Performance review body of the single european sky

Performance Review Body Monitoring Report

Romania - 2020

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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
2020: 4.83499 RON

Share of Union-wide:
- **traffic (TSUs) 2020** 4.3%
- **en route costs 2020** 2.8%

Share en route / terminal costs 2020 92% / 8%

En route charging zone(s)
Romania

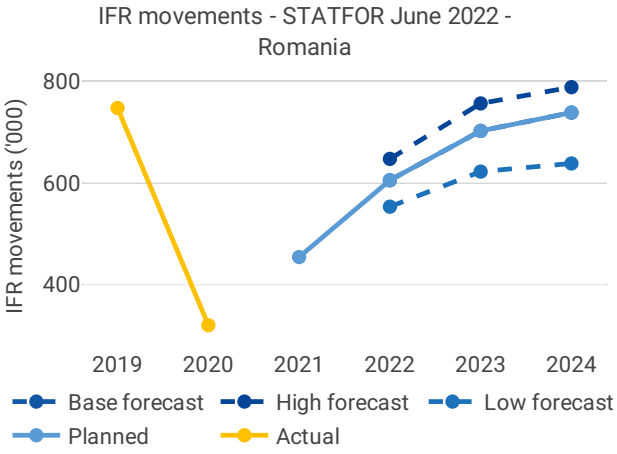
Terminal charging zone(s)
Romania

Main ANSP
- ROMATSA

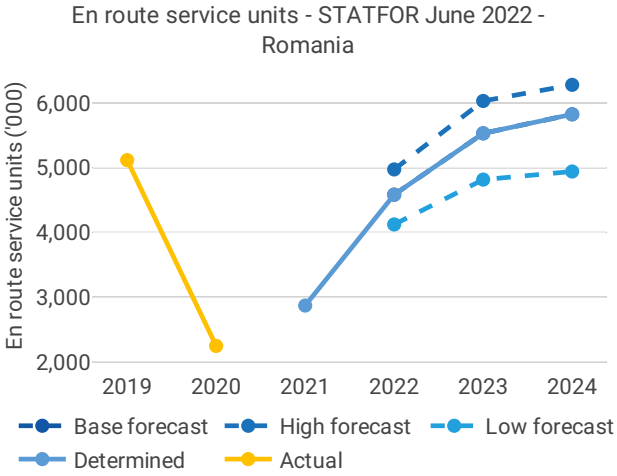
Other ANSPs
–

MET Providers
–

1.2 Traffic (En route traffic zone)

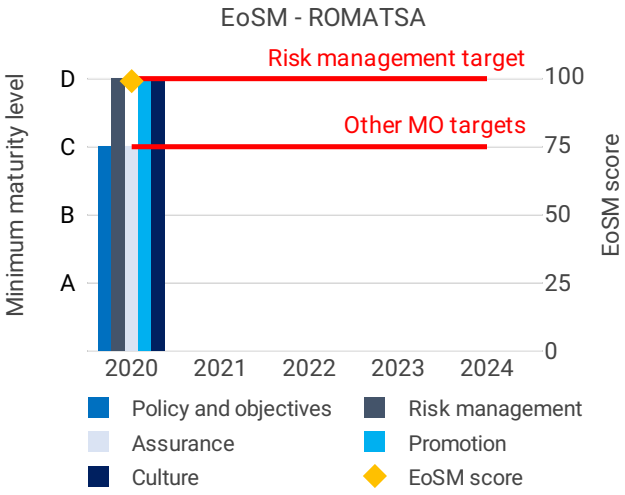


- Romania recorded 320K actual IFR movements in 2020, -57% compared to 2019 (747K).
- The reduction in IFR movements for Romania was in line with the average reduction at Union-wide level (-57%).



- Romania recorded 2,246K actual en route service units in 2020, -56% compared to 2019 (5,117K).
- Romania service units reduced less than the average reduction at Union-wide level (-57%).

1.3 Safety (Main ANSP)

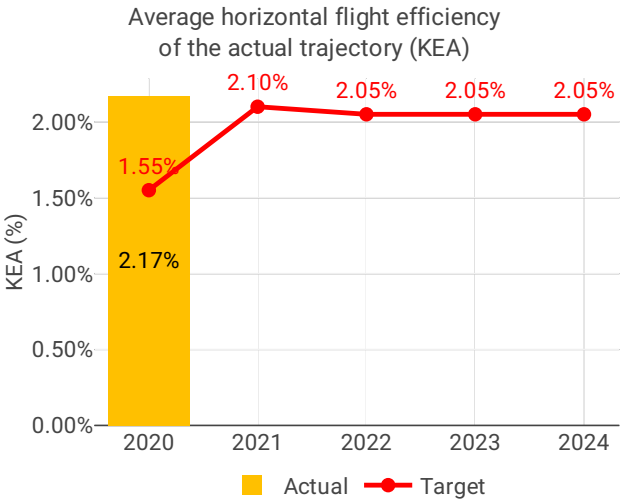


• ROMATSA achieved the RP3 EoSM targets in 2020 and exceeded the targets for two out of five management objectives. The achieved levels are better than what was planned in the draft 2019 performance plan. ROMATSA together with the NSA have implemented various measures and corrective actions to reach such high level of maturity.

• Romania recorded a good performance with respect to occurrences with no reported occurrences of RIs and lower rate of SMIs in 2020 compared to 2019. Romania remained below Union-wide rates for both SMIs and RIs in 2020.

• ROMATSA should improve its SMS by implementing automated safety data recording systems.

1.4 Environment (Member State)



• Romania achieved a KEA performance of 2.17% compared to its reference value of 1.55% and therefore did not contribute positively to the Union-wide target.

• Given that Romania's KEA performance was the same as the shortest constrained routes and offers free route airspace, performance can only improve if flights stop re-routing to avoid Ukrainian airspace. The design of the KEA indicator means such deviations significantly impact performance.

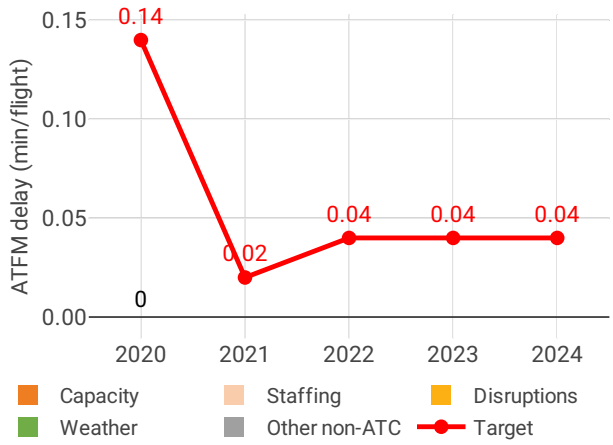
• Nonetheless, ATS routes that still exist within Romania should be removed and the PRB notes that there is an ongoing initiative to begin this work.

• Only one out of two Romanian airports that are regulated reported terminal data fully since 2017.

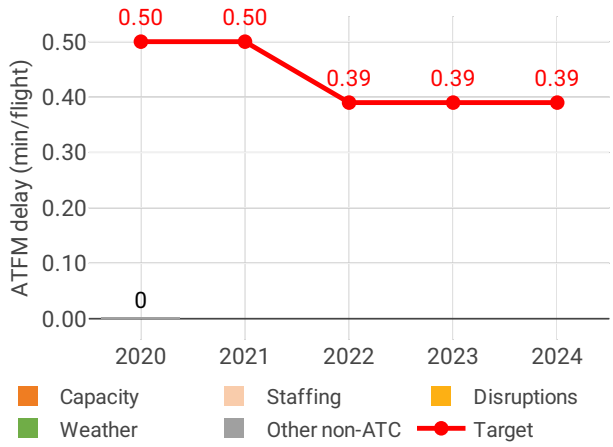
• The share of flights operating CCO/CDO at Romanian airports improved in 2020 compared to 2019. The additional time airspace users spent taxiing or holding in terminal airspace reduced by 21% compared to 2019.

1.5 Capacity (Member State)

Average en route ATFM delay per flight by delay groups



Average arrival ATFM delay per flight by delay groups



• ROMATSA registered zero minutes of average en route ATFM delay per flight during 2020, thus meeting the local breakdown value of 0.14.

• Delays must be considered in the context of the traffic evolution: IFR movements in 2020 were 57% below the 2019 levels in Romania.

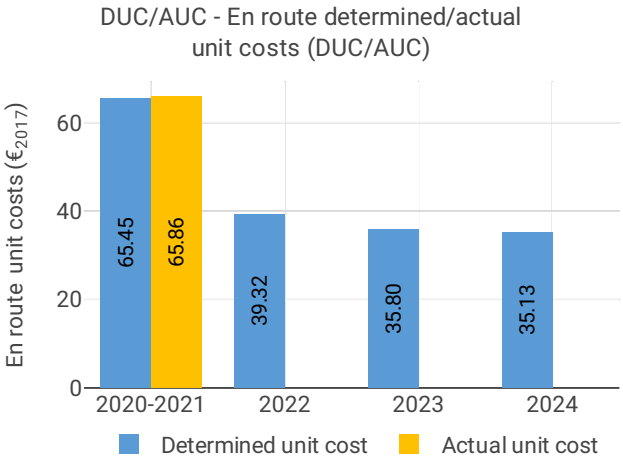
• Romania reported no capacity issues and a decrease of more than 3% in ATCO FTE numbers in 2020 compared to 2019 values. This represents a 10% deficit of ATCO FTEs compared to the planned number of ATCO FTEs for 2020. The deficit was caused by the interruption of recruitment and training processes due to the pandemic. The NSA also reported the problem of aging ATCOs at Bucuresti ACC, which is planned to be mitigated by the end of RP3.

