



Performance Review Body Monitoring Report

France - 2020

This report is automatically generated from: sesperformance.eu

**COPYRIGHT NOTICE
AND DISCLAIMER**

© European Union, 2025

This report has been prepared for the European Commission by the Performance Review Body of the Single European Sky (PRB).

Reproduction is authorised provided the source is acknowledged. However, neither the European Commission, nor any person acting on its behalf, may be held responsible for the use which may be made of the information contained in this publication, or for any errors which may appear, despite careful preparation and checking.

TABLE OF CONTENTS

1	OVERVIEW	3
1.1	Contextual information	3
1.2	Traffic (En route traffic zone)	3
1.3	Safety (Main ANSP)	4
1.4	Environment (Member State)	4
1.5	Capacity (Member State)	5
1.6	Cost-efficiency (En route/Terminal charging zone(s))	6
2	SAFETY - FRANCE	6
2.1	PRB monitoring	6
2.2	Effectiveness of Safety Management (EoSM) (KPI#1)	7
2.3	Occurrences - Rate of runway incursions (RIs) (PI#1) & Rate of separation minima infringements (SMIs) (PI#2)	7
3	ENVIRONMENT - FRANCE	8
3.1	PRB monitoring	8
3.2	En route performance	8
3.3	Terminal performance	9
3.4	Civil-Military dimension	12
4	CAPACITY - FRANCE	13
4.1	PRB monitoring	13
4.2	En route performance	14
4.3	Terminal performance	15
5	COST-EFFICIENCY - FRANCE	20
5.1	PRB monitoring	20
5.2	En route charging zone	21
5.3	Terminal charging zone - France Zone 1	24
5.4	Terminal charging zone - France Zone 2	27

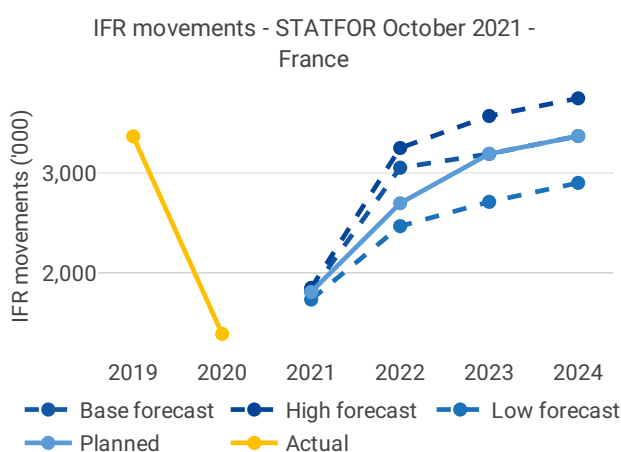
1 OVERVIEW

1.1 Contextual information

National performance plan adopted following Commission Decision (EU) 2023/176 of 14 December 2022

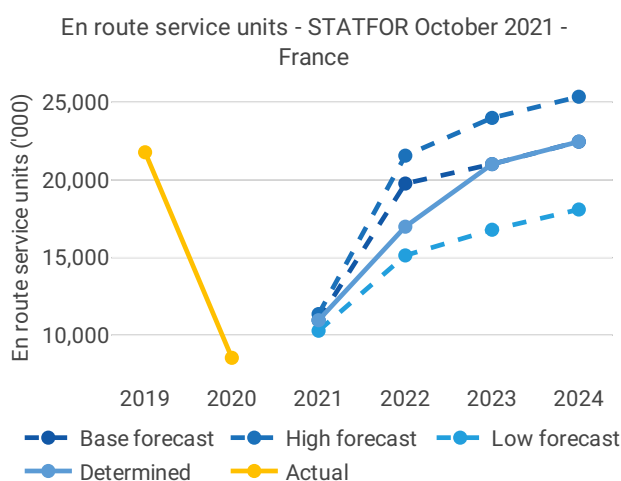
List of ACCs 5	Exchange rate (1 EUR=)	Main ANSP
Bordeaux ACC	2017: 1 EUR	• DSNA
Brest ACC	2020: 1 EUR	
Marseille ACC		Other ANSPs
Paris ACC	Share of Union-wide:	–
Reims ACC	• traffic (TSUs) 2020 16.3%	
	• en route costs 2020 21.5%	MET Providers
No of airports in the scope of the performance plan:	Share en route / terminal costs 2020 84% / 16%	• Météo France
• ≥80'K 6	En route charging zone(s)	
• <80'K 52	France	
	Terminal charging zone(s)	
	France Zone 1	
	France Zone 2	

1.2 Traffic (En route traffic zone)



- France recorded 1,390K actual IFR movements in 2020, -59% compared to 2019 (3,372K).

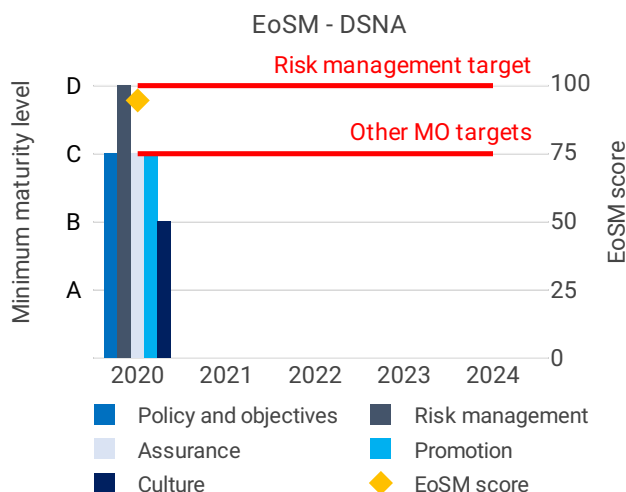
- France IFR movements reduced more than the average reduction at Union-wide level (-57%).



- France recorded 8,547K actual en route service units in 2020, -61% compared to 2019 (21,782K).

- France service units reduced more than the average reduction at Union-wide level (-57%).

1.3 Safety (Main ANSP)



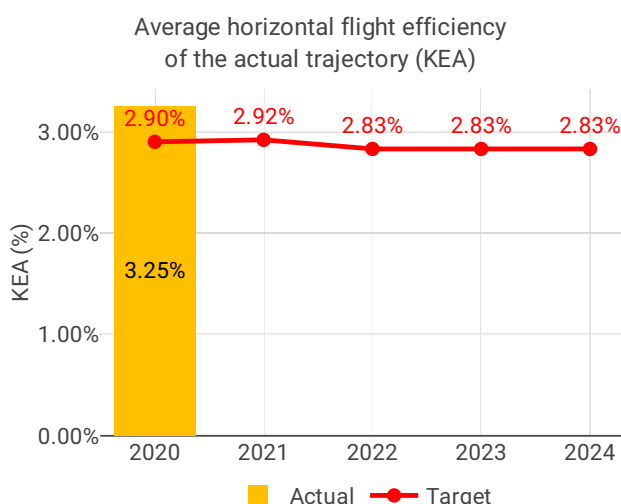
- DSNA achieved the EoS M RP3 targets in all management objectives except for safety culture. The performance of DSNA in 2020 is consistent with the maturity levels reached in the last year of RP2 and therefore there was no specific performance improvement.

- DSNA initiated activities to measure safety culture levels within its complex organisational structure and established an ANSP action plan, which the NSA considers appropriate and sufficient to reach targets by the end of RP3.

- The PRB acknowledges that measuring safety culture maturity in a complex organisation is challenging and DSNA only needs to improve the maturity level in one question out of 28 EoS M questions.

- The rate of occurrences were considerably lower in 2020 for both RIs and SMIs. DSNA should improve its SMS by implementing automated safety data recording systems for RIs.

1.4 Environment (Member State)



- FABEC stated that half of the Union-wide RAD simplifications applied in 2020 were within FABEC airspace and that eNM measures were not needed. This helped improve the shortest constrained routes within FABEC, but was not sufficient in helping to reach the FAB-level KEA reference value (2.90%) in 2020.

- FABEC also mentioned that KEA is proportional to delays and stated that this had an impact on the environment performance. The PRB does not agree with this as FABEC did not experience significant delays in 2020, but France itself did generate significant delays in the first quarter of 2020.

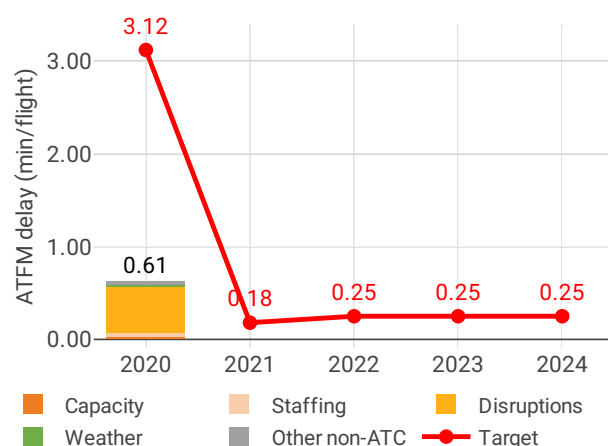
- At national level, France achieved a KEA performance of 3.25% compared to FABEC's reference value of 2.90%.

- A specific factor that contributed negatively to France's 2020 KEA performance was that military training activities continued at a high level. However, France stated that the unpredictability of military training requirements means it cannot accurately reserve airspace and that the current performance is likely the best it is able to achieve.

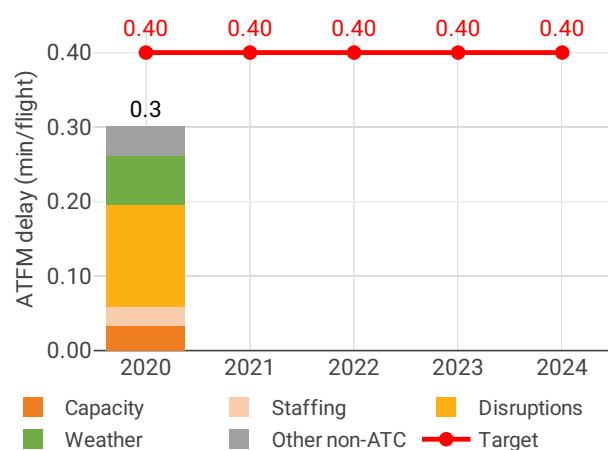
- Only five out of 52 French airports that are regulated reported terminal data. The share of flights operating CDO at French airports worsened in 2020 compared to 2019. The additional time airspace users spent taxiing or holding in terminal airspace reduced by 40% compared to 2019.

1.5 Capacity (Member State)

Average en route ATFM delay per flight by delay groups



Average arrival ATFM delay per flight by delay groups



- France did not contribute positively towards the FABEC breakdown value: DSNAs registered 0.61 minutes of average en route ATFM delay per flight during 2020, thus not achieving the local breakdown value of 0.43.

- Bordeaux, Marseille and Reims ACCs produced significantly fewer delays than in 2019, Brest ACC generated only 0.03 minutes less average delay and Paris ACC generated 0.17 minutes more average delay than in 2019, mostly due to industrial action.

- Delays must be considered in the context of the traffic evolution: IFR movements in 2020 were 59% below the 2019 levels in France.

- The NSA reported that the new national pension scheme law introduced by the government was the reason DSNAs staff used industrial action. The industrial action caused most of the delays in 2020.

- Based on the analysis of previous capacity profiles, the PRB estimates that France will face a capacity gap once IFR movements rise above 85% of 2019 levels. The PRB recommends that capacity improvement measures are implemented before traffic begins to recover.

- Delays were mostly driven by disruptions (ATC in-

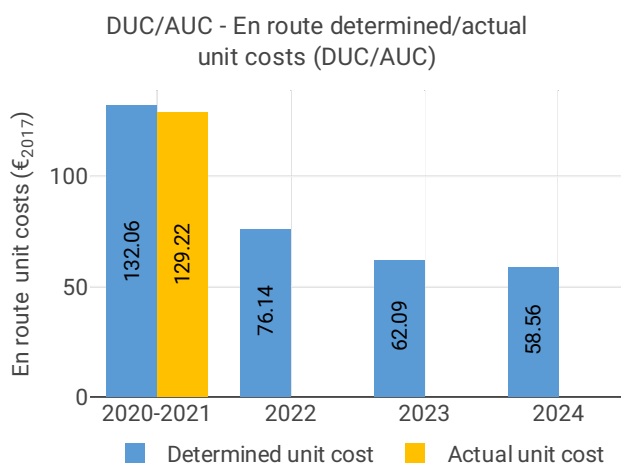
dustrial actions).

- The share of delayed flights with delays longer than 15 minutes in France increased by 5.61 p.p. compared to 2019.

- The yearly total of sector opening hours in Bordeaux ACC was 62,604, showing a 14.7% decrease compared to 2019. The yearly total of sector opening hours in Reims ACC was 37,007, showing a 46.2% decrease compared to 2019. The yearly total of sector opening hours in Paris ACC was 58,905, showing a 42.7% decrease compared to 2019. The yearly total of sector opening hours in Marseille ACC was 68,661, showing a 31.8% decrease compared to 2019. The yearly total of sector opening hours in Brest ACC was 48,001, showing a 41.3% decrease compared to 2019.

- Bordeaux ACC registered 6.23 IFR movements per one sector opening hour in 2020, being 53.4% below 2019 levels. Reims ACC registered 11.58 IFR movements per one sector opening hour in 2020, being 22.1% below 2019 levels. Paris ACC registered 9.05 IFR movements per one sector opening hour in 2020, being 23.9% below 2019 levels. Marseille ACC registered 6.97 IFR movements per one sector opening hour in 2020, being 39.4% below 2019 levels. Brest ACC registered 8.62 IFR movements per one sector opening hour in 2020, being 36.2% below 2019 levels.

