PRB | Performance review body of the single european sky

Performance Review Body Monitoring Report

Luxembourg - 2023

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1 OVERVIEW

1.1 Contextual information

National performance plan adopted following Commission Decision (EU) 2024/343 of 13 December 2023

List of ACCs 0

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

Exchange rate (1 EUR=)
2017: 1 EUR
2023: 1 EUR

Share of Union-wide:
- **traffic (TSUs) 2023** 2.0%
- **en route costs 2023** 3.5%

Share en route / terminal costs 2023 94% / 6%

En route charging zone(s)
Belgium-Luxembourg

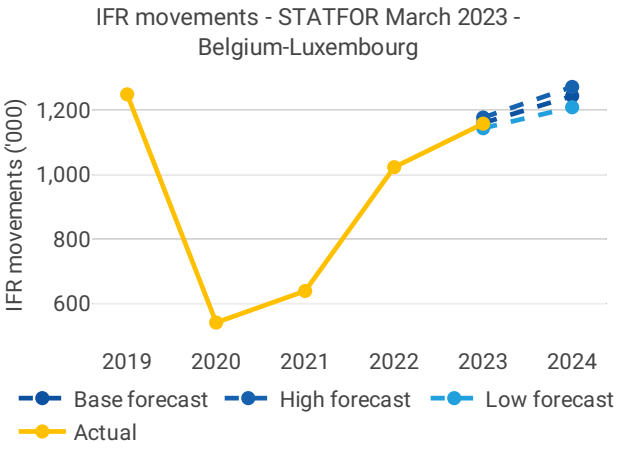
Terminal charging zone(s)
Luxembourg

Main ANSP
- ANA Lux

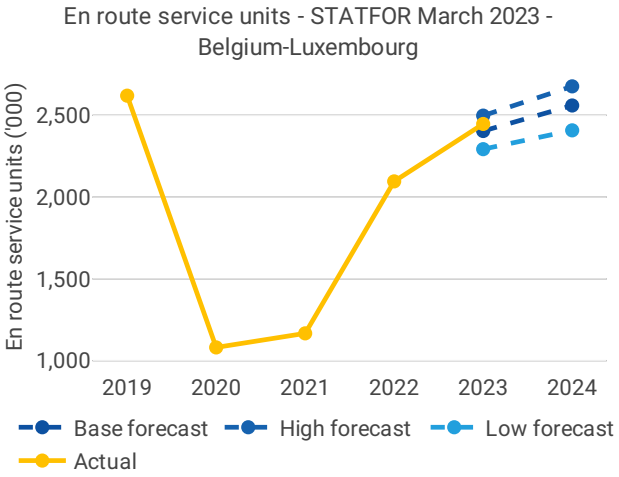
Other ANSPs
- skeyes
- MUAC

MET Providers
–

1.2 Traffic (En route traffic zone)

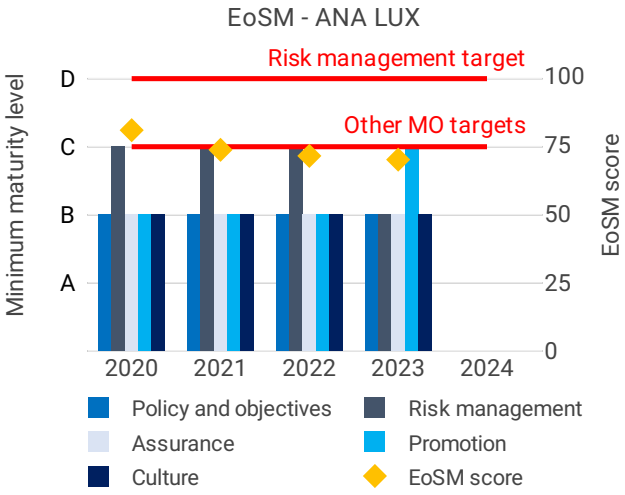


- Please refer to the Belgium-Luxembourg traffic zone
- Actual 2023 IFR movements were -1.3% below the plan (1,173K).
- Actual 2023 IFR movements represent 93% of the actual 2019 level (1,249K).



- The en route charging zone of Belgium-Luxembourg recorded 2,447K actual en route service units in 2023, +17% compared to 2022 (2,096K).
- Actual 2023 service units were +2% above the plan (2,404K).
- Actual 2023 service units represent 93% of the actual 2019 level (2,620K).

1.3 Safety (Main ANSP)

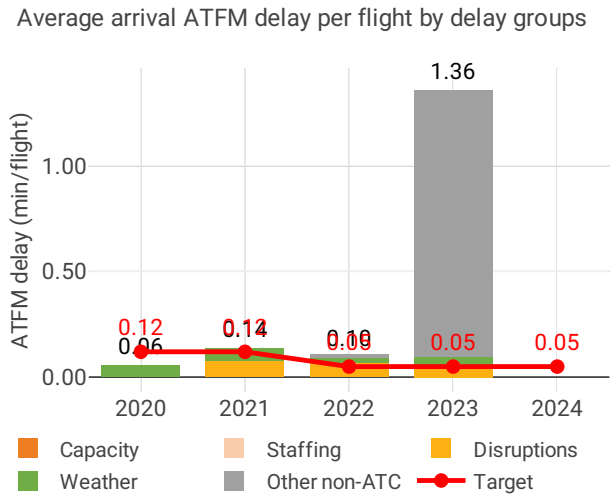


• ANA Lux did not achieve its planned maturity levels in 2023 and showed degrading performance compared with 2022. ANA Lux has established a Corrective Action Plan addressing specific areas for improvements and adding further resources. The NSA expects this is sufficient to meet the RP3 targets.

• The overall safety performance of ANA Lux was stable, the rate of occurrences was comparable with previous years and remained below the Union-wide average.

• ANA Lux does not use automated safety data recording systems.

