PERFORMANCE REVIEW BOARD
of the Single European Sky

Performance Review Board Monitoring Report Netherlands - 2024

Performance Review Board of the Single European Sky | Rue de Mot 28, 1040 Etterbeek
MOVE-PRB-SECRETARIAT@ec.europa.eu | eu-single-sky.transport.ec.europa.eu

Contents

1 OVERVIEW

1.1 Contextual information

National performance plan adopted following Commission Decision (EU) 2023/179 of 14 December 2022

List of ACCs 1
Amsterdam ACC

No of airports in the scope of the performance plan:
- **≥80'K** 1
- **<80'K** 3

Exchange rate (1 EUR=)
2017: 1 EUR
2024: 1 EUR

Share of Union-wide:
- **traffic (TSUs) 2024** 2.3%
- **en route costs 2024** 4.1%

Share en route / terminal costs 2024 77% / 23%

En route charging zone(s)
Netherlands

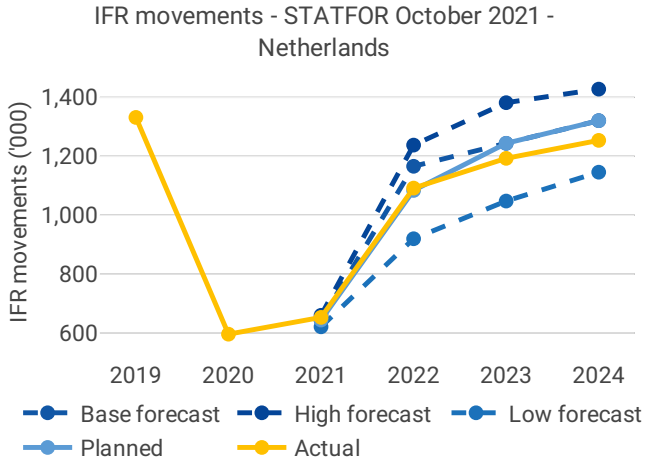
Terminal charging zone(s)
Netherlands

Main ANSP
- LVNL

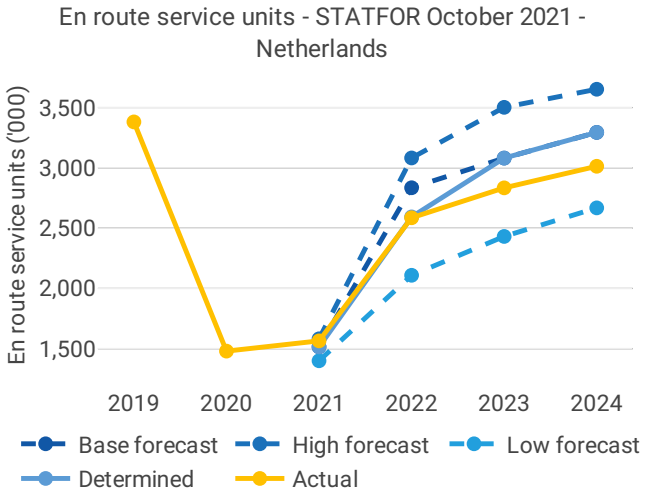
Other ANSPs
- MUAC

MET Providers
- Royal Netherlands Meteorological Institute (KNMI)

1.2 Traffic (En route traffic zone)

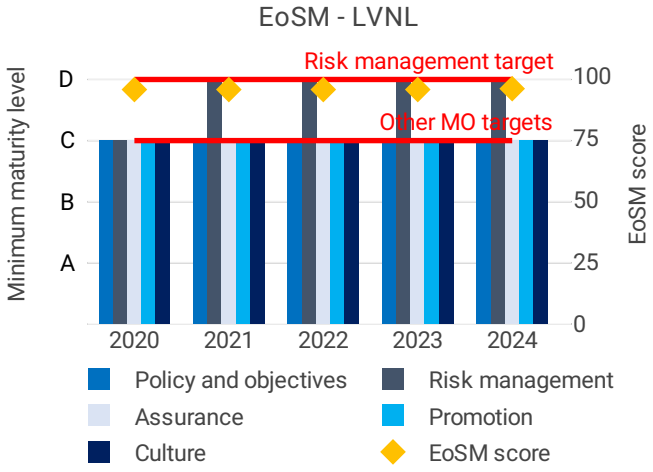


- Netherlands recorded 1,254K actual IFR movements in 2024, +5.1% compared to 2023 (1,193K).
- Actual 2024 IFR movements were -5.1% below the plan (1,321K).
- Actual 2024 IFR movements represent +94% of the actual 2019 level (1,332K).



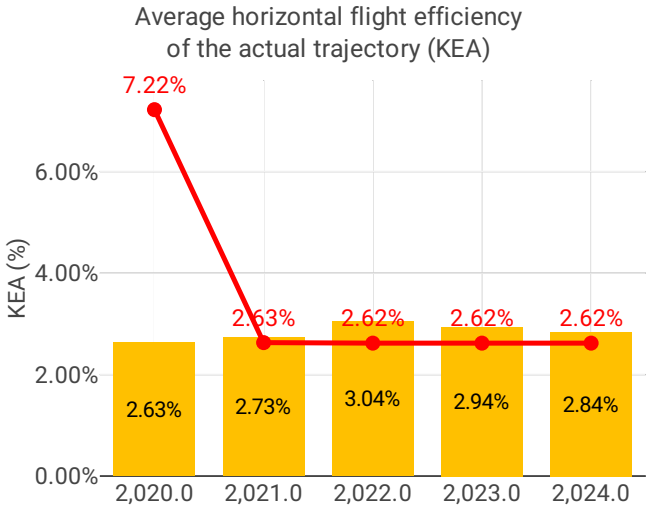
- Netherlands recorded 3,013K actual service units in 2024, +6.3% compared to 2023 (2,834K).
- Actual 2024 service units were -8.5% below the plan (3,294K).
- Actual 2024 service units represent 89% of the actual 2019 level (3,381K).

1.3 Safety (Main ANSP)



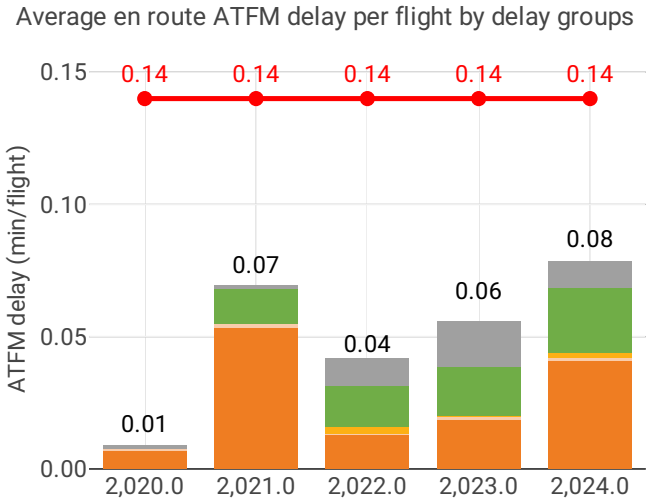
- LVNL achieved its RP3 EoSM targets levels already in 2021 and maintained these levels since then.
- The Netherlands did not provide monitoring data for separation minima infringements (SMIs) at the Member State level. The Netherlands provide data on SMIs for LVNL, recording a marginal decrease in the rate of SMIs from 2023 to 2024.
- The Netherlands recorded no runway incursion in 2024, which is a reduction from the 6 occurrences in 2023.

1.4 Environment (Member State)



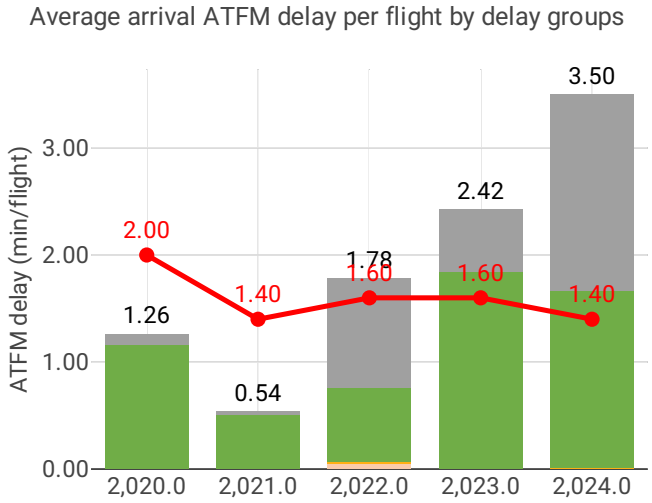
- The Netherlands achieved a KEA performance of 2.84% compared to its target of 2.62% and did not contribute positively towards achieving the Union-wide target.
- The NSA states that the worsening environmental performance was due to internal and external issues such as weather effects and maintenance at Schiphol airport.
- Both KEP and SCR values improved compared to 2023. Despite the KEA target being missed, KEA improved in 2024. Additionally, the improvement in SCR shows that The Netherlands has enhanced the environmental efficiency of its airspace when accounting for impacts outside of its control.
- The share of CDO flights remained stable in 2024.
- Additional taxi out time increased from 3.13 to 3.56 min/flight, while additional time in terminal airspace increased from 1.10 to 1.23min/flight in 2024 compared to 2023.

1.5 Capacity (Member State)



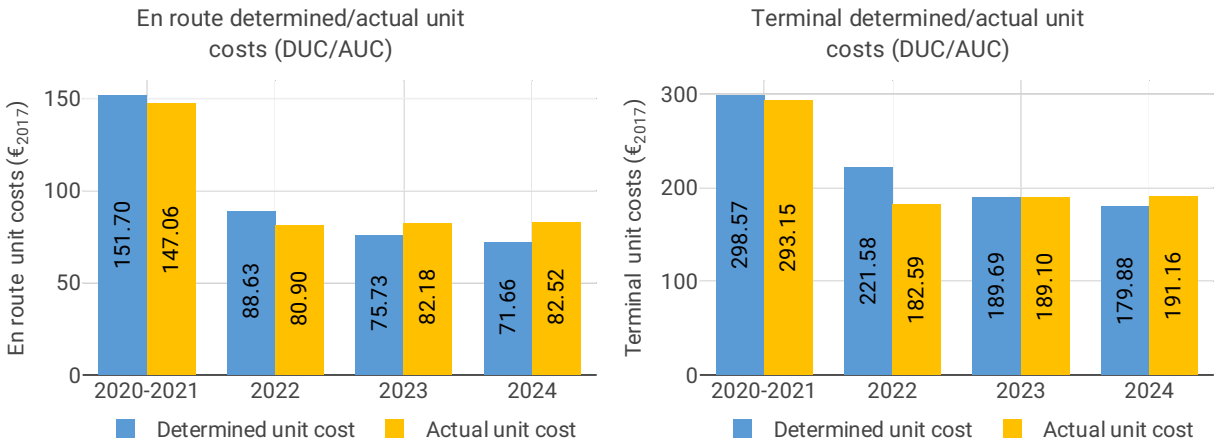
- Netherlands registered 0.08 minutes of average en route ATFM delay per flight during 2024, which remained 0.08 after the post-ops adjustment process, thus achieving the local target value of 0.14. Delays in Netherlands increased by 0.01 minutes per flight year-on-year.