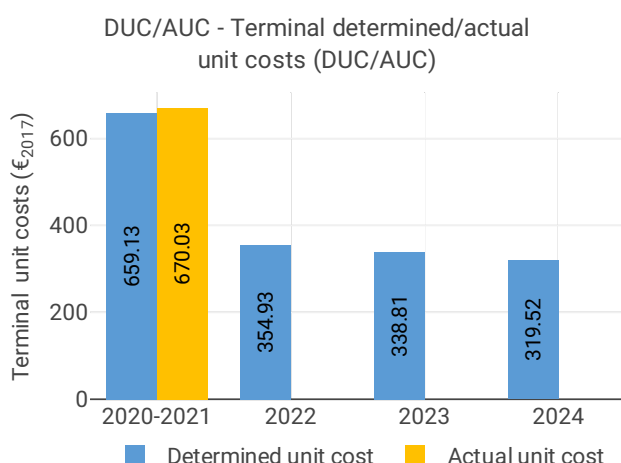
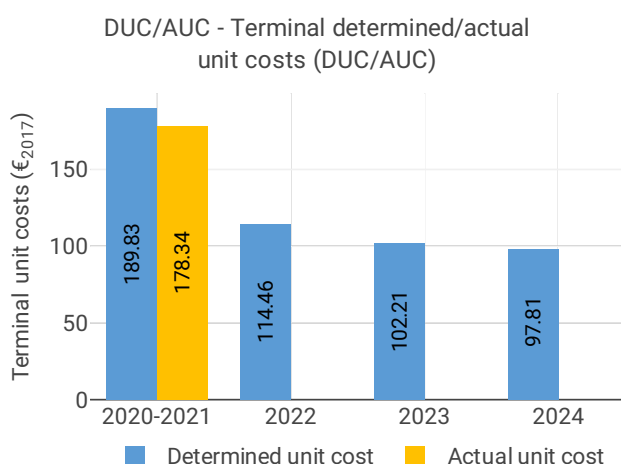
1.6 Cost-efficiency (En route/Terminal charging zone(s))



- The 2020 actual service units (8,547K) were 61% lower than the actual service units in 2019 (21,837K).

- France reduced total costs in 2020 by only 7 M€2017 (-1%) compared to 2019 actual costs.

- DSNA spent 302 M€2017 in 2020 related to costs of investments, 6% less than planned in the 2019 draft performance plan (323 M€2017). The reduction can be attributable to a lower depreciation and cost of capital than planned.



2 SAFETY - FRANCE

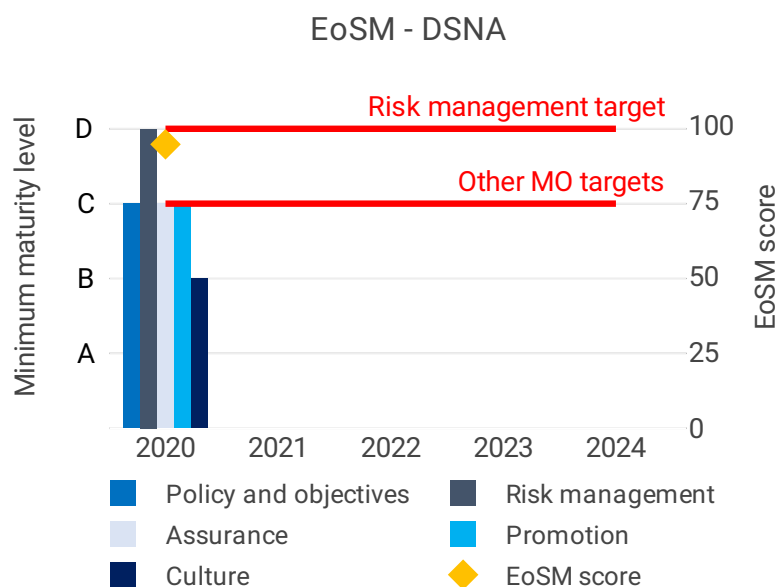
2.1 PRB monitoring

- DSNA achieved the EoSM RP3 targets in all management objectives except for safety culture. The performance of DSNA in 2020 is consistent with the maturity levels reached in the last year of RP2 and therefore there was no specific performance improvement.

- DSNA initiated activities to measure safety culture levels within its complex organisational structure and established an ANSP action plan, which the NSA considers appropriate and sufficient to reach targets by the end of RP3.

- The PRB acknowledges that measuring safety culture maturity in a complex organisation is challenging and DSNA only needs to improve the maturity level in one question out of 28 EoSM questions.
- The rate of occurrences were considerably lower in 2020 for both RIs and SMIs. DSNA should improve its SMS by implementing automated safety data recording systems for RIs.

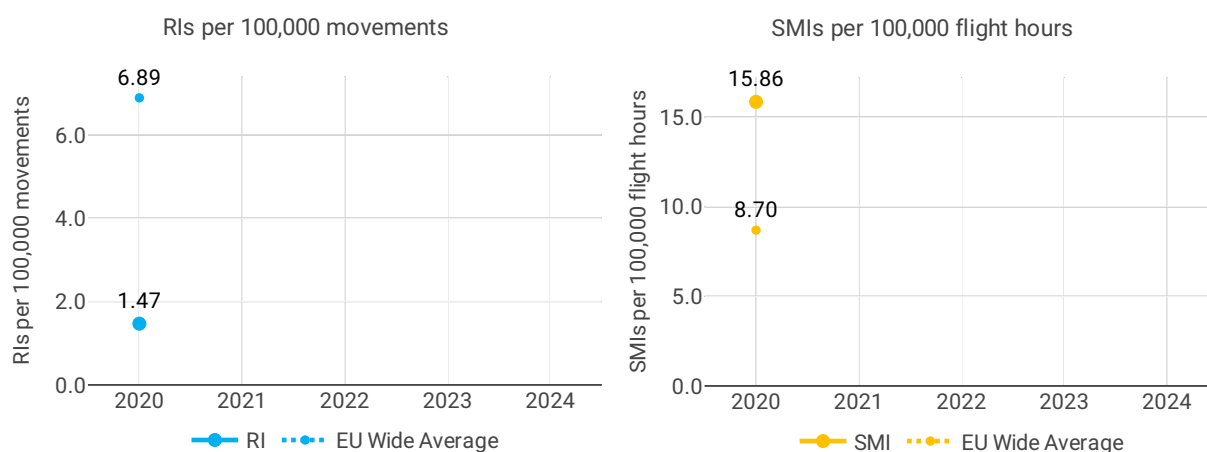
2.2 Effectiveness of Safety Management (EoSM) (KPI#1)



Focus on EoSM

Four out of five EoSM components of the ANSP meet already the 2024 target level. Only the component “Safety Culture” is below 2024 target level. Improvements in this area are still expected during RP3 to achieve 2024 targets.

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



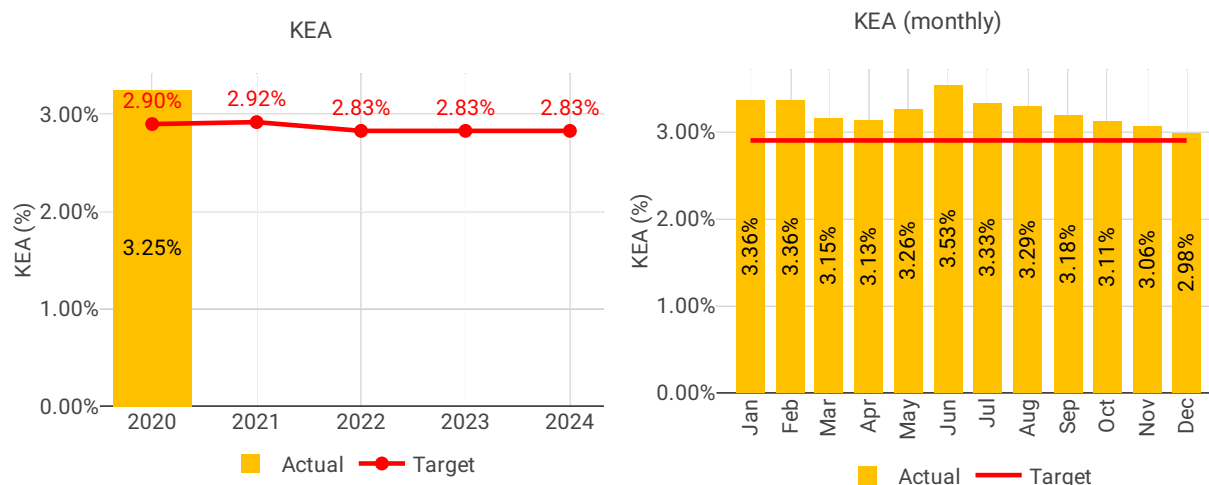
3 ENVIRONMENT - FRANCE

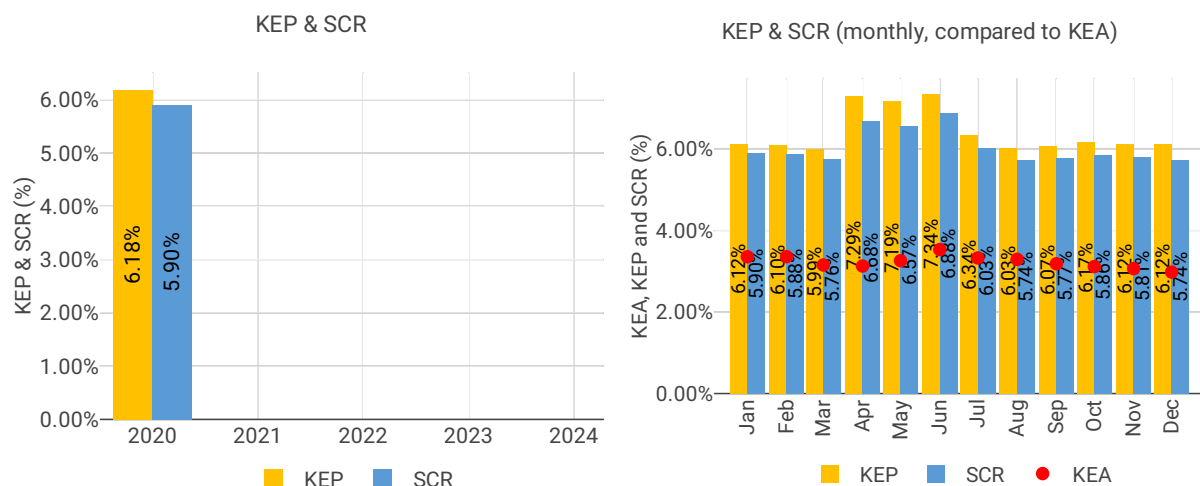
3.1 PRB monitoring

- FABEC stated that half of the Union-wide RAD simplifications applied in 2020 were within FABEC airspace and that eNM measures were not needed. This helped improve the shortest constrained routes within FABEC, but was not sufficient in helping to reach the FAB-level KEA reference value (2.90%) in 2020.
- FABEC also mentioned that KEA is proportional to delays and stated that this had an impact on the environment performance. The PRB does not agree with this as FABEC did not experience significant delays in 2020, but France itself did generate significant delays in the first quarter of 2020.
- At national level, France achieved a KEA performance of 3.25% compared to FABEC's reference value of 2.90%.
- A specific factor that contributed negatively to France's 2020 KEA performance was that military training activities continued at a high level. However, France stated that the unpredictability of military training requirements means it cannot accurately reserve airspace and that the current performance is likely the best it is able to achieve.
- Only five out of 52 French airports that are regulated reported terminal data. The share of flights operating CDO at French airports worsened in 2020 compared to 2019. The additional time airspace users spent taxiing or holding in terminal airspace reduced by 40% compared to 2019.

3.2 En route performance

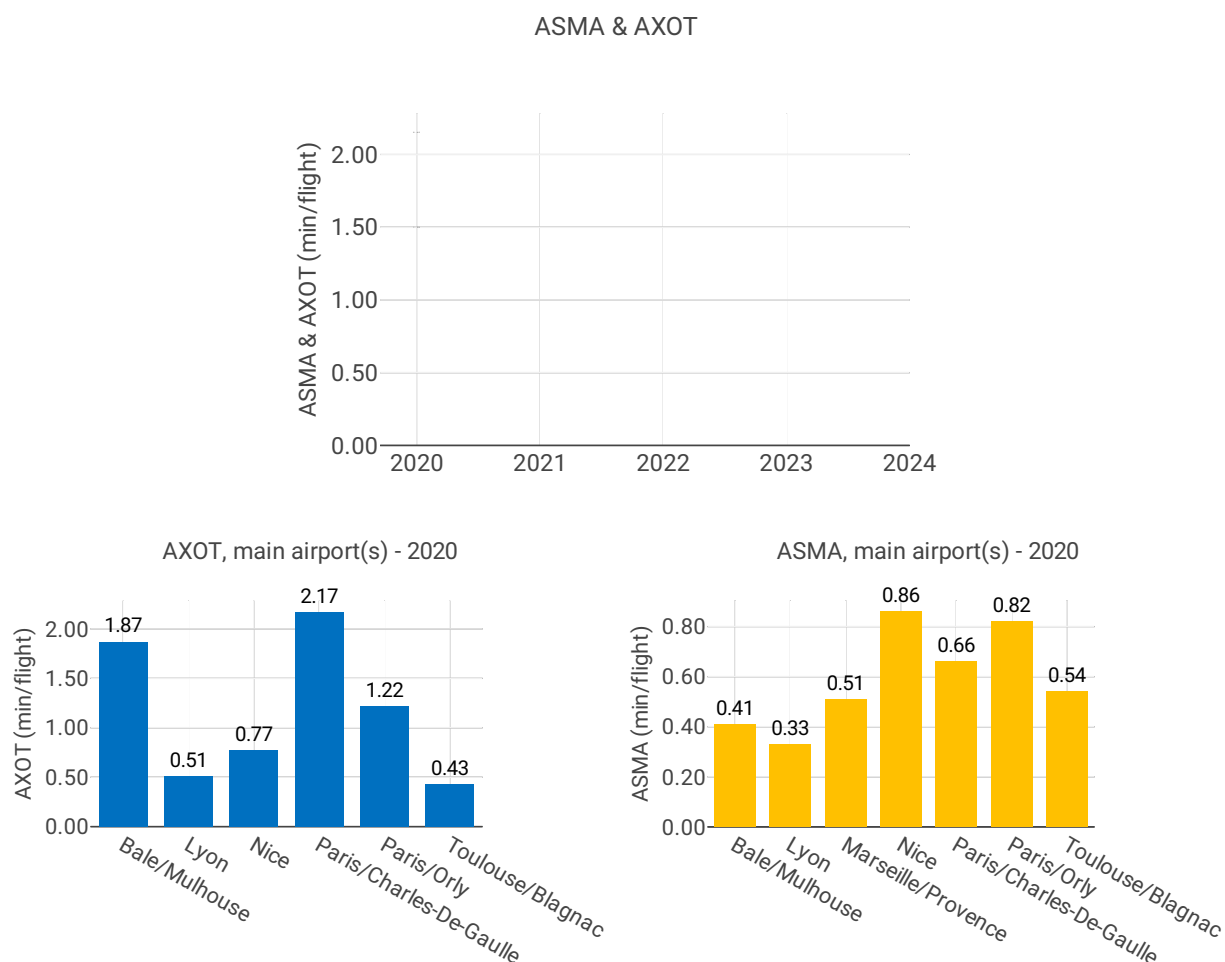
3.2.1 Horizontal flight efficiency of the actual trajectory (KEA) (KPI#1), of the last filed flight plan (KEP) (PI#1) & shortest constrained route (SCR) (PI#2)





3.3 Terminal performance

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



Focus on ASMA & AXOT

AXOT

Additional taxi-out times in 2020 decreased between 38% and 55% with respect to 2019 at the French airports where it can be analysed, due to the drastic reduction in traffic (between -53% and -62%). In particular at Charles de Gaulle (LFPG; 2019: 3.77 min/dep; 2020: 2.17 min/dep.) additional taxi-out

times normally range around 3.5 min/dep. in previous years. In 2020 this indicator started the year averaging 4 min/dep, probably due to de-icing procedures. However as of April these times drastically decreased and kept well below 2 min for the rest of the year.

