



Performance Review Body Monitoring Report

Hungary - 2020

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1 OVERVIEW

1.1 Contextual information

National performance plan adopted following Commission Decision (EU) 2022/775 of 13 April 2022

List of ACCs 1
Budapest ACC

Exchange rate (1 EUR=)
2017: 308.993 HUF
2020: 350.891 HUF

Main ANSP
• HungaroControl (EC)

No of airports in the scope of the performance plan:

- ≥80'K 1
- <80'K 0

Share of Union-wide:
• traffic (TSUs) 2020 2.7%
• en route costs 2020 1.5%

Other ANSPs
–

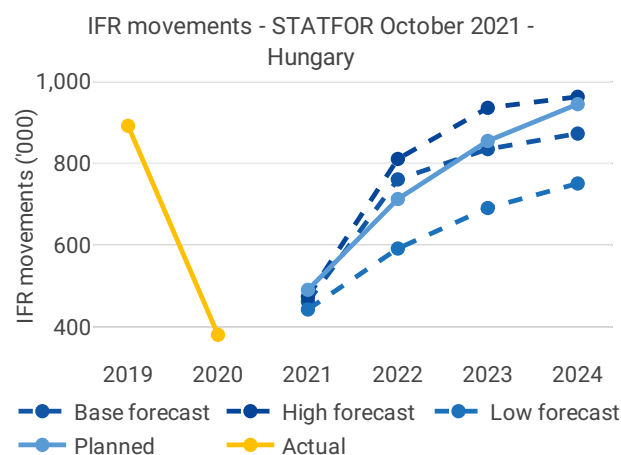
Share en route / terminal costs 2020 85% / 15%

MET Providers
• Hungarian Meteorological Service (Országos Meteorológiai Szolgálat)

En route charging zone(s)
Hungary

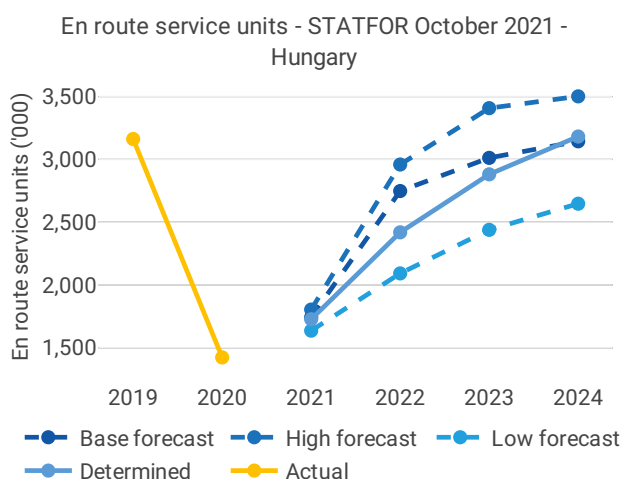
Terminal charging zone(s)
Hungary

1.2 Traffic (En route traffic zone)



• Hungary recorded 381K actual IFR movements in 2020, -57% compared to 2019 (892K).

• The reduction in IFR movements for Hungary is in line with the average reduction at Union-wide level (-57%).



• Hungary recorded 1,423K actual en route service units in 2020, -55% compared to 2019 (3,162K).

• Hungary service units reduced less than the average reduction at Union-wide level (-57%).

1.3 Safety (Main ANSP)



- HungaroControl has already achieved its RP3 EoS target levels in all management objectives. The achieved maturity exceeds the maturity Hungary planned to achieve in 2020 in its 2019 draft performance plan in four out of five safety objectives.

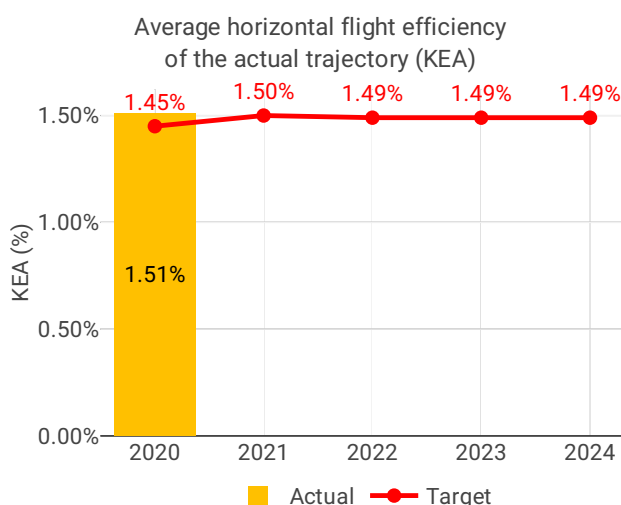
- The PRB comments that compared with the maturity level reached during RP2, HungaroControl has continued to improve the maturity of its safety management during the first year of RP3 and now exceeds the RP3 targets.

- Hungary recorded a good performance with respect to safety occurrences with lower rates of

SIMIs with respect to 2019 and no occurrences of RIs in 2020. Both rates are below the Union-wide averages.

- HungaroControl should improve its SMS by implementing automated safety data recording systems for RIs.

1.4 Environment (Member State)



- Hungary achieved a KEA performance of 1.51% compared to its reference value of 1.45% and therefore did not contribute positively towards achieving the Union-wide target.

- Hungary did not explain why its performance fell short of 1.45%. Instead it was stated that removed RAD restrictions and improved cross-border free route airspace should have helped achieve the targets.

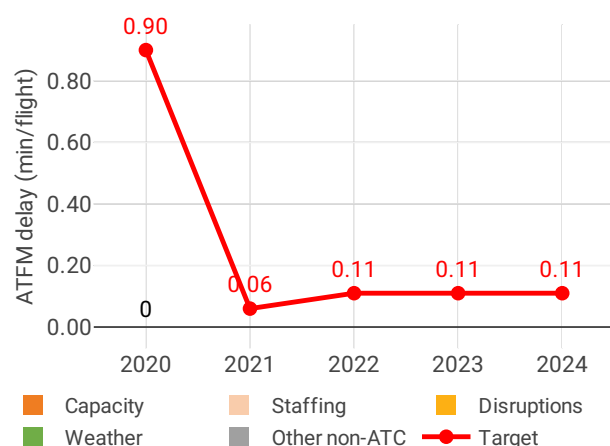
- Given that cross-border free route operation within SEE FRA is being expanded, Hungary has stated it plans to take no further remedial measures. The PRB believes that as the shortest constrained route in 2020 was higher than in 2018,

Hungary must analyse why a less efficient airspace was made available in 2020 during low traffic and reconsider whether any remedial measures should be taken.

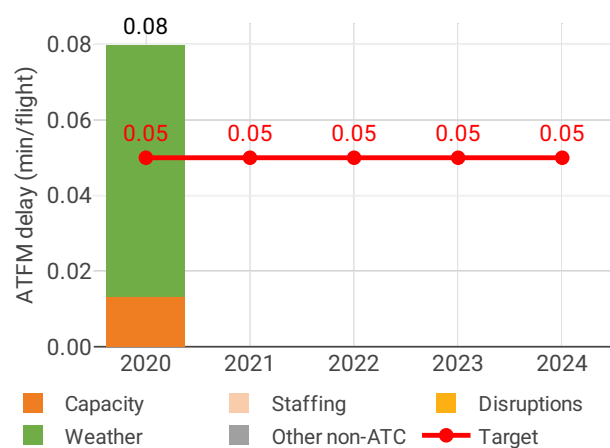
- The share of flights operating CCO/CDO at Budapest airport improved in 2020 compared to 2019. The additional time airspace users spent taxiing or holding in terminal airspace reduced by 38% compared to 2019.

1.5 Capacity (Member State)

Average en route ATFM delay per flight by delay groups



Average arrival ATFM delay per flight by delay groups



below 2019 levels.

- HungaroControl registered zero minutes of average en route ATFM delay per flight during 2020, thus meeting the local breakdown value of 0.90.

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

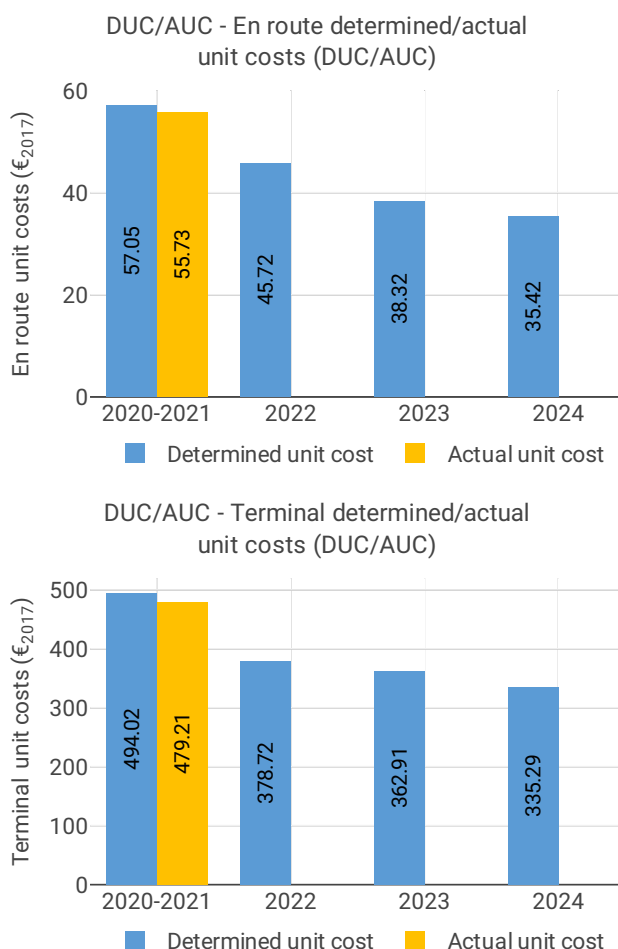
- Hungary reported no capacity issues and a 4% decrease in the number of ATCO FTEs in 2020 compared to 2019. This represents an 8% decrease compared to the planned number of ATCO FTEs in 2020. The decrease was driven by the fact that training of ACC controllers could not be completed due to the lack of traffic in 2020. Hungary plans to complete these trainings in 2021.

