

Performance Review Body Monitoring Report

SES RP3 - 2022

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TABLE OF CONTENTS

1	OVERVIEW	3
1.1	Contextual information	3
1.2	Main PRB findings - 2022	3
1.3	Traffic (SES RP3 area)	3
1.4	Safety (SES RP3 area)	4
1.5	Environment (SES RP3 area)	4
1.6	Capacity (SES RP3 area)	5
1.7	Cost-efficiency (SES RP3 area)	6
2	SAFETY - SES RP3	6
2.1	PRB monitoring	6
2.2	Actual versus planned number of ANSPs achieving the level of the EoSM targets for RP3 ahead of 2024	7
2.3	Rate of runway incursions (RIs) (PI#1)	8
2.4	Rate of separation minima infringements (SMIs) (PI#2)	10
2.5	Quality of occurrences reporting	12
3	ENVIRONMENT - SES RP3	13
3.1	PRB monitoring	13
3.2	En route performance	13
4	CAPACITY - SES RP3	14
4.1	PRB monitoring	14
4.2	En route performance	15
4.3	Terminal performance	17
5	COST-EFFICIENCY - SES RP3	18
5.1	PRB monitoring	18
5.2	En route charging zone	18

1 OVERVIEW

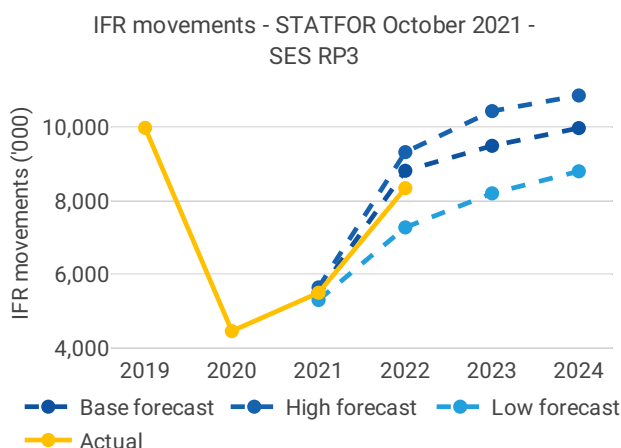
1.1 Contextual information

No of ACCs	49	Share en route / terminal costs 2022	83% / 17%	No of main ANSPs	29
No of airports in the scope of the performance plan:		En route charging zone(s)	29	No of other ANSPs	14
• ≥80'K	42	Terminal charging zone(s)	26	No of MET Providers	26
• <80'K	103				

1.2 Main PRB findings - 2022

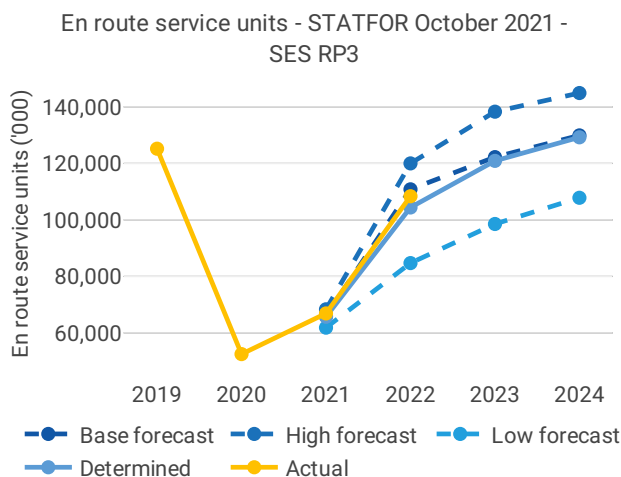
2022 was characterised by the post COVID-19 rebound of traffic, +52% compared to 2021, and the impacts on some of the SES Member States of Russia's war of aggression against Ukraine. Union-wide performance shows that a majority of ANSPs did not take the opportunity to prepare for the forecast traffic rebound by implementing the necessary and planned measures to provide capacity and improve environmental performance. This resulted in en route ATFM delays well above the targets and contributed to horizontal flight inefficiency being the highest since 2016. The situation in Ukraine can only partially (and locally) explain these results. Neither does the drop in traffic due to COVID-19 pandemic explain this under performance, as ANSPs in total spent less than foreseen in their performance plans and, in any event, could recover the bulk of the foregone revenue in future years. On a positive note, safety management performance remained solid.

1.3 Traffic (SES RP3 area)



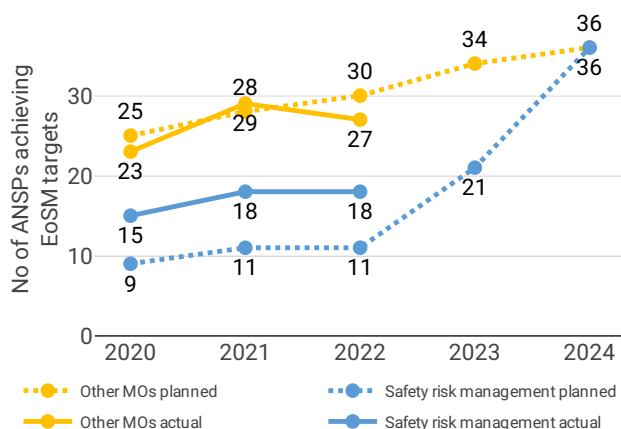
- 8,345 IFR movements were recorded in 2022 at SES level, +52% compared to 2021 (5,499K).

- Actual 2022 IFR movements represent 84% of the actual 2019 level (9,985K).



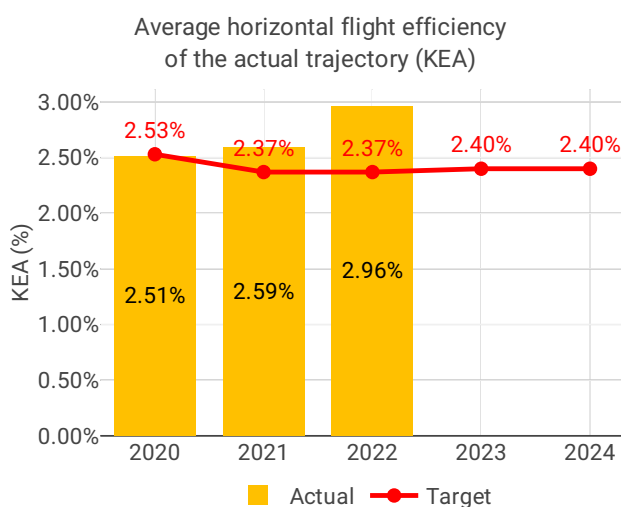
- 108,380K service units were recorded in 2022 at SES level, +62% compared to 2021 (66,893K).
- Actual 2022 service units were +3.8% above the plan (104,405K).
- Actual 2022 service units represent 87% of the actual 2019 level (125,158K).

1.4 Safety (SES RP3 area)



- Safety levels overall remained at pre-COVID-19 pandemic levels.
- 16 ANSPs already achieved the RP3 targets for the effectiveness of safety management for all Management Objectives (two years before the end of RP3). The remaining 20 ANSPs are expected to meet the targets by the end of RP3.
- The rate of accidents and incidents remained in line with the trend over the past 10 years, continuously decreasing.

1.5 Environment (SES RP3 area)

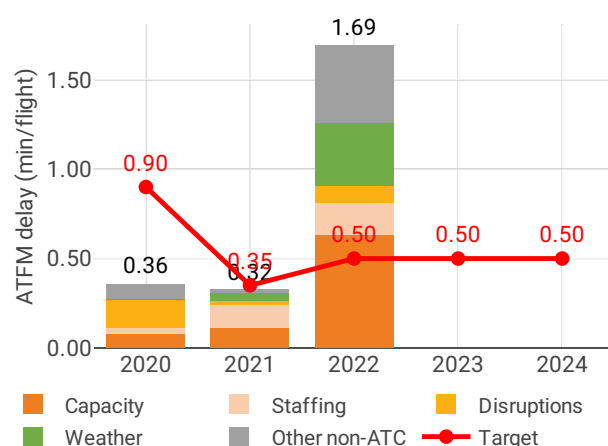


- Union-wide horizontal flight efficiency (KEA) performance targets were not achieved in 2022 and performance was at the worst levels since 2016. 25 Member States did not achieve their national/FAB targets.
- Horizontal flight efficiency deteriorated due to considerable capacity constraints, route extensions due to the closure of Ukrainian and Russian airspaces to European carriers following the Russian war of aggression against the Ukraine, and the continued avoidance of Belarusian airspace (since May 2021).

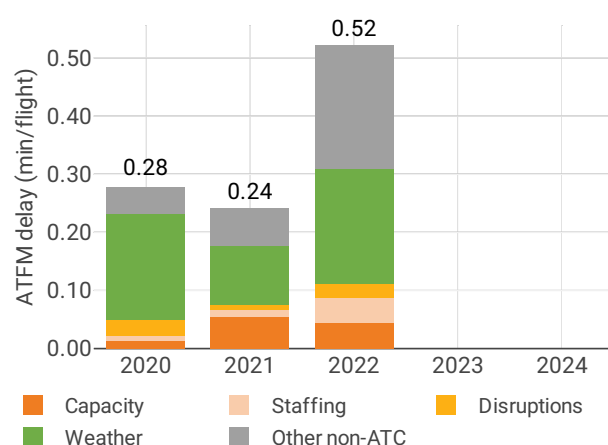
• For terminal airspace, both additional ASMA (holding) time and additional taxi-out time increased. Combined this shows a +28.9% increase compared to 2021, mainly driven by taxi-out performance. However, it is worth noting that performance remains better than 2019 levels.

