PRB | Performance review body of the single european sky

Performance Review Body Monitoring Report

Hungary - 2022

This report is automatically generated from: sesperformance.eu

Performance Review Body of the Single European Sky | Rue de la Fusée 96, Office 50.659, 1130 Brussels
Office Telephone: +32 (0)2 234 7824 | cathy.mannion@prb.eusinglesky.eu | prb-office@prb.eusinglesky.eu | eu-single-sky.transport.ec.europa.eu

TABLE OF CONTENTS

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

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

Exchange rate (1 EUR=)
2017: 308.993 HUF
2022: 390.405 HUF

Share of Union-wide:
- **traffic (TSUs) 2022** 2.9%
- **en route costs 2022** 1.6%

Share en route / terminal costs 2022 83% / 17%

En route charging zone(s)
Hungary

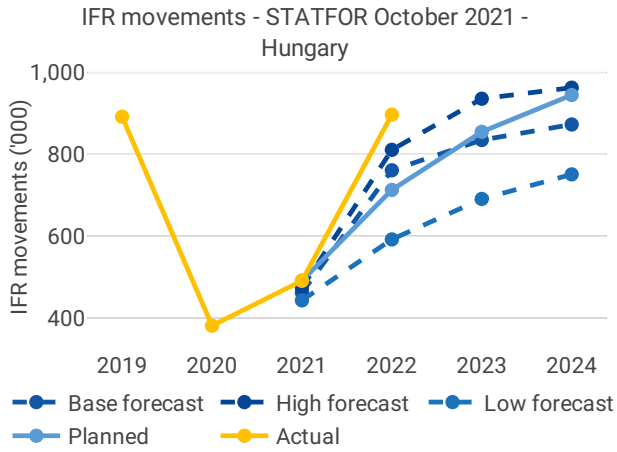
Terminal charging zone(s)
Hungary

Main ANSP
- HungaroControl (EC)

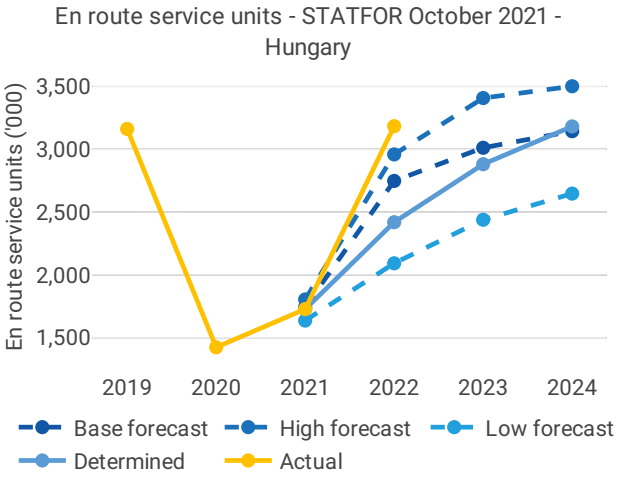
Other ANSPs
–

MET Providers
- Hungarian Meteorological Service (Országos Meteorológiai Szolgálat)

1.2 Traffic (En route traffic zone)

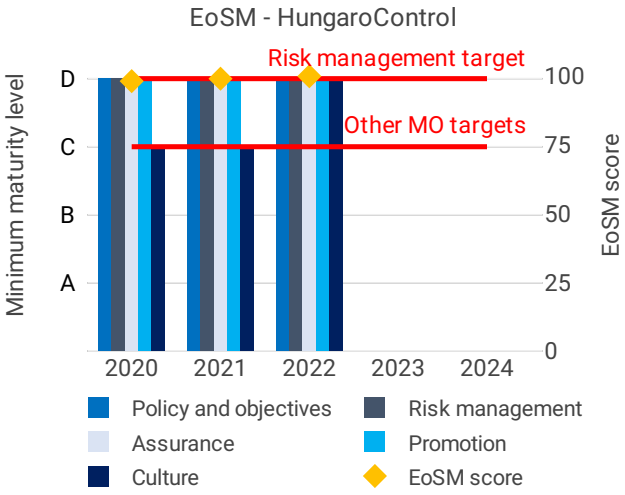


- Hungary recorded 897K actual IFR movements in 2022, +83% compared to 2021 (491K).
- Actual 2022 IFR movements were +26% above the plan (713K).
- Actual 2022 IFR movements are +0.5% above the actual 2019 level (892K).



- Hungary recorded 3,184K actual en route service units in 2022, +84% compared to 2021 (1,727K).
- Actual 2022 service units were +32% above the plan (2,419K).
- Actual 2022 service units are +0.7% above the actual 2019 level (3,162K).

1.3 Safety (Main ANSP)

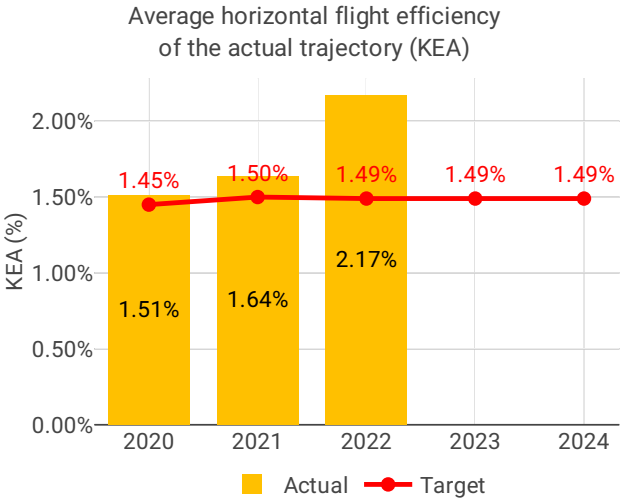


• HungaroControl had already achieved the RP3 EoSM targets in 2020 and has continued to further improve its performance. In 2022 HungaroControl achieved level D in all five management objectives, exceeding all its planned maturity levels.

• Hungary recorded a stable number of safety occurrences with an increase in the rate of runway incursions in 2022, but a lower rate of separation minima infringements relative to 2021. Both rates are below the Union-wide average.

• HungaroControl could improve its safety management by implementing automated safety data recording systems for runway incursions.

1.4 Environment (Member State)



• Hungary achieved a KEA performance of 2.17% compared to its target of 1.49% and did not contribute positively towards achieving the Union-wide target. KEA increased in comparison to 2021.

• The NSA states that the performance deteriorated due to the extra distance flown as a result of Russia's war of aggression against Ukraine.

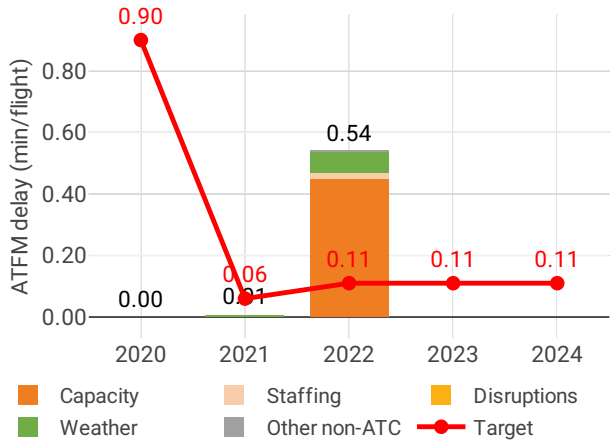
• Both KEP and SCR deteriorated in comparison with 2021. The value of these two indicators was similar, meaning airspace users planned close to the shortest route available.

• The share of CDO flights decreased by 24.12% compared to 2021.

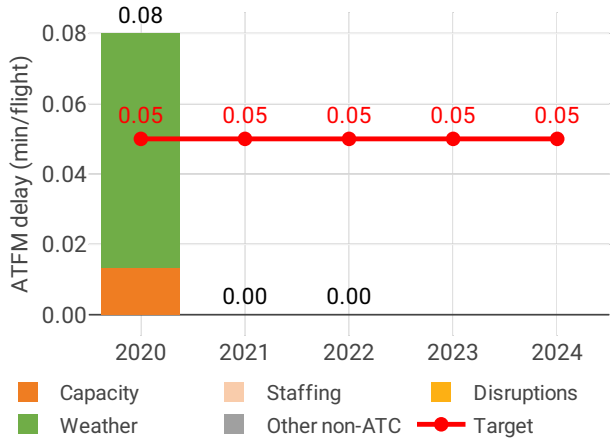
• During 2022, additional time in terminal airspace decreased from 0.67 to 0.34 min/flight, while additional taxi out time increased from 1.06 to 1.40 min/flight.

1.5 Capacity (Member State)

Average en route ATFM delay per flight by delay groups



Average arrival ATFM delay per flight by delay groups



• Hungary registered 0.89 minutes of average en route ATFM delay per flight during 2022 which has been adjusted to 0.54 during the post-ops adjustment process, thus not achieving the local target value of 0.11.

• The average number of IFR movements was 1% above 2019 levels in Hungary in 2022.

• The number of ATCOs in OPS is expected to increase by 12% by the end of RP3, with the actual value being below the 2022 plan in Budapest ACC.

• The impact of Russia's war of aggression against Ukraine had a detrimental effect on capacity performance in Hungary in 2022.

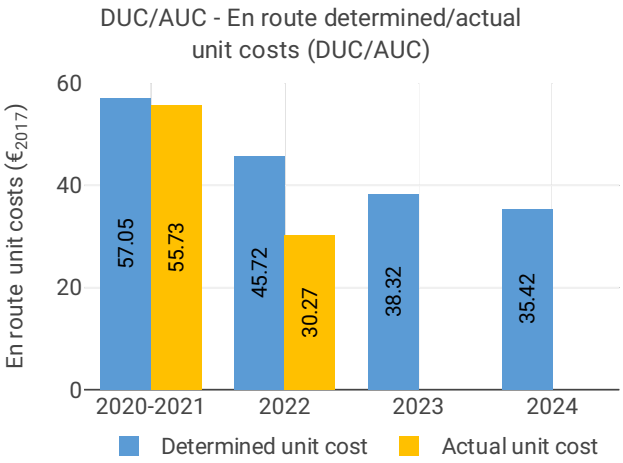
• Delays were highest between May and September, mostly due to ATC Capacity issues.

