

# Performance Review Body Monitoring Report

France - 2023

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|                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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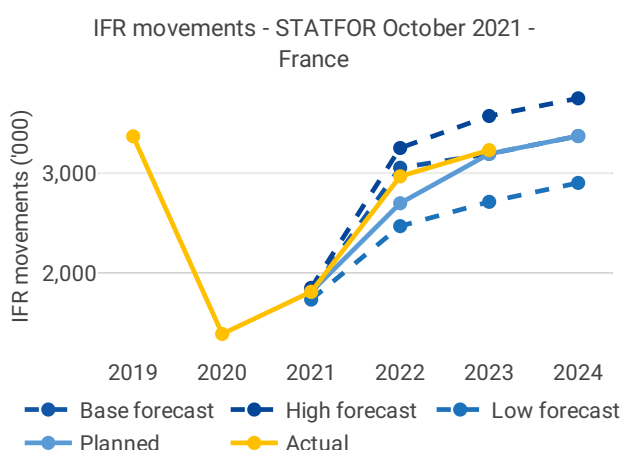
## 1 OVERVIEW

### 1.1 Contextual information

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

|                                                             |                                                       |                      |
|-------------------------------------------------------------|-------------------------------------------------------|----------------------|
| <b>List of ACCs</b> 5                                       | <b>Exchange rate (1 EUR=)</b>                         | <b>Main ANSP</b>     |
| Bordeaux ACC                                                | 2017: 1 EUR                                           | • DSNA               |
| Brest ACC                                                   | 2023: 1 EUR                                           |                      |
| Marseille ACC                                               |                                                       | <b>Other ANSPs</b>   |
| Paris ACC                                                   | <b>Share of Union-wide:</b>                           | –                    |
| Reims ACC                                                   | • traffic (TSUs) 2023 17.2%                           |                      |
|                                                             | • en route costs 2023 20.4%                           | <b>MET Providers</b> |
| <b>No of airports in the scope of the performance plan:</b> | <b>Share en route / terminal costs 2023</b> 85% / 15% | • Météo France       |
| • ≥80'K 6                                                   | <b>En route charging zone(s)</b>                      |                      |
| • <80'K 52                                                  | France                                                |                      |
|                                                             | <b>Terminal charging zone(s)</b>                      |                      |
|                                                             | France Zone 1                                         |                      |
|                                                             | France Zone 2                                         |                      |

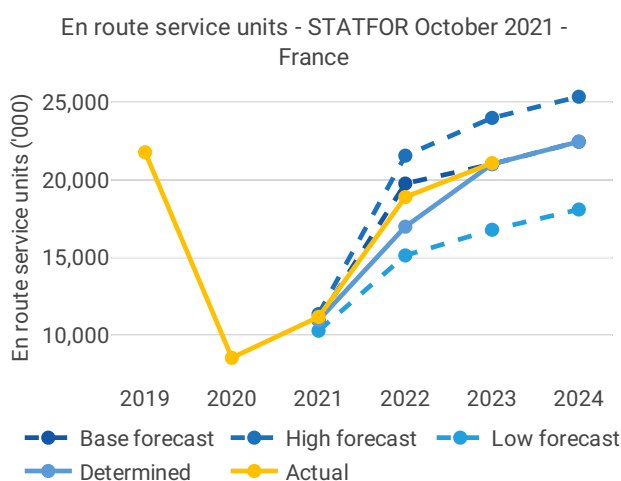
### 1.2 Traffic (En route traffic zone)



- France recorded 3,234K actual IFR movements in 2023, +9% compared to 2022 (2,971K).

- Actual 2023 IFR movements were +1.2% above the plan (3,196K).

- Actual 2023 IFR movements represent 96% of the actual 2019 level (3,372K).

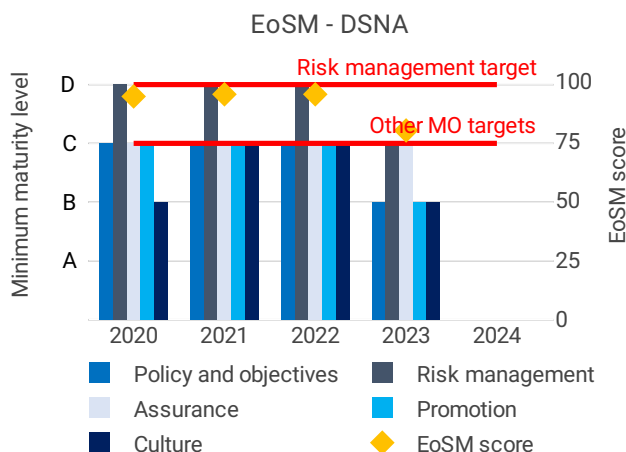


- France recorded 21,088K actual en route service units in 2023, +12% compared to 2022 (18,898K).

- Actual 2023 service units were +0.3% above the plan (21,020K).

- Actual 2023 service units represent 97% of the actual 2019 level (21,782K).

### 1.3 Safety (Main ANSP)



- In 2023 DSNA undertook the thorough review of its SMS function, concluding that some of the requirements were not met anymore. Consecutively, the maturity levels for four management objectives (safety culture, policy and objectives, risk management and safety promotion) were downgraded and DSNA achieved the RP3 targets only for safety assurance.

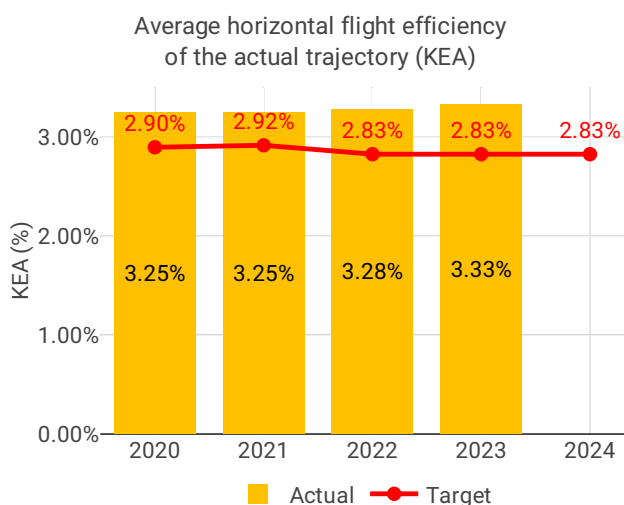
- DSNA has developed a corrective action plan ensuring that they can regaining the target levels. The NSA is monitoring implementation of the actions closely through continuous monitoring.

- France recorded an increase in the rate of runway incursions and a decrease in the rate of separation minima infringements relative to 2022. DSNA should continue assessing occurrences and risk mitigate them according to their SMS, if necessary.

- DSNA monitors and analyses the safety data using automated recording tools for separation minima infringements. The French NSA oversight addresses those elements.

- DSNA do not use automated safety data recording systems for runway incursions.

### 1.4 Environment (Member State)



- France achieved a KEA performance of 3.33% compared to its target of 2.83% and did not contribute positively towards achieving the Union-wide target.

- The NSA states that 2023 performance was affected by high peak traffic levels during the summer and traffic volatility, weather issues and industrial action.

- Both KEP and SCR deteriorated in 2023. The NSA states that 50% of French airspace is now covered by FRA.

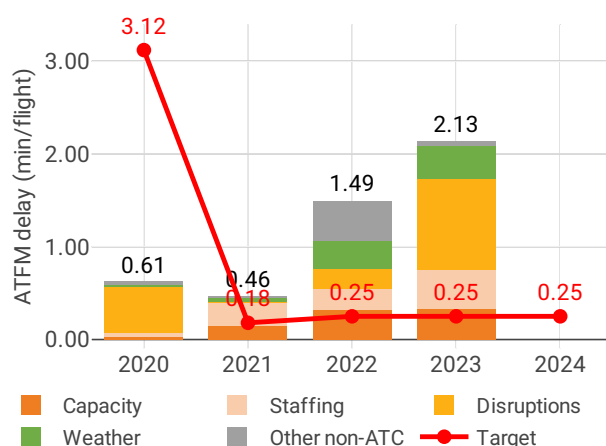
- The share of CDO flights increased marginally from 13.36% to 14.21% in 2023.

- During 2023, additional time in terminal airspace increased from 0.89 to 0.90 min/flight, while additional taxi out time increased from 2.43 to 2.72 min/flight.

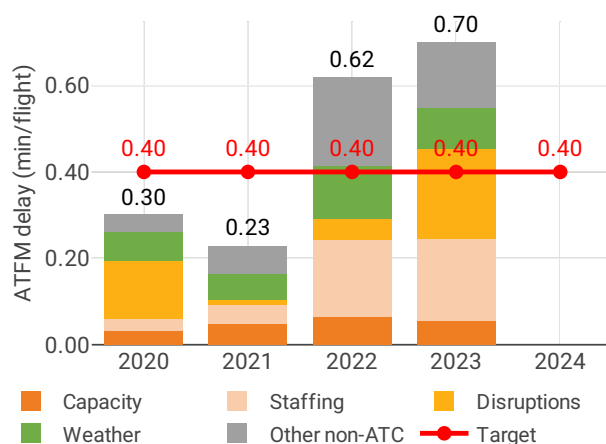
- Additional taxi out time data for Marseille airport has not been reported for 2023 despite being subject to monitoring as per the Regulation.

## 1.5 Capacity (Member State)

Average en route ATFM delay per flight by delay groups



Average arrival ATFM delay per flight by delay groups



the actual value being below the 2023 plan by 2 FTEs. In Reims the number of ATCOs in OPS is expected to increase by 2% by 2024, with the actual value being over the 2023 plan by 18 FTEs.

- The yearly total of sector opening hours in Bordeaux ACC was 79,054, showing a 2.7% increase compared to 2022. Sector opening hours are 7.3% above 2019 levels. The yearly total of sector opening hours in Reims ACC was 62,948, showing a 5.6% decrease compared to 2022. Sector opening hours are 8.4% below 2019 levels. The yearly total of sector opening hours in Paris ACC was 74,134, showing a 10.4% decrease compared to 2022. Sector opening hours are 28% below 2019 levels. The yearly total of sector opening hours in Marseille ACC was 110,418, showing a 5.4% increase compared to 2022. Sector opening hours are 9.7% above 2019 levels. The yearly total of sector opening hours in Brest ACC was 74,308, showing a 17.3% increase compared to 2022. Sector opening hours are 9.1% below 2019 levels.

- Bordeaux ACC registered 11.77 IFR movements per one sector opening hour in 2023, being 11.9% below 2019 levels. Reims ACC registered 16.5 IFR movements per one sector opening hour in 2023, being 11.0% above 2019 levels. Paris ACC registered 15.11 IFR movements per one sector opening hour in 2023, being 27.1% above 2019 levels. Marseille ACC registered 10.12 IFR movements per one sector opening hour in 2023, being 12.1% below 2019 levels. Brest ACC registered 13.88 IFR movements per one sector opening hour in 2023, being 2.7% above 2019 levels.

- Year-on-year traffic growth was 9% in France, which is, on average, in line with the STATFOR October 2021 Base forecast. Major industrial actions had a detrimental impact on capacity performance in France in 2023. Ongoing system implementation and the training of ATCOs should show considerable improvement in the coming years.

- France registered 2.09 minutes of average en route ATFM delay per flight during 2023 which has increased to 2.13 during the post-ops adjustment process, thus not achieving the local target value of 0.25. Delays in France increased by 0.65 minutes per flight year-on-year.

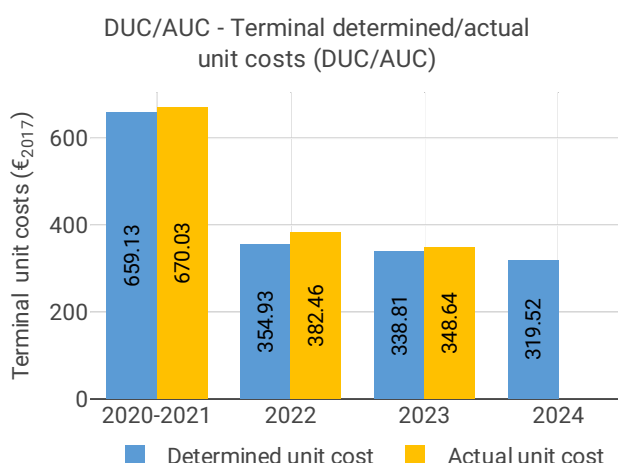
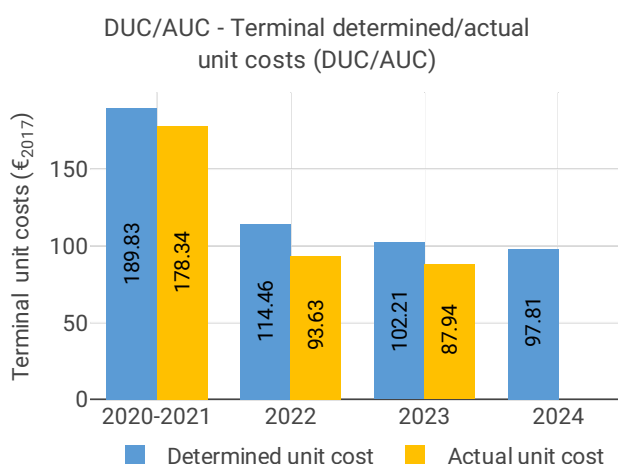
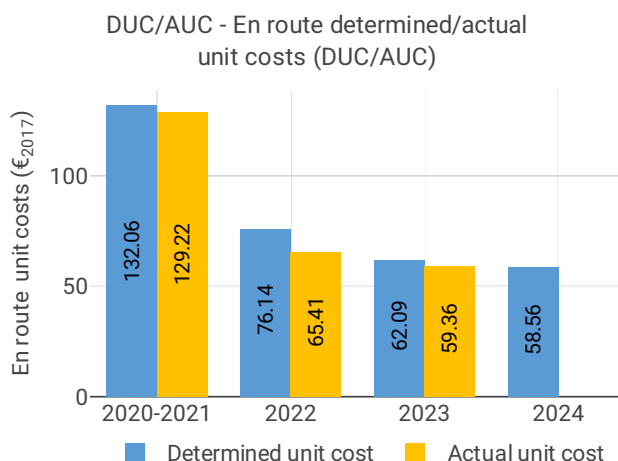
- Most of the delays accumulated between March and October, due to industrial action, adverse weather conditions and ATC staffing and ATM system transition.

- The share of delayed flights with delays longer than 15 minutes in France increased by 2 p.p. compared to 2022 and was higher than 2019 values.

- The average number of IFR movements was 4% below 2019 levels in France in 2023.

- In Bordeaux ACC the number of ATCOs in OPS is expected to increase by 14% by 2024, with the actual value being below the 2023 plan by 18 FTEs. In Brest the number of ATCOs in OPS is expected to increase by 2% by 2024, with the actual value being below the 2023 plan by 12 FTEs. In Marseille the number of ATCOs in OPS is expected to increase by 14% by 2024, with the actual value being over the 2023 plan by 6 FTEs. In Paris the number of ATCOs in OPS is expected to increase by 3% by 2024, with the actual value being below the 2023 plan by 2 FTEs. In Reims the number of ATCOs in OPS is expected to increase by 2% by 2024, with the actual value being over the 2023 plan by 18 FTEs.

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



- The en route 2023 actual unit cost of France was 59.30 €2017, -4.5% lower than the determined unit cost (62.09 €2017). The terminal zone 1 2023 actual unit cost was 87.94 €2017, -14% lower than the determined unit cost (102.21 €2017), while the terminal zone 2 2023 actual unit cost was 348.64 €2017, +2.9% higher than the determined unit cost (338.81 €2017).

- The en route 2023 actual service units (21.1M) were +0.3% higher than the determined service units (21.0M).

- In 2023, the en route actual total costs were -55 M€2017 lower (-4.2%) than determined, mainly due to a reduction in staff cost (-49 M€2017, or -6.8%). However, in nominal terms, the actual staff costs show an increase of +2.8% compared to the determined figures. Additionally, France registered lower depreciation costs (-12 M€2017, or -7.0%), mainly due to postponement of investments.

- DSNA spent 220 M€2017 in 2023 related to costs of investments for both en route and terminal charging zones, -5.8% lower than determined (233 M€2017). The primary reasons for this reduction were associated with the postponement of a major project's commissioning, delays in projects from previous years, and the reclassification of some investment costs to project-related OPEX costs given specific public accounting rules of the French State.

- The en route actual unit cost incurred by users in 2023 was 69.11€ (+5.1% above the 2023 DUC), while the terminal zone 1 actual unit cost incurred by users was 174.77€ (+62% above the 2023 DUC), and 261.74€ (-28% below the 2023 DUC) for terminal zone 2. The difference between the AUCU and the DUC in terminal charging zones is primarily attributed to the cross-financing adjustment that transferred 44 M€ from terminal zone 2 to terminal zone 1.

nal zone 1.

## 2 SAFETY - FRANCE

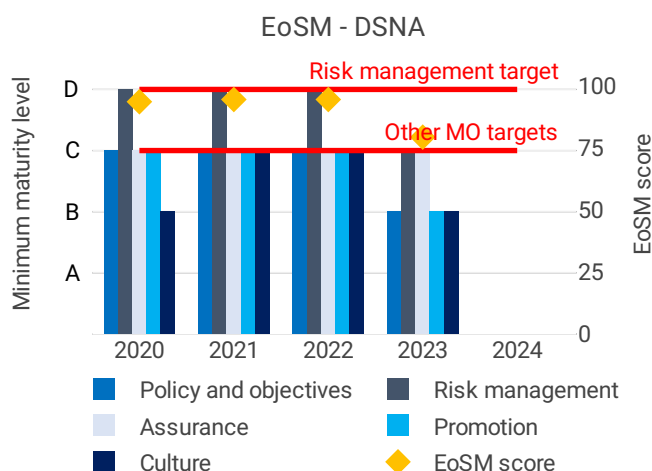
### 2.1 PRB monitoring

- In 2023 DSNA undertook the thorough review of its SMS function, concluding that some of the requirements were not met anymore. Consecutively, the maturity levels for four management objectives (safety culture, policy and objectives, risk management and safety promotion) were downgraded and DSNA achieved the RP3 targets only for safety assurance.