- Based on the analysis of previous capacity profiles, the PRB estimates Hungary will face a capacity gap once IFR movements rise above 77% of 2019 levels. The PRB recommends that capacity improvement measures are implemented before traffic begins to recover.

- The yearly total of sector opening hours in Budapest ACC was 20,552, showing a 39.4% decrease compared to 2019.

- Budapest ACC registered 17.81 IFR movements per one sector opening hour in 2020, being 28.7%

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



- The 2020 actual service units (1,423K) were 54% lower than the actual service units in 2019 (3,124K).

- Hungary reduced total costs in 2020 by 9.4 M€2017 (-10%) compared to 2019 actual costs. The reduction is driven by a decrease in staff costs of 4.5 M€2017 (-9%) due to reduced benefits related to performance and a lower social contribution tax rate. Other operating costs also decreased notably of 4 M€2017 (-12%), due to postponement of ATCO trainings and less travels.

- Hungary decreased all cost categories except for depreciation. The increase of 1 M€2017 (+10%) in depreciation costs is explained by the NSA by changes in useful life, price increases due to exchange rate effect, upgrade of Matias ATM system and new IT devices.

- HungaroControl spent 24 M€2017 in 2020 related to costs of investments, 18% less than planned in the 2019 draft performance plan (29 M€2017). The reduction is explained by a lower cost of capital resulting from a lower asset base and WACC than originally planned.

2 SAFETY - HUNGARY

2.1 PRB monitoring

- HungaroControl has already achieved its RP3 EoS target levels in all management objectives. The achieved maturity exceeds the maturity Hungary planned to achieve in 2020 in its 2019 draft performance plan in four out of five safety objectives.

- The PRB comments that compared with the maturity level reached during RP2, HungaroControl has continued to improve the maturity of its safety management during the first year of RP3 and now exceeds the RP3 targets.

- Hungary recorded a good performance with respect to safety occurrences with lower rates of SMIs with respect to 2019 and no occurrences of RIs in 2020. Both rates are below the Union-wide averages.

- HungaroControl should improve its SMS by implementing automated safety data recording systems for RIs.

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



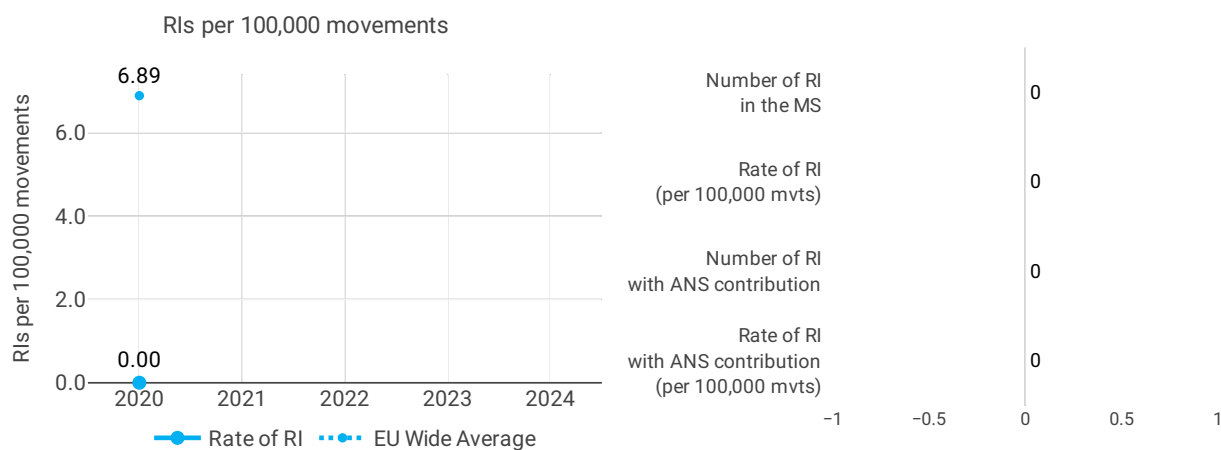
Focus on EoSM

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

Detailed information on Safety performance monitoring for the year 2020 are included in Performance Review Body Monitoring Report 2020, Annex III – Safety report

2.3 Safety occurrences

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



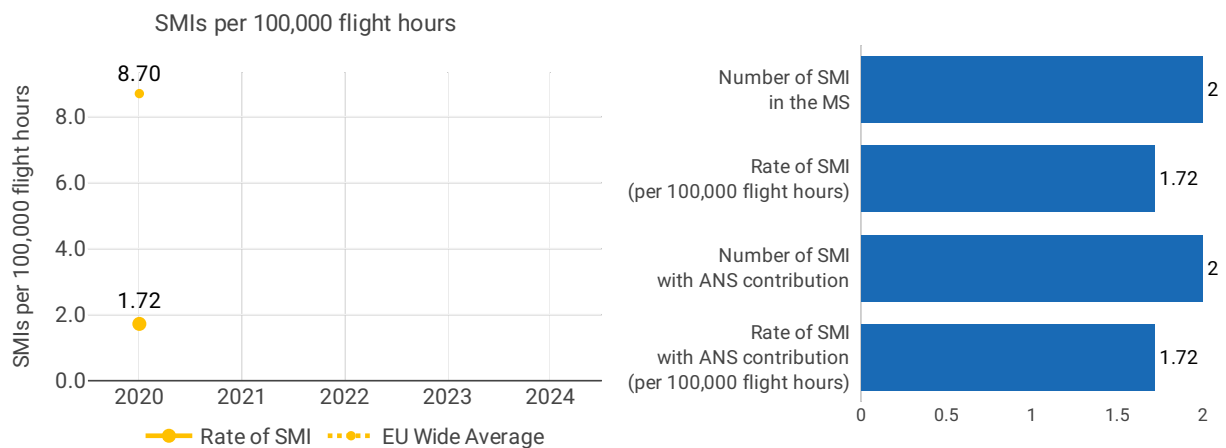
Rate of RIs per 100,000 airport movements - Hungary

#	Airport name	APT movements	Number of RI	Rate RI per 100,000
1	Budapest - Ferihegy	47,770	0	0.00

Focus on runway incursions

Detailed information on Safety performance monitoring for the year 2020 are included in Performance Review Body Monitoring Report 2020, Annex III – Safety report

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



Rate of SMI with ANS contribution per 100,000 flight hours

#	ANSP	Flight hours					Number of SMIs				
		2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
1	HungaroControl	116,008	NA	NA	NA	NA	2	NA	NA	NA	NA

#	ANSP	Rate of SMI per 100,000 flight hours					% variation in rate of SMIs				
		2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
1	HungaroControl	1.7	NA	NA	NA	NA	NA	NA	NA	NA	NA

Focus on separation minima

Detailed information on Safety performance monitoring for the year 2020 are included in Performance Review Body Monitoring Report 2020, Annex III – Safety report

2.3.3 Quality of occurrences reporting

Detailed information on Safety performance monitoring for the year 2020 are included in Performance Review Body Monitoring Report 2020, Annex III – Safety report

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

2020	
For RIs	For SMIs
X	✓

Detailed information on Safety performance monitoring for the year 2020 are included in Performance Review Body Monitoring Report 2020, Annex III – Safety report

3 ENVIRONMENT - HUNGARY

3.1 PRB monitoring

- Hungary achieved a KEA performance of 1.51% compared to its reference value of 1.45% and therefore did not contribute positively towards achieving the Union-wide target.

- Hungary did not explain why its performance fell short of 1.45%. Instead it was stated that removed RAD restrictions and improved cross-border free route airspace should have helped achieve the targets.
- Given that cross-border free route operation within SEE FRA is being expanded, Hungary has stated it plans to take no further remedial measures. The PRB believes that as the shortest constrained route in 2020 was higher than in 2018, Hungary must analyse why a less efficient airspace was made available in 2020 during low traffic and reconsider whether any remedial measures should be taken.
- The share of flights operating CCO/CDO at Budapest airport improved in 2020 compared to 2019. The additional time airspace users spent taxiing or holding in terminal airspace reduced by 38% compared to 2019.