1.6 Capacity (SES RP3 area)

Average en route ATFM delay per flight by delay groups



Average arrival ATFM delay per flight by delay groups



tion against Ukraine also had an adverse effect. If ANSPs cannot implement capacity improvement measures as planned, and/or can-not deploy new systems without major disruptions, 2023 is expected to show even higher delays.

- The actual Union-wide average en route ATFM delay was 1.74 minutes per flight in 2022, 1.24 minutes per flight higher than the Union-wide target, and even higher than in 2019, despite less IFR movements.

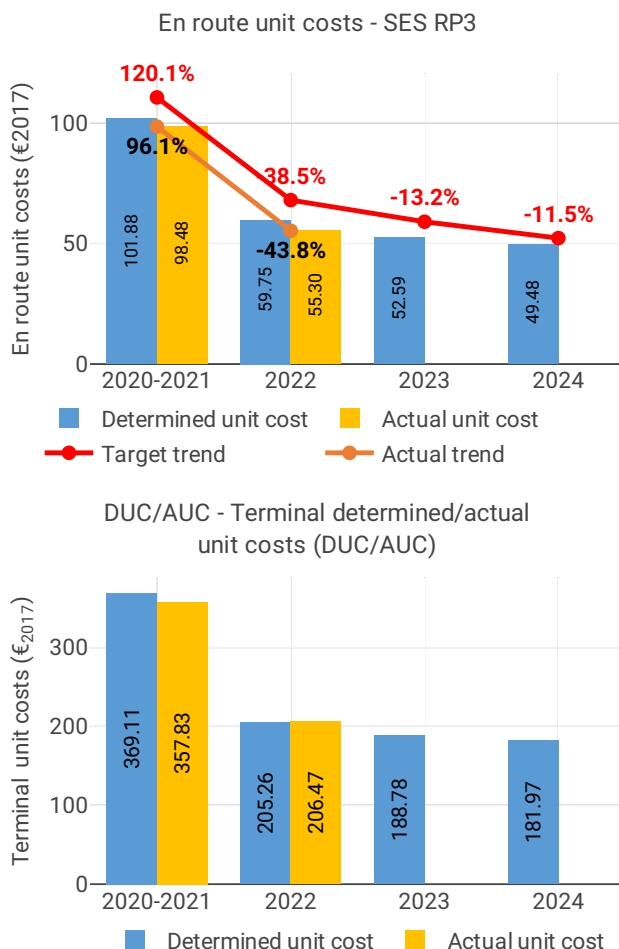
- The European Commission adjusted the monitored value to 1.69, taking into account the delays due to the exceptional event relating to Russia's war of aggression against Ukraine. The adjusted actual value is 1.19 minutes per flight higher than the Union-wide target.

- 11 Member States did not achieve their local targets, indicating that most of the ANSPs did use the COVID-19 period to undertake the necessary initiatives to provide capacity to support the expected post-COVID-19 pandemic growth in traffic (as highlighted in last year PRB monitoring report).

- Terminal capacity performance deteriorated compared to 2021, mostly due to disruptions and airport-related capacity problems. All-cause departure delays were at a stunning 19.03 minutes per flight.

- Some ANSPs were not ready for the traffic recovery and network disruptions caused by system transitions. The impact of Russia's war of aggression

1.7 Cost-efficiency (SES RP3 area)



- In 2022, Member States met the en route cost-efficiency Union-wide target.

- Union-wide en route actual costs in 2022 were -3.9% below determined costs, while service units were +3.9% higher than planned. However, the decrease in costs is mainly attributable to a significantly higher inflation than forecasted.

- 25 Member States showed lower actual total costs compared to planned in 2022, of which 19 lower by more than 5%. Only one Member State, Spain, increased its costs by more than 5% compared to the determined.

- The en route actual unit cost for airspace users (AUCU) has been +2.4% higher than the determined unit cost, since inflation was higher than expected.

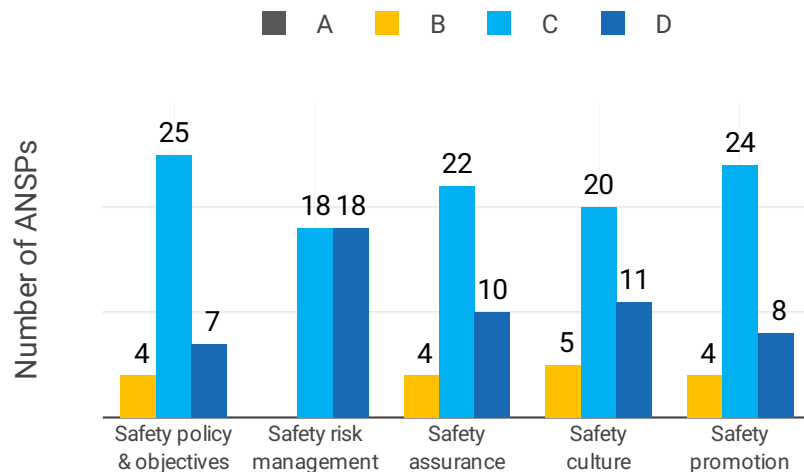
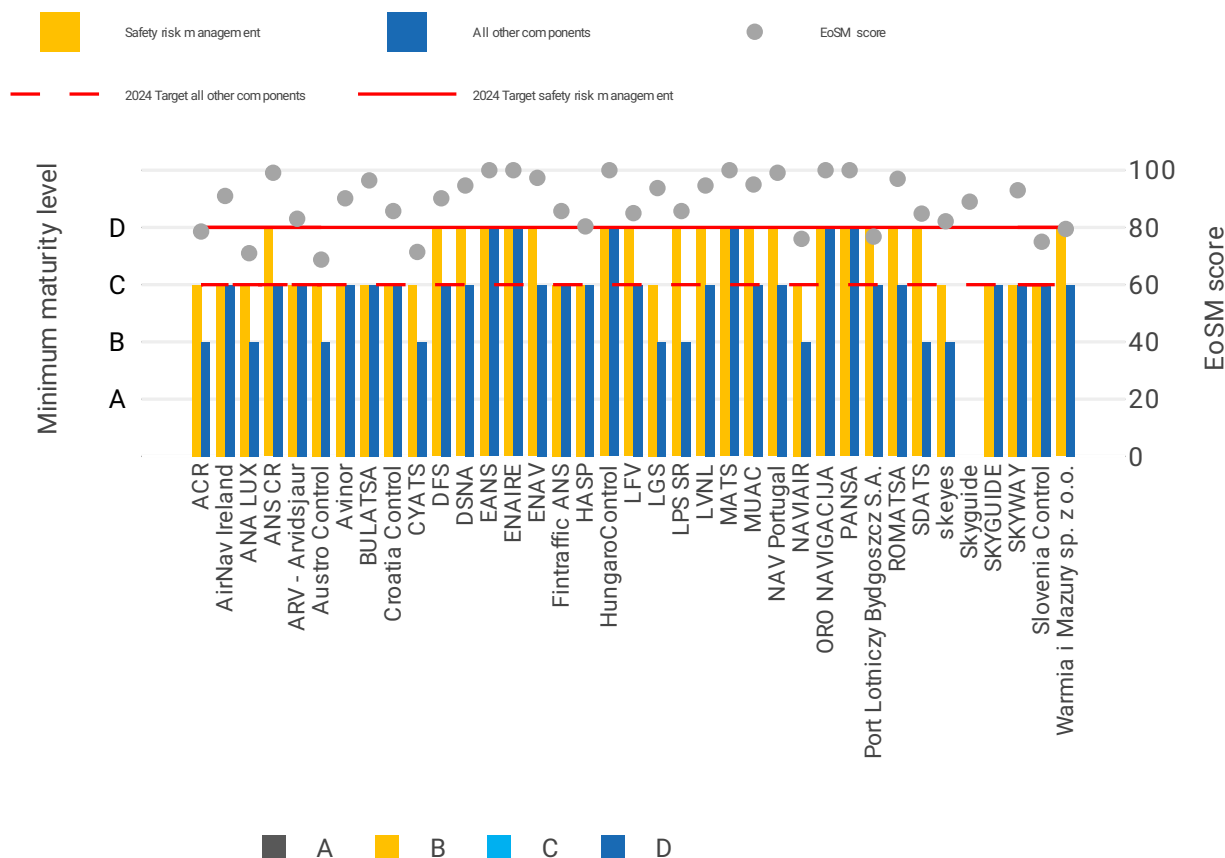
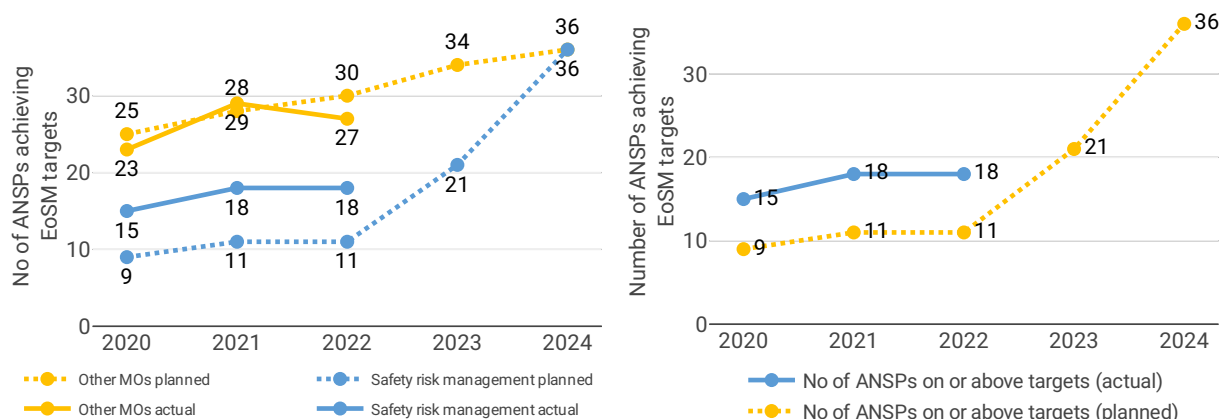
- The 2020/2021 revenue gap amounts to 5.7B €2017. An additional gap of 2.7 M€2017 originates from 2022 when States had revised their plans after the adoption of their 2022 unit rate. The total revenue gap will be recovered over a five to seven year period, starting from 2023.