- DSNA has developed a corrective action plan ensuring that they can regaining the target levels. The NSA is monitoring implementation of the actions closely through continuous monitoring.

- France recorded an increase in the rate of runway incursions and a decrease in the rate of separation minima infringements relative to 2022. DSNA should continue assessing occurrences and risk mitigate them according to their SMS, if necessary.
- DSNA monitors and analyses the safety data using automated recording tools for separation minima infringements. The French NSA oversight addresses those elements.
- DSNA do not use automated safety data recording systems for runway incursions.

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



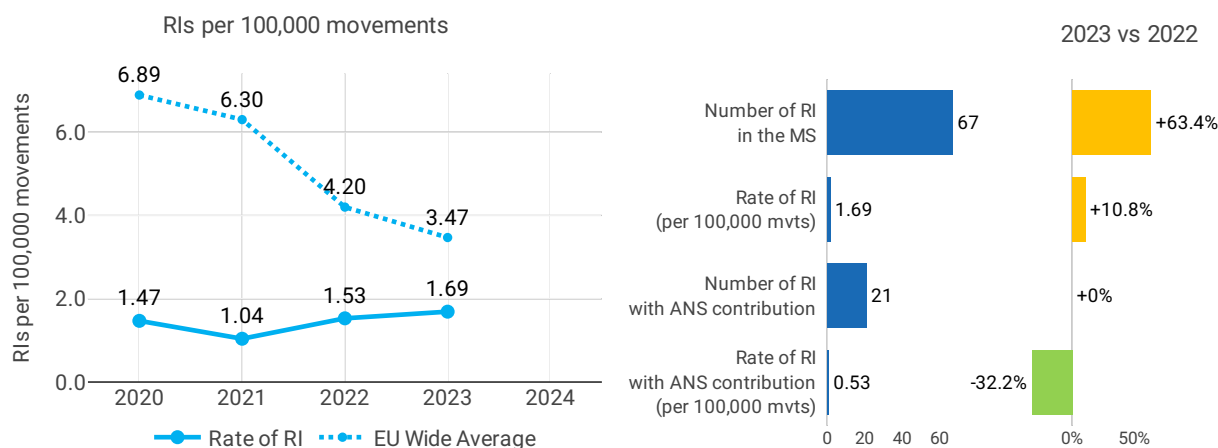
### Focus on EoSM

Over 2023, the ANSP has degraded in four out of five EoSM components and achieved the target only for “Safety Assurance”. The ANSP is expected to improve seven questions to achieve RP3 targets during RP3.

Detailed information on Safety performance monitoring for the year 2023 are included in Performance Review Body Monitoring Report 2023, Annex I – Safety report

## 2.3 Safety occurrences

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



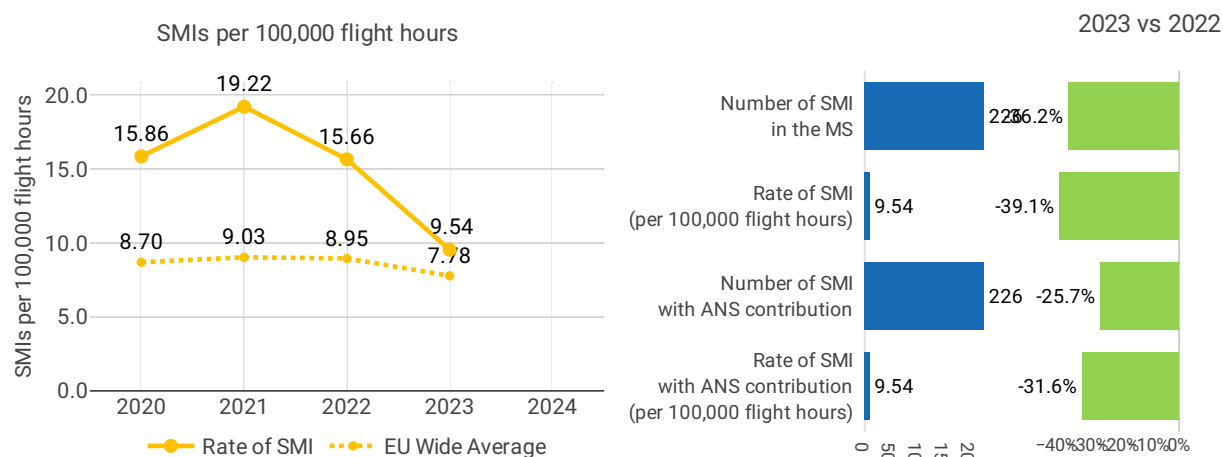
## Rate of RIs per 100,000 airport movements - France

| #  | Airport name                | APT movements | Number of RI | Rate RI per 100,000 |
|----|-----------------------------|---------------|--------------|---------------------|
| 1  | Paris-Charles-de-Gaulle     | 548,705       | 4            | 0.73                |
| 2  | Nice-Côte d'Azur            | 240,204       | 1            | 0.42                |
| 3  | Paris-Orly                  | 235,929       | 2            | 0.85                |
| 4  | Marseille-Provence          | 210,689       | 2            | 0.95                |
| 5  | Lyon                        | 182,248       | 0            | 0.00                |
| 6  | Bâle-Mulhouse               | 156,648       | 0            | 0.00                |
| 7  | Montpellier-Méditerranée    | 149,397       | 0            | 0.00                |
| 8  | Toulouse-Blagnac            | 143,993       | 1            | 0.69                |
| 9  | Nantes-Atlantique           | 130,684       | 0            | 0.00                |
| 10 | Bordeaux-Mérignac           | 117,015       | 0            | 0.00                |
| 11 | Clermont-Ferrand Auvergne   | 98,968        | 0            | 0.00                |
| 12 | Strasbourg-Entzheim         | 85,337        | 0            | 0.00                |
| 13 | Rennes-Saint-Jacques        | 82,911        | 0            | 0.00                |
| 14 | Toussus-le-Noble            | 82,701        | 2            | 2.42                |
| 15 | Lille-Lesquin               | 81,289        | 0            | 0.00                |
| 16 | Paris-Le Bourget            | 80,316        | 1            | 1.25                |
| 17 | Pau-Pyrénées                | 79,146        | 0            | 0.00                |
| 18 | Cannes-Mandelieu            | 78,187        | 0            | 0.00                |
| 19 | Brest-Bretagne              | 66,670        | 1            | 1.50                |
| 20 | Lyon-Bron                   | 64,661        | 0            | 0.00                |
| 21 | Beauvais-Tillé              | 57,151        | 0            | 0.00                |
| 22 | Ajaccio-Napoléon-Bonaparte  | 52,595        | 0            | 0.00                |
| 23 | Perpignan-Rivesaltes        | 50,699        | 0            | 0.00                |
| 24 | Chambéry-Savoie             | 50,502        | 0            | 0.00                |
| 25 | Biarritz-Bayonne-Anglet     | 49,014        | 1            | 2.04                |
| 26 | Limoges-Bellegarde          | 47,703        | 0            | 0.00                |
| 27 | Avignon-Caumont             | 46,611        | 1            | 2.15                |
| 28 | Annecy-Meythet              | 44,906        | 0            | 0.00                |
| 29 | Bastia-Poretta              | 43,953        | 0            | 0.00                |
| 30 | Poitiers-Biard              | 41,071        | 0            | 0.00                |
| 31 | La Rochelle-Ile de Ré       | 40,451        | 0            | 0.00                |
| 32 | Grenoble-Isère              | 37,384        | 1            | 2.67                |
| 33 | Hyères-Le Palyvestre        | 35,943        | 2            | 5.56                |
| 34 | Nîmes-Garons                | 32,987        | 0            | 0.00                |
| 35 | Rouen                       | 28,679        | 0            | 0.00                |
| 36 | Béziers-Vias                | 26,213        | 0            | 0.00                |
| 37 | Deauville-Normandie         | 25,828        | 0            | 0.00                |
| 38 | Dinard-Pleurtuit-Saint-Malo | 23,130        | 0            | 0.00                |
| 39 | Figari Sud-Corse            | 21,063        | 0            | 0.00                |
| 40 | Lorient-Lann Bihoué         | 20,937        | 0            | 0.00                |
| 41 | Carcassonne-Salvaza         | 20,887        | 0            | 0.00                |
| 42 | Caen-Carpique               | 19,728        | 0            | 0.00                |
| 43 | Istres-Le Tubé              | 19,164        | 1            | 5.22                |
| 44 | Tarbes-Lourdes Pyrénées     | 18,688        | 0            | 0.00                |
| 45 | Agen-La Garenne             | 18,238        | 0            | 0.00                |
| 46 | Saint-Etienne-Bouthéon      | 18,204        | 0            | 0.00                |
| 47 | Saint-Nazaire-Montoir       | 18,077        | 0            | 0.00                |
| 48 | Châteauroux-Déols           | 16,507        | 0            | 0.00                |
| 49 | Bergerac-Roumanière         | 16,175        | 0            | 0.00                |
| 50 | Tours-Val de Loire          | 15,765        | 0            | 0.00                |
| 51 | Quimper-Pluguffan           | 15,452        | 0            | 0.00                |
| 52 | Calvi-Sainte-Catherine      | 12,178        | 0            | 0.00                |
| 53 | Brive-Souillac              | 11,993        | 0            | 0.00                |
| 54 | Rodez-Marcillac             | 10,991        | 0            | 0.00                |
| 55 | Metz-Nancy-Lorraine         | 10,833        | 0            | 0.00                |
| 56 | Dôle-Tavaux                 | 9,678         | 1            | 10.33               |
| 57 | Châlons-Vatry               | 8,204         | 0            | 0.00                |
| 58 | Albert-Bray                 | 7,054         | 0            | 0.00                |

### Focus on runway incursions

Detailed information on Safety performance monitoring for the year 2023 are included in Performance Review Body Monitoring Report 2023, Annex I – Safety report

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



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

| # | ANSP | Flight hours |           |           |           |      | Number of SMIs |      |      |      |      |
|---|------|--------------|-----------|-----------|-----------|------|----------------|------|------|------|------|
|   |      | 2020         | 2021      | 2022      | 2023      | 2024 | 2020           | 2021 | 2022 | 2023 | 2024 |
| 1 | DSNA | 1,051,941    | 1,415,222 | 2,178,853 | 2,368,932 | NA   | 133            | 272  | 304  | 226  | NA   |

| # | ANSP | Rate of SMI per 100,000 flight hours |      |      |      |      | % variation in rate of SMIs |      |      |      |      |
|---|------|--------------------------------------|------|------|------|------|-----------------------------|------|------|------|------|
|   |      | 2020                                 | 2021 | 2022 | 2023 | 2024 | 2020                        | 2021 | 2022 | 2023 | 2024 |
| 1 | DSNA | 12.6                                 | 19.2 | 14.0 | 9.5  | NA   | NA                          | +52% | -27% | -32% | NA   |

### Focus on separation minima

Detailed information on Safety performance monitoring for the year 2023 are included in Performance Review Body Monitoring Report 2023, Annex I – Safety report

### 2.3.3 Quality of occurrences reporting

Detailed information on Safety performance monitoring for the year 2023 are included in Performance Review Body Monitoring Report 2023, Annex I – Safety report

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

| 2023    |          |
|---------|----------|
| For RIs | For SMIs |
| X       | ✓        |

Detailed information on Safety performance monitoring for the year 2023 are included in Performance Review Body Monitoring Report 2023, Annex I – Safety report

## 3 ENVIRONMENT - FRANCE

### 3.1 PRB monitoring

- France achieved a KEA performance of 3.33% compared to its target of 2.83% and did not contribute positively towards achieving the Union-wide target.

- The NSA states that 2023 performance was affected by high peak traffic levels during the summer and traffic volatility, weather issues and industrial action.
- Both KEP and SCR deteriorated in 2023. The NSA states that 50% of French airspace is now covered by FRA.
- The share of CDO flights increased marginally from 13.36% to 14.21% in 2023.
- During 2023, additional time in terminal airspace increased from 0.89 to 0.90 min/flight, while additional taxi out time increased from 2.43 to 2.72 min/flight.
- Additional taxi out time data for Marseille airport has not been reported for 2023 despite being subject to monitoring as per the Regulation.

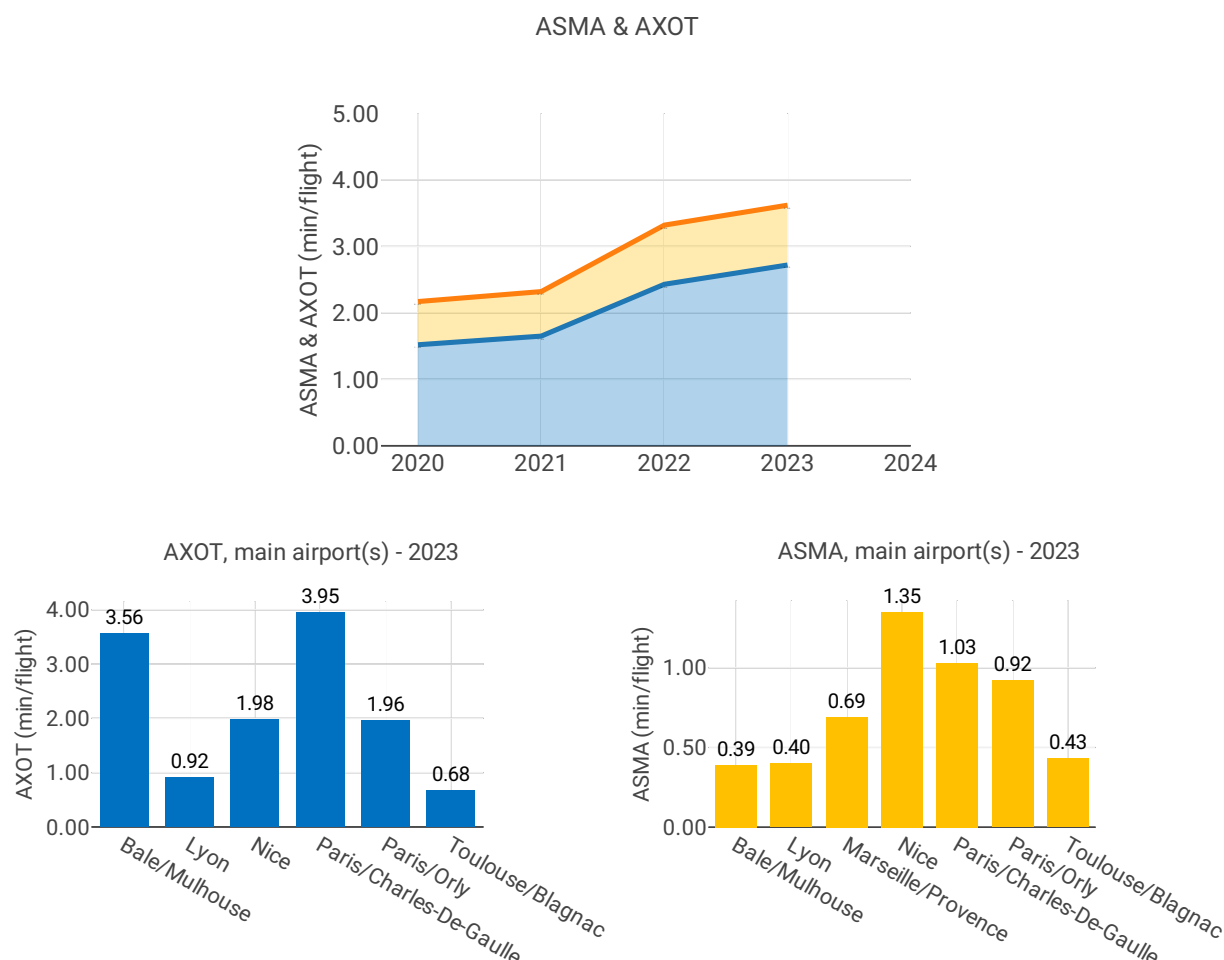
## 3.2 En route performance

### 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

The additional taxi-out times in 2023 remained at 5 of the 6 French monitored airports below the SES average of 2.81 min/dep. On the other hand, Paris Charles de Gaulle showed in 2023 higher additional taxi-out times than in 2019 (LFPG: 2019: 3.77 min/dep.; 2020: 2.17 min/dep.; 2021: 2.25 min/dep.; 2022: 3.57 min/dep.; 2023: 3.95 min/dep.) and the 3rd highest value among SES monitored airports in 2023.

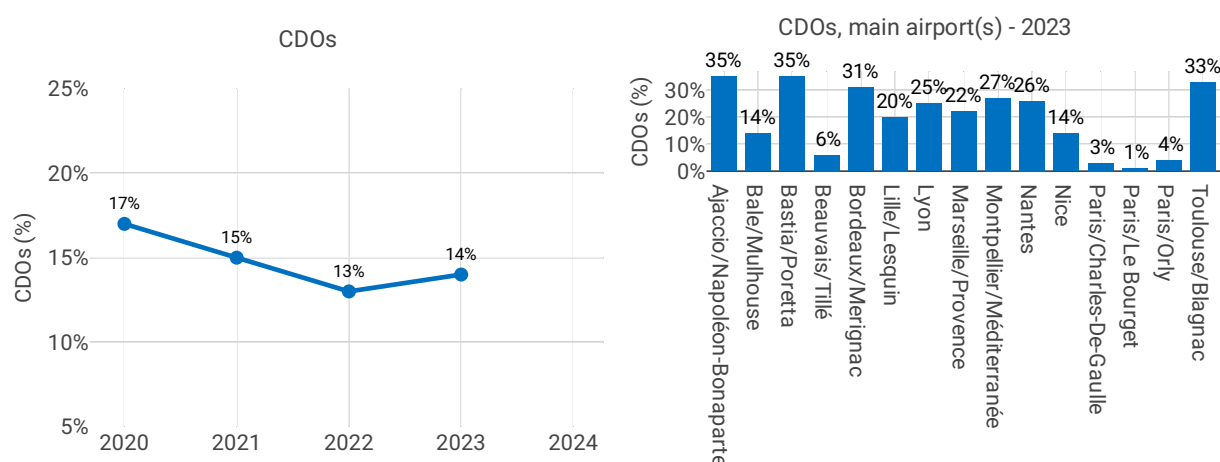
According to the French monitoring report: *Performance evolution is linked with the traffic increase since 2020 (2020&2021 traffic levels were very low due to the traffic collapse related to covid-19 travel bans) and general 2022/2023 ATC performance impacted by the traffic recovery ; however 2022 achievements were better than in 2019 and 2023 remain in line with RP2 previous values showing a general stability on the taxi-out time phase at French airports despite the increased volatility of traffic.* The Airport data flow (APDF) has been implemented at Marseille airport in 2019 with some technical issues regarding block data. Beginning 2020, when within the framework of a project on implementing A-CDM concept at Marseille airport additional exchanges took place regarding lacking information (AOBT/AIBT) and how to provide it through the airport data flow but it could not be implemented during the covid 19 phase. Eurocontrol has contacted Marseille airport authorities to tackle the issue in 2022 and beginning 2023. The French NSA will support Eurocontrol and Marseille airport in order to identify remaining issues and implement the on block data provision as soon as possible.