- The majority of delays were generated in May, September and October, mainly due to ATC Capacity issues and adverse weather conditions.
- The share of delayed flights with delays longer than 15 minutes in the Netherlands decreased by 2 percentage points compared to 2023 and was lower than 2019 values.
- The average number of IFR movements was 8% below 2019 levels in the Netherlands in 2024.
- The number of ATCOs in OPS is 80, being below the 2024 plan in Amsterdam by 1 FTE.
- The yearly total of sector opening hours in Amsterdam ACC was 40,138, showing a 0.3% increase compared to 2023. Sector opening hours are 0.3% above 2019 levels.
- Amsterdam ACC registered 13.79 IFR movements per one sector opening hour in 2024, being 7.6% below 2019 levels.



- Netherlands registered an average airport arrival ATFM delay of 3.50 minutes per flight in 2024, thus not achieving the local target of 1.40 minutes.
- Compared to 2023, average arrival ATFM delays in the Netherlands were 44% higher in 2024, while the number of IFR arrivals increased by 6%.
- The main drivers of delays were other, non-ATC related causes, accounting for 53% of delays, and weather, responsible for 47%.

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



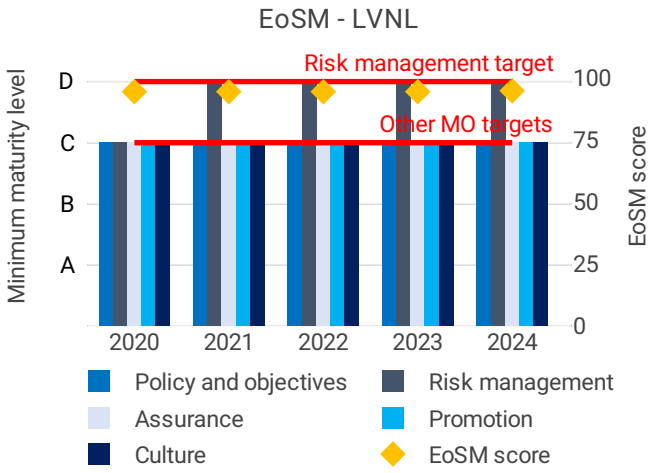
- The en route 2024 actual unit cost of the Netherlands was 82.52€2017, +15% higher than the determined unit cost (71.66€2017). The terminal 2024 actual unit cost was 191.16€2017, +6.3% higher than the determined unit cost (179.88€2017).
- The en route 2024 actual service units (3.0M) were -8.5% lower than the determined service units (3.3M).
- The en route 2024 actual total costs were +13M€2017 (+5.3%) higher than determined. This difference is mainly driven by significant differences in other operating costs and the cost of capital. Other operating costs for LVNL were +14M€2017 (+45%) higher than the determined costs mainly due to the cumulated effect of increased inflation, maintenance and licencing costs. The cost of capital (+7.4M€2017, or +653%) is higher than planned due to higher interest rates.
- LVNL costs of investments were 31M€2017 in 2024 for both en route and terminal charging zones, -15% lower than determined (36M€2017). This was mainly d ue to lower depreciation costs driven by the delay of the implementation of iCAS project.
- The en route actual unit cost incurred by users in 2024 was 92.89€ (+18% higher than the 2024 DUC), while the terminal actual unit cost incurred by users in 2024 was 223.05€ (+12% higher than the 2024 DUC). These differences between the AUCU and the DUC for both en route and terminal charging zones are primarily attributed to the inflation adjustment.
- The en route regulatory result for LVNL amounted to -25M€. The loss is mainly attributable to the cost risk sharing mechanism, in particular the negative difference between determined and actual costs to be borne by the ANSP.

2 SAFETY - NETHERLANDS

2.1 PRB monitoring

- LVNL achieved its RP3 EoSM targets levels already in 2021 and maintained these levels since then.
- The Netherlands did not provide monitoring data for separation minima infringements (SMIs) at the Member State level. The Netherlands provide data on SMIs for LVNL, recording a marginal decrease in the rate of SMIs from 2023 to 2024.
- The Netherlands recorded no runway incursion in 2024, which is a reduction from the 6 occurrences in 2023.

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



Focus on EoSM

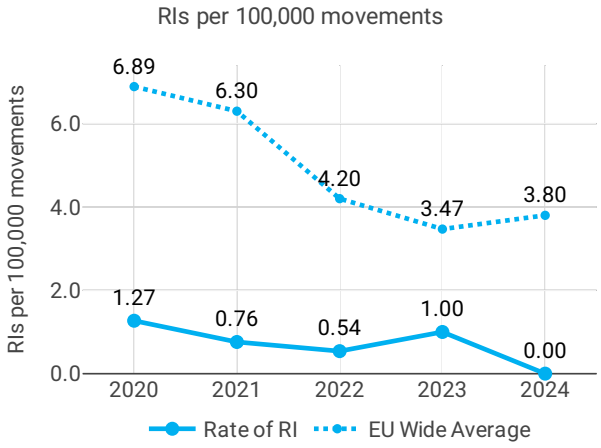
All five EoSM components of the ANSP meet the RP3 target level. The level was maintained compared with 2023.

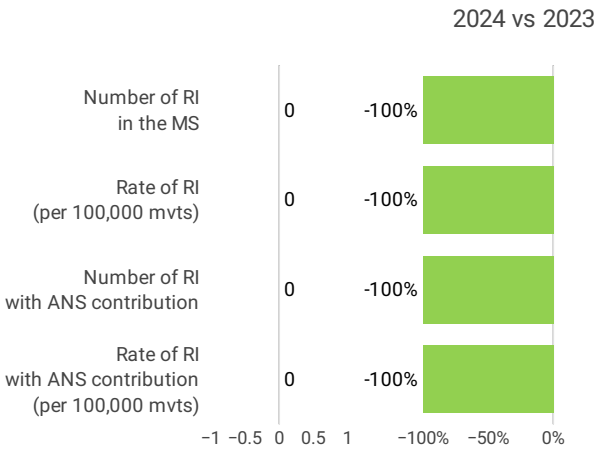
LVNL achieved its RP3 EoSM target levels already in 2021 and maintained these levels since then.

The Netherlands specifies that measures were implemented ensuring continuous safety improvements (e.g. annual update of safety manual, establishment of a risk-based safety plan, and update of safety risk target document and corresponding unit safety case).

2.3 Safety occurrences

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





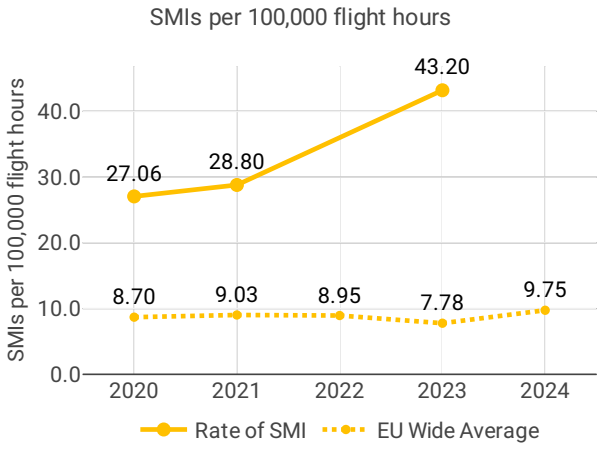
Rate of RIs per 100,000 airport movements - Netherlands				
#	Airport name	APT movements	Number of RI	Rate RI per 100,000
1	Amsterdam - Schiphol	491,911	0	0.00
2	Groningen	57,967	0	0.00
3	Rotterdam	56,556	0	0.00
4	Maastricht-Aachen	10,043	0	0.00

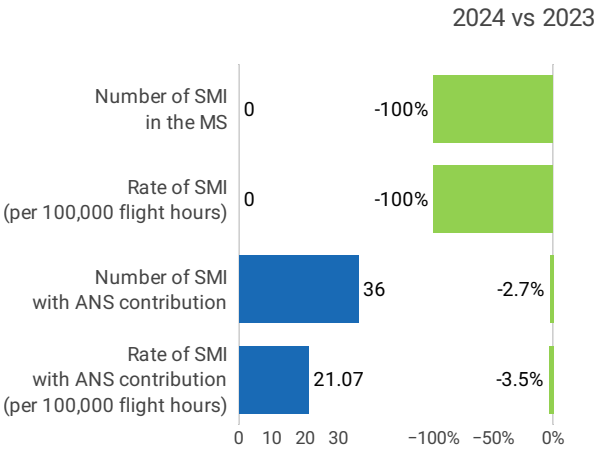
Focus on runway incursions

The Netherlands recorded a stable and low rate of RIs throughout RP3 with no RIs reported for 2024, a decrease from 6 occurrences in 2023.

The Netherlands specifies that the number of incidents over the total amount of movements is low due to the open culture within the ANSP organisation that allows open evaluation and reporting of incidents. The NSA is committed to maintaining this culture and low incident rate.

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





Rate of SMI with ANS contribution per 100,000 flight hours											
		Flight hours					Number of SMIs				
#	ANSP	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
1	LVNL	88,456	101,649	155,388	169,414	170,879	31	47	33	37	36

		Rate of SMI per 100,000 flight hours					% variation in rate of SMIs				
#	ANSP	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
1	LVNL	38	46	21	22	21		+22%	-54%	+3%	-4%

Focus on separation minima

The Netherlands has only reported SMIs at the Member State level for some years in RP3, while SMIs for other years, including 2024 was noted as N/A. It is unclear whether the SMIs reported at Member State level include occurrences from MUAC or only for airspace not controlled by MUAC.

LVNL started RP3 with a rate of SMIs with ANS contribution well above the Union-wide average. The number of occurrences decreased in 2022 and LVNL has shown a stable rate of SMIs since then, marginally decreasing from 2023 to 2024. However, the rate remains though well above the Union-wide average.

Also for the SMIs, the Netherlands specifies that the number of incidents over the total amount of movements is very low thanks to the open culture within the ANSP organisation that allows open evaluation and reporting of incidents. This statement needs to cover LVNL and MUAC seen together.

2.3.3 Quality of occurences reporting

Number of occurrences reported at Member State level has been varying from year-to-year with SMIs reported for some years and stated as not applicable for other years. The PRB has not been able to use other data sources (e.g. from ERCS) to complement the data reported by the Netherlands. Data on RIs and SMIs at the ANSP level seems consistently reported to provide a good indication of the trend.