2 SAFETY - SES RP3

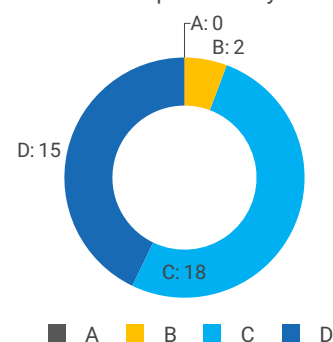
2.1 PRB monitoring

- Safety levels overall remained at pre-COVID-19 pandemic levels.
- 16 ANSPs already achieved the RP3 targets for the effectiveness of safety management for all Management Objectives (two years before the end of RP3). The remaining 20 ANSPs are expected to meet the targets by the end of RP3.
- The rate of accidents and incidents remained in line with the trend over the past 10 years, continuously decreasing.

2.2 Actual versus planned number of ANSPs achieving the level of the EoSM targets for RP3 ahead of 2024



Interdependencies –
Number of ANSPs per maturity level



Focus on EoSM

Number of ANSPs on Target

16 out of 36 ANSPs already achieved the RP3 targets in 2022, reaching a minimum of maturity level D in safety risk management and a minimum of maturity level C in all other Management Objectives.

Actual versus planned

ANSPs are performing better than planned within the safety risk management area of their performance plans: 11 ANSPs planned to achieve the target level D, whereas 18 ANSPs already achieved the level of the RP3 target in 2022.

For other Management Objectives, 30 ANSPs had planned to already achieve the RP3 target level in 2022, but only 27 ANSPs managed to do so. Overall, the majority (if not all) ANSPs are foreseen to reach the target for RP3 by 2024.

ANSPs achieving the targets and Score

- 18 out of 36 ANSPs achieved the 2024 RP3 target level D for safety risk management.
- 27 out of 36 ANSPs achieved the 2024 RP3 target level C for all other MOs (the four management objectives other than safety risk management).
- 16 out of 36 ANSPs achieved the 2024 EoSM targets for RP3 in full.

The average EoSM score achieved by all ANSPs is 89. The minimum score achieved by an individual ANSPs is 69, while the maximum EoSM score is 100, which is already achieved by seven ANSPs.

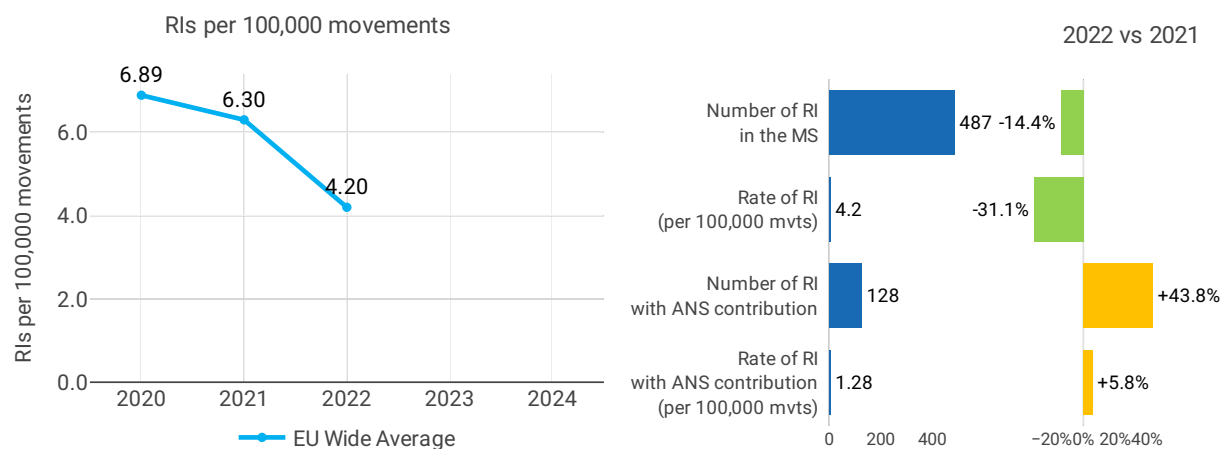
Number of ANSPs per Management Objective

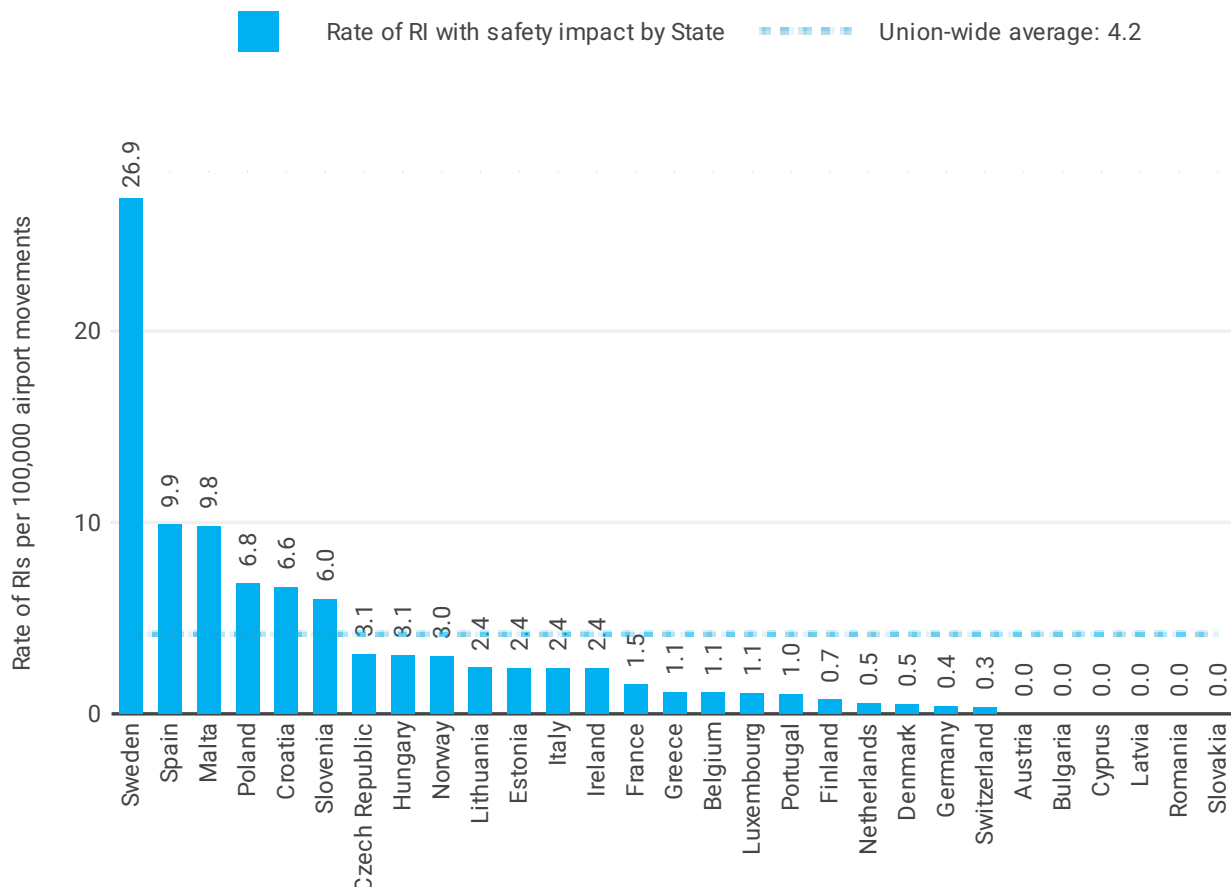
18 ANSPs did not reach the target level D for the safety risk management objective, five ANSPs did not reach the safety culture management objective, while four ANSPs did not reach the safety policy & objectives, assurance promotion management objectives, respectively.

Interdependency

Most ANSPs are at maturity levels C and D for interdependencies management objective. There is room for improvement since two ANSPs are at level B. This is particularly important after the pandemic when the pressures to trade-off resources towards other business objectives of the organisation are intensified due to loss of traffic and revenues in such period.