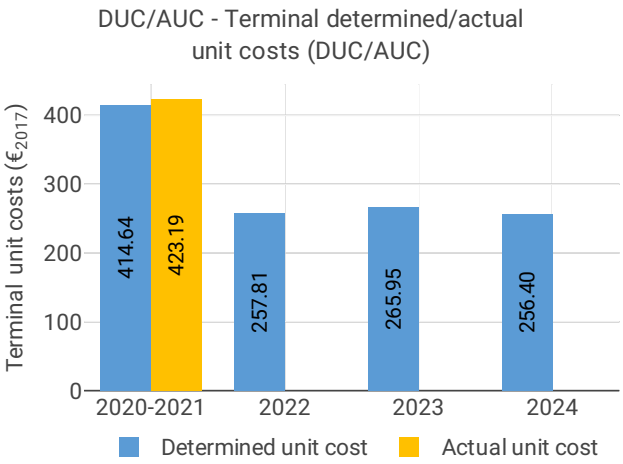
• Based on the analysis of previous capacity profiles, the PRB estimates Romania will face a capacity gap once IFR movements rise above 95% of 2019 levels. The PRB recommends that capacity improvement measures are implemented before traffic begins to recover.

• The yearly total of sector opening hours in Bucharest ACC was 68,808, showing a 0.3% increase compared to 2019.

• Bucharest ACC registered 4.56 IFR movements per one sector opening hour in 2020, being 57.5% below 2019 levels.

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





• The 2020 actual service units (2,246K) were 56% lower than the actual service units in 2019 (5,112K).

• Romania reduced total costs in 2020 by 7.5 M€2017 (-4%) compared to 2019 actual costs. The decrease is mainly driven by 5 M€2017 (-4%) reduction in staff costs, due to recruitment freezing, reduction of additional benefits and the retirement of personnel without being replaced. Romania also decreased exceptional costs by 7.6 M€2017 (-100%), without providing an explanation.

• ROMATSA spent 21.6 M€2017 related to cost of investments in 2020, in line with 2019 draft performance plan (21.5 M€2017).

2 SAFETY - ROMANIA

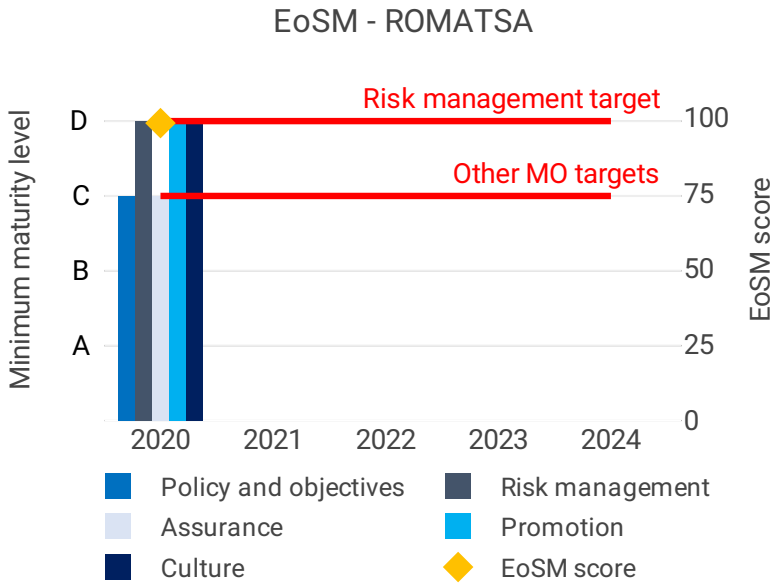
2.1 PRB monitoring

• ROMATSA achieved the RP3 EoSM targets in 2020 and exceeded the targets for two out of five management objectives. The achieved levels are better than what was planned in the draft 2019 performance plan. ROMATSA together with the NSA have implemented various measures and corrective actions to reach such high level of maturity.

• Romania recorded a good performance with respect to occurrences with no reported occurrences of RIs and lower rate of SMIs in 2020 compared to 2019. Romania remained below Union-wide rates for both SMIs and RIs in 2020.

• ROMATSA should improve its SMS by implementing automated safety data recording systems.

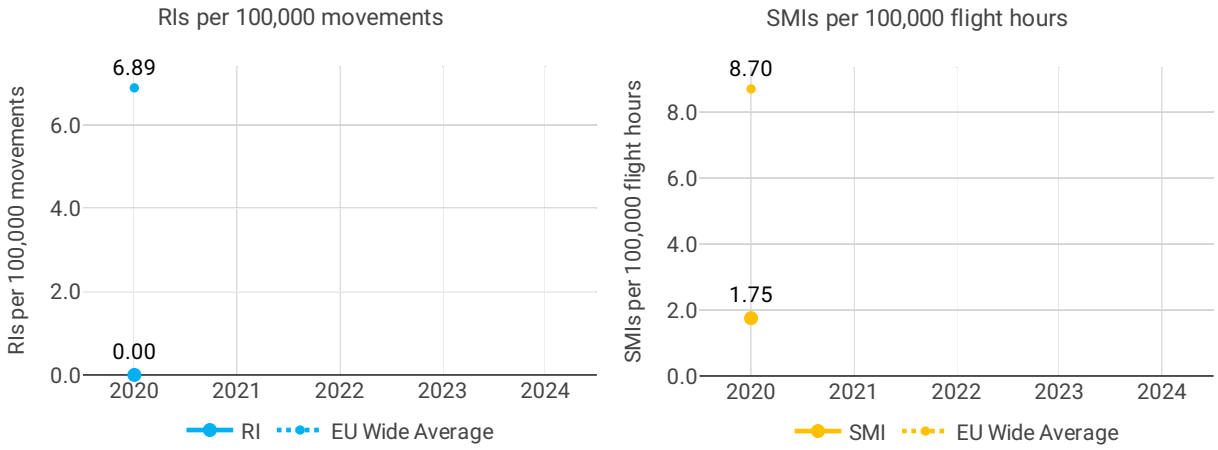
2.2 Effectiveness of Safety Management (EoSM) (KPI#1)



Focus on EoSM

All five EoSM components of the ANSP meet, or exceed, already the 2024 target level.

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



3 ENVIRONMENT - ROMANIA

3.1 PRB monitoring

• Romania achieved a KEA performance of 2.17% compared to its reference value of 1.55% and therefore did not contribute positively to the Union-wide target.

• Given that Romania's KEA performance was the same as the shortest constrained routes and offers free route airspace, performance can only improve if flights stop re-routing to avoid Ukrainian airspace. The design of the KEA indicator means such deviations significantly impact performance.

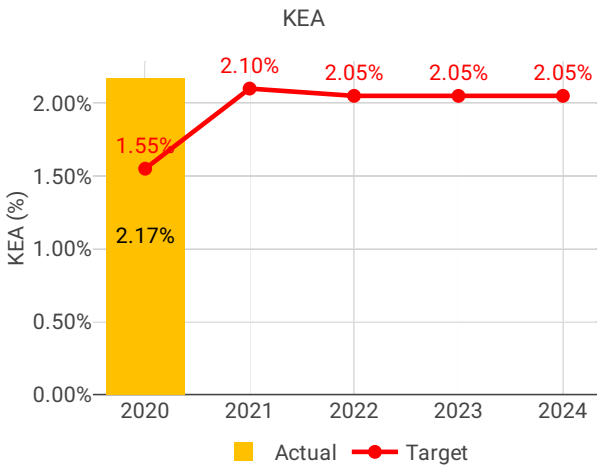
• Nonetheless, ATS routes that still exist within Romania should be removed and the PRB notes that there is an ongoing initiative to begin this work.

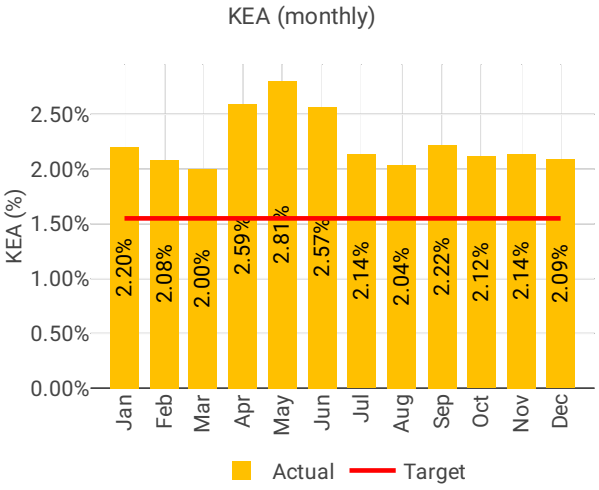
• Only one out of two Romanian airports that are regulated reported terminal data fully since 2017.