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

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

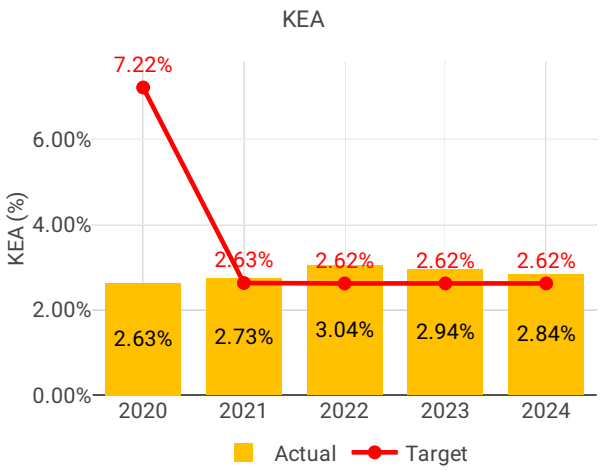
3 ENVIRONMENT - NETHERLANDS

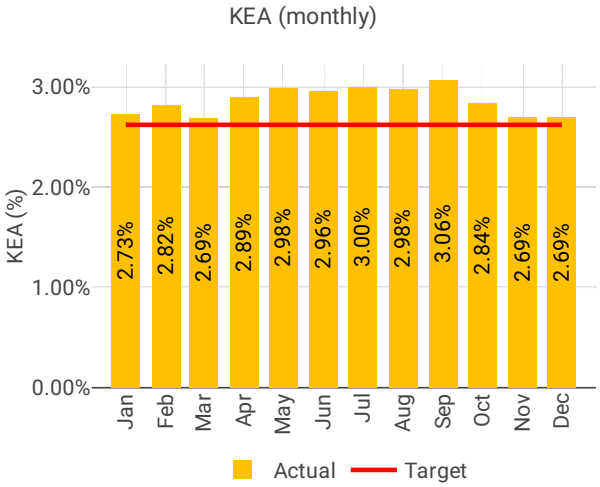
3.1 PRB monitoring

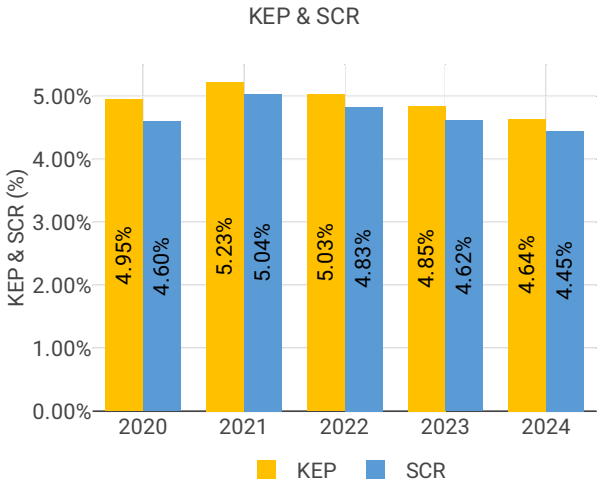
- The Netherlands achieved a KEA performance of 2.84% compared to its target of 2.62% and did not contribute positively towards achieving the Union-wide target.
- The NSA states that the worsening environmental performance was due to internal and external issues such as weather effects and maintenance at Schiphol airport.
- Both KEP and SCR values improved compared to 2023. Despite the KEA target being missed, KEA improved in 2024. Additionally, the improvement in SCR shows that The Netherlands has enhanced the environmental efficiency of its airspace when accounting for impacts outside of its control.
- The share of CDO flights remained stable in 2024.
- Additional taxi out time increased from 3.13 to 3.56 min/flight, while additional time in terminal airspace increased from 1.10 to 1.23min/flight in 2024 compared to 2023.

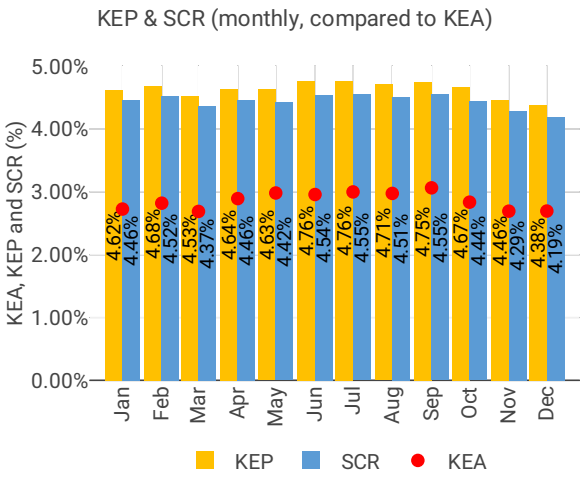
3.2 En route performance

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



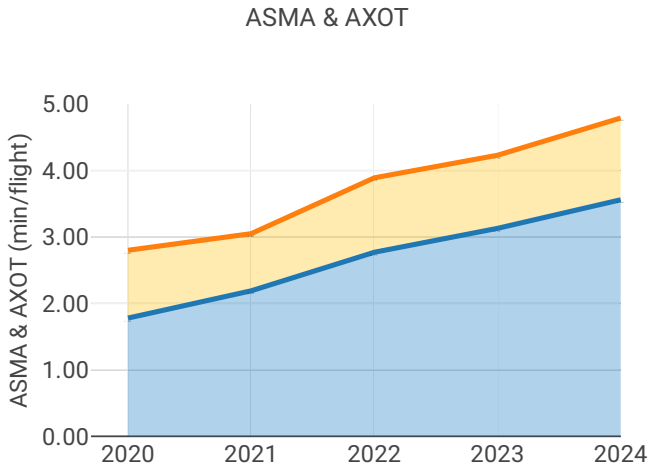


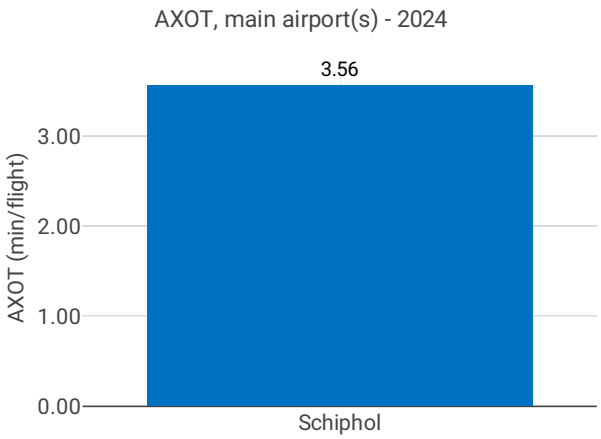


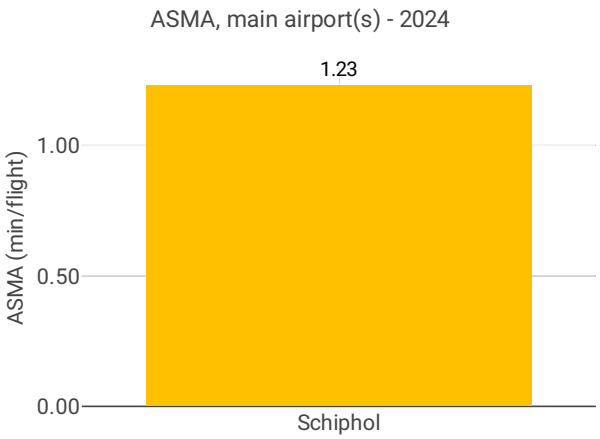


3.3 Terminal performance

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







Focus on ASMA & AXOT

AXOT

Additional taxi-out times at Amsterdam (EHAM; 2019: 3.11 min/dep; 2020: 1.78 min/dep.; 2021: 2.19 min/dep.; 2022: 2.77 min/dep.; 2023: 3.13 min/dep.; 2024: 3.56 min/dep.) increased in 2024 by 14% with respect to 2023, resulting in an annual value significantly above the SES average 2.91 min/dep and also above the pre-COVID value in 2019.

According to the Dutch monitoring report: *No specific measures have been implemented or are planned. Performance very much depends on the runways in use, which depends on the weather conditions.*

E.g. the higher the share of flights departing from runway 36L, the higher the taxi-out additional time. This is because the absolute taxi-out time for this runway is high, which means that the additional time is relatively large in an absolute sense. Moreover, taxi times to this runway may be negatively influenced by the taxi route, as with some runway combinations departures 36L have to taxi around runway 18C/36C to avoid crossing an active runway. The reference time is determined by traffic that can cross the (inactive) runway.

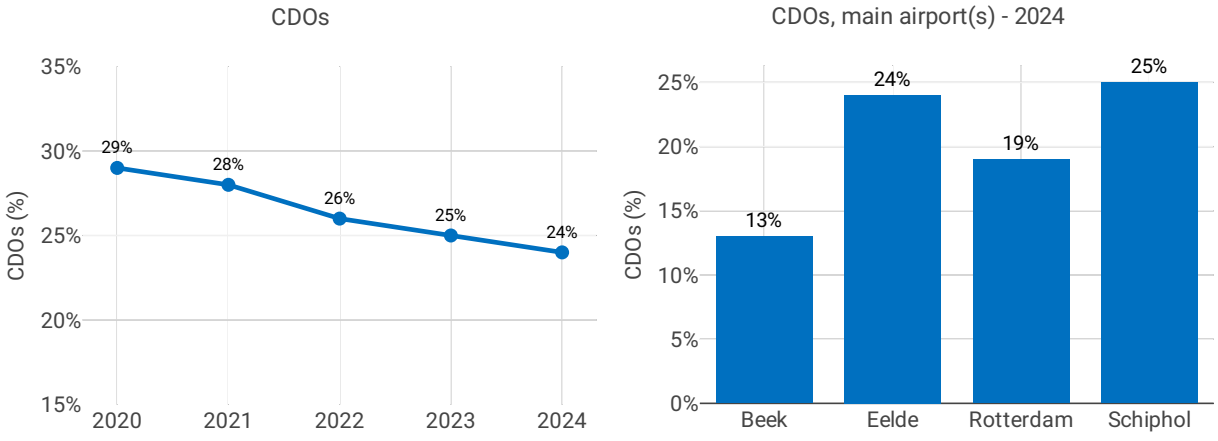
ASMA

Additional times in the terminal airspace of Amsterdam (EHAM; 2019: 1.78 min/arr.; 2020: 1.02 min/arr.; 2021: 0.86 min/arr.; 2022: 1.12 min/arr.; 2023: 1.1 min/arr.; 2024: 1.23 min/arr.) increased in 2024 by 12% resulting in an annual value just below the SES average 1.28 min/arr., and lower than the pre-COVID value in 2019.

According to the Dutch monitoring report: *No specific measures are planned. Performance is significantly driven by usage of parallel runways, for which traffic is lined up further from the runway than for non-parallel approaches, to ensure vertical separation when turning to base leg.*

The performance during non-parallel approaches determines the reference time. The runway combination itself depends largely on weather conditions and using noise preferent runways as much as possible.