1.4 Capacity (Member State)

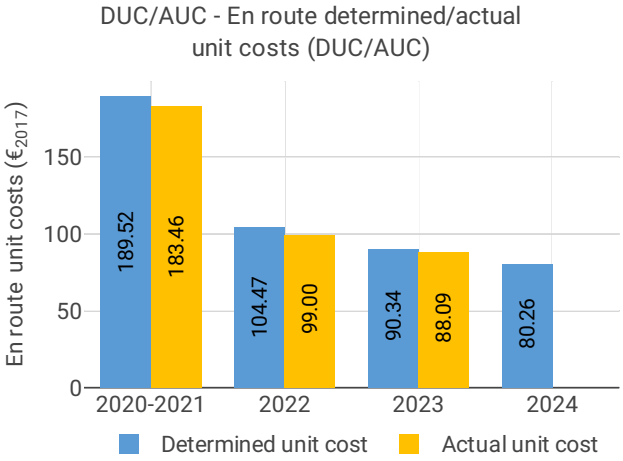


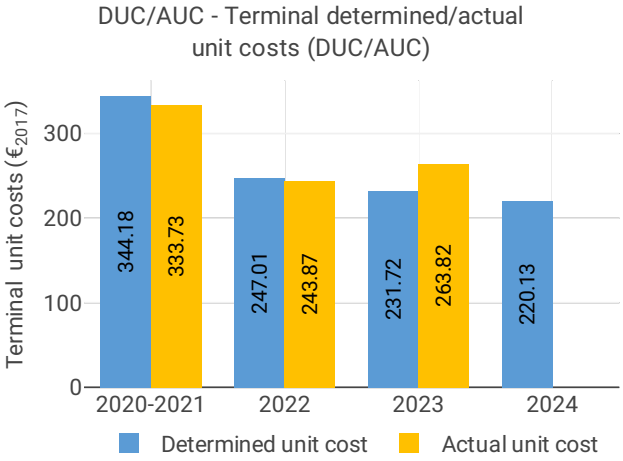
• Luxembourg registered an average airport arrival ATFM delay of 1.36 minutes per flight in 2023, thus not achieving the local target of 0.05 minutes.

• Compared to 2022, the number of IFR arrivals in Luxembourg increased by 3.1%, while the average airport arrival ATFM delay increased from 0.10 to 1.36 minutes per flight.

• The main reason for delays was other, non-ATC related causes, accounting for 93% of delays.

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





• The en route 2023 actual unit cost of Belgium-Luxembourg was 88.09 €2017, -2.5% lower than the determined unit cost (90.34 €2017). The terminal actual unit cost of Belgium was 234.71 €2017, -2.1% lower than the determined unit cost (239.73 €2017). The terminal actual unit cost of Luxembourg was 263.82 €2017, +14% higher than the determined unit cost (231.72 €2017).

• The en route 2023 actual service units (2.45M) were +1.8% higher than the determined service units (2.40M).

• The en route 2023 actual total costs were -1.7 M€2017 (-0.8%) lower compared to determined. The gap was mainly attributable to lower other operating costs (-4.6 M€2017, or -10%). The NSA explained that the lower other operating costs resulted from utility expenses decreasing more rapidly than anticipated in 2023, following a steep increase in the previous year.

• skeyes spent 12 M€2017 in 2023 related to costs of investments for en route charging zone, which was more than determined (+0.4 M€2017, or +3.4%). According to the NSA, this overspend is due to the "decommissioning of equipment (ISAAC SR4, old WAN)" which was not foreseen in the performance plan, resulting in an overspent of depreciation costs (+0.4 M€2017, or +4.8%).

• The en route actual unit cost incurred by users of Belgium-Luxembourg in 2023 was 106.60€ (-2.2% below the 2023 DUC), while the terminal actual unit cost incurred by users was 214.99€ (-26% below the 2023 DUC) for Belgium and 236.97€ (-12% below the 2023 DUC) for Luxembourg. The difference between the AUCU and the DUC for the Belgium EBBR charging zone is strongly affected by the adjustment of other revenues (-11 M€).

2 SAFETY - LUXEMBOURG

2.1 PRB monitoring

• ANA Lux did not achieve its planned maturity levels in 2023 and showed degrading performance compared with 2022. ANA Lux has established a Corrective Action Plan addressing specific areas for improvements and adding further resources. The NSA expects this is sufficient to meet the RP3 targets.

• The overall safety performance of ANA Lux was stable, the rate of occurrences was comparable with previous years and remained below the Union-wide average.

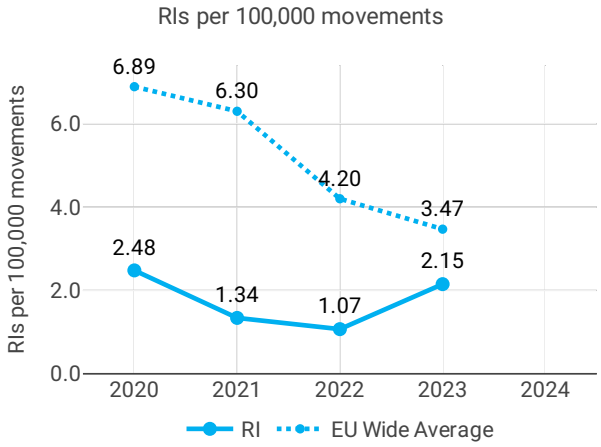
• ANA Lux does not use automated safety data recording systems.

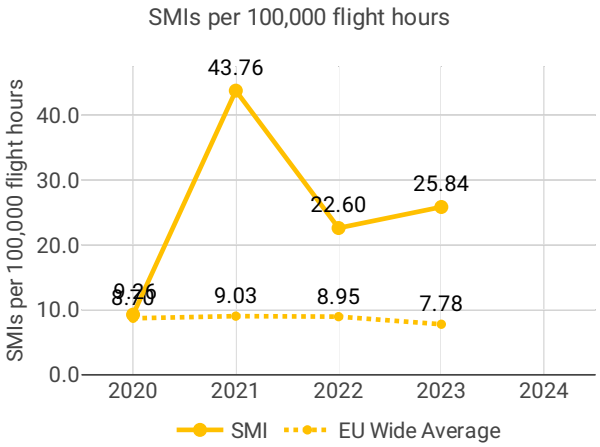
2.2 Effectiveness of Safety Management (EoSM) (KPI#1)

Focus on EoSM

Four out of five EoSM components remain below the RP3 target level. Over 2023 a decrease of maturity levels has been observed for "Safety Risk Management". Improvements for nine questions among all components are expected during RP3 to achieve RP3 targets.