## ASMA

The additional ASMA in 2023 has increased at Lyon (LFLL) and Charles de Gaulle (LFPG) and decreased at Nice (LFMN) and Paris Orly (LFPO). Except for Nice, the performance of these airports is better than the average 2023 SES performance of 1.16 min/arr.

According to the French monitoring report: *Performance evolution is linked with the traffic increase till 2020 (2020&2021 traffic levels where very low due to the traffic collapse related to covid-19 travel bans) and general 2022 and 2023 ATC performance impacted by the high traffic recovery and volatility ; however 2022 achievements were equivalent or better than 2019 figures and generally equivalent or better than during the whole RP2 with equivalent traffics, showing general progress on the additional time in terminal airspace phase at some French airports except at CDG airport. This also is closely linked to working methods and the sequencing of approaches, some actions are undertaken by DSNA to achieve “quick wins” where possible.*

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



#### Focus CDOs

For 12 out of the 58 airports, the share of CDO flights was above the RP3 overall value in 2023 (28.8%). In 2023, 13.6% of the arrivals performed a CDO compared to 12.6% in 2022. The Paris airports have a remarkably low share of CDO flights. The 3 airports with the lowest share of CDO flights in 2023 are French, followed by Frankfurt and Munich. As in 2020, 2021 and 2022, Paris-Le Bourget (LFPB) has the lowest share of CDO flights of all airports monitored during 2023 (0.6%).

According to the French monitoring report: *DSNA has an objective to drastically increase the CDO rate (from FL75) to reduce noise on all major airports, and remove as much level-offs as possible.*

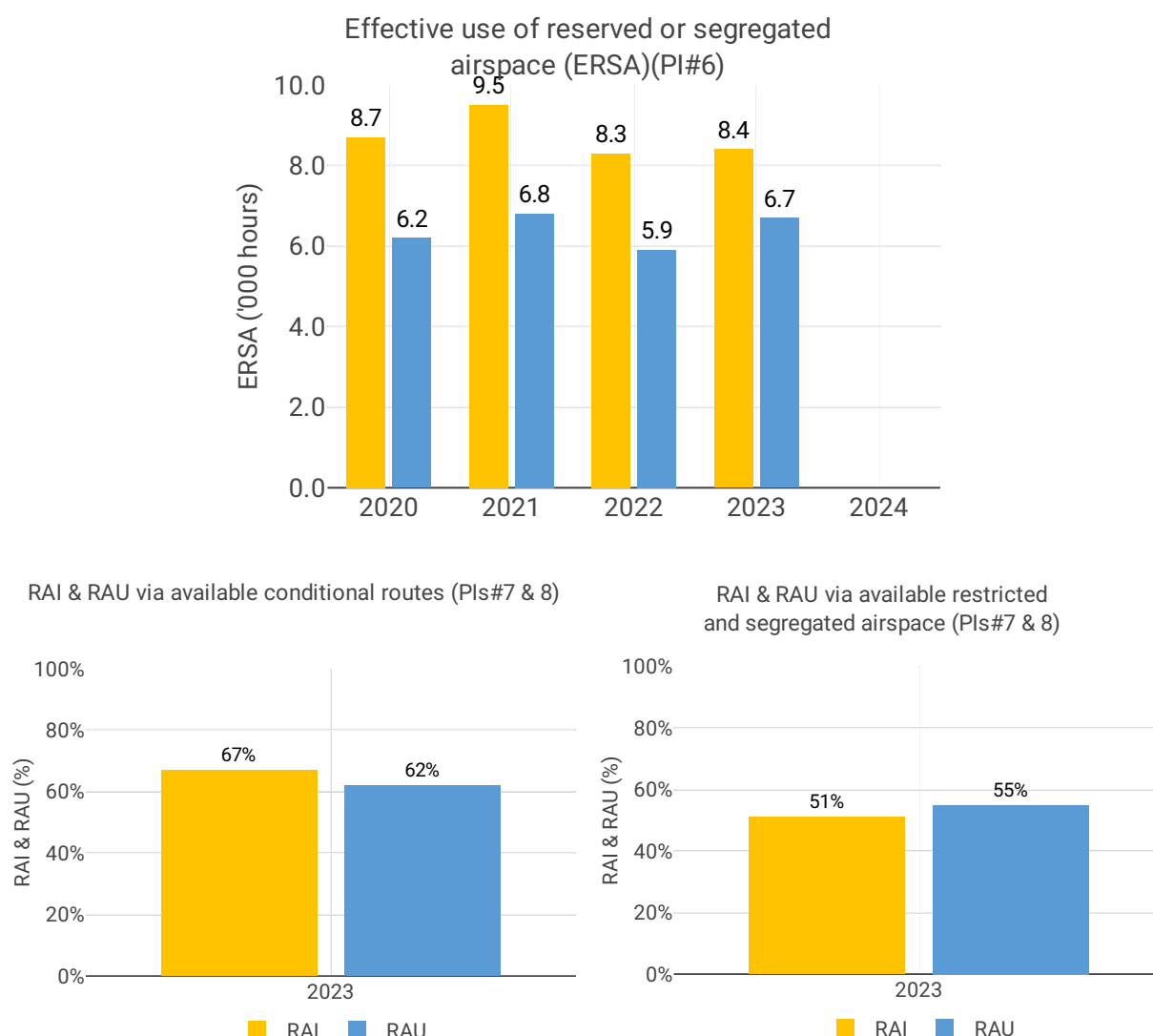
- Launch of PBN to ILS projects in LFPG, LFPO, LFLL, LFMN, with significant CDO rate improvement targeted.  
 - TF Green operations led to some vertical improvements with Green descent projects : improvements on certain legs from top of descent (CDO fuel).

DSNA is also currently implementing progressively a 25 % time reduction in level flight from top of descent TOD and a 20% reduction for CDO 75 on airports above 75000 IFR movements per year compared to 2019.

## 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                            | 2.61 | 3.35 | 3.56 | NA   | 0.41                        | 0.47 | 0.29 | 0.39 | NA   | 18%                                   | 13%  | 14%  | 14%  | NA   |
| Lyon                        | 0.51                            | 0.55 | 0.71 | 0.92 | NA   | 0.33                        | 0.18 | 0.15 | 0.40 | NA   | 22%                                   | 17%  | 19%  | 25%  | NA   |
| Marseille/Provence          | NA                              | NA   | NA   | NA   | NA   | 0.51                        | 0.54 | 0.68 | 0.69 | NA   | 27%                                   | 23%  | 19%  | 22%  | NA   |
| Nice                        | 0.77                            | 1.10 | 1.30 | 1.98 | NA   | 0.86                        | 1.38 | 1.54 | 1.35 | NA   | 20%                                   | 13%  | 13%  | 14%  | NA   |
| Paris/Charles-De-Gaulle     | 2.17                            | 2.25 | 3.57 | 3.95 | NA   | 0.66                        | 0.62 | 0.90 | 1.03 | NA   | 4%                                    | 3%   | 2%   | 3%   | NA   |
| Paris/Orly                  | 1.22                            | 1.27 | 1.89 | 1.96 | NA   | 0.82                        | 0.64 | 1.16 | 0.92 | NA   | 3%                                    | 3%   | 3%   | 4%   | NA   |
| Toulouse/Blagnac            | 0.43                            | 0.45 | 0.67 | 0.68 | NA   | 0.54                        | 0.37 | 0.36 | 0.43 | NA   | 30%                                   | 27%  | 30%  | 33%  | NA   |
| Albert/Bray                 | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 29%                                   | 31%  | 20%  | 19%  | NA   |
| Agen/La-Garenne             | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 21%                                   | 13%  | 12%  | 14%  | NA   |
| Bordeaux/Merignac           | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 32%                                   | 27%  | 26%  | 31%  | NA   |
| Bergerac/Roumanière         | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 15%                                   | 13%  | 19%  | 20%  | NA   |
| La-Rochelle/Ile de Ré       | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 26%                                   | 22%  | 20%  | 22%  | NA   |
| Poitiers/Biard              | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 16%                                   | 12%  | 18%  | 16%  | NA   |
| Limoges/Bellegarde          | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 30%                                   | 31%  | 32%  | 33%  | NA   |
| Pau/Pyrénées                | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 23%                                   | 17%  | 24%  | 21%  | NA   |
| Tarbes-Lourdes/Pyrénées     | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 63%                                   | 64%  | 53%  | 52%  | NA   |
| Biarritz/Bayonne-Anglet     | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 26%                                   | 21%  | 22%  | 23%  | NA   |
| Rodez/Marcillac             | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 17%                                   | 16%  | 19%  | 17%  | NA   |
| Dole/Tavaux                 | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 13%                                   | 12%  | 9%   | 12%  | NA   |
| Metz-Nancy/Lorraine         | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 9%                                    | 8%   | 14%  | 11%  | NA   |
| Bastia/Poretta              | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 40%                                   | 33%  | 33%  | 35%  | NA   |
| Calvi/Sainte-Catherine      | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 38%                                   | 34%  | 32%  | 30%  | NA   |
| Figari/Sud-Corse            | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 35%                                   | 32%  | 34%  | 38%  | NA   |
| Ajaccio/Napoléon-Bonaparte  | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 39%                                   | 32%  | 34%  | 35%  | NA   |
| Chambéry/Aix-les-Bains      | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 9%                                    | 14%  | 8%   | 8%   | NA   |
| Clermont-Ferrand/Auvergne   | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 22%                                   | 16%  | 21%  | 24%  | NA   |
| Annecy/Meythet              | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 15%                                   | 13%  | 11%  | 13%  | NA   |
| Grenoble/Isère              | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 19%                                   | 20%  | 20%  | 18%  | NA   |
| Châteauroux/Déols           | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 12%                                   | 10%  | 12%  | 11%  | NA   |
| Lyon/Bron                   | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 10%                                   | 7%   | 8%   | 9%   | NA   |
| Cannes/Mandelieu            | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 13%                                   | 9%   | 10%  | 8%   | NA   |
| Saint-Etienne/Bouthéon      | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 11%                                   | 12%  | 14%  | 14%  | NA   |
| Istres/Le-Tubé              | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 31%                                   | 24%  | 22%  | 22%  | NA   |
| Carcassonne/Salvaza         | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 19%                                   | 19%  | 21%  | 24%  | NA   |
| Perpignan/Rivesaltes        | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 43%                                   | 39%  | 33%  | 35%  | NA   |
| Montpellier/Méditerranée    | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 33%                                   | 30%  | 29%  | 27%  | NA   |
| Béziers/Vias                | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 28%                                   | 25%  | 27%  | 24%  | NA   |
| Avignon/Caumont             | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 15%                                   | 13%  | 11%  | 15%  | NA   |
| Beauvais/Tillé              | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 8%                                    | 7%   | 5%   | 6%   | NA   |
| Châlons/Vatry               | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 27%                                   | 28%  | 26%  | 20%  | NA   |
| Rouen/Vallée-de-Seine       | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 29%                                   | 28%  | 30%  | 26%  | NA   |
| Tours/Val-de-Loire          | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 48%                                   | 46%  | 32%  | 26%  | NA   |
| Paris/Le Bourget            | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 1%                                    | 1%   | 1%   | 1%   | NA   |
| Toussus/Le-Noble            | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 5%                                    | 5%   | 5%   | 5%   | NA   |
| Lille/Lesquin               | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 29%                                   | 24%  | 14%  | 20%  | NA   |
| Brest/Bretagne              | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 33%                                   | 33%  | 32%  | 34%  | NA   |
| Dinard/Pleurtuit-Saint-Malo | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 19%                                   | 12%  | 16%  | 14%  | NA   |
| Deauville/Normandie         | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 11%                                   | 11%  | 12%  | 11%  | NA   |
| Lorient/Lann-Bihoué         | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 30%                                   | 28%  | 28%  | 33%  | NA   |
| Caen/Carpiquet              | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 11%                                   | 10%  | 10%  | 8%   | NA   |
| Rennes/St-Jacques           | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 53%                                   | 49%  | 45%  | 45%  | NA   |
| Quimper/Pluguffan           | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 28%                                   | 25%  | 37%  | 18%  | NA   |
| Nantes                      | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 27%                                   | 23%  | 24%  | 26%  | NA   |
| Saint-Nazaire/Montoir       | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 20%                                   | 22%  | 24%  | 26%  | NA   |
| Brive/Souillac              | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 15%                                   | 20%  | 21%  | 26%  | NA   |
| Strasbourg/Entzheim         | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 17%                                   | 14%  | 14%  | 13%  | NA   |
| Hyères/Le-Palyvestre        | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 31%                                   | 22%  | 18%  | 19%  | NA   |
| Nîmes/Garons                | NA                              | NA   | NA   | NA   | NA   | NA                          | NA   | NA   | NA   | NA   | 19%                                   | 20%  | 18%  | 21%  | NA   |

### 3.4 Civil-Military dimension



### Focus on Civil-Military dimension

#### Update on Military dimension of the plan

According to the FR NSA report: 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**

France provides 2 KPIs, NEGOT and ENV. KPI NEGOT, which is roughly around 93% for years and higher than 96% since the COVID crisis period, reflects the robustness of the French national civil-military CDM process regarding ASM. KPI NEGOT is mostly driven by 2 blocks of areas in the eastern part of France. KPIs ENV, which were roughly for years around 65 % (ratio between the real use and AUP planning at D-1) and 75 % (ratio between the real use and AUP/UUP processes at H-3), reach now respectively 79% & 89%, thereby bringing about a significant improvement. Thus they are considered as very efficient, taking into account that they have to cope with several mission cancellation causes (Weather, Technical or Operational reasons).

To further improve flight efficiency with this virtuous approach, civil and military AMC staff continue to work together and 15 indicators regarding 3 domains (NEGOT, RELIABILITY, and CURA) are currently experimented since March 2021. In coordination with PRISMIL Team. Data management has been updated in 2023 to finetune these indicators. Trial is still in progress. Despite these efforts and improvements, a glass ceiling will still exist, as some military mission cancellation causes remain unpredictable.

### **Initiatives implemented or planned to improve PI#7**

No validated data available from 2022. the data on previous cycles were kindly provided by Eurocontrol and processed by the FR NSA without further assessment by interested parties including MIL FR. In the course of the 2022 monitoring exercise, a similar request has been issued in parallel to Eurocontrol and involved parties within FR to compute data with the help of PRISMIL tool. An active coordination between FR experts, Eurocontrol PRISMIL Team and NMIR support highlighted some biases in the information that could be retrieved.

A better understanding of the issue was expected to put FR in a position to compute and provide the data from 2023 onward making use of existing tools and involving additional experts from DSNA. Unfortunately, the additional expertise is in the new DATA Office unit still understaffed in order to perform required post Ops activities to compute PI #7 figures for 2023.

### **Initiatives implemented or planned to improve PI#8**

No validated data available from 2022. the data on previous cycles were kindly provided by Eurocontrol and processed by the FR NSA without further assessment by interested parties including MIL FR. In the course of the 2022 monitoring exercise, a similar request has been issued in parallel to Eurocontrol and involved parties within FR to compute data with the help of PRISMIL tool. An active coordination between FR experts, Eurocontrol PRISMIL Team and NMIR support highlighted some biases in the information that could be retrieved.

A better understanding of the issue was expected to put FR in a position to compute and provide the data from 2023 onward making use of existing tools and involving additional experts from DSNA. Unfortunately, the additional expertise is in the new DATA Office unit still understaffed in order to perform required post Ops activities to compute PI #8 figures for 2023.