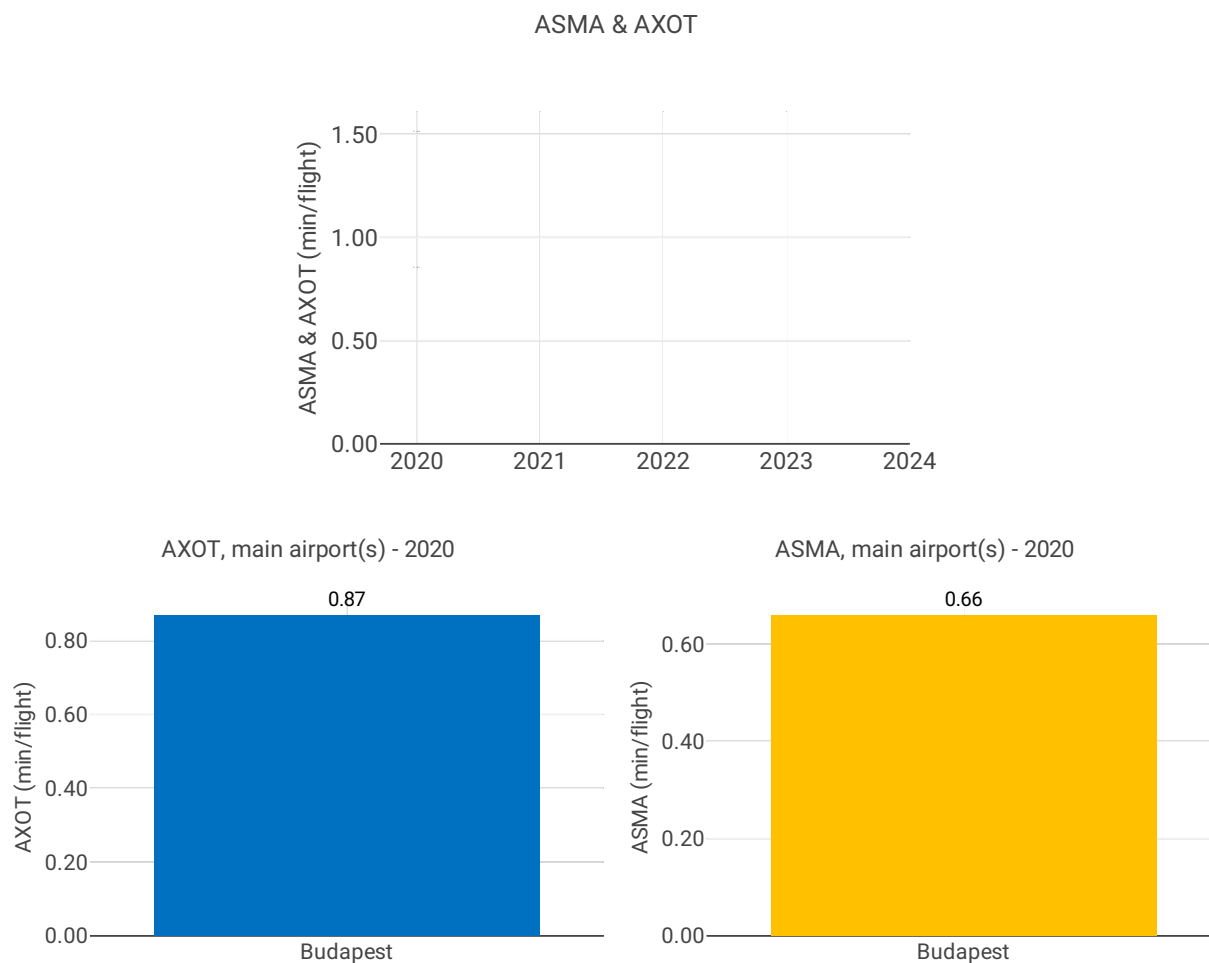
3.2 En route performance

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

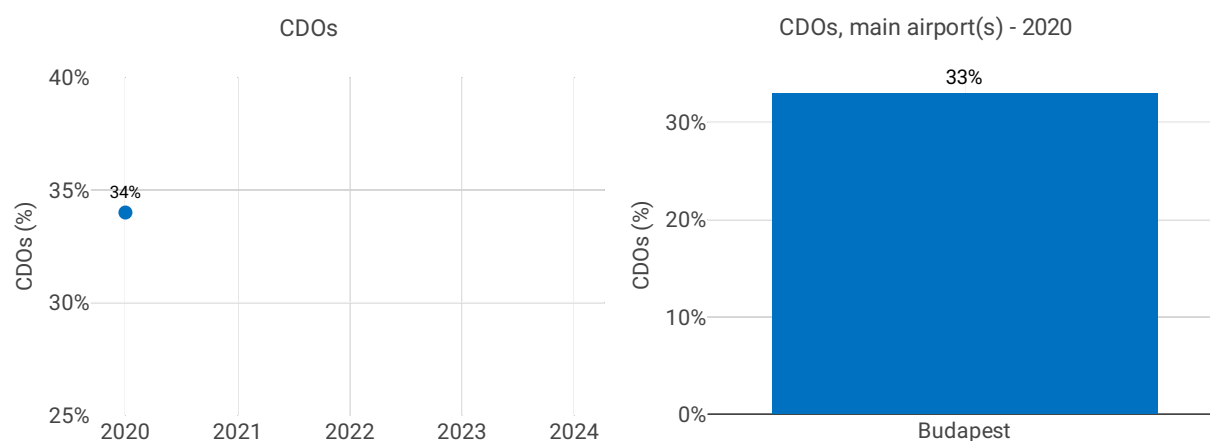
AXOT

Additional taxi-out times at Budapest significantly lowered (LHBP; 2019: 1.63 min/dep.; 2020: 0.87 min/dep.). After January and February, when additional taxi-out times were around 1.5 min/dep. the performance drastically improved and the rest of the year these additional times have averaged 0.51 min/dep.

ASMA

The additional times in the terminal airspace also decreased in 2020 (LHBP; 2019: 0.85 min/arr.; 2020: 0.66 min/arr.) but in a smaller proportion compared to the additional taxi-out times. Nevertheless there was a clear impact of the reduction in traffic, with ASMA times reducing to nearly zero in April and May, and averaging only 0.28 min/arr. the rest of the year.

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

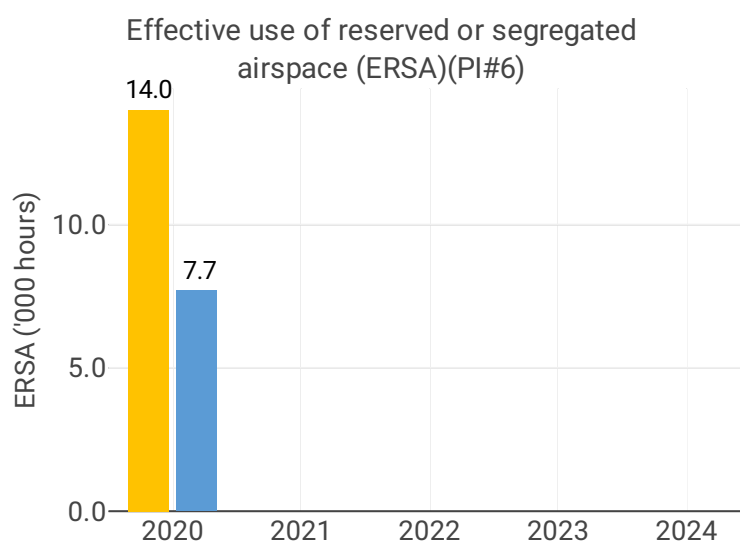


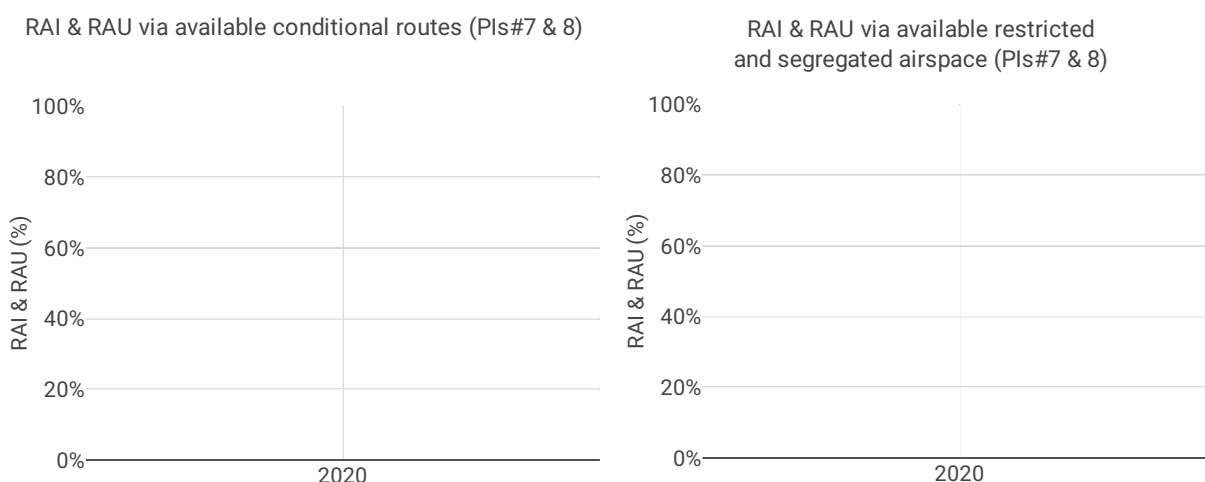
Focus CDOs

The share of CDO flights for Budapest (33.4%) is slightly above the overall RP3 value in 2020 (32.5%).