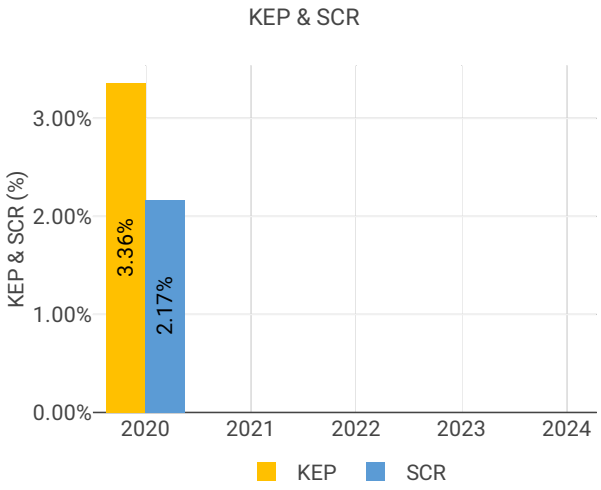
• The share of flights operating CCO/CDO at Romanian airports improved in 2020 compared to 2019. The additional time airspace users spent taxiing or holding in terminal airspace reduced by 21% compared to 2019.

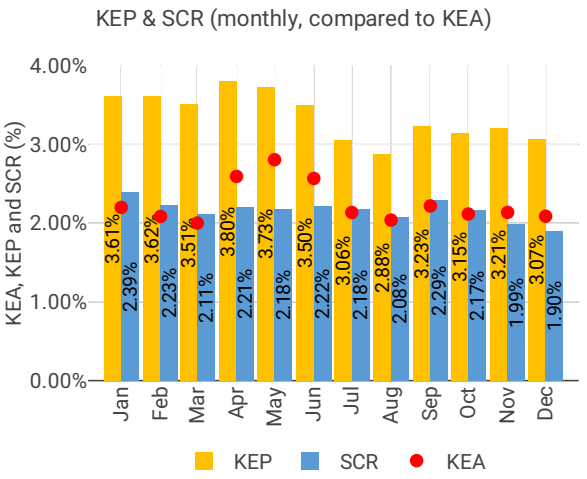
3.2 En route performance

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)



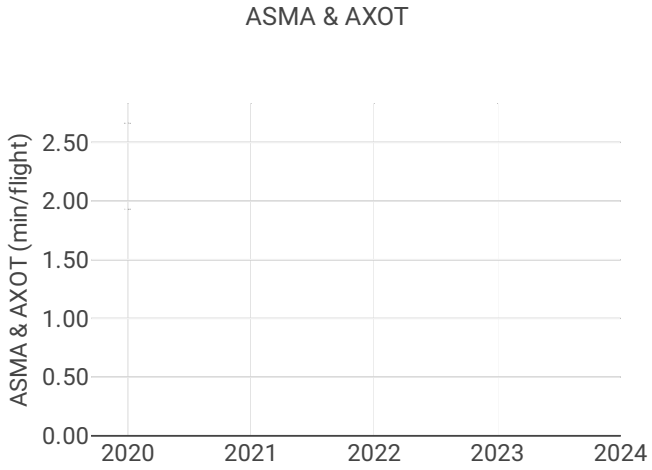


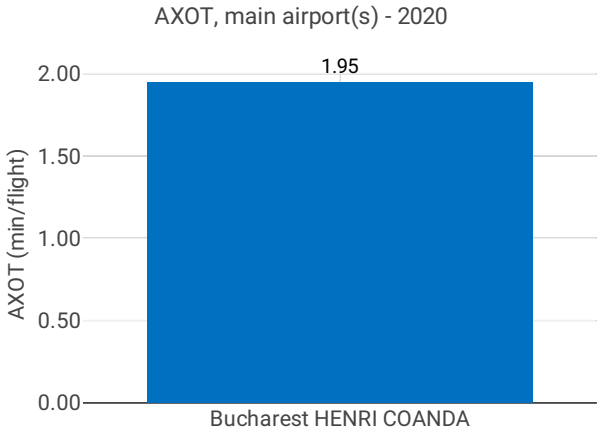


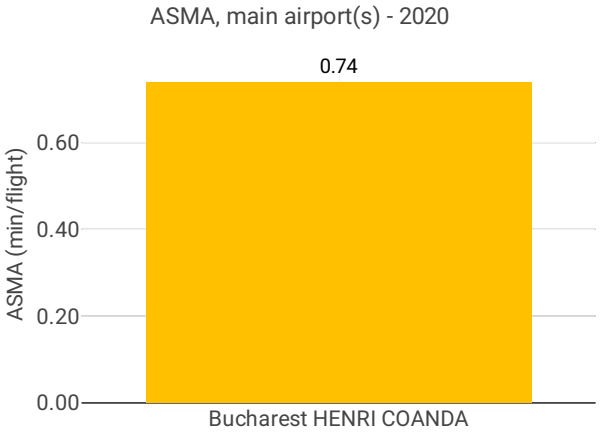


3.3 Terminal performance

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







Focus on ASMA & AXOT

AXOT

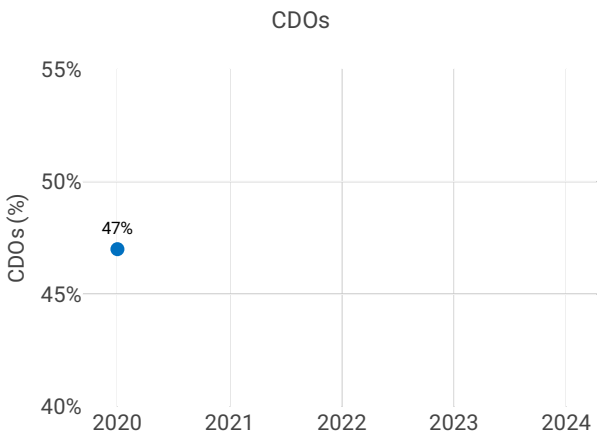
Additional taxi-out times at Bucharest/Otopeni (LROP; 2019: 2.67 min/dep.; 2020: 1.95 min/dep.) decreased considerably as of the month of April. Nevertheless this decrease (-27%) due to the reduction in traffic was lower than at other European airports.
According to the Romanian monitoring report, following measures are planned or already implemented, although no dates are provided:
a) Implemented:
- clearance delivery position;
- ASMGCS - advance 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:
- AMAN - Arrival Manager.

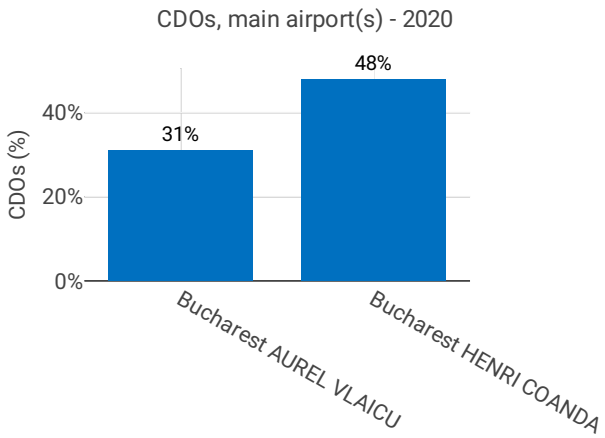
ASMA

Contrary to the additional taxi-out times, and to the trend in the evolution of the additional ASMA times at most airports in Europe, these times at Bucharest/Otopeni did not really decreased much in 2020 (LROP; 2019: 0.75 min/arr.; 2020: 0.74 min/arr.)
According to the Romanian monitoring report, following measures are planned or already implemented,

although no dates are provided:
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;
- implementation of RNP (required navigation performance) approach procedures.

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





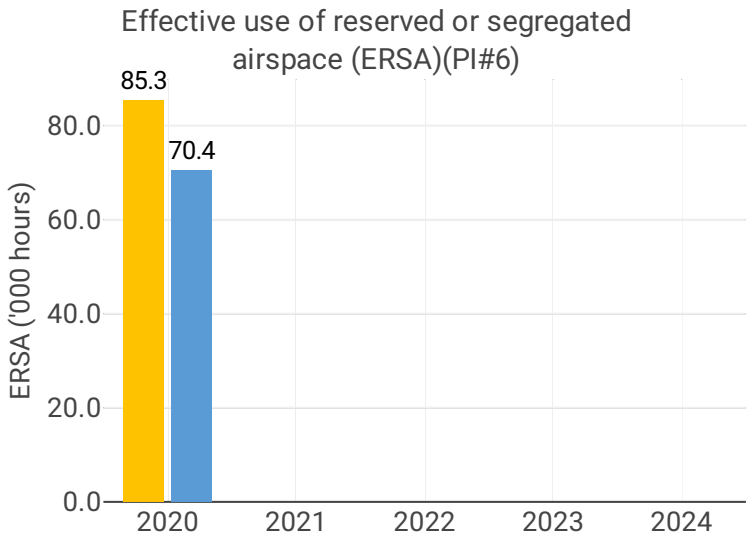
Focus CDOs

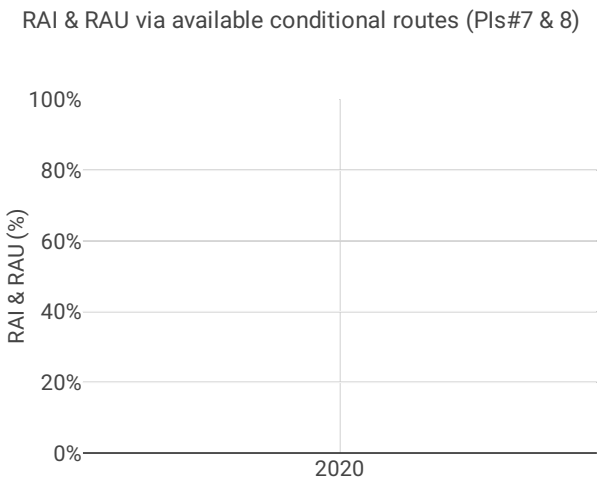
Bucharest/Otopeni (LROP), being the major airport in the Romania, has the highest share of CDO flights: 48.3% which is above the overall RP3 value in 2020 (32.5%).
Bucharest/Băneasa (LRBS) has a share of CDO flights slightly lower than the overall RP3 value.

