to provide departure planning information (finalised in Q4 2024);

- AMAN at Bucuresti TMA - Arrival Manager (ongoing, contract signed with the ATM system provider for the implementation in the ATM 2015+ System of the Arrival Manager Module (AMAN) for Bucuresti TMA, due to finalised in December 2025.

NSA: specific monitoring of data on EUROCONTROL portal and oversight activities on planned changes to the functional ATM/ANS system.

ASMA

Additional ASMA times at Bucharest/Otopeni (LROP; 2019: 0.75 min/arr.; 2020: 0.74 min/arr.; 2021: 0.57 min/arr.; 2022: 0.58 min/arr.; 2023: 0.63 min/arr.; 2024: 0.66 min/arr.) marginally increased in 2024, but was still well below the SES average of 1.28 min/dep.

In the Romanian monitoring report, ROMATSA mentions the following measures or initiatives:

a) Implemented:

- SID / STAR RNAV 1;

- as current practice, vectorizations for shortening the trajectories when the traffic is of low complexity (DIRECT TO);

- Bucharest TMA resectorisation - implementation of new sector: DIRECTOR.

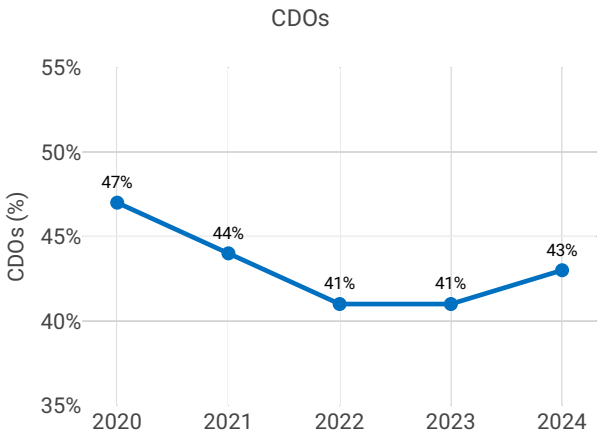
b) Planned:

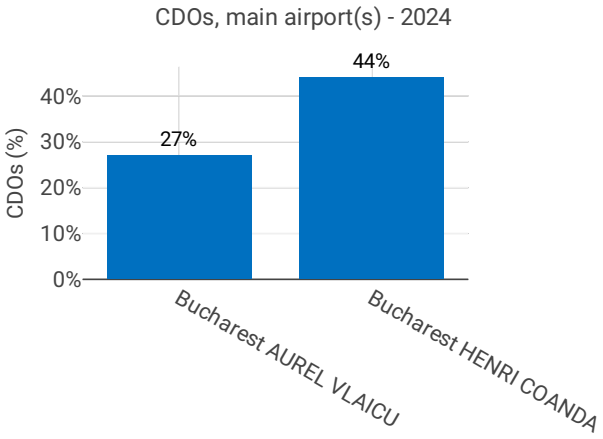
- implementation of AMAN - Arrival Manager (ongoing, contract signed with the ATM system provider for the implementation in the ATM 2015+ System of the Arrival Manager Module (AMAN) for Bucuresti TMA, due to be finalised in 2025);

- implementation of RNP (required navigation performance) approach procedures.

NSA: specific monitoring of data on EUROCONTROL portal and oversight activities on planned changes to the functional ATM/ANS system.

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





Focus CDOs

Bucharest/Otopeni (LROP), being the major airport in Romania, has the highest share of CDO flights: 44.4% which is well above the overall RP3 value in 2024 (29.3%). The share of CDO flights at Bucharest AUREL VLAICU (LRBS) decreased further to 26.5%, being below the overall RP3 value in 2024 of 29.3%.

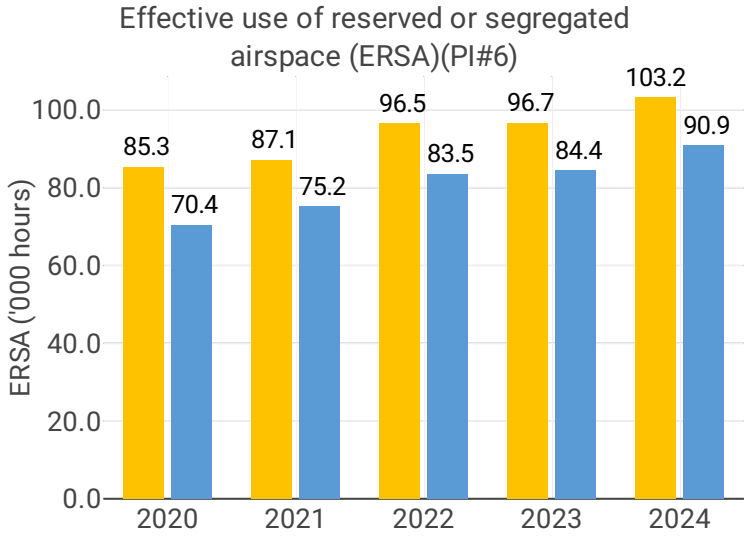
In the Romanian monitoring report, ROMATSA mentions the following measures or initiatives:

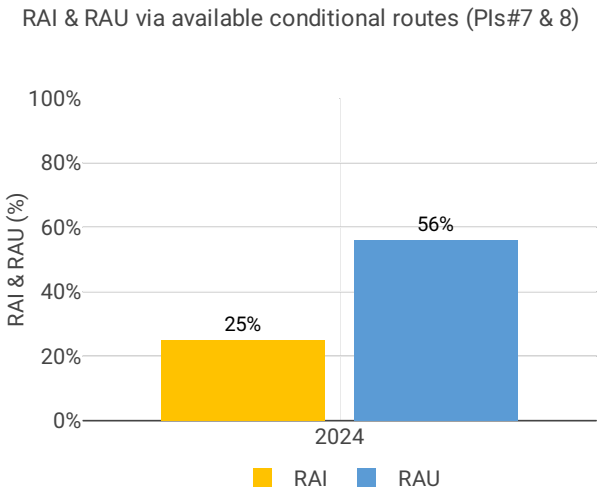
Resumption of AIP Romania amendment process, chap. 2.21 Noise abatement procedures with the following specific provisions for aircraft operating at Otopeni Airport: In order to reduce aircraft noise and emissions, ATC gives clearances allowing continuous descent (CD) traffic situation permitting. Continuous descent can be planned based on track distance information of the STAR or, when vectored, on estimated track distance provided by ATC.

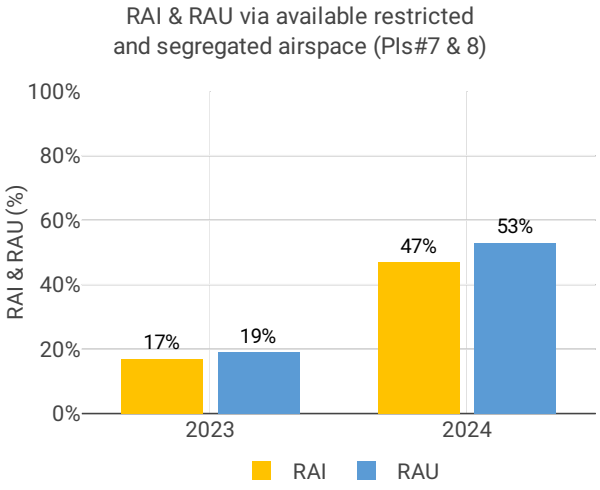
NSA: NSA is monitoring this indicator through LSSIP.

