



# Performance Review Body Monitoring Report

Spain - 2020

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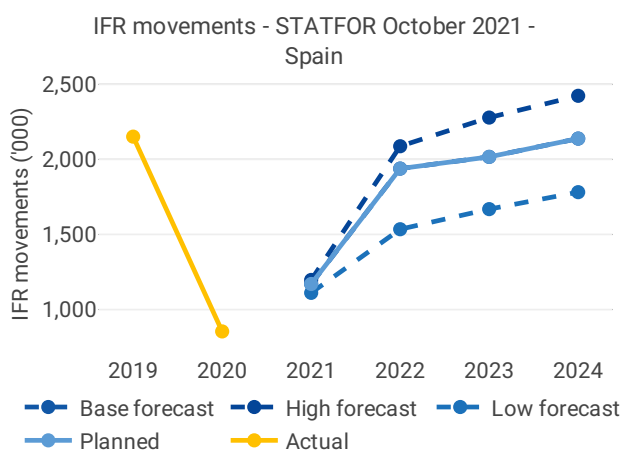
## 1 OVERVIEW

### 1.1 Contextual information

National performance plan adopted following Commission Decision (EU) 2022/776 of 13 April 2022

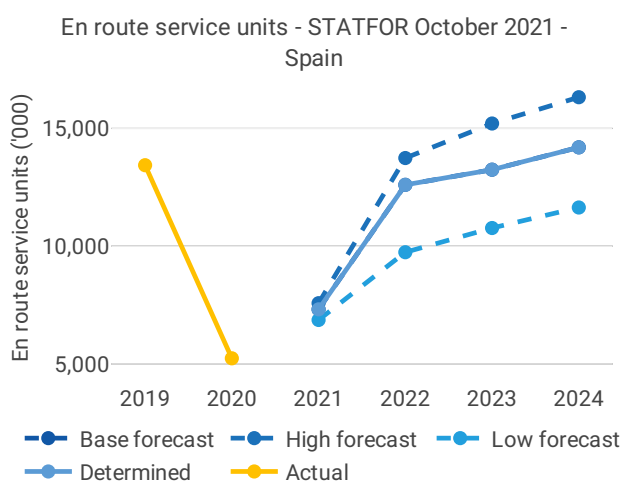
<b>List of ACCs</b> 5	<b>Exchange rate (1 EUR=)</b>	<b>Main ANSP</b>
Barcelona ACC	2017: 1 EUR	• ENAIRE
Madrid ACC	2020: 1 EUR	
Palma ACC		<b>Other ANSPs</b>
Sevilla ACC	<b>Share of Union-wide:</b>	• FERRONATS
Canarias ACC	• traffic (TSUs) 2020 10.0%	• ANSP EA
	• en route costs 2020 11.3%	
<b>No of airports in the scope of the performance plan:</b>	<b>Share en route / terminal costs 2020</b> 88% / 12%	<b>MET Providers</b>
• ≥80'K 6	<b>En route charging zone(s)</b>	• AEMET
• <80'K 1	Spain Continental	
	Spain Canarias	
	<b>Terminal charging zone(s)</b>	
	Spain	

### 1.2 Traffic (En route traffic zone)



- Spain recorded 854K actual IFR movements in 2020, -60% compared to 2019 (2,152K).

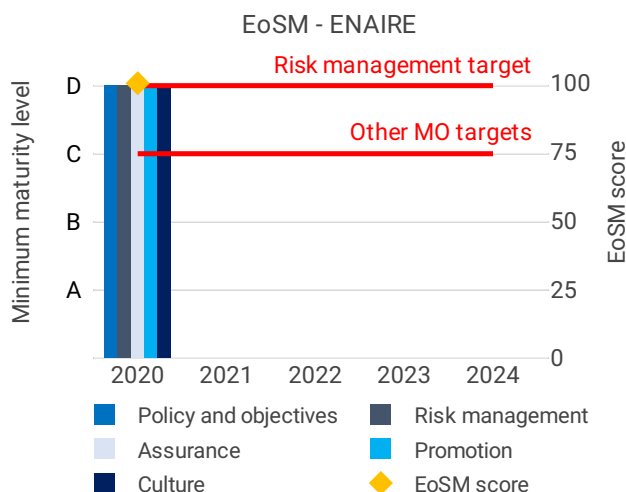
- Spain IFR movements reduced more than the average reduction at Union-wide level (-57%).