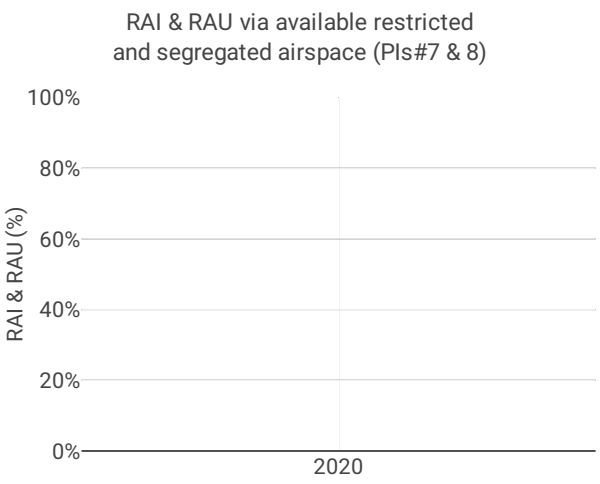
Airport level

	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
Bucharest HENRI COANDA	1.95	NA	NA	NA	NA	0.74	NA	NA	NA	NA	48%	NA	NA	NA	NA
Bucharest AUREL VLAICU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	31%	NA	NA	NA	NA

3.4 Civil-Military dimension







Focus on Civil-Military dimension

Update on Military dimension of the plan

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 collocated. At FAB level, an Air Space Policy Body is defined for strategic coordination between Romania and Bulgaria. Furthermore, Romanian operational procedures allow the crossing of most military training zones by civil aircraft with a prior coordination.

Military - related measures implemented or planned to improve environment and capacity

No data available

Initiatives implemented or planned to improve PI#6

NSA: PI monitored for statistical purposes, no target assigned in the Performance Plan. 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 collocated. At FAB level, an Air Space Policy Body is defined for strategic coordination between Romania and Bulgaria. Furthermore, Romanian operational procedures allow the crossing of most military training zones by civil aircraft with a prior coordination.

Initiatives implemented or planned to improve PI#7

No data available

Initiatives implemented or planned to improve PI#8

No data available

4 CAPACITY - ROMANIA

4.1 PRB monitoring

• ROMATSA registered zero minutes of average en route ATFM delay per flight during 2020, thus meeting the local breakdown value of 0.14.

• Delays must be considered in the context of the traffic evolution: IFR movements in 2020 were 57% below the 2019 levels in Romania.

• Romania reported no capacity issues and a decrease of more than 3% in ATCO FTE numbers in 2020 compared to 2019 values. This represents a 10% deficit of ATCO FTEs compared to the planned number of ATCO FTEs for 2020. The deficit was caused by the interruption of recruitment and training processes due to the pandemic. The NSA also reported the problem of aging ATCOs at Bucuresti ACC, which is planned to be mitigated by the end of RP3.

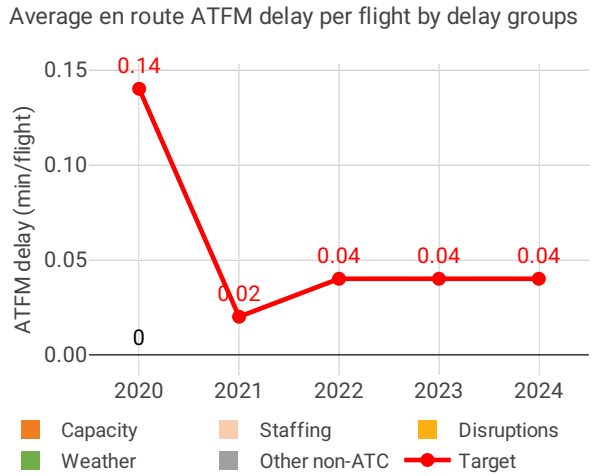
• Based on the analysis of previous capacity profiles, the PRB estimates Romania will face a capacity gap once IFR movements rise above 95% of 2019 levels. The PRB recommends that capacity improvement measures are implemented before traffic begins to recover.

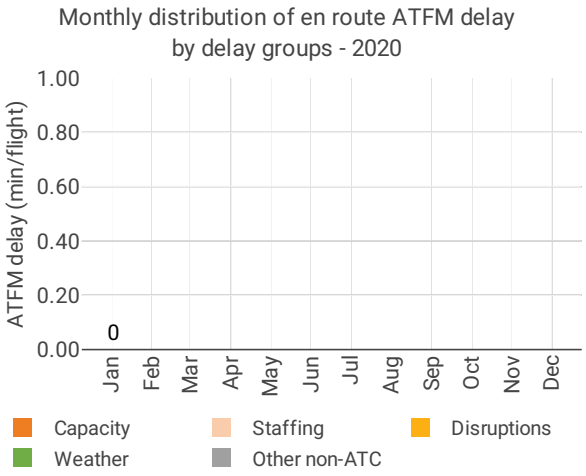
• The yearly total of sector opening hours in Bucharest ACC was 68,808, showing a 0.3% increase compared to 2019.

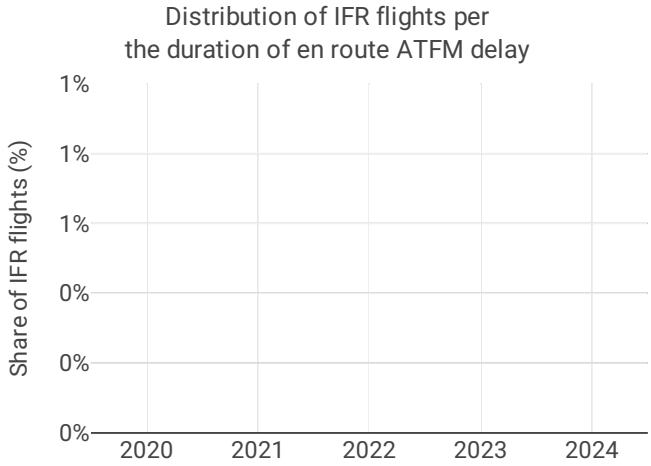
• Bucharest ACC registered 4.56 IFR movements per one sector opening hour in 2020, being 57.5% below 2019 levels.

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 Bucharest FIR experienced a traffic reduction of 57% from 2019 levels, to 320k flights. The traffic level was accommodated with zero en route ATFM delays to airspace users.

NSA's assessment of capacity performance

The significantly reduced traffic in the pandemic context allowed during 2020 optimised traffic flows and values (0) for ATFM delay per flight. Nevertheless, in the perspective of future traffic recovery, ROMATSA continues the airspace structure improvement process, by supporting Free Route operations expansion in the context of SEEFRA, by removing the ATS Routes above FL105 within Bucuresti CTA during Summer Season 2021 and by sectorisation improvements (planned for Winter Season 2021-2022).

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.
NSA: capacity actual values are monitored using the data officially published by EUROCONTROL (e.g. PRU dashboard, Performance Review Reports), PRB monitoring reports, ESSKY, etc. and trends are analysed periodically and if the case may be, corrective measures are applied . No corrective actions were required for 2020, target has been met.

Capacity planning

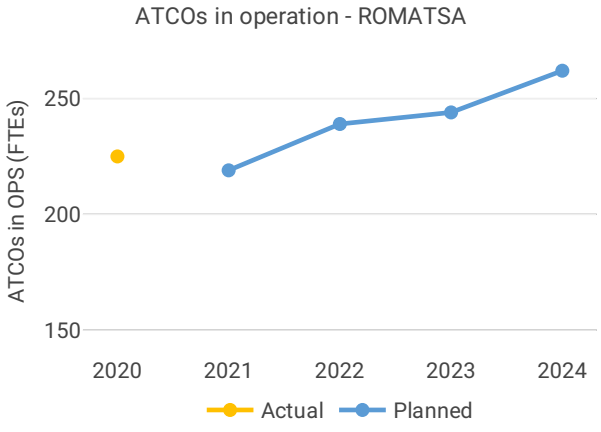
In the context of COVID-19 crisis, the capacity as previously planned and published within an annual NOP (Network Operations Plan) has been adapted accordingly by adoption of capacity plans under a NOP Rolling Seasonal Plan format, including periods of 6 weeks, based on the expected traffic demand regularly 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.