Airport level															
	Additional taxi-out time (PI#3)					Additional ASMA time (PI#4)					Share of arrivals applying CDO (PI#5)				
Airport	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Bucharest HENRI COANDA	1.95	1.66	2.08	2.17	2.24	0.74	0.57	0.58	0.63	0.66	48%	45%	41%	41%	44%
Bucharest AUREL VLAICU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	31%	31%	29%	28%	27%

3.4 Civil-Military dimension







Focus on Civil-Military dimension

Update on Military dimension of the plan

n/a

Military - related measures implemented or planned to improve capacity

n/a

Initiatives implemented or planned to improve PI#6

The FUA Concept is fully implemented in Romania at all specific levels, as follows: at Level 1 through National Air Space Management Council, at Level 2 through AMC, as civil-military body and at Level 3 through civil-military coordination offices colocated. At FAB level, an Air Space Policy Body is defined for strategic coordonation between Romania and Bulgaria. Furthermore, Romanian operational procedures allow the crossing of most military training zones by civil aircraft with a prior coordination.

Initiatives implemented or planned to improve PI#7

n/a

Initiatives implemented or planned to improve PI#8

n/a

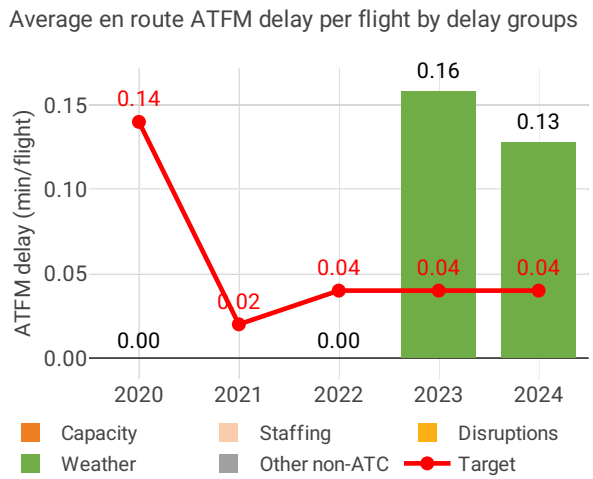
4 CAPACITY - ROMANIA

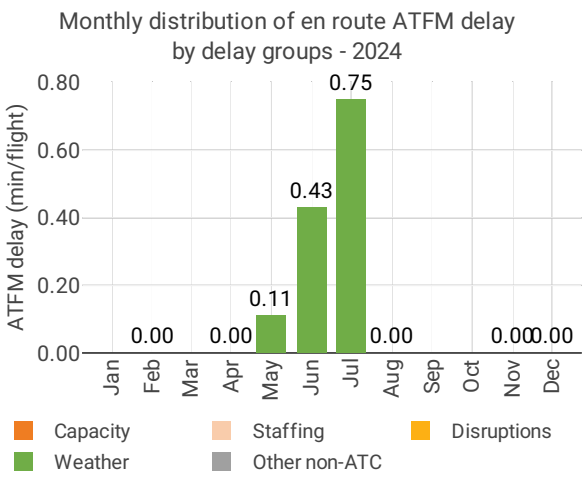
4.1 PRB monitoring

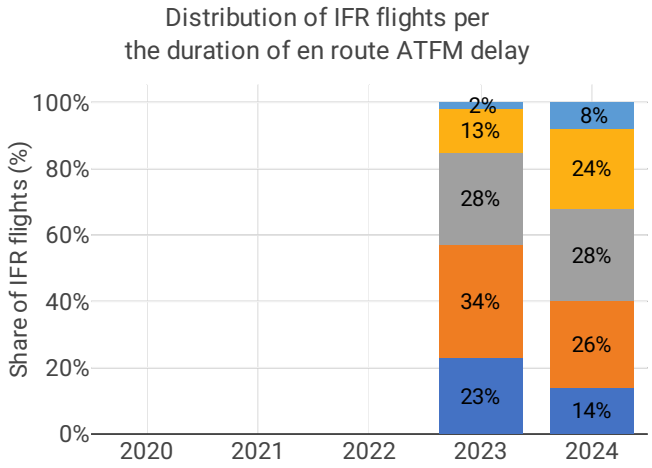
- Romania registered 0.15 minutes of average en route ATFM delay per flight during 2024, which has been adjusted to 0.13 during the post-ops adjustment process, thus not achieving the local target value of 0.04. Delays in Romania decreased by 0.03 minutes per flight year-on-year.
- Delays in Romania were highest in June and July, due to adverse weather conditions.
- The share of delayed flights with delays longer than 15 minutes in Romania increased by 17 percentage points compared to 2023 and was higher than 2019 values.
- The average number of IFR movements was 10% above 2019 levels in Romania in 2024.
- The number of ATCOs in OPS is 251.5, being below the 2024 plan in Bucharest by 11 FTEs.
- The yearly total of sector opening hours in Bucharest ACC was 69,204, showing a 0.3% decrease compared to 2023. Sector opening hours are 0.8% above 2019 levels.
- Bucharest ACC registered 11.73 IFR movements per one sector opening hour in 2024, being 9.3% above 2019 levels.
- Romania registered an average airport arrival ATFM delay of 0.12 minutes per flight in 2024, thus achieving the local target of 0.39 minutes.
- Compared to 2023, average arrival ATFM delays in Romania increased from zero to 0.12 minutes in 2024, while the number of IFR arrivals increased by 6%.
- The main drivers of delays were other, non-ATC related causes, accounting for 80% of delays, and weather, responsible for 20%.

4.2 En route performance

4.2.1 En route ATFM delay (KPI#1)







Focus on en route ATFM delay

Summary of capacity performance

Romania experienced an increase in traffic from 769k flights in 2023 with 121k minutes of en route ATFM delay, to 820k flights in 2024 with 105k minutes of en route ATFM delay. In 2023, all ATFM delays were attributed to adverse weather. There were an additional 14k minutes of delay originating in Romania that were re-attributed to DFS (14k) and HungaroControl (<1k) via the NM post operations delay attribution process, according to the NMB agreement for eNM/S24 measures, to ameliorate capacity shortfalls in Karlsruhe UAC and Budapest ACC.

NSA's assessment of capacity performance

The year 2024 continues to be deeply impacted, both economically and operationally, by the war in Ukraine. The Russian invasion and the subsequent restrictions and sanctions imposed have determined traffic flows that were already circumnavigating the conflict area following the events in 2014 to be pushed further to Romania's south-western part. Furthermore, new traffic flows prefer to cross atypically the Romanian airspace in this geopolitical context. Average distance/flight has increased compared to 2019 and this is visible also in the service units evolution that has outpaced the IFR movements trend in comparison with 2019. These, combined with the increased military activity, including ad-hoc activity focused not only in the NE part of Romania, but in the entirety of the airspace, have generated an increase in complexity whilst also forcing operations into a narrower corridor to keep AUs away from conflict zones.

Bucharest ACC handled +7 % more IFR Movements than 2023, exceeding by 10% the 2019 pre-pandemic level and 11% more than what was estimated in the RP3 Performance Plan. The average en-route ATFM delay at 0.13 min/flight for the year, but all recorded delay minutes were attributed to adverse weather, and the result is well below the network-wide reference value of 0.5 min/flight.

Despite the swift rebound of traffic in Romanian airspace, nearly reaching pre-pandemic levels with 97% of 2019 IFR movements and surpassing those levels with 104% in terms of service units, the complexity has increased due to re-routings and increased military activity from the war in Ukraine. Nevertheless, ROMATSA has managed to maintain zero (CRSTMP) delays attributable to ATC, with delays occurring only due to weather conditions.