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





Rate of RI per 100,000 airport movements

TOP 10 APTs in terms of movements					TOP 10 APTs in terms of number of RIs					TOP 10 APTs in terms of rate of RIs				
#	Airport name	APT mvts.	Number of RI	Rate RI per 100,000 mvts.	#	Airport name	APT mvts.	Number of RI	Rate RI per 100,000 mvts.	#	Airport name	APT mvts.	Number of RI	Rate RI per 100,000 mvts.
1	Amsterdam - Schiphol	416,455	0	NA	1	Gran Canaria	123,713	10	8.08	1	Lublin	3,549	4	112.71
2	Paris-Charles-de-Gaulle	408,647	2	0.49	2	Málaga	146,633	10	6.82	2	Zielona Gora - Babimost	1,041	1	96.06
3	Frankfurt	386,542	1	0.26	3	Barcelona	283,493	7	2.47	3	Olsztyn-Mazury	1,414	1	70.72
4	Madrid - Barajas	351,963	5	1.42	4	Warsaw	144,737	6	4.15	4	Lodz - Lublinek	3,542	2	56.47
5	Munich	288,141	0	0.00	5	Stockholm - Arlanda	170,284	5	2.94	5	Bydgoszcz	3,451	1	28.98
6	Barcelona	283,493	7	2.47	6	Madrid - Barajas	351,963	5	1.42	6	Wroclaw - Strachowice	26,388	3	11.37
7	Palma de Mallorca	220,908	3	1.36	7	Prague	99,006	5	5.05	7	Istres-Le Tubé	19,750	2	10.13
8	Dublin	220,865	2	0.91	8	Stavanger	69,156	4	5.78	8	Poznan - Lawica	22,684	2	8.82
9	Rome - Fiumicino	212,315	0	0.00	9	Lublin	3,549	4	112.71	9	Gran Canaria	123,713	10	8.08
10	Zürich	211,125	0	0.00	10	Nice-Côte d'Azur	154,584	4	2.59	10	Rzeszow - Jasionka	14,340	1	6.97

Focus on runway incursions

RI rate

Compared with 2021, in 2022, the rate of runway incursions decreased by almost 40%, while the rate of separation minima infringements remained stable

RI 2021-2022

The increase in traffic levels in 2022 has not resulted in an increase of the indicators of all types of RIs. The rate of RIs of all types decreased by 31.1% while the rate of RIs with ANS contribution increased by 5.8%. Similarly, while the number of RIs decreased (by 14.4%), the number of RIs with ANS contribution increased by 43.8%. It seems that at Member State level, the management of risks associated to RIs of all types showed improvement. Such trend is not observed in the indicators of RIs with ANS contribution. This should be deeper investigated by ANSPs.

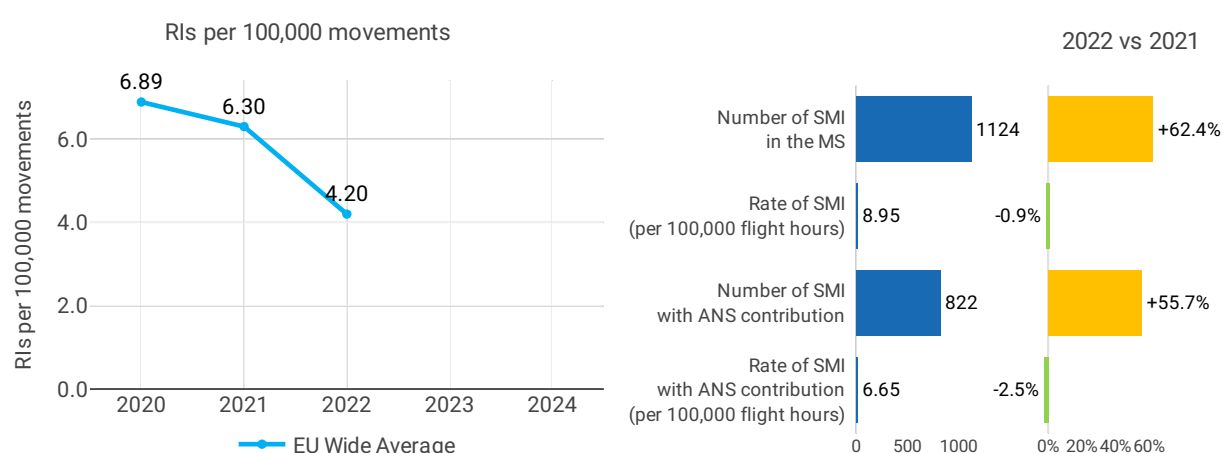
RI with Safety Impact by State

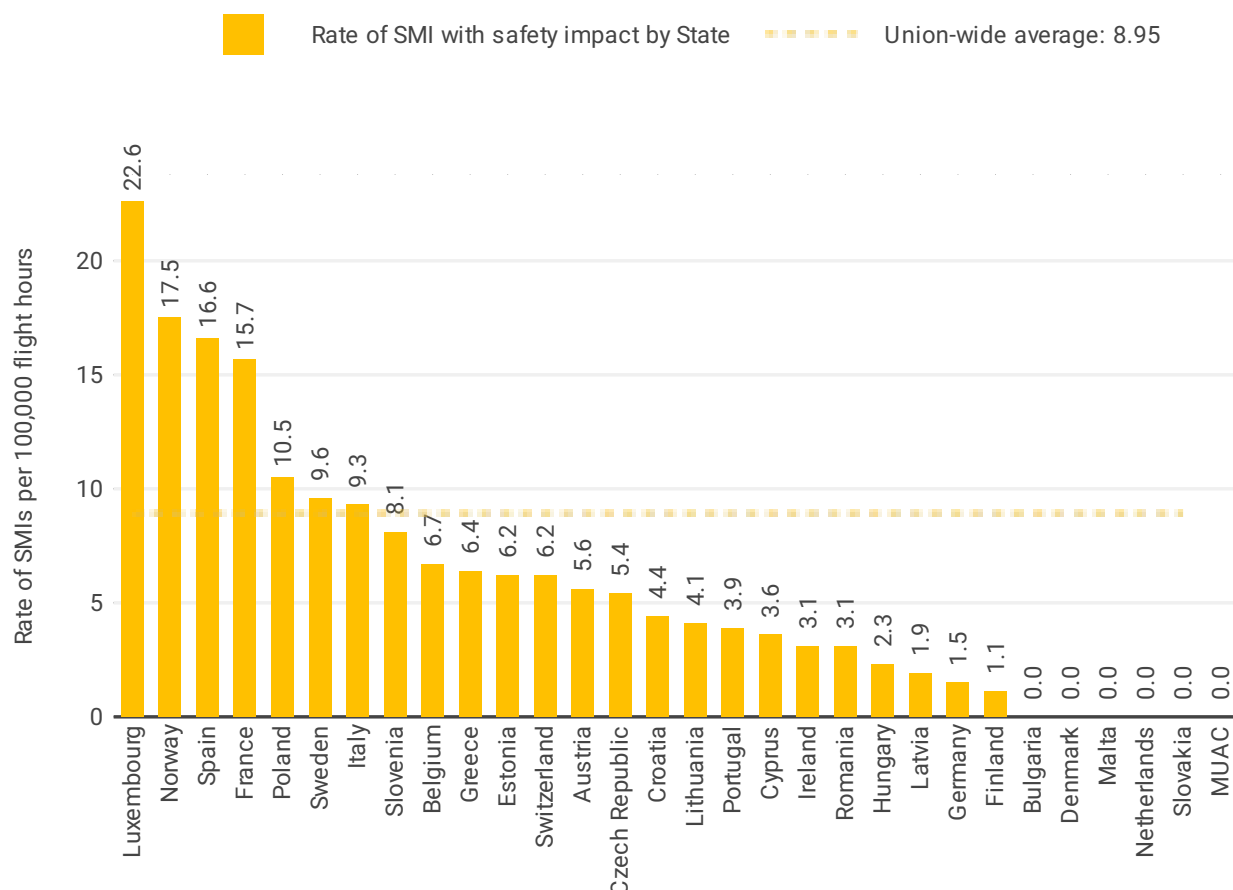
The highest rate occurred in Sweden (26.9), followed by Spain (9.9), although Sweden declared it was not able to differentiate occurrences that had a safety impact and therefore reported all types of RIs regardless of the associated safety risk. This means that the number of RIs in Sweden is higher, and so the rate is not comparable to other Member States. Three Member States (Sweden, Spain, Greece) reported the RIs at all airports within their territory, not exclusively those included in their Performance Plans, which may influence on why two of these Member States show the highest rates in the graph.

RI with Safety Impact by Airport

Out of 146 airports included in the performance plans, 57 airports reported RIs that had any ATS/CNS contribution. The 89 airports included in the performance and charging scheme that reported no RIs are not shown in the figure. The majority of airports reported one or two RIs. This makes the rate of runway incursions at airports with a low number of movements very susceptible to variations in the number of occurrences. For example, within the top ten airports with the highest rates of runway incursions, nine had fewer than 30,000 airport movements. Airports with significant higher traffic figures with highest rates of RIs are GCLP (Gran Canaria) with 8.1 RI per 100.000 movements, followed by LEMG (Málaga) and ENZV (Stavanger) with 6.8 and 5.8 per 100.000 movements, respectively. LEMG uses an automatic recording tool to identify RIs, which may have an effect on the number of reported events. ENAIRE, SKYWAY and Avinor who are responsible for the provision of ANS services at GCLP, LEMG, and ENZV, respectively, have a good record in the EoS questionnaires in managing safety risks (maturity C or D). Nevertheless, these providers should consider looking into the reasons contributing to these rates and take appropriate mitigating actions, if necessary.