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



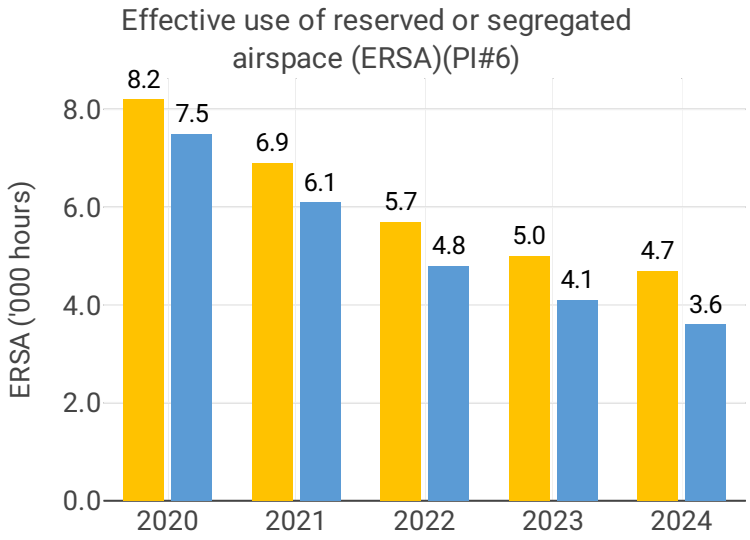
Focus CDOs

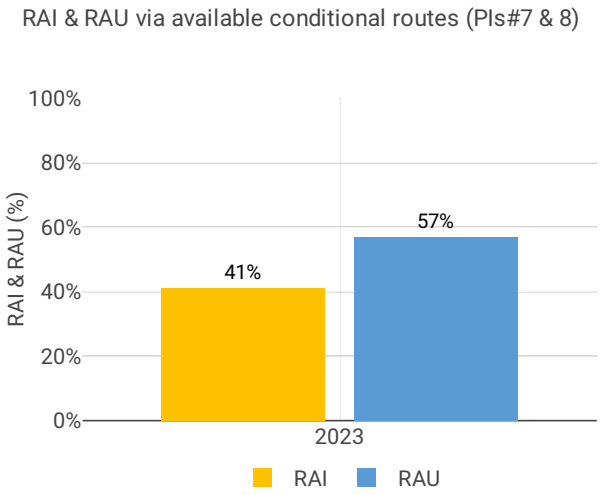
All airport have shares of CDO flights below the overall RP3 value in 2024 (29.3%). Amsterdam (EHAM) and Groningen (EHGG) have a lower share of CDO flights than in 2023 while it has increased at Maastricht-Aachen (EHBK) and Rotterdam (EHRD).

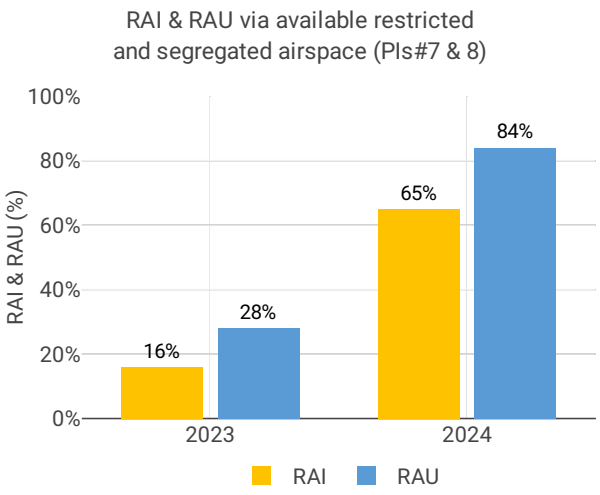
According to the Dutch monitoring report: *Detailed monthly monitoring of performance has started for EHAM; the same is planned to be implemented for the other airports in 2025. Based on detailed analyses, measures to improve performance will be developed. These will focus on reducing the time in level flight, not specifically the share of CDOs.*

Airport level															
	Additional taxi-out time (PI#3)					Additional ASMA time (PI#4)					Share of arrivals applying CDO (PI#5)				
Airport	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Schiphol	1.78	2.19	2.77	3.13	3.56	1.02	0.86	1.12	1.10	1.23	30%	29%	27%	26%	25%
Beek	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11%	9%	10%	12%	13%
Eelde	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26%	28%	27%	25%	24%
Rotterdam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20%	22%	19%	18%	19%

3.4 Civil-Military dimension







Focus on Civil-Military dimension

Update on Military dimension of the plan

For obvious flight safety reasons, military activities must be segregated from civil flows which has an impact on both horizontal (HFE) and vertical flight efficiency (VFE). Because ASM manageable areas form an integral part of the nominal system, military airspace reservations shall be considered as part of the performance baseline rather than a key factor degrading environmental KPIs.

As a result of implementation of the FUA concept the impact of military activities using Restricted Airspace -RSA on civil performance is highly minored when associated with an efficient ASM process:

- At strategic level (HLAPB) by designing areas in accordance with A-FUA concept (MVPA/VGA structures), especially for congested airspaces.
- At pre-tactical level (AMC), by managing these areas in a dynamic way, with an associated level 2 CDM process, validated by HLAPB.
- At tactical level (ACC/Regional Military Control Centre) by activating/deactivating areas as close as possible to actual use and allowing crossing or direct routes when possible (in accordance with TRA status), with an associated level 3 CDM process validated by HLAPB.
- At each level, HLAPB, AMC or ACC/Regional Military Control Centre, a key factor of efficiency is a trust-driven civil-military cooperation. As a counterpart, AOs and CFSPs must be reactive and take efficiently into account available or released airspaces. At last, ANSP have also to adapt the route network to create more DCTs within military areas.

Finally, local circumstances (e.g. constrained airspace, proximity of international hubs, etc….) as well as a large number of military missions that differ from one State to another must be taken into account. Therefore, airspace needs (e.g. airspace requirements for the 5th generation fighters) and related ASM procedures of the States differ and standardized objectives cannot be defined.

Military - related measures implemented or planned to improve capacity

FABEC States are working on mid-term improvements regarding implementation of ASM level 1, 2, and 3 procedures. Some local initiatives regarding ASM/ATFCM convergence, like the traffic Light Scheme concept in France are promoted at FABEC level, as well as at ECAC level in the EUROCONTROL OEP framework.

Another major improvement is the interconnection of the existing ASM tools (e.g. LARA, STANLY_ACOS) at FABEC Level, to enhance regional coordination among FABEC AMCs as well as with the NM.

Initiatives implemented or planned to improve PI#6

For MUAC the ATMP will be used to propose improved routings to aircraft operators in pre-tract. The tool takes into account the expected airspace availability.

Initiatives implemented or planned to improve PI#7

NIL

Initiatives implemented or planned to improve PI#8

NIL

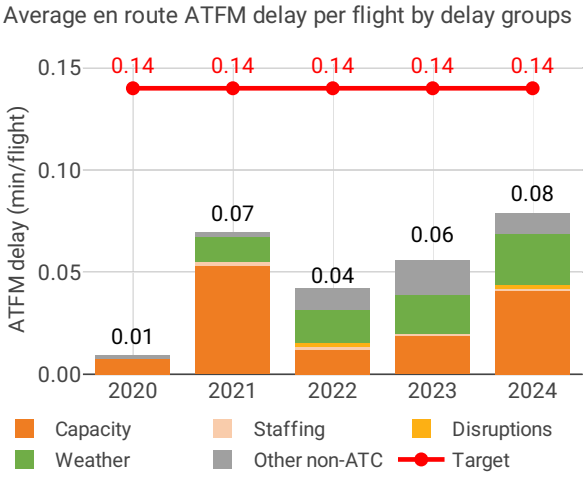
4 CAPACITY - NETHERLANDS

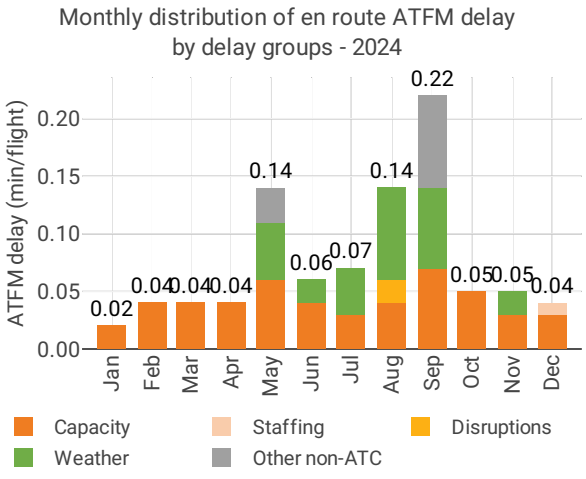
4.1 PRB monitoring

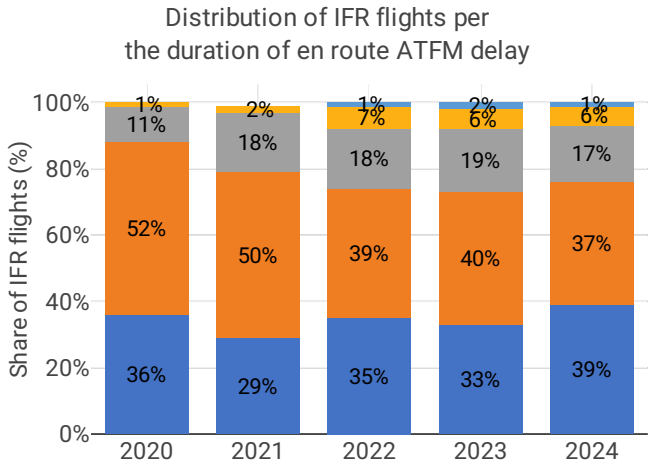
- Netherlands registered 0.08 minutes of average en route ATFM delay per flight during 2024, which remained 0.08 after the post-ops adjustment process, thus achieving the local target value of 0.14. Delays in Netherlands increased by 0.01 minutes per flight year-on-year.
- The majority of delays were generated in May, September and October, mainly due to ATC Capacity issues and adverse weather conditions.
- The share of delayed flights with delays longer than 15 minutes in the Netherlands decreased by 2 percentage points compared to 2023 and was lower than 2019 values.
- The average number of IFR movements was 8% below 2019 levels in the Netherlands in 2024.
- The number of ATCOs in OPS is 80, being below the 2024 plan in Amsterdam by 1 FTE.
- The yearly total of sector opening hours in Amsterdam ACC was 40,138, showing a 0.3% increase compared to 2023. Sector opening hours are 0.3% above 2019 levels.
- Amsterdam ACC registered 13.79 IFR movements per one sector opening hour in 2024, being 7.6% below 2019 levels.
- Netherlands registered an average airport arrival ATFM delay of 3.50 minutes per flight in 2024, thus not achieving the local target of 1.40 minutes.
- Compared to 2023, average arrival ATFM delays in the Netherlands were 44% higher in 2024, while the number of IFR arrivals increased by 6%.
- The main drivers of delays were other, non-ATC related causes, accounting for 53% of delays, and weather, responsible for 47%.

4.2 En route performance

4.2.1 En route ATFM delay (KPI#1)







Focus on en route ATFM delay

Summary of capacity performance

The Netherlands achieved the required en route capacity performance for 2024. There were 1 254k flights handled in the Dutch airspace (both Amsterdam ACC and the DECO sectors in MUAC). There were 115k minutes of en route ATFM delay attributed to ANSPs in Dutch airspace.

NSA's assessment of capacity performance

Targets achieved, with trends expected to continue during RP4.In February 2025.

Eurocontrol published an update of the 7-Year Forecast previously published in Autumn 2024 covering the horizon 2025-2031. This 7-Year forecast contains three scenarios and incorporates the latest flight trends, routings and a full review of the forecast inputs (economic growth, demographics, events, etc.). In 2024, IFR movements experienced 5% growth, reaching 96% of pre-pandemic 2019 levels.

On capacity, weather and temporary airspace closures impacted the performance across the board. The war in Ukraine has caused an increase in military exercises in Dutch airspace. This is expected to continue into the coming years.