Monitoring process for capacity performance

ROMATSA provided regularly inputs on capacity availability in the context of NOP Rolling Seasonal Plan implemented by the Network manager at European network level. The expected en-route performance was and is regularly evaluated by the NM for each ACC, including Bucuresti ACC, in terms of planned/maximum sector openings in relation with the estimated traffic demand. The performance target has not been met solely due to weather related restrictions. From 118 914 ATFM delay minutes incurred in 2024, the total of 100% were generated due to weather reasons. The delay due to all other reasons, incl. ATC capacity and stafffing, were zero which confirms that there was no capacity gap in 2024.

Capacity planning

The capacity as previously planned and published within an annual NOP (Network Operatios Plan) has been adapted accordingly by adoption of capacity plans under a NOP Rolling Seasonal Plan format, including periods of 6 weeks, based on the expected traffic demand regularly provided by the Network Manager. These plans refer to:

- sector openings;
- maximum possible sector openings;
- availability of support of operational staff;
- special events and projects, etc.

Bucuresti ACC ensured a stable sector opening plan with no sector capacity reduction, with the possibility to increase the number of sectors when traffic increased.

Application of Corrective Measures for Capacity (if applicable)

The performance target has not been met solely due to weather related restrictions, that is an uncontrollable factor. The delay due to all other reasons, incl. ATC capacity and stafffing, were zero which confirms that there was no capacity gap in 2024.

Traffic volumes have risen sharply since the post-COVID rebound, amplified by large-scale reroutings triggered by the war in Ukraine and the associated air-space restrictions. Flows that had already skirted the conflict zone after 2014 have been displaced even farther to the south-west of the București FIR, while additional east-west flows now transit Romania along atypical corridors. As a result, the average distance flown per IFR movement is higher than in 2019, a trend also reflected in the faster growth of service units compared with flight counts. From April 2023 onward, daily IFR movements in Romanian airspace have exceeded their 2019 baseline, sustaining this upward pressure on workload and complexity. The situation is compounded by heightened military activity, which frequently compresses civil routes into narrower corridors and requires increased tactical coordination.

A second structural risk stems from the age profile of ROMATSA's en-route controller workforce. More than one-third of ACC București air-traffic-controllers are already over 50 and will be past 55 by the end of RP3. Because initial training, on-the-job instruction and sector endorsements together take three to five years, ROMATSA launched a new recruitment cycle in 2017 and continues to run successive intakes to ensure a steady pipeline of trainees and maintain safe staffing levels as retirements accelerate.

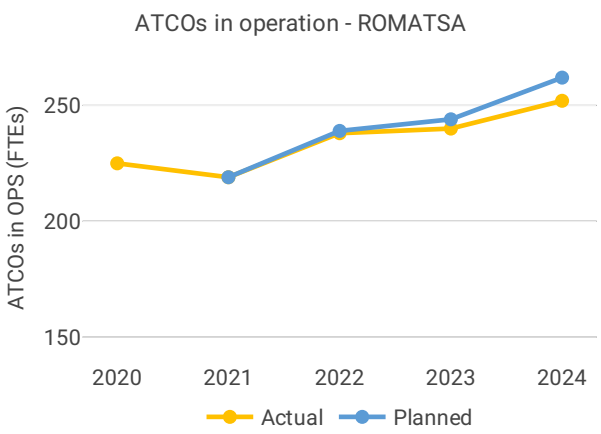
En route Capacity Incentive Scheme

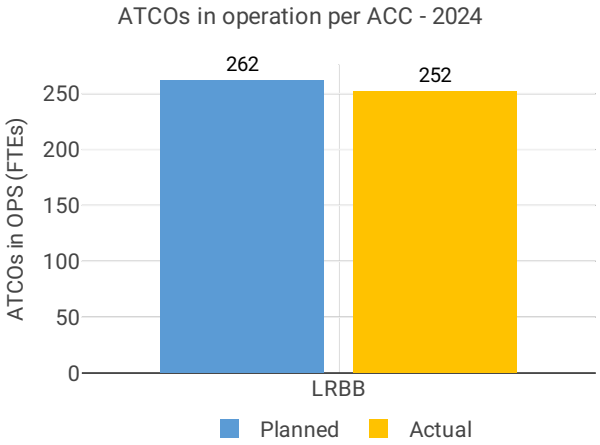
ROMATSA: Romania uses an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The CRSTMP target was set at 0.04 minutes per flight, which is the full national target for all causes of delay, and the actual performance is reported as 0.00 minutes per flight (CRSTMP only).

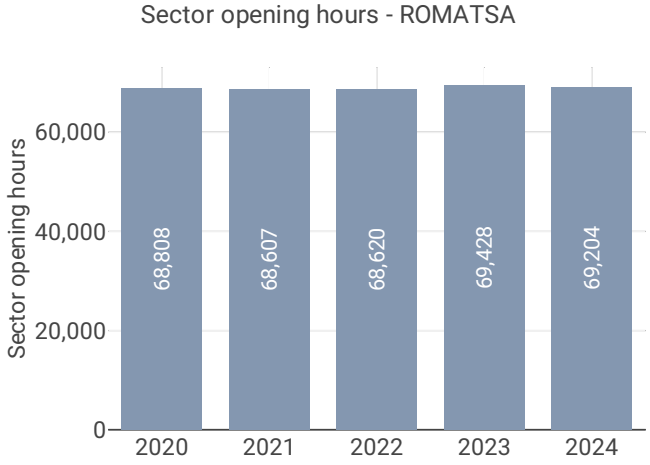
The bonus is reported as 17 283.44 KRON.

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

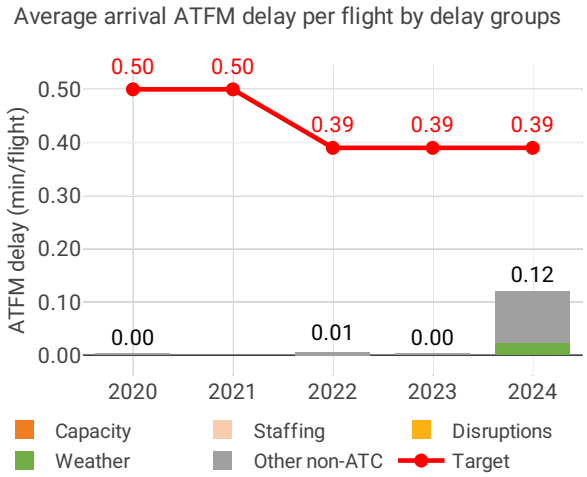
ROMATSA kept its recruitment and training programme on track in order to replace at the Bucharest Area Control Centre (ACC)the significant number of air traffic controllers (ATCOs) retiring due to age limit:

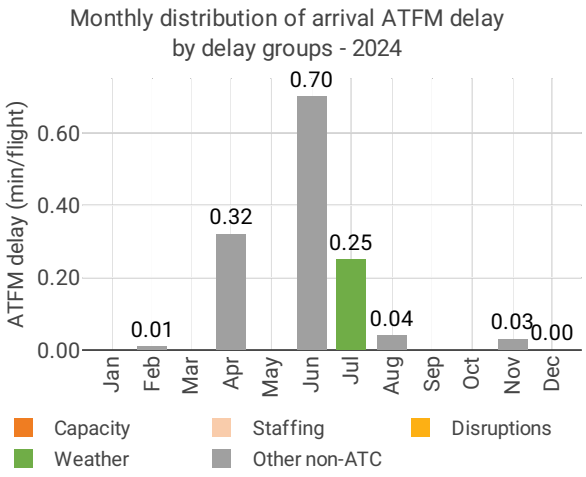
- Incoming staff: Twenty-two ATCO trainees have completed their training, obtained their licences, with the appropriate rating and endorsements, and are now working independently in the operations room.