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





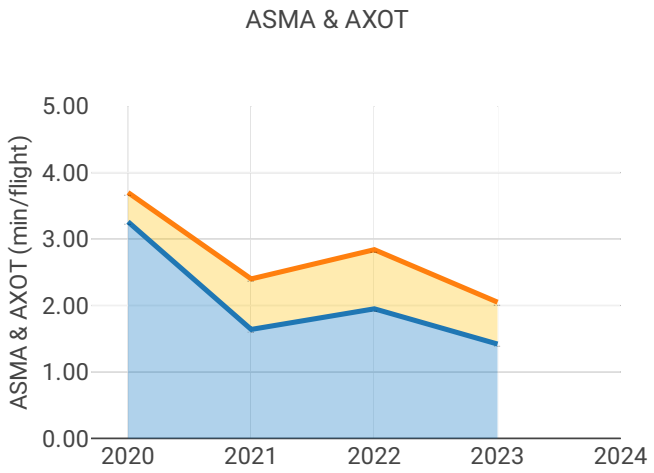
3 ENVIRONMENT - LUXEMBOURG

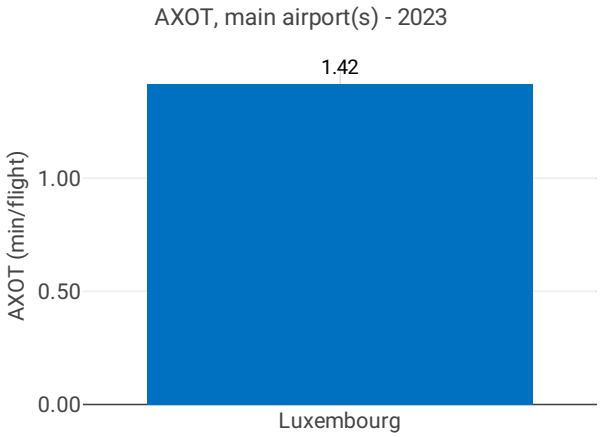
3.1 PRB monitoring

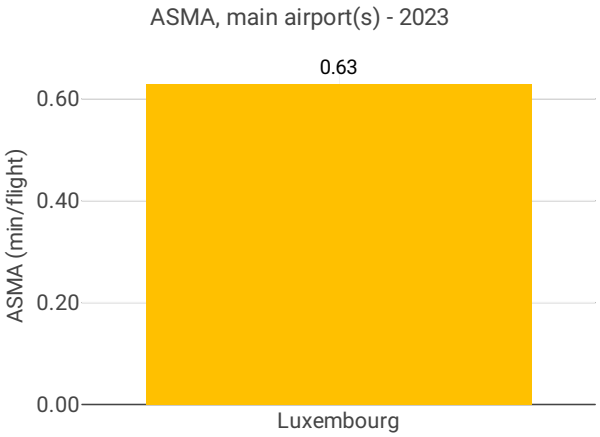
• Please refer to the KEA indicator for Belgium.

3.2 Terminal performance

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







Focus on ASMA & AXOT

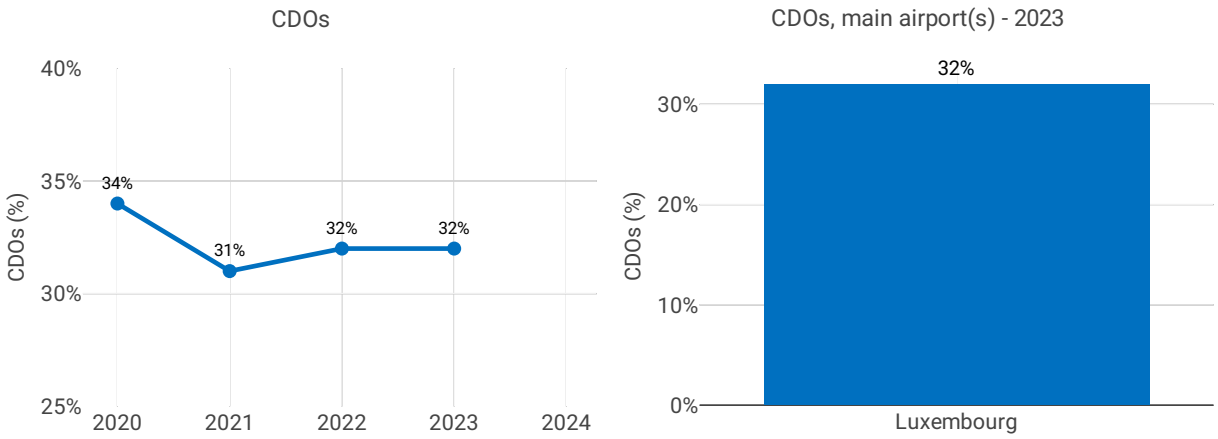
AXOT

This indicator is not monitored for airports below 80 000 IFR movements average during the 2016-2018 period, so it is not monitored for any airport in this state.

ASMA

This indicator is not monitored for airports below 80 000 IFR movements average during the 2016-2018 period, so it is not monitored for any airport in this state.

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



Focus CDOs

The share of CDO flights for Luxembourg is 32.4% which is an increase of 0.8 percentage points and above the overall RP3 value in 2023 (28.8%).
The monthly values stayed relatively stable during 2023.

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
Luxembourg	3.26	1.64	1.95	1.42	NA	0.44	0.76	0.89	0.63	NA	34%	31%	32%	32%	NA

4 CAPACITY - LUXEMBOURG

4.1 PRB monitoring

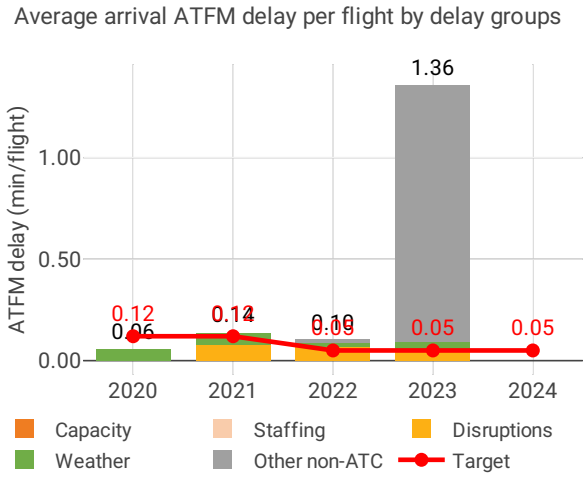
• Luxembourg registered an average airport arrival ATFM delay of 1.36 minutes per flight in 2023, thus not achieving the local target of 0.05 minutes.

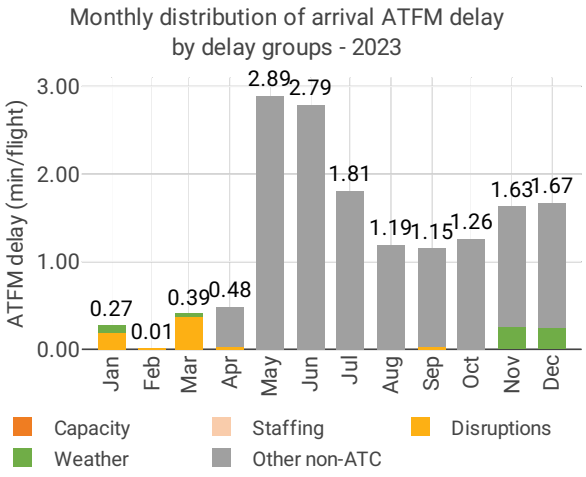
• Compared to 2022, the number of IFR arrivals in Luxembourg increased by 3.1%, while the average airport arrival ATFM delay increased from 0.10 to 1.36 minutes per flight.