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





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

#	State	Flight hours					Number of SMIs				
		2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
1	France	1,051,941	1,415,222	2,178,853	NA	NA	133	272	304	NA	NA
2	Spain	741,278	954,783	1,632,981	NA	NA	25	59	89	NA	NA
3	Germany	700,899	952,606	1,263,985	NA	NA	6	8	22	NA	NA
4	Italy	494,359	747,998	1,141,849	NA	NA	26	33	81	NA	NA
5	Greece	276,276	418,381	650,415	NA	NA	24	31	42	NA	NA
6	Portugal	175,009	215,958	406,816	NA	NA	10	13	30	NA	NA
7	MUAC	289,985	311,843	545,651	NA	NA	5	0	8	NA	NA
8	Norway	235,547	257,160	646,054	NA	NA	27	14	84	NA	NA
9	Romania	171,847	247,561	384,582	NA	NA	3	4	12	NA	NA
10	Poland	221,029	278,330	361,376	NA	NA	8	15	39	NA	NA
11	Sweden	199,288	218,597	333,262	NA	NA	2	19	31	NA	NA
12	Austria	155,355	202,666	317,434	NA	NA	7	9	14	NA	NA
13	Hungary	116,008	149,648	259,939	NA	NA	2	7	6	NA	NA
14	Ireland	131,294	105,105	288,261	NA	NA	2	7	8	NA	NA
15	Switzerland	150,242	137,471	318,606	NA	NA	0	2	5	NA	NA
16	Croatia	106,693	155,957	249,018	NA	NA	0	0	3	NA	NA
17	Bulgaria	127,863	174,114	290,422	NA	NA	1	0	0	NA	NA
18	Czech Republic	113,261	135,047	178,983	NA	NA	7	11	8	NA	NA
19	Denmark	98,936	99,279	183,043	NA	NA	0	2	0	NA	NA
20	Cyprus	78,614	116,453	167,670	NA	NA	0	3	6	NA	NA
21	Netherlands	88,456	101,649	155,388	NA	NA	31	47	33	NA	NA
22	Belgium	55,762	134,413	97,089	NA	NA	1	5	6	NA	NA
23	Finland	57,321	62,275	88,850	NA	NA	0	3	8	NA	NA
24	Slovakia	41,055	54,376	86,171	NA	NA	0	2	0	NA	NA
25	Malta	40,016	44,905	62,700	NA	NA	0	1	0	NA	NA
26	Slovenia	28,029	40,145	61,705	NA	NA	0	2	4	NA	NA
27	Latvia	39,170	46,440	52,501	NA	NA	1	0	1	NA	NA
28	Lithuania	36,493	47,794	47,286	NA	NA	1	0	2	NA	NA
29	Estonia	33,558	37,464	48,360	NA	NA	4	5	3	NA	NA
30	Luxembourg	5,067	11,425	17,665	NA	NA	0	3	4	NA	NA

#	State	Rate of SMI per 100,000 flight hours					% variation in rate of SMIs				
		2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
1	France	12.6	19.2	13.9	NA	NA	NA	+52%	-27%	NA	NA
2	Spain	3.4	6.2	5.4	NA	NA	NA	+83%	-12%	NA	NA
3	Germany	0.9	0.8	1.7	NA	NA	NA	-2%	+107%	NA	NA
4	Italy	5.3	4.4	7.1	NA	NA	NA	-16%	+61%	NA	NA
5	Greece	8.7	7.4	6.5	NA	NA	NA	-15%	-13%	NA	NA
6	Portugal	5.7	6.0	7.4	NA	NA	NA	+5%	+22%	NA	NA
7	MUAC	1.7	0.0	1.5	NA	NA	NA	-100%	0%	NA	NA
8	Norway	11.5	5.4	13.0	NA	NA	NA	-53%	+139%	NA	NA
9	Romania	1.8	1.6	3.1	NA	NA	NA	-7%	+93%	NA	NA
10	Poland	3.6	5.4	10.8	NA	NA	NA	+49%	+100%	NA	NA
11	Sweden	1.0	8.7	9.3	NA	NA	NA	+769%	+7%	NA	NA
12	Austria	4.5	4.4	4.4	NA	NA	NA	-2%	-1%	NA	NA
13	Hungary	1.7	4.7	2.3	NA	NA	NA	+172%	-51%	NA	NA
14	Ireland	1.5	6.7	2.8	NA	NA	NA	+338%	-58%	NA	NA
15	Switzerland	0.0	1.4	1.6	NA	NA	NA	0%	+8%	NA	NA
16	Croatia	0.0	0.0	1.2	NA	NA	NA	0%	0%	NA	NA
17	Bulgaria	0.8	0.0	0.0	NA	NA	NA	-100%	0%	NA	NA
18	Czech Republic	6.2	8.2	4.5	NA	NA	NA	+32%	-45%	NA	NA
19	Denmark	0.0	2.0	0.0	NA	NA	NA	0%	-100%	NA	NA
20	Cyprus	0.0	2.6	3.6	NA	NA	NA	0%	+39%	NA	NA
21	Netherlands	35.0	46.2	21.2	NA	NA	NA	+32%	-54%	NA	NA
22	Belgium	1.8	3.7	6.2	NA	NA	NA	+108%	+66%	NA	NA
23	Finland	0.0	4.8	9.0	NA	NA	NA	0%	+87%	NA	NA
24	Slovakia	0.0	3.7	0.0	NA	NA	NA	0%	-100%	NA	NA
25	Malta	0.0	2.2	0.0	NA	NA	NA	0%	-100%	NA	NA
26	Slovenia	0.0	5.0	6.5	NA	NA	NA	0%	+30%	NA	NA
27	Latvia	2.5	0.0	1.9	NA	NA	NA	-100%	0%	NA	NA
28	Lithuania	2.7	0.0	4.2	NA	NA	NA	-100%	0%	NA	NA
29	Estonia	11.9	13.3	6.2	NA	NA	NA	+12%	-54%	NA	NA
30	Luxembourg	0.0	26.3	22.6	NA	NA	NA	0%	-14%	NA	NA

Focus on separation minima

SMI

Compared with 2021, in 2022, the rate of separation minima infringements remained stable.

SMI 2021-2022

The increase in traffic levels in 2022 has naturally resulted in an increase of SMI occurrences of all types, namely regardless the factors involved, including those with ANS contribution, by 62.4% and 55.7%, respectively. However, the rates have experienced a small decrease of 0.9% and 2.5%, respectively.

SMI by State

The highest rate occurred in Luxemburg (22.6). Because the number of controlled hours is very small in its airspace, any small increases in absolute number of occurrences results in very significant changes in the rate, as it has been the case in 2022. LU has reported training of new ATCOs completed together with a new simulator. ANA (Luxemburgish ANSP) will monitor the ATCO refresher training to make special emphasis on SMI early detection, avoidance and recovery to reduce current rate. On the opposite side, three Member States (Denmark, Malta, and Slovakia) reported no SMIs within their airspace.

2.5 Quality of occurrences reporting

Occurrence reporting quality

SPI1a, SPI1b, SPI1c, SPI1d, and SPI2 were computed using information gathered from the submitted PMRs. This data was taken directly from what Member States reported in their PMRs without further verification against the occurrences reported in the European Central Repository (ECR), as foreseen by the RP3 safety supporting material. For the calculation of the indicators related to SMIs and RIs (SPI1a, SPI1b, SPI1c, and SPI1d), RP3 safety supporting material requires that occurrences data reported in the ECR under Commission Regulation (EU) No 376/2014 is used. However, so far in RP3 EASA has not been able to extract data

from the ECR containing all needed information to compute the SPIs. A significant part of occurrences extracted from ECR did not contain information on severity and risk, as required to compute the SPIs. Member States had to extract the occurrences from their own national databases with no further involvement from EASA. For the calculation of the indicators related to SMIs and RIs (SPI1a, SPI1b, SPI1c, and SPI1d), the occurrences that should be used in the computation of the different rates are only those that have a “safety impact”. Whether an occurrence has a safety impact or not should be determined by NSAs using the common European Risk Classification Scheme (ERCS), and by ANSPs using the severity classification using the Risk Analysis Tool (RAT).⁸ This information was barely found encoded in the ECR’s occurrences. It is likely that some have not applied the ERCS and RAT resulting in greater subjectivity in ANSP and NSA interpretations of what constitutes an occurrence that had a safety impact. Nevertheless, this does not invalidate the analysis, but it should be taken into consideration when interpreting the data.