- Departures: Eleven controllers have left operational duty during the same period—six retired, four were reassigned to the simulator unit due to medical reasons (they were declared medically unfit for ATS provision in ops room), and one was promoted to a management position.

4.3 Terminal performance

4.3.1 Arrival ATFM delay (KPI#2)





Focus on arrival ATFM delay

Romania includes 2 airports under RP3 monitoring. However, in accordance with IR (EU) 2019/317 and the traffic figures, only Bucharest/Otopeni (LROP) must be monitored for the pre-departure delay indicators. The Airport Operator Data Flow, necessary for the monitoring of these delays, is correctly implemented where required and the monitoring of all capacity indicators can be performed. The quality of the reporting from Bucharest improved since 2023, allowing for the calculation of the ATC pre-departure delay indicator. Traffic at these 2 airports in 2024 was still 3% lower than in 2019, but showed a 6% increase with respect to 2023.

Average arrival ATFM delays in 2024 increased in Bucharest Otopeni reaching 0.13 min/arr. The national target was met. ATFM slot adherence remained very high (2023: 99.6%; 2024: 99.6%).

Average arrival ATFM delays at both Romanian airports under monitoring had been zero or nearly zero in the previous years of RP3. In 2024 there was an increase in Bucharest/Otopeni (LROP; 2024: 0.13 min/arr), driving the national average to 0.12 min/arr.

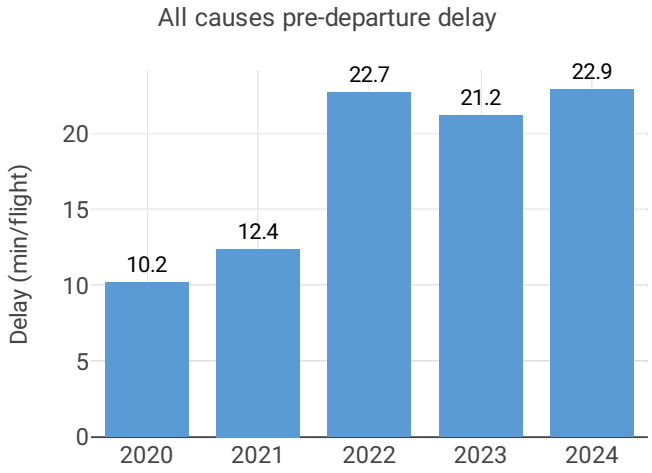
According to the Romanian monitoring report: *ROMATSA and Bucharest Airports National Company continue to work together to ensure optimum capacity level at terminal level as this impacts the entire network. On one hand ROMATSA has implemented at Otopeni TWR a different ATM system with ASMGCS component, composed of a surveillance subsystem (operational for over three years) and an electronic flight strips subsystem (transferred into operations on April 8th 2019), interfaced via OLDI with the System covering the rest of the ATS units. There is in place also a common procedure between Bucharest Airports National Company and TWR Otopeni for repairing works periods on the manoeuvring area, i.e. pre-established alternative standard taxi routes.*

According to EU Reg 255/2010, a common procedure regarding ATFM for the regulation of traffic in situations that may influence the airport's capacity is in place. Implementation of AMAN at Bucharest TMA started in 2023 and will be finalised at the beginning of RP4, while the upgrade of ASMGCS to include Advanced Tower Messaging (implementation of DPI messages) has been finalised in 2024.

Of the 7516 minutes of ATFM delays, all were due non-ATC related causes: 5870 were due to aerodrome capacity, 1501 were weather related and 145 were due to restrictions imposed for the celebrations of the National Day of Romania.

Romanian performance plan sets a national target on arrival ATFM delay for 2024 of 0.39 min/arr. This target was met, with an actual performance of 0.12 min/arr. The incentive scheme uses modulated pivot values limited to CRSTMP delay causes, with a pivot value for 2024 o 0.02 min/arr. The actual value for CRSTMP was 0 min/arr in 2024. The NSA calculates a bonus of RON 563 270.

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**	**2024**	**2020**	**2021**	**2022**	**2023**	**2024**
Bucharest AUREL VLAICU	NA	NA	NA	NA	NA	100.0%	100.0%	99.2%	99.5%	99.5%
Bucharest HENRI COANDA	0.00	NA	0.01	0.00	0.13	96.6%	98.1%	99.4%	99.6%	99.6%

	ATC pre departure delay (PI#2)					All causes pre departure delay (PI#3)				
Airport name	**2020**	**2021**	**2022**	**2023**	**2024**	**2020**	**2021**	**2022**	**2023**	**2024**
Bucharest AUREL VLAICU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bucharest HENRI COANDA	0.10	0.21	0.16	0.34	0.48	10.2	12.4	22.7	21.2	22.9

Focus on performance indicators at airport level

ATFM slot adherence

The national average, driven by Bucharest/Otopeni, was an excellent 99.6%. With regard to the 0.4% of flights that did not adhere, 0.3% were early and 0.1% were late.

According to the Romanian monitoring report: *Performance was stable compared to the previous year. According to EU Reg 255/2010 a common procedure regarding ATFM for the regulation of traffic in situations that may influence the airport's capacity is in place between Bucharest Airports National Company and ROMATSA.*

ATC pre-departure delay

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at Bucharest/Otopeni (the only Romanian airport subject to monitoring of this indicator). The quality of the data provided improved in 2023, allowing for the calculation of this indicator for the second time in RP3 (LROP; 2023: 0.37min/dep; 2024: 0.48 min/dep).

According to the Romanian monitoring report: *In 2024 departure delays at LROP were mainly due to aerodrome capacity and weather disruptions. ROMATSA and Bucharest Airports National Company continue to work together to ensure optimum capacity level at terminal level as this impacts the entire network. ROMATSA has implemented at Otopeni TWR a different ATM system with ASMGCS component, composed of a surveillance subsystem and an electronic flight strips subsystem (transferred into operations on April 8th 2019), interfaced via OLDI with the System covering the rest of the ATS units. An upgrade to the system was finalised in 2024 to include Advanced Tower Messaging. There is in place also a common procedure between Bucharest Airports National Company and TWR Otopeni for repairing/maintenance periods on the manoeuvring area, i.e. pre-established alternative standard taxi routes.*

According to EU Reg 255/2010, a common procedure regarding ATFM for the regulation of traffic in situations that may influence the airport's capacity is in place. Implementation of AMAN at Bucuresti TMA started in 2023 and will be finalised in the beginning of RP4.

All causes pre-departure delay

The total (all causes) delay in the actual off block time at Bucharest/Otopeni slightly increased in 2024 (LROP: 2020: 10.22 min/dep.; 2021: 12.45 min/dep.; 2022: 22.67 min/dep.; 2023: 21.23 min/dep.; 2024: 22.85 min/dep.)

The Romanian monitoring report mentions the same measures taken as for the ATC pre-departure delay (see above).