• The main reason for delays was other, non-ATC related causes, accounting for 93% of delays.

4.2 Terminal performance

4.2.1 Arrival ATFM delay (KPI#2)





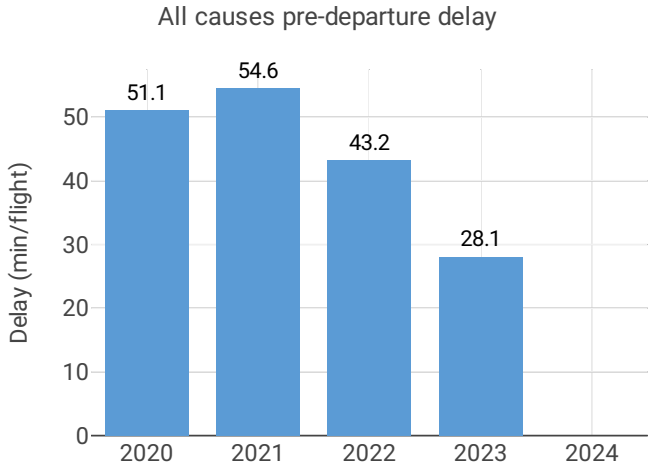
Focus on arrival ATFM delay

The scope of RP3 monitoring for Luxembourg comprises the main airport (ELLX), where traffic in 2023 was still 6% lower than in 2019 with an increase of 3% with respect to 2022.
In accordance with IR (EU) 2019/317 and the traffic volume, pre-departure delays are not monitored at Luxembourg and the capacity performance monitoring focuses on arrival ATFM delay and slot adherence.
Average arrival ATFM delays in 2023 was 1.36 min/arr, compared to 0.10 min/arr in 2022. The national target was not met.
ATFM slot adherence has improved (2023: 95%; 2022: 94.1%).

Arrival ATFM delays at Luxembourg have significantly increased in 2023 (ELLX: 2020: 0.06 min/arr; 2021: 0.14 min/arr; 2022: 0.10 min/arr; 2023: 1.36 min/arr). 47% of all delays were attributed to equipment issues and 45% were attributed to "Other" regulation reason.According to Luxembourg's monitoring report:
Imposed traffic reductions by our NSA, due to a Level I finding. NMOC regulations in place from May to December due to a lack of ATSEP qualifications (12 arrivals per hour until mid-July and 16 as of mid-July until mid-December). Thanks to the reorganisation and restructuring of the CNS and the arrival and training of new ATSEPs, those restrictions have been cancelled end of the year.
As part of its oversight activities, the NSA-LU did impose a reduction on ATC Capacity due to lack of adequate staffing levels and qualified/competent ATSEPs to perform all relevant duties as required by the current regulatory requirements. The staffing levels reached an acceptable status at the end of 2023, therefore all restrictions were withdrawn.
The NSA is currently monitoring the overall situation at CNS level (especially on the NAV and SUR service provision) that might affect the overall capacity target due to implementation of ATFM restrictions.

The incentive scheme uses modulated pivot values limited CRSTMP delay causes. This pivot value for CRSTMP is 0.05 min/arr in 2023 (same as the national target all reasons). According to the attribution of the regulation reason, the actual CRSTMP value for 2023 is 0.049 min/arr, falling within the deadband. The NSA however mentions in the monitoring report that *As the Luxembourg PP was only adopted in 2023 this incentive scheme is not applicable.*

4.2.2 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
Luxembourg	0.06	0.14	0.10	1.36	90.2%	93.4%	94.1%	95.0%

	ATC pre departure delay (PI#2)				All causes pre departure delay (PI#3)			
Airport name	2020	2021	2022	2023	2020	2021	2022	2023
Luxembourg	0.02	0.04	0.04	0.10	51.1	54.6	43.2	28.1

Focus on performance indicators at airport level

ATFM slot adherence

Luxembourg's ATFM slot compliance continues improving along RP3. In 2023 it was 95%, an improvement with respect to 2022 (94.1%).
With regard to the 5% of flights that did not adhere, 2% was early and 3.1% was late.
Luxembourg's monitoring report adds:
Slight improvement; slot adherence getting better due to monthly recap about performances.

ATC pre-departure delay

This indicator is not monitored for airports below 80 000 IFR movements annual average during the 2016-2018 period, so it is not monitored for any airport in Luxembourg.

All causes pre-departure delay

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5 COST-EFFIENCY - LUXEMBOURG

5.1 PRB monitoring

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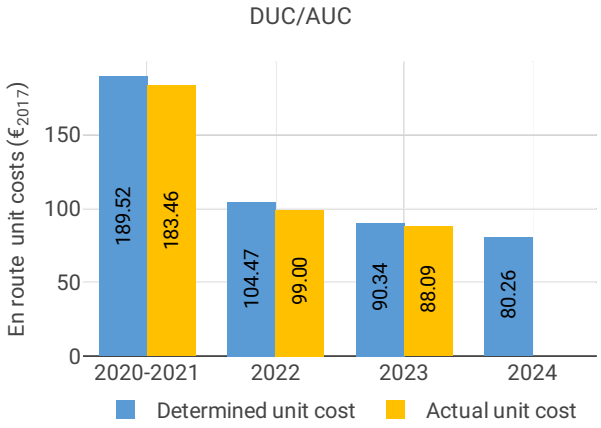
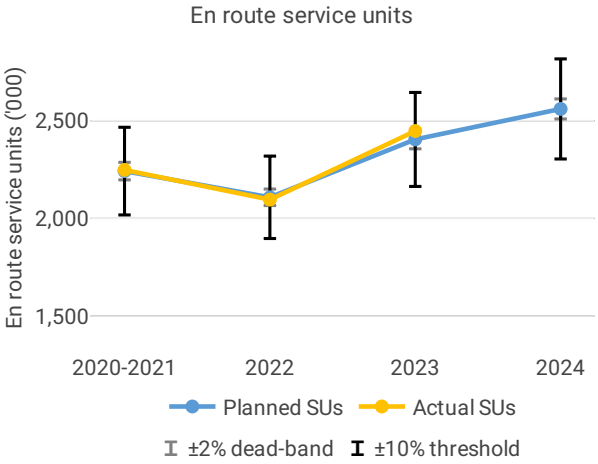
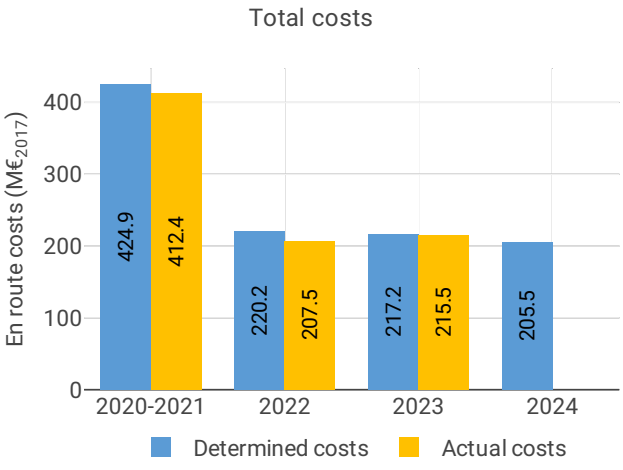
5.2 En route charging zone