Monitoring process for capacity performance

LVNL: Quarterly report from ANSP to State.

MUAC: UAC reports its en-route capacity performance to the states through the MUAC Finance and Performance committee. The performance data is also monitored on a monthly basis through the AFG/PMG (ANSP FABEC Group / Performance Management Group) capacity report. This report is based on MUAC data and available PRU data, which is consolidated and analysed and the results compared to the reference and indicative values.

Capacity planning

LVNL: According to the Network Operations Plan (NOP) 2024-2029 no capacity bottlenecks were expected for Amsterdam ACC. Capacity can still be increased until the traffic demand reaches the 2019 levels. As such, it is consistent with the required performance.

MUAC: MUAC sector capacities are regularly reviewed and updated if technological or other developments allow to do so, leading to increased sector productivity. Staff planning is performed using STATFOR forecasts for traffic growth and taking into account an extrapolated increase of sector productivity for the planning horizon. MUAC has not experienced any structural staffing issues during 2024.

Application of Corrective Measures for Capacity (if applicable)

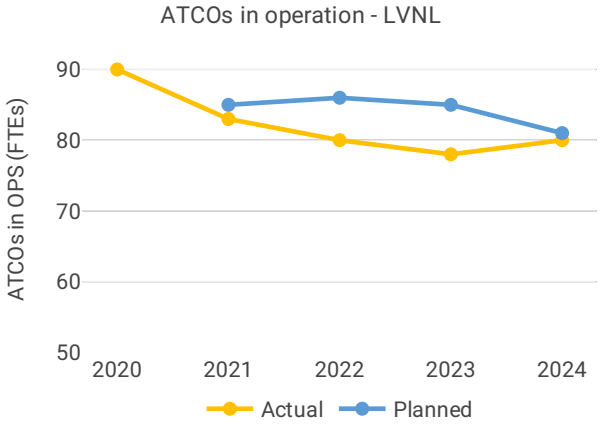
Not applicable.

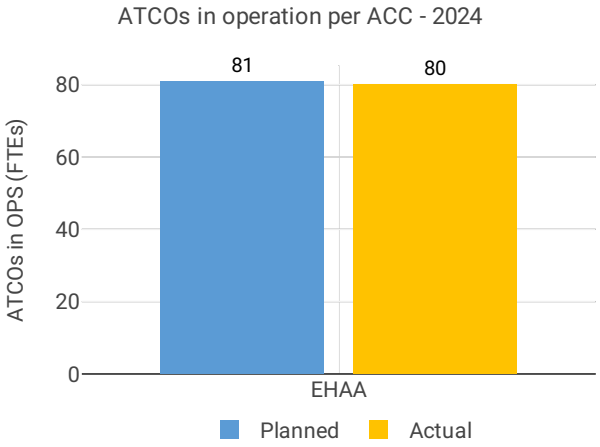
En route Capacity Incentive Scheme

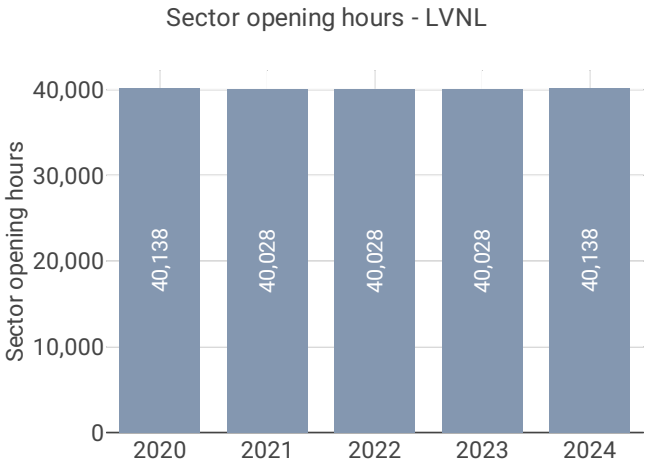
LVNL: The incentive scheme is based only on delays attributed to C,R,S,T,M & P delay codes. The LVNL target was set at 0.07 minutes per flight and the actual performance is reported as 0.05 minutes per flight (CRSTMP only). This falls within the deadband so neither bonus nor malus is applicable.

MUAC: The incentive scheme is based only on delays attributed to C,R,S,T,M & P delay codes. The MUAC target was set at 0.09 minutes per flight and the actual performance is reported as 0.11 minutes per flight (CRSTMP only). This falls within the deadband so neither bonus nor malus is applicable.

4.2.2 Other indicators





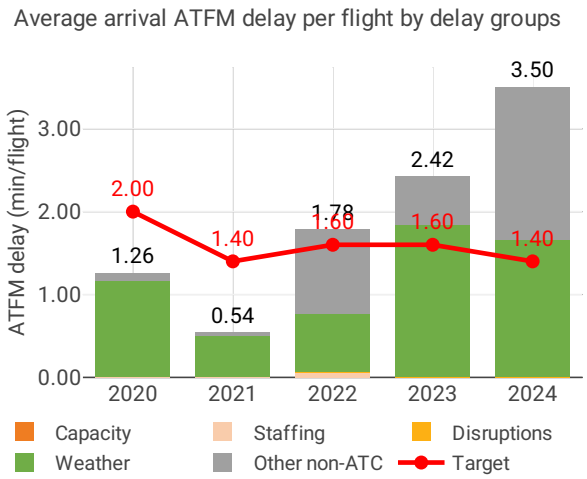


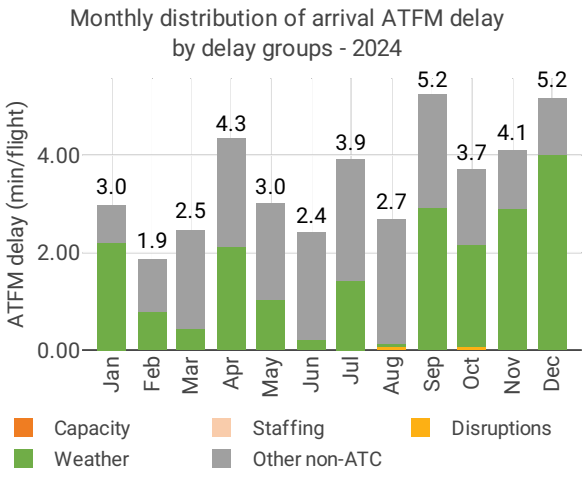
Focus on ATCOs in operations

Due to timing of Ab Initio courses and resulting check-outs, the number of ATCO FTEs end of 2024 dropped to 297. However, this is temporary, and it is planned to go back to 307 FTEs in 2025. For the rest of the reporting period, MUAC plans to have around this same number of ATCOs (small variations may apply due to attrition and Ab Initio training planning).

4.3 Terminal performance

4.3.1 Arrival ATFM delay (KPI#2)





Focus on arrival ATFM delay

For the Netherlands, the scope of the performance monitoring of terminal services under RP3 comprises a total of 4 airports. In accordance with IR (EU) 2019/317 and the traffic figures at these 4 airports, only Amsterdam must be monitored for pre-departure delays. The Airport Operator Data Flow is fully established at Amsterdam and the monitoring of pre-departure delays can be performed. Nevertheless, the quality of the reporting does not allow for the calculation of the ATC pre-departure delay, with more than 40% of the reported delay not allocated to any cause. Traffic at these 4 airports in 2024 was still 5% lower than in 2019, with an increase of 6% with respect to 2023.

Average arrival ATFM delay in 2024 was 3.5 min/arr, compared to 2.42 min/arr in 2023. ATFM slot adherence has slightly improved (2023: 98.5%; 2024: 98.6%).

Amsterdam (EHAM: 2019: 4.23 min/arr.; 2020: 1.41 min/arr.; 2021: 0.60 min/arr.; 2022: 1.98 min/arr.; 2023: 2.65 min/arr.; 2024: 3.79 min/arr.) significantly increased the arrival ATFM delays, resulting in the second highest value amongst the SES monitored airports in 2024. 50% of the delays were attributed to Aerodrome Capacity issues followed by 47% attributed to Weather. The rest of Dutch airports registered zero or nearly zero arrival ATFM delays in 2024.

According to the Dutch monitoring report: *The performance in 2024 was significantly above the target, almost exclusively due to the performance at EHAM; for the other airports airport ATFM delays were nearly non-existent. About half of the delays at EHAM were the result of a demand higher than the declared capacity, both during inbound peaks and outbound peaks. Delays during the latter were amplified compared to 2023 by the non-availability of a fourth*

runway (only 2+1/1+2 runway usage), in the first quarter due to runway maintenance and for the rest of the year as a measure to cope with controller shortages at Schiphol. Nearly the other half of the delays were due to severe weather, either strong winds or poor visibility. The Airport ATFM delay per flight was not met in 2024, primarily due to aerodrome capacity and weather related incidents. Additionally, runway maintenance and the ATCO shortages caused the target to be above the target for 2024.

**Recommendations to the ANSP to rectify the situation *Long term corrective measures are expected to be feasible and LVNL is working with AAS, the main airline operators at Schiphol and the slot coordinator to better spread traffic demand, possibly by improving the slot allocation. This with the aim of reducing bunch forming for inbound for inbound aircraft since this is one of the major causes of airport delay at Schiphol. With the envisaged growth in traffic volume at Schiphol this delay cause will gain importance in the coming years. LVNL is working on increasing their ATCO capacity with additional training for which the first effects will start to show at the end of 2025.*

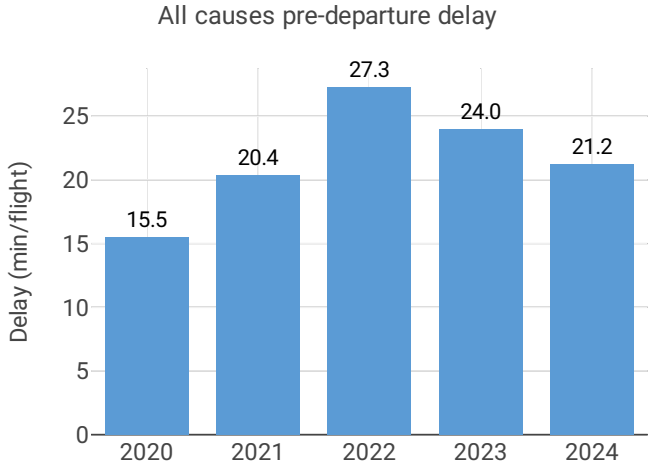
Long term corrective measures are expected to be feasible. Although the all cause target was not met, the CRSTMP airport delay target was met. The main causes for the target not being met were out of the control of the ANSP (weather, aerodrome capacity, etc.). Long term corrective measures are considered feasible. Due to the war in Ukraine there has been a Europe-wide trend for more and longer military exercises. These exercises impact the available airspace around the major Aerodrome in the Netherlands. There is significant risk of these exercises further influencing capacity performance.

The Dutch performance plan sets a national target on arrival ATFM delay for 2024 of 1.40 min/arr. This target was not met, with an actual performance of 3.5 min/arr.

The incentive scheme uses modulated pivot values limited to CRSTMP delay causes. According to the Dutch monitoring report, this pivot value for CRSTMP is 0.31 min/arr in 2024 and based on the attribution of the regulation reason, the actual CRSTMP value for 2024 was 0.063 min/arr.