Airport Name	Airport level														
	Additional taxi-out time (PI#3)					Additional ASMA time (PI#4)					Share of arrivals applying CDO (PI#5)				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Budapest	0.87	NA	NA	NA	NA	0.66	NA	NA	NA	NA	33%	NA	NA	NA	NA

3.4 Civil-Military dimension





Focus on Civil-Military dimension

Update on Military dimension of the plan

The impact of military operations on civil traffic was irrelevant in 2020. The airspace design and procedures are in line with FUA policies.

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

No data available.

Initiatives implemented or planned to improve PI#6

As the most commonly used military reserved airspaces operate up to FL245, the weather has a significant impact on the utilization. HungaroControl experts believe that this PI could be improved if the reservation by military side would take place not on D-1, but on the day of planned operation. Experts are investigating the possible impact of such a change in the reservation rules.

Initiatives implemented or planned to improve PI#7

As with the implementation of free route airspace in Hungary in 2015 all the ATS routes have been eliminated. Since that the entire CDR route concept is not applicable anymore in Hungary.

Initiatives implemented or planned to improve PI#8

As with the implementation of free route airspace in Hungary in 2015 all the ATS routes have been eliminated. Since that the entire CDR route concept is not applicable anymore in Hungary.

4 CAPACITY - HUNGARY

4.1 PRB monitoring

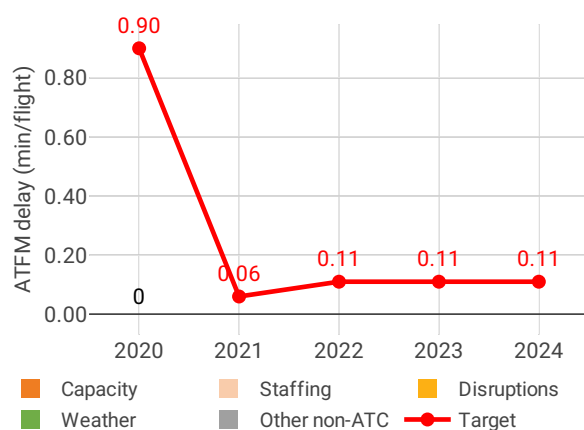
- HungaroControl registered zero minutes of average en route ATFM delay per flight during 2020, thus meeting the local breakdown value of 0.90.
- Delays must be considered in the context of the traffic evolution: IFR movements in 2020 were 57% below the 2019 levels in Hungary.
- Hungary reported no capacity issues and a 4% decrease in the number of ATCO FTEs in 2020 compared to 2019. This represents an 8% decrease compared to the planned number of ATCO FTEs in 2020. The decrease was driven by the fact that training of ACC controllers could not be completed due to the lack of traffic in 2020. Hungary plans to complete these trainings in 2021.
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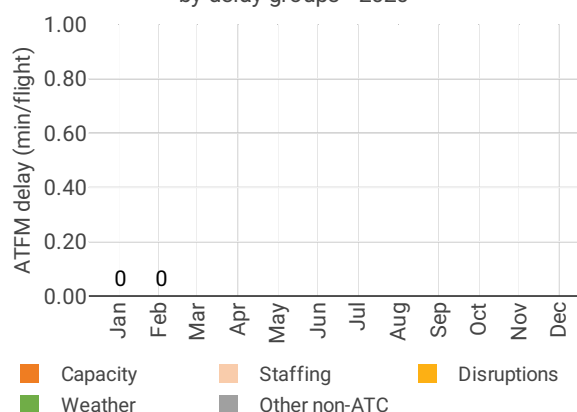
4.2 En route performance

4.2.1 En route ATFM delay (KPI#1)

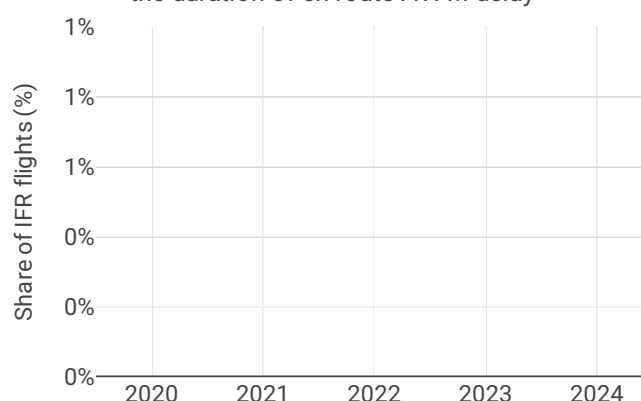
Average en route ATFM delay per flight by delay groups



Monthly distribution of en route ATFM delay by delay groups - 2020



Distribution of IFR flights per the duration of en route ATFM delay



Focus on en route ATFM delay

Summary of capacity performance

Hungary experienced a traffic reduction of 57% from 2019 levels, to 381k flights. The traffic level was accommodated with zero en route ATFM delays to airspace users.

NSA's assessment of capacity performance

As due to COVID-19 pandemic the traffic level has dropped dramatically in Hungary to reach 0 minutes delay per flight was obvious. HungaroControl has put the focus was on how to ensure the service continuity while minimizing the spread of virus among the operational personnel.

Monitoring process for capacity performance

In 2020 regular WebEx meetings were organised between the ANSP and the NSA focusing on the issues like how to organise the rostering in order to ensure the service continuity, how to maintain the ATCOs proficiency. As the traffic demand was well below the planned capacity, capacity was not an issue.

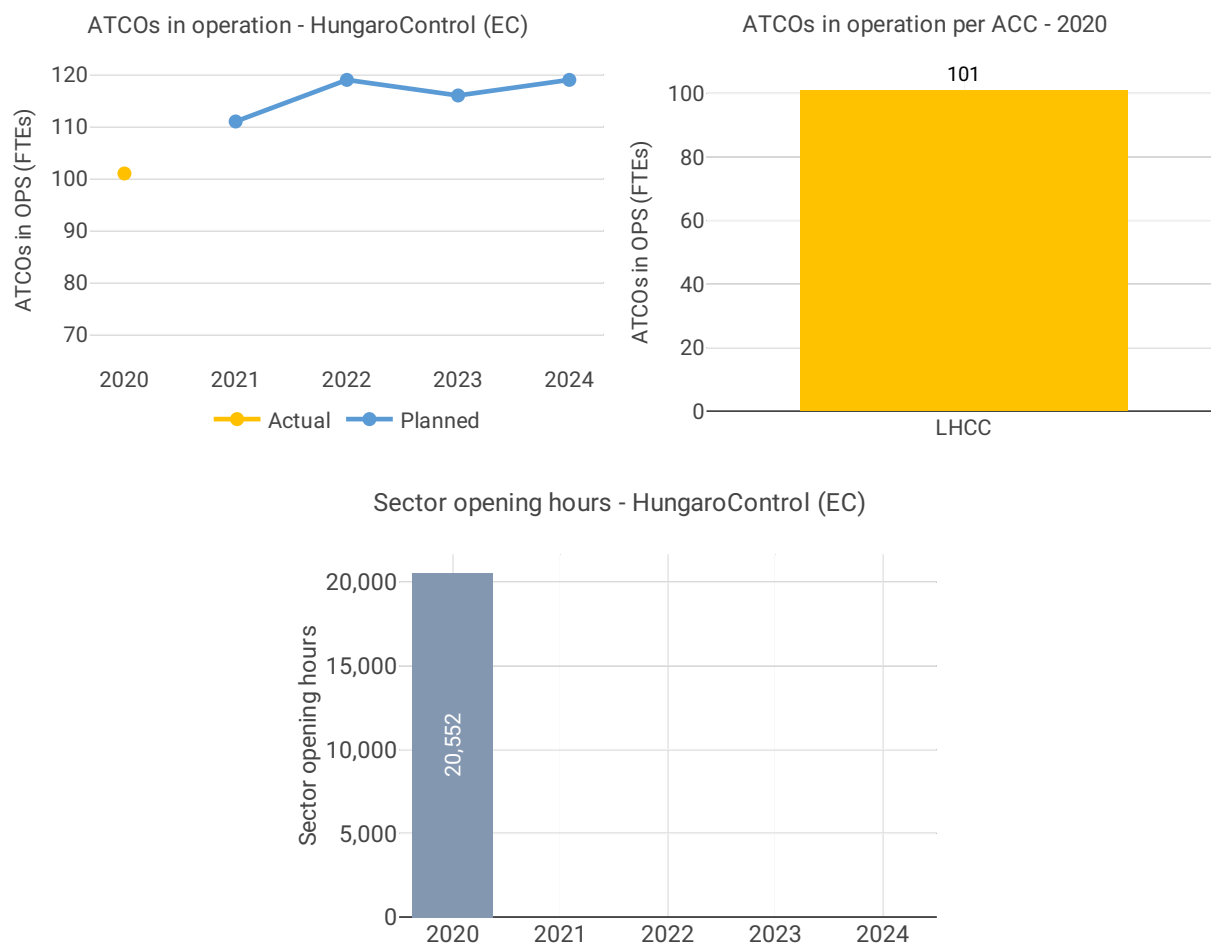
Capacity planning

According to the available information the traffic demand in 2021 still will be below the available capacity, therefore HungaroControl aims for 0 minutes delay per flight this years too.