## 4 CAPACITY - FRANCE

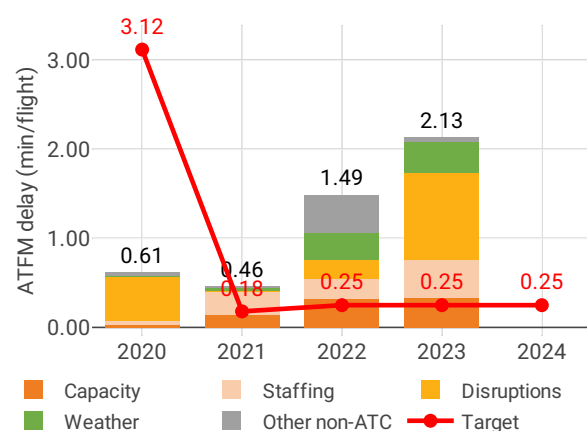
### 4.1 PRB monitoring

- France registered 2.09 minutes of average en route ATFM delay per flight during 2023 which has increased to 2.13 during the post-ops adjustment process, thus not achieving the local target value of 0.25. Delays in France increased by 0.65 minutes per flight year-on-year.
- Most of the delays accumulated between March and October, due to industrial action, adverse weather conditions and ATC staffing and ATM system transition.
- The share of delayed flights with delays longer than 15 minutes in France increased by 2 p.p. compared to 2022 and was higher than 2019 values.
- The average number of IFR movements was 4% below 2019 levels in France in 2023.
- In Bordeaux ACC the number of ATCOs in OPS is expected to increase by 14% by 2024, with the actual value being below the 2023 plan by 18 FTEs. In Brest the number of ATCOs in OPS is expected to increase by 2% by 2024, with the actual value being below the 2023 plan by 12 FTEs. In Marseille the number of ATCOs in OPS is expected to increase by 14% by 2024, with the actual value being over the 2023 plan by 6 FTEs. In Paris the number of ATCOs in OPS is expected to increase by 3% by 2024, with the actual value being below the 2023 plan by 2 FTEs. In Reims the number of ATCOs in OPS is expected to increase by 2% by 2024, with the actual value being over the 2023 plan by 18 FTEs.
- The yearly total of sector opening hours in Bordeaux ACC was 79,054, showing a 2.7% increase compared to 2022. Sector opening hours are 7.3% above 2019 levels. The yearly total of sector opening hours in Reims ACC was 62,948, showing a 5.6% decrease compared to 2022. Sector opening hours are 8.4% below 2019 levels. The yearly total of sector opening hours in Paris ACC was 74,134, showing a 10.4% decrease compared to 2022. Sector opening hours are 28% below 2019 levels. The yearly total of sector opening hours in Marseille ACC was 110,418, showing a 5.4% increase compared to 2022. Sector opening hours are 9.7% above 2019 levels. The yearly total of sector opening hours in Brest ACC was 74,308, showing a 17.3% increase compared to 2022. Sector opening hours are 9.1% below 2019 levels.
- Bordeaux ACC registered 11.77 IFR movements per one sector opening hour in 2023, being 11.9% below 2019 levels. Reims ACC registered 16.5 IFR movements per one sector opening hour in 2023, being 11.0% above 2019 levels. Paris ACC registered 15.11 IFR movements per one sector opening hour in 2023, being 27.1% above 2019 levels. Marseille ACC registered 10.12 IFR movements per one sector opening hour in 2023, being 12.1% below 2019 levels. Brest ACC registered 13.88 IFR movements per one sector opening hour in 2023, being 2.7% above 2019 levels.
- Year-on-year traffic growth was 9% in France, which is, on average, in line with the STATFOR October 2021 Base forecast. Major industrial actions had a detrimental impact on capacity performance in France in 2023. Ongoing system implementation and the training of ATCOs should show considerable improvement in the coming years.

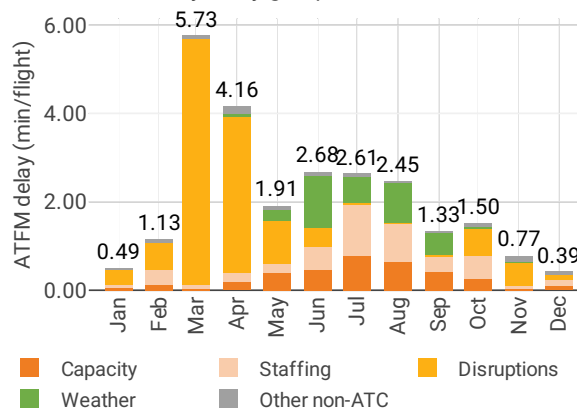
## 4.2 En route performance

### 4.2.1 En route ATFM delay (KPI#1)

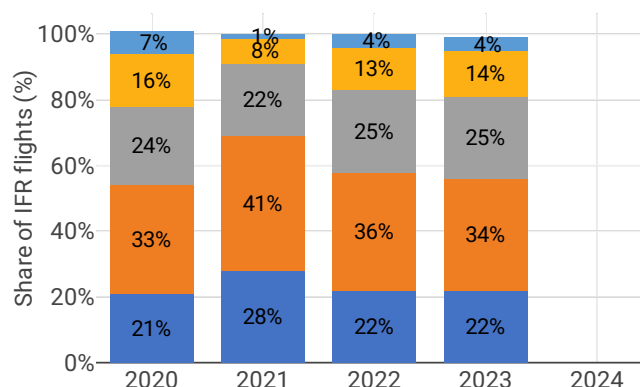
Average en route ATFM delay per flight by delay groups



Monthly distribution of en route ATFM delay by delay groups - 2023



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



### Focus on en route ATFM delay

#### Summary of capacity performance

France experienced an increase in traffic from 2 971k flights in 2022, with 4 343k minutes of en route ATFM delay, to 3 234k flights with 6 795k minutes of en route ATFM delay in 2023.

There were an additional 26k minutes of en route ATFM delay originating in the French ACCs that were re-attributed to the DFS via the NM post operations delay attribution process, as part of the eNM/S23 measures to mitigate the capacity shortfall in Karlsruhe UAC.

The total of en route ATFM delays includes 77k minutes of en route ATFM delay that were re-attributed to DSN according to the eNM/S23 measures, but which originated elsewhere: 71k in Spain; 3k in UK, <2k in Portugal and <1k in MUAC.

#### NSA's assessment of capacity performance

The capacity target for en route has not been met (2,13 min/flight, including NM post-ops process implementation, vs 0,25 min/flight) mainly due to the remaining impact of new ATM systems (Coflight & 4-FLIGHT) implementations in two ACCs (Reims and Marseille) in 2022 for which transition plans were implemented by DSN in coordination with the NM and neighbouring ANSPs and lasted longer than expected due to technical issues and the expected higher capacity delivery was not yet delivered in 2023, but also due to the impact of major industrial action in Spring due to the new pension scheme bill to be implemented in France.

In addition, some ACCs are still experiencing some staff shortages (Paris, Reims, Marseille) while locally traffic has reached 105 % of the 2019 traffic (Reims for example) and it is also the case for some airports experiencing staff shortages (Orly, Basel, Toulouse or Bordeaux for example) or high Summer traffic peaks

(South East of France and Corsica). Priority given to ATCO assignment at ACCs and some delays due to non CRSTMP reasons (weather & industrial action) had also an impact on the 2023 performance for airports. Corrective actions have been identified and discussed with DSNA and will be implemented in order to mitigate the main delay causes (implementation of NOP corrective measures, addressing ATCO shortages, defining and implementing densified rostering schemes and additional flexibility, reduction of ATCO training time, negotiation of a new social agreement, implementing lessons learnt from 4-FLIGHT implementations in Reims and Marseille ACCs, new law on industrial action management for ATC in France etc.

### **Monitoring process for capacity performance**

In a nutshell, the French NSA monitoring process is twofold: on the top of the FABEC general monitoring process described in the French performance plan and in the previous 2020 and 2021 RP3 FABEC performance monitoring reports (cf. these documents), a national process has been established based on the following:

- The French NSA is regularly provided with various reports, analysis and data such as FABEC monthly capacity reports (including DSNA data), weekly/monthly/yearly capacity DSNA-OPS directorate reports, PRU monthly dashboards which enable to closely monitor the performance evolution and cross-check data;
- The French NSA is invited and participates to the capacity planning meetings organized during winter by the NM with DSNA to prepare NOP updates (including discussion on remedial measures, traffic and delays forecast for DSNA ACC, Summer DSNA sector opening schemes etc.);
- The French NSA is invited and participates to the two yearly Strategic airspace user meetings held by DSNA (beginning of Summer & Winter) where strategic evolutions, OPS projects, ongoing performance, investment plan and HR updates are presented by DSNA to the airspace users which can react and express their views and concerns if any;
- The French NSA has included in its yearly surveillance programme an OPS performance review : regarding capacity, on top of previous meeting participation and data & reports analysis, a dedicated meeting is organized in April/May with DSNA/OPS directorate in order to analyse the previous year performance, define and validate ongoing or new remedial and corrective measures to be taken by DSNA to address issues and underperformance, have a view on ongoing year capacity provision, prepare the yearly FR performance monitoring report to be submitted 1st June ; a follow-up meeting is organized by the French NSA in October/November to follow-up remedial measure implementation, analyse Summer performance, discuss future performance.
- Various airspace users or unions consultation meetings are run during the year (either by the French NSA or in which the French NSA is invited to provide inputs and updates regarding operational performance monitoring).

Note: Regarding ATCO planning, the plans are and will always be subject to change; in addition, the details of the planned evolution of ATCO numbers within an ANSP with several ACCs are socially sensitive. However, ATCO hiring and assignment is one of the major driver for current capacity and staffing issues solving. ACE figures are provided and can be referred to. Nevertheless, the French NSA considers that they cannot be considered as a commitment where planning figures are requested, due to the high level of uncertainties related to such ATCO recruitment plans management. These figures, even when provided on annual basis, can only be regarded as snapshot information, i.e. a situation at one point in time which does not guarantee a realistic view throughout the entire duration of RP3.

There are many factors with a high level of uncertainty that have an impact on the ATCO planning: first of all, the social agreements in place in an ANSP play a major role in the availability of ATCOs to fulfill the OPS needs (a new social agreement is currently under discussion and should be signed before end 2023 ; certain provisions - recruitment levels, flexibility and rostering, staff retention incentives - could have an impact on futures values).

Then, there are classical uncertainty factors of general staff planning like the actual rate of retirement, the absence rate of employees, as well as maternity and parent leave. Moreover, ATCOs mobility has become a severe issue recently, moreover when understaffed ACC are concerned.

### **Capacity planning**

Since [COVID-19] a weekly Rolling NOP, published every Friday has been introduced through which NM coordinates with all partners to ensure capacity is available at ACCs and in the airspace they manage, and on the ground at airports, to meet the expected traffic demand from the airlines on each day of the next six weeks enabling to coordinate all operational stakeholders throughout the pandemic to ensure that

network actors can plan their recovery effectively based on predicted traffic levels.

A draft version of the new 2024-2029 NOP has been released in March. It includes the capacity planning for DSNA ACCs and is still to be updated and finalized in June 2024 with the latest available capacity information and remedial measures for all DSNA ACCs concerned by capacity issues.

DSNA is of course part of this process and contributes to the provision for a consolidated European network view of the evolution of the air traffic, enabling the planning of the service delivered in the recovery phase to match the expected air traffic demand in a safe, efficient and coordinated manner.

It should be also noted that the French NSA, upon its request, has been associated to this process and attends since RP2 the NM - DSNA capacity planning meetings in order to be informed of the outcome of previous NOP remedial measures, French ACCs capacity issued and NM delays forecast for French ACCs, any new measures proposed either by DSNA or the NM to mitigate capacity issues.

### **Application of Corrective Measures for Capacity (if applicable)**

The 2023 target of 0.25 min/flight was not achieved for en route. 2023 actual achievement is 2,13 min/flight, including the post-ops process of the NM, with 0,81 min/flight on the CRSTMP perimeter falling under the sole action of the French air navigation service provider, DSNA.

The dominant factor for the quality of service in 2023 was of course the significant industrial action movement in Spring 2023 relating to the new national pensions law introduced by the French government which had a strong impact on DSNA capacity provision and was the main cause of 2023 ATFM delays. Indeed, the resulting delays represented 40% of total all causes delays (nearly 1 min/flight on average). Remaining staff resource and capacity issues at some French ACCs also accounted for nearly 20% of 2023 delays, as did the consequences of bad weather conditions also around 20%.

On the CRSTMP perimeter, the Reims and Marseille ACCs were the main generators of delays in 2023, with staff resources dominating for Marseille and staff resources and capacity problems for Reims. This is explained by a combination of lack of staff and significant growth in traffic: Reims having experienced higher traffic (105%) than 2019 traffic and Marseille having a 2023 traffic equivalent to 2019 traffic. Paris ACC (although knowing resource problems, traffic there is only 85% of that of 2019), Brest and Bordeaux have not experienced major delay problems (apart from the strike impact for Brest) in 2023.

The slower than expected capacity recovery and additional capacity provision after 2022 4-FLIGHT implementation in Reims and Marseille had an impact in the capacity levels for these ACCs in 2023 but is progressively mitigated and a new version of the software will be implemented in March / April 2024 to fix the remaining identified technical issues and foster additional capacity provision.

Corrective measures were taken, presented and discussed with the French NSA are detailed in following sections of the report. A dedicated meeting was organized with DSNA in order to gather both explanations and information about remedial measures already launched; and identify potential additional measures that could be implemented by DSNA in 2023 and beyond to tackle non temporary capacity issues. The following recommendations / course of actions have been discussed and agreed with DSNA:

- General remedial measures already identified, coordinated with the Network Manager and to be published in the NOP 2024-2029 for the 5 French ACCs should be implemented as soon as possible;
- A set of specific remedial measures put in place by DSNA or already planned in 2023 to mitigate identified non temporary issues at the French ACCs have been presented to the French NSA listed below: the French NSA will be kept informed by DSNA of their timely implementation, of the expected benefit and of any issue in the implementation plan, and a follow-up meeting will be organized before the end of 2024;
  - a. Implementation of remedial measures for DSNA ACC as listed in NOP 2024-2029;
  - b. Implementation of new rostering schemes to introduce more flexibility;
  - c. 4-FLIGHT implementation in Paris ACC (and update in Marseille & Reims ACC);
  - d. Implementation of changes in initial and continuatio training to reduce duration of qualification training;
  - e. Transfer of sectors FL115-FL195 from ACC to APP units;
  - f. Implementation of loyalty scheme for ATCOs at Paris & Reims ACC to reduce turnover of ATCOs;
  - g. Implementation of new social agreement adressing staffing levels; recruitment; flexibility of rostering schemes and working arrangements and methods;
  - h. Pre-tactical processes to address adverse meteorological conditions and reduce MET delays;
  - i. New law on industrial action in France, requiring minimum notice periods and minimum levels of service to be provided.
- An analysis of potential risks on 2024 and beyond underperformance has been carried over and required

potential remedial measures to address such a situation have been discussed; they are also addressed in the final chapter of the en route capacity tab of the monitoring together with the actions taken by the NSA to monitor future performance through its surveillance program.

#### **Follow - up of Corrective Measures for Capacity from Previous Years**

As explained above, the French NSA is kept informed of any development related to the implementation of capacity and environment remedial and corrective measures. In particular:

- A follow-up meeting has been organized by the French NSA with DSN operational directorate in November 2023 to check the implementation of these measures;
- The French NSA has been invited to the two yearly DSN strategic users' consultation meetings held in 2023 which include an update on all strategic and operational measures taken by DSN to improve capacity and environment performances, prepare Summer season and on the investment program;
- The French NSA is also involved in the capacity planning process run by the Network Manager together with DSN during Winter 2023/2024 in order to prepare the updated 2024-2029 European Network Operations Plan;
- The French NSA is also kept updated of the 4-FLIGHT implementation impact through dedicated meetings regularly organized by DSN to inform and get feedback from airspace users on the upcoming implementation at Paris ACC and related transition plan in 2024 & 2025 ;
- During this process the French NSA has checked that all measures listed in the previous monitoring report have been implemented effectively and in a timely manner by DSN ; concerning the 4-FLIGHT implementation in Reims and Marseille and resulting slower than expected increase in capacity in some sectors (due to an FDPS tech problem identified, currently being resolved via corrections made by the manufacturer to successive versions of the software, but also changes in ATCO working methods), the situation has been monitored and if nominal sector capacities are still not reached in particular for sectors below flight level 345, it should be noted that sector capacities observed beginning 2023 onwards on certain sectors in Reims and Marseille ACCs above level 345, are 10 to 20% higher than the capacities before 4-FLIGHT, which is a good signal and the situation has been progressing during 2024 ; the updated 4-FLIGHT system version to be implemented in these ACCs in March / April 2024 should fix main technical issues.

In addition, the French NSA has been invited to the dedicated information meetings held by DSN with the airspace users in order to monitor the 4-FLIGHT implementation at Paris ACC and its impact on Paris area capacity provision.

#### **Identification of Significant Risks to Capacity Performance for Remainder of RP3**

The NSA has identified several risks which are likely to lead to performance targets not being achieved in 2024. See comments and remedial measures listed above, which, for most of them address the whole RP3 timeframe including risks which are likely to lead to performance targets not being achieved in 2024. It should also be noted that during year 2024 a new social agreement for the 2023 - 2027 period will be finalized and discussed between DGAC, the French ministries of Finance, Public administration and Transport and the Unions, with the aim to sign it and implement it before the Summer period.

This could lead to industrial actions and social unrest having an impact on DSN performance. In this case all possible collaborative decision management processes shall be used with the airspace users, the network manager and neighboring ANSPs in order to mitigate as much as possible the impact on the users. However, the new industrial action law implemented end 2023 in France should enable additional mitigation measures and lower the impact of, industrial action as from 2024.

In addition an updated transition plan for 4-FLIGHT implementation in Paris ACC will be discussed with the airspace users in order to take into account their concern on the impact of such an implementation in the Paris area, combined with the Olympic games and the specific traffic patterns of the Paris area and related major airports.