The end of the year showed a steady increase of these additional taxi-out times, probably associated to the holiday traffic and de-icing procedures.

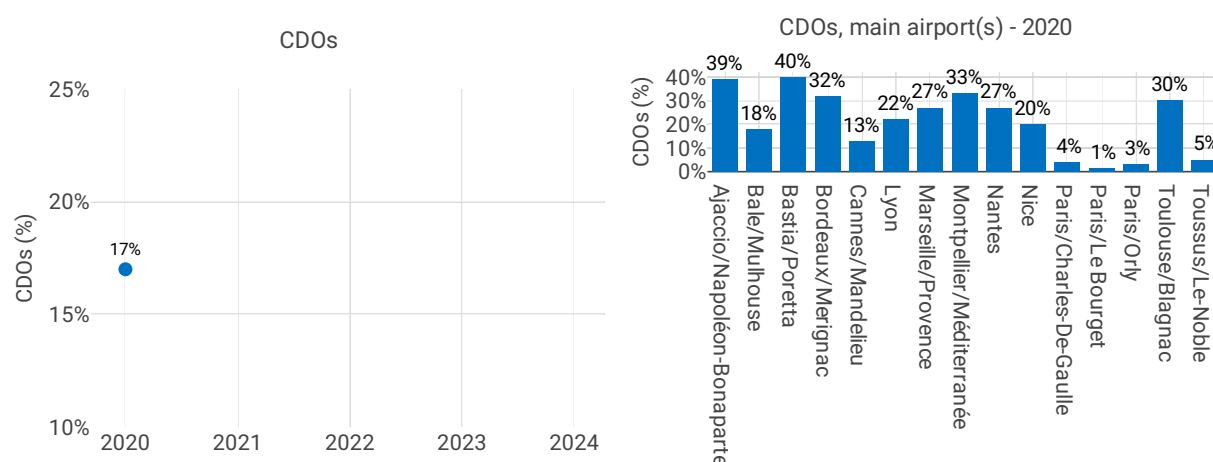
ASMA

Additional times in the terminal area at French airports were in general very good and well below the RP2 average in 2019. In 2020 these times decreased in different degrees depending on the airport, with the lower reductions observed at the biggest airports Charles de Gaulle (LFPG; -25% with respect to 2019) and Paris Orly (LFPO; -21% with respect to 2019).

Nice (LFMN), despite a 51% reduction with respect to the previous year, showed once more the highest additional ASMA times at these airports (LFMN; 2020: 0.78 min/arr.)

Like in previous years, Charles de Gaulle was once again the best performing airport above 200,000 movements with the lowest additional ASMA times (LFPG; 2020: 0.66 min/arr.)

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



Focus CDOs

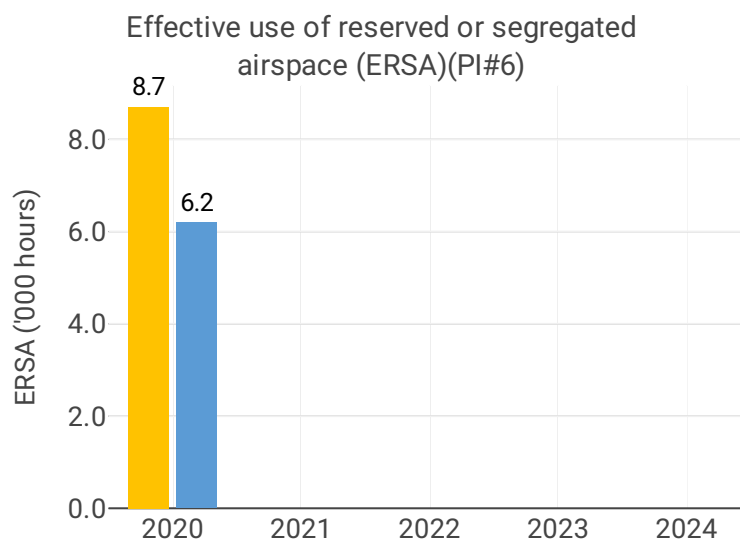
For 10 out of the 58 airports, the share of CDO flights was above the RP3 overall value in 2020 (32.5%).

The Paris airports have a remarkably low share of CDO flights, despite the low traffic numbers. Paris-Le Bourget (LFPB) has the lowest share of CDO flights of all airports monitored during 2020 (0.9%).

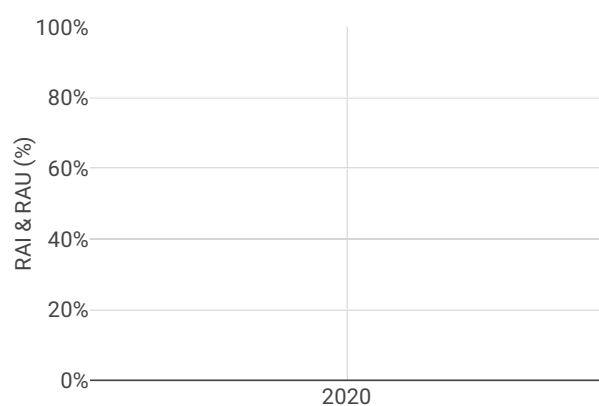
Airport level

Airport Name	Additional taxi-out time (PI#3)					Additional ASMA time (PI#4)					Share of arrivals applying CDO (PI#5)				
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
Bale/Mulhouse	1.87	NA	NA	NA	NA	0.41	NA	NA	NA	NA	18%	NA	NA	NA	NA
Lyon	0.51	NA	NA	NA	NA	0.33	NA	NA	NA	NA	22%	NA	NA	NA	NA
Marseille/Provence	NA	NA	NA	NA	NA	0.51	NA	NA	NA	NA	27%	NA	NA	NA	NA
Nice	0.77	NA	NA	NA	NA	0.86	NA	NA	NA	NA	20%	NA	NA	NA	NA
Paris/Charles-De-Gaulle	2.17	NA	NA	NA	NA	0.66	NA	NA	NA	NA	4%	NA	NA	NA	NA
Paris/Orly	1.22	NA	NA	NA	NA	0.82	NA	NA	NA	NA	3%	NA	NA	NA	NA
Toulouse/Blagnac	0.43	NA	NA	NA	NA	0.54	NA	NA	NA	NA	30%	NA	NA	NA	NA
Albert/Bray	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29%	NA	NA	NA	NA
Agen/La-Garenne	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21%	NA	NA	NA	NA
Bordeaux/Merignac	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32%	NA	NA	NA	NA
Bergerac/Roumanière	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15%	NA	NA	NA	NA
La-Rochelle/Ile de Ré	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26%	NA	NA	NA	NA
Poitiers/Biard	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16%	NA	NA	NA	NA
Limoges/Bellegarde	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30%	NA	NA	NA	NA
Pau/Pyrénées	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23%	NA	NA	NA	NA
Tarbes-Lourdes/Pyrénées	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	63%	NA	NA	NA	NA
Biarritz/Bayonne-Anglet	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	26%	NA	NA	NA	NA
Rodez/Marcillac	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17%	NA	NA	NA	NA
Dole/Tavaux	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13%	NA	NA	NA	NA
Metz-Nancy/Lorraine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9%	NA	NA	NA	NA
Bastia/Poretta	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	40%	NA	NA	NA	NA
Calvi/Sainte-Catherine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38%	NA	NA	NA	NA
Figari/Sud-Corse	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35%	NA	NA	NA	NA
Ajaccio/Napoléon-Bonaparte	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	39%	NA	NA	NA	NA
Chambéry/Aix-les-Bains	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9%	NA	NA	NA	NA
Clermont-Ferrand/Auvergne	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22%	NA	NA	NA	NA
Annecy/Meythet	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15%	NA	NA	NA	NA
Grenoble/Isère	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19%	NA	NA	NA	NA
Châteauroux/Déols	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12%	NA	NA	NA	NA
Lyon/Bron	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10%	NA	NA	NA	NA
Cannes/Mandelieu	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13%	NA	NA	NA	NA
Saint-Etienne/Bouthéon	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11%	NA	NA	NA	NA
Istres/Le-Tubé	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	31%	NA	NA	NA	NA
Carcassonne/Salvaza	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19%	NA	NA	NA	NA
Perpignan/Rivesaltes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43%	NA	NA	NA	NA
Montpellier/Méditerranée	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33%	NA	NA	NA	NA
Béziers/Vias	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28%	NA	NA	NA	NA
Avignon/Caumont	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15%	NA	NA	NA	NA
Beauvais/Tillé	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8%	NA	NA	NA	NA
Châlons/Vatry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27%	NA	NA	NA	NA
Rouen/Vallée-de-Seine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29%	NA	NA	NA	NA
Tours/Val-de-Loire	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	48%	NA	NA	NA	NA
Paris/Le Bourget	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1%	NA	NA	NA	NA
Toussus/Le-Noble	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5%	NA	NA	NA	NA
Lille/Lesquin	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29%	NA	NA	NA	NA
Brest/Bretagne	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33%	NA	NA	NA	NA
Dinard/Pleurtuit-Saint-Malo	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19%	NA	NA	NA	NA
Deauville/Normandie	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11%	NA	NA	NA	NA
Lorient/Lann-Bihoué	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30%	NA	NA	NA	NA
Caen/Carpiquet	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11%	NA	NA	NA	NA
Rennes/St-Jacques	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	53%	NA	NA	NA	NA
Quimper/Pluguffan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28%	NA	NA	NA	NA
Nantes	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	27%	NA	NA	NA	NA
Saint-Nazaire/Montoir	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20%	NA	NA	NA	NA
Brive/Souillac	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15%	NA	NA	NA	NA
Strasbourg/Entzheim	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17%	NA	NA	NA	NA
Hyères/Le-Palyvestre	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	31%	NA	NA	NA	NA
Nîmes/Garons	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19%	NA	NA	NA	NA

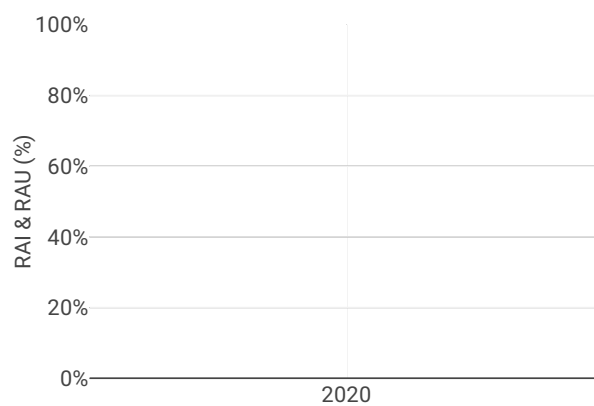
3.4 Civil-Military dimension



RAI & RAU via available conditional routes (PIs#7 & 8)



RAI & RAU via available restricted and segregated airspace (PIs#7 & 8)



Focus on Civil-Military dimension

Update on Military dimension of the plan

No data available

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

No data available

Initiatives implemented or planned to improve PI#6

No data available

Initiatives implemented or planned to improve PI#7

No data available

Initiatives implemented or planned to improve PI#8

No data available

4 CAPACITY - FRANCE

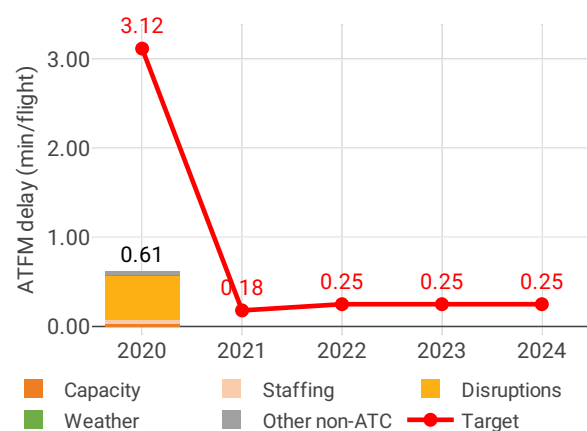
4.1 PRB monitoring

- France did not contribute positively towards the FABEC breakdown value: DSNA registered 0.61 minutes of average en route ATFM delay per flight during 2020, thus not achieving the local breakdown value of 0.43.
- Bordeaux, Marseille and Reims ACCs produced significantly fewer delays than in 2019, Brest ACC generated only 0.03 minutes less average delay and Paris ACC generated 0.17 minutes more average delay than in 2019, mostly due to industrial action.
- Delays must be considered in the context of the traffic evolution: IFR movements in 2020 were 59% below the 2019 levels in France.
- The NSA reported that the new national pension scheme law introduced by the government was the reason DSNA staff used industrial action. The industrial action caused most of the delays in 2020.
- Based on the analysis of previous capacity profiles, the PRB estimates that France will face a capacity gap once IFR movements rise above 85% of 2019 levels. The PRB recommends that capacity improvement measures are implemented before traffic begins to recover.
- Delays were mostly driven by disruptions (ATC industrial actions).
- The share of delayed flights with delays longer than 15 minutes in France increased by 5.61 p.p. compared to 2019.
- The yearly total of sector opening hours in Bordeaux ACC was 62,604, showing a 14.7% decrease compared to 2019. The yearly total of sector opening hours in Reims ACC was 37,007, showing a 46.2% decrease compared to 2019. The yearly total of sector opening hours in Paris ACC was 58,905, showing a 42.7% decrease compared to 2019. The yearly total of sector opening hours in Marseille ACC was 68,661, showing a 31.8% decrease compared to 2019. The yearly total of sector opening hours in Brest ACC was 48,001, showing a 41.3% decrease compared to 2019.
- Bordeaux ACC registered 6.23 IFR movements per one sector opening hour in 2020, being 53.4% below 2019 levels. Reims ACC registered 11.58 IFR movements per one sector opening hour in 2020, being 22.1% below 2019 levels. Paris ACC registered 9.05 IFR movements per one sector opening hour in 2020, being 23.9% below 2019 levels. Marseille ACC registered 6.97 IFR movements per one sector opening hour in 2020, being 39.4% below 2019 levels. Brest ACC registered 8.62 IFR movements per one sector opening hour in 2020, being 36.2% below 2019 levels.