- Spain recorded 5,240K actual en route service units in 2020, -61% compared to 2019 (13,439K).

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

### 1.3 Safety (Main ANSP)



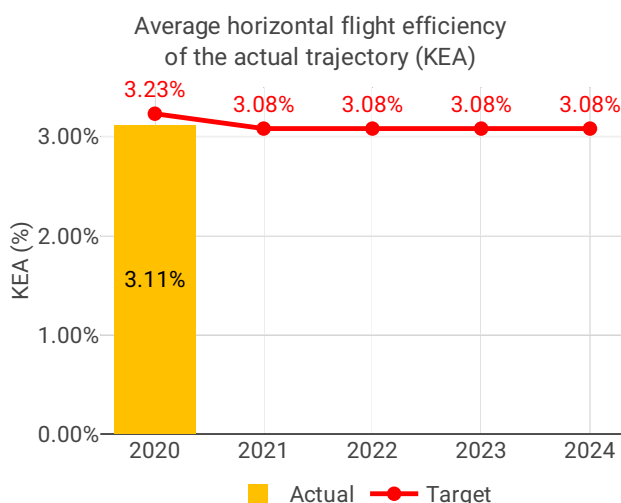
- ENAIRE achieved the RP3 EoSM targets and exceeded them in four out of five management areas. Ferronats achieved the RP3 EoSM target in four out of five management objectives with only safety risk management requiring further improvement.

- In all five management objectives ENAIRE achieved higher levels of maturity than planned in the draft 2019 performance plan. ENAIRE implemented continuous monitoring processes to maintaining a high safety performance. Measures are defined for further improvements to the maturity levels such as stress management processes and the creation of just culture policies.

- Spain recorded better performance with respect to safety occurrences with lower rates of SMIs and RIs in 2020 compared with 2019. However, the rates of occurrences for both were above the Union-wide average rates in 2020.

- Spain uses specific automated safety data recording systems for both SMIs and RIs for ACC and TMA sectors and it is one of only a handful of ANSPs to do so.

### 1.4 Environment (Member State)



- Spain achieved a KEA performance of 3.11% compared to its reference value of 3.23% and therefore contributed positively to the Union-wide target.

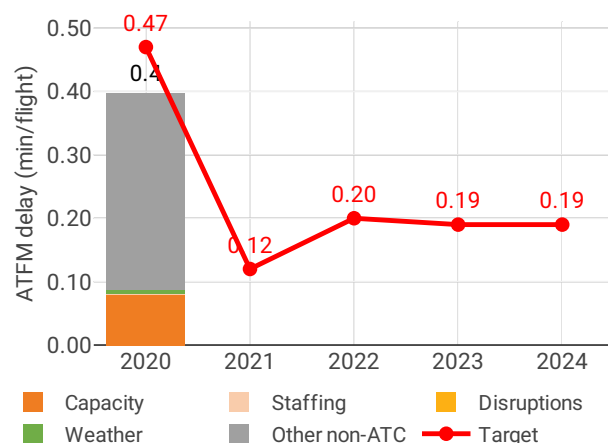
- The NSA stated that the 2020 KEA improvement is a direct consequence of the drastic reduction of traffic in 2020, which facilitated the implementation of operational and structural measures that have led to the improvement in horizontal efficiency. Spain offered airspace users direct routes, which meant that KEA performance was better than the shortest constrained routes.

- The share of flights operating CCO/CDO at Spanish airports improved in 2020 compared to 2019. The additional time airspace users spent taxiing or

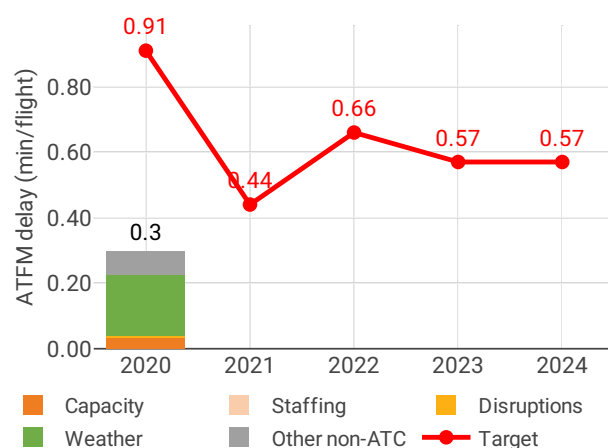
holding in terminal airspace reduced by 52% compared to 2019.