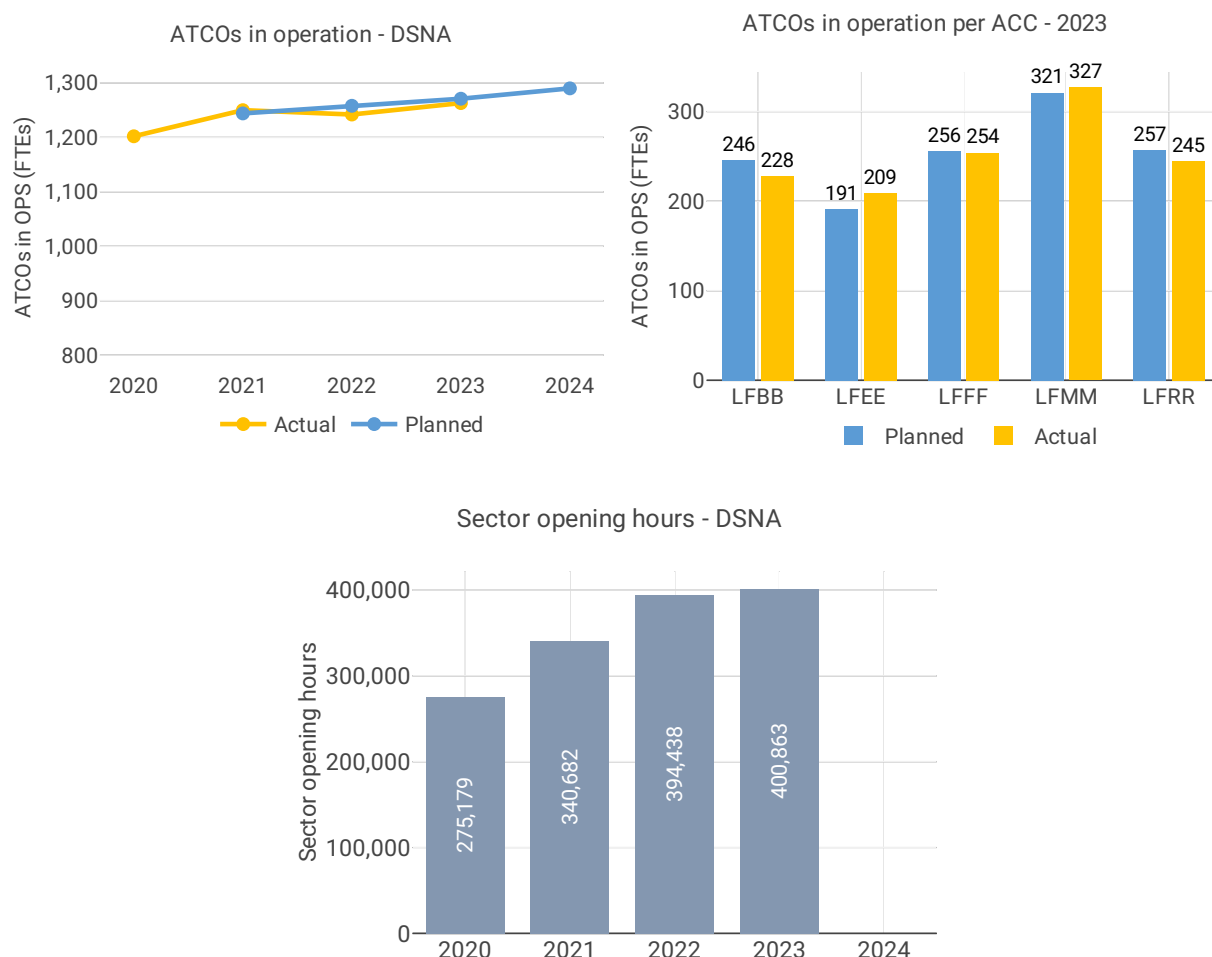
Furthermore, the French NSA will closely monitor the implementation of the above listed remedial measures by DSN and assess their impact on the en route capacity performance through its surveillance program ; should any additional measures be necessary, it will be studied and discussed accordingly with DSN in order to assess their feasibility, their potential impact on other performance area KPIs, their benefits and the related implementation timeline.

The French NSA will be involved in the discussions regarding the social agreement discussions and their implementation.

## En route Capacity Incentive Scheme

**DSNA:** France uses an incentive scheme based only on delays attributed to C,R,S,T,M & P delay codes. The new target was set at 0.16 minutes per flight and the actual performance is reported as 0.81 minutes per flight (CRSTMP only). This results in a reported malus of 6,141,975 €.

### 4.2.2 Other indicators



### Focus on ATCOs in operations

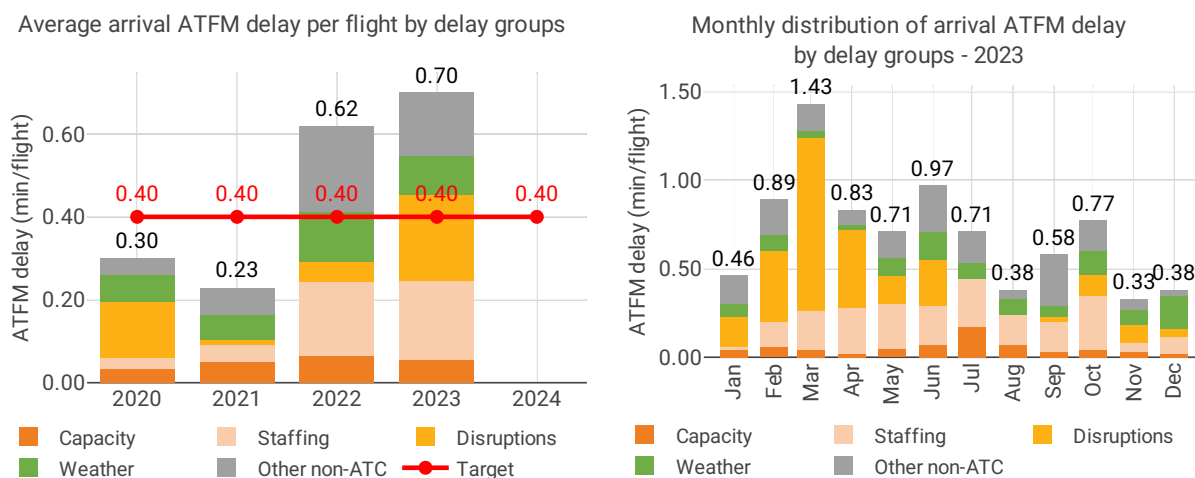
Regarding ATCO planning, the plans are and will always be subject to change; in addition, the details of the planned evolution of ATCO numbers within an ANSP with several ACCs are socially sensitive. However, ATCO hiring and assignment is one of the major driver for current capacity and staffing issues solving. ACE figures are provided and can be referred to. Nevertheless, the French NSA considers that they cannot be considered as a commitment where planning figures are requested, due to the high level of uncertainties related to such ATCO recruitment plans management. These figures, even when provided on annual basis, can only be regarded as snapshot information, i.e. a situation at one point in time which does not guarantee a realistic view throughout the entire duration of RP3.

There are many factors with a high level of uncertainty that have an impact on the ATCO planning: first of all, the social agreements in place in an ANSP play a major role in the availability of ATCOs to fulfill the OPS needs (a new social agreement is currently under discussion and should be signed before end 2023 ; certain provisions - recruitment levels, flexibility and rostering, staff retention incentives - could have an impact on futures values).

Then, there are classical uncertainty factors of general staff planning like the actual rate of retirement, the absence rate of employees, as well as maternity and parent leave. Moreover, ATCOs mobility has become a severe issue recently, moreover when understaffed ACC are concerned.

## 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 Paris Charles de Gaulle, with more than 40% of the reported delay not allocated to any cause. The traffic at the ensemble of these 58 airports in 2023 is still 11% below the 2019 levels, with a 5% increase with respect to 2022.

Average arrival ATFM delay in 2023 was 0.70 min/arr, compared to 0.62 min/arr in 2022. The national target was not met. ATFM slot adherence has improved (2023: 90.4%; 2022: 89.2%).

The national average arrival ATFM delays in 2023 increased on average at French airports. This evolution at national level is driven mainly by the increase observed at Marseille (LFML: 2022: 0.24 min/arr; 2023: 1.65 min/arr). Paris airports (LFPG and LFPO) registered lower delays than in 2022. The delays at national level were attributed mainly to Industrial Action (27% of all delays) and ATC staffing (27%), followed by weather (14%) and Aerodrome Capacity (13%).

Analysis of the NSA on the reasons having led to the performance target not being met: *Concerning terminal capacity, the 2023 target of 0.4 min/flight was not achieved. The actual 2023 achievement is 0.70 min/flight including the post-ops process of the NM, with 0.31 min/flight on the CRSTMP perimeter falling under the sole action of the air navigation service provider. As for the en route capacity in 2023, the dominant factor for the quality of service in 2023 was of course the significant industrial action movement in Spring 2023 relating to the new national pensions law introduced by the French government which had a strong impact on DSN capacity provision and was the main cause of 2023 ATFM delays. Bad weather condition impact played also a role in the actual 2023 terminal capacity results, but also, in the CRSTMP perimeter, the combination of locally significant traffic (Orly, Nice, Marseille have for example exceeded the traffic levels of 2019 during 2023 summer when CDG remains at 90% of 2019 traffic level) and understaffing (Orly, Basel, Toulouse, Bordeaux, etc.); indeed, during the previous years, in order to address the en route staffing and capacity issues due to ATCO shortages in some DSN ACCs, priority has been given to recruiting, training and assigning staff to the 5 French ACCs. In that context, some DSN approaches and towers are now progressively also experiencing locally staff shortages. Furthermore, the consolidation of approaches to Nice from Toulon- Hyères also produced delays at Nice airport. Corrective measures were taken, presented and discussed with the French NSA and are detailed in the following section of this report. With regard to this underachievement, a penalty will be applied to DSN deducted from the 2025 cost base in order to reduce the 2025 terminal unit rates.*

Recommendations to the ANSP to rectify the situation: *A dedicated meeting has been organized with DSN in order to gather both explanations and information about remedial measures already launched*

and identify potential additional measures that could be implemented by DSNA in 2023 and beyond to tackle non temporary capacity issues. The following recommendations / course of actions have been discussed and agreed with DSNA:

- A set of specific remedial measures put in place by DSNA or already planned in 2023 to mitigate identified non temporary issues at the airports have been presented to the French NSA and are listed in the table below: the French NSA will be kept informed by DSNA of their timely implementation, of the expected benefit and of any issue in the implementation plan, and a follow-up meeting will be organized before the end of 2024;
- An analysis of potential risks on 2024 and beyond underperformance has been carried over and required potential remedial measures to address such a situation have been discussed; they are also addressed in the final chapter of the terminal capacity tab of the monitoring together with the actions taken by the NSA to monitor future performance through its surveillance program.

Actions taken by the NSA to monitor implementation of measures: As explained in the en route capacity chapter, the French NSA is kept informed of any development related to the implementation of capacity and environment remedial and corrective measures. In particular:

- A follow-up meeting has been organized by the French NSA with DSNA operational directorate in November 2023 to check the implementation of these measures;
- The French NSA has been invited to the two yearly DSNA strategic users' consultation meetings held in 2023 which include an update on all strategic and operational measures taken by DSNA to improve capacity and environment performances, prepare Summer season and on the investment program;
- The French NSA is also involved in the capacity planning process run by the Network Manager together with DSNA during Winter 2023/2024 in order to prepare the updated 2024-2029 European Network Operations Plan;
- The French NSA is also kept updated of the 4-FLIGHT and iATS implementation impact through dedicated meetings regularly organized by DSNA to inform and get feedback from airspace users on the upcoming implementation at Paris ACC and Orly airport and related transition plans in 2024 & 2025 ;
- During this process the French NSA has checked that all measures listed in the previous monitoring report have been implemented effectively and in a timely manner by DSNA.

Actions taken by the NSA to address the identified performance issues: See comments and remedial measures listed above, which, for most of them address the whole RP3 timeframe including risks which are likely to lead to performance targets not being achieved in 2024. It should also be noted that during year 2024 a new social agreement for the 2023 - 2027 period will be finalized and discussed between DGAC, the French ministries of Finance, Public administration and Transport and the Unions, with the aim to sign it and implement it before the Summer period.

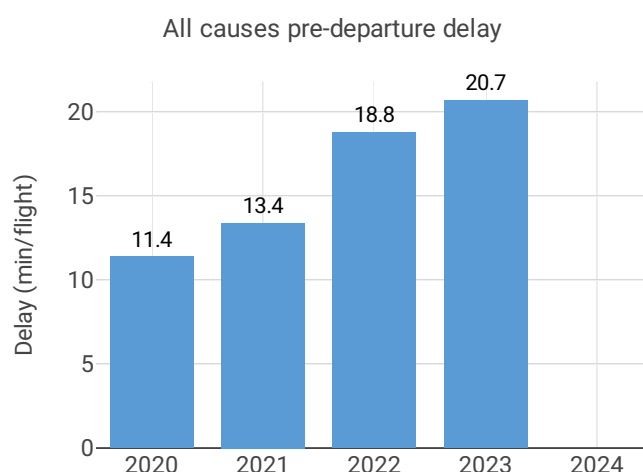
This could lead to industrial actions and social unrest having an impact on DSNA performance. In this case all possible collaborative decision management processes shall be used with the airspace users, the network manager and neighbouring ANSPs in order to mitigate as much as possible the impact on the users. However, the new industrial action law implemented end 2023 in France should enable additional mitigation measures and lower the impact of, industrial action as from 2024. In addition an updated transition plan for 4-FLIGHT implementation in Paris ACC and iATS new ATM system (SYSAT) at Orly airport will be discussed with the airspace users in order to take into account their concern on the impact of such an implementation in the Paris area, combined with the Olympic games and the specific traffic patterns of the Paris area and related major airports.

Further measures by the NSA to remedy the situation: The French NSA will closely monitor the implementation of the above listed remedial measures by DSNA and assess their impact on the terminal capacity performance through its surveillance program ; should any additional measures be necessary, it will be studied and discussed accordingly with DSNA in order to assess their feasibility, their potential impact on other performance area KPIs, their benefits and the related implementation timeline. The French NSA will be involved in the discussions regarding the social agreement discussions and their implementation.

The French performance plan sets a national target on arrival ATFM delay for 2023 of 0.40 min/arr. This target was not met, with an actual performance of 0.70 min/arr. The incentive scheme uses modulated pivot values limited to CRSTMP delay causes. According to the French monitoring report, this pivot value for CRSTMP is 0.16 min/arr in 2023 and based on the attribution of the regulation reason, the actual CRSTMP value for 2023 was 0.31 min/arr. The NSA calculates a penalty of € 1 154 335.4.

According to the French monitoring report: *The actual value has been computed based on the data provided by the Network Manager, including the implementation of the post-ops process. In addition, the non CRSTMP share has also been checked according to the methodology already used in RP2 within FABEC Member States : for the actual en-route and terminal capacity delay data, a review to proof non-CRSTMP regulations was conducted by the NSAs via a data validation process within FABEC Finance and Performance Committee (FPC). Therefore, a number of non-CRSTMP regulations were subject to an analysis under the direction of the FPC. The relevant number of regulations to be verified consisted of 2,5% of the non-CRSTMP regulations causing the highest delay as well as non-CRSTMP regulations of five sample days. Anyway, as far as 2023 is concerned, this had no impact on the final result as the CRSTMP value is above the threshold and the maximum penalty will be applied*