The NSA reports an actual CRSTMP value of 0.07 min/arr and calculates a bonus of € 384807.

4.3.2 Other terminal performance indicators (PI#1-3)



Airport level										
	Avg arrival ATFM delay (KPI#2)					Slot adherence (PI#1)				
Airport name	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Beek	NA	0.01	0.10	0.04	0.01	96.0%	97.4%	97.2%	98.5%	97.4%
Eelde	0.01	0.00	0.01	0.01	0.03	88.0%	91.9%	98.1%	99.1%	98.2%
Rotterdam	NA	0.00	0.00	0.01	0.00	100.0%	98.8%	98.9%	98.9%	97.7%
Schiphol	1.41	0.60	1.98	2.65	3.79	97.6%	98.1%	97.7%	98.4%	98.7%

	ATC pre departure delay (PI#2)					All causes pre departure delay (PI#3)				
Airport name	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Beek	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Eelde	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Rotterdam	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Schiphol	NA	NA	NA	NA	NA	15.5	20.4	27.3	24.0	21.2

Focus on performance indicators at airport level

ATFM slot adherence

All four airports showed adherence above 97% and the national average was 98.6%. With regard to the 1.43% of flights that did not adhere, 0.47 % were early and 0.96% were late.

According to the Dutch monitoring report: *Performance has been nearly 100% throughout the years, with small deviations per year. No specific measures were taken or are planned, because they are not needed.*

ATC pre-departure delay

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF).

However, there are several quality checks before EUROCONTROL can produce the final value which is established as the average minutes of pre-departure delay (delay in the actual off block time) associated to the IATA delay code 89 (through the APDF, for each delayed flight, the reasons for that delay have to be transmitted and coded according to IATA delay codes.

However, sometimes the airport operator has no information concerning the reasons for the delay in the off block, or they cannot convert the reasons to the IATA delay codes. In those cases, the airport operator might:

- Not report any information about the reasons for the delay for that flight (unreported delay)
- Report a special code to indicate they do not have the information (code ZZZ)
- Report a special code to indicate they do not have the means to collect or translate the information (code 999)

To be able to calculate with a minimum of accuracy the PI for a given month, the minutes of delay that are not attributed to any IATA code reason should not exceed 40% of the total minutes of pre-departure delay observed at the airport.

According to the Dutch monitoring report: *Data should be provided by the airport, not the ANSP.*

All causes pre-departure delay

Amsterdam is the only Dutch airport subject to the monitoring of this indicator. The total (all causes) delay in the actual off block time at Amsterdam in 2024 was 21.2 min/dep, an improvement with respect to the previous two years.

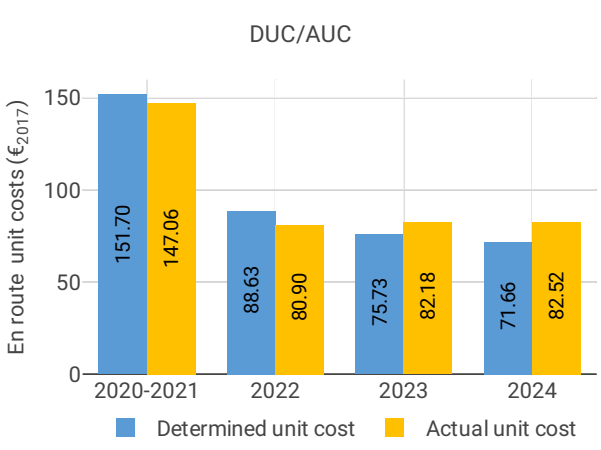
5 COST-EFFICIENCY - NETHERLANDS

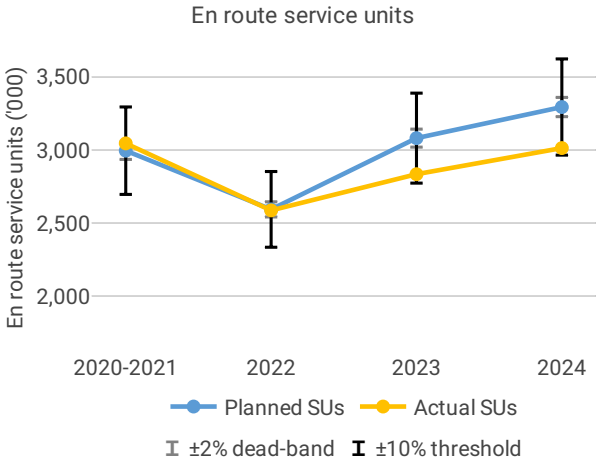
5.1 PRB monitoring

- The en route 2024 actual unit cost of the Netherlands was 82.52€2017, +15% higher than the determined unit cost (71.66€2017). The terminal 2024 actual unit cost was 191.16€2017, +6.3% higher than the determined unit cost (179.88€2017).
- The en route 2024 actual service units (3.0M) were -8.5% lower than the determined service units (3.3M).
- The en route 2024 actual total costs were +13M€2017 (+5.3%) higher than determined. This difference is mainly driven by significant differences in other operating costs and the cost of capital. Other operating costs for LVNL were +14M€2017 (+45%) higher than the determined costs mainly due to the cumulated effect of increased inflation, maintenance and licencing costs. The cost of capital (+7.4M€2017, or +653%) is higher than planned due to higher interest rates.
- LVNL costs of investments were 31M€2017 in 2024 for both en route and terminal charging zones, -15% lower than determined (36M€2017). This was mainly d ue to lower depreciation costs driven by the delay of the implementation of iCAS project.
- The en route actual unit cost incurred by users in 2024 was 92.89€ (+18% higher than the 2024 DUC), while the terminal actual unit cost incurred by users in 2024 was 223.05€ (+12% higher than the 2024 DUC). These differences between the AUCU and the DUC for both en route and terminal charging zones are primarily attributed to the inflation adjustment.
- The en route regulatory result for LVNL amounted to -25M€. The loss is mainly attributable to the cost risk sharing mechanism, in particular the negative difference between determined and actual costs to be borne by the ANSP.

5.2 En route charging zone

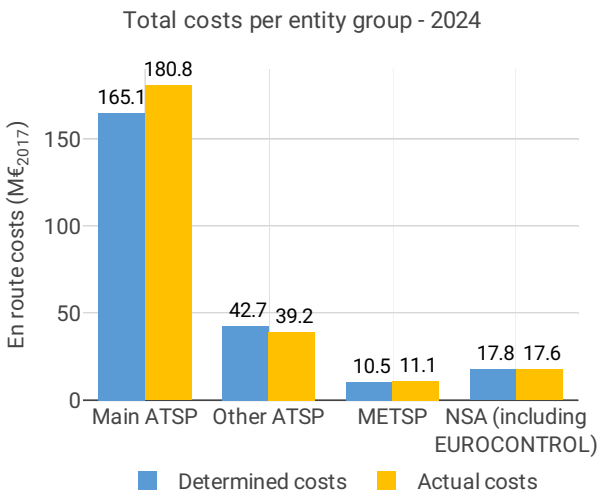
5.2.1 Unit cost (KPI#1)

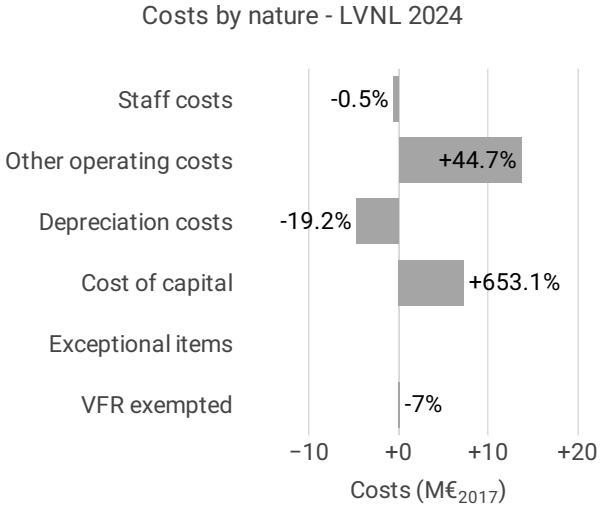




Actual and determined data				
Total costs - nominal (M€)	**2020-2021**	**2022**	**2023**	**2024**
Actual costs	474	245	281	309
Determined costs	478	246	253	259
Difference costs	-4	-1	28	50

Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	1.5%	1.6%	1.6%
Determined inflation index	NA	108.6	110.3	112.1
Actual inflation rate	NA	11.6%	4.1%	3.2%
Actual inflation index	NA	121	126	130
Difference inflation index (p.p.)	NA	+12.5	+15.7	+17.9





Focus on unit cost

AUC vs. DUC

In 2024, the en route AUC was +15.2% (or +10.86 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TSUs (-8.5%) and significantly higher than planned en route costs in real terms (+5.3%, or +12.6 M€2017). It should be noted that the actual inflation index in 2024 was +17.9 p.p. higher than planned.

En route service units

The difference between actual and planned TSUs (-8.5%) falls outside the ±2% dead-band, but does not exceed the ±10% threshold foreseen in the traffic risk sharing mechanism. The resulting loss of en route revenues is therefore shared between the ANSP and the airspace users (see the main ANSP loss in Box 11).

En route costs by entity

Actual real en route costs are +5.3% (+12.6 M€2017) higher than planned. This is the result of higher costs for the main ANSP, LVNL (+9.5%, or +15.7 M€2017) and the MET service provider (+5.5%, or +0.6 M€2017) and lower costs for the NSA/EUROCONTROL (-1.1%, or -0.2 M€2017) and the other ANSP (MUAC, -8.0%, or -3.4 M€2017).

En route costs for the main ANSP at charging zone level

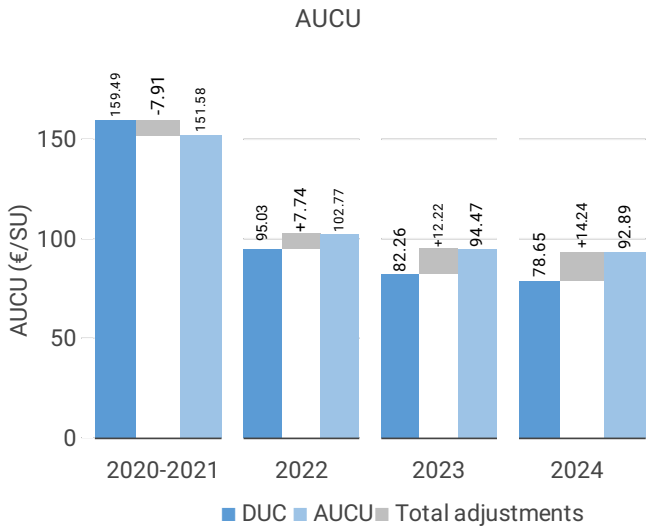
Significantly higher than planned en route costs in real terms for LVNL in 2024 (+9.5%, or +15.7 M€2017) result from:

- Slightly lower staff costs (-0.5%), due to inflation index impact (+17.9 p.p.) since in nominal terms staff costs are significantly higher than planned (+15.4%), driven by a combination of factors: wage adjustments under the collective agreement to address significant inflation in RP3, expenses for capacity-enhancing measures and increased early retirement payments to ATCOs,
- Significantly higher other operating costs (+44.7%), primarily driven by the cumulative impact of inflation, increased expenditures on maintenance, licensing and outsourced initial training services, partially mitigated by reduced costs related to the recruitment of external personnel,
- Significantly lower depreciation (-19.2%), due to the "*delayed implementation of iCAS*", and
- Significantly higher cost of capital (+653.1%), due to higher average interest rates on debts than planned (3.02% vs 0.35% planned).