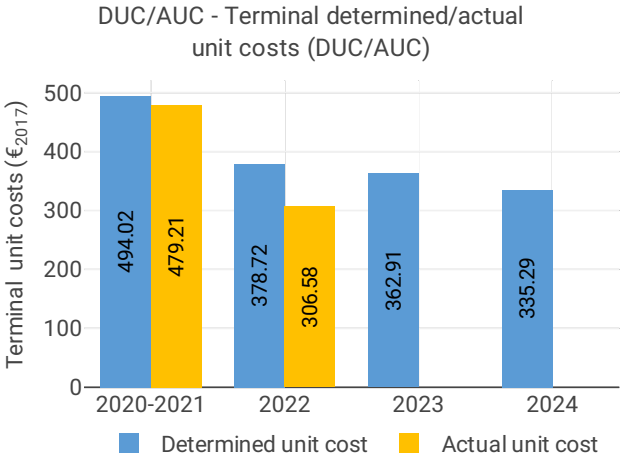
• The share of delayed flights with delays longer than 15 minutes in Hungary increased by 19.4 p.p. compared to 2021 and was higher than 2019 values.

• The yearly total of sector opening hours in Budapest ACC was 36,864 in 2022, showing a 32.1% increase compared to 2021. Sector opening hours are 8.4% above 2019 levels.

• Budapest ACC registered 23.49 IFR movements per one sector opening hour in 2022, being 6.0% below 2019 levels.

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





• The en route 2022 actual unit cost of Hungary was 30.25 €2017, 34% lower than the determined unit cost (45.72 €2017). The terminal 2022 actual unit cost was 306.58 €2017, 19% lower than the determined unit cost (378.72 €2017).

• The en route 2022 actual service units (3,184K) were 32% higher than the determined service units (2,419K).

• In 2022, the en route actual total costs were 14 M€2017 lower (-13%) compared to determined. Hungary had significant decreases in all cost categories except for cost of capital (+2.5 M€2017, or +36%). The NSA explained that the net current assets increased due to the inclusion of pension related obligations towards ATCOs.

• The key driver of the decrease was the reduction in staff cost (-7.1 M€2017, or -14%), mainly due to lower headcounts than planned and postponed salary increases, and other operating costs (-8.2 M€2017, or -22%), mainly due to lower procurements costs due to COVID-19.

• Hungary presented a deviation from the criteria to achieve capacity targets, which was considered justified. Considering that costs are significantly lower and that the 2022 en route capacity targets have not been achieved, the situation raises serious concern. The PRB invites the NSA to analyse the discrepancies and identify their reasons and the Member State to rectify the situation to ensure that the additional means granted through the capacity deviation are used to address the capacity issues.

• HungaroControl spent 29 M€2017 in 2022 related to costs of investments, 7.5% less than determined (31 M€2017), mainly due to some investments being scheduled later than planned.

• The en route actual unit cost incurred by users in 2022 was 33.58€, while the terminal actual unit cost incurred by users was 331.37€.

2 SAFETY - HUNGARY

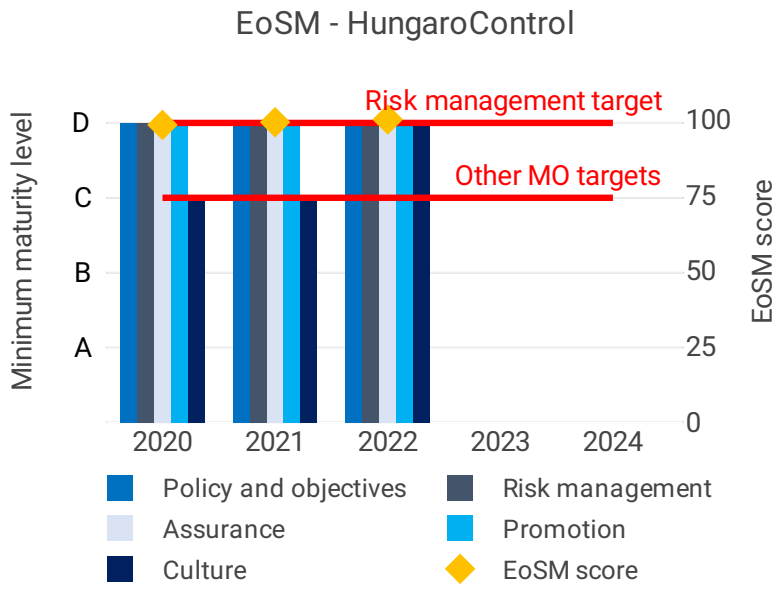
2.1 PRB monitoring

• HungaroControl had already achieved the RP3 EoSM targets in 2020 and has continued to further improve its performance. In 2022 HungaroControl achieved level D in all five management objectives, exceeding all its planned maturity levels.

• Hungary recorded a stable number of safety occurrences with an increase in the rate of runway incursions in 2022, but a lower rate of separation minima infringements relative to 2021. Both rates are below the Union-wide average.

• HungaroControl could improve its safety management by implementing automated safety data recording systems for runway incursions.

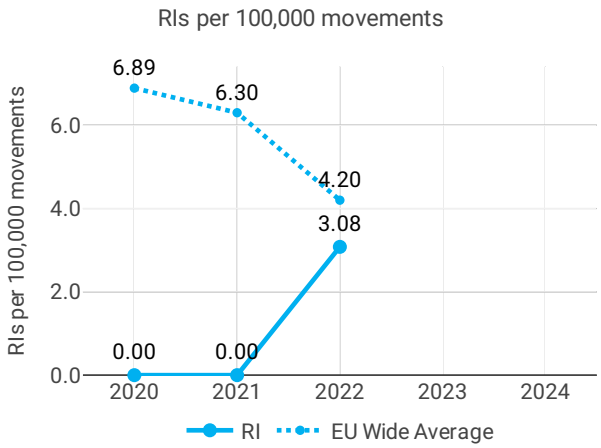
2.2 Effectiveness of Safety Management (EoSM) (KPI#1)

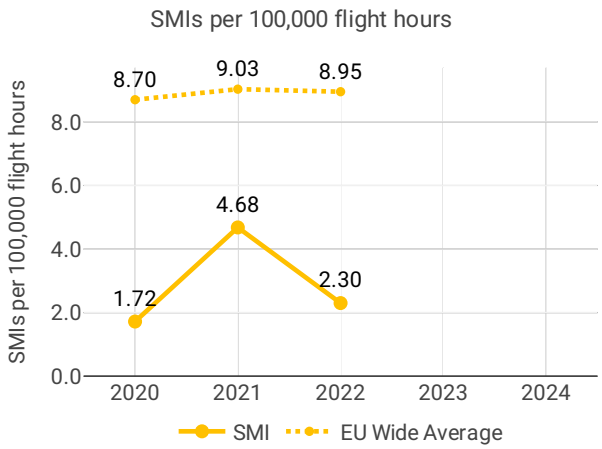


Focus on EoSM

All five EoSM components of the ANSP meet, or exceed, the RP3 target level. Maturity has further improved compared with 2021. The ANSP has achieved the maximum level for all components.

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





3 ENVIRONMENT - HUNGARY

3.1 PRB monitoring

• Hungary achieved a KEA performance of 2.17% compared to its target of 1.49% and did not contribute positively towards achieving the Union-wide target. KEA increased in comparison to 2021.

• The NSA states that the performance deteriorated due to the extra distance flown as a result of Russia's war of aggression against Ukraine.

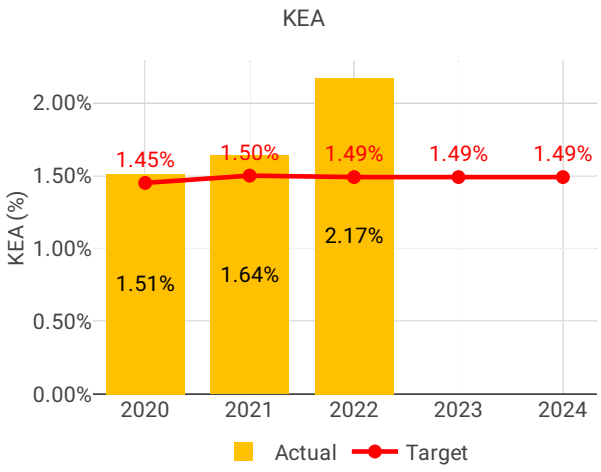
• Both KEP and SCR deteriorated in comparison with 2021. The value of these two indicators was similar, meaning airspace users planned close to the shortest route available.

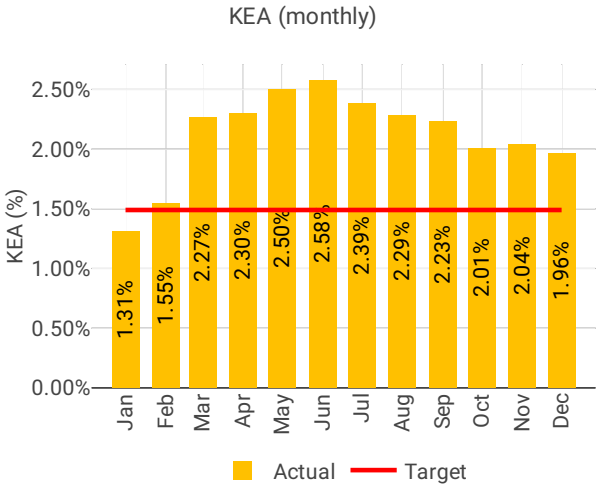
• The share of CDO flights decreased by 24.12% compared to 2021.

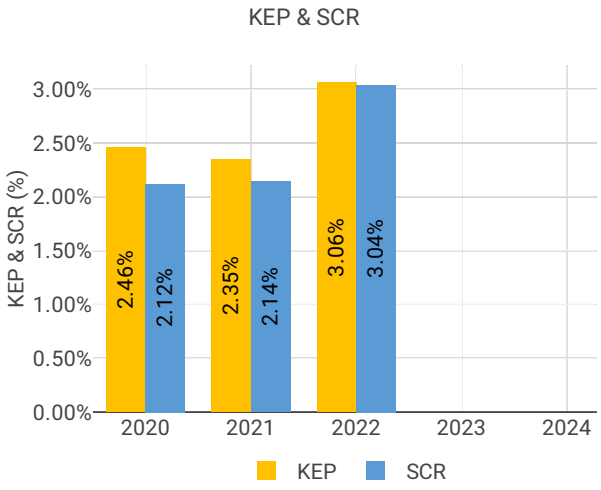
• During 2022, additional time in terminal airspace decreased from 0.67 to 0.34 min/flight, while additional taxi out time increased from 1.06 to 1.40 min/flight.

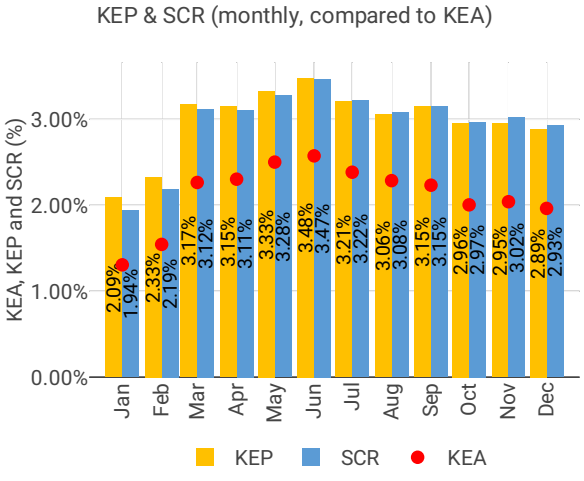
3.2 En route performance

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



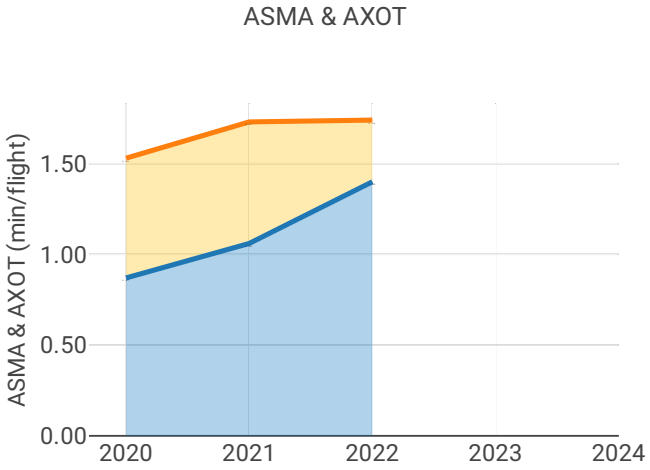


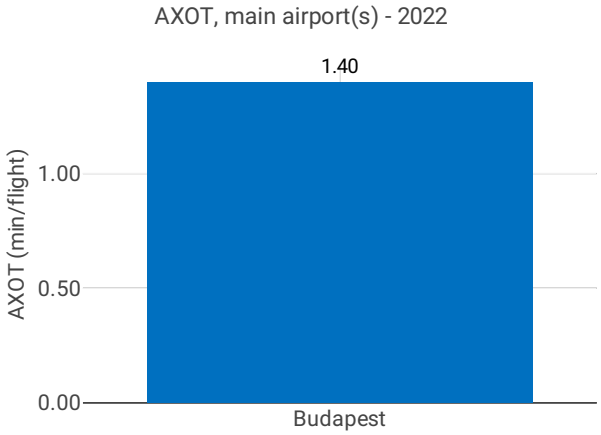


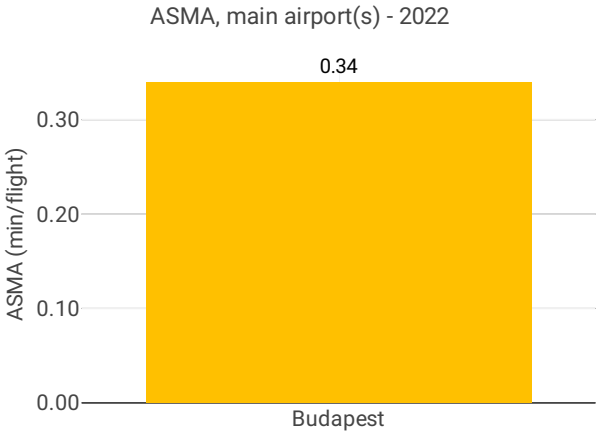


3.3 Terminal performance

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







Focus on ASMA & AXOT

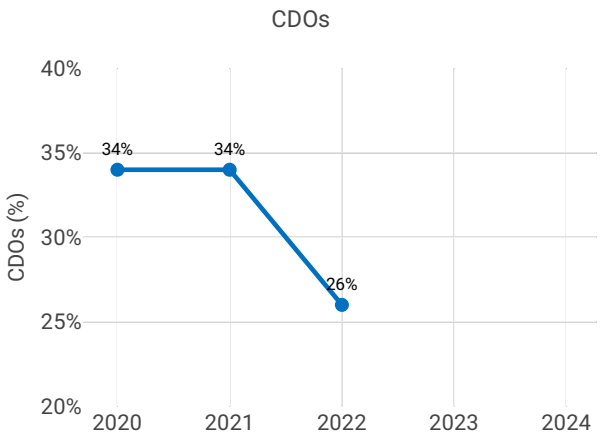
AXOT

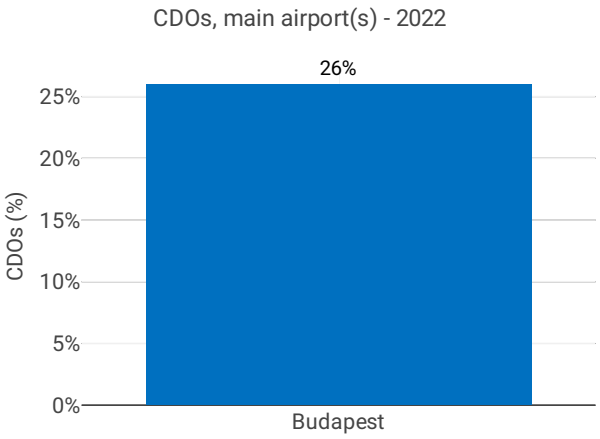
Additional taxi-out times at Budapest (LHBP; 2019: 1.63 min/dep.; 2020: 0.87 min/dep.; 2021: 1.06 min/dep.; 2022: 1.4 min/dep.) have gradually increased during RP3.
According to the Hungarian monitoring report: *Since the actual value of this PI is still acceptable, no additional initiatives are needed.*

ASMA

The additional times in the terminal airspace in 2022 have significantly decreased (LHBP; 2019: 0.85 min/arr.; 2020: 0.66 min/arr.; 2021: 0.67 min/arr.; 2022: 0.34 min/arr.) resulting in one of the lowest additional ASMA times amongst the SES monitored airports.
According to the Hungarian monitoring report: *As the actual value of this PI shows improvement compared to the previous year's value therefore no additional initiatives are needed.*

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





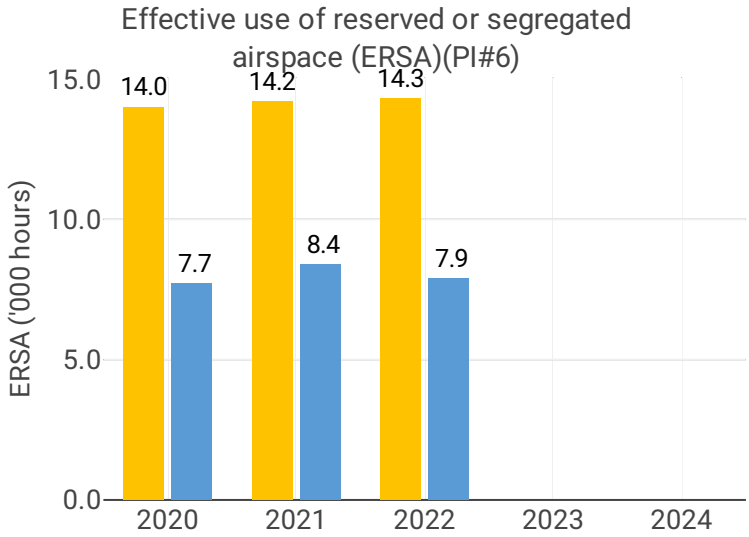
Focus CDOs

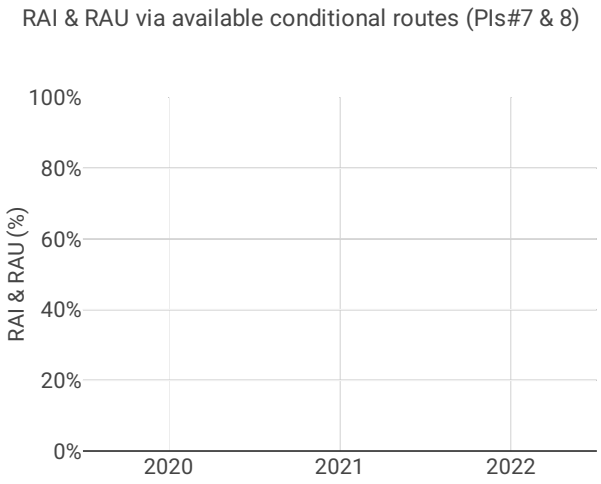
The share of CDO flights for Budapest (LHBP) has decreased from 34.0% in 2021 to 25.8% in 2022. This value is below the overall RP3 value in 2022 (29.0%).
From April to October, the monthly values were below 25%.
According to the Hungarian monitoring report: *Since the actual value of this PI is still acceptable, no additional initiatives are needed.*

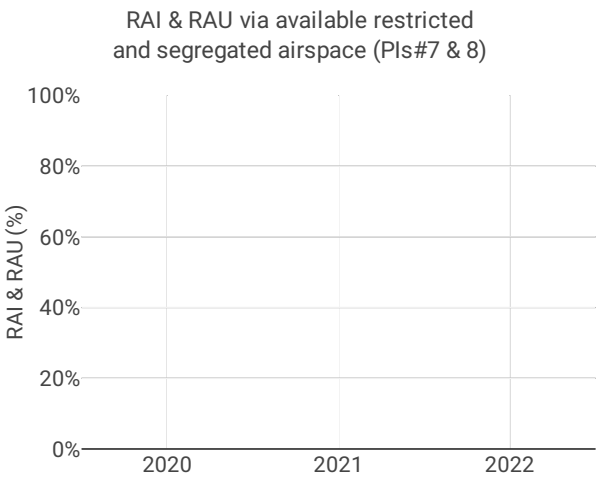
Airport level

	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
Budapest	0.87	1.06	1.40	NA	NA	0.66	0.67	0.34	NA	NA	33%	34%	26%	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 very high in 2022. The war in Ukraine forced the Hungarian air defence and air force to create special training areas which were activated on an ad-hoc basis. Apart from those special air corridors were also established in order to allow the crossing of the allied forces UAVs.
The newly created military areas whose activation was on an ad-hoc basis had a negative effect on capacity, especially in the East sectors of Hungarian airspace.
The war against Ukraine forced the Hungarian air defence and air force to create special training areas which were activated on an ad-hoc basis. Apart from those special air corridors were also established in order to allow the crossing of the allied forces UAVs.
The new ad-hoc areas were not AMC manageable areas, therefore they were activated when it became necessary, so planning was much more difficult.

Military - related measures implemented or planned to improve capacity

During the implementation of the new ad-hoc activation areas, HungaroControl representatives tried to negotiate the vertical dimension of these areas in a way that makes fewer problems for overflight traffic. Thanks to the good cooperation between the military and civil sides, these areas were active only when they were really needed and only for so long time which these special tasks in such a war environment required.

Initiatives implemented or planned to improve PI#6

The war in Ukraine has had a negative impact on the efficiency of military airspace utilisation.
Unfortunately, as long as there is a war going on in a neighbouring country, the effectiveness of military airspace utilization will remain uncertain.

Initiatives implemented or planned to improve PI#7

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

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

• Hungary registered 0.89 minutes of average en route ATFM delay per flight during 2022 which has been adjusted to 0.54 during the post-ops adjustment process, thus not achieving the local target value of 0.11.

• The average number of IFR movements was 1% above 2019 levels in Hungary in 2022.

• The number of ATCOs in OPS is expected to increase by 12% by the end of RP3, with the actual value being below the 2022 plan in Budapest ACC.

• The impact of Russia's war of aggression against Ukraine had a detrimental effect on capacity performance in Hungary in 2022.

• Delays were highest between May and September, mostly due to ATC Capacity issues.

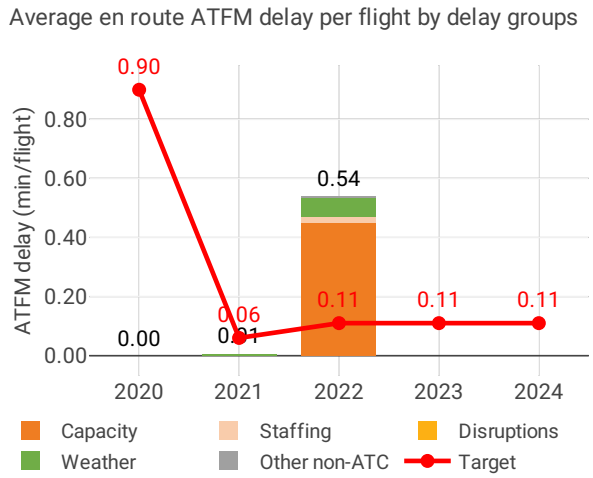
• The share of delayed flights with delays longer than 15 minutes in Hungary increased by 19.4 p.p. compared to 2021 and was higher than 2019 values.

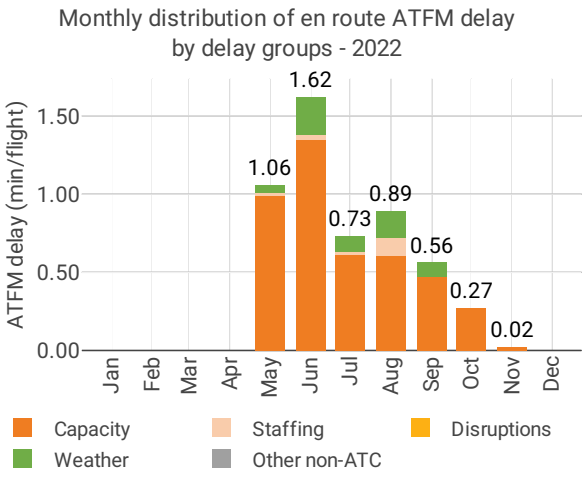
• The yearly total of sector opening hours in Budapest ACC was 36,864 in 2022, showing a 32.1% increase compared to 2021. Sector opening hours are 8.4% above 2019 levels.

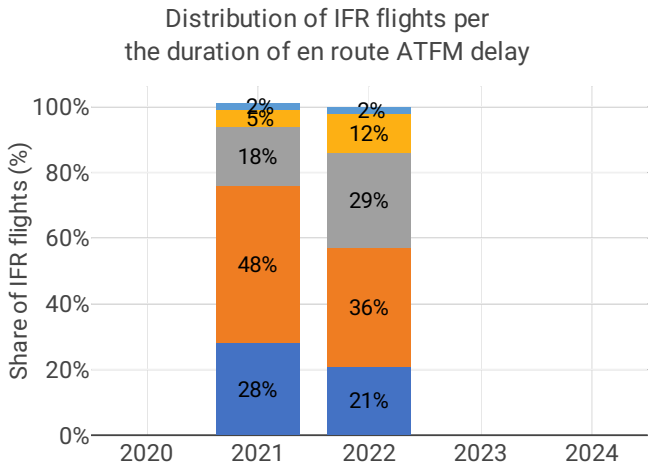
• Budapest ACC registered 23.49 IFR movements per one sector opening hour in 2022, being 6.0% below 2019 levels.

4.2 En route performance

4.2.1 En route ATFM delay (KPI#1)







Focus on en route ATFM delay

Summary of capacity performance

Hungary experienced an increase in traffic from 491k flights in 2021, with practically zero ATFM delays, to 897k flights in 2022 with 481k minutes of en route AFTM delay.
The traffic level in 2022 was higher than the 892k flights handled in 2019, which encountered treble the 2022 delays: 1.4 million minutes of ATFM delay.
There were an additional 318k minutes of en route ATFM delay originating in the Budapest ACC that were re-attributed to DFS (272k) and DSNA (46k) via the NM post operations delay attribution process, according to the NMB agreement for eNM/S22 measures, to ameliorate capacity shortfalls in both Karlsruhe UAC and Reims ACC.

NSA's assessment of capacity performance

The Ukrainian war has had a significant impact, in both operational and economic context of the service provision of ANS in Hungary.
Operational: due to the closure of the Ukrainian airspace and the war-related sanctions, there have been reroutings in the Hungarian airspace, having a net positive impact on the number of overflights.
Traffic to and from Russia and Ukraine is missing, on the other hand, reroutings to and from North Europe, and the Far East (and other parts of Asia), as well as new routes between Russia and non-EU states have brought a significant amount of additional traffic. The size of this impact has further increased towards the year-end, as the traffic between Europe and Asia started to gain momentum.
The Hungarian ANSP experienced a very strong recovery (with overflights already passing the 2019-level (by 20% on some days) in 2022), and this was only in part a consequence of the reroutings, there was also a very strong increase of the organic traffic on the South-East axis. Especially in the summer, when leisure traffic from Western Europe to Greece and Türkiye created an unexpected high demand on our flow.
In addition to the already high demand, ANS provision was impacted by the war in one more way: there were military airspaces to decrease capacity and to increase complexity in the Hungarian airspace.
Reaction time: there is very little the Hungarian ANSP could have done to react to the explosion of traffic demand in the short run (i.e. through the course of 2022). ATCO training was postponed under COVID (as an adaptation to the traffic decrease) and although already resumed, cannot be accelerated on short notice.
The originally planned number of ATCOs was not (and will not be) enough to manage the traffic without disruptions (regulations, delays and re-routings of the re-routings).
The war has caused a significant increase in traffic in Budapest ACC, resulting in traffic reaching pre-COVID 2019 levels already in 2022. Budapest ACC was able to manage the unexpected traffic growth with ca. 60% fewer delays than in 2019, which was though not enough to meet the target, but allowed air traffic on the Eastern border of the Network to operate without any particular problems.
Our view is that had the war not broken out, Budapest ACC would have been able to handle the 2022 traffic within its capacity target.
We believe that a very significant part of the excess delay was due to the war. We have flagged this issue to the PRB and EC and also to the Network Management Board already, and although we understand that

in 317/2019 the definition of “exceptional event” does not by word apply to our situation, we still believe that by the legislative intent a regular war in the neighbouring country, causing significant disruptions does qualify as an “exceptional event”.

Monitoring process for capacity performance

The war has caused a significant increase in traffic in Budapest ACC, resulting in traffic reaching pre-COVID 2019 levels already in 2022.
Budapest ACC was able to manage the unexpected traffic growth with ca 60% fewer delays than in 2019, which was though not enough to meet the target, but allowed air traffic on the Eastern border of the Network to operate without any particular problems.

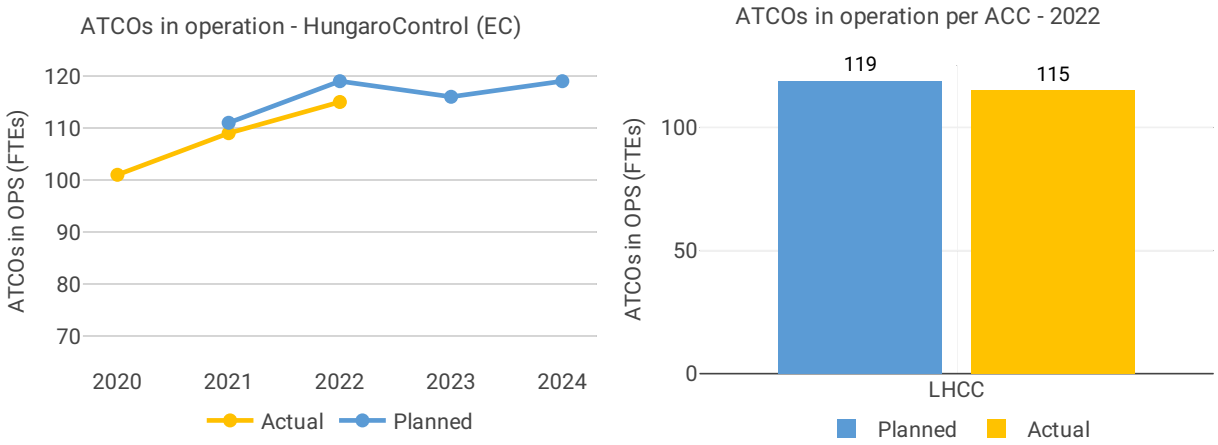
Capacity planning

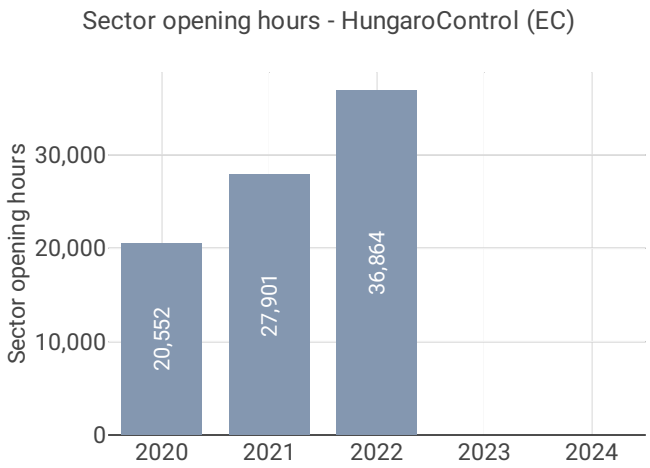
Capacity planning with NM for the year 2022 was completed in January with the conclusion that there will be no capacity issue.
Unfortunately at the end of February Russians started a war against Ukraine, and due to the closure of the Ukrainian airspace, all flights which have used that airspace for overflight before were forced to reroute via our airspace.
Unfortunately, the capacity planning process did not follow this huge rerouting and we were able to introduce only a few measures for summer in order to manage the extremely increased demand.

Application of Corrective Measures for Capacity (if applicable)

The war has caused a significant increase in traffic in Budapest ACC, resulting in traffic reaching pre-COVID 2019 levels already in 2022. This was unexpected and the measures which were introduced during the first part of the year could only mitigate the capacity shortage.
Since there is no sign that the war in Ukraine will be over in 2023 and thus the traffic demand in Budapest ACC will remain very high, further adjustments are needed on terms of sector capacities and in the availability of ATCOs, through fine-tuning of the ATCO rostering.

4.2.2 Other indicators



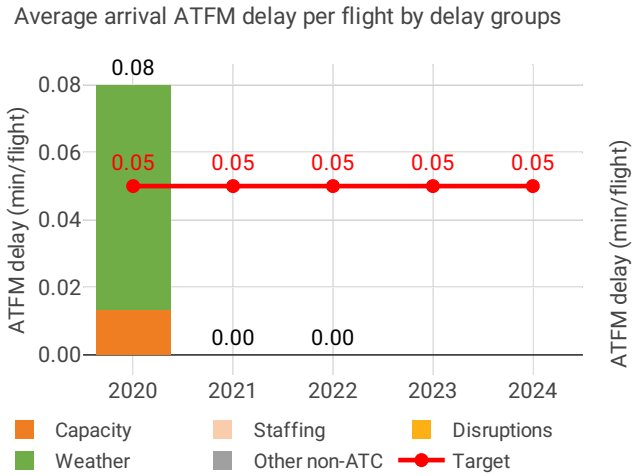


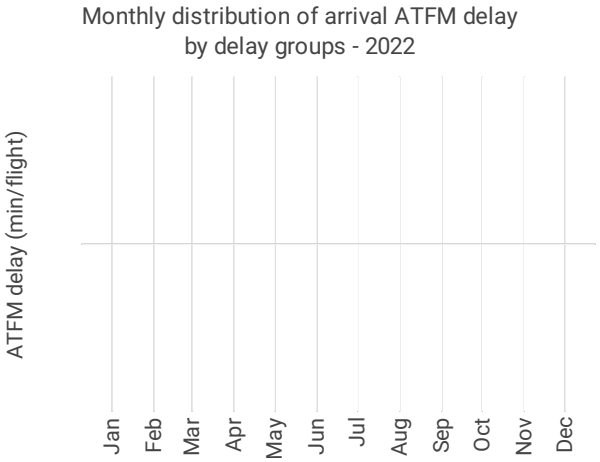
Focus on ATCOs in operations

N/A

4.3 Terminal performance

4.3.1 Arrival ATFM delay (KPI#2)





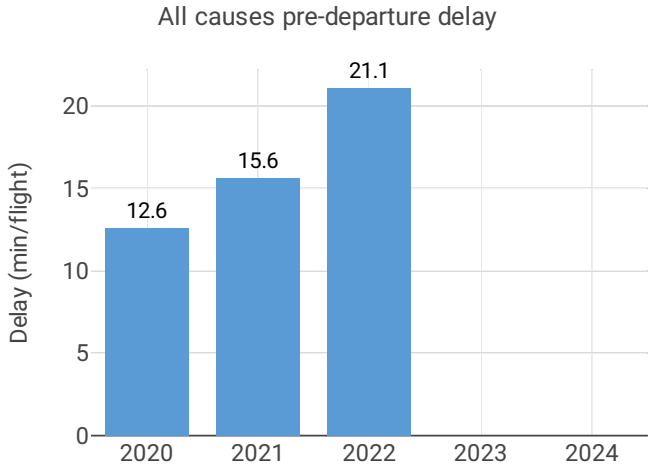
Focus on arrival ATFM delay

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.
Traffic at Budapest airport in 2022 was still by 20% lower compared to 2019 regardless the increase of 80% with respect to 2021.
Like in 2021, no arrival ATFM delays were observed in the entire 2022 at Budapest while ATFM slot adherence has slightly deteriorated (2022: 95.4%; 2021: 96.0%).

No arrival ATFM delays were recorded in the entire 2022 at Budapest (LHBP: 2019: 0.03 min/arr.; 2020: 0.08 min/arr.; 2021: 0 min/arr.; 2022: 0 min/arr.)
Regarding the Russian war, the Hungarian monitoring report mentions that since all cancelled flights to/and from Russia and Ukraine represented less than 10% of LHBP traffic, and that there were no war related delays at LHBP in 2022.3. Arrival ATFM Delay – National TargetThe national target on arrival ATFM delay in 2022 was met.

Budapest's ATFM slot compliance was 95.4%, very similar to the performance in 2021 (96%). With regard to the 4.6% of flights that did not adhere, 1.5% was early and 3.1% was late.

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
Budapest	0.08	0.00	NA	NA	96.2%	96.0%	95.4%	NA%

	ATC pre departure delay (PI#2)				All causes pre departure delay (PI#3)			
Airport name	2020	2021	2022	2023	2020	2021	2022	2023
Budapest	0.14	0.14	0.10	NA	12.6	15.6	21.1	NA

Focus on performance indicators at airport level

ATFM slot adherence

The performance in terms of ATC pre-departure delay at Budapest has further improved with respect to the previous years (LHBP; 2019: 0.30 min/dep.; 2020: 0.16 min/dep.; 2021: 0.14 min/dep.; 2022: 0.10 min/dep.)

ATC pre-departure delay

The total (all causes) delay in the actual off block time at Budapest significantly increased in 2022 (LHBP: 2020: 12.58 min/dep.; 2021: 15.61 min/dep.; 2022: 21.12 min/dep.). The highest delays per flight were observed in June and July averaging more than 30 min/dep.
According to the Hungarian monitoring report: *The actual performance in this respect was a bit worse than in the previous years, which could be explained with the overall staffing issues at the LHBP. After COVID-19 pandemic similar staffing problems were experienced at many airport in Europe.*

All causes pre-departure delay

No data available: airport operator data flow not established, or more than two months of missing / non-validated data

5 COST-EFFIENCY - HUNGARY

5.1 PRB monitoring

• The en route 2022 actual unit cost of Hungary was 30.25 €2017, 34% lower than the determined unit cost (45.72 €2017). The terminal 2022 actual unit cost was 306.58 €2017, 19% lower than the determined unit cost (378.72 €2017).

• The en route 2022 actual service units (3,184K) were 32% higher than the determined service units (2,419K).

• In 2022, the en route actual total costs were 14 M€2017 lower (-13%) compared to determined. Hungary had significant decreases in all cost categories except for cost of capital (+2.5 M€2017, or +36%). The NSA explained that the net current assets increased due to the inclusion of pension related obligations towards ATCOs.

• The key driver of the decrease was the reduction in staff cost (-7.1 M€2017, or -14%), mainly due to lower headcounts than planned and postponed salary increases, and other operating costs (-8.2 M€2017, or -22%), mainly due to lower procurements costs due to COVID-19.

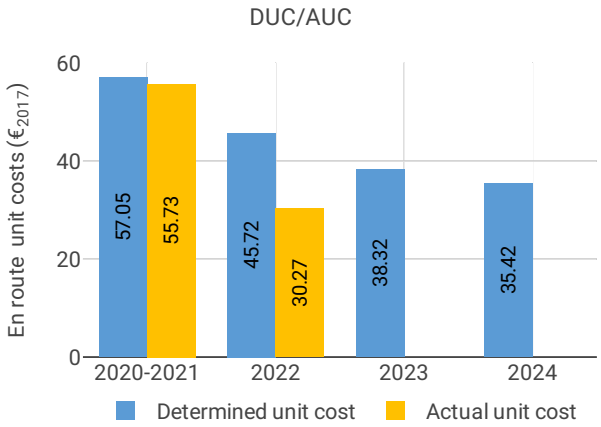
• Hungary presented a deviation from the criteria to achieve capacity targets, which was considered justified. Considering that costs are significantly lower and that the 2022 en route capacity targets have not been achieved, the situation raises serious concern. The PRB invites the NSA to analyse the discrepancies and identify their reasons and the Member State to rectify the situation to ensure that the additional means granted through the capacity deviation are used to address the capacity issues.

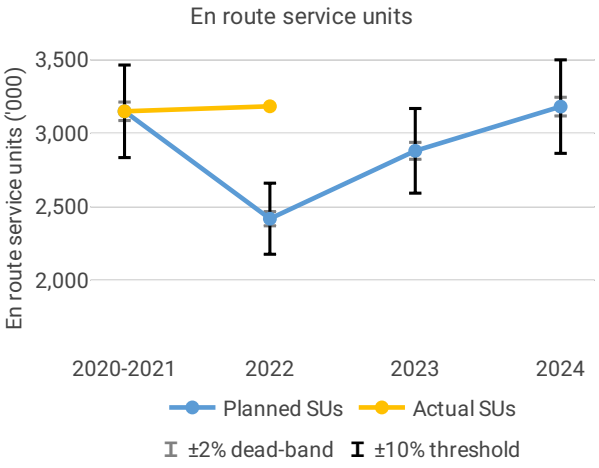
• HungaroControl spent 29 M€2017 in 2022 related to costs of investments, 7.5% less than determined (31 M€2017), mainly due to some investments being scheduled later than planned.

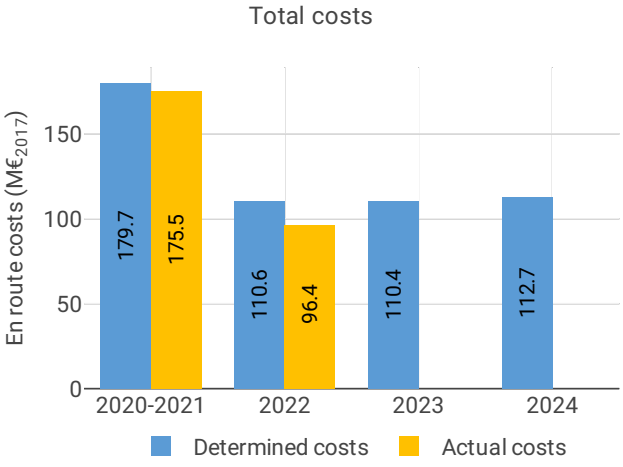
• The en route actual unit cost incurred by users in 2022 was 33.58€, while the terminal actual unit cost incurred by users was 331.37€.

5.2 En route charging zone

5.2.1 Unit cost (KPI#1)

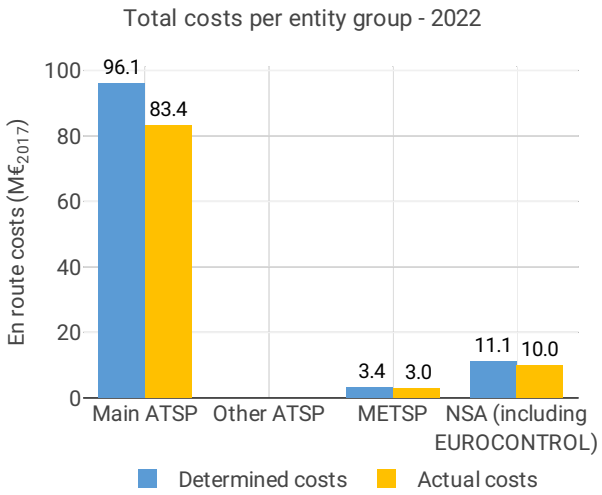


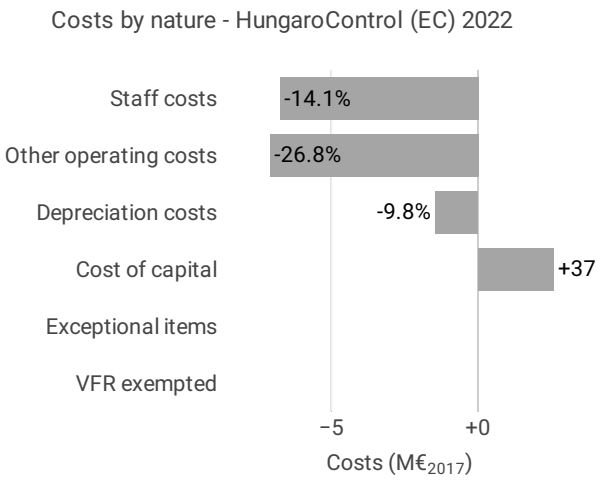




Actual and determined data

Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	191	117	NA	NA
Determined costs	195	124	127	132
Difference costs	-4	-7	NA	NA
Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	3.5%	3.3%	3.0%
Determined inflation index	NA	118	121.9	125.5
Actual inflation rate	NA	15.3%	NA	NA
Actual inflation index	NA	133.4	NA	NA
Difference inflation index (p.p.)	NA	+15.4	NA	NA





Focus on unit cost

AUC vs. DUC

In 2022, the en route AUC was -33.8% (or -4 780.28 HUF2017, -15.47 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TSUs (+31.6%) and significantly lower than planned en route costs in real terms (-12.9%, or -4 417.6 MHUF2017, -14.3 M€2017). It should be noted that actual inflation index in 2022 was +15.4 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (+31.6%) falls outside 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, with the ANSP (HungaroControl) retaining an amount of +3.6 M€2017.

En route costs by entity

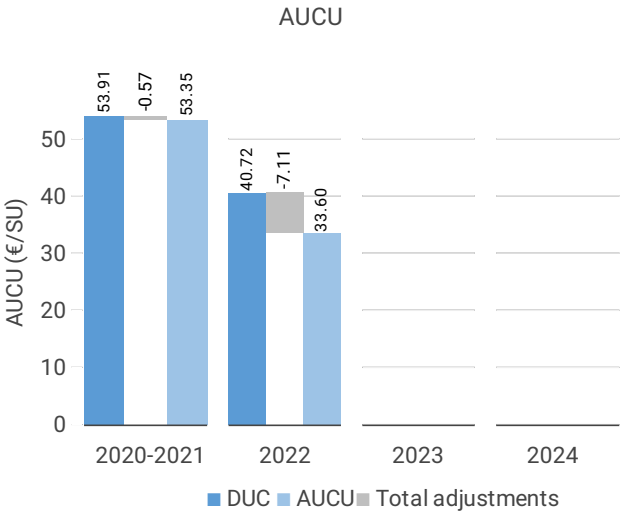
Actual real en route costs are -12.9% (-14.3 M€2017) lower than planned. This is the result of lower costs for the main ANSP, HungaroControl (-13.3%, or -12.7 M€2017), the NSA/EUROCONTROL (-10.9%, or -1.2 M€2017) and the MET service provider (-10.4%, or -0.3 M€2017).

En route costs for the main ANSP at charging zone level

Significantly lower than planned en route costs in real terms for HungaroControl in 2022 (-13.3%, or -12.7 M€2017) result from:

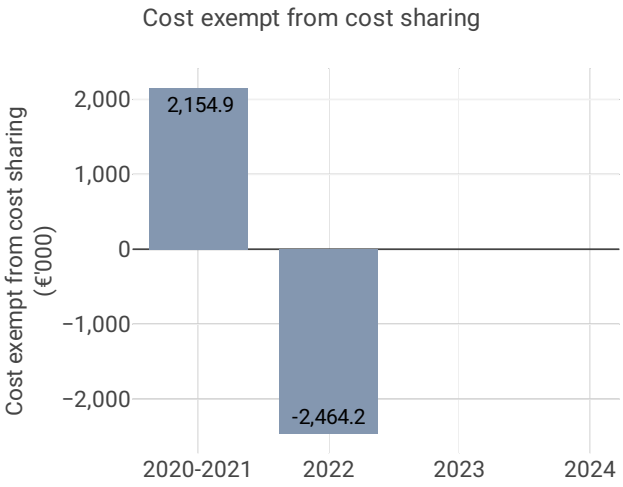
- Significantly lower staff costs (-14.1%), due to the postponement of the pay rise for non-ATCO staff and lower than planned execution of the non-ATCO recruitment plan. This result is also impacted by the higher actual inflation index (+15.4 p.p.).
- Significantly lower other operating costs (-26.8%), mainly due to the slower execution of procurement processes and lower travel and training costs. This result is also impacted by the higher actual inflation index (+15.4 p.p.).
- Significantly lower depreciation (-9.8%), due to changes in the investment commissioning schedule.
- Significantly higher cost of capital (+37.4%), understood to be mainly due to a change (correction) in the methodology used to calculate the net current assets (inclusion of pension related obligations towards ATCOs).

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



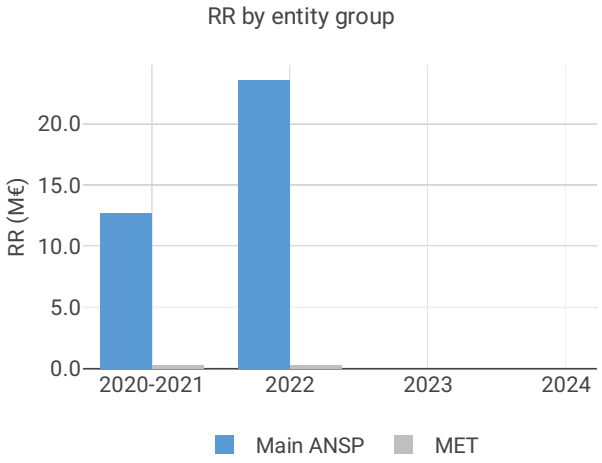
AUCU components (€/SU) – 2022

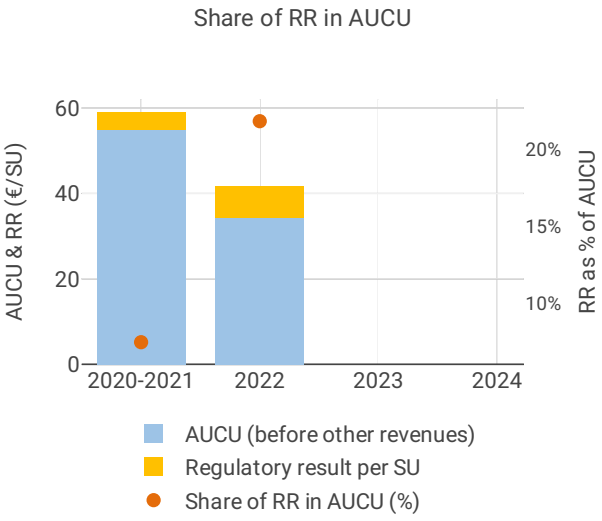
Components of the AUCU in 2022	€/SU
DUC	**40.72**
Inflation adjustment	2.95
Cost exempt from cost-sharing	-0.77
Traffic risk sharing adjustment	-7.41
Traffic adj. (costs not TRS)	-1.18
Finantial incentives	0.00
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	-0.71
Application of lower unit rate	0.00
Total adjustments	-7.11
AUCU	**33.60**
AUCU vs. DUC	**-17.5%**

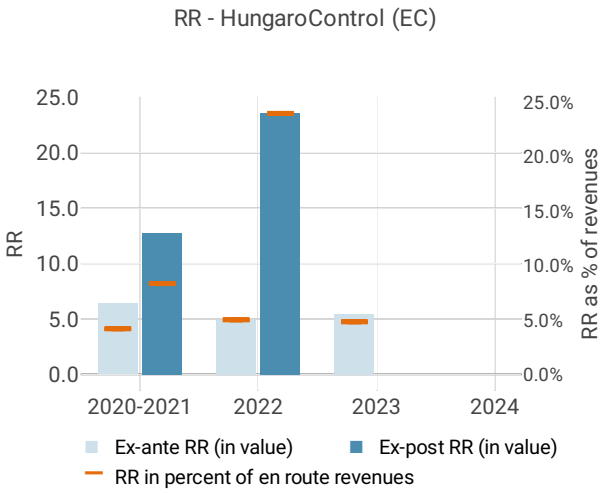


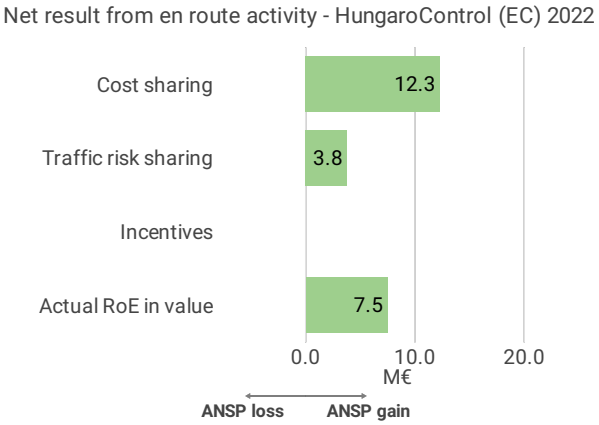
Cost exempt from cost sharing by item - 2022	€'000	€/SU
New and existing investments	-1,568.3	-0.49
Competent authorities and qualified entities costs	-896.3	-0.28
Eurocontrol costs	0.3	0.00
Pension costs	0.0	0.00
Interest on loans	0.0	0.00
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-2,464.2**	**-0.77**

5.2.3 Regulatory result (RR)









Focus on regulatory result

HungaroControl net gain on activity in the Hungary en route charging zone in the year 2022

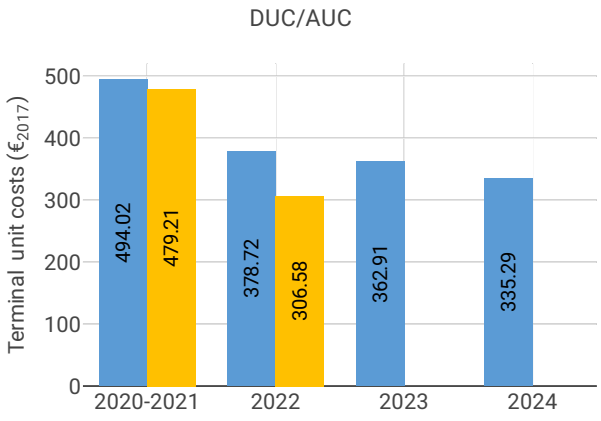
HungaroControl reported a net gain of +6,283.7 MHUF, as a combination of a gain of +4,795.1 MHUF arising from the cost sharing mechanism, with a gain of +1,488.6 MHUF arising from the traffic risk sharing mechanism.

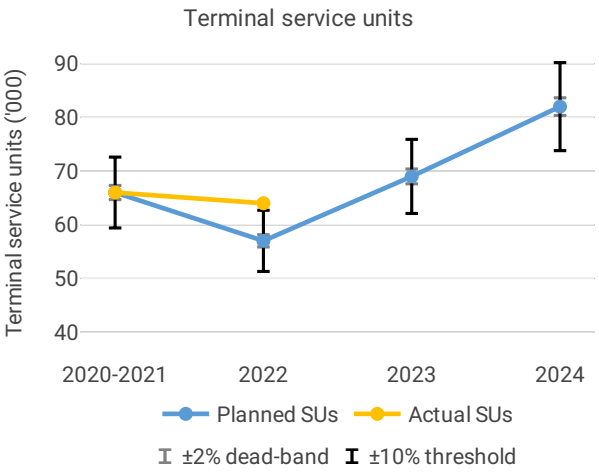
HungaroControl overall regulatory result (RR) for the en route activity

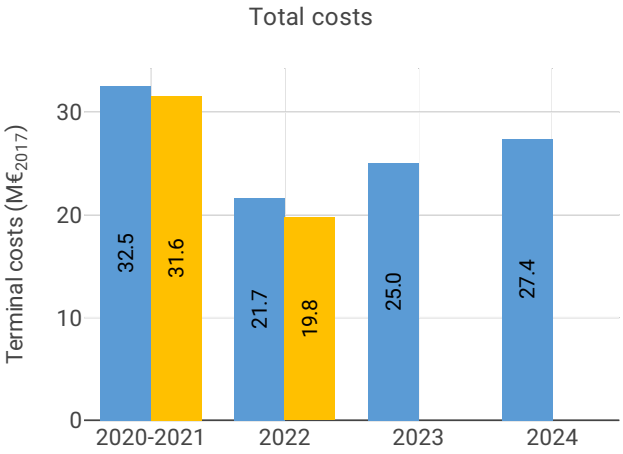
Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+6 283.7 MHUF) and the actual RoE (+2 915.5 MHUF) amounts to +9 199.3 MHUF (24.0% of the en route revenues). The resulting ex-post rate of return on equity is 22.6%, which is higher than the 8.0% planned in the PP.

5.3 Terminal charging zone

5.3.1 Unit cost (KPI#1)

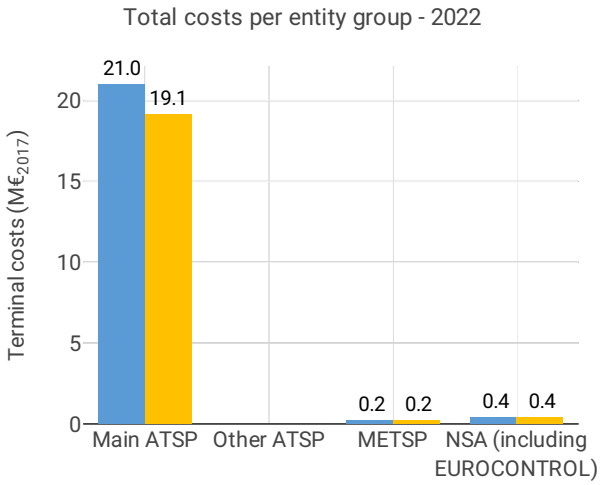


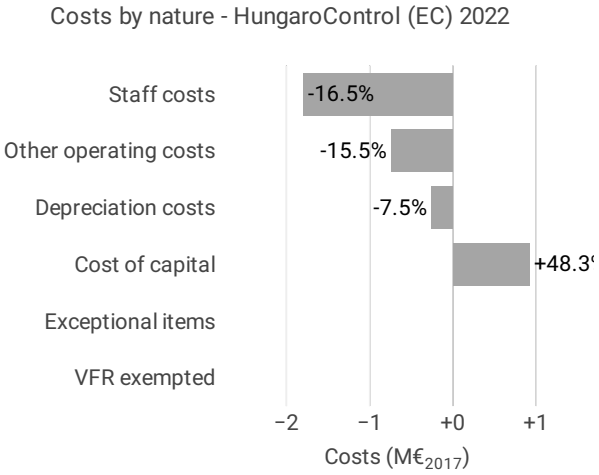




Actual and determined data

Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	35	24	NA	NA
Determined costs	36	25	28	31
Difference costs	-1	0	NA	NA
Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	3.5%	3.3%	3.0%
Determined inflation index	NA	118	121.9	125.5
Actual inflation rate	NA	15.3%	NA	NA
Actual inflation index	NA	133.4	NA	NA
Difference inflation index (p.p.)	NA	+15.4	NA	NA





Focus on unit cost

AUC vs. DUC

In 2022, the terminal AUC was -19.0% (or -22 290.3 HUF2017, -72.14 €2017) lower than the planned DUC. This results from the combination of significantly higher than planned TNSUs (+12.7%) and significantly lower than planned terminal costs in real terms (-8.7%, or -584.7 MHUF2017, -1.9 M€2017). It should be noted that actual inflation index in 2022 was +15.4 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (+12.7%) falls outside the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional terminal revenues is therefore shared between the ANSP and the airspace users, with the ANSP (HungaroControl) retaining an amount of +0.8 M€2017.

Terminal costs by entity

Actual real terminal costs are -8.7% (-1.9 M€2017) lower than planned. This is the result of lower costs for the main ANSP, HungaroControl (-8.9%, or -1.9 M€2017) and the MET service provider (-6.9%, or -0.02 M€2017) and higher costs for the NSA (+0.3%, or +0.001 M€2017).

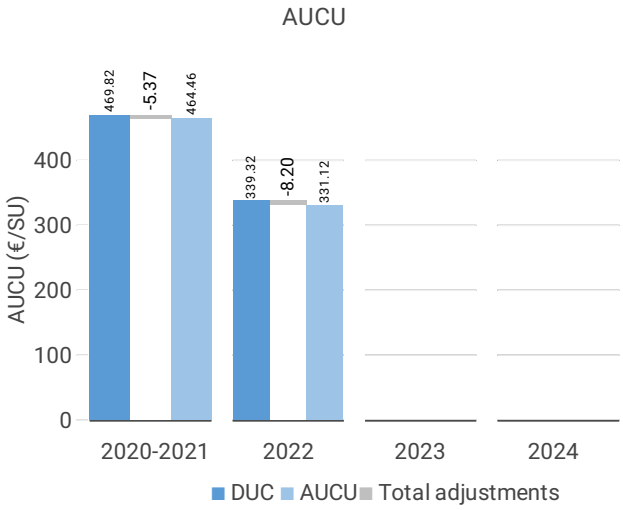
Terminal costs for the main ANSP at charging zone level

Lower than planned terminal costs in real terms for HungaroControl in 2022 (-8.9%, or -1.9 M€2017) result from:

- Significantly lower staff costs (-16.5%), due to the postponement of the pay rise for non-ATCO staff and lower than planned execution of the non-ATCO recruitment plan. This result is also impacted by the higher actual inflation index (+15.4 p.p.).

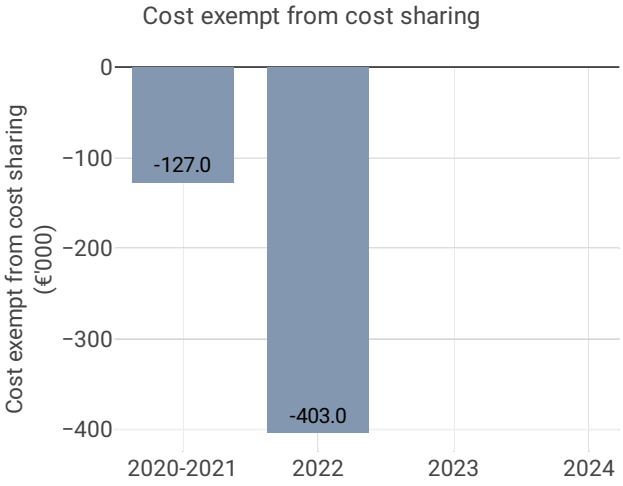
- Significantly lower other operating costs (-15.5%). This result is also impacted by the higher actual inflation index (+15.4 p.p.).
- Significantly lower depreciation (-7.5%), due to changes in the investment commissioning schedule.
- Significantly higher cost of capital (+48.3%), understood to be mainly due to a change (correction) in the methodology used to calculate the net current assets (inclusion of pension related obligations towards ATCOs).

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



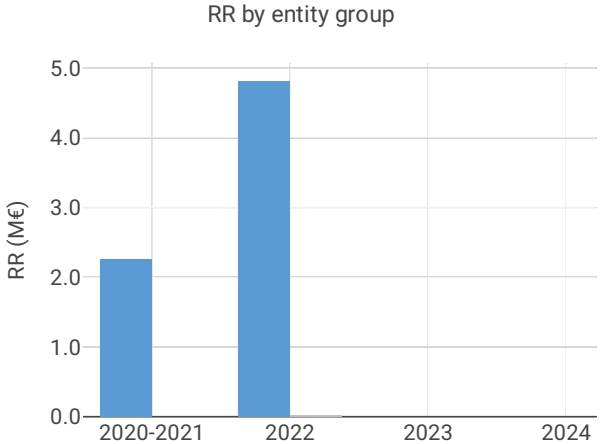
AUCU components (€/SU) – 2022

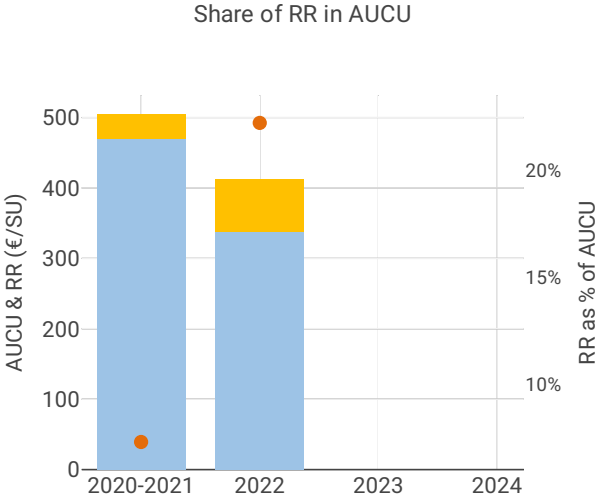
Components of the AUCU in 2022	€/SU
DUC	**339.32**
Inflation adjustment	30.09
Cost exempt from cost-sharing	-6.25
Traffic risk sharing adjustment	-24.41
Traffic adj. (costs not TRS)	-1.04
Finantial incentives	0.00
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	-6.59
Application of lower unit rate	0.00
Total adjustments	-8.20
AUCU	**331.12**
AUCU vs. DUC	**-2.4%**

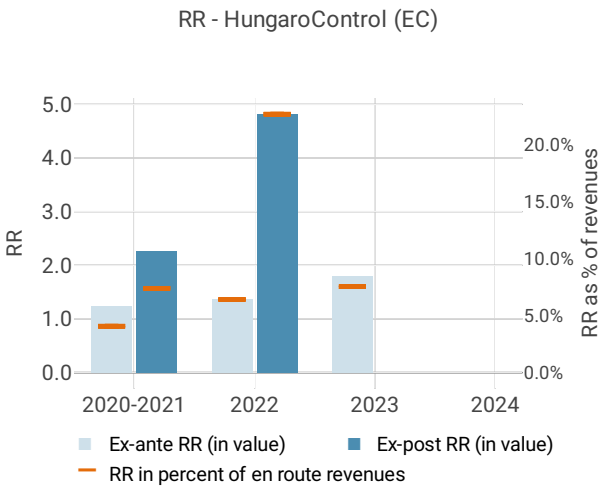


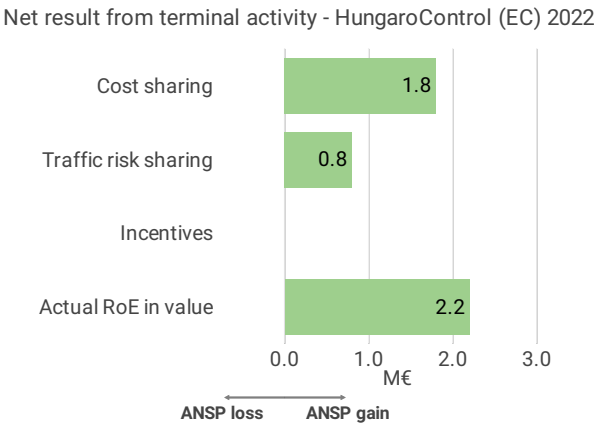
Cost exempt from cost sharing by item - 2022	€'000	€/SU
New and existing investments	-403.9	-6.27
Competent authorities and qualified entities costs	0.9	0.01
Eurocontrol costs	0.0	0.00
Pension costs	0.0	0.00
Interest on loans	0.0	0.00
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-403.0**	**-6.25**

5.3.3 Regulatory result (RR)









Focus on regulatory result

HungaroControl net gain on activity in the Hungary terminal charging zone in the year 2022

HungaroControl reported a net gain of +1 009.4 MHUF, as a combination of a gain of +685.1 MHUF arising from the cost sharing mechanism, with a gain of +324.3 MHUF arising from the traffic risk sharing mechanism.

HungaroControl overall regulatory result (RR) for the terminal activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+1 009.4 MHUF) and the actual RoE (+871.2 MHUF) amounts to +1 880.5 MHUF (22.7% of the terminal revenues). The resulting ex-post rate of return on equity is 15.4%, which is higher than the 8.0% planned in the PP.