5.2.1 Unit cost (KPI#1)

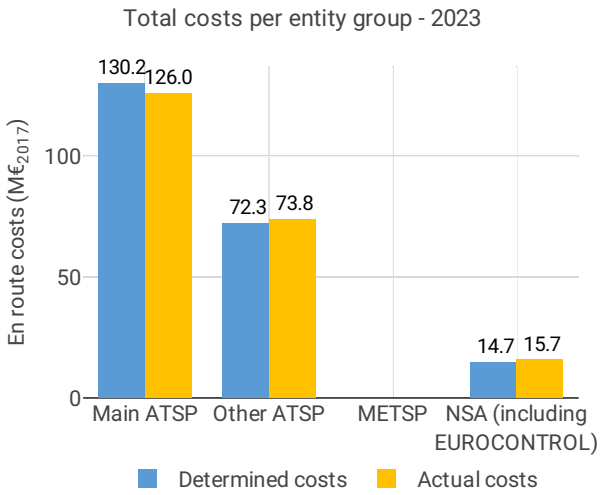


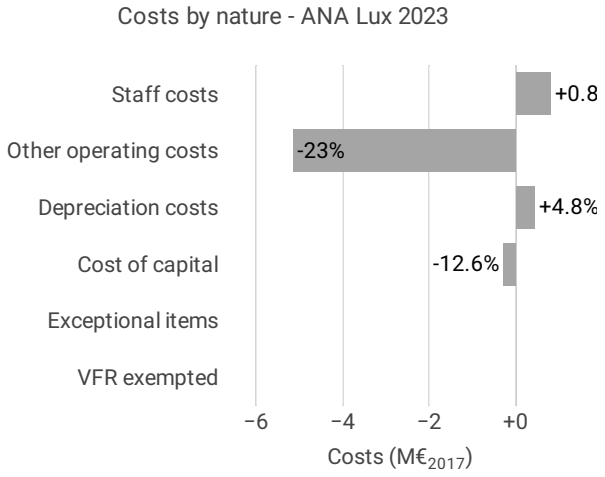




Actual and determined data

Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	432	240	255	NA
Determined costs	442	250	262	252
Difference costs	-10	-10	-8	NA
Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	7.8%	4.7%	2.1%
Determined inflation index	NA	115.6	123.9	126.5
Actual inflation rate	NA	10.3%	2.3%	NA
Actual inflation index	NA	118.3	121	NA
Difference inflation index (p.p.)	NA	+2.7	-2.8	NA





Focus on unit cost

AUC vs. DUC

In 2023, the en route AUC was -2.5% (or -2.25 €2017) lower than the planned DUC. This results from the combination of higher than planned TSUs (+1.8%) and slightly lower than planned en route costs in real terms (-0.8%, or -1.7 M€2017).

En route service units

The difference between actual and planned TSUs (+1.8%) falls inside the ±2% dead band. Hence gain of additional en route revenues is kept by the ANSPs (see items 10 to 14).

En route costs by entity

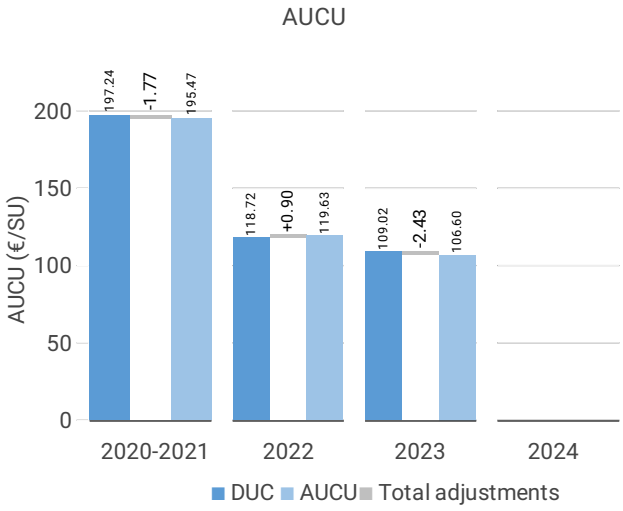
Actual real en route costs are -0.8% (-1.7 M€2017) lower than planned. This is the result of lower costs for the main ANSP, skeyes (-3.2%, or -4.2 M€2017) and higher costs for the NSA/EUROCONTROL (+7.1%, or +1.1 M€2017) and the other ANSPs (ANA and MUAC, +2.1%, or +1.5 M€2017).

En route costs for the main ANSP at charging zone level

Lower than planned en route costs in real terms for skeyes in 2023 (-3.2%, or -4.2 M€2017) result from:

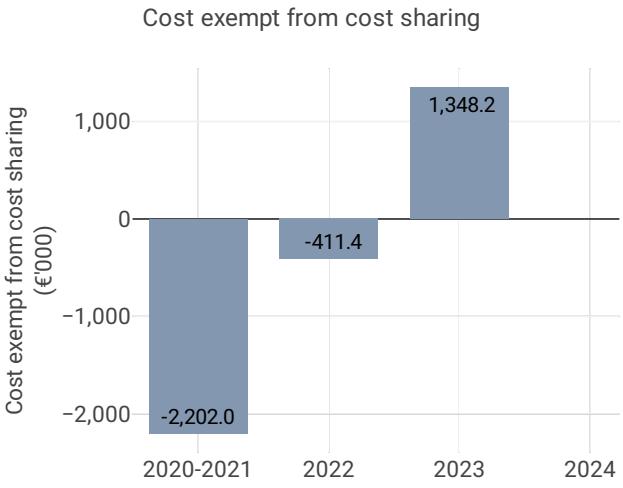
- Slightly higher staff costs (+0.8%) due to inflation index impact (-2.8 p.p.) since in nominal terms staff costs are lower than planned by -1.5%;
- Significantly lower other operating costs (-23.0%), primarily due to lower utility costs. Energy costs, which had risen sharply in 2022 due to the economic crisis and the war in Ukraine, decreased more quickly than expected in 2023. Additionally, some revenues were deducted from the 2023 actual cost base, including financial revenues, a SESAR subsidy, and a reversed provision for a legal dispute that was no longer necessary (these costs were not originally included in the plan);
- Higher depreciation (+4.8%), “mainly due to additional depreciation costs after decommissioning of equipment (ISAAC SR4, old WAN), which was not foreseen in the performance plan”; and,
- Significantly lower cost of capital (-12.6%), mainly due to a lower fixed asset base.