#### 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 | 2024 | 2022 | 2020                  | 2021  | 2023  | 2024 | 2022  |
| Agen/La-Garenne             | NA                             | NA   | NA   | NA   | NA   | 79.2%                 | 85.7% | 50.0% | NA%  | NA    |
| Ajaccio/Napoléon-Bonaparte  | NA                             | 0.05 | 0.01 | NA   | 0.05 | 76.4%                 | 71.3% | 87.6% | NA%  | 74.3% |
| Albert/Bray                 | NA                             | 0.00 | NA   | NA   | NA   | 44.0%                 | 72.7% | 86.5% | NA%  | 89.2% |
| Annecy/Meythet              | 0.16                           | 0.06 | 0.23 | NA   | 0.36 | 74.9%                 | 82.3% | 88.7% | NA%  | 88.8% |
| Avignon/Caumont             | 0.23                           | 0.02 | 0.20 | NA   | 0.28 | 78.7%                 | 84.8% | 93.0% | NA%  | 87.5% |
| Bale/Mulhouse               | 0.41                           | 0.05 | 0.55 | NA   | 0.21 | 87.4%                 | 89.2% | 88.9% | NA%  | 89.5% |
| Bastia/Poretta              | 0.00                           | 0.06 | 0.02 | NA   | 0.12 | 80.7%                 | 87.0% | 87.6% | NA%  | 88.4% |
| Beauvais/Tillé              | 0.05                           | 0.01 | 0.10 | NA   | 0.01 | 72.6%                 | 89.3% | 89.1% | NA%  | 89.6% |
| Bergerac/Roumanière         | NA                             | 0.14 | NA   | NA   | NA   | 81.8%                 | 89.4% | 90.4% | NA%  | 92.1% |
| Biarritz/Bayonne-Anglet     | 0.05                           | 0.15 | 0.00 | NA   | 0.20 | 88.8%                 | 93.0% | 92.1% | NA%  | 92.1% |
| Bordeaux/Mérignac           | 0.77                           | 0.07 | 1.87 | NA   | 0.17 | 91.5%                 | 89.7% | 90.8% | NA%  | 89.4% |
| Brest/Bretagne              | NA                             | 0.05 | NA   | NA   | 0.00 | 97.0%                 | 83.8% | 81.0% | NA%  | 80.2% |
| Brive/Souillac              | NA                             | NA   | NA   | NA   | NA   | 95.7%                 | 85.6% | 94.3% | NA%  | 90.0% |
| Béziers/Vias                | NA                             | NA   | 0.38 | NA   | NA   | 68.5%                 | 70.7% | 81.9% | NA%  | 70.8% |
| Caen/Carpiquet              | NA                             | 0.00 | NA   | NA   | NA   | 94.2%                 | 92.3% | 93.5% | NA%  | 92.7% |
| Calvi/Sainte-Catherine      | 0.07                           | 0.28 | NA   | NA   | 0.28 | 82.1%                 | 87.3% | 90.7% | NA%  | 91.2% |
| Cannes/Mandelieu            | 2.97                           | 3.00 | 1.09 | NA   | 2.86 | 93.4%                 | 90.2% | 95.5% | NA%  | 94.9% |
| Carcassonne/Salvaza         | NA                             | 0.00 | 0.00 | NA   | NA   | 81.8%                 | 84.3% | 87.7% | NA%  | 86.4% |
| Chambéry/Aix-les-Bains      | 1.67                           | 0.08 | 4.23 | NA   | 0.94 | 89.3%                 | 82.5% | 80.9% | NA%  | 82.0% |
| Châlons/Vatry               | 0.50                           | 0.78 | 0.24 | NA   | 0.80 | 78.0%                 | 86.1% | 85.7% | NA%  | 90.0% |
| Châteauroux/Déols           | NA                             | NA   | NA   | NA   | NA   | 86.7%                 | 84.9% | 90.8% | NA%  | 85.9% |
| Clermont-Ferrand/Auvergne   | 0.00                           | 0.01 | NA   | NA   | 0.00 | 81.5%                 | 86.9% | 87.7% | NA%  | 83.7% |
| Deauville/Normandie         | NA                             | NA   | 0.53 | NA   | 0.15 | 90.0%                 | 88.6% | 86.9% | NA%  | 86.7% |
| Dinard/Pleurtuit-Saint-Malo | NA                             | NA   | NA   | NA   | NA   | 61.3%                 | 93.2% | 89.2% | NA%  | 92.7% |
| Dole/Tavaux                 | NA                             | NA   | NA   | NA   | NA   | 59.4%                 | 77.5% | 85.0% | NA%  | 84.4% |
| Figari/Sud-Corse            | 0.18                           | 1.24 | 0.23 | NA   | 0.34 | 80.3%                 | 76.8% | 91.8% | NA%  | 86.4% |
| Grenoble/Isère              | 0.50                           | 0.02 | 0.42 | NA   | 0.58 | 93.6%                 | 85.2% | 90.2% | NA%  | 90.4% |
| Hyères/Le-Palyvestre        | 0.06                           | 0.04 | 4.05 | NA   | 1.28 | 81.1%                 | 88.3% | 89.4% | NA%  | 88.9% |
| Istres/Le-Tubé              | NA                             | NA   | NA   | NA   | NA   | 66.7%                 | 68.4% | 83.3% | NA%  | 82.3% |
| La-Rochelle/Ile de Ré       | NA                             | NA   | 0.03 | NA   | 0.00 | 81.2%                 | 89.2% | 89.7% | NA%  | 84.4% |
| Lille/Lesquin               | 0.33                           | 0.01 | 0.14 | NA   | 0.05 | 86.1%                 | 87.7% | 91.4% | NA%  | 90.7% |
| Limoges/Bellegarde          | 0.19                           | 0.11 | 0.70 | NA   | 1.30 | 93.4%                 | 92.4% | 87.9% | NA%  | 87.9% |
| Lorient/Lann-Bihoué         | NA                             | NA   | NA   | NA   | NA   | 88.8%                 | 88.3% | 87.1% | NA%  | 87.1% |
| Lyon                        | 0.03                           | 0.00 | 0.01 | NA   | 0.04 | 84.5%                 | 84.1% | 87.3% | NA%  | 86.8% |
| Lyon/Bron                   | 0.01                           | NA   | 0.02 | NA   | 0.00 | 89.5%                 | 83.8% | 91.0% | NA%  | 87.4% |
| Marseille/Provence          | 0.10                           | 0.01 | 1.65 | NA   | 0.24 | 78.3%                 | 83.4% | 82.5% | NA%  | 77.8% |
| Metz-Nancy/Lorraine         | NA                             | NA   | NA   | NA   | NA   | 82.5%                 | 84.6% | 86.0% | NA%  | 91.4% |
| Montpellier/Méditerranée    | 0.01                           | NA   | 0.01 | NA   | 0.00 | 75.1%                 | 84.6% | 87.8% | NA%  | 84.9% |
| Nantes                      | 0.24                           | 0.08 | 0.18 | NA   | 0.05 | 91.6%                 | 91.3% | 92.5% | NA%  | 91.9% |
| Nice                        | 0.13                           | 0.39 | 1.01 | NA   | 0.85 | 87.7%                 | 88.8% | 87.3% | NA%  | 87.6% |
| Nîmes/Garons                | NA                             | 0.02 | NA   | NA   | 0.07 | 83.4%                 | 82.5% | 90.5% | NA%  | 88.3% |
| Paris/Charles-De-Gaulle     | 0.11                           | 0.22 | 0.19 | NA   | 0.45 | 95.4%                 | 94.7% | 94.9% | NA%  | 93.9% |
| Paris/Le Bourget            | 0.60                           | 0.53 | 1.52 | NA   | 1.84 | 94.2%                 | 95.3% | 96.8% | NA%  | 95.1% |
| Paris/Orly                  | 0.96                           | 0.25 | 1.54 | NA   | 1.74 | 87.3%                 | 90.4% | 89.0% | NA%  | 88.5% |
| Pau/Pyrénées                | 1.45                           | 0.00 | 0.00 | NA   | NA   | 85.9%                 | 87.6% | 89.6% | NA%  | 88.1% |
| Perpignan/Rivesaltes        | 0.07                           | 0.03 | 0.09 | NA   | 0.01 | 77.4%                 | 77.0% | 83.5% | NA%  | 83.7% |
| Poitiers/Biard              | NA                             | NA   | 0.03 | NA   | NA   | 87.8%                 | 72.5% | 72.7% | NA%  | 71.0% |
| Quimper/Pluguffan           | NA                             | NA   | NA   | NA   | NA   | 84.7%                 | 90.6% | 92.8% | NA%  | 90.0% |
| Rennes/St-Jacques           | NA                             | NA   | NA   | NA   | NA   | 78.7%                 | 86.7% | 91.6% | NA%  | 89.2% |
| Rodez/Marcillac             | NA                             | NA   | NA   | NA   | NA   | 88.5%                 | 82.5% | 91.7% | NA%  | 85.2% |
| Rouen/Vallée-de-Seine       | NA                             | 0.27 | 1.38 | NA   | 0.04 | NA                    | 83.9% | 82.8% | NA%  | 79.2% |
| Saint-Etienne/Bouthéon      | NA                             | NA   | NA   | NA   | NA   | 79.6%                 | 86.8% | 94.4% | NA%  | 90.1% |
| Saint-Nazaire/Montoir       | NA                             | NA   | 0.00 | NA   | NA   | 97.2%                 | 94.7% | 93.8% | NA%  | 94.7% |
| Strasbourg/Entzheim         | 0.03                           | 0.01 | 0.04 | NA   | 0.00 | 79.6%                 | 88.9% | 89.7% | NA%  | 90.1% |
| Tarbes-Lourdes/Pyrénées     | NA                             | 0.02 | 0.03 | NA   | 0.04 | 90.5%                 | 91.3% | 90.1% | NA%  | 89.7% |
| Toulouse/Blagnac            | 0.16                           | 0.26 | 0.21 | NA   | 0.06 | 90.2%                 | 89.0% | 88.6% | NA%  | 89.1% |
| Tours/Val-de-Loire          | 0.00                           | 0.11 | 3.08 | NA   | 9.32 | 50.0%                 | 0.0%  | 88.2% | NA%  | 66.7% |
| Toussus/Le-Noble            | 0.97                           | 0.89 | 4.87 | NA   | 2.94 | 77.7%                 | 88.3% | 88.6% | NA%  | 89.3% |

| Airport name                | ATC pre departure delay (PI#2) |      |      |      |      | All causes pre departure delay (PI#3) |      |      |      |      |
|-----------------------------|--------------------------------|------|------|------|------|---------------------------------------|------|------|------|------|
|                             | 2020                           | 2021 | 2023 | 2024 | 2022 | 2020                                  | 2021 | 2023 | 2024 | 2022 |
| Agen/La-Garenne             | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Ajaccio/Napoléon-Bonaparte  | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Albert/Bray                 | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Annecy/Meythet              | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Avignon/Caumont             | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Bale/Mulhouse               | 0.13                           | 0.12 | 0.38 | NA   | 0.25 | 8.6                                   | 11.5 | 16.3 | NA   | 14.3 |
| Bastia/Poretta              | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Beauvais/Tillé              | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Bergerac/Roumanière         | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Biarritz/Bayonne-Anglet     | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Bordeaux/Mérignac           | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Brest/Bretagne              | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Brive/Souillac              | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Béziers/Vias                | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Caen/Carpiquet              | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Calvi/Sainte-Catherine      | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Cannes/Mandelieu            | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Carcassonne/Salvaza         | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Chambéry/Aix-les-Bains      | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Châlons/Vatry               | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Châteauroux/Déols           | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Clermont-Ferrand/Auvergne   | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Deauville/Normandie         | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Dinard/Pleurtuit-Saint-Malo | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Dole/Tavaux                 | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Figari/Sud-Corse            | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Grenoble/Isère              | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Hyères/Le-Palvestre         | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Istres/Le-Tubé              | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| La-Rochelle/Ile de Ré       | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Lille/Lesquin               | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Limoges/Bellegarde          | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Lorient/Lann-Bihoué         | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Lyon                        | 0.17                           | 0.21 | 0.35 | NA   | 0.32 | 12.0                                  | 11.9 | 20.7 | NA   | 20.0 |
| Lyon/Bron                   | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Marseille/Provence          | NA                             | 0.05 | 0.17 | NA   | 0.13 | 9.6                                   | 9.9  | 20.8 | NA   | 18.0 |
| Metz-Nancy/Lorraine         | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Montpellier/Méditerranée    | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Nantes                      | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Nice                        | 0.21                           | 0.38 | 0.57 | NA   | 0.52 | 7.5                                   | 10.5 | 20.8 | NA   | 18.4 |
| Nîmes/Garons                | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Paris/Charles-De-Gaulle     | NA                             | NA   | NA   | NA   | NA   | 12.9                                  | 17.1 | 22.5 | NA   | 21.3 |
| Paris/Le Bourget            | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Paris/Orly                  | 0.33                           | 0.49 | 1.17 | NA   | 1.25 | 13.4                                  | 12.5 | 19.8 | NA   | 17.3 |
| Pau/Pyrénées                | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Perpignan/Rivesaltes        | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Poitiers/Biard              | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Quimper/Pluguffan           | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Rennes/St-Jacques           | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Rodez/Marcillac             | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Rouen/Vallée-de-Seine       | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Saint-Etienne/Bouthéon      | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Saint-Nazaire/Montoir       | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Strasbourg/Entzheim         | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Tarbes-Lourdes/Pyrénées     | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Toulouse/Blagnac            | 0.17                           | 0.21 | 0.31 | NA   | 0.28 | 8.9                                   | 8.3  | 16.7 | NA   | 13.1 |
| Tours/Val-de-Loire          | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |
| Toussus/Le-Noble            | NA                             | NA   | NA   | NA   | NA   | NA                                    | NA   | NA   | NA   | NA   |

## Focus on performance indicators at airport level

### ATFM slot adherence

National level and main national individual airports involved are above the 80% threshold of compliance. The national average was 90.4%, slightly better than in 2022 when the adherence was 89.2%. With regard to the 9.6% of flights that did not adhere, 5.2% was early and 4.5% was late.

The French monitoring report explains: *All reported airports are in line with the requirements. The PI is progressing in 2023, mainly due to the fact that the action plan implemented at Marseille airport in 2023 and described in AMR 2022.*

## ATC pre-departure delay

The share of unidentified delay reported by Charles de Gaulle (LFPG) was above 40% for more than 2 months in the year during the entire RP3, preventing the calculation of this indicator for this airport. Average observed performance at the rest of airports in 2023 showed a slight increase compared to the previous year, and Paris Orly shows the fourth highest value among the SES monitored airports.

According to the French monitoring report: *Performance evolution is linked with the traffic increase evolution till 2020 and general ATC performance ; In 2023 we can see that despite the increase in traffic, unfortunately, again the quality threshold for unidentified delays has never not reached the 50% threshold to validate the 2023 data flow, the 1st condition for publication. CDG currently mainly uses the code [ZZZ], which indicates that they have no information about the origin of the various delays. This situation will be examined in detailed with the ad-hoc CDG airport and DSNA experts in order to find a solution to fix this recurrent issue.*

## All causes pre-departure delay

The average (all causes) delay in the actual off block time at the French airports monitored for this indicator in 2023 was 15.42 min/dep, a significant decrease compared to the previous year (21.03 min/dep). The delays observed at Charles de Gaulle however were the 5th highest among the RP3 monitored airports. According to the French monitoring report: *Regarding ATC part of the delays and related corrective measures, please do refer to the section above for ATC Pre-departure delay. Staff shortages where also experienced at airports (either in France or abroad) which had a strong impact on this performance indicator.*

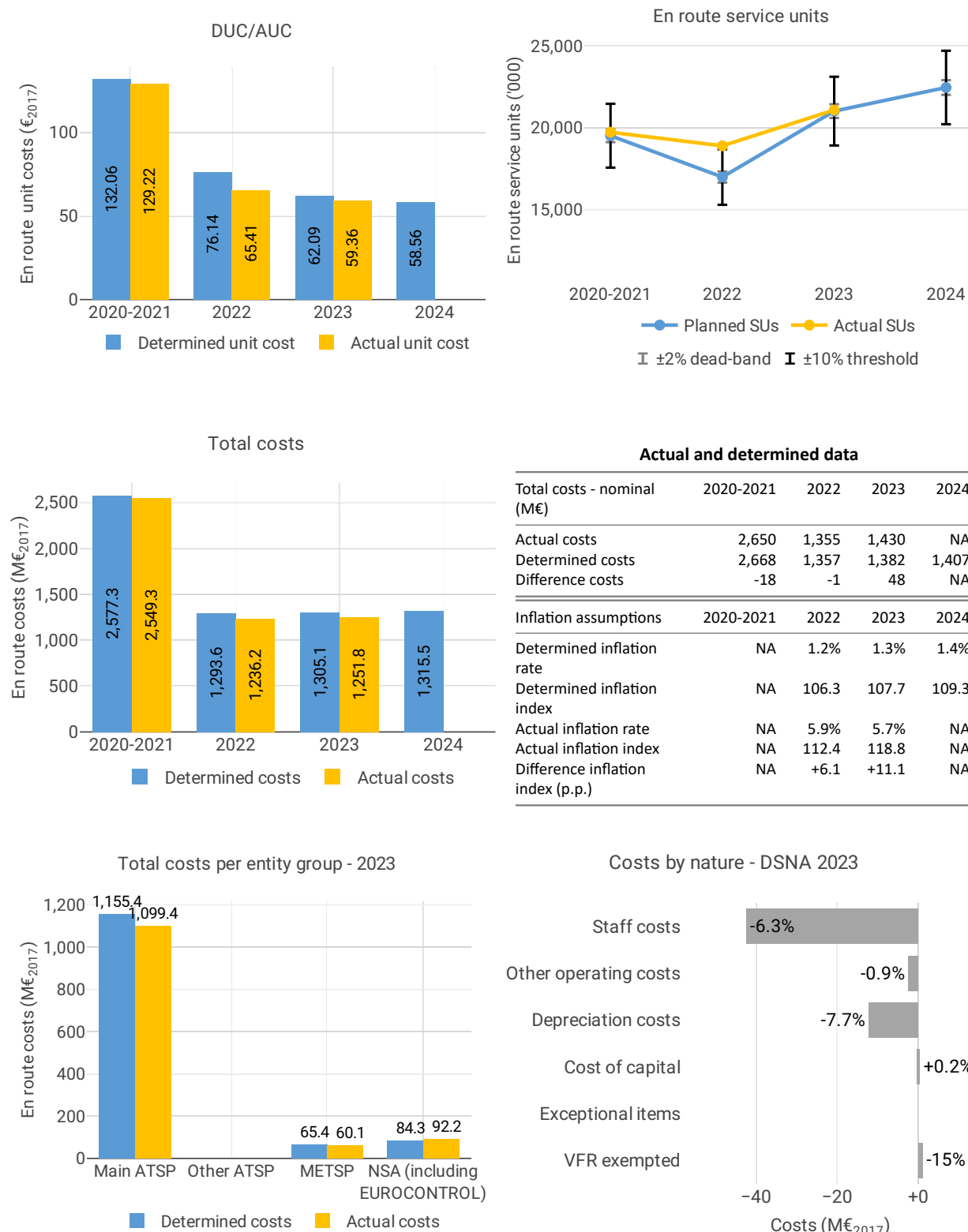
## 5 COST-EFFICIENCY - FRANCE

### 5.1 PRB monitoring

- The en route 2023 actual unit cost of France was 59.30 €2017, -4.5% lower than the determined unit cost (62.09 €2017). The terminal zone 1 2023 actual unit cost was 87.94 €2017, -14% lower than the determined unit cost (102.21 €2017), while the terminal zone 2 2023 actual unit cost was 348.64 €2017, +2.9% higher than the determined unit cost (338.81 €2017).
- The en route 2023 actual service units (21.1M) were +0.3% higher than the determined service units (21.0M).
- In 2023, the en route actual total costs were -55 M€2017 lower (-4.2%) than determined, mainly due to a reduction in staff cost (-49 M€2017, or -6.8%). However, in nominal terms, the actual staff costs show an increase of +2.8% compared to the determined figures. Additionally, France registered lower depreciation costs (-12 M€2017, or -7.0%), mainly due to postponement of investments.
- DSNA spent 220 M€2017 in 2023 related to costs of investments for both en route and terminal charging zones, -5.8% lower than determined (233 M€2017). The primary reasons for this reduction were associated with the postponement of a major project's commissioning, delays in projects from previous years, and the reclassification of some investment costs to project-related OPEX costs given specific public accounting rules of the French State.
- The en route actual unit cost incurred by users in 2023 was 69.11€ (+5.1% above the 2023 DUC), while the terminal zone 1 actual unit cost incurred by users was 174.77€ (+62% above the 2023 DUC), and 261.74€ (-28% below the 2023 DUC) for terminal zone 2. The difference between the AUCU and the DUC in terminal charging zones is primarily attributed to the cross-financing adjustment that transferred 44 M€ from terminal zone 2 to terminal zone 1.

## 5.2 En route charging zone

### 5.2.1 Unit cost (KPI#1)



### Focus on unit cost

#### AUC vs. DUC

In 2023, the en route AUC was -4.5% (or -2.79 €<sub>2017</sub>) lower than the planned DUC. This results from the combination of lower than planned en route costs in real terms (-4.2%, or -54.7 M€<sub>2017</sub>) and slightly higher than planned TSUs (+0.3%). It should be noted that actual inflation index in 2023 was +11.1 p.p. higher than planned.

## En route service units

The difference between actual and planned TSUs (+0.3%) falls inside the  $\pm 2\%$  dead band. Hence gain of additional en route revenues is kept by the ANSPs.

## En route costs by entity

Actual real en route costs are -4.2% (-54.7 M€2017) lower than planned. This is the result of lower costs for the main ANSP, DSNA (-4.8%, or -56.0 M€2017) and the MET service provider (-8.1%, or -5.3 M€2017), while NSA/EUROCONTROL costs are higher (+7.8%, or +6.6 M€2017) than planned.