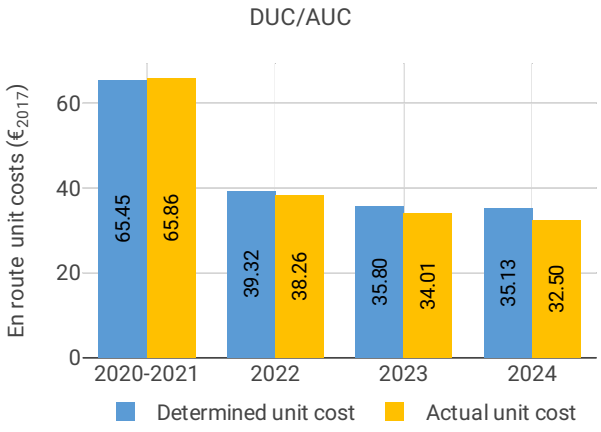
5 COST-EFFICIENCY - ROMANIA

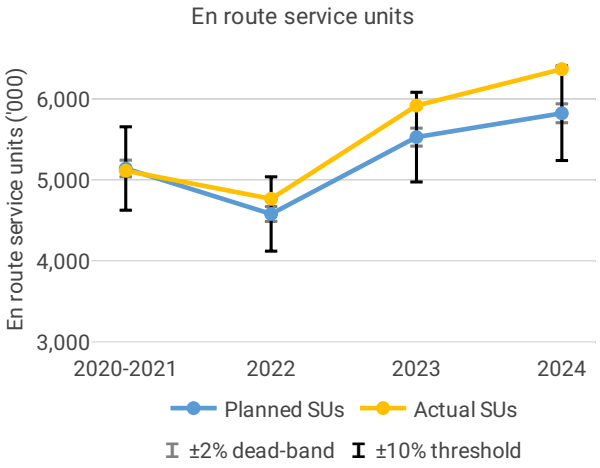
5.1 PRB monitoring

- The en route 2024 actual unit cost of Romania was 32.50€2017, -7.5% lower than the determined unit cost (35.13€2017). The terminal 2024 actual unit cost was 270.72€2017, +5.6% higher than the determined unit cost (256.40€2017).
- The en route 2024 actual service units of Romania (6.4M) were +9.3% higher than the determined service units (5.8M).
- The en route 2024 actual total costs were slightly higher than determined (+2.4M€2017, or +1.2%). Higher staff costs for ROMATSA (+4.8M€2017, or +3.1%) was partially compensated by lower than planned other operating costs (-3.4M€2017, or -17%). The NSA noted that staff costs are above planned due to higher pension costs, inflation, and wage compensations awarded due to higher traffic than planned and the achievement of capacity targets.
- ROMATSA costs of investments were 18M€2017 in 2024 for both en route and terminal charging zones, -3.9% lower than determined (19M€2017).
- The en route actual unit cost incurred by users in 2024 was 44.15€ (+5.8% higher than the 2024 DUC), while the terminal actual unit cost incurred by users in 2024 was 338.04€ (+9.6% higher than the 2024 DUC). The difference between the AUCU and the DUC is mainly driven by the positive inflation adjustment for both the en route and terminal charging zones.

5.2 En route charging zone

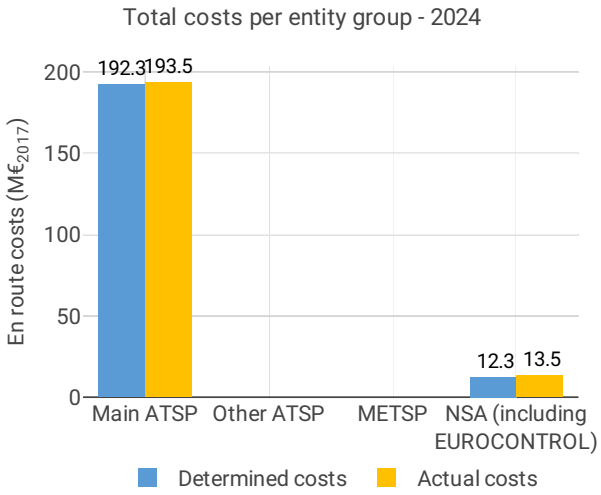
5.2.1 Unit cost (KPI#1)

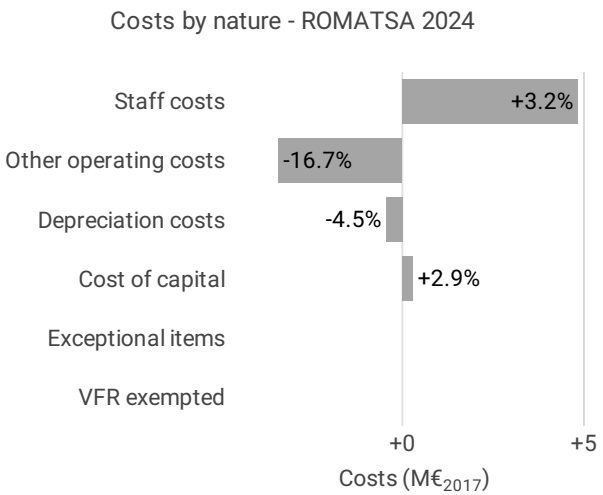




Actual and determined data				
Total costs - nominal (M€)	**2020-2021**	**2022**	**2023**	**2024**
Actual costs	373	227	271	293
Determined costs	370	219	249	265
Difference costs	2	8	22	29

Inflation assumptions	2020-2021	2022	2023	2024
Determined inflation rate	NA	9.3%	4.0%	3.0%
Determined inflation index	NA	125.9	130.9	134.8
Actual inflation rate	NA	12.0%	9.7%	5.8%
Actual inflation index	NA	129	141.5	149.7
Difference inflation index (p.p.)	NA	+3.1	+10.6	+14.9





Focus on unit cost

AUC vs. DUC

In 2024, the en route AUC was -7.5% (or -11.98 RON2017, -2.62 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+9.3%) and higher than planned en route costs in real terms (+1.2%, or +11.0 MRON2017, +2.4 M€2017). It should be noted that the actual inflation index in 2024 was +14.9 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (+9.3%) falls outside the ±2% dead-band, but does not exceed the +10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP gain in Box 11).

En route costs by entity

The 2024 actual real en route costs are +1.2% (+2.4 M€2017) higher than planned. This is the result of higher costs for the main ANSP, ROMATSA (+0.7%, or +1.3 M€2017) and the NSA/EUROCONTROL (+9.2%, or +1.1 M€2017).

En route costs for the main ANSP at charging zone level

Slightly higher than planned en route costs in real terms for ROMATSA in 2024 (+0.7%, or +1.3 M€2017) result from:

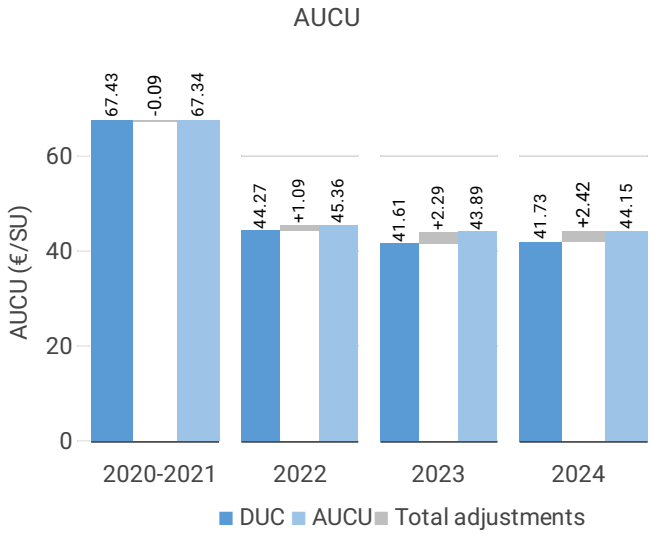
- Higher than planned staff costs (+3.2%), due to *"an increase of pension costs, compensation of personnel with inflation and non-recurring amounts for the higher than planned traffic and achievement of capacity targets".*

- Significantly lower than planned other operating costs (-16.7%), due to a decrease in electricity costs, as well as delays in the training programme and procurement for contracts with third parties.
- Lower than planned depreciation costs (-4.5%), mainly due to under-realisation of depreciation costs for investments with commissioning deadlines.
- Higher than planned cost of capital (+2.9%), due to delays accumulated in previous years, which led to the investments planned for 2024 being carried out at a higher level than that provided for in the RP3 plan.