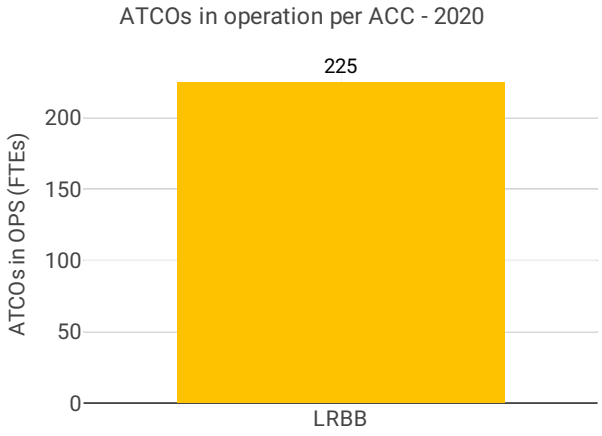
Bucuresti ACC ensured a stable sector opening plan with no sector capacity reduction throughout this difficult period, with the possibility to increase the number of sectors plan, if the traffic is increasing and support staff working as normal.

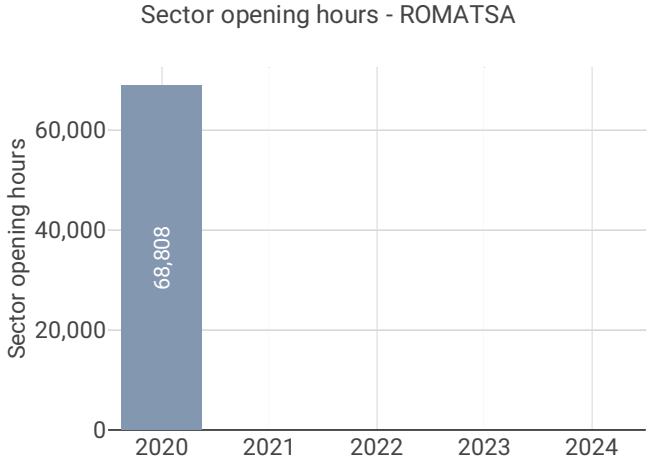
Application of Corrective Measures for Capacity (if applicable)

No data available

4.2.2 Other indicators





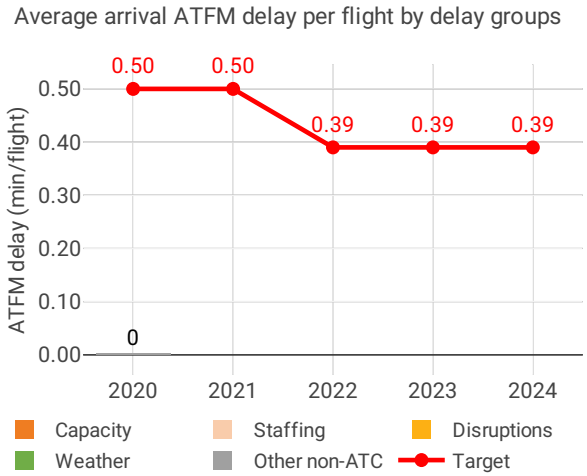


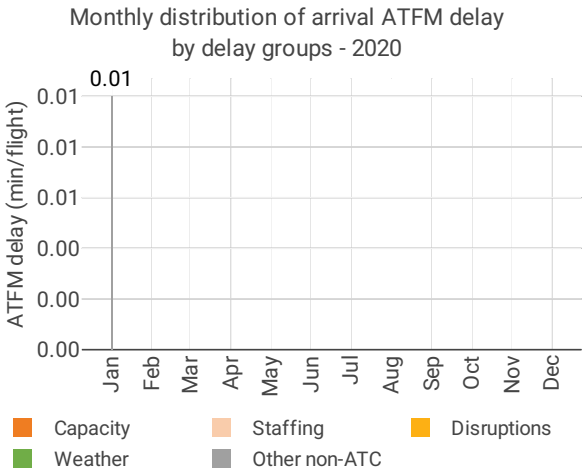
Focus on ATCOs in operations

Bucharest ACC: As presented during the RP2 revision process, ROMATSA faces an ageing ATCO personnel. This is especially true in ACC Bucharest, where more than 1/3 of ATCOs are over 50 years old and will be over age 55 at the end of RP3. It takes between 3 to 5 years to fully train and authorize an ATCO for ACC, therefore a recruitment process was started in 2017 and should continue until the end of RP3, as was approved through the RP2 revision in December 2018, to guarantee proper staffing levels to ensure safety and capacity. Due to the impact of the COVID19 pandemic, the recruitment process was temporary frozen and will be shifted accordingly.

4.3 Terminal performance

4.3.1 Arrival ATFM delay (KPI#2)





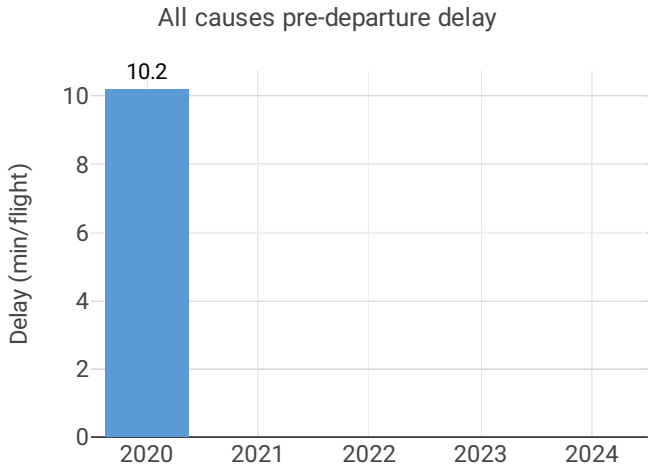
Focus on arrival ATFM delay

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. Nevertheless, the quality of the reporting from Bucharest does not allow for the calculation of the ATC pre-departure delay, with more than 60% of the reported delay not allocated to any cause.
Traffic at these 2 airports decreased in 2020 by 56% with respect to 2019. Average zero delays were observed at both airports in 2020 and slot adherence at national level was 96.6%.

The significantly reduced traffic due to the pandemic context allowed ROMATSA to reach the capacity indicator for terminal and airport with 0 average delays.
In 2020 only a 43 minutes of ATFM delay at LROP were due only to aerodrome capacity before the start of the pandemic.
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 A-SMGCS 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 APP is foreseen also during RP3.

The provisional national target on arrival ATFM delay in 2020 was met.
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.

4.3.2 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
Bucharest AUREL VLAICU	NA	NA	NA	NA	100.0%	NA%	NA%	NA%
Bucharest HENRI COANDA	0	NA	NA	NA	96.6%	NA%	NA%	NA%

	ATC pre departure delay (PI#2)				All causes pre departure delay (PI#3)			
Airport name	2020	2021	2022	2023	2020	2021	2022	2023
Bucharest AUREL VLAICU	NA	NA	NA	NA	NA	NA	NA	NA
Bucharest HENRI COANDA	0.1	NA	NA	NA	10.2	NA	NA	NA

Focus on performance indicators at airport level

ATFM slot adherence

With the drastic drop in traffic, the share of regulated departures from Bucharest/Otopeni virtually disappeared as of April. The annual figures are therefore driven by the performance in the first trimester.
Only 17 departures in total from Bucharest/Băneasa (LRBS) were regulated in the entire year, with a 100% compliance.
The national average, driven by Bucharest/Otopeni, was 96.6%.With regard to the 3.4% of flights that did not adhere, 3% was early and 0.4% was late.
The Romanian NSA reports that Performance improved compared to 2019. 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).
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 Bucharest/Otopeni (LROP) was above 40% since March 2020 (preventing the calculation of this indicator) due to the special traffic composition during the months of the pandemic. LROP had proper reporting before March 2020.

All causes pre-departure delay

The total (all causes) delay in the actual off block time at Bucharest/Otopeni (LROP) in 2020 was 10.22 min/dep. The higher delays per flight were observed in the second trimester of the year, due to the lower traffic and extraordinary circumstances.

This performance indicator has been introduced in the performance scheme for the first time this year, so no evolution with respect to 2019 can be analysed.

5 COST-EFFIENCY - ROMANIA

5.1 PRB monitoring

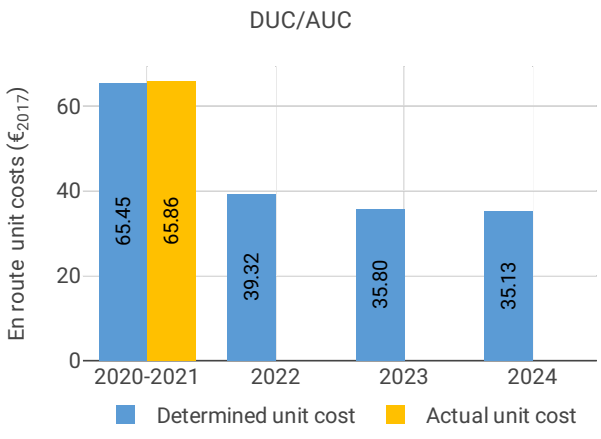
• The 2020 actual service units (2,246K) were 56% lower than the actual service units in 2019 (5,112K).