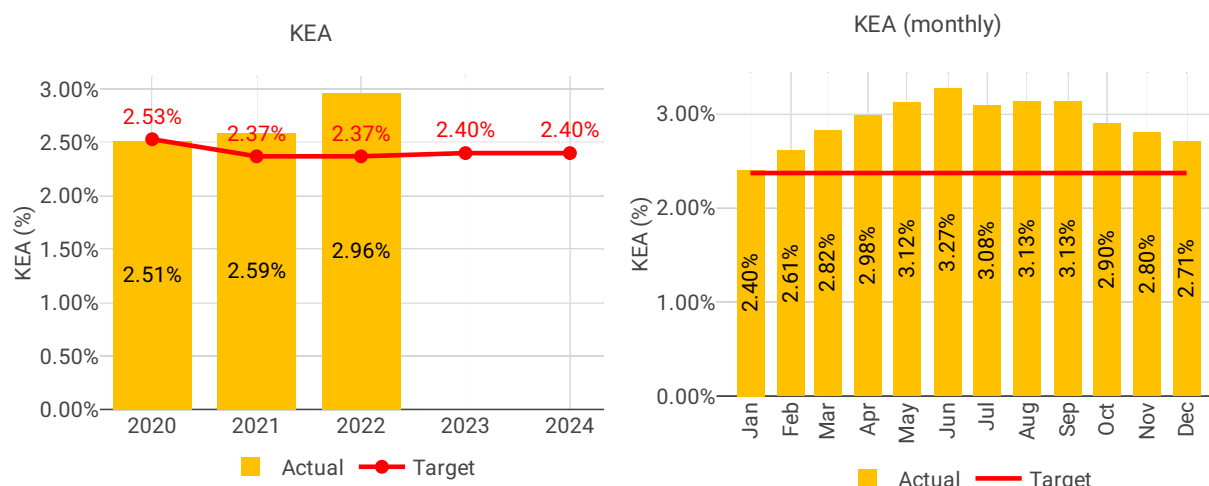
3 ENVIRONMENT - SES RP3

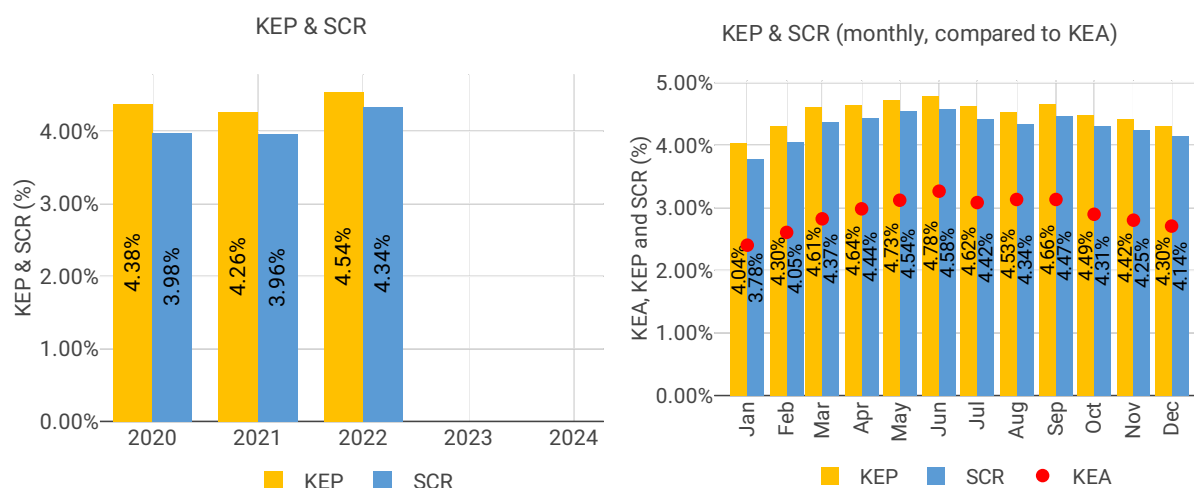
3.1 PRB monitoring

- Union-wide horizontal flight efficiency (KEA) performance targets were not achieved in 2022 and performance was at the worst levels since 2016. 25 Member States did not achieve their national/FAB targets.
- Horizontal flight efficiency deteriorated due to considerable capacity constraints, route extensions due to the closure of Ukrainian and Russian airspaces to European carriers following the Russian war of aggression against the Ukraine, and the continued avoidance of Belarus-ian airspace (since May 2021).
- For terminal airspace, both additional ASMA (holding) time and additional taxi-out time increased. Combined this shows a +28.9% increase compared to 2021, mainly driven by taxi-out performance. However, it is worth noting that performance remains better than 2019 levels.

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)





3.2.2 Summary of performance at local level

KEA (%)		
State	Target	Actual
Austria	1.96	2.09 X
Belgium	3.05	3.53 X
Bulgaria	2.25	3.28 X
Croatia	1.46	1.49 X
Cyprus	3.84	4.21 X
Czech Republic	2.05	2.55 X
Denmark	1.14	1.23 X
Estonia	1.22	5.46 X
Finland	0.88	3.28 X
France	2.83	3.28 X
Germany	2.30	2.76 X
Greece	1.92	2.33 X
Hungary	1.49	2.17 X
Ireland	1.13	1.12 ✓
Italy	2.67	2.98 X
Latvia	1.25	6.26 X
Lithuania	1.92	12.21 X
Malta	1.80	1.90 X
Netherlands	2.62	3.04 X
Norway	1.55	1.32 ✓
Poland	1.65	4.79 X
Portugal	1.80	1.52 ✓
Romania	2.05	3.36 X
Slovakia	2.13	4.04 X
Slovenia	1.55	1.72 X
Spain	3.08	3.32 X
Sweden	1.05	1.70 X
Switzerland	3.95	4.51 X

4 CAPACITY - SES RP3

4.1 PRB monitoring

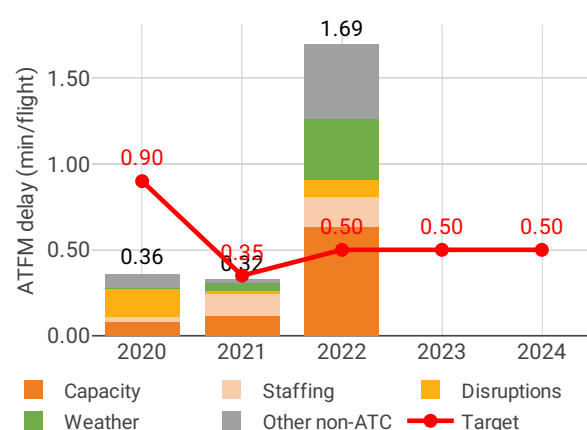
- The actual Union-wide average en route ATFM delay was 1.74 minutes per flight in 2022, 1.24 minutes per flight higher than the Union-wide target, and even higher than in 2019, despite less IFR movements.
- The European Commission adjusted the monitored value to 1.69, taking into account the delays due to the exceptional event relating to Russia's war of aggression against Ukraine. The adjusted actual value is 1.19 minutes per flight higher than the Union-wide target.
- 11 Member States did not achieve their local targets, indicating that most of the ANSPs did use the COVID-19 period to undertake the necessary initiatives to provide capacity to support the expected post-COVID-19 pandemic growth in traffic (as highlighted in last year PRB monitoring report).

- Terminal capacity performance deteriorated compared to 2021, mostly due to disruptions and airport-related capacity problems. All-cause departure delays were at a stunning 19.03 minutes per flight.
- Some ANSPs were not ready for the traffic recovery and network disruptions caused by system transitions. The impact of Russia's war of aggression against Ukraine also had an adverse effect. If ANSPs cannot implement capacity improvement measures as planned, and/or cannot deploy new systems without major disruptions, 2023 is expected to show even higher delays.

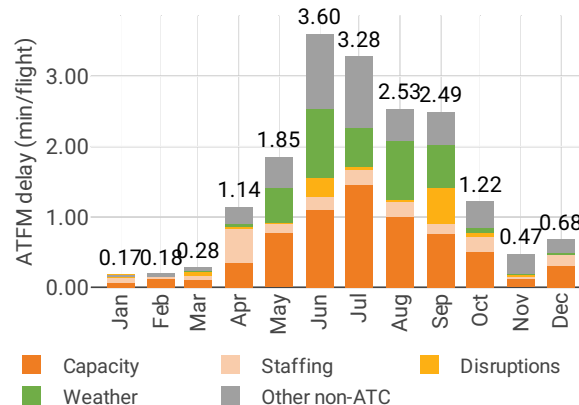
4.2 En route performance

4.2.1 En route ATFM delay (KPI#1)

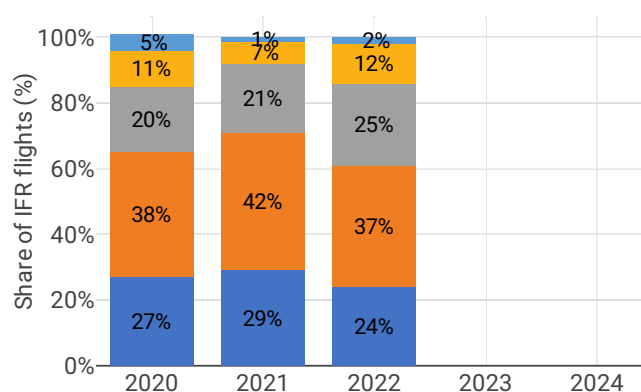
Average en route ATFM delay per flight by delay groups



Monthly distribution of en route ATFM delay by delay groups - 2022



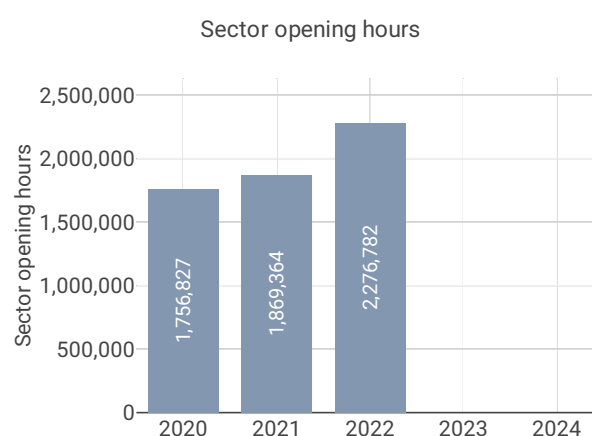
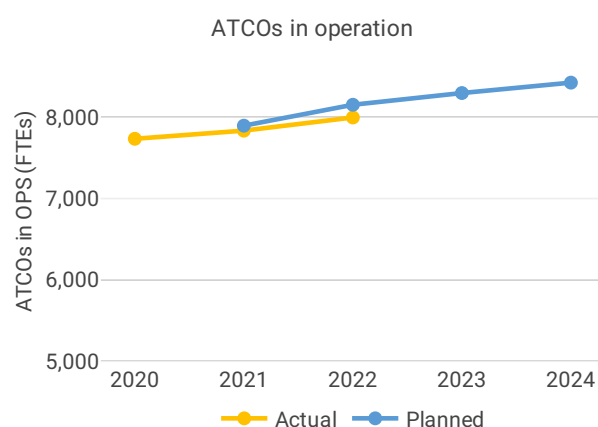
Distribution of IFR flights per the duration of en route ATFM delay



4.2.2 Summary of performance at local level

En route delay (min/flight)		
State	Target	Actual
Austria	0.17	0.07 ✓
Belgium	0.17	0.13 ✓
Bulgaria	0.08	0.00 ✓
Croatia	0.16	0.57 ✗
Cyprus	0.16	0.00 ✓
Czech Republic	0.11	1.33 ✗
Denmark	0.06	0.00 ✓
Estonia	0.03	0.00 ✓
Finland	0.05	0.00 ✓
France	0.25	1.49 ✗
Germany	0.27	2.20 ✗
Greece	0.14	0.15 ✗
Hungary	0.11	0.54 ✗
Ireland	0.03	0.00 ✓
Italy	0.11	0.15 ✗
Latvia	0.03	0.00 ✓
Lithuania	0.02	0.00 ✓
Malta	0.01	0.00 ✓
Netherlands	0.14	0.04 ✓
Norway	0.08	0.01 ✓
Poland	0.12	1.09 ✗
Portugal	0.13	0.67 ✗
Romania	0.04	0.00 ✓
Slovakia	0.07	0.00 ✓
Slovenia	0.09	0.00 ✓
Spain	0.20	0.30 ✗
Sweden	0.07	0.04 ✓
Switzerland	0.19	0.21 ✗