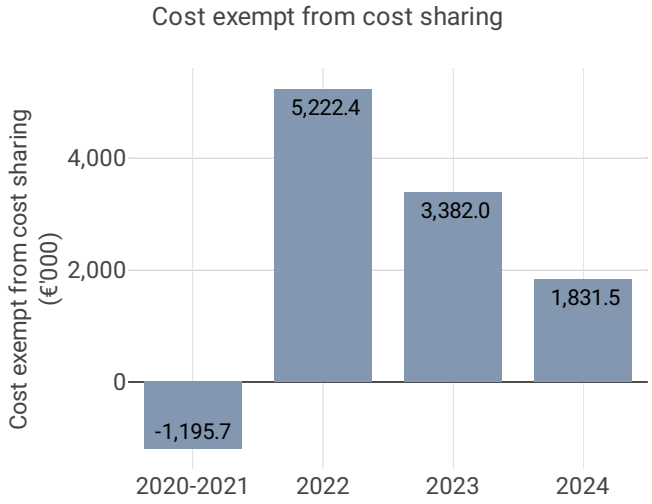
RP3 summary

When considering the whole of RP3 (2020-2024) for Romania en route charging zone, actual TSUs are +5.2% higher than planned, while actual costs in real terms are +0.9% higher than the determined costs (some +37.9 MRON2017 or +8.3 M€2017). As a result, the weighted average actual unit cost over RP3 (191.05 RON2017 or 41.84 €2017) is -4.1% lower than planned in the PP (199.15 RON2017 or 43.61 €2017).

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

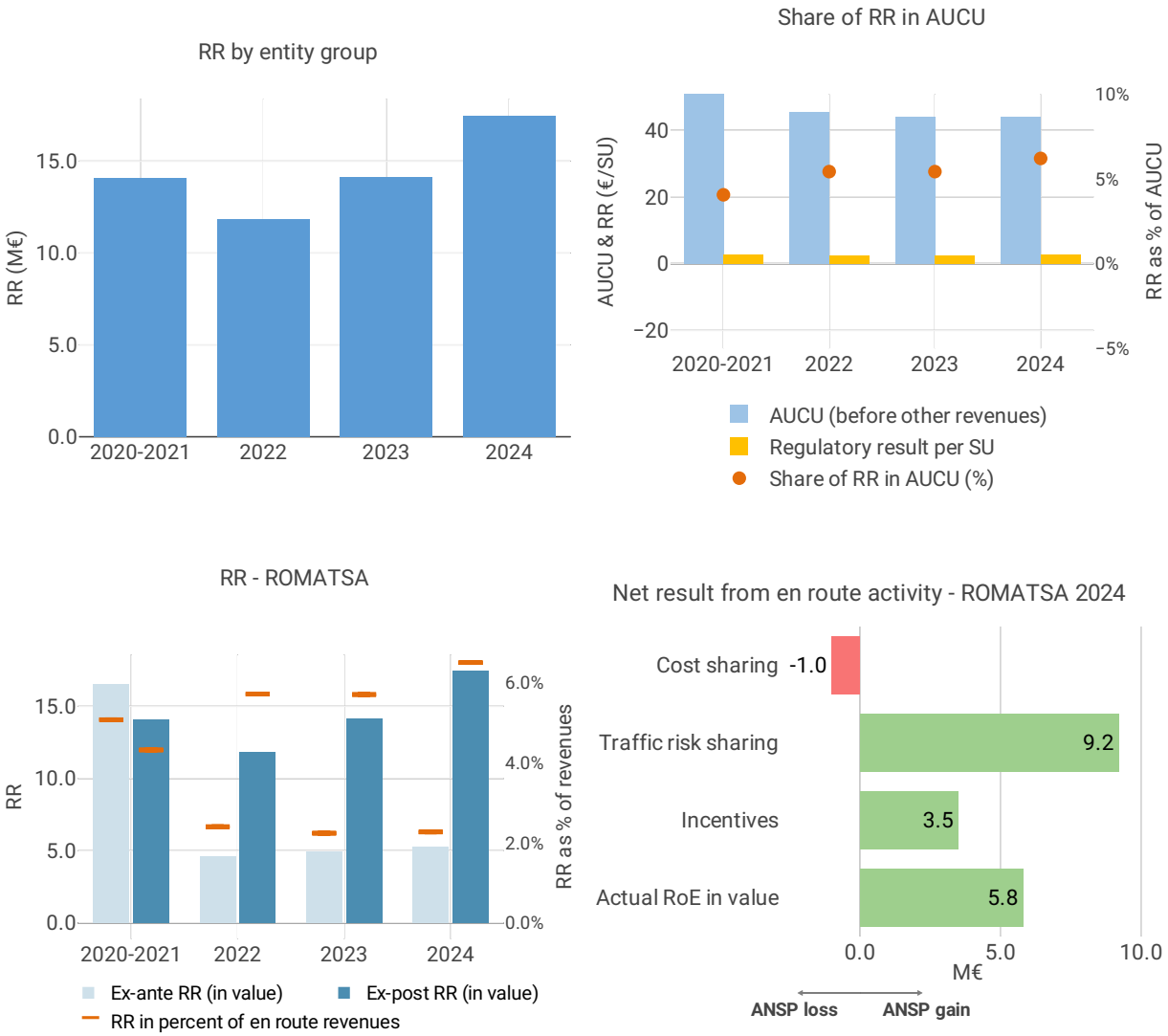


AUCU components (€/SU) – 2024	
Components of the AUCU in 2024	**€/SU**
DUC	**41.73**
Inflation adjustment	3.70
Cost exempt from cost-sharing	0.29
Traffic risk sharing adjustment	-1.77
Traffic adj. (costs not TRS)	-0.34
Finantial incentives	0.55
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	2.42
AUCU	**44.15**
AUCU vs. DUC	**+ 5.8%**



Cost exempt from cost sharing – 2024		
Cost exempt from cost sharing by item - 2024	**€'000**	**€/SU**
New and existing investments	-401.2	-0.06
Competent authorities and qualified entities costs	-709.8	-0.11
Eurocontrol costs	1,750.9	0.27
Pension costs	1,078.9	0.17
Interest on loans	112.8	0.02
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**1,831.5**	**0.29**

5.2.3 Regulatory result (RR)



Focus on regulatory result

ROMATSA net gain on activity in the Romania en route charging zone in the year 2024

ROMATSA reported a net gain of +58.1 MRON, as a combination of a loss of -5.1 MRON arising from the cost sharing mechanism, with a gain of +46.0 MRON arising from the traffic risk sharing mechanism and a gain of +17.3 MRON relating to financial incentives.

ROMATSA overall regulatory result (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+58.1 MRON) and the actual RoE (+28.8 MRON) amounts to +86.9 MRON (6.5% of the en route revenues). The resulting ex-post rate of return on equity is 22.4%, which is higher than the 7.4% planned in the PP.