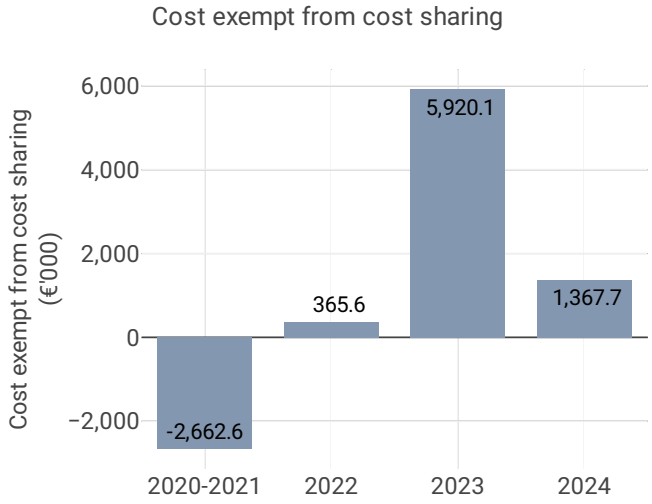
RP3 summary

When considering the whole of RP3 (2020-2024) for Netherlands en route charging zone, actual TSUs are -4.1% lower than planned, while actual costs in real terms are -1.3% lower than the determined costs (some -14.9 M€2017). As a result, the weighted average actual unit cost over RP3 (99.19 €2017) is +2.9% higher than planned in the PP (96.42 €2017).

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

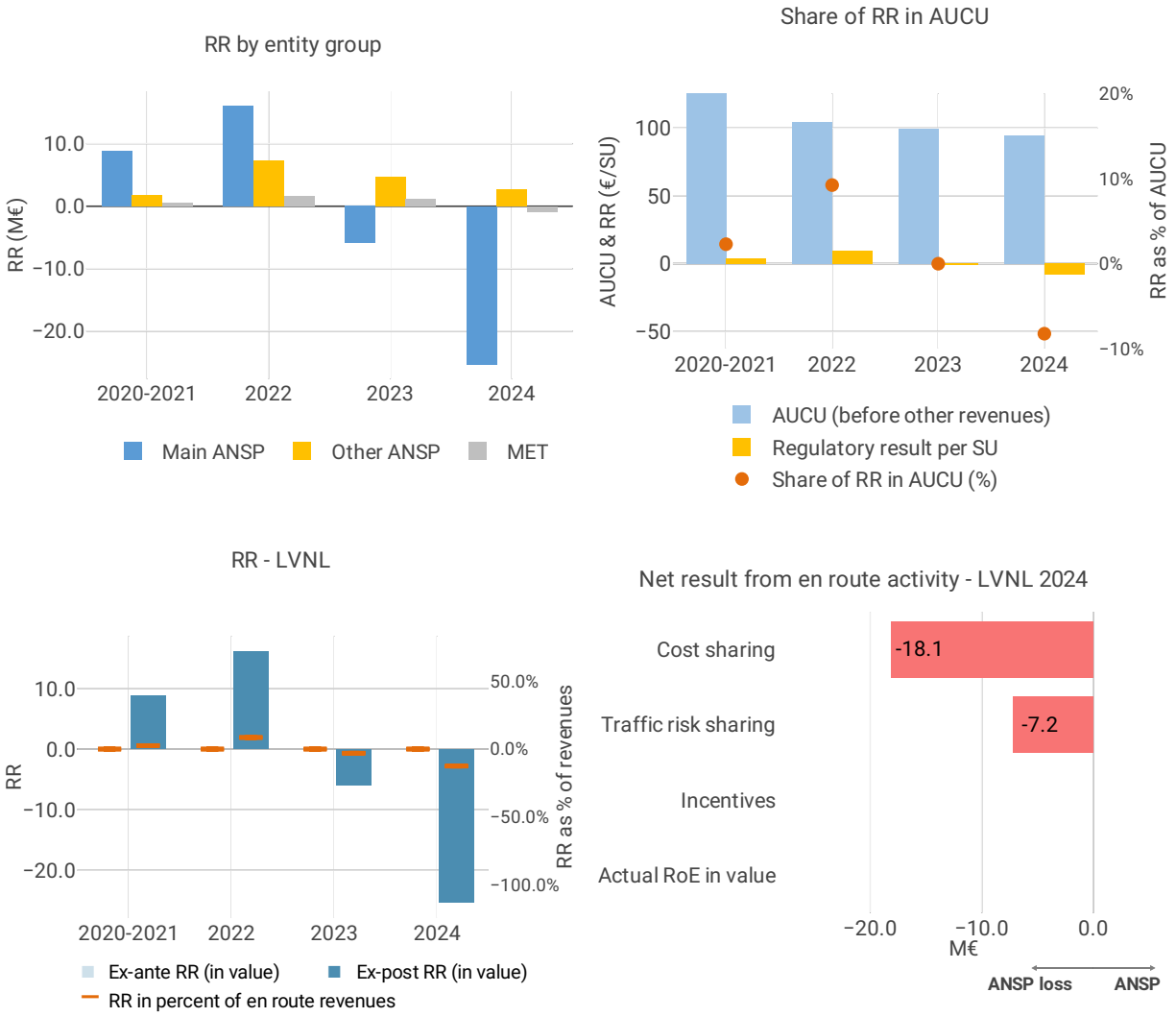


AUCU components (€/SU) – 2024	
Components of the AUCU in 2024	**€/SU**
DUC	**78.65**
Inflation adjustment	11.35
Cost exempt from cost-sharing	0.45
Traffic risk sharing adjustment	3.47
Traffic adj. (costs not TRS)	0.84
Finantial incentives	0.00
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	-1.87
Application of lower unit rate	0.00
Total adjustments	14.24
AUCU	**92.89**
AUCU vs. DUC	**+ 18.1%**



Cost exempt from cost sharing – 2024		
Cost exempt from cost sharing by item - 2024	**€'000**	**€/SU**
New and existing investments	-5,506.7	-1.83
Competent authorities and qualified entities costs	-85.0	-0.03
Eurocontrol costs	-117.8	-0.04
Pension costs	-1,040.5	-0.35
Interest on loans	8,117.6	2.69
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**1,367.7**	**0.45**

5.2.3 Regulatory result (RR)



Focus on regulatory result

LVNL net gain/loss on activity in the Netherlands en route charging zone in the year 2024

LVNL reported a net loss of -25.3 M€, as a combination of a loss of -18.1 M€ arising from the cost sharing mechanism, with a loss of -7.2 M€ arising from the traffic risk sharing mechanism.

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

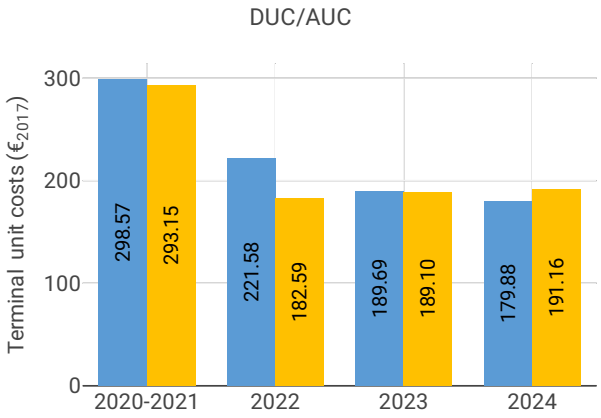
It should be noted that LVNL has no equity and its assets are entirely financed through debt. Therefore, ex-post, the overall RR is equal to the net loss from the en route activity mentioned above (-25.3 M€) and corresponds to -12.6% of the en route revenues.

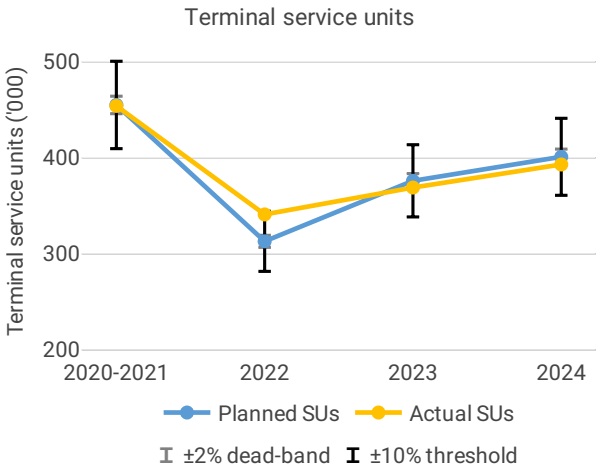
RP3 summary

When considering the whole of RP3 (2020-2024), LVNL generated a cumulative gain in respect of cost sharing of +2.4 M€, as actual total costs for the RP3 were lower than planned. The traffic risk sharing mechanism generated a net loss of -8.8 M€ over the reference period which leads to an overall regulatory result of -6.4 M€.

5.3 Terminal charging zone

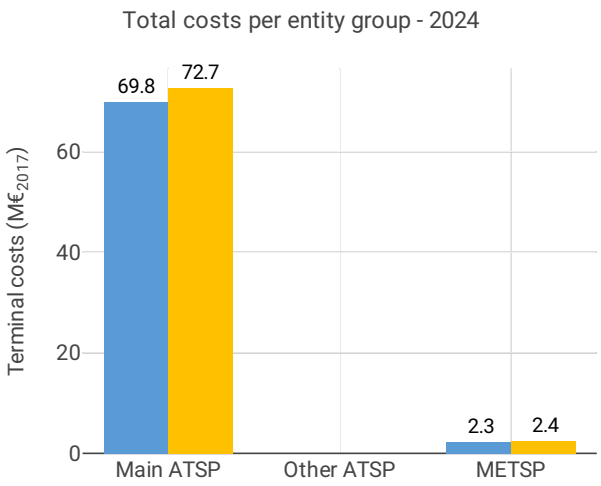
5.3.1 Unit cost (KPI#1)

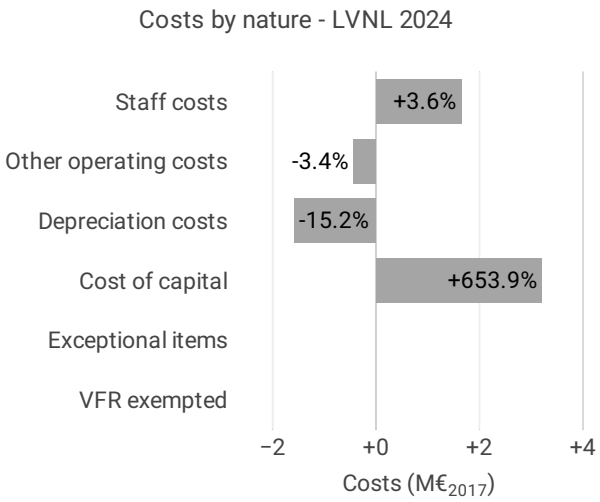




Actual and determined data				
Total costs - nominal (M€)	**2020-2021**	**2022**	**2023**	**2024**
Actual costs	142	74	85	94
Determined costs	143	75	78	80
Difference costs	-2	-1	7	14

Inflation assumptions	**2020-2021**	**2022**	**2023**	**2024**
Determined inflation rate	NA	1.5%	1.6%	1.6%
Determined inflation index	NA	108.6	110.3	112.1
Actual inflation rate	NA	11.6%	4.1%	3.2%
Actual inflation index	NA	121	126	130
Difference inflation index (p.p.)	NA	+12.5	+15.7	+17.9





Focus on unit cost

AUC vs. DUC

In 2024, the terminal AUC was +6.3% (or +11.27 €2017) higher than the planned DUC. This results from the combination of higher than planned terminal costs in real terms (+4.1%, or +3.0 M€2017) and lower than planned TNSUs (-2.0%). It should be noted that the actual inflation index in 2024 was +17.9 p.p. higher than planned.