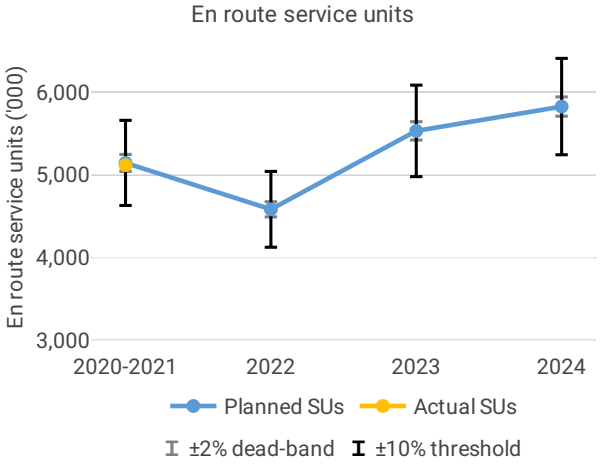
• Romania reduced total costs in 2020 by 7.5 M€2017 (-4%) compared to 2019 actual costs. The decrease is mainly driven by 5 M€2017 (-4%) reduction in staff costs, due to recruitment freezing, reduction of additional benefits and the retirement of personnel without being replaced. Romania also decreased exceptional costs by 7.6 M€2017 (-100%), without providing an explanation.

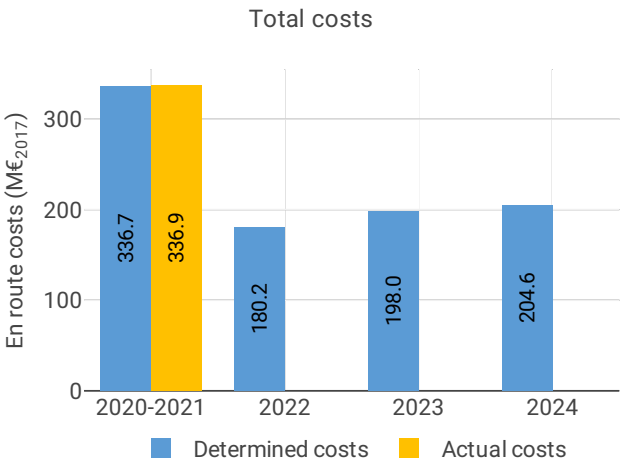
• ROMATSA spent 21.6 M€2017 related to cost of investments in 2020, in line with 2019 draft performance plan (21.5 M€2017).

5.2 En route charging zone

5.2.1 Unit cost (KPI#1)

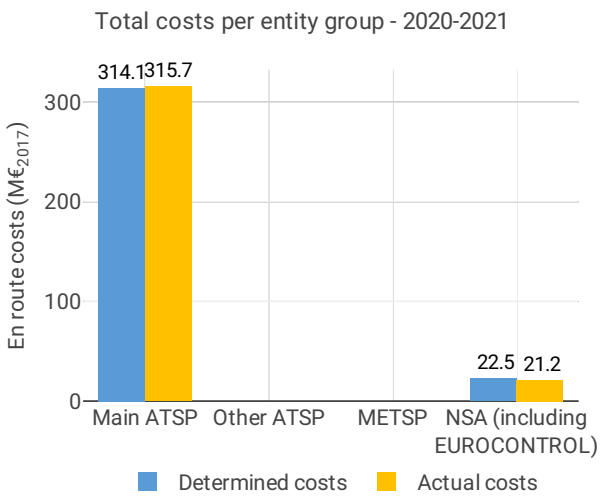


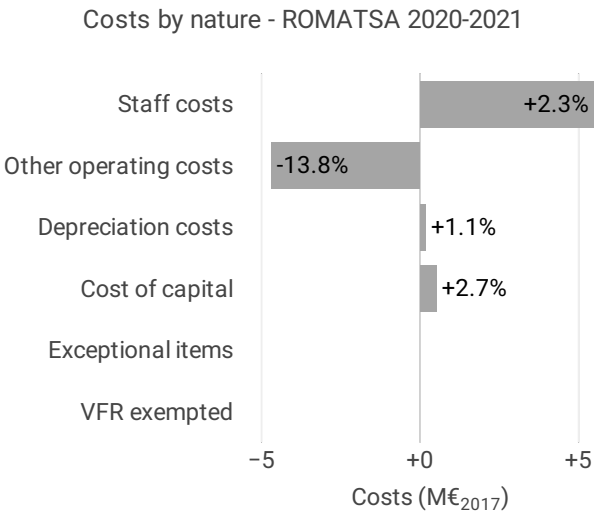




Actual and determined data

Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	373	NA	NA	NA
Determined costs	370	219	249	265
Difference costs	2	NA	NA	NA
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	NA	NA	NA
Actual inflation index	NA	NA	NA	NA
Difference inflation index (p.p.)	NA	NA	NA	NA





Focus on unit cost

AUC vs. DUC

The AUC for the combined year 2020-2021 is slightly higher than the planned DUC (by +0.6%, or +1.86 RON2017, or +0.41€2017). This results from the combination of lower than planned TSUs (-0.5%) and higher than planned en route costs in real terms (by +0.1%, or +1.1 MRON2017, or +0.2 M€2017).

En route service units

The difference between actual and planned TSUs (-0.5%) falls within the ±2% dead band. Hence the resulting loss is borne by the ANSPs.

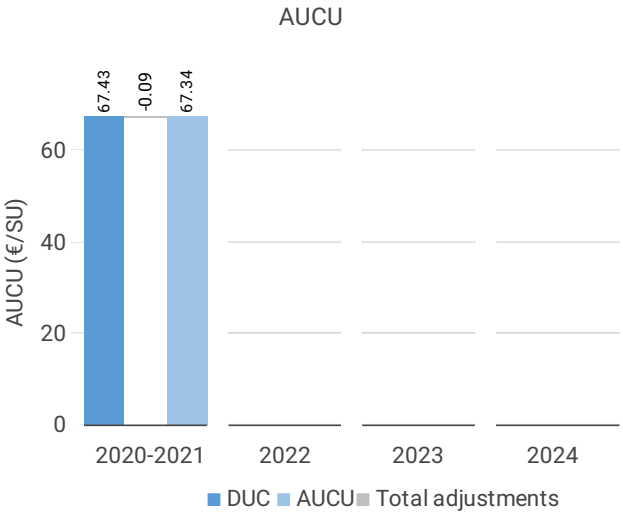
En route costs by entity

Actual real en route costs for 2020-2021 are +0.1% (+1.1 MRON2017, or +0.2 M€2017) higher than planned. This result is driven by the main ANSP, Romatsa (+0.5%, or +1.5 M€2017), while the NSA/EUROCONTROL costs were lower than planned (-5.7%, or -1.3 M€2017).

En route costs for the main ANSP at charging zone level

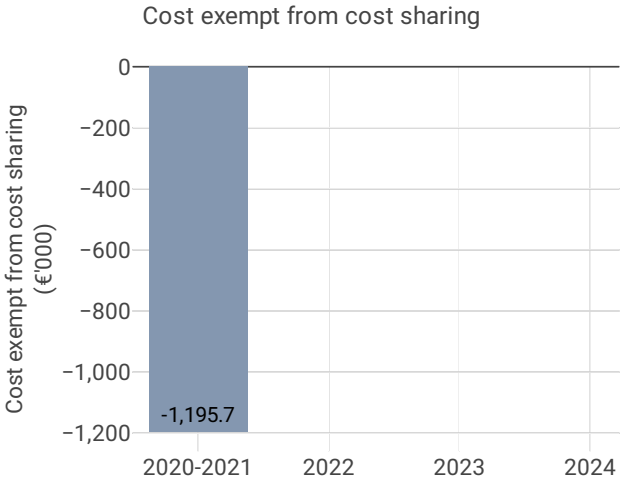
Overall, the en route costs in real terms for Romatsa in 2020-2021 were in line with the determined costs from the performance plan (+0.5%, or +1.5 M€2017 higher). This results from opposite variations:
- higher staff costs (+2.3%), “due to higher than planned pensions costs related to the defined benefits provision. These have been partly offset by cost restraining measures applied for both 2020-2021”.
- lower other operating costs (-13.8%), “due mainly to a delay in flight validation services for the 15 DMEs installed and cost restraining measures applied to conserve cash-flow.”
- slightly higher depreciation (+1.1%), “due to an accounting error in forecasting”, and
- higher cost of capital (+2.7%).