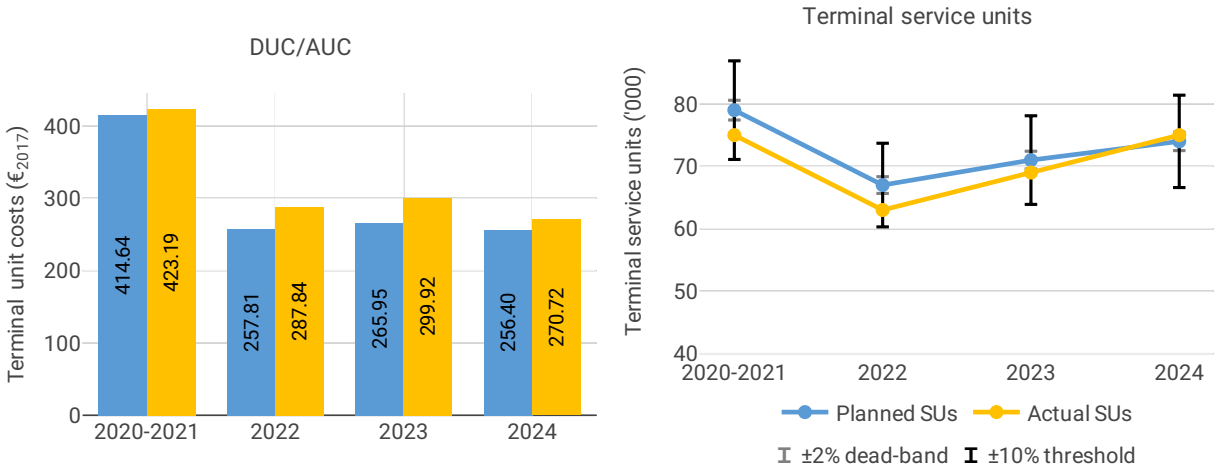
RP3 summary

When considering the whole of RP3 (2020-2024), ROMATSA generated a cumulative loss in respect of cost sharing of -4.9 MRON, as actual total costs for RP3 were higher than planned.

The traffic risk sharing mechanism generated gain of +97.4 MRON. Adding the gain of +33.5 MRON to be retained by the ATSP in respect of financial incentives and the actual RoE (+157.7 MRON over RP3) leads to an overall regulatory result of +283.7 MRON, which corresponds to an average ex-post rate of return on equity of 15.8% (compared to 8.8% initially planned in the PP).

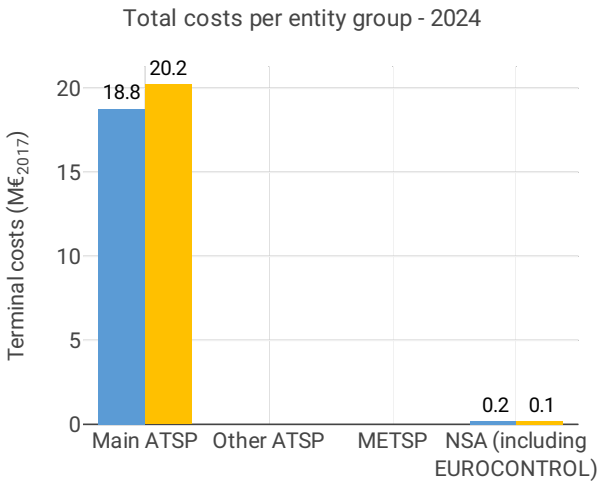
5.3 Terminal charging zone

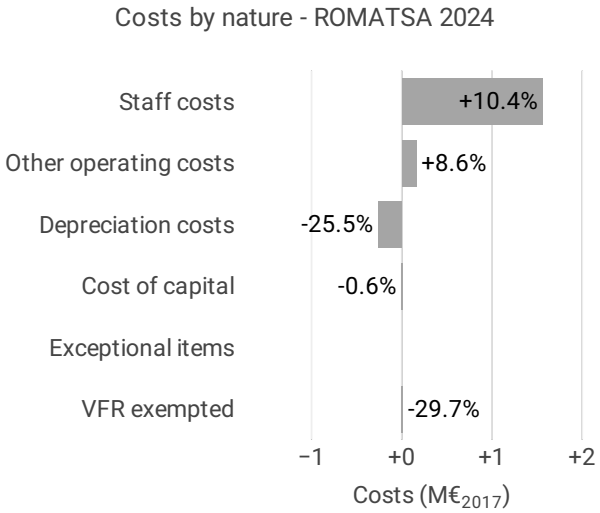
5.3.1 Unit cost (KPI#1)



Actual and determined data				
Total costs - nominal (M€)	**2020-2021**	**2022**	**2023**	**2024**
Actual costs	35	23	29	30
Determined costs	36	21	24	25
Difference costs	-1	2	4	5

Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	9.3%	4.0%	3.0%
Determined inflation index	NA	125.9	130.9	134.8
Actual inflation rate	NA	12.0%	9.7%	5.8%
Actual inflation index	NA	129	141.5	149.7
Difference inflation index (p.p.)	NA	+3.1	+10.6	+14.9





Focus on unit cost

AUC vs. DUC

In 2024, the terminal AUC was +5.6% (or +65.40 RON2017, +14.32 €2017) higher than the planned DUC. This results from the combination of significantly higher than planned terminal costs in real terms (+7.4%, or +6.4 MRON2017, +1.4 M€2017) and higher than planned TNSUs (+1.7%). It should be noted that the actual inflation index in 2024 was +14.9 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (+1.7%) falls inside the ±2% dead-band. Hence, the gain of additional terminal revenues is kept by the ANSPs (see items 10 to 13).

Terminal costs by entity

The 2024 actual real terminal ANS costs are +7.4% (+1.4 M€2017) higher than planned. This is the result of higher than planned costs for the main ANSP, ROMATSA (+7.8%, or +1.5 M€2017) and lower than planned costs for the NSA (-29.6%, or -0.1 M€2017).

Terminal costs for the main ANSP at charging zone level

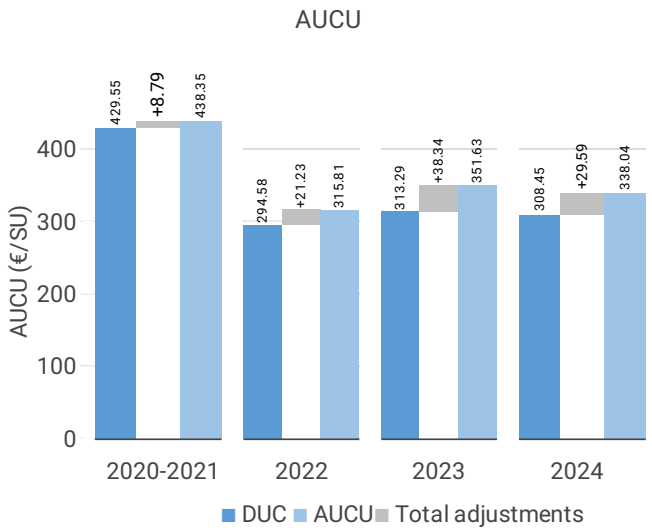
The significantly higher than planned terminal costs in real terms for ROMATSA in 2024 (+7.8%, or +1.5 M€2017) result from:

- Significantly higher than planned staff costs (+10.4%), mainly due to "*an increase of pension costs and compensation of personnel with inflation for meeting the capacity targets*".
- Significantly higher than planned other operating costs (+8.6%), due to "*the recognition of operating costs related to adjustments for the impairment of current assets - receivables*".
- Significantly lower than planned depreciation (-25.5%), mainly due to the postponement of investment finalisation (i.e. Modernization of A-SMGCS at DSNA Bucharest, Advanced Tower Messaging).
- Slightly lower than planned cost of capital (-0.6%), mainly due to the above delayed investment "(…) *partially offset by increasing interest rate for the contracted loan*".
- Lower than planned deduction for VFR exempted flights (-29.7%).