Application of Corrective Measures for Capacity (if applicable)

No data available.

4.2.2 Other indicators

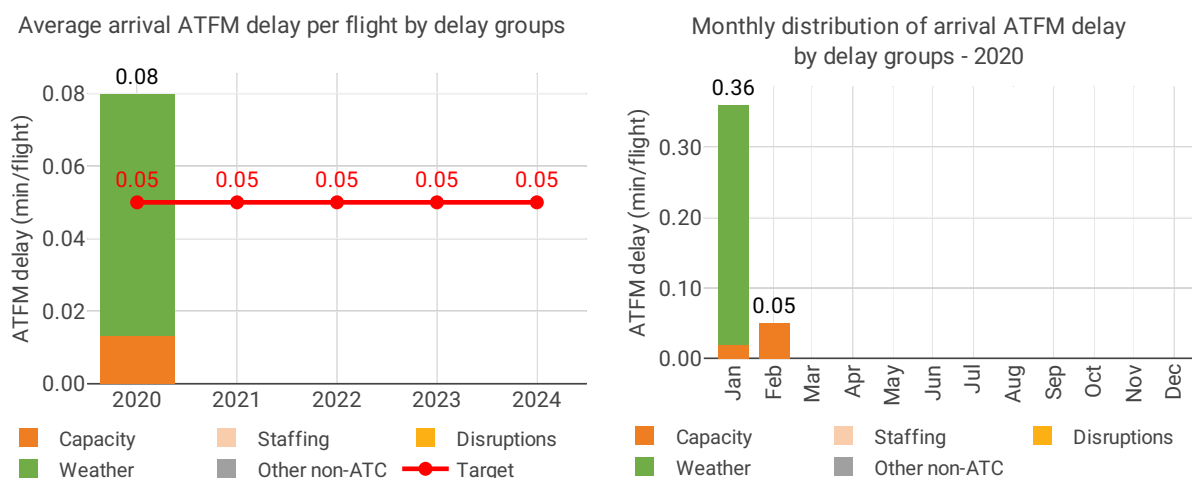


Focus on ATCOs in operations

Due to the significant reduction in air traffic, it was not possible to complete the planned training of new ATCOs in 2020. The training of student ATCOs is expected to be completed in 2021.

4.3 Terminal performance

4.3.1 Arrival ATFM delay (KPI#2)



Focus on arrival ATFM delay

Hungary identified only its main airport Budapest as subject to RP3 monitoring. The Airport Operator Data Flow is correctly established and all capacity indicators can be monitored. After a traffic increase of 33% along RP2 (2019 vs 2015), traffic at Budapest airport decreased by 61% in 2020 compared to 2019. Regardless this reduction in traffic, the annual average for arrival ATFM delay was higher than in 2019, and Hungary is the only SES state that did not meet the terminal capacity target in 2020.

The average arrival ATFM delay at Budapest in 2020 was 0.08 min/arr, more than double of the 0.03 min/arr. observed in 2019 despite the lower traffic.

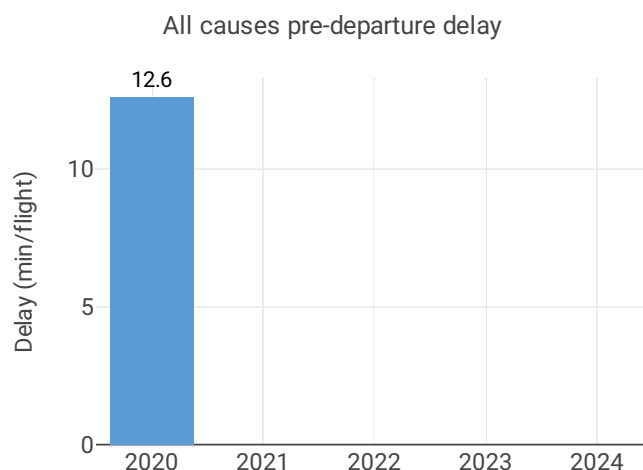
Although the Hungarian NSA reports that “Arrival delays in the first two month of 2020 at LHBP generated due to winter weather conditions and not because of the lack of ATC capacity” according to the reported reasons for the regulations, 17% of these delays were in fact due to ATC capacity and 83% were due to weather.

According to the Hungarian monitoring report : *The analysis showed that LVP procedures at LHBP are regularly applied due to weather in the first months of each year. However, the delays accumulated as a result virtually disappear by the end of the year as traffic picks up, but this did not occur in 2020 due to the dramatic reduction in traffic caused by COVID. In normal traffic situation the delays accumulated due to weather at the beginning of the year virtually disappear by the end of the year as traffic picks up.*

The national target on arrival ATFM delay in 2020 was not met, with actual arrival ATFM delays at 0.08 min/arr. in average, and the national target set at 0.05 min/arr.

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

Airport name	Avg arrival ATFM delay (KPI#2)					Slot adherence (PI#1)				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Budapest	0.08	NA	NA	NA	NA	96.2%	NA%	NA%	NA%	NA%

Airport name	ATC pre departure delay (PI#2)					All causes pre departure delay (PI#3)				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Budapest	0.14	NA	NA	NA	NA	12.6	NA	NA	NA	NA

Focus on performance indicators at airport level

ATFM slot adherence

With the drastic drop in traffic, regulated departures from Budapest virtually disappeared as of April. The annual figure is therefore driven by the performance in the first trimester. Budapest's ATFM slot compliance was 96.2%. With regard to the 3.8% of flights that did not adhere, 2.6% was early and 1.2% was late. Hungarian NSA reports: *The actual performance in adherence to ATFM slots has improved compared to the previous years. This is mainly due to dramatic reduction of traffic at LHBP. The actual value is well above the limit set by the regulation.*

ATC pre-departure delay

The performance in terms of ATC pre-departure delay has improved with respect to the previous year (LHBP; 2019: 0.30 min/dep.; 2020: 0.16 min/dep.)

According to the Hungarian monitoring report, this is *mainly due to dramatic reduction of traffic at LHBP.*

All causes pre-departure delay

The total (all causes) delay in the actual off block time at Budapest in 2020 was 12.58 min/dep. The higher delays per flight were observed in the second trimester of the year, due to the lower traffic and extraordinary circumstances. In November and December there was also a significant increase of the delay per flight, averaging almost 20 min/dep in December. 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.