Terminal service units

The difference between actual and planned TNSUs (-2.0%) falls inside the ±2% dead-band. Hence, the loss of terminal revenues is borne by the ANSPs (see items 10 to 14).

Terminal costs by entity

Actual real terminal costs are +4.1% (+3.0 M€2017) higher than planned. This is the result of higher costs for the main ANSP, LVNL (+4.0%, or +2.8 M€2017) and the MET service provider (+6.3%, or +0.1 M€2017).

Terminal costs for the main ANSP at charging zone level

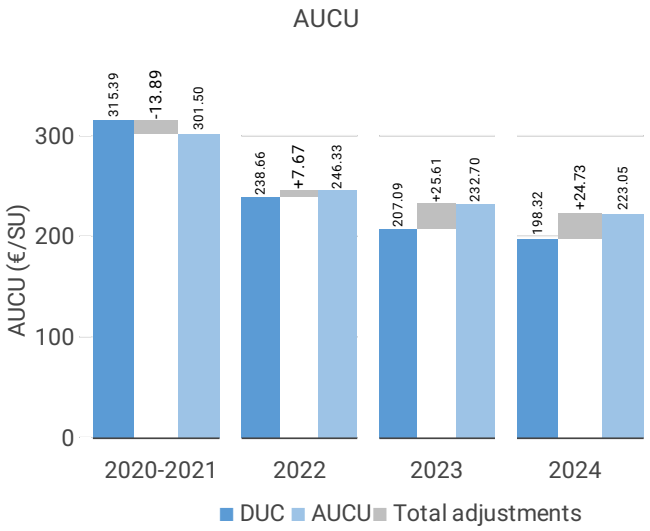
Higher than planned terminal costs in real terms for LVNL in 2024 (+4.0%, or +2.8 M€2017) result from:

- Higher staff costs (+3.6%), driven by a combination of factors: wage adjustments under the collective agreement to address significant inflation in RP3, expenses for capacity-enhancing measures and increased early retirement payments to ATCOs,
- Lower other operating costs (-3.4%) due to inflation index impact (+17.9 p.p.) since in nominal terms costs are significantly higher than planned (+12.1%) primarily driven by the cumulative impact of inflation, increased expenditures on maintenance, licensing, and outsourced initial training services,
- Significantly lower depreciation (-15.2%), due to the "*delayed implementation of the remote tower at two regional airports",*
- Significantly higher cost of capital (+653.9%), due to higher average interest rates on debts than planned (4.92% vs 0.76% planned) and higher asset base.

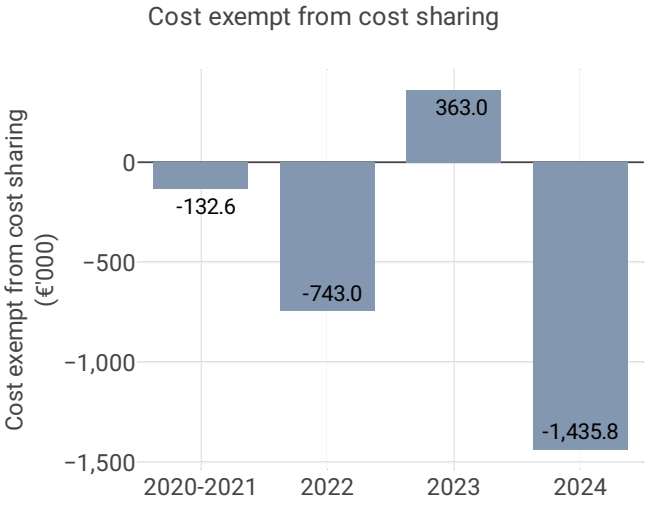
RP3 summary

When considering the whole of RP3 (2020-2024) for Netherlands terminal charging zone, actual TNSUs are +0.8% higher than planned, while actual costs in real terms are -2.4% lower than the determined costs (some -8.4 M€2017). As a result, the weighted average actual unit cost over RP3 (218.56 €2017) is -3.1% lower than planned in the PP (225.66 €2017).

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

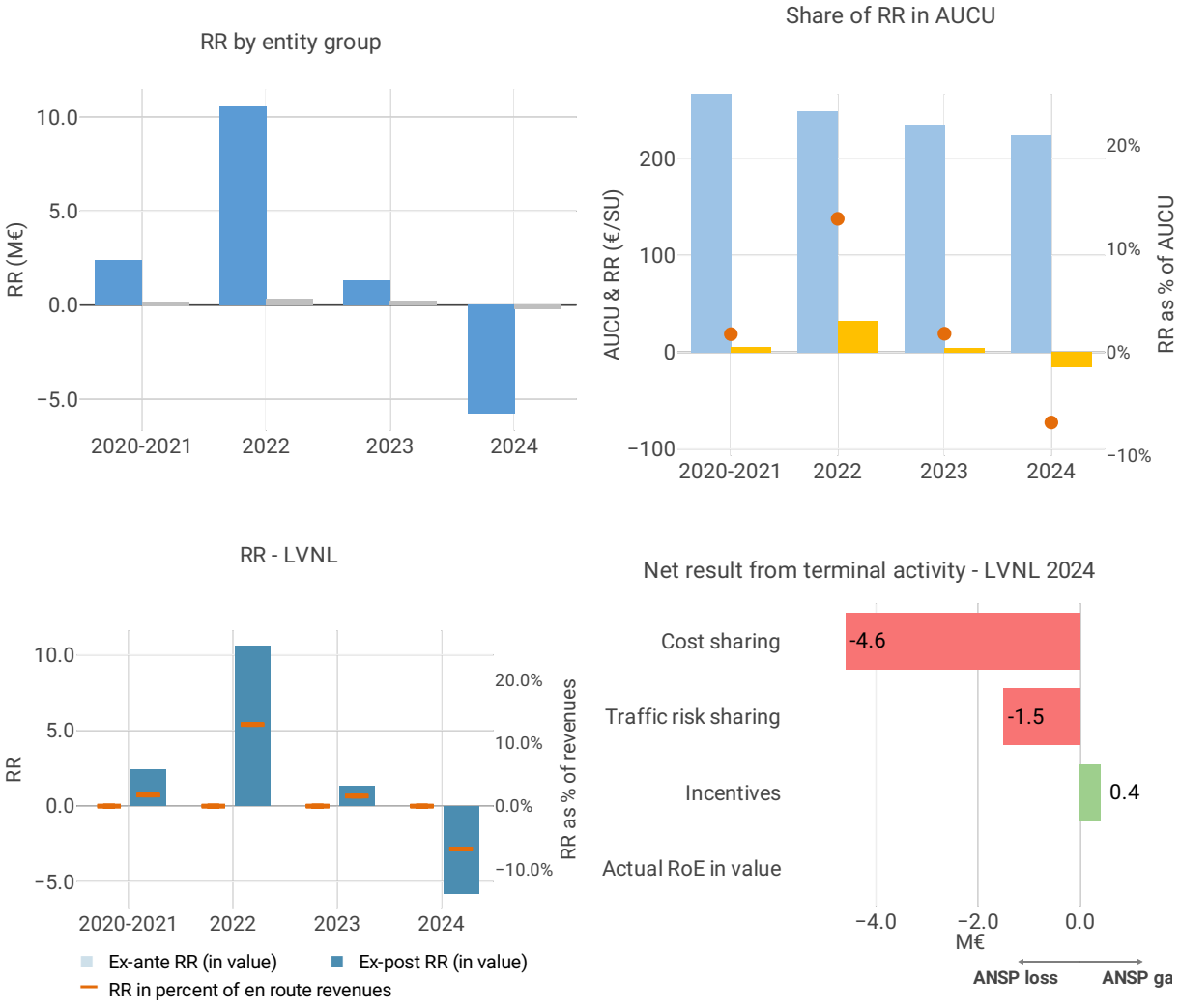


AUCU components (€/SU) – 2024	
Components of the AUCU in 2024	**€/SU**
DUC	**198.32**
Inflation adjustment	27.96
Cost exempt from cost-sharing	-3.65
Traffic risk sharing adjustment	0.03
Traffic adj. (costs not TRS)	0.13
Finantial incentives	0.98
Modulation of charges	0.00
Cross-financing	0.00
Other revenues	-0.71
Application of lower unit rate	0.00
Total adjustments	24.73
AUCU	**223.05**
AUCU vs. DUC	**+ 12.5%**



Cost exempt from cost sharing – 2024		
Cost exempt from cost sharing by item - 2024	**€'000**	**€/SU**
New and existing investments	-2,530.8	-6.44
Competent authorities and qualified entities costs	0.0	0.00
Eurocontrol costs	0.0	0.00
Pension costs	-628.0	-1.60
Interest on loans	1,723.0	4.39
Changes in law	0.0	0.00
Total cost exempt from cost risk sharing	**-1,435.8**	**-3.65**

5.3.3 Regulatory result (RR)



Focus on regulatory result

LVNL net gain/loss on activity in the Netherlands terminal charging zone in the year 2024

LVNL reported a net loss of -5.8 M€, as a combination of a loss of -4.6 M€ arising from the cost sharing mechanism, with a loss of -1.5 M€ arising from the traffic risk sharing mechanism and a gain of +0.4 M€ relating to financial incentives.

LVNL overall regulatory result (RR) for the terminal activity

It should be noted that LVNL has no equity and its assets are entirely financed through debt. Therefore, ex-post, the overall RR is equal to the net loss from the terminal activity mentioned above (-5.8 M€) and corresponds to -6.8% of the terminal revenues.

RP3 summary

When considering the whole of RP3 (2020-2024), LVNL generated a cumulative gain in respect of cost sharing of +8.3 M€ on the terminal activity, as actual total terminal costs for the RP3 were lower than planned. The traffic risk sharing mechanism generated a net loss of -0.1 M€ over the reference period. Adding the gain of +0.4 M€ to be retained by LVNL in respect of financial incentives leads to an overall regulatory result of +8.6 M€.