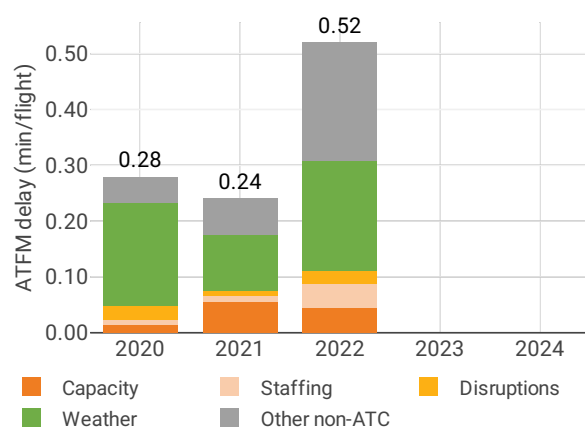
4.2.3 Other indicators



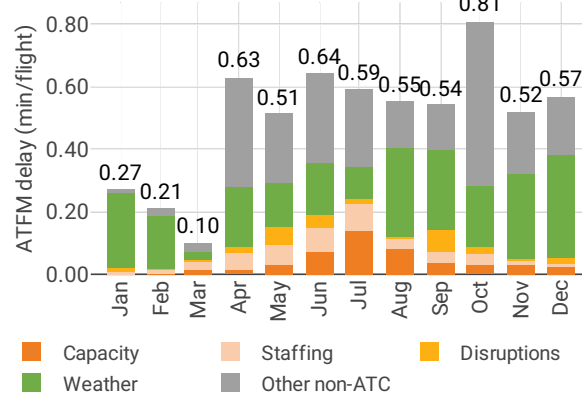
4.3 Terminal performance

4.3.1 Arrival ATFM delay (KPI#2)

Average arrival ATFM delay per flight by delay groups



Monthly distribution of arrival ATFM delay by delay groups - 2022

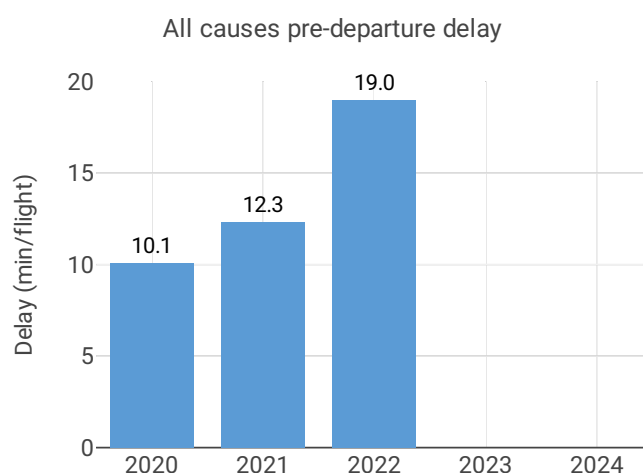


4.3.2 Summary of performance at local level

Arrival delay (min/flight)

State	Target	Actual
Austria	0.87	0.15 ✓
Belgium	1.08	0.11 ✓
Czech Republic	0.40	0.13 ✓
Denmark	0.10	0.02 ✓
Estonia	0.00	0.00 ✓
Finland	0.28	0.06 ✓
France	0.40	0.62 ✗
Germany	0.45	0.28 ✓
Greece	0.70	1.64 ✗
Hungary	0.05	0.00 ✓
Ireland	0.20	0.15 ✓
Italy	0.33	0.07 ✓
Latvia	0.02	0.00 ✓
Luxembourg	0.05	0.10 ✗
Malta	0.01	0.00 ✓
Netherlands	1.60	1.78 ✗
Norway	0.50	0.10 ✓
Poland	0.21	0.04 ✓
Portugal	1.91	2.31 ✗
Romania	0.39	0.01 ✓
Spain	0.66	0.48 ✓
Sweden	0.15	0.09 ✓
Switzerland	1.15	0.74 ✓

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

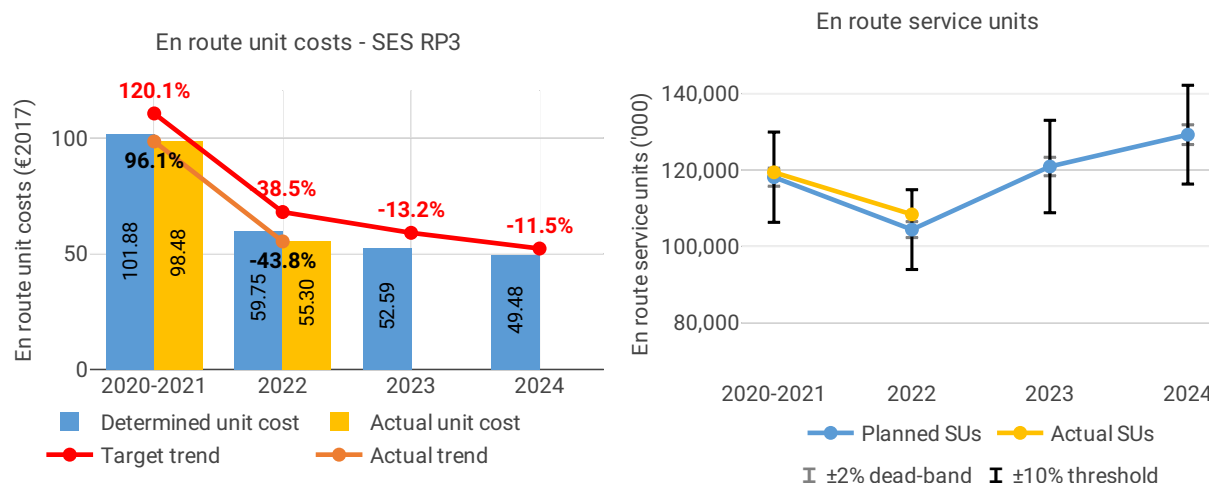


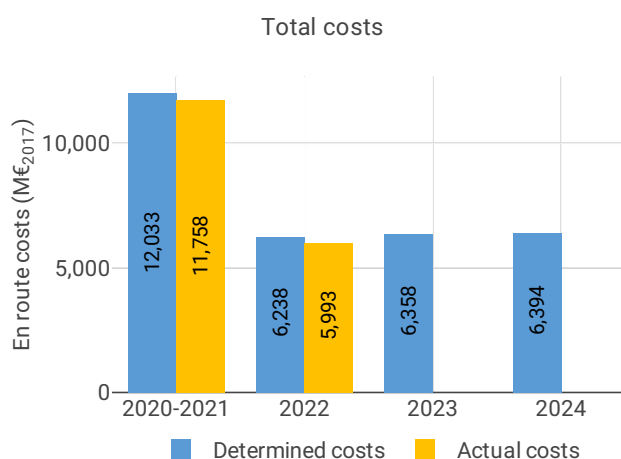
5 COST-EFFICIENCY - SES RP3

5.1 PRB monitoring

- In 2022, Member States met the en route cost-efficiency Union-wide target.
- Union-wide en route actual costs in 2022 were -3.9% below determined costs, while service units were +3.9% higher than planned. However, the decrease in costs is mainly attributable to a significantly higher inflation than forecasted.
- 25 Member States showed lower actual total costs compared to planned in 2022, of which 19 lower by more than 5%. Only one Member State, Spain, increased its costs by more than 5% compared to the determined.
- The en route actual unit cost for airspace users (AUCU) has been +2.4% higher than the de-termined unit cost, since inflation was higher than expected.
- The 2020/2021 revenue gap amounts to 5.7B €2017. An additional gap of 2.7 M€2017 originates from 2022 when States had revised their plans after the adoption of their 2022 unit rate. The total revenue gap will be recovered over a five to seven year period, starting from 2023.