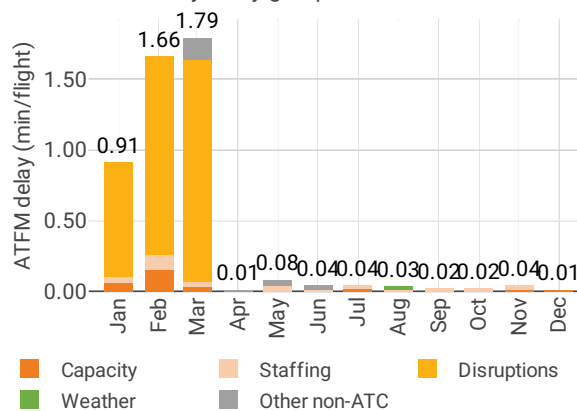
4.2 En route performance

4.2.1 En route ATFM delay (KPI#1)

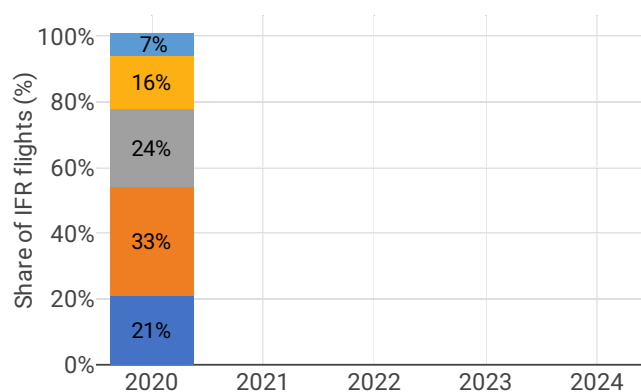
Average en route ATFM delay per flight by delay groups



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



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



Focus on en route ATFM delay

Summary of capacity performance

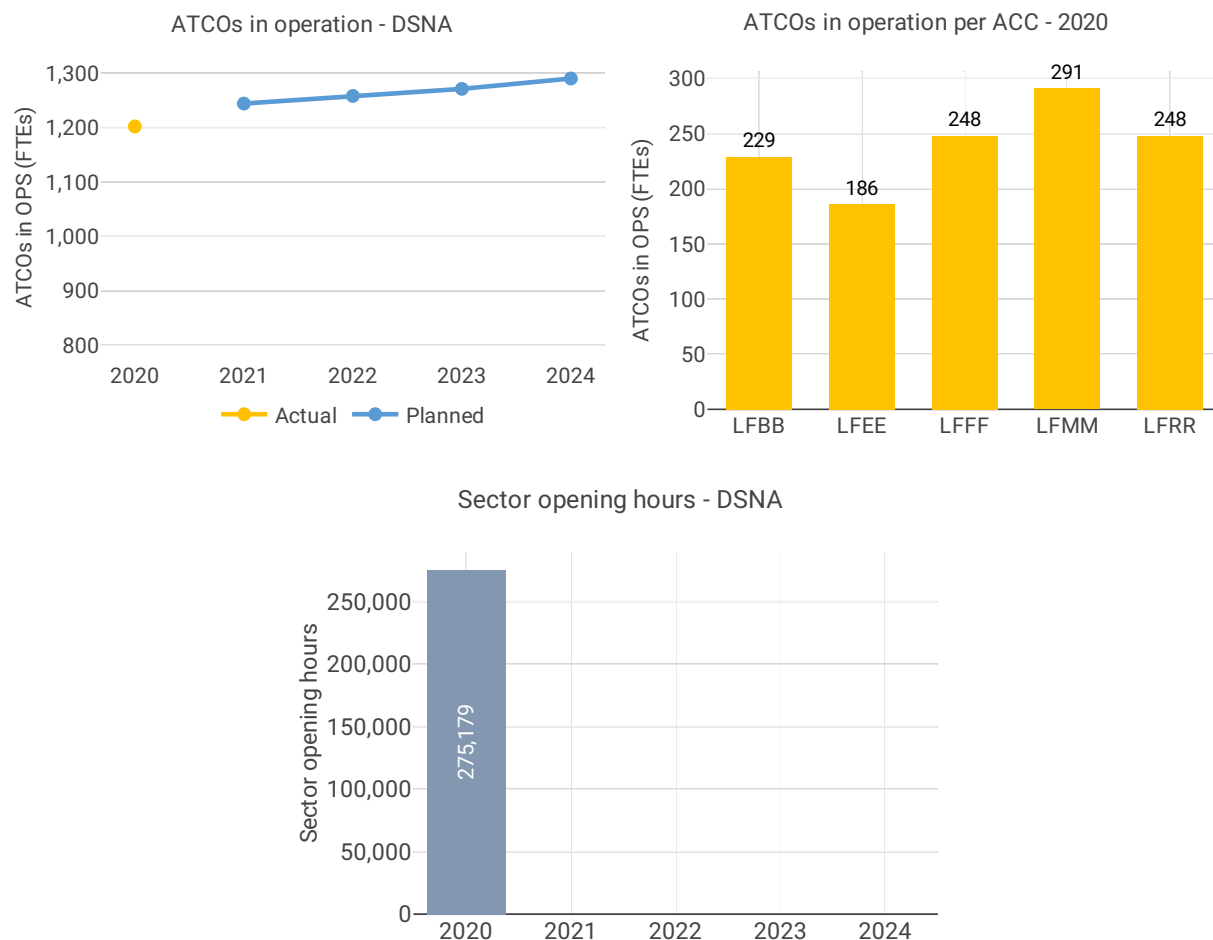
NSA's assessment of capacity performance

Monitoring process for capacity performance

Capacity planning

Application of Corrective Measures for Capacity (if applicable)

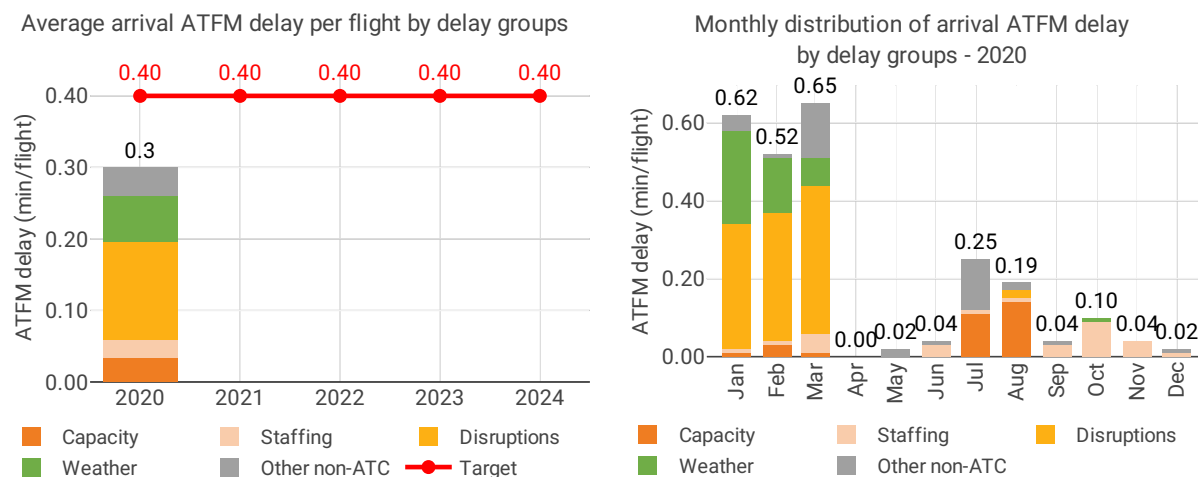
4.2.2 Other indicators



Focus on ATCOs in operations

4.3 Terminal performance

4.3.1 Arrival ATFM delay (KPI#2)



Focus on arrival ATFM delay

For France, the scope of the RP3 monitoring comprises a total of 58 airports. However, in accordance with IR (EU) 2019/317 and the traffic figures, only 6 of those airports must be monitored for pre-departure delays. 52 of these 58 airports are grouped into a basket ("LFXX") for monitoring and target setting purposes. The Airport Operator Data Flow, necessary for the monitoring of the pre-departure delays, is established for the 6 airports required. Nevertheless, the quality of the reporting does not allow for the calculation of the ATC pre-departure delay at 5 of those airports, with more than 60% of the reported delay not allocated to any cause.

The traffic at the ensemble of these 58 airports decreased in 2020 by 53% compared to 2019, which impacted the performance with almost no arrival ATFM delays as of the month of April. Nevertheless there are a couple of airports where delays in the rest of the year were also quite important, and in general terms the performance in terms of arrival ATFM delays in France improved less compared to other states (-28% vs 2019).

A few French airports had the lowest slot adherence among the SES monitored airports, and Marseille (LFML) did not even reach the 80% threshold. According to FABEC monitoring report, this low slot adherence was due to a technical issue that should be solved for 2021.

The massive traffic drop due to the COVID-19 pandemic outbreak in Europe as from March 2020 (-53% for the whole 2020 compared to 2019 for the 58 French airports included in the Performance Plan) has reduced the 2020 traffic to a very low level (-64% in the April-December period). In line with the traffic reduction, arrival ATFM delays at most of these airports virtually disappeared as of April, with a few exceptions like Cannes (LFMD) or Le Bourget (LFPB). The national average arrival ATFM delay in 2020 was 0.30 min/arr, compared with 0.42 min/arr in 2019.

The biggest contributor to the delays in the year was Paris Orly, due mainly to Industrial Action (64% of the total delays in 2020 at LFPO) followed by Weather (22%).

After Orly, Cannes-Mandelieu was the airport that generated more minutes of arrival ATFM delay, mostly in July and August due to ATC Capacity (65%) and Aerodrome Capacity (30%) regulations. These delays made Cannes the airport with the highest average arrival ATFM delay in the SES area (LFMD; 2020: 2.97 min/arr.)

Paris Charles de Gaulle concentrated most of the delays in the first two months of the year, and 88% of the total delays were associated with Weather.

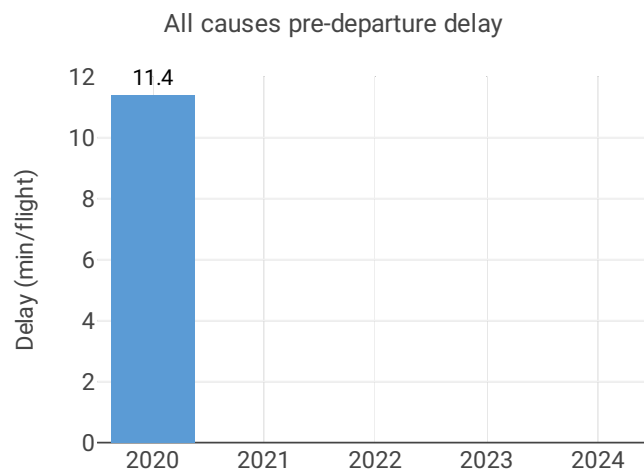
Bordeaux-Mérignac was the 4th contributor to the total delays at these airports in 2020, mostly due to Industrial Action regulations in the first trimester generating 95% of the arrival delays.

And another of the smaller airports in terms of traffic, Le Bourget, was the 5th contributor to the total French arrival ATFM delays due to several reasons: ATC Staffing (36%), Industrial Action (32%) and Equipment (18%). These delays were generated not only in the first trimester, but also in the period from June to October.

The provisional national target on arrival ATFM delay in 2020 was met.

In accordance with Article 3 (3) (a) of Implementing Regulation (EU) 2020/1627: The incentive scheme shall cover only the calendar years 2022 to 2024.