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



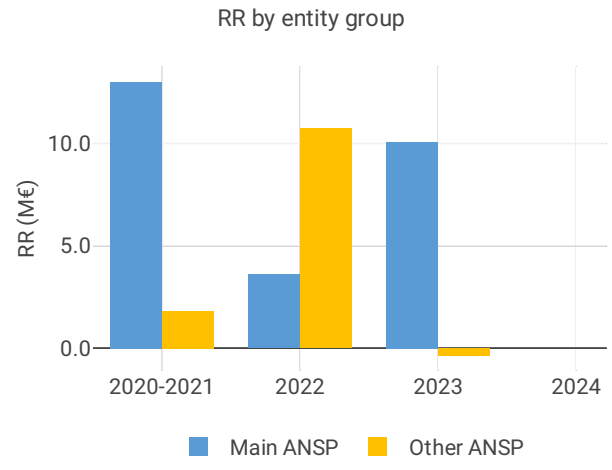
AUCU components (€/SU) – 2023

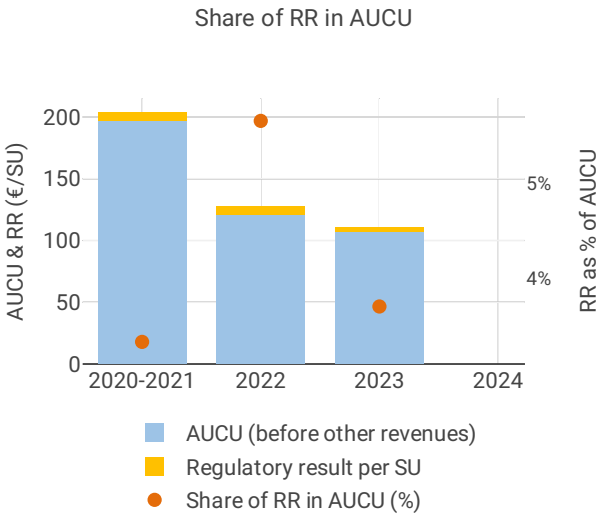
Components of the AUCU in 2023	€/SU
DUC	**109.02**
Inflation adjustment	-2.17
Cost exempt from cost-sharing	0.55
Traffic risk sharing adjustment	0.00
Traffic adj. (costs not TRS)	-0.17
Finantial incentives	0.00
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	-0.64
Application of lower unit rate	0.00
Total adjustments	-2.43
AUCU	**106.60**
AUCU vs. DUC	**-2.2%**

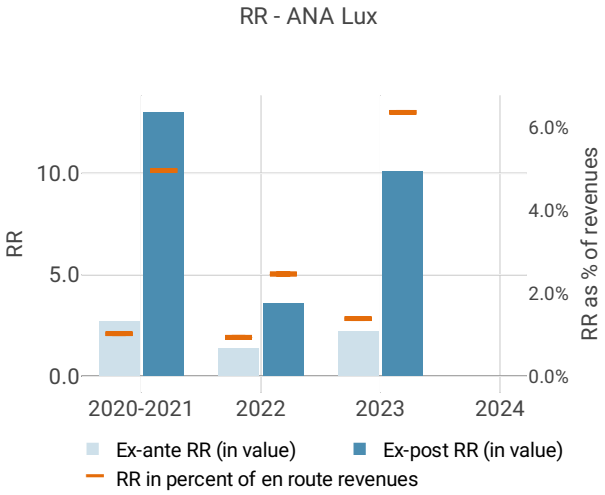


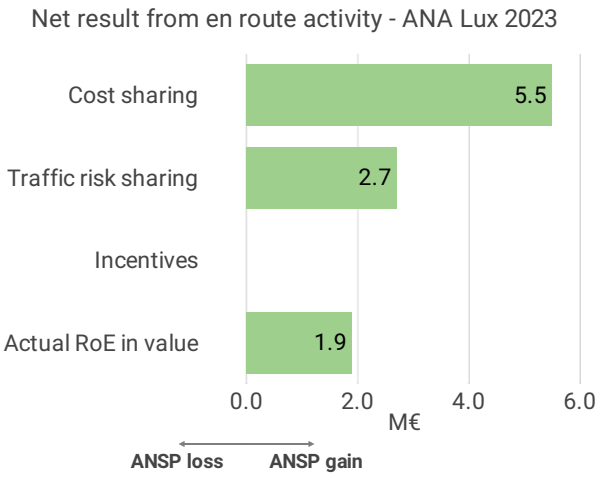
Cost exempt from cost sharing by item - 2023	€'000	€/SU
New and existing investments	327.6	0.13
Competent authorities and qualified entities costs	28.8	0.01
Eurocontrol costs	1,016.6	0.42
Pension costs	-24.9	-0.01
Interest on loans	0.0	0.00
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**1,348.2**	**0.55**

5.2.3 Regulatory result (RR)









Focus on regulatory result

skeyes net gain on activity in the Belgium-Luxembourg en route charging zone in the year 2023

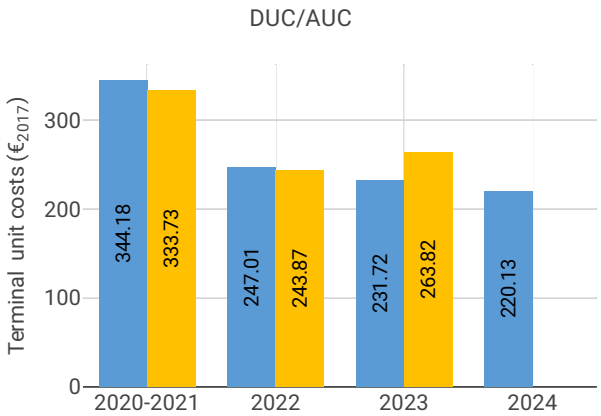
skeyes reported a net gain of +8.2 M€, as a combination of a gain of +5.5 M€ arising from the cost sharing mechanism, with a gain of +2.7 M€ arising from the traffic risk sharing mechanism.