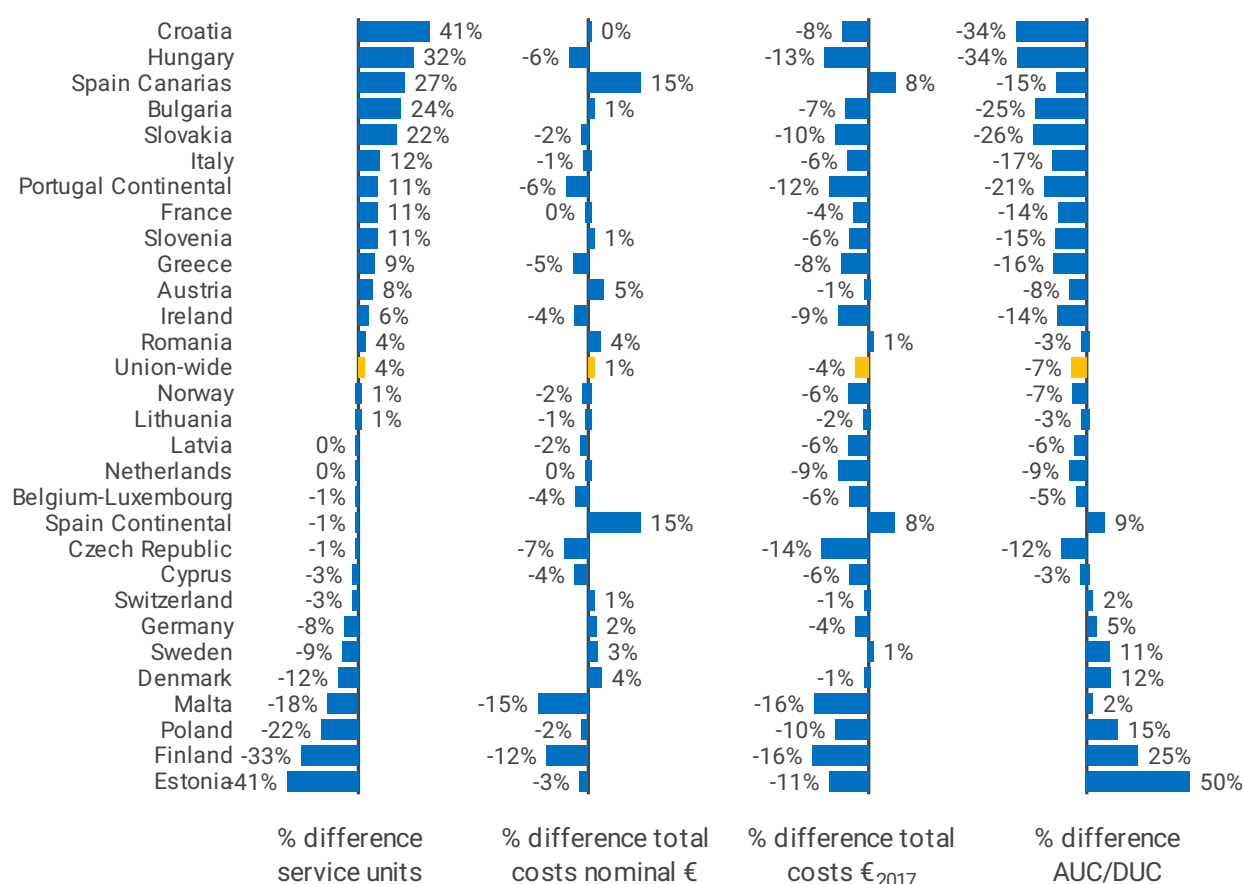
5.2 En route charging zone



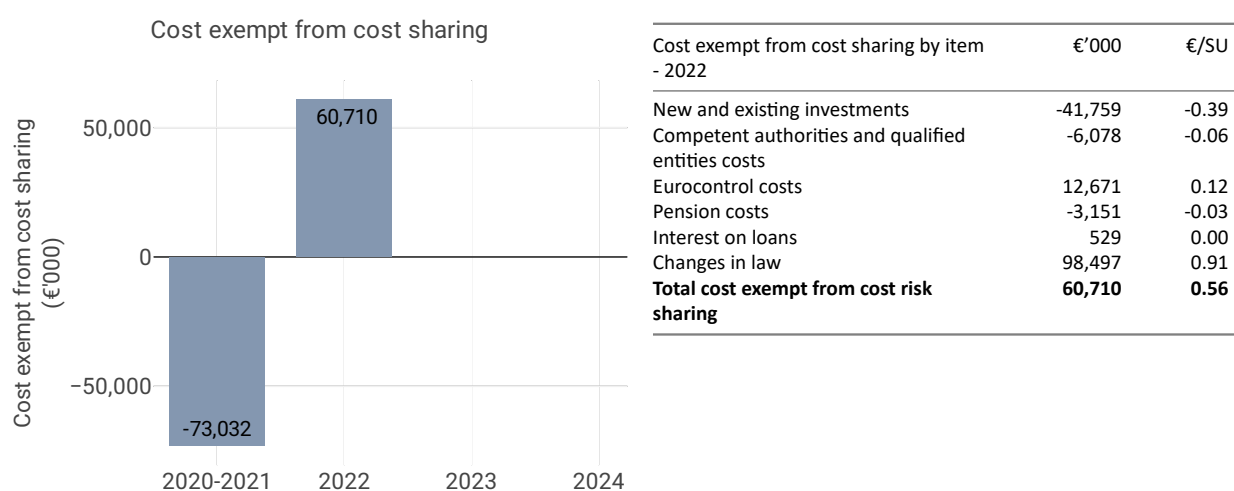
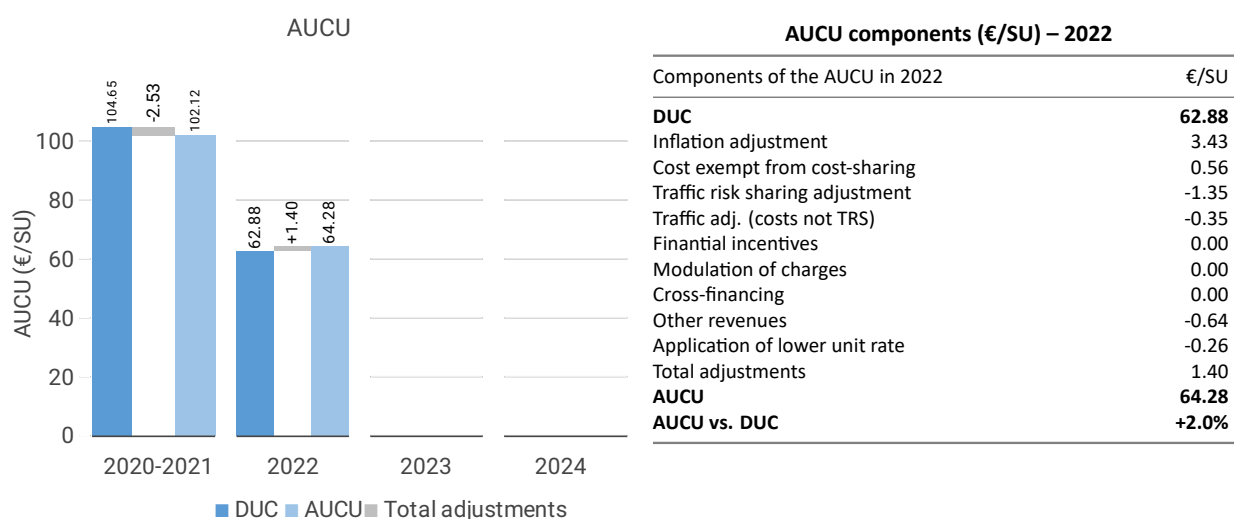


Actual and determined data				
Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	12,238	6,717	NA	NA
Determined costs	12,476	6,632	6,861	6,988
Difference costs	-238	85	NA	NA

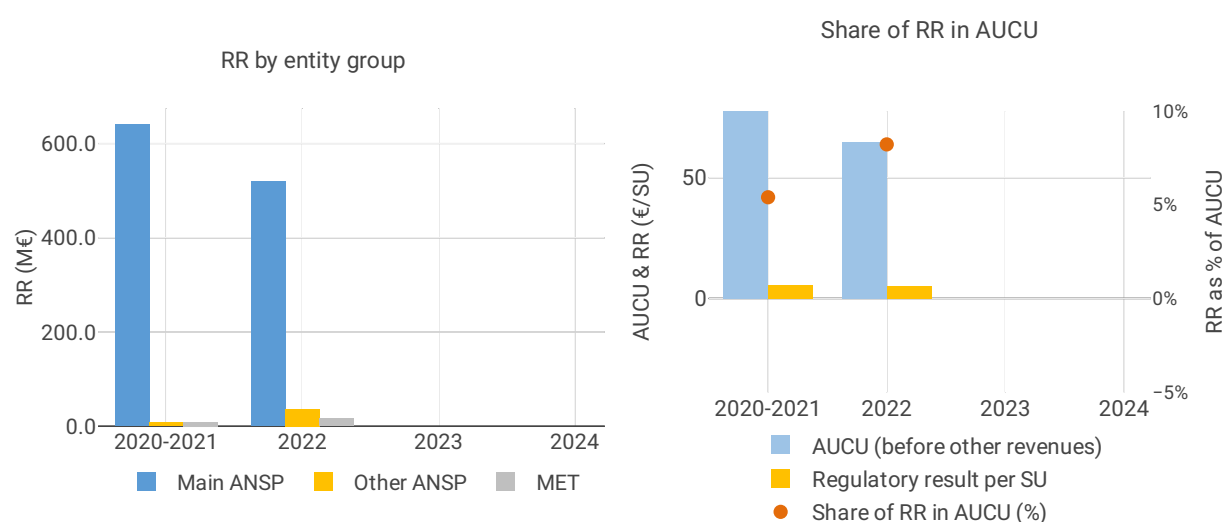
5.2.1 Summary of performance at local level



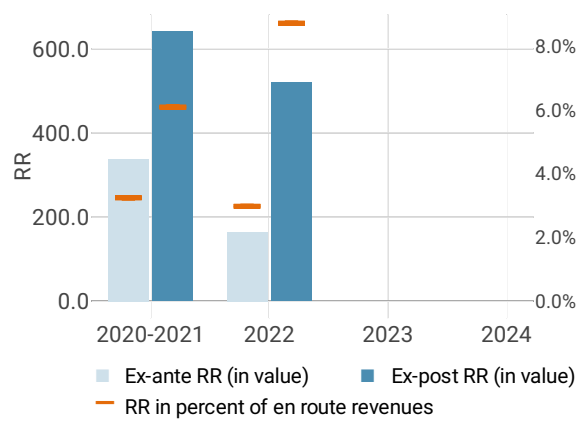
5.2.2 Actual unit cost incurred by the users (AUCU) (PI#1)



5.2.3 Regulatory result (RR)



RR - Main ANSPs



Net result from en route activity - Main ANSPs 2022