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



Airport level

Airport name	Avg arrival ATFM delay (KPI#2)				Slot adherence (PI#1)			
	2020	2021	2023	2022	2020	2021	2023	2022
Agen/La-Garenne	NA	NA	NA	NA	79.2%	NA%	NA%	NA
Ajaccio/Napoléon-Bonaparte	NA	NA	NA	NA	76.4%	NA%	NA%	NA%
Albert/Bray	NA	NA	NA	NA	44.0%	NA%	NA%	NA%
Annecy/Meythet	0.16	NA	NA	NA	74.9%	NA%	NA%	NA%
Avignon/Caumont	0.23	NA	NA	NA	78.7%	NA%	NA%	NA%
Bale/Mulhouse	0.41	NA	NA	NA	87.4%	NA%	NA%	NA%
Bastia/Poretta	0.00	NA	NA	NA	80.7%	NA%	NA%	NA%
Beauvais/Tillé	0.05	NA	NA	NA	72.6%	NA%	NA%	NA%
Bergerac/Roumanière	NA	NA	NA	NA	81.8%	NA%	NA%	NA%
Biarritz/Bayonne-Anglet	0.05	NA	NA	NA	88.8%	NA%	NA%	NA%
Bordeaux/Mérignac	0.77	NA	NA	NA	91.5%	NA%	NA%	NA%
Brest/Bretagne	NA	NA	NA	NA	97.0%	NA%	NA%	NA%
Brive/Souillac	NA	NA	NA	NA	95.7%	NA%	NA%	NA%
Béziers/Vias	NA	NA	NA	NA	68.5%	NA%	NA%	NA%
Caen/Carpiquet	NA	NA	NA	NA	94.2%	NA%	NA%	NA%
Calvi/Sainte-Catherine	0.07	NA	NA	NA	82.1%	NA%	NA%	NA%
Cannes/Mandelieu	2.97	NA	NA	NA	93.4%	NA%	NA%	NA%
Carcassonne/Salvaza	NA	NA	NA	NA	81.8%	NA%	NA%	NA%
Chambéry/Aix-les-Bains	1.67	NA	NA	NA	89.3%	NA%	NA%	NA%
Châlons/Vatry	0.50	NA	NA	NA	78.0%	NA%	NA%	NA%
Châteauroux/Déols	NA	NA	NA	NA	86.7%	NA%	NA%	NA%
Clermont-Ferrand/Auvergne	0.00	NA	NA	NA	81.5%	NA%	NA%	NA%
Deauville/Normandie	NA	NA	NA	NA	90.0%	NA%	NA%	NA%
Dinard/Pleurtuit-Saint-Malo	NA	NA	NA	NA	61.3%	NA%	NA%	NA%
Dole/Tavaux	NA	NA	NA	NA	59.4%	NA%	NA%	NA%
Figari/Sud-Corse	0.18	NA	NA	NA	80.3%	NA%	NA%	NA%
Grenoble/Isère	0.50	NA	NA	NA	93.6%	NA%	NA%	NA%
Hyères/Le-Palyvestre	0.06	NA	NA	NA	81.1%	NA%	NA%	NA%
Istres/Le-Tubé	NA	NA	NA	NA	66.7%	NA%	NA%	NA%
La-Rochelle/Ile de Ré	NA	NA	NA	NA	81.2%	NA%	NA%	NA%
Lille/Lesquin	0.33	NA	NA	NA	86.1%	NA%	NA%	NA%
Limoges/Bellegarde	0.19	NA	NA	NA	93.4%	NA%	NA%	NA%
Lorient/Lann-Bihoué	NA	NA	NA	NA	88.8%	NA%	NA%	NA%
Lyon	0.03	NA	NA	NA	84.5%	NA%	NA%	NA%
Lyon/Bron	0.01	NA	NA	NA	89.5%	NA%	NA%	NA%
Marseille/Provence	0.10	NA	NA	NA	78.3%	NA%	NA%	NA%
Metz-Nancy/Lorraine	NA	NA	NA	NA	82.5%	NA%	NA%	NA%
Montpellier/Méditerranée	0.01	NA	NA	NA	75.1%	NA%	NA%	NA%
Nantes	0.24	NA	NA	NA	91.6%	NA%	NA%	NA%
Nice	0.13	NA	NA	NA	87.7%	NA%	NA%	NA%
Nîmes/Garons	NA	NA	NA	NA	83.4%	NA%	NA%	NA%
Paris/Charles-De-Gaulle	0.11	NA	NA	NA	95.4%	NA%	NA%	NA%
Paris/Le Bourget	0.60	NA	NA	NA	94.2%	NA%	NA%	NA%
Paris/Orly	0.96	NA	NA	NA	87.3%	NA%	NA%	NA%
Pau/Pyrénées	1.45	NA	NA	NA	85.9%	NA%	NA%	NA%
Perpignan/Rivesaltes	0.07	NA	NA	NA	77.4%	NA%	NA%	NA%
Poitiers/Biard	NA	NA	NA	NA	87.8%	NA%	NA%	NA%
Quimper/Pluguffan	NA	NA	NA	NA	84.7%	NA%	NA%	NA%
Rennes/St-Jacques	NA	NA	NA	NA	78.7%	NA%	NA%	NA%
Rodez/Marcillac	NA	NA	NA	NA	88.5%	NA%	NA%	NA%
Rouen/Vallée-de-Seine	NA	NA	NA	NA	NA	NA%	NA%	NA%
Saint-Etienne/Bouthéon	NA	NA	NA	NA	79.6%	NA%	NA%	NA%
Saint-Nazaire/Montoir	NA	NA	NA	NA	97.2%	NA%	NA%	NA%
Strasbourg/Entzheim	0.03	NA	NA	NA	79.6%	NA%	NA%	NA%
Tarbes-Lourdes/Pyrénées	NA	NA	NA	NA	90.5%	NA%	NA%	NA%
Toulouse/Blagnac	0.16	NA	NA	NA	90.2%	NA%	NA%	NA%
Tours/Val-de-Loire	0.00	NA	NA	NA	50.0%	NA%	NA%	NA%
Toussus/Le-Noble	0.97	NA	NA	NA	77.7%	NA%	NA%	NA%

Airport name	ATC pre departure delay (PI#2)				All causes pre departure delay (PI#3)			
	2020	2021	2023	2022	2020	2021	2023	2022
Agen/La-Garenne	NA	NA	NA	NA	NA	NA	NA	NA
Ajaccio/Napoléon-Bonaparte	NA	NA	NA	NA	NA	NA	NA	NA
Albert/Bray	NA	NA	NA	NA	NA	NA	NA	NA
Annecy/Meythet	NA	NA	NA	NA	NA	NA	NA	NA
Avignon/Caumont	NA	NA	NA	NA	NA	NA	NA	NA
Bale/Mulhouse	0.13	NA	NA	NA	8.6	NA	NA	NA
Bastia/Poretta	NA	NA	NA	NA	NA	NA	NA	NA
Beauvais/Tillé	NA	NA	NA	NA	NA	NA	NA	NA
Bergerac/Roumanière	NA	NA	NA	NA	NA	NA	NA	NA
Biarritz/Bayonne-Anglet	NA	NA	NA	NA	NA	NA	NA	NA
Bordeaux/Mérignac	NA	NA	NA	NA	NA	NA	NA	NA
Brest/Bretagne	NA	NA	NA	NA	NA	NA	NA	NA
Brive/Souillac	NA	NA	NA	NA	NA	NA	NA	NA
Béziers/Vias	NA	NA	NA	NA	NA	NA	NA	NA
Caen/Carpiquet	NA	NA	NA	NA	NA	NA	NA	NA
Calvi/Sainte-Catherine	NA	NA	NA	NA	NA	NA	NA	NA
Cannes/Mandelieu	NA	NA	NA	NA	NA	NA	NA	NA
Carcassonne/Salvaza	NA	NA	NA	NA	NA	NA	NA	NA
Chambéry/Aix-les-Bains	NA	NA	NA	NA	NA	NA	NA	NA
Châlons/Vatry	NA	NA	NA	NA	NA	NA	NA	NA
Châteauroux/Déols	NA	NA	NA	NA	NA	NA	NA	NA
Clermont-Ferrand/Auvergne	NA	NA	NA	NA	NA	NA	NA	NA
Deauville/Normandie	NA	NA	NA	NA	NA	NA	NA	NA
Dinard/Pleurtuit-Saint-Malo	NA	NA	NA	NA	NA	NA	NA	NA
Dole/Tavaux	NA	NA	NA	NA	NA	NA	NA	NA
Figari/Sud-Corse	NA	NA	NA	NA	NA	NA	NA	NA
Grenoble/Isère	NA	NA	NA	NA	NA	NA	NA	NA
Hyères/Le-Palyvestre	NA	NA	NA	NA	NA	NA	NA	NA
Istres/Le-Tubé	NA	NA	NA	NA	NA	NA	NA	NA
La-Rochelle/Ile de Ré	NA	NA	NA	NA	NA	NA	NA	NA
Lille/Lesquin	NA	NA	NA	NA	NA	NA	NA	NA
Limoges/Bellegarde	NA	NA	NA	NA	NA	NA	NA	NA
Lorient/Lann-Bihoué	NA	NA	NA	NA	NA	NA	NA	NA
Lyon	0.17	NA	NA	NA	12.0	NA	NA	NA
Lyon/Bron	NA	NA	NA	NA	NA	NA	NA	NA
Marseille/Provence	NA	NA	NA	NA	9.6	NA	NA	NA
Metz-Nancy/Lorraine	NA	NA	NA	NA	NA	NA	NA	NA
Montpellier/Méditerranée	NA	NA	NA	NA	NA	NA	NA	NA
Nantes	NA	NA	NA	NA	NA	NA	NA	NA
Nice	0.21	NA	NA	NA	7.5	NA	NA	NA
Nîmes/Garons	NA	NA	NA	NA	NA	NA	NA	NA
Paris/Charles-De-Gaulle	NA	NA	NA	NA	12.9	NA	NA	NA
Paris/Le Bourget	NA	NA	NA	NA	NA	NA	NA	NA
Paris/Orly	0.33	NA	NA	NA	13.4	NA	NA	NA
Pau/Pyrénées	NA	NA	NA	NA	NA	NA	NA	NA
Perpignan/Rivesaltes	NA	NA	NA	NA	NA	NA	NA	NA
Poitiers/Biard	NA	NA	NA	NA	NA	NA	NA	NA
Quimper/Pluguffan	NA	NA	NA	NA	NA	NA	NA	NA
Rennes/St-Jacques	NA	NA	NA	NA	NA	NA	NA	NA
Rodez/Marcillac	NA	NA	NA	NA	NA	NA	NA	NA
Rouen/Vallée-de-Seine	NA	NA	NA	NA	NA	NA	NA	NA
Saint-Etienne/Bouthéon	NA	NA	NA	NA	NA	NA	NA	NA
Saint-Nazaire/Montoir	NA	NA	NA	NA	NA	NA	NA	NA
Strasbourg/Entzheim	NA	NA	NA	NA	NA	NA	NA	NA
Tarbes-Lourdes/Pyrénées	NA	NA	NA	NA	NA	NA	NA	NA
Toulouse/Blagnac	0.17	NA	NA	NA	8.9	NA	NA	NA
Tours/Val-de-Loire	NA	NA	NA	NA	NA	NA	NA	NA
Toussus/Le-Noble	NA	NA	NA	NA	NA	NA	NA	NA

Focus on performance indicators at airport level

ATFM slot adherence

Main national individual airports involved were above the 80% threshold of compliance except for LFML which was just under the threshold (78,3%).

The national average was 88.1%. With regard to the 11.9% of flights that did not adhere, 7.4% was early and 4.5% was late.

According to FABEC monitoring report:

DSNA identified that one reason generating this lack of measured adherence was wrong information sent

to NMOC. Indeed, except in the two main Paris airports, the signal for activating the flight plan in the current FDPS system of DSNA (CAUTRA) is also used as the first system activation message (FSA) signal sent to the NMOC. However, this takes place at a time after off-block time (OBT), but well before the actual take-off, while it is interpreted by NMOC as Take-Off Time (TOT). Hence, NMOC detects a large percentage of regulated flights as taking off in advance of the tolerance window, although the actual take-off time is later and actually generally within the STW.

This appears in particular for Marseille airport. This is now acknowledged by DSNA as a clear deviation on many airports where the taxiing time is significant. This default has however been corrected in Paris-Charles-de-Gaulle and Paris-Orly through a specific local system that allows sending the NMOC a correct take-off time (TOT).

However, an in depth analysis of past results in Marseille has shown that the root causes were less operational in terms of ATC management but due to problems in calculating the correct CTOT; so the issue was more about the correct calibration of the CTOT calculation than about the accuracy of the detection of actual take-offs (as a reminder, either the ATS unit has an automatic take-off detection system and the "FSA" (First System Activation) message is sent to the NM as close as possible to this event, or the NM itself recalibrates the take-off time using the CPRs).

The LFML Operations Department has modified in coordination with the NM the parameters of the LFML taxi time thus the CTOT calculation has been improved and the CTOT compliance measurement has been more adequate; as a result, we can observe an increase in the CTOT compliance rate which brings LFML back to a good level: figures year up to date for 2021 to date (end of April 2021) show a compliance of 86.41% (data corroborated by the PRU).

DSNA is still preparing a device to correct the time sent to the NMOC on the other main airports. Since on smaller airports, the taxiing time is short, the deviation has little impact.

ATC pre-departure delay

The share of unidentified delay reported by the 6 French airports subject to this monitoring in 2020, except by Nice, was above 40% for more than 2 months in the year, preventing the calculation of this indicator. This is partially due to the special traffic composition for most months in 2020. Lyon, Paris Orly and Toulouse normally had proper reporting before the pandemic and only after April 2020 the share of unidentified delay exceeded the required minimum for the computation.

On the other hand the insufficient data quality provided by Marseille and Charles de Gaulle is a long standing issue prior to April 2020.

Nice is the only airport where this indicator can be calculated. The performance has slightly improved with respect to the previous year (LFMN; 2019: 0.31 min/dep.; 2020: 0.21 min/dep.)

All causes pre-departure delay

The total (all causes) delay in the actual off block time at French airports in 2020 was between 7.46 min/dep for Nice (LFMN) and 13.41 min/dep. for Paris Orly (LFPO) which is the 5th highest among the RP3 monitored airports.