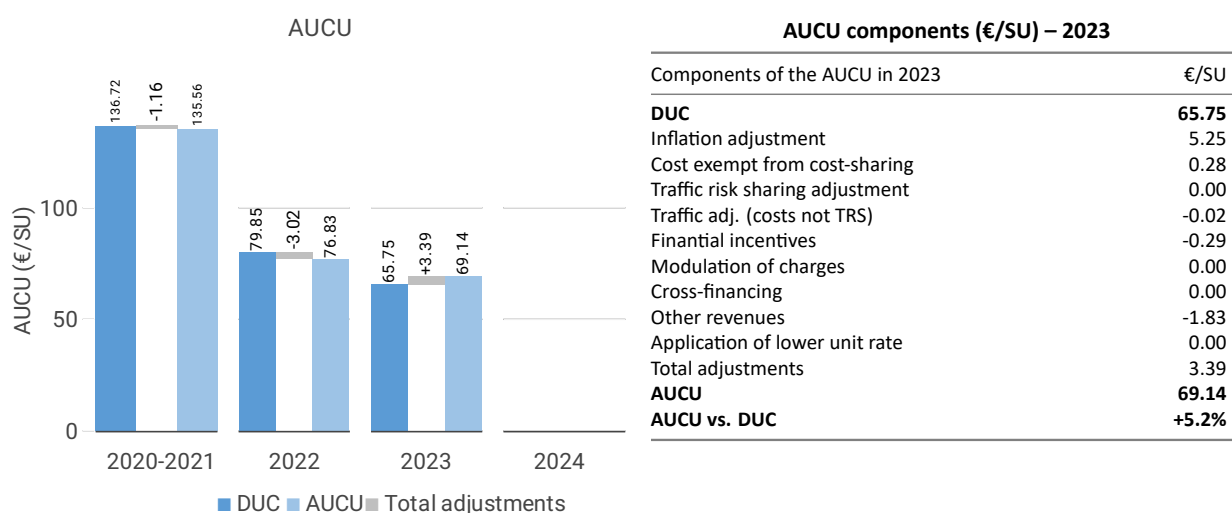
## En route costs for the main ANSP at charging zone level

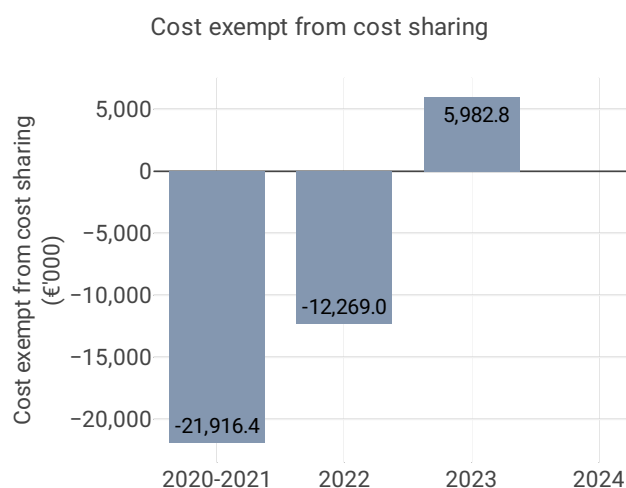
Lower than planned en route costs in real terms for DSNA in 2023 (-4.8%, or -56.0 M€2017) result from:

- Significantly lower staff costs (-6.3%), mainly due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +3.4%, *"due to the payment of measures implemented after covid crisis in 2022"*;
- Slightly lower other operating costs (-0.9%), mainly due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +9.3%, due to the increase of energy prices and an increase of project related OPEX costs (see below);
- Significantly lower depreciation (-7.7%), mainly in relation with the postponement of a major project's commissioning, projects delays in previous years, and the transfer of some investment costs to project-related OPEX costs;
- Slightly higher cost of capital (+0.2%); and,
- Significantly lower deduction for VFR exempted flights (-15.0%).

Note: It is understood that DSNA operating costs include costs of investments that are not capitalised (T3 TECH).

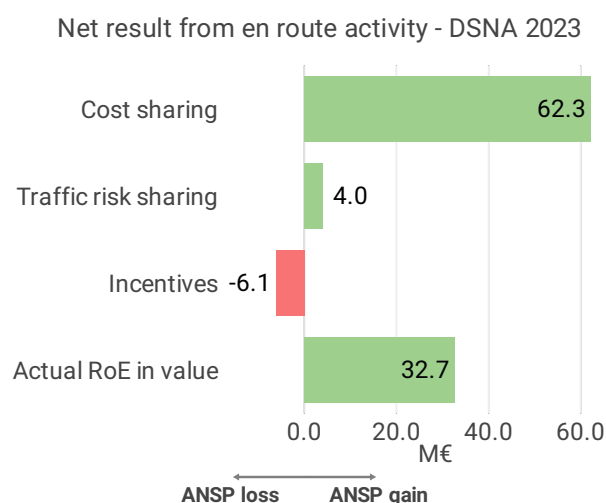
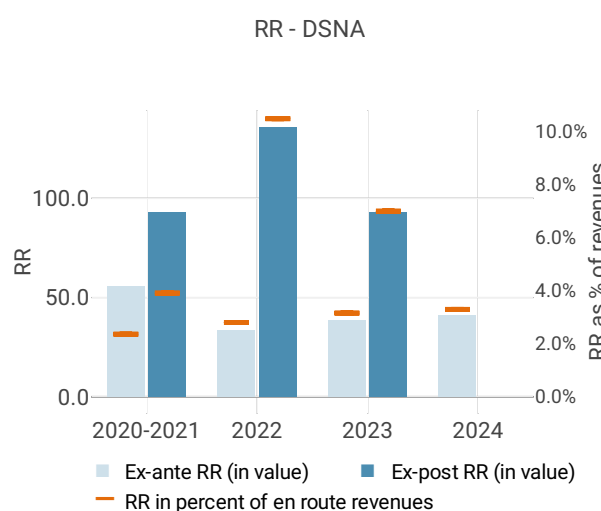
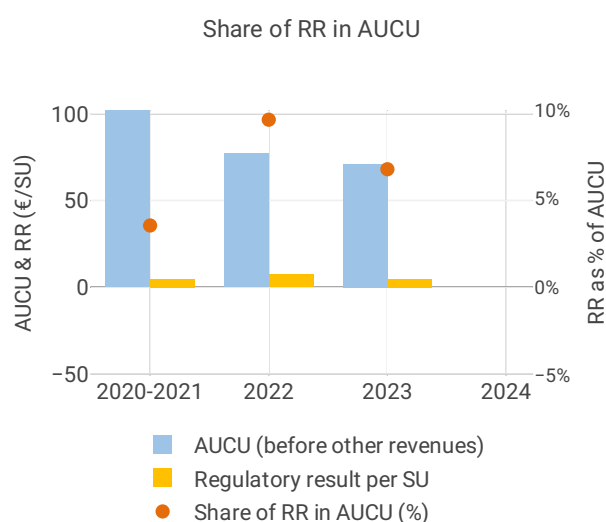
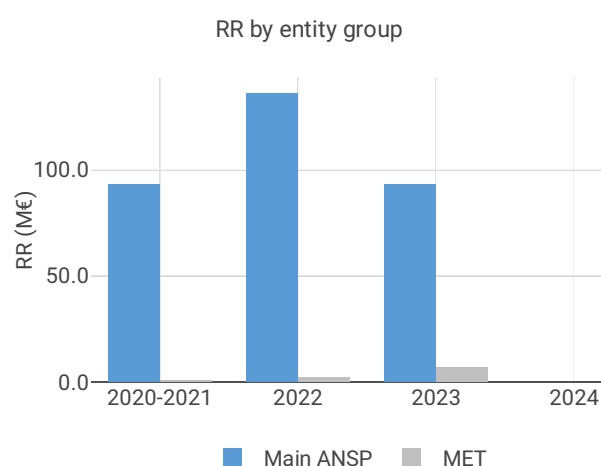
## 5.2.2 Actual unit cost incurred by the users (AUCU) (PI#1)





| Cost exempt from cost sharing by item - 2023       | €'000          | €/SU        |
|----------------------------------------------------|----------------|-------------|
| New and existing investments                       | -5,455.0       | -0.26       |
| Competent authorities and qualified entities costs | -1,104.0       | -0.05       |
| Eurocontrol costs                                  | 8,994.1        | 0.43        |
| Pension costs                                      | 0.0            | 0.00        |
| Interest on loans                                  | 3,547.6        | 0.17        |
| Changes in law                                     | 0.0            | 0.00        |
| <b>Total cost exempt from cost risk sharing</b>    | <b>5,982.8</b> | <b>0.28</b> |

### 5.2.3 Regulatory result (RR)



### Focus on regulatory result

#### DSNA net gain on activity in the France en route charging zone in the year 2023

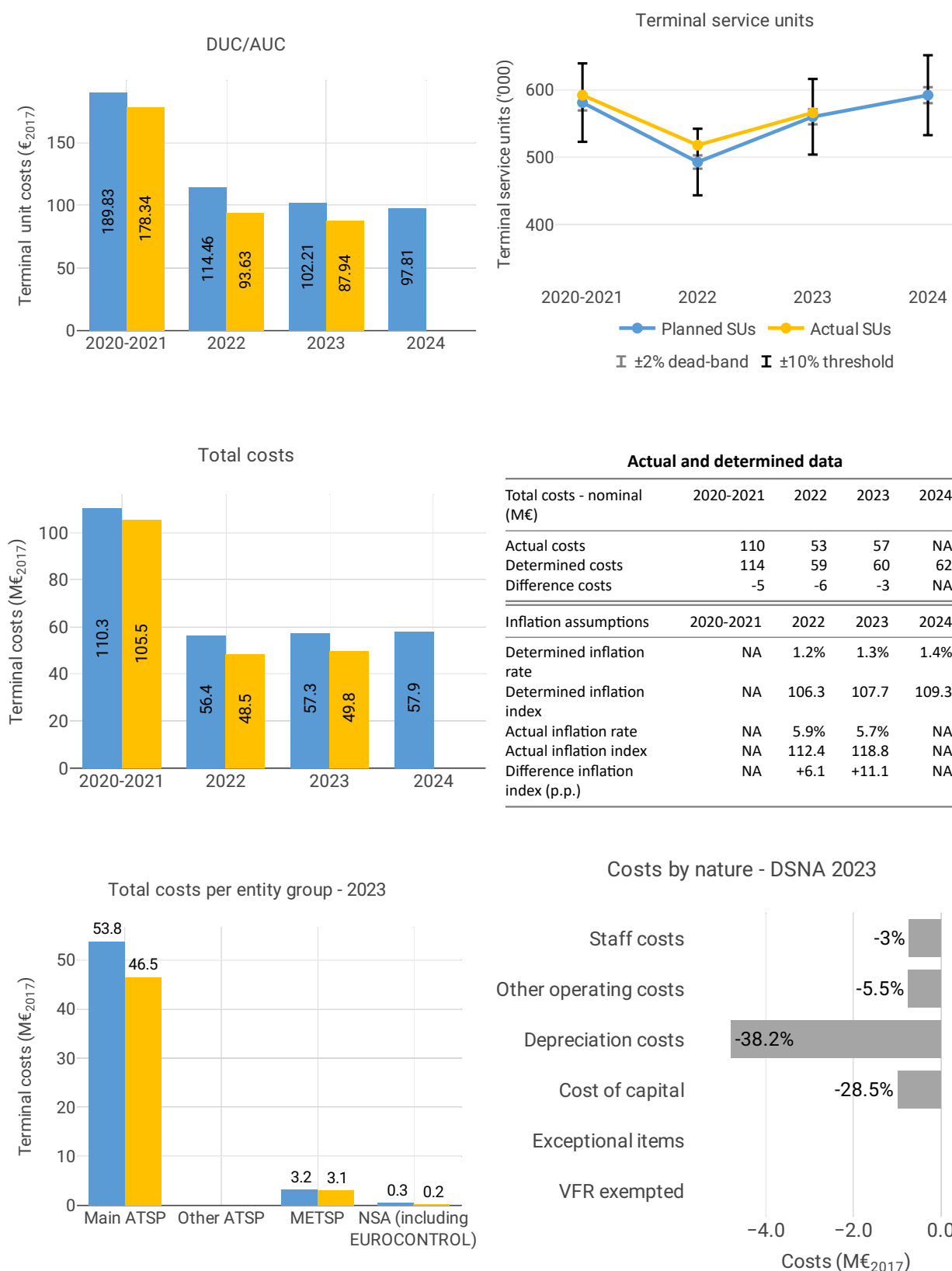
DSNA reported a net gain of +60.1 M€, as a combination of a gain of +62.3 M€ arising from the cost sharing mechanism, with a gain of +4.0 M€ arising from the traffic risk sharing mechanism and a loss of -6.1 M€ relating to financial incentives.

## 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 (+60.1 M€) and the actual RoE (+32.7 M€) amounts to +92.8 M€ (7.0% of the en route revenues). The resulting ex-post rate of return on equity is 39.0%, which is higher than the 13.7% 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 2023, the terminal AUC was -14.0% (or -14.27 €2017) lower than the planned DUC. This results from the combination of significantly lower than planned terminal costs in real terms (-13.0%, or -7.5 M€2017) and higher than planned TNSUs (+1.1%). It should be noted that actual inflation index in 2023 was +11.1 p.p. higher than planned.

### Terminal service units

The difference between actual and planned TNSUs (+1.1%) falls inside the  $\pm 2\%$  dead band. Hence gain of additional terminal revenues is kept by the ANSPs.

### Terminal costs by entity

Actual real terminal costs are -13.0% (-7.5 M€2017) lower than planned. This is the result of lower costs for the main ANSP, DSNA (-13.5%, or -7.3 M€2017), the MET service provider (-3.8%, or -0.1 M€2017) and the NSA (-24.1%, or -0.1 M€2017).

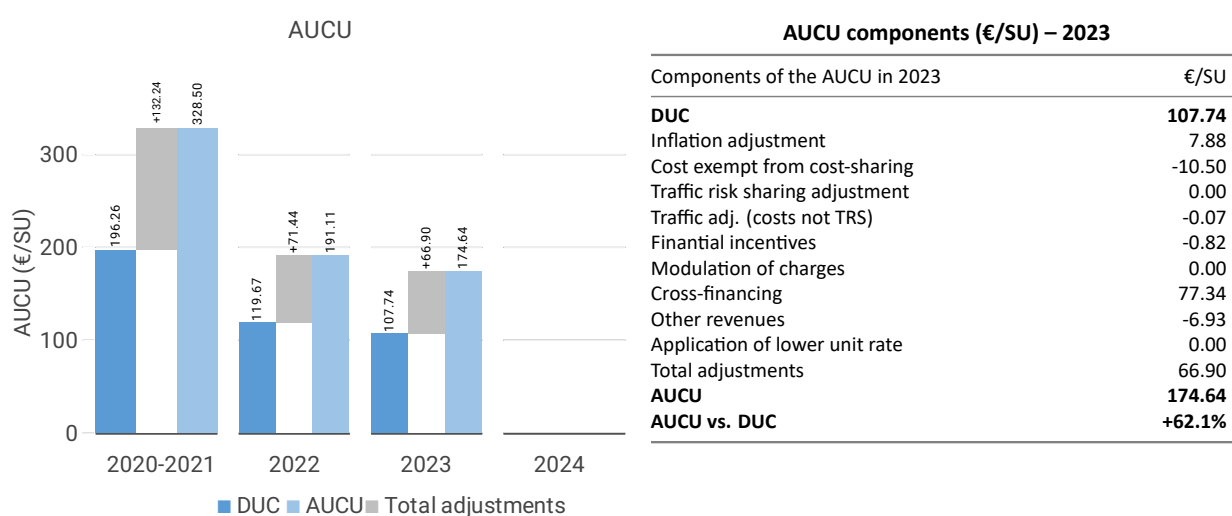
### Terminal costs for the main ANSP at charging zone level

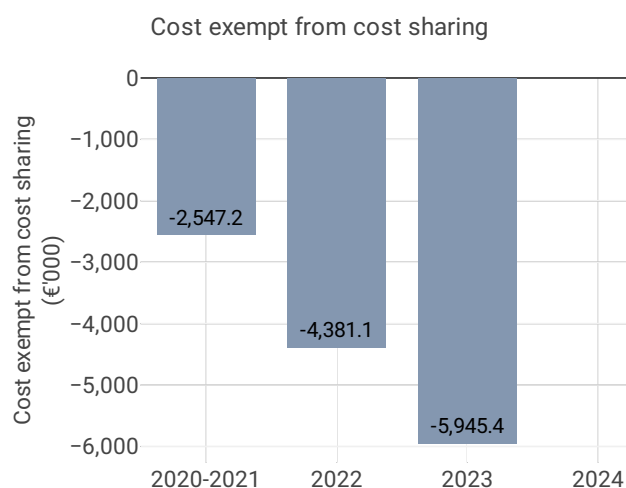
Significantly lower than planned terminal costs in real terms for DSNA in 2023 (-13.5%, or -7.3 M€2017) result from:

- Lower staff costs (-3.0%), mainly due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +6.9%, *“due to the payment of measures implemented after covid crisis in 2022”*;
- Significantly lower other operating costs (-5.5%), mainly due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +4.3%, due to the increase of energy prices and an increase of project related OPEX costs (see below);
- Significantly lower depreciation (-38.2%), *“mainly in relation with the delay of the new Towers and Approach projects for Paris-CDG and Pairs-Orly (SYSAT) and the transfer of part of the investment costs to project-related OPEX costs”*;
- Significantly lower cost of capital (-28.5%), mainly due to a lower asset base; and,
- Significantly lower deduction for VFR exempted flights (-6.0%).

Note: It is understood that DSNA operating costs include costs of investments that are not capitalised (T3 TECH).