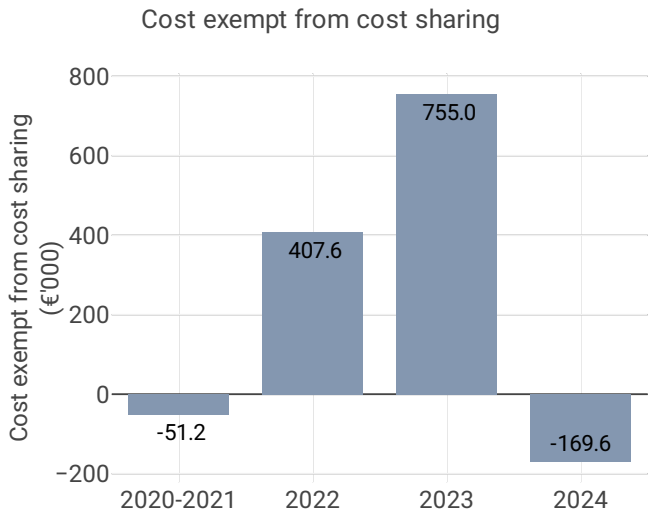
RP3 summary

When considering the whole of RP3 (2020-2024) for Romania terminal charging zone , actual TNSUs are -2.8% lower than planned, while actual costs in real terms are +3.8% higher than the determined costs (some +15.1 MRON2017 or +3.3 M€2017). As a result, the weighted average actual unit cost over RP3 (1 471.02 RON2017 or 322.15 €2017) is +6.7% higher than planned in the PP (1 378.36 RON2017 or 301.85 €2017).

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

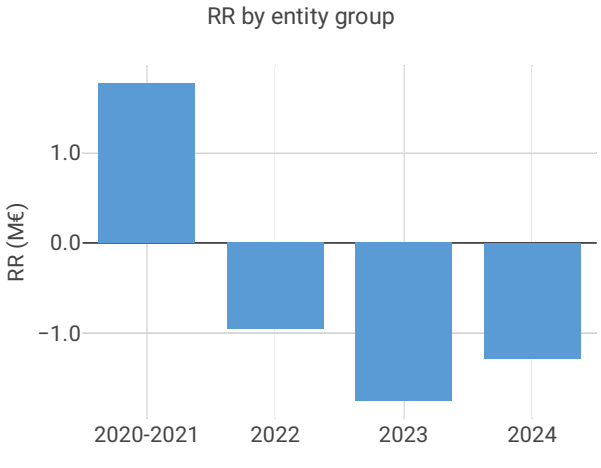


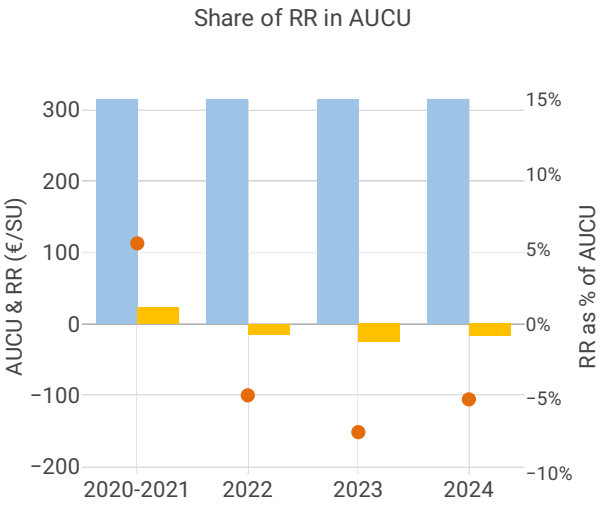
AUCU components (€/SU) – 2024	
Components of the AUCU in 2024	**€/SU**
DUC	**308.45**
Inflation adjustment	30.66
Cost exempt from cost-sharing	-2.25
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	-0.32
Finantial incentives	1.51
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	0.00
Application of lower unit rate	0.00
Total adjustments	29.59
AUCU	**338.04**
AUCU vs. DUC	**+ 9.6%**

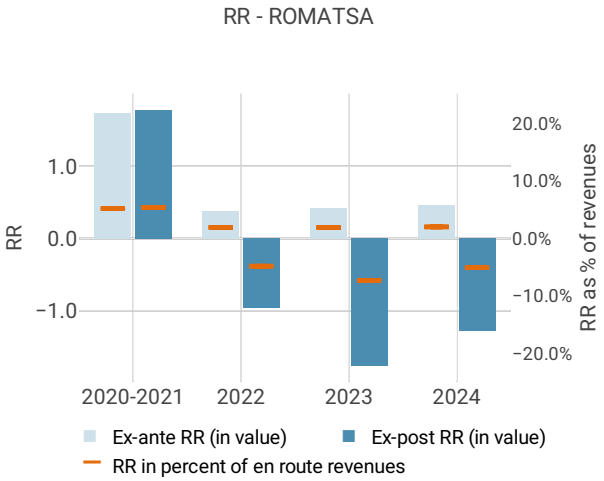


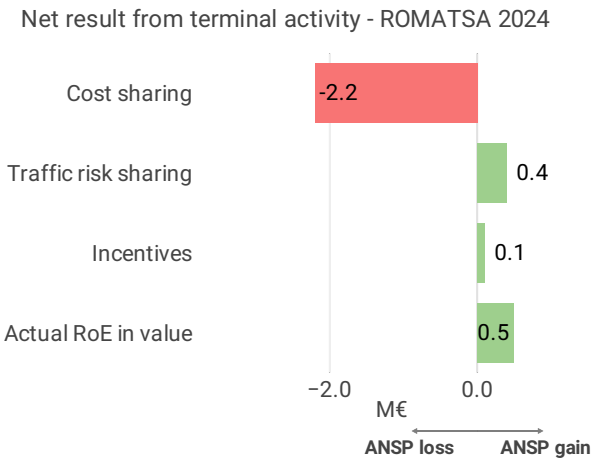
Cost exempt from cost sharing – 2024		
Cost exempt from cost sharing by item - 2024	**€'000**	**€/SU**
New and existing investments	-278.4	-3.70
Competent authorities and qualified entities costs	-53.8	-0.71
Eurocontrol costs	0.0	0.00
Pension costs	152.8	2.03
Interest on loans	9.8	0.13
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-169.6**	**-2.25**

5.3.3 Regulatory result (RR)









Focus on regulatory result

ROMATSA net loss on activity in the Romania terminal charging zone in the year 2024

ROMATSA reported a net loss of -8.8 MRON, as a combination of a loss of -11.2 MRON arising from the cost sharing mechanism, with a gain of +1.8 MRON arising from the traffic risk sharing mechanism and a gain of +0.6 MRON relating to financial incentives.

ROMATSA overall regulatory result (RR) for the terminal activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-8.8 MRON) and the actual RoE (+2.4 MRON) amounts to -6.4 MRON (-5.1% of the terminal revenues). The resulting ex-post rate of return on equity is -19.7%.

RP3 summary

When considering the whole of RP3 (2020-2024), ROMATSA generated a cumulative loss in respect of cost sharing of -19.3 MRON, as actual total costs for RP3 were higher than planned. The traffic risk sharing mechanism generated loss of -7.6 MRON. Adding the gain of +1.1 MRON to be retained by the ATSP in respect of financial incentives and the actual RoE (+14.7 MRON over RP3) leads to an overall regulatory result of -11.1 MRON, which corresponds to an average ex-post rate of return on equity of -6.8% (compared to 8.9% initially planned in the PP).