The higher delays per flight were observed in the second trimester of the year, due to the lower traffic and extraordinary circumstances. In December there was also a general increase at most of these airports.

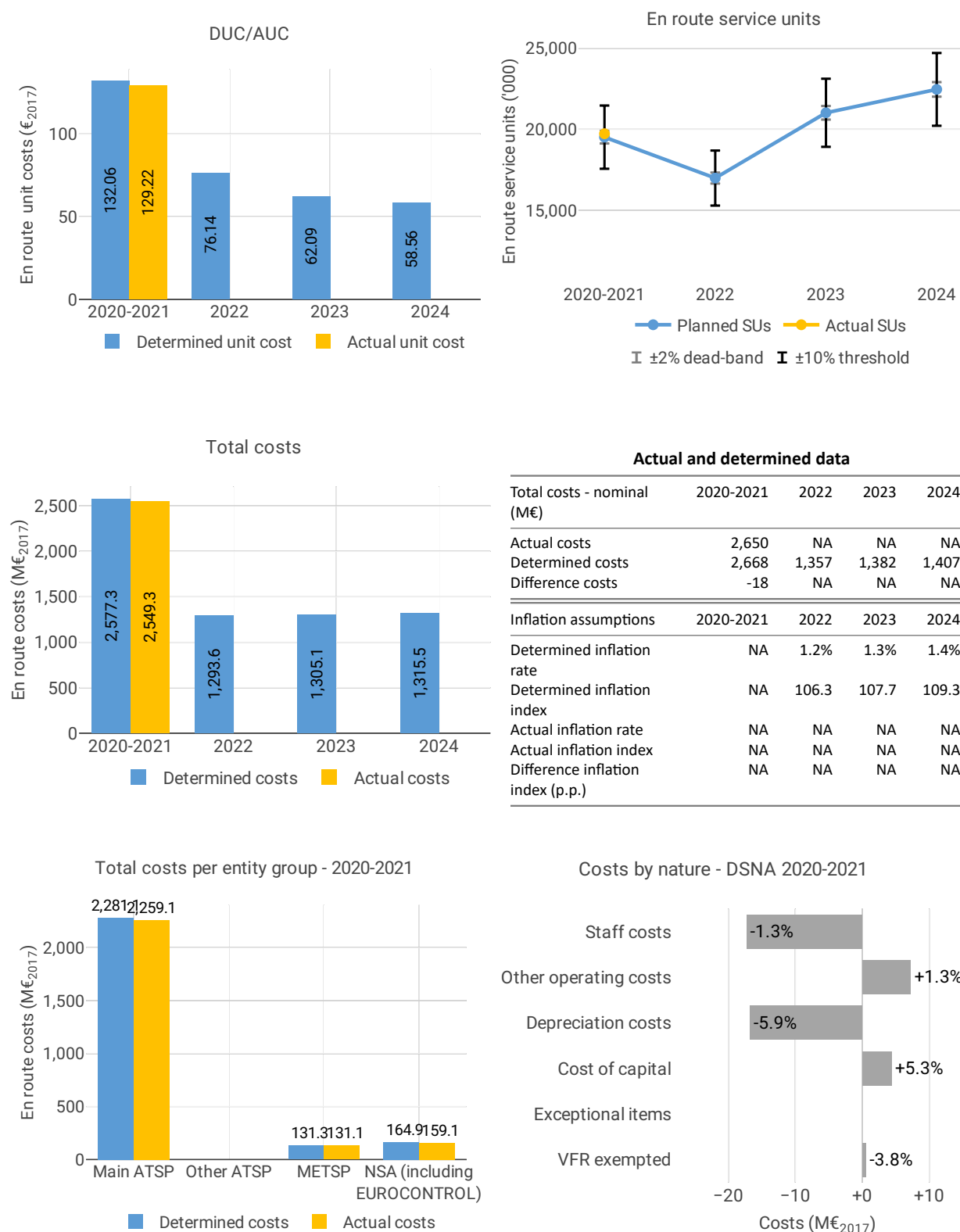
5 COST-EFFICIENCY - FRANCE

5.1 PRB monitoring

- The 2020 actual service units (8,547K) were 61% lower than the actual service units in 2019 (21,837K).
- France reduced total costs in 2020 by only 7 M€2017 (-1%) compared to 2019 actual costs.
- DSNA spent 302 M€2017 in 2020 related to costs of investments, 6% less than planned in the 2019 draft performance plan (323 M€2017). The reduction can be attributable to a lower depreciation and cost of capital than planned.

5.2 En route charging zone

5.2.1 Unit cost (KPI#1)



Focus on unit cost

AUC vs. DUC

In the combined year 2020-2021, the AUC was lower than the planned DUC (by -2.1%, or -2.84€₂₀₁₇). This results from the combination of higher than planned TSUs (+1.1%) and lower than planned en route costs in real terms (by -1.1%, or -28.1 M€₂₀₁₇).

En route service units

The difference between actual and planned TSUs (+1.1%) falls within the $\pm 2\%$ dead band. Hence the resulting additional revenue is kept by the ANSPs.

En route costs by entity

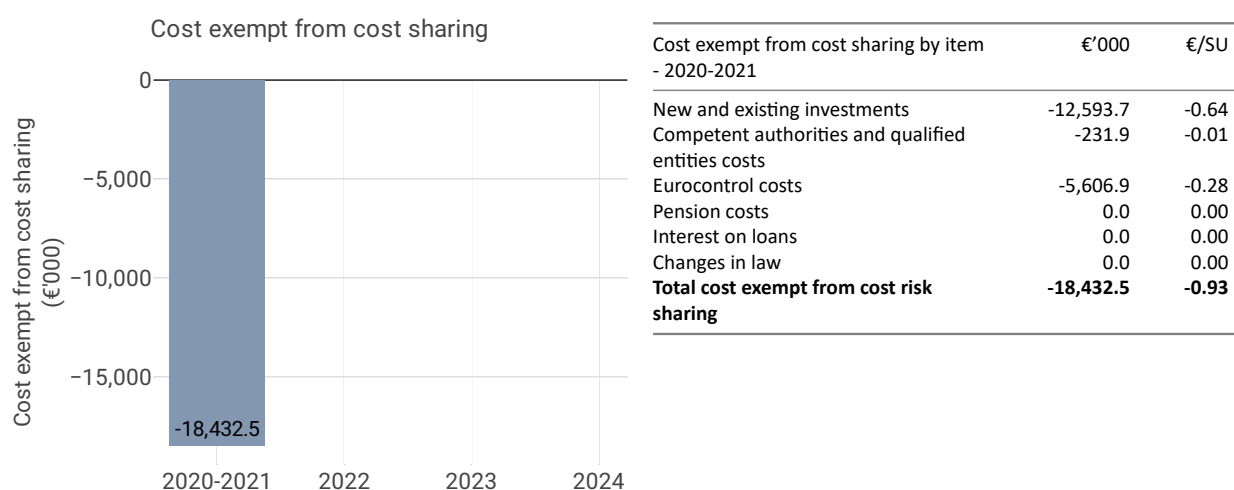
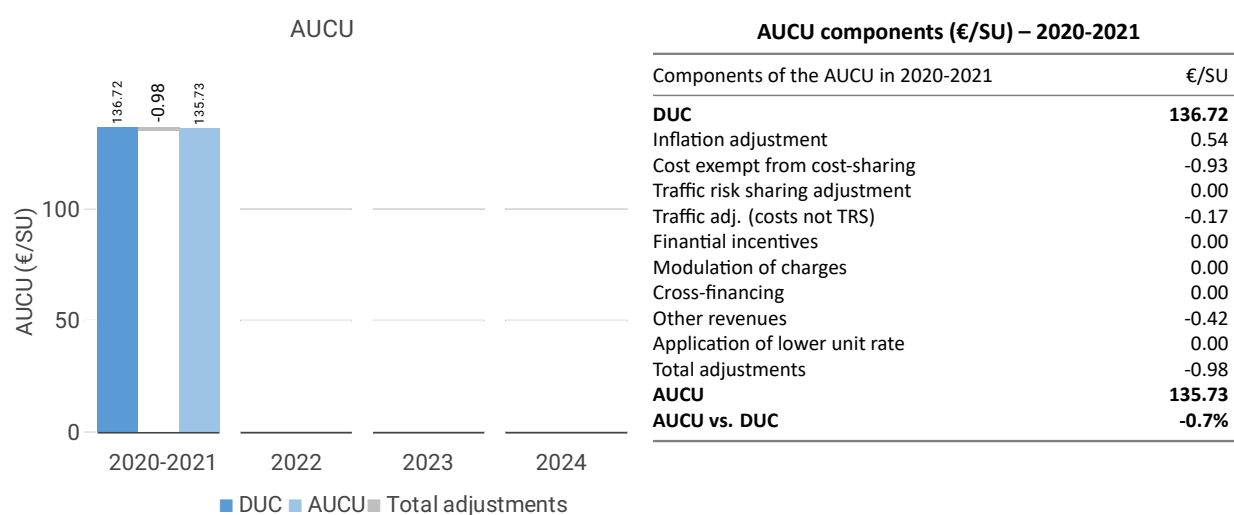
Actual real en route costs for 2020-2021 are -1.1% (-28.1 M€2017) lower than planned. This result is driven by the main ANSP, DSNA (-1.0%, or -21.9 M€2017), the MET service provider (-0.2% or -0.3 M€2017) and the NSA/EUROCONTROL costs (-3.5%, or -5.8 M€2017).

En route costs for the main ANSP at charging zone level

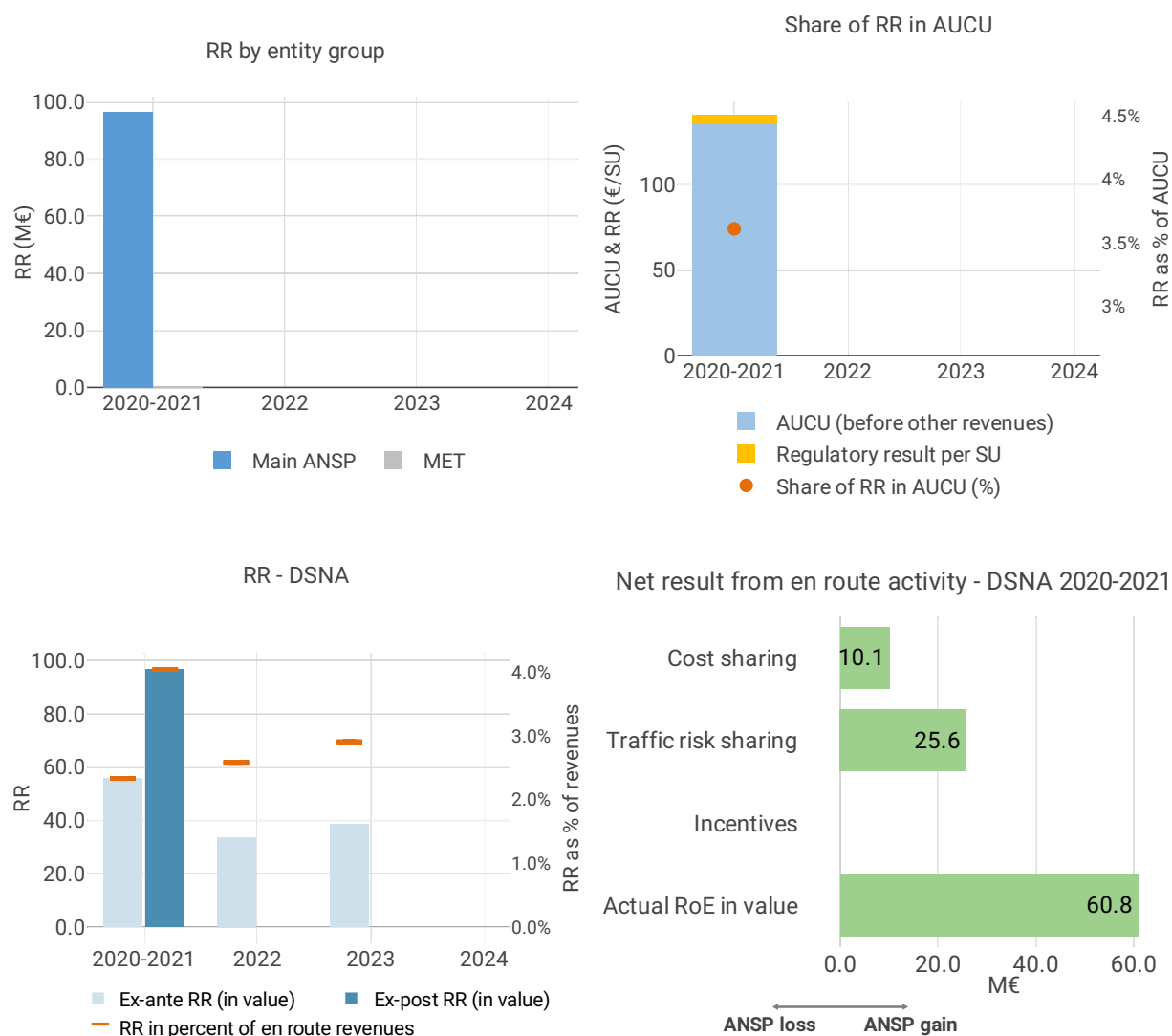
The lower than planned en route costs in real terms for DSNA in 2020-2021 (-1.0%, or -21.9 M€2017 lower) result from:

- slightly lower staff costs (-1.3%);
- slightly higher other operating costs (+1.3%);
- lower depreciation (-5.9%), "mainly in relation with the postponement of commissioning from 2021 to 2022 and the transfer of part of the investment costs to project-related OPEX costs";
- higher cost of capital (+5.3%), due to increases in both the asset base (+1.3%) and WACC (+0.08 p.p.);
- lower deduction for VFR exempted flights (-3.8%).