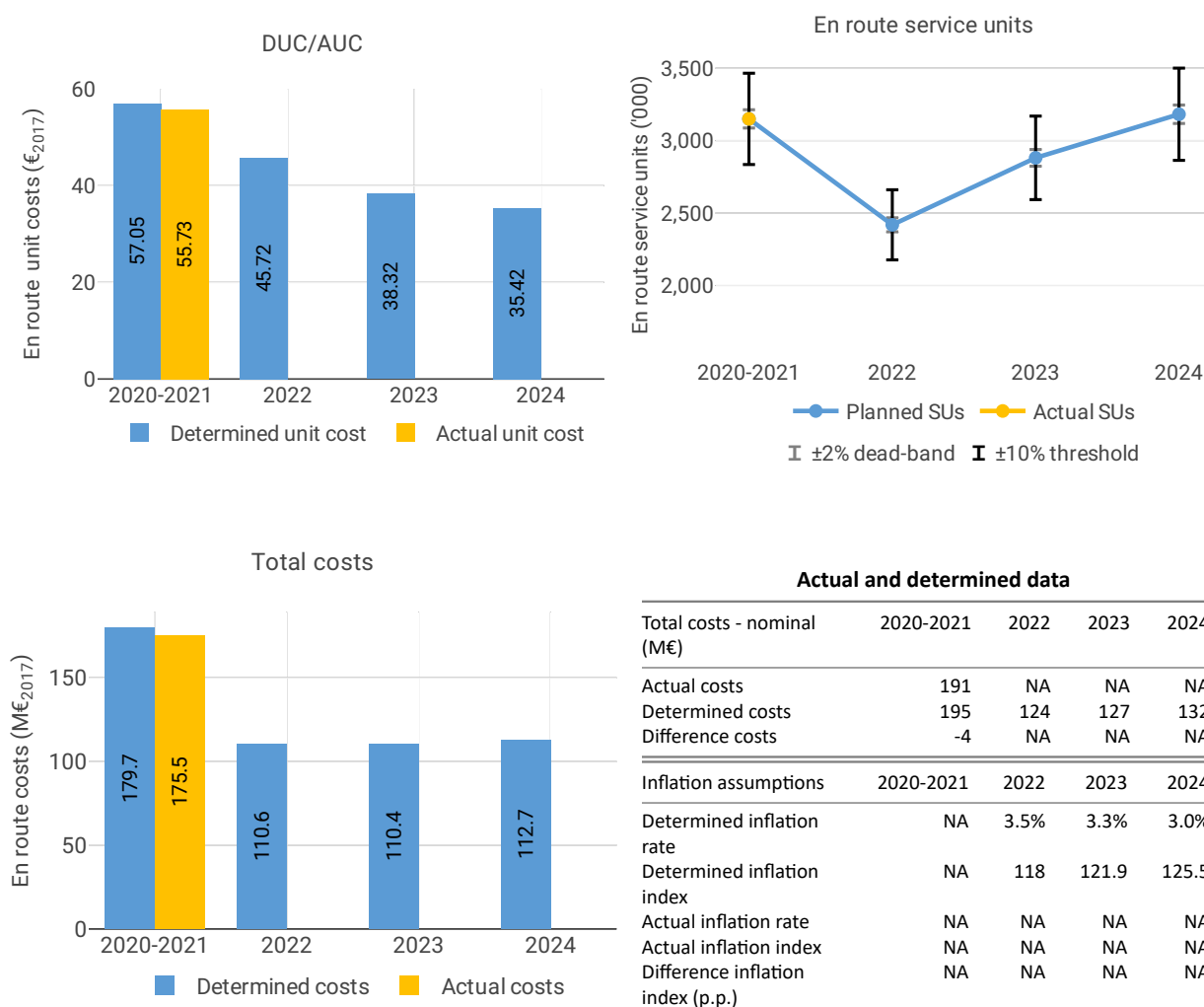
5 COST-EFFICIENCY - HUNGARY

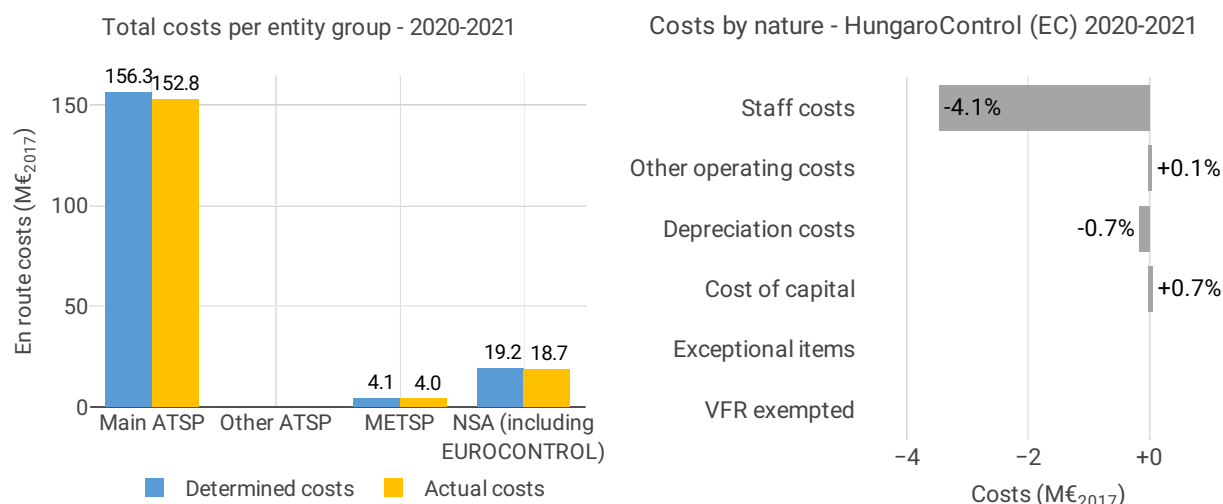
5.1 PRB monitoring

- The 2020 actual service units (1,423K) were 54% lower than the actual service units in 2019 (3,124K).
- Hungary reduced total costs in 2020 by 9.4 M€2017 (-10%) compared to 2019 actual costs. The reduction is driven by a decrease in staff costs of 4.5 M€2017 (-9%) due to reduced benefits related to performance and a lower social contribution tax rate. Other operating costs also decreased notably of 4 M€2017 (-12%), due to postponement of ATCO trainings and less travels.
- Hungary decreased all cost categories except for depreciation. The increase of 1 M€2017 (+10%) in depreciation costs is explained by the NSA by changes in useful life, price increases due to exchange rate effect, upgrade of Matias ATM system and new IT devices.
- HungaroControl spent 24 M€2017 in 2020 related to costs of investments, 18% less than planned in the 2019 draft performance plan (29 M€2017). The reduction is explained by a lower cost of capital resulting from a lower asset base and WACC than originally planned.

5.2 En route charging zone

5.2.1 Unit cost (KPI#1)





Focus on unit cost

AUC vs. DUC

In the combined year 2020-2021, the AUC was lower than planned in DUC (by -2.3%, or -408.66HUF₂₀₁₇, or -1.32€₂₀₁₇). This results from the lower than planned en route costs in real terms (by -2.3%, or -1,287.2 MHUF₂₀₁₇, or -4.2 M€₂₀₁₇).

En route service units

Actual total en route service units are in line with planned TSUs, as plan was presented in February 2022.

En route costs by entity

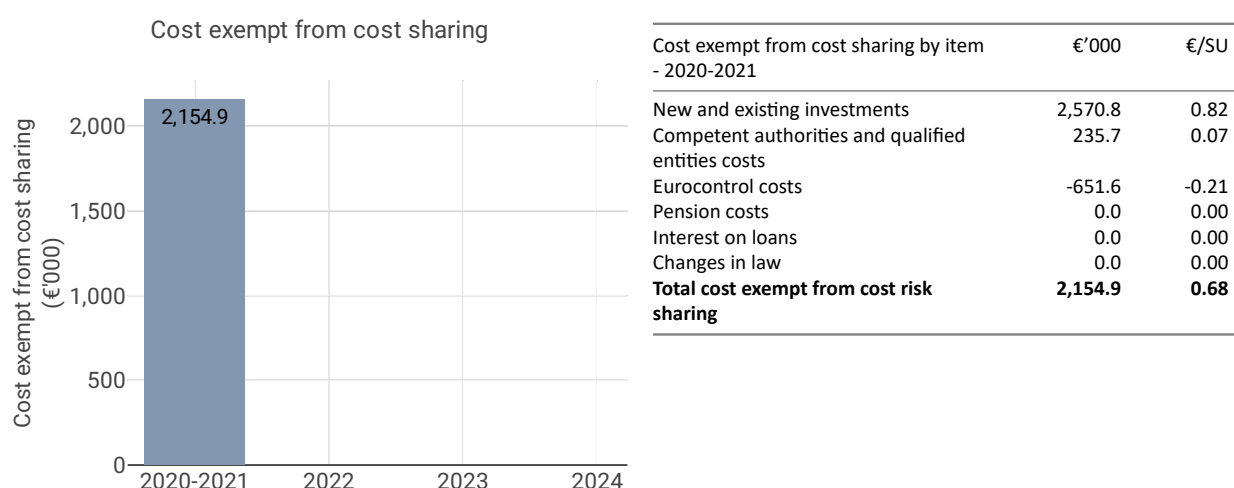
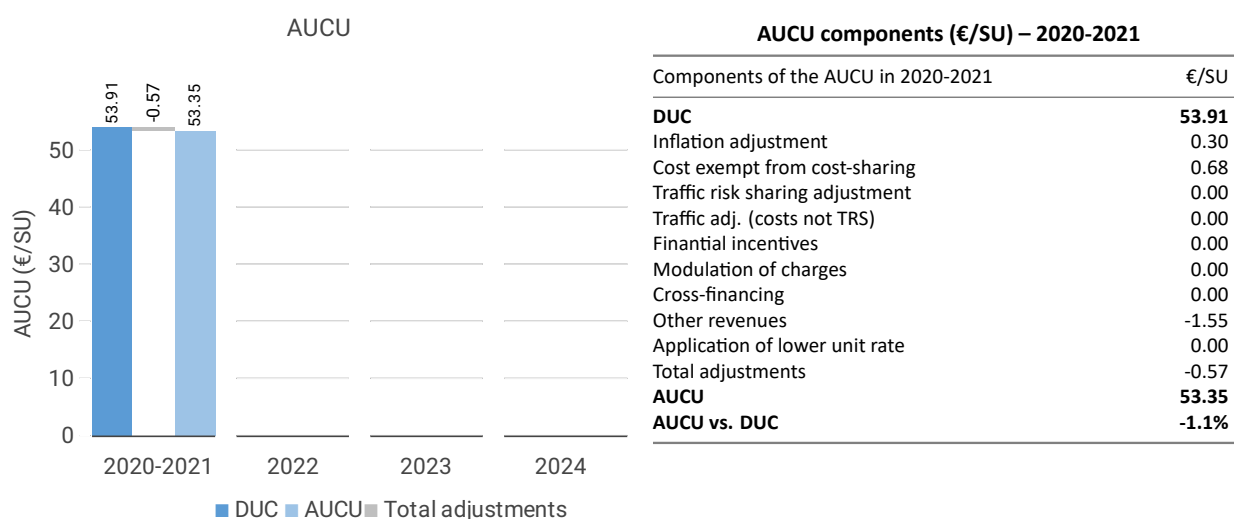
Actual real en route costs for 2020-2021 are -2.3% (-1 287.2 MHUF₂₀₁₇, or -4.2 M€₂₀₁₇) lower than planned. This result is driven by main ANSP, HungaroControl (-2.3%, or -3.6 M€₂₀₁₇), the MET service provider (-2.9%, or -0.1 M€₂₀₁₇) and NSA/EUROCONTROL costs (-2.5%, or -0.5 M€₂₀₁₇).