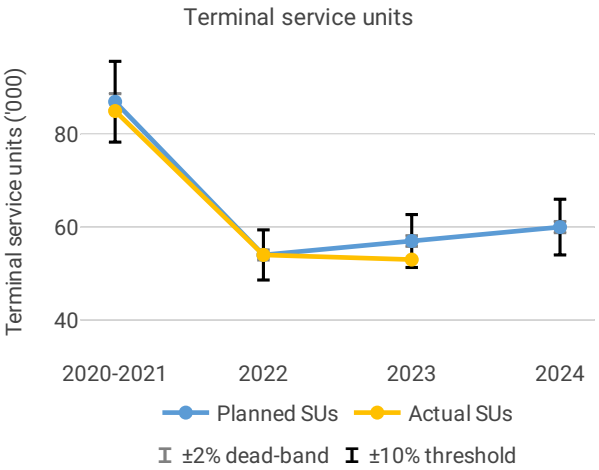
skeyes overall regulatory results (RR) for the en route activity

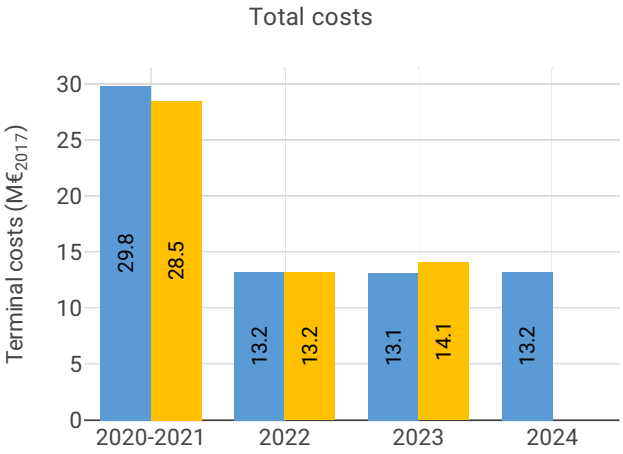
Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+8.2 M€) and the actual RoE (+1.9 M€) amounts to +10.1 M€ (6.4% of the en route revenues). The resulting ex-post rate of return on equity is 19.9%, which is higher than the 3.8% planned in the PP.

5.3 Terminal charging zone

5.3.1 Unit cost (KPI#1)

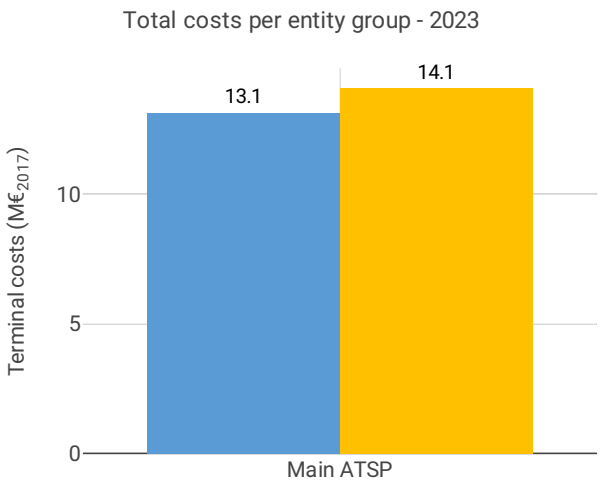


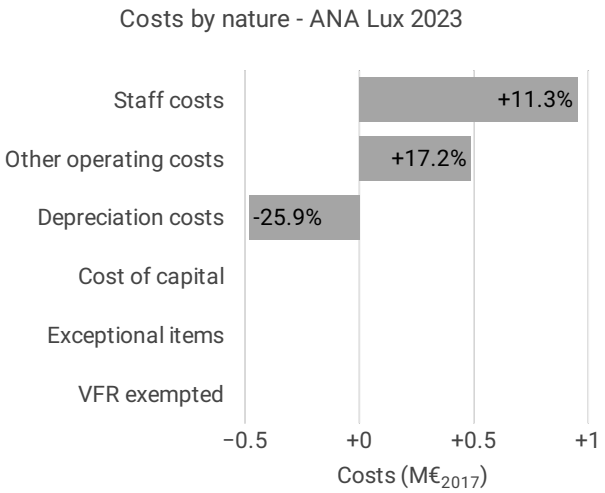




Actual and determined data

Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	30	15	17	NA
Determined costs	31	15	15	16
Difference costs	-1	0	1	NA
Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	5.6%	2.6%	3.1%
Determined inflation index	NA	113.3	119.1	122.8
Actual inflation rate	NA	8.2%	2.9%	NA
Actual inflation index	NA	116.1	119.4	NA
Difference inflation index (p.p.)	NA	+2.8	+0.3	NA





Focus on unit cost

AUC vs. DUC

In 2023, the terminal AUC was +13.9% (or +32.1 €2017) higher than the planned DUC. This results from the combination of significantly higher than planned terminal costs in real terms (+7.3%, or +1.0 M€2017) and significantly lower than planned TNSUs (-5.8%).

Terminal service units

The difference between actual and planned TNSUs (-5.8%) falls outside the ±2% dead band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users, with the ANSP (ANA) bearing a loss of -0.4 M€2017.

Terminal costs by entity

Actual real terminal costs are +7.3% (+1.0 M€2017) higher than planned. This is the result of higher costs for the main ANSP, ANA (+7.3%, or +1.0 M€2017).

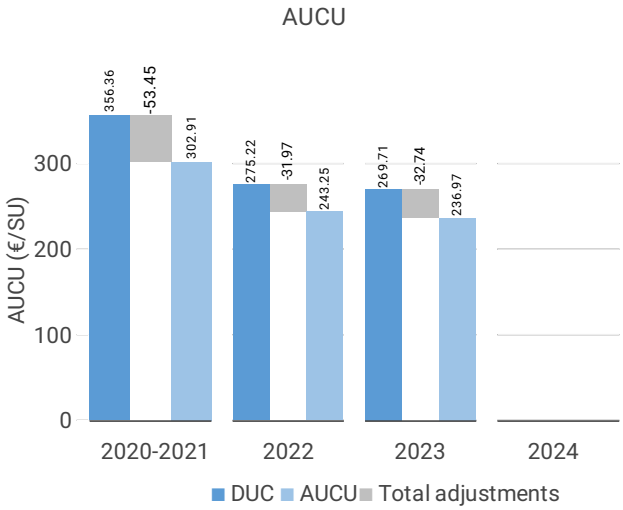
Terminal costs for the main ANSP at charging zone level

Significantly higher than planned terminal costs in real terms for ANA in 2023 (+7.3%, or +1.0 M€2017) result from:

- Significantly higher staff costs (+11.3%), due to higher salaries and more employees: Luxembourg's legal cost-of-living adjustments led to a 5.1% average salary increase in 2023. ANA's state-employed staff received a 1.49% raise based on career progression. CNS department grew from 14 to 20 employees by year-end 2023, with an average headcount of 15.3. CERT department expanded from 12 to 19.5 FTEs, with an average headcount of 15.9, due to regulatory and workload increases;