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



5.2.3 Regulatory result (RR)



Focus on regulatory result

DSNA net gain on en route activity in the France charging zone in the combined year 2020-2021

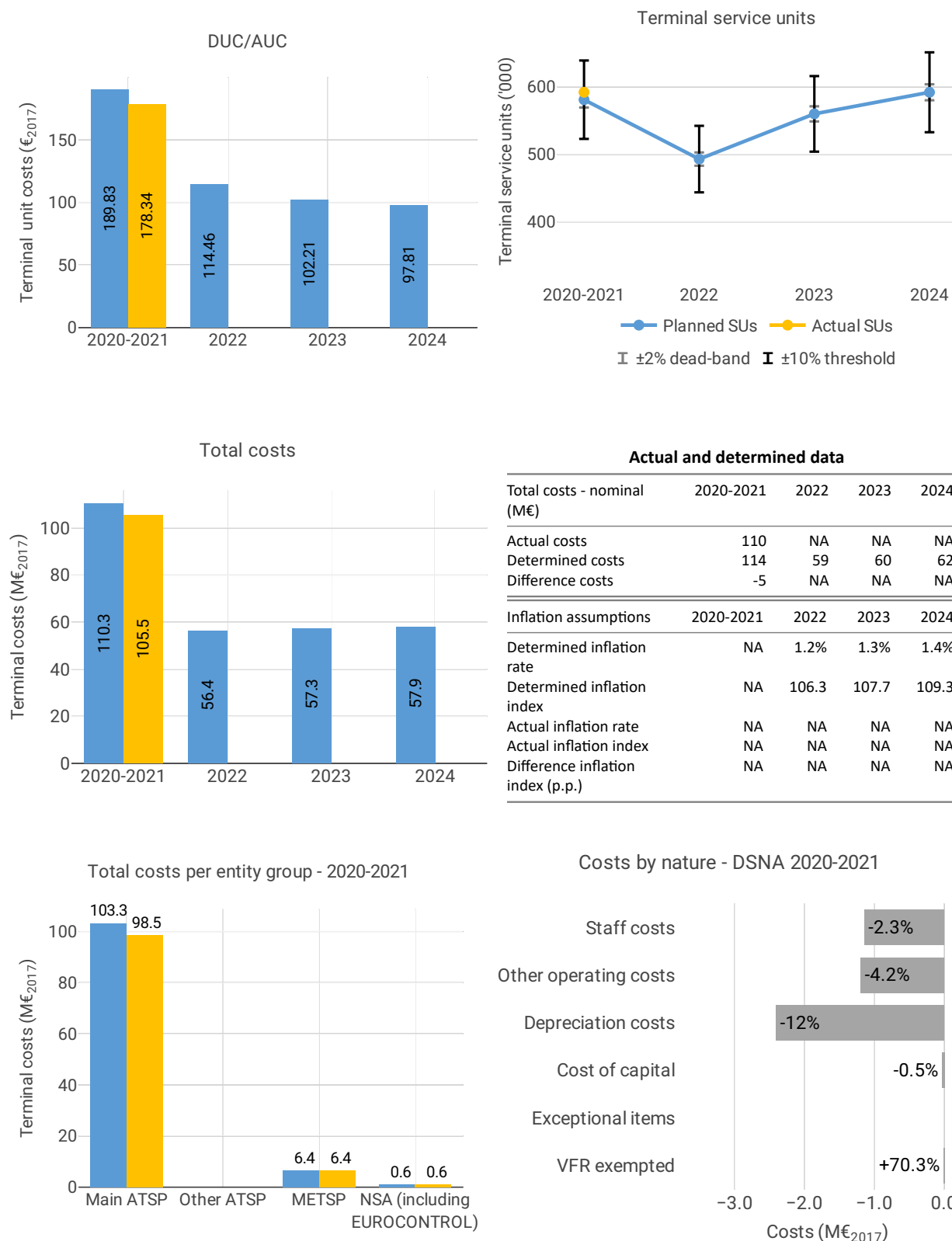
DSNA's net gain amounts to +35.7 M€, as a combination of a gain of +10.1 M€ arising from the cost sharing mechanism and a gain of +25.6 M€ arising from the traffic risk sharing mechanism.

DSNA 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 (+35.7 M€) and the actual RoE (+59.9 M€) amounts to +95.6 M€ (4.0% of the en route revenues). The resulting ex-post rate of return on equity is 27.7%, which is higher than the 17.1% planned in the PP.

5.3 Terminal charging zone - France Zone 1

5.3.1 Unit cost (KPI#1)



Focus on unit cost

AUC vs. DUC

In the combined year 2020-2021, the terminal AUC was -6.1% (or -11.49€2017) lower than the planned DUC. This results from the combination of higher than planned TNSUs (+1.8%) and lower than planned terminal costs in real terms (-4.4%, or -4.8 M€2017).

Terminal service units

The difference between actual and planned TNSUs (+1.8%) falls within the $\pm 2\%$ dead band. Hence the resulting additional terminal revenue is kept by the ANSPs.

Terminal costs by entity

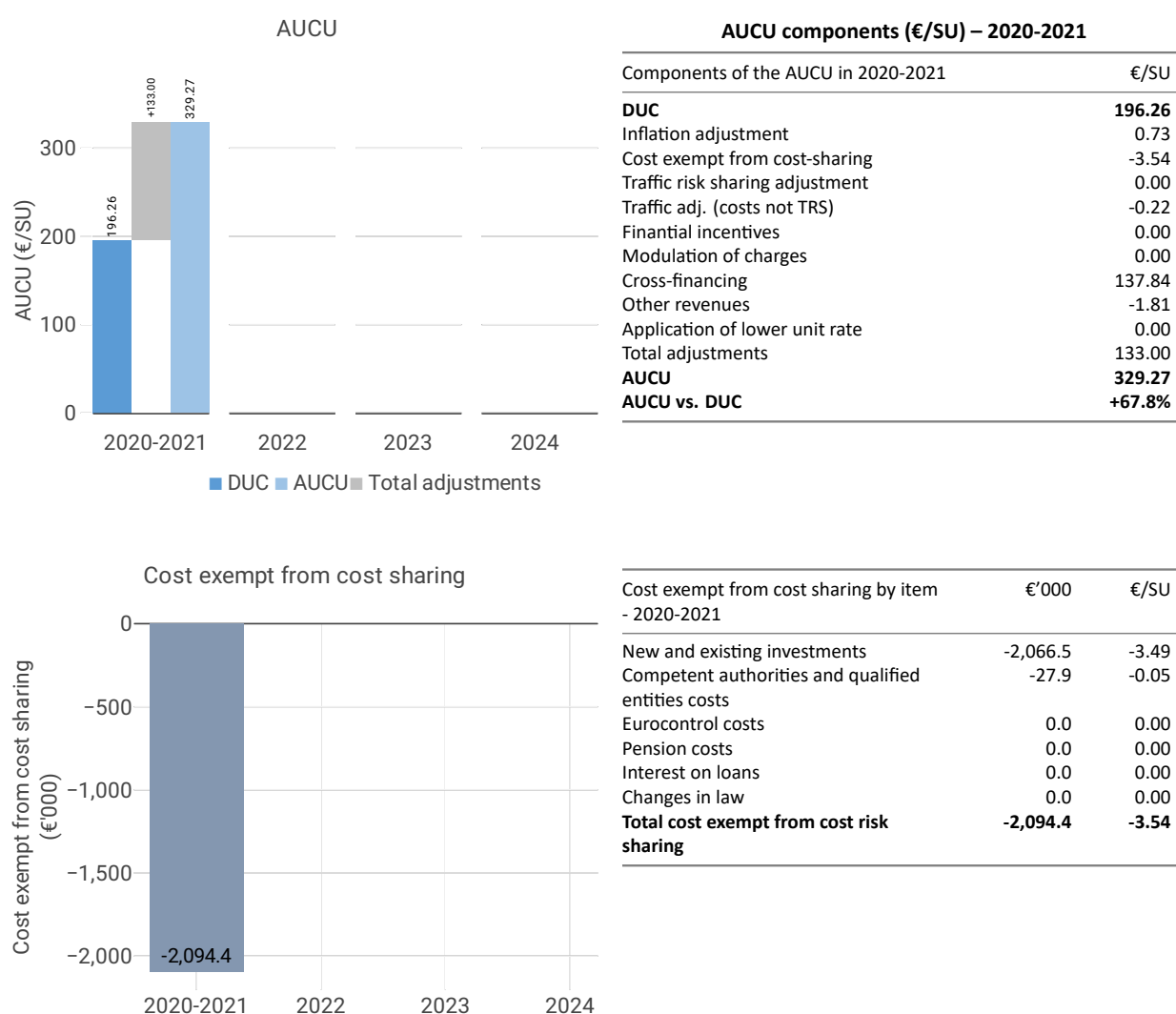
Actual real terminal costs are -4.4% (-4.8 M€2017) lower than planned. This is driven by the main ANSP, DSNA (-4.6%, or -4.8 M€2017), the MET service provider (-0.1%, or -0.01 M€2017) and NSA costs (-4.5% or -0.03 M€2017).

Terminal costs for the main ANSP at charging zone level

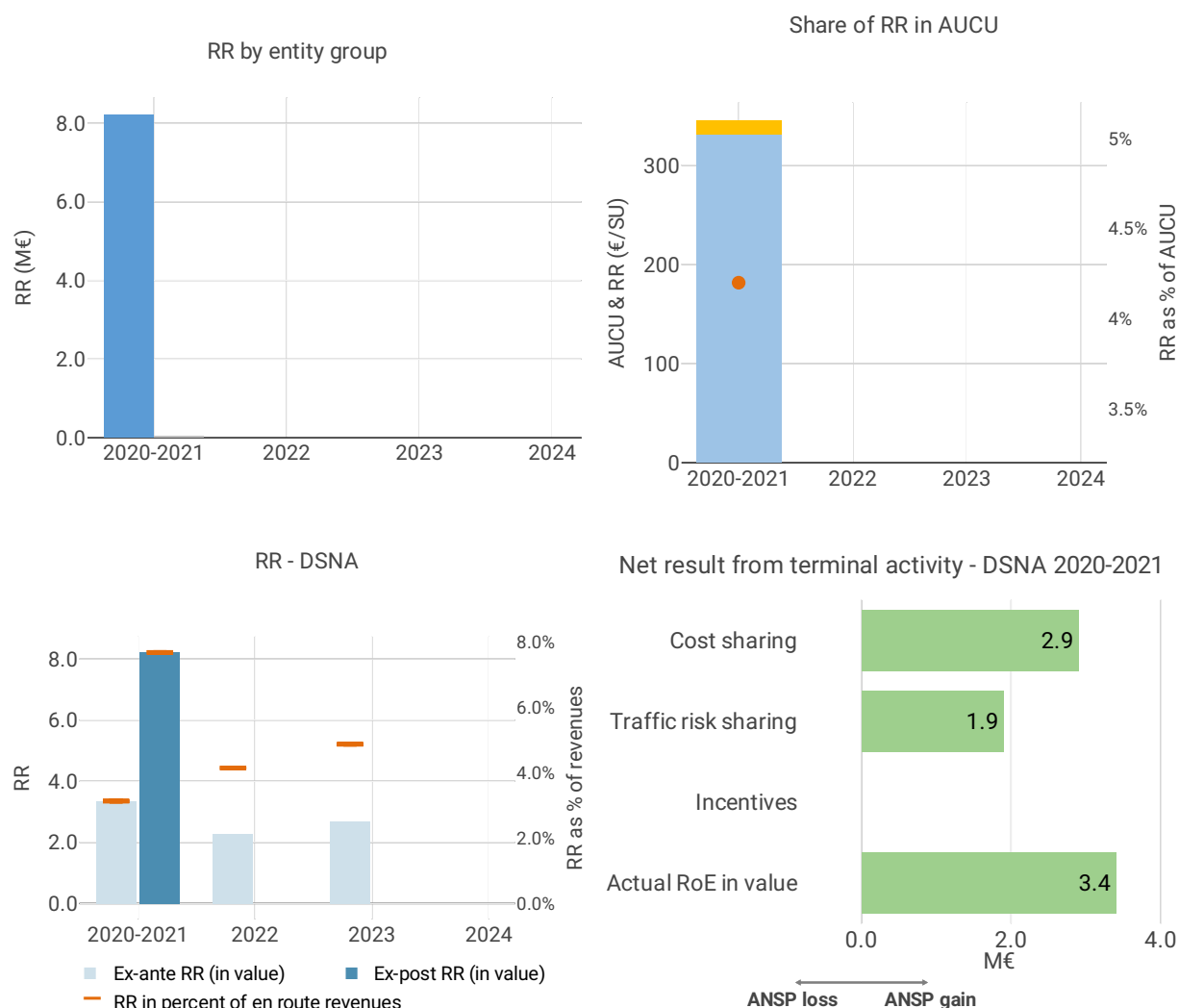
The lower than planned terminal costs in real terms for DSNA (-4.6%, or -4.8 M€2017) result from:

- lower staff costs (-2.3%);
- lower other operating costs (-4.2%);
- lower depreciation (-12.0%), mainly in relation with the postponement of commissioning from 2021 to 2022 (contractual negotiations for SYSAT project which were expected to be concluded by the end of 2021 have been delayed to early 2022 therefore shifting some expenditures from 2021 to 2022, including some related OPEX) and the transfer of some investment costs to project-related OPEX costs;
- lower cost of capital (-0.5%), due to decrease in net current assets (8.2%), compensating increase in NBV (+4.9%) and WACC (+0.07 p.p.);
- higher deduction for VFR exempted flights (+70.3%).