En route costs for the main ANSP at charging zone level

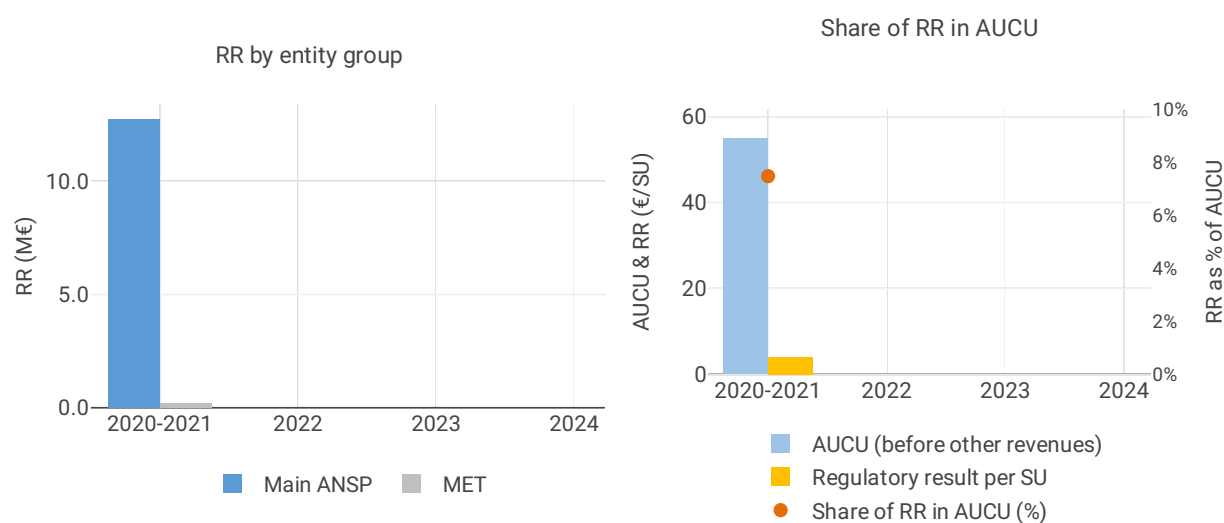
The lower than planned en route costs in real terms for HungaroControl in 2020-2021 (-2.3%, or -3.6 M€₂₀₁₇ lower) results from:

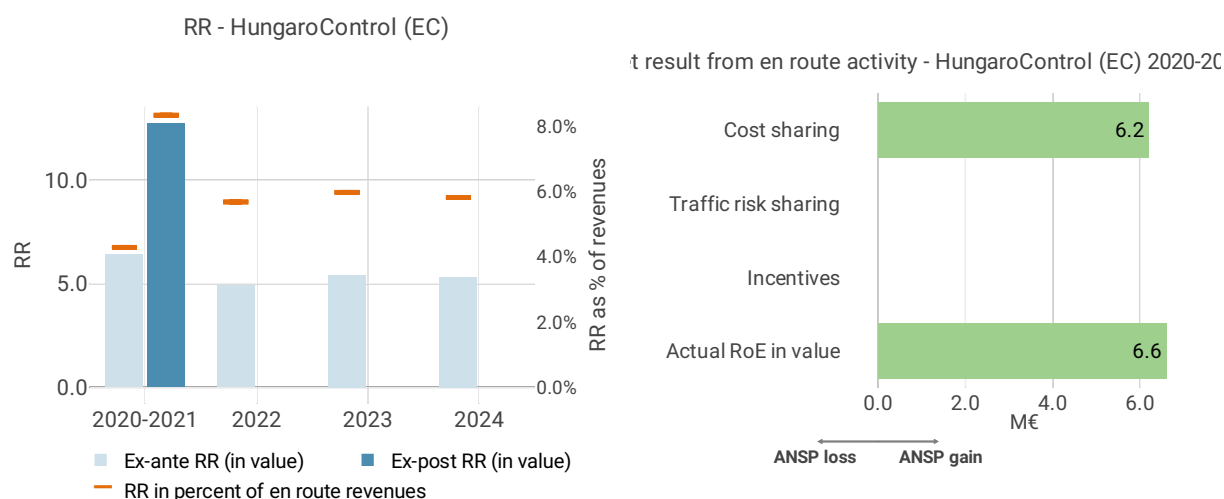
- lower staff costs (-4.1%), due to “decrease in headcount (mainly in non-ATCO business functions), restructuring of ATCO wage system (more traffic dependent), consequently savings in payroll taxes/contributions;”
- slightly higher other operating costs (+0.1%);
- lower depreciation (-0.7%), “due to assets placed in service later than planned, revision of some assets’ useful life;”
- higher cost of capital (+0.7%), due to increase in net current assets.

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



5.2.3 Regulatory result (RR)





Focus on regulatory result

HungaroControl net gain on en route activity in the Hungary charging zone in the combined year 2020-2021

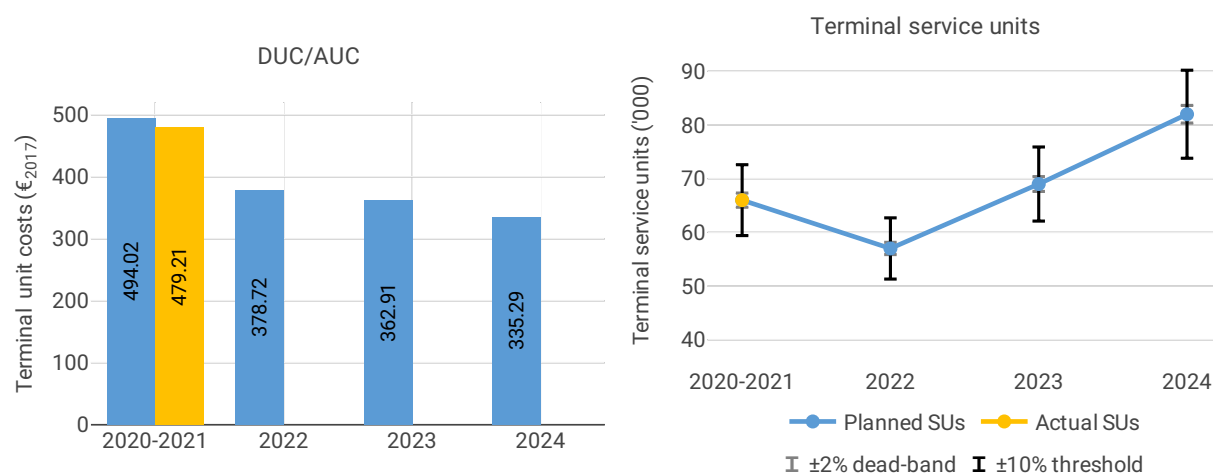
HungaroControl's net gain amounts to +6.2 M€, arising from the cost sharing mechanism.

HungaroControl overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+6.2 M€) and the actual RoE (+6.6M€) amounts to +12.7 M€ (8.4% of the en route revenues). The resulting ex-post rate of return on equity is 9.9%, which is higher than the 5.1% planned in the PP.

5.3 Terminal charging zone

5.3.1 Unit cost (KPI#1)





Focus on unit cost

AUC vs. DUC

In the combined year 2020-2021, the terminal AUC was -3.0% (or -4,576.72HUF2017, or -14.81€2017) lower than the planned DUC. This results from lower than planned terminal costs in real term (-3.0%, or -301.6 MHUF2017, or -1.0 M€2017).

Terminal service units

Actual total terminal service units are in line with planned TNSUs, as plan was presented in February 2022.

Terminal costs by entity

Actual real terminal costs are -3.0% (-301.6 MHUF2017 or -1.0 M€2017) lower than planned. This is driven by the main ANSP, HungaroControl (-3.1%, or -1.0 M€2017).