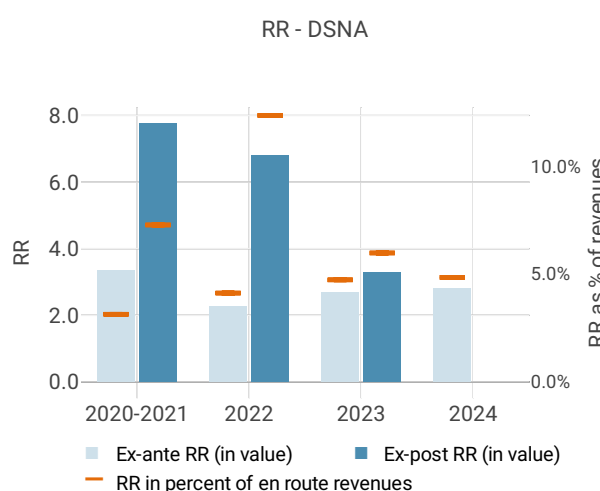
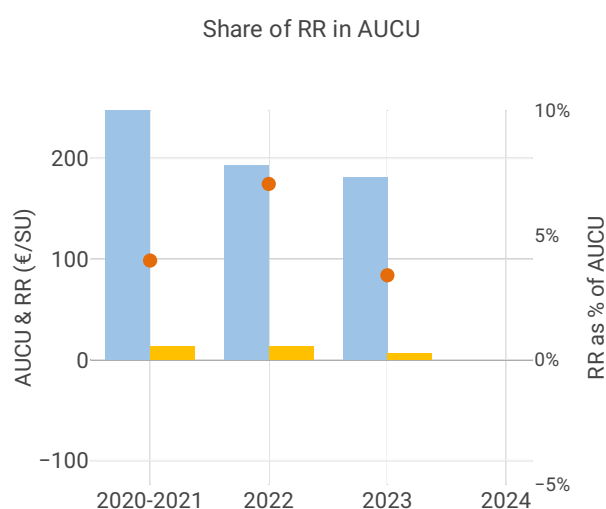
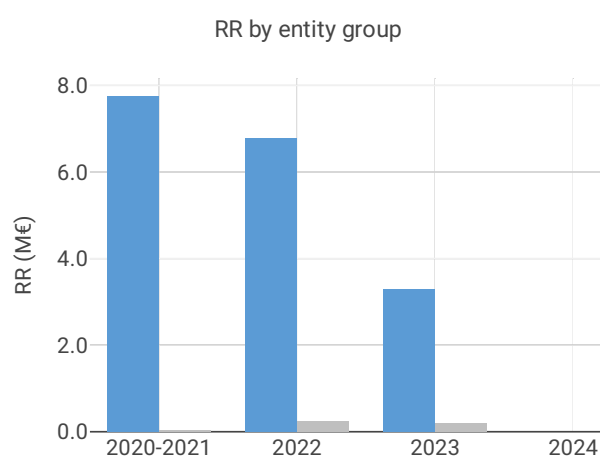
### 5.3.2 Actual unit cost incurred by the users (AUCU) (PI#1)



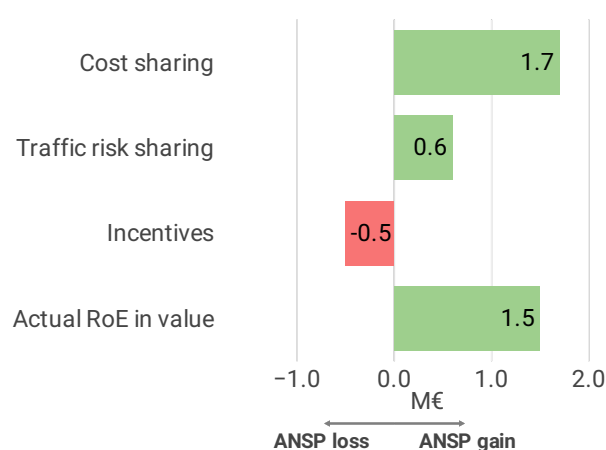


| Cost exempt from cost sharing by item - 2023       | €'000           | €/SU          |
|----------------------------------------------------|-----------------|---------------|
| New and existing investments                       | -6,156.5        | -10.87        |
| Competent authorities and qualified entities costs | -68.9           | -0.12         |
| Eurocontrol costs                                  | 0.0             | 0.00          |
| Pension costs                                      | 0.0             | 0.00          |
| Interest on loans                                  | 279.9           | 0.49          |
| Changes in law                                     | 0.0             | 0.00          |
| <b>Total cost exempt from cost risk sharing</b>    | <b>-5,945.4</b> | <b>-10.50</b> |

### 5.3.3 Regulatory result (RR)



### Net result from terminal activity - DSNA 2023



### Focus on regulatory result

#### DSNA net gain on activity in the France terminal charging zone 1 in the year 2023

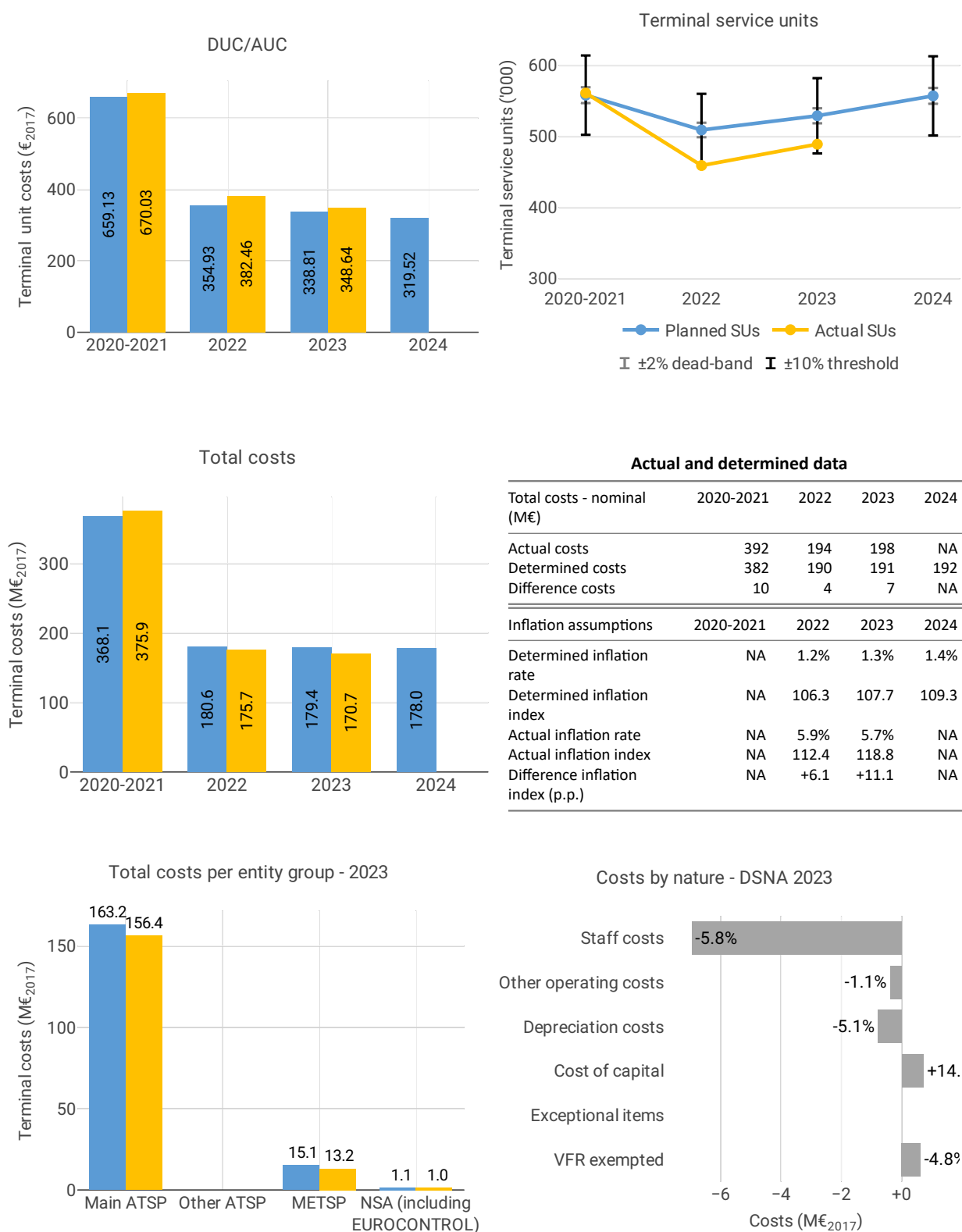
DSNA reported a net gain of +1.8 M€, as a combination of a gain of +1.7 M€ arising from the cost sharing mechanism, with a gain of +0.6 M€ arising from the traffic risk sharing mechanism and a loss of -0.5 M€ relating to financial incentives.

## 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 (+1.8 M€) and the actual RoE (+1.5 M€) amounts to +3.3 M€ (6.0% of the terminal revenues). The resulting ex-post rate of return on equity is 30.7%, which is higher than the 13.7% 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 2023, the terminal AUC was +2.9% (or +9.83 €2017) higher than the planned DUC. This results from the combination of significantly lower than planned TNSUs (-7.6%) and lower than planned terminal costs in real terms (-4.9%, or -8.8 M€2017). It should be noted that actual inflation index in 2023 was +11.1 p.p. higher than planned.

### Terminal service units

The difference between actual and planned TNSUs (-7.6%) falls outside the  $\pm 2\%$  dead band, but does not exceed the  $\pm 10\%$  threshold foreseen in the traffic risk sharing mechanism. The resulting loss of terminal revenues is therefore shared between the ANSP and the airspace users.

### Terminal costs by entity

Actual real terminal costs are -4.9% (-8.8 M€2017) lower than planned. This is the result of lower costs for the main ANSP, DSNA (-4.2%, or -6.8 M€2017), the MET service provider (-12.8%, or -1.9 M€2017) and the NSA (-3.0%, or 0.03 M€2017).

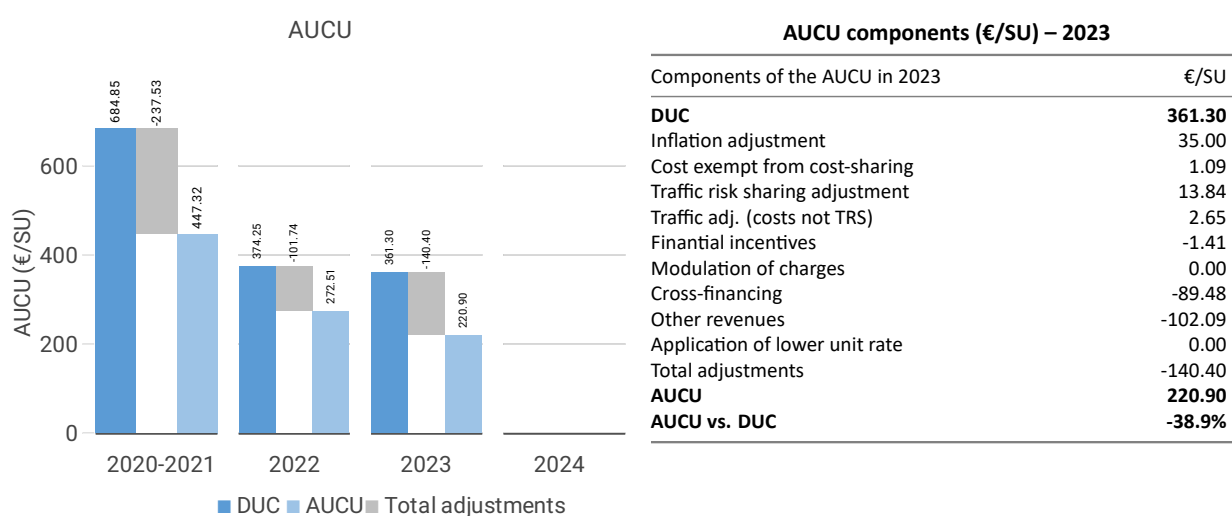
### Terminal costs for the main ANSP at charging zone level

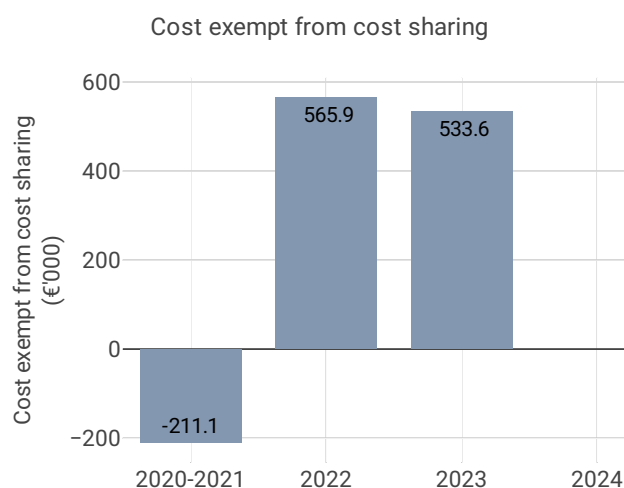
Lower than planned terminal costs in real terms for DSNA in 2023 (-4.2%, or -6.8 M€2017) result from:

- Significantly lower staff costs (-5.8%), mainly due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +3.9%, *"due to the payment of measures implemented after covid crisis in 2022"*;
- Slightly lower other operating costs (-1.1%), due to the inflation index impact (+11.1 p.p.) since in nominal terms the costs are higher than planned by +9.1%, due to the increase of energy prices and an increase of project-related OPEX costs (see below);
- Significantly lower depreciation (-5.1%), *"mainly in relation with the delay of new Towers projects and the transfer of part of the investment costs to project-related OPEX costs"*;
- Significantly higher cost of capital (+14.1%), mainly due to higher asset base and higher interest on debt; and,
- Lower deduction for VFR exempted flights (-4.8%).

Note: It is understood that DSNA operating costs include costs of investments that are not capitalised (T3 TECH).

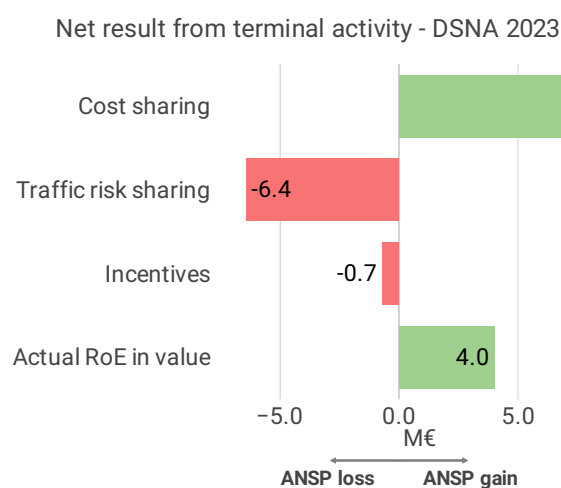
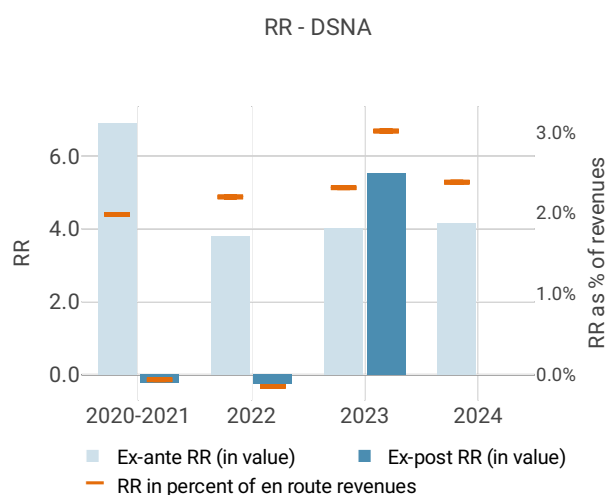
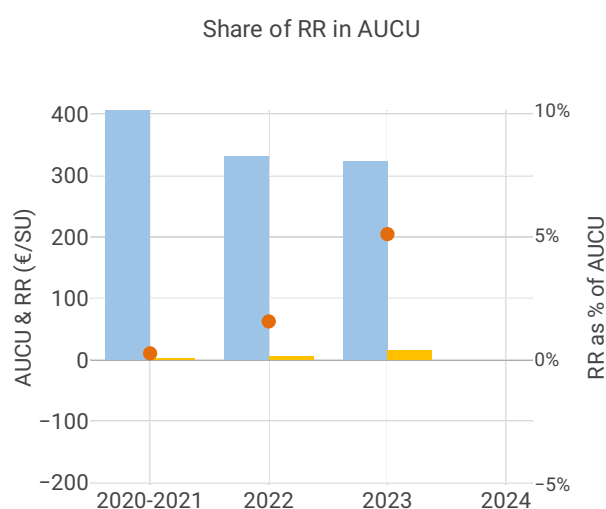
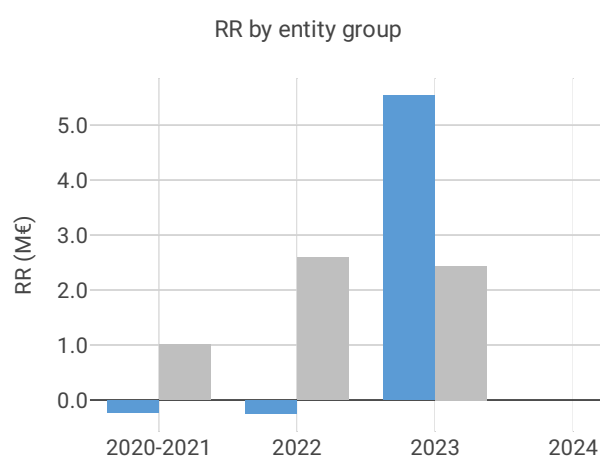
## 5.4.2 Actual unit cost incurred by the users (AUCU) (PI#1)





| Cost exempt from cost sharing by item - 2023       | €'000        | €/SU        |
|----------------------------------------------------|--------------|-------------|
| New and existing investments                       | 207.5        | 0.42        |
| Competent authorities and qualified entities costs | -31.9        | -0.07       |
| Eurocontrol costs                                  | 0.0          | 0.00        |
| Pension costs                                      | 0.0          | 0.00        |
| Interest on loans                                  | 358.0        | 0.73        |
| Changes in law                                     | 0.0          | 0.00        |
| <b>Total cost exempt from cost risk sharing</b>    | <b>533.6</b> | <b>1.09</b> |

### 5.4.3 Regulatory result (RR)



### Focus on regulatory result

#### DSNA net gain on activity in the France terminal charging zone 2 in the year 2023

DSNA reported a net gain of +1.5 M€, as a combination of a gain of +8.6 M€ arising from the cost sharing mechanism, with a loss of -6.4 M€ arising from the traffic risk sharing mechanism and a loss of -0.7 M€ relating to financial incentives.

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

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+1.5 M€) and the actual RoE (+4.0 M€) amounts to +5.5 M€ (3.0% of the terminal revenues). The resulting ex-post rate of return on equity is 18.9%, which is higher than the 13.7% planned in the PP.