## 1.5 Capacity (Member State)

Average en route ATFM delay per flight by delay groups



Average arrival ATFM delay per flight by delay groups



- ENAIRE registered 0.4 minutes of average en route ATFM delay per flight, thus not achieving the local breakdown value of 0.36 (the provisional national capacity target of 0.47 was achieved). IFR movements in 2020 were 60% below the 2019 levels in Spain.

- 79% of the total en route ATFM delays generated in Spain was during March due to the pandemic related restrictions imposed by the government (delay group 'Other non-ATC'). Barcelona, Madrid and Palma ACCs recorded significantly less delays in 2020 than in 2019, but Canarias and Sevilla ACCs generated 0.29 and 0.16 minutes per flight more in 2020 respectively, mainly driven by special events (COVID-19 restrictions).

- Based on the analysis of previous capacity profiles, the PRB estimates Spain will face a capacity gap once IFR movements rise above 94% of 2019 levels. The PRB recommends that capacity improvement measures should be implemented.

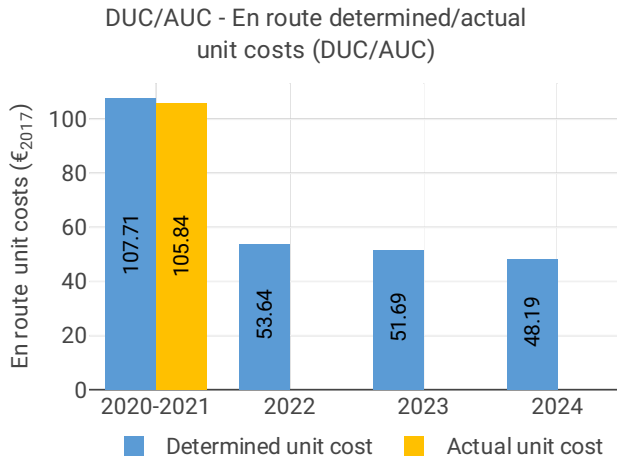
- Delays were mostly driven by preventive COVID-19 measures and ATC capacity issues.

- The share of delayed flights with delays longer than 15 minutes in Spain increased by 14.03 p.p. compared to 2019.

- The yearly total of sector opening hours in Canarias ACC was 22,123, showing a 20.8% decrease compared to 2019. The yearly total of sector opening hours in Barcelona ACC was 28,553, showing a 52.7% decrease compared to 2019. The yearly total of sector opening hours in Madrid ACC was 53,299, showing a 48.3% decrease compared to 2019. The yearly total of sector opening hours in Palma ACC was 21,035, showing a 45.7% decrease compared to 2019. The yearly total of sector opening hours in Sevilla ACC was 23,753, showing a 41.9% decrease compared to 2019.

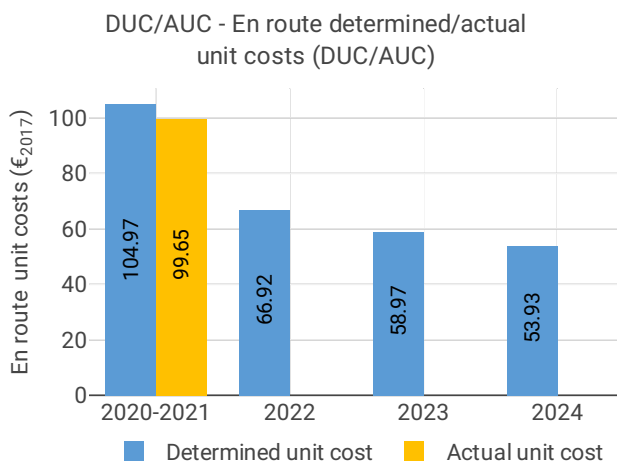
- Canarias ACC registered 7.8 IFR movements per one sector opening hour in 2020, being 39.0% below 2019 levels. Barcelona ACC registered 11.74 IFR movements per one sector opening hour in 2020, being 24.6% below 2019 levels. Madrid ACC registered 8.82 IFR movements per one sector opening hour in 2020, being 22.8% below 2019 levels. Palma ACC registered 5.65 IFR movements per one sector opening hour in 2020, being 32.4% below 2019 levels. Sevilla ACC registered 7.79 IFR movements per one sector opening hour in 2020, being 25.5% below 2019 levels.