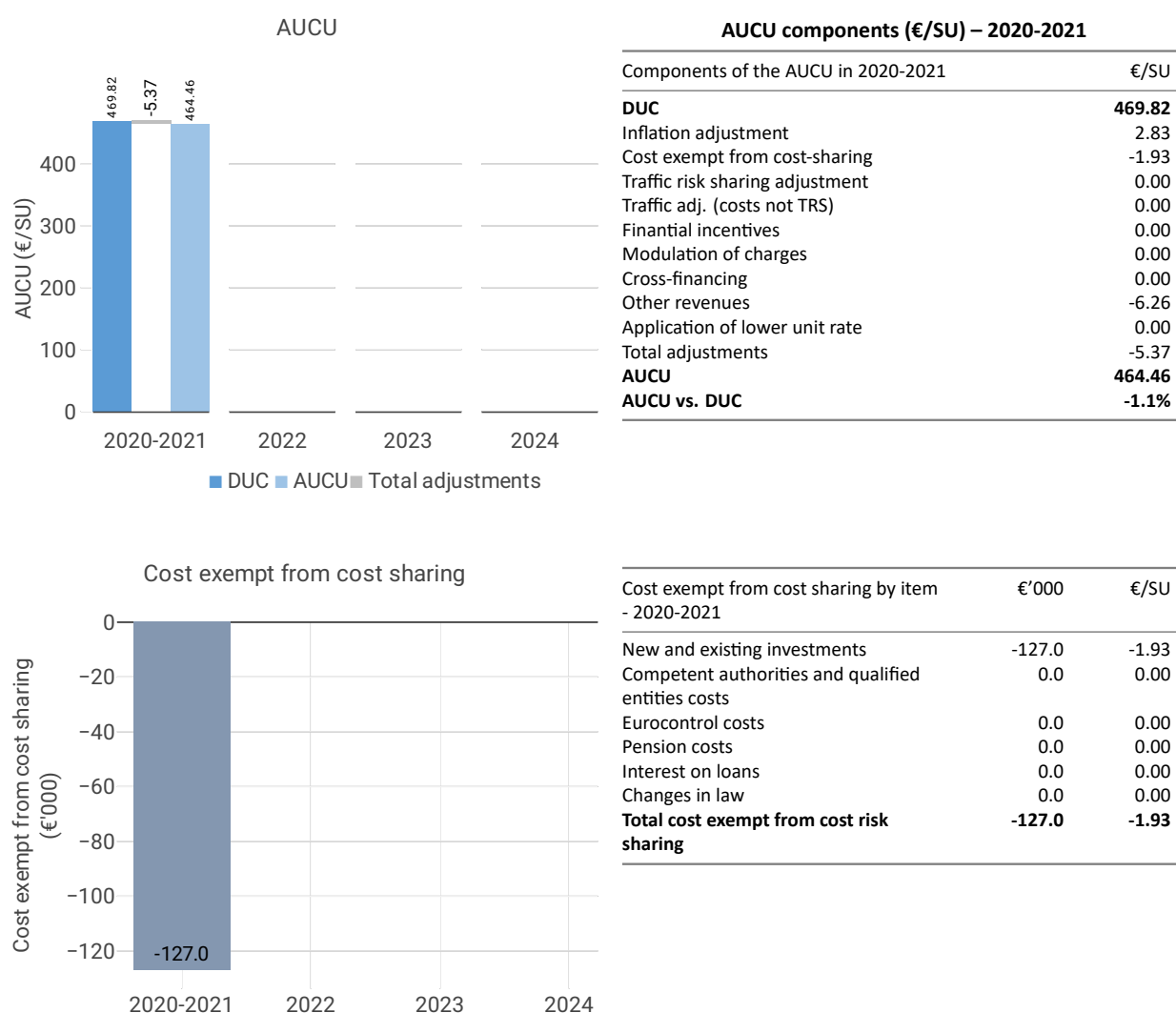
Terminal costs for the main ANSP at charging zone level

The lower than planned terminal costs in real terms for HungaroControl (-3.1%, or -1.0 M€2017) result from:

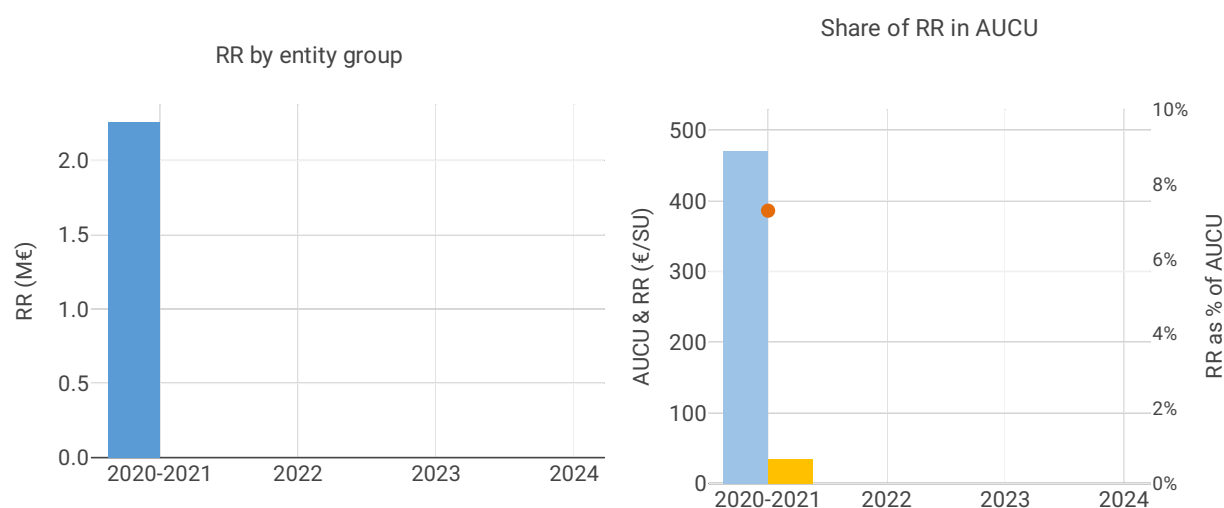
- lower staff costs (-3.9%), due to “decrease in headcount (mainly in non-ATCO business functions), restructuring of ATCO wage system (more traffic dependent), savings in payroll taxes due to the reduction in the contribution base;”
- lower other operating costs (-4.8%), due to “savings in services used, better customer solvency than planned (less bad debt provision);”
- lower depreciation (-1.8%), due to “assets placed in service later than planned, revision of some assets’ useful life;”

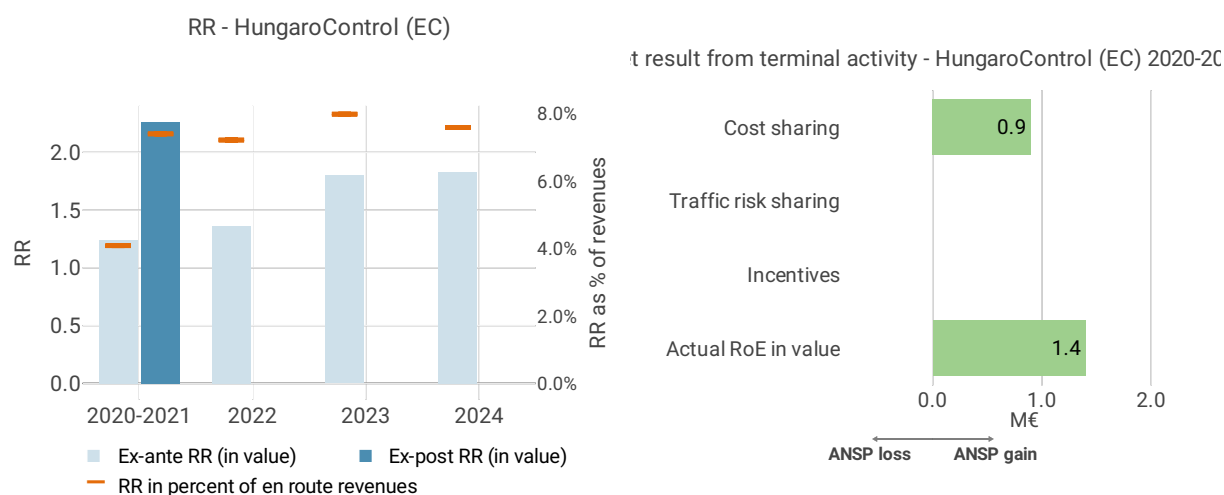
- higher cost of capital (+10.8%), mainly due to increase in net current assets (+417.8% in 2021), “the main driver of growth is a technical issue, namely the different handling of the adjustment of RP2 adjustments”.

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



5.3.3 Regulatory result (RR)





Focus on regulatory result

HungaroControl net gain on terminal activity in the Hungary charging zone in the combined year 2020-2021

HungaroControl's net gain amounts to +0.9 M€, arising from the cost sharing mechanism.

HungaroControl overall regulatory results (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+0.9 M€) and the actual RoE (+1.4 M€) amounts to +2.3 M€ (7.4% of the terminal revenues). The resulting ex-post rate of return on equity is 8.3%, which is higher than the 5.1% planned in the PP.