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



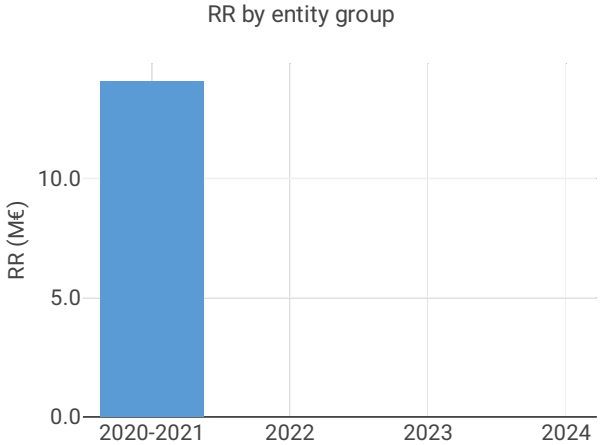
AUCU components (€/SU) – 2020-2021

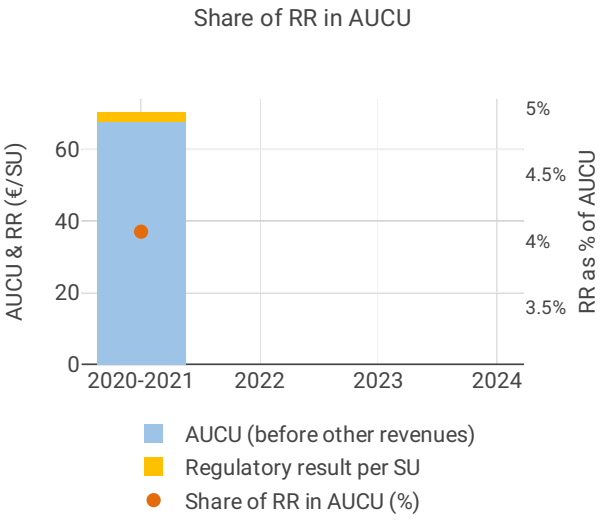
Components of the AUCU in 2020-2021	€/SU
DUC	**67.43**
Inflation adjustment	0.38
Cost exempt from cost-sharing	-0.23
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	0.04
Finantial incentives	0.00
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	-0.28
Application of lower unit rate	0.00
Total adjustments	-0.09
AUCU	**67.34**
AUCU vs. DUC	**-0.1%**

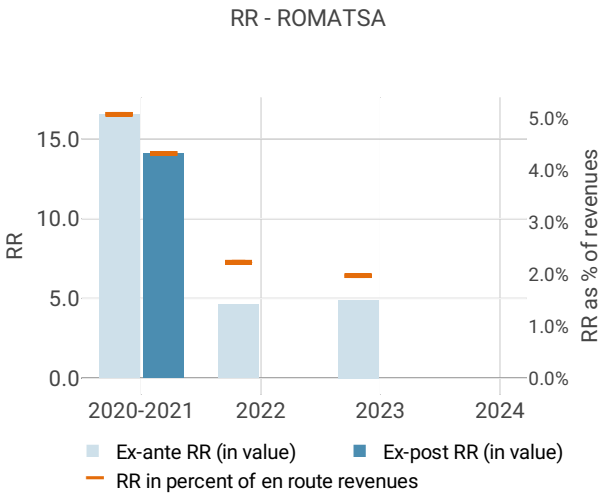


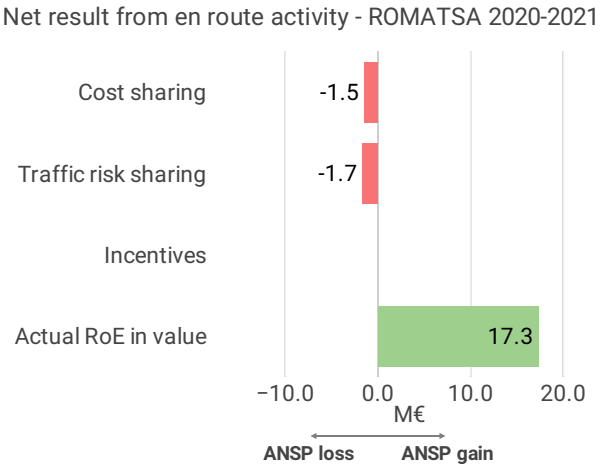
Cost exempt from cost sharing by item - 2020-2021	€'000	€/SU
New and existing investments	0.0	0.00
Competent authorities and qualified entities costs	-666.2	-0.13
Eurocontrol costs	-518.9	-0.10
Pension costs	0.0	0.00
Interest on loans	-10.6	0.00
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-1,195.7**	**-0.23**

5.2.3 Regulatory result (RR)







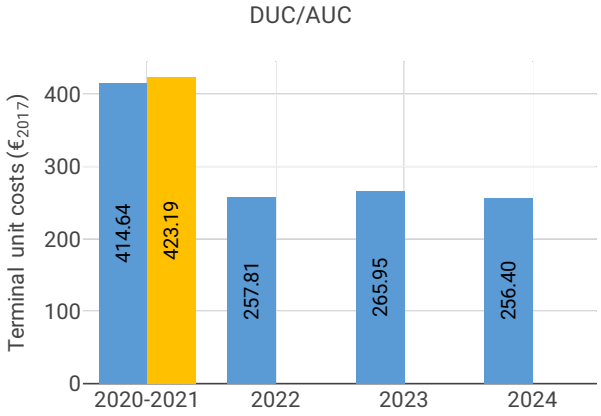


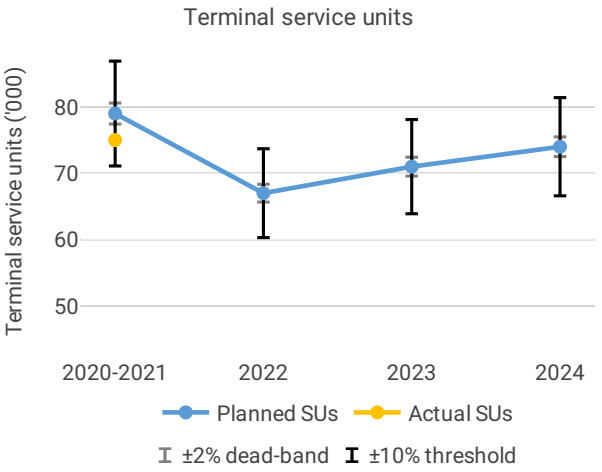
Focus on regulatory result

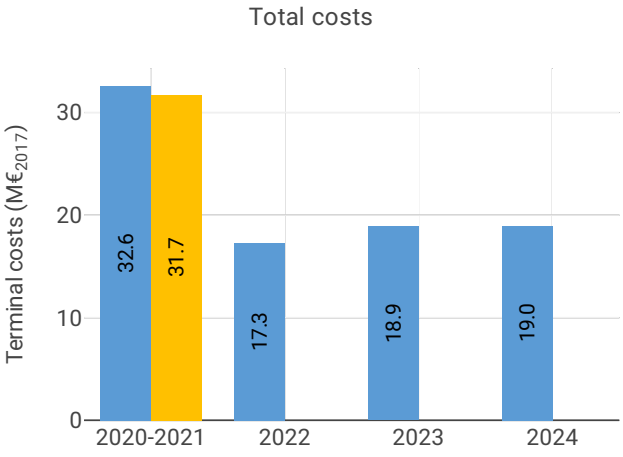
Romatsa net loss on en route activity in the Romania charging zone in the combined year 2020-2021
Romatsa incurred a net loss of -15.8 MRON, as a combination of a loss of -7.5 MRON arising from the cost sharing mechanism and a loss of -8.3 MRON arising from the traffic risk sharing mechanism.
Romatsa overall regulatory results (RR) for the en route activity
Ex-post, the overall RR taking into account the net loss from the en route activity mentioned above (-15.8 MRON) and the actual RoE (84.3 MRON) amounts to +68.5 MRON (4.3% of the en route revenues). The resulting ex-post rate of return on equity is 8.3%, which is lower than the 10.1% planned in the PP.

5.3 Terminal charging zone

5.3.1 Unit cost (KPI#1)

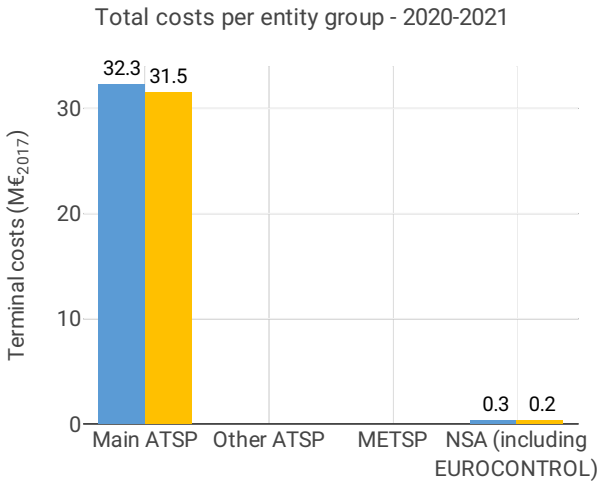


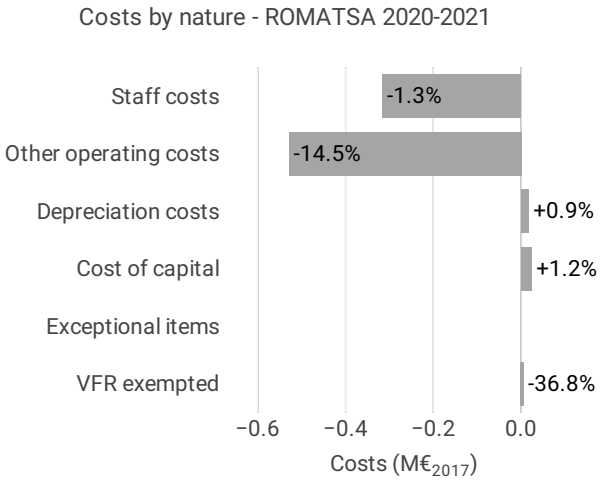




Actual and determined data

Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	35	NA	NA	NA
Determined costs	36	21	24	25
Difference costs	-1	NA	NA	NA
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	NA	NA	NA
Actual inflation index	NA	NA	NA	NA
Difference inflation index (p.p.)	NA	NA	NA	NA





Focus on unit cost

AUC vs. DUC

The AUC for the combined year 2020-2021 is higher than the planned DUC (by +2.1%, or +39.05RON2017 or 8.55€2017). This is due to lower than planned TNSUs (-4.6%) and lower than planned terminal costs in real terms (by -2.6%, or -3.9 MRON2017 or -0.9M€2017).