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



5.3.3 Regulatory result (RR)



Focus on regulatory result

DSNA net gain on activity in the France terminal charging zone 1 in the combined year 2020-2021

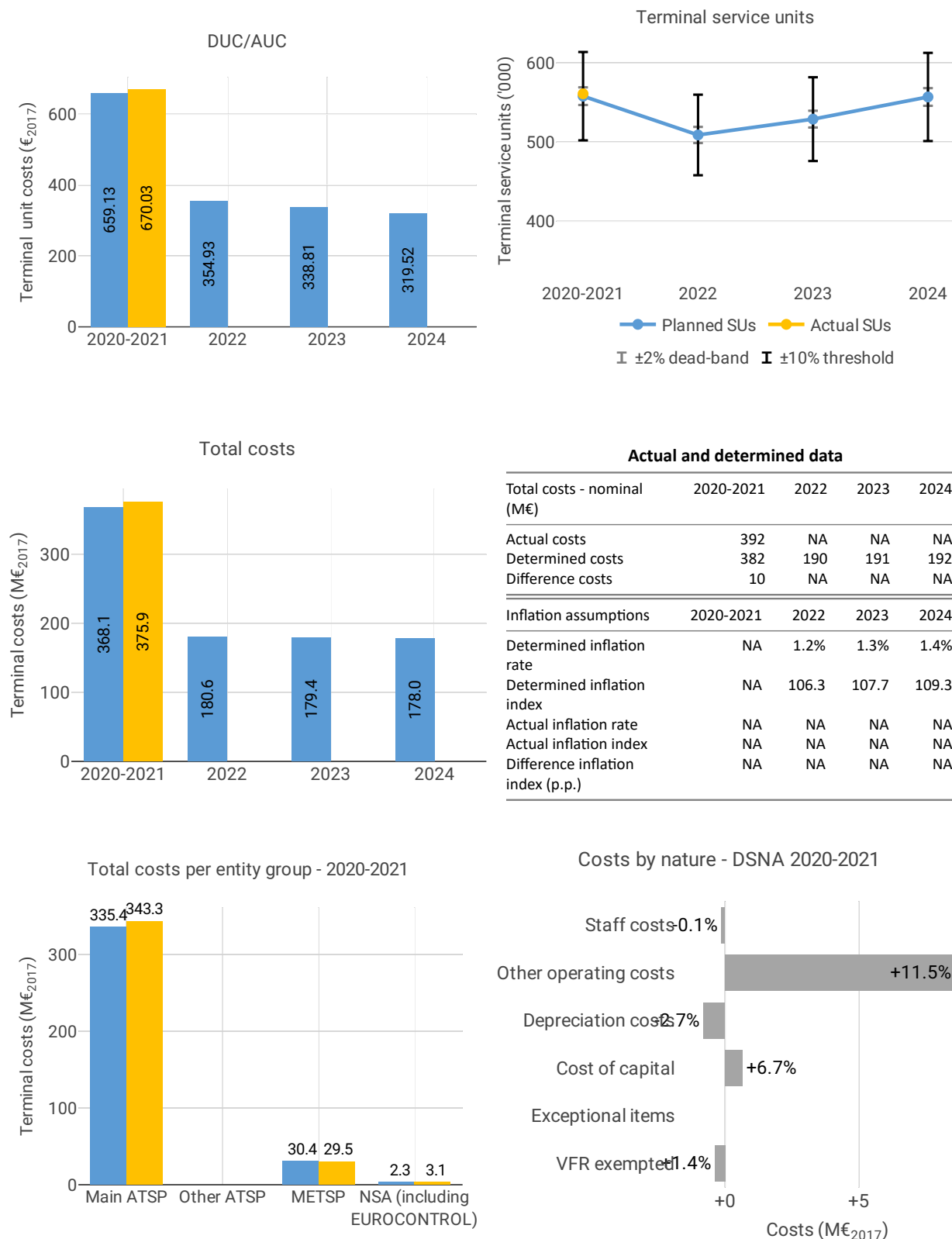
DSNA's net gain amounts to +4.8 M€ due to gains of +2.9 M€ from the cost sharing mechanism and of +1.9 M€ from the traffic risk sharing mechanism.

DSNA overall regulatory results (RR) for the terminal charging zone 1 activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+4.8 M€) and the actual RoE (+3.4 M€) amounts to +8.2 M€ (7.6% of the terminal revenues). The resulting ex-post rate of return on equity is 41.3%, which is higher than the 17.1% planned in the PP.

5.4 Terminal charging zone - France Zone 2

5.4.1 Unit cost (KPI#1)



Focus on unit cost

AUC vs. DUC

In the combined year 2020-2021, the terminal AUC was +1.7% (or +10.9€₂₀₁₇) higher than the planned DUC. This results from the combination of higher than planned TNSUs (+0.4%) and higher than planned terminal costs in real terms (+2.1%, or +7.8 M€₂₀₁₇).

Terminal service units

The difference between actual and planned TNSUs (+0.4%) falls within the $\pm 2\%$ dead band. Hence the resulting additional terminal revenue is kept by the ANSPs.

Terminal costs by entity

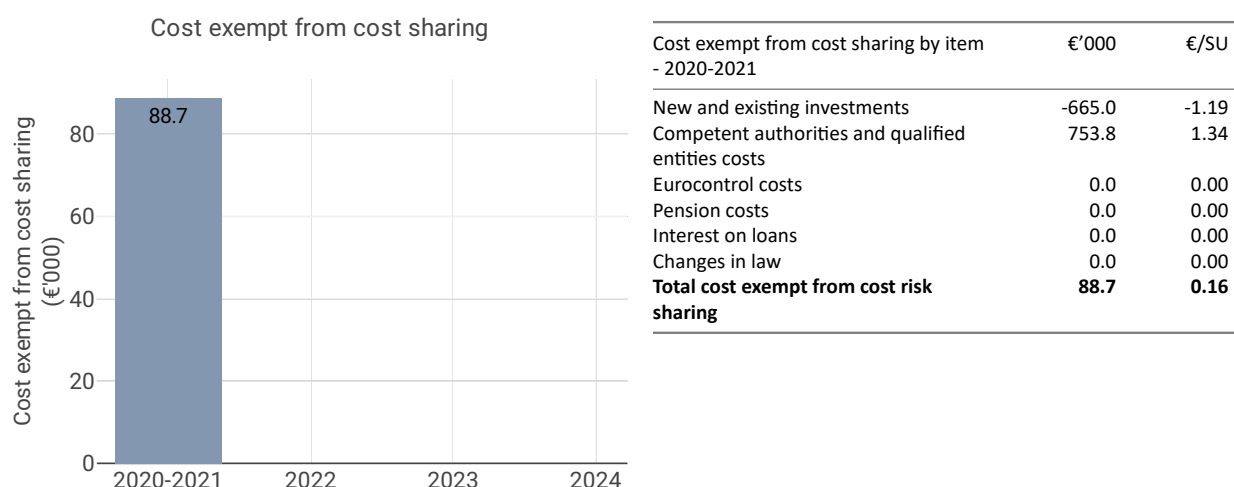
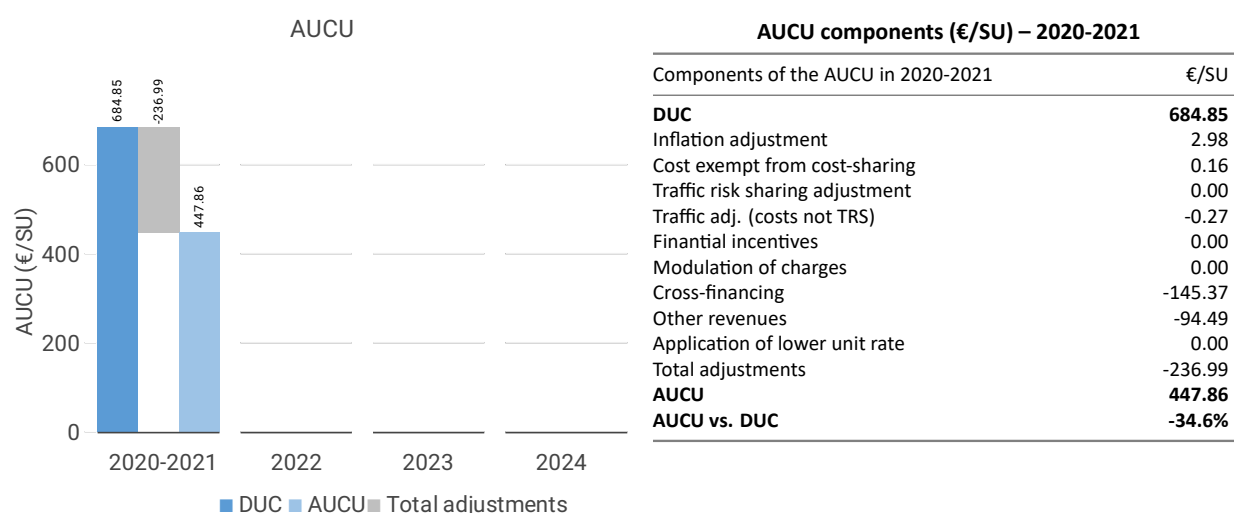
Actual real terminal costs are +2.1% (+7.8 M€2017) higher than planned. This is driven by the main ANSP, DSNA (+2.4%, or +7.9 M€2017), and NSA costs (+32.6% or +0.8 M€2017), whereas costs for the MET service provider are -3.0% (or -0.9 M€2017) lower than planned.

Terminal costs for the main ANSP at charging zone level

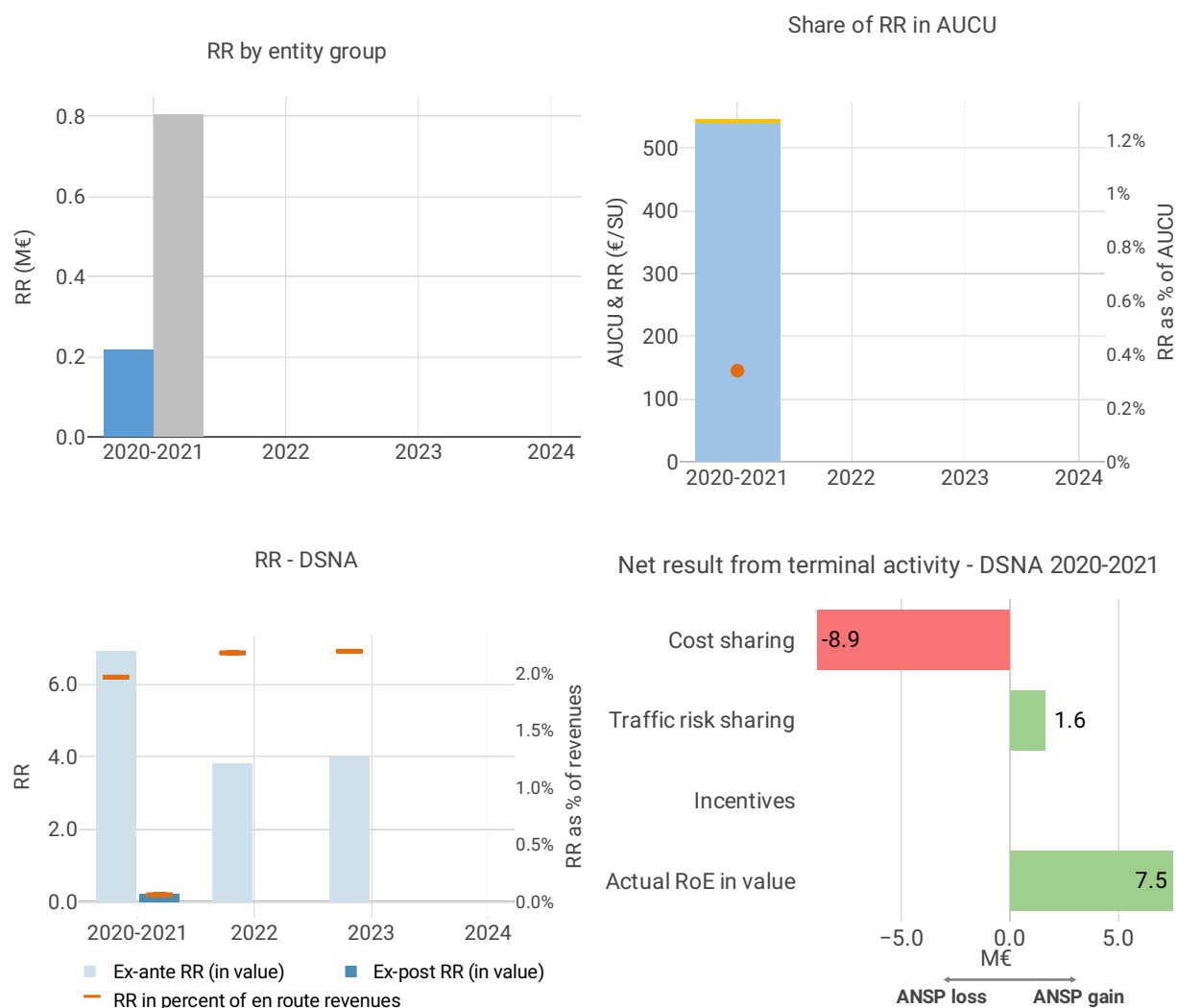
The higher than planned terminal costs in real terms for DSNA (+2.4%, or +7.9 M€2017) result from:

- slightly lower staff costs (-0.1%);
- higher other operating costs (+11.5%);
- lower depreciation (-2.7%), mainly in relation with the postponement of some commissioning from 2021 to 2022 and the transfer of investment costs to project related OPEX costs;
- higher cost of capital (+6.7%), due to increase in both asset base (+2.3%) and WACC (+0.1 p.p.);
- higher deduction for VFR exempted flights (+1.4%).

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



5.4.3 Regulatory result (RR)



Focus on regulatory result

DSNA net loss on activity in the France terminal charging zone 2 in the combined year 2020-2021

DSNA's net loss amounts to -7.3 M€ due to loss of -8.9 M€ from the cost sharing mechanism and gain of +1.6 M€ from the traffic risk sharing mechanism.

DSNA overall regulatory results (RR) for the terminal charging zone 2 activity

Ex-post, the overall RR taking into account the net loss from the terminal activity mentioned above (-7.3 M€) and the actual RoE (+7.5 M€) amounts to +0.2 M€ (0.1% of the terminal revenues). The resulting ex-post rate of return on equity is 0.5%, which is lower than the 17.1% planned in the PP.