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



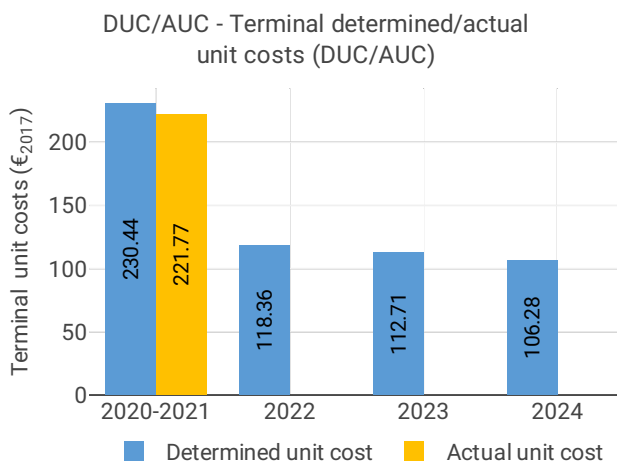
- The 2020 actual service units of Spain continental (4,437K) were 61% lower than the actual service units in 2019 (11,502K). At the same time, the 2020 actual service units of Spain Canarias (803K) were 59% lower than the actual service units in 2019 (1,954K).

- Spain continental reduced costs in 2020 compared to 2019 actual costs by 16 M€2017 (-3%). The reduction is mainly driven by a decrease in staff costs of 16 M€2017 (-4%). However, the adaptation to International Accounting Standards (IAS) increased exceptional costs by 12 M€2017 (+201%).



- Spain Canarias reduced costs in 2020 compared to 2019 actual costs by 5.5 M€2017 (-6%). The reduction is mainly driven by a decrease in staff costs of 6.2 M€2017 (-9%), due to exceptional measures. However, other operating costs increased mainly due to higher Eurocontrol costs (+4.6 M€2017 or +38%).

- ENAIRE spent 109 M€2017 in 2020 related to cost of investments, 8% less than planned in the 2019 draft performance plan (118 M€2017).



## 2 SAFETY - SPAIN

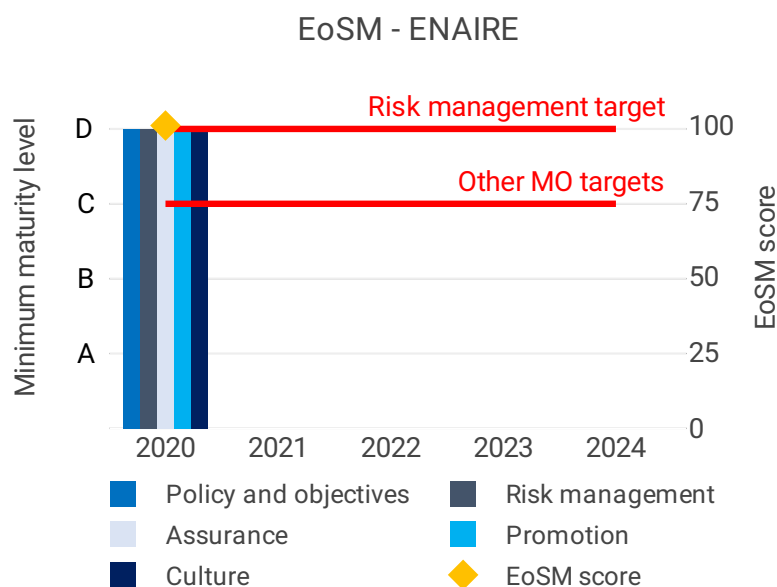
### 2.1 PRB monitoring

- ENAIRE achieved the RP3 EoSM targets and exceeded them in four out of five management areas. Ferroat achieved the RP3 EoSM target in four out of five management objectives with only safety risk management requiring further improvement.

- In all five management objectives ENAIRE achieved higher levels of maturity than planned in the draft 2019 performance plan. ENAIRE implemented continuous monitoring processes to maintaining a high safety performance. Measures are defined for further improvements to the maturity levels such as stress management processes and the creation of just culture policies.

- Spain recorded better performance with respect to safety occurrences with lower rates of SMIs and RIs in 2020 compared with 2019. However, the rates of occurrences for both were above the Union-wide average rates in 2020.
- Spain uses specific automated safety data recording systems for both SMIs and RIs for ACC and TMA sectors and it is one of only a handful of ANSPs to do so.