Terminal service units

The difference between actual and planned TNSUs (-4.6%) falls between the -2% dead band and the -10% threshold. Hence the resulting loss is shared between the ANSP and the airspace users.

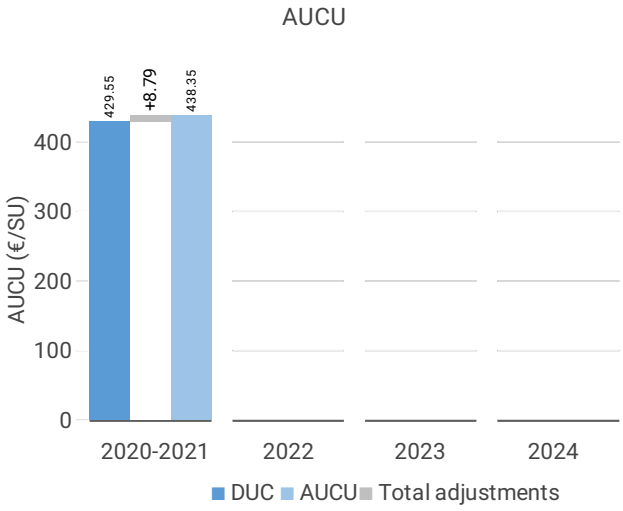
Terminal costs by entity

Actual real terminal costs for 2020-2021 are -2.6% (-0.9 M€2017) lower than planned. This result is driven by the main ANSP, Romatsa (-2.5%, or -0.8 M€2017) and the NSA costs (-20.8%, or -0.1 M€2017).

Terminal costs for the main ANSP at charging zone level

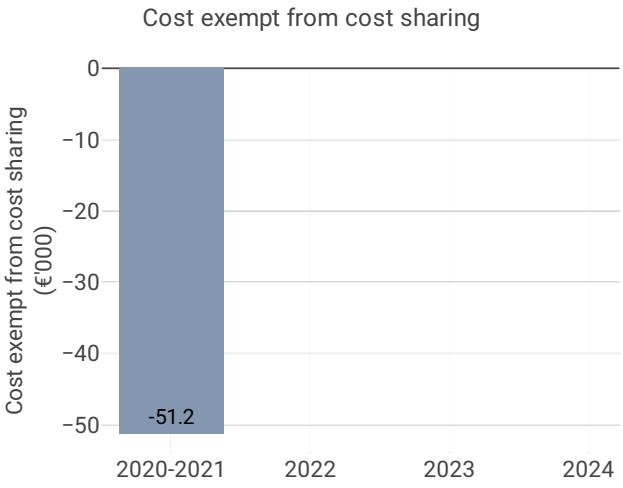
Overall, the terminal costs in real terms for Romatsa in 2020-2021 were lower than the determined costs from the performance plan (by -2.5%, or -0.8 M€2017 lower). This results from:
- lower staff costs (-1.3%), “due to cost restraining measures applied for both 2020-2021, offsetting higher than planned pensions costs related to the defined benefits provision”.
- lower other operating costs (-14.5%), “due mainly to a delay in the contracts for procedure design and flight validations and cost restraining measures applied to conserve cash-flow.”
- slightly higher depreciation (+0.9%), “due to an accounting error in forecasting” and
- higher cost of capital (+1.2%).

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



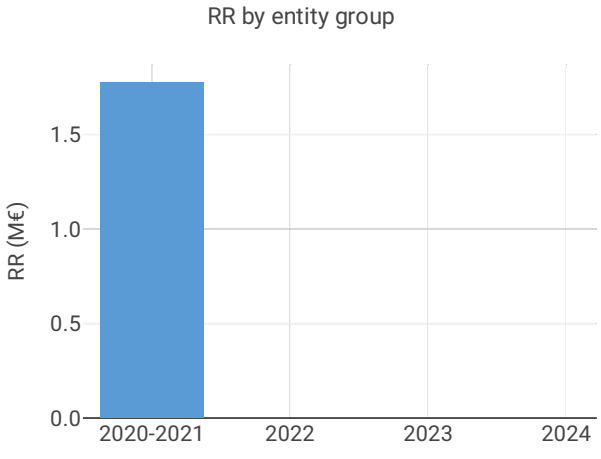
AUCU components (€/SU) – 2020-2021

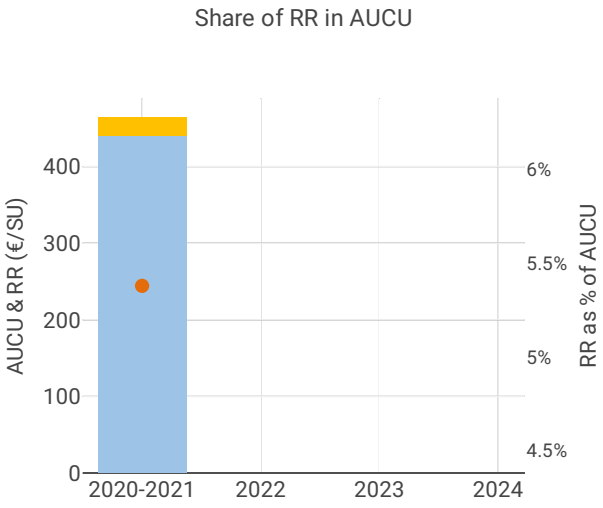
Components of the AUCU in 2020-2021	€/SU
DUC	**429.55**
Inflation adjustment	2.81
Cost exempt from cost-sharing	-0.68
Traffic risk sharing adjustment	7.60
Traffic adj. (costs not TRS)	1.24
Finantial incentives	0.00
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	-2.18
Application of lower unit rate	0.00
Total adjustments	8.79
AUCU	**438.35**
AUCU vs. DUC	**+2.0%**

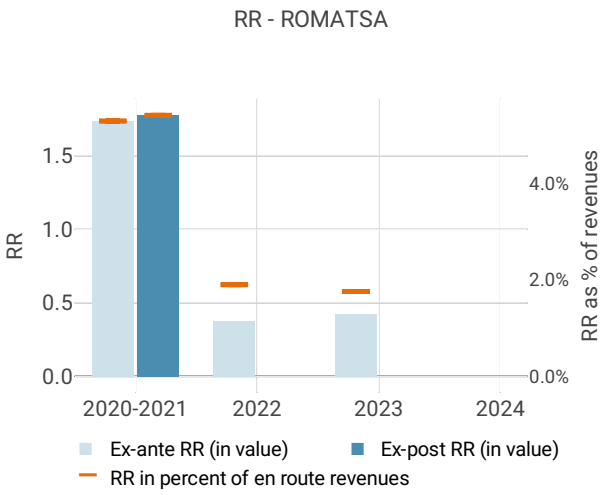


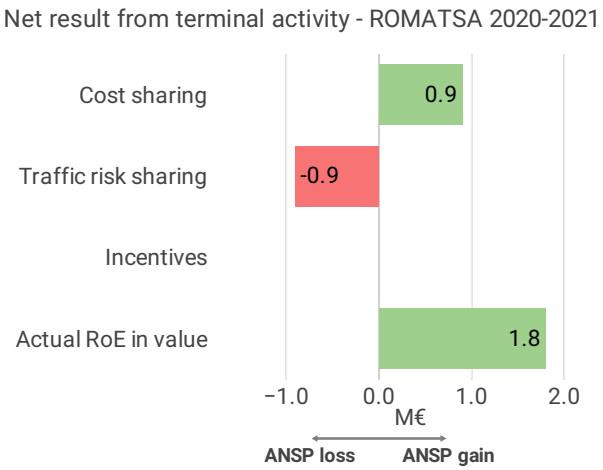
Cost exempt from cost sharing by item - 2020-2021	€'000	€/SU
New and existing investments	0.0	0.00
Competent authorities and qualified entities costs	-49.7	-0.66
Eurocontrol costs	0.0	0.00
Pension costs	0.0	0.00
Interest on loans	-1.5	-0.02
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-51.2**	**-0.68**

5.3.3 Regulatory result (RR)









Focus on regulatory result

Romatsa net loss on terminal activity in the Romania charging zone in the combined year 2020-2021
Romatsa incurred a net loss of -0.1 MRON, as a combination of a gain of +4.2 MRON arising from the cost sharing mechanism and a loss of -4.3 MRON arising from the traffic risk sharing mechanism.
Romatsa overall regulatory results (RR) for the terminal activity
Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-0.1 MRON) and the actual RoE (+8.7 MRON) amounts to +8.7 MRON (5.4% of the en route revenues). The resulting ex-post rate of return on equity is 10.1%, which is the same as planned in the PP.