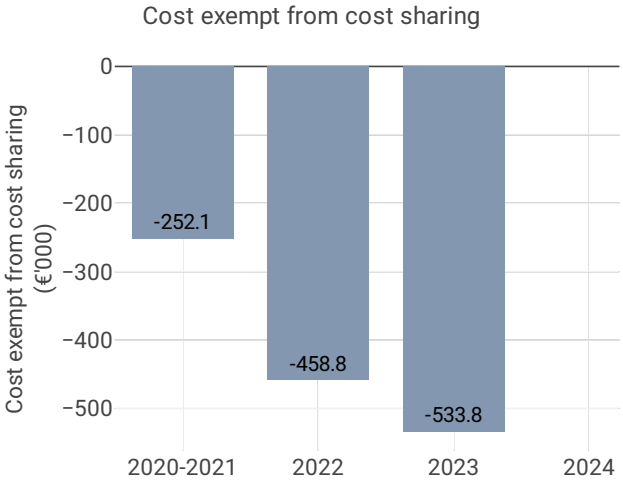
- Significantly higher other operating costs (+17.2%), mainly due to support contracts for integrating and training new ATSEPs, expected to decrease by 2025. Additionally, there are costs for analysing ESASSP reports, which will significantly drop as trained ATSEPs take over. Training costs have also risen due to new ATSEP recruitment; and,
- Significantly lower depreciation (-25.9%), mainly due to a revised investment plan, leading to project cancellations and postponements. The two main projects delayed are the surveillance chain upgrade and the replacement of the WAN and LAN infrastructure.

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



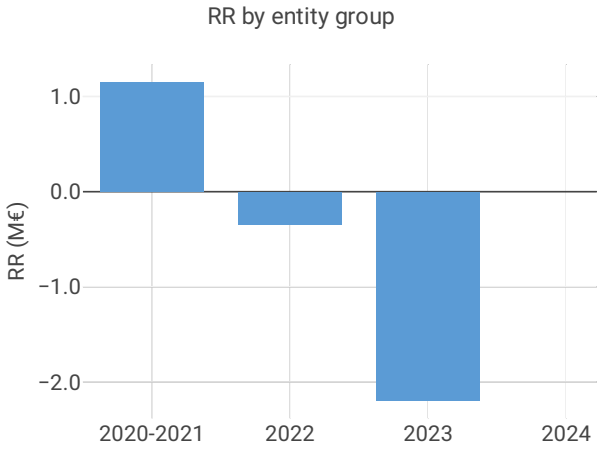
AUCU components (€/SU) – 2023

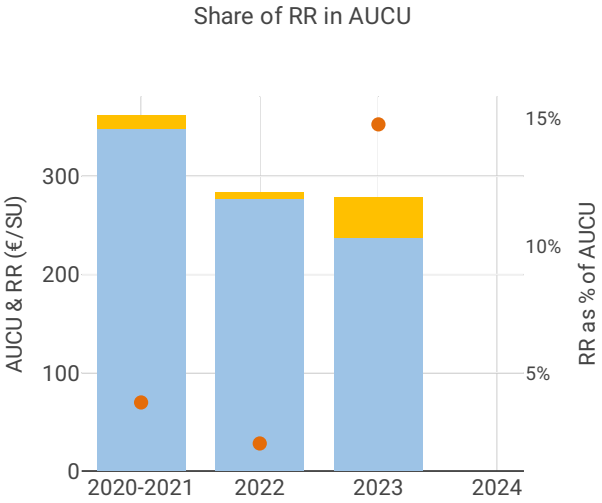
Components of the AUCU in 2023	€/SU
DUC	**269.71**
Inflation adjustment	0.65
Cost exempt from cost-sharing	-9.99
Traffic risk sharing adjustment	6.72
Traffic adj. (costs not TRS)	1.85
Finantial incentives	0.00
Modulation of charges	9.18
Cross-financing	0.00
Other revenues	-41.14
Application of lower unit rate	0.00
Total adjustments	-32.74
AUCU	**236.97**
AUCU vs. DUC	**-12.1%**

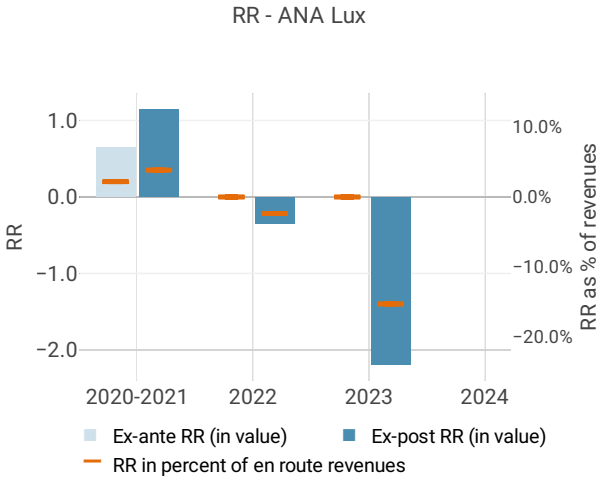


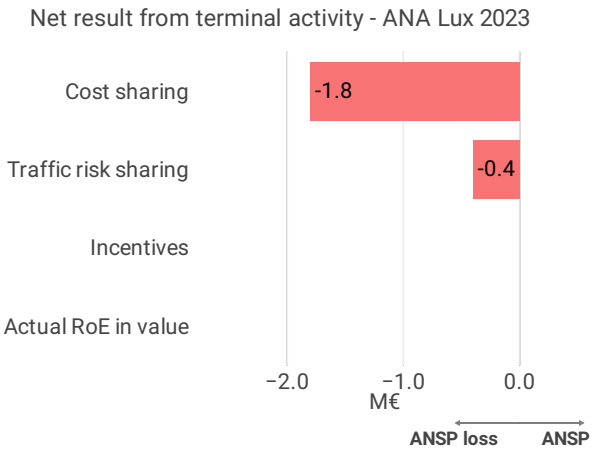
Cost exempt from cost sharing by item - 2023	€'000	€/SU
New and existing investments	-484.4	-9.07
Competent authorities and qualified entities costs	0.0	0.00
Eurocontrol costs	0.0	0.00
Pension costs	-49.5	-0.93
Interest on loans	0.0	0.00
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-533.8**	**-9.99**

5.3.3 Regulatory result (RR)









Focus on regulatory result

ANA net gain on activity in the Luxembourg terminal charging zone in the year 2023

ANA reported a net loss of -2.2 M€, as a combination of a loss of -1.8 M€ arising from the cost sharing mechanism, with a loss of -0.4 M€ arising from the traffic risk sharing mechanism.

ANA overall regulatory results (RR) for the Luxembourg terminal charging zone activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-2.2 M€) amounts to -2.2 M€ (-15.3% of the terminal revenues), as the RoE for ANA has been set to zero. The resulting ex-post rate of return on equity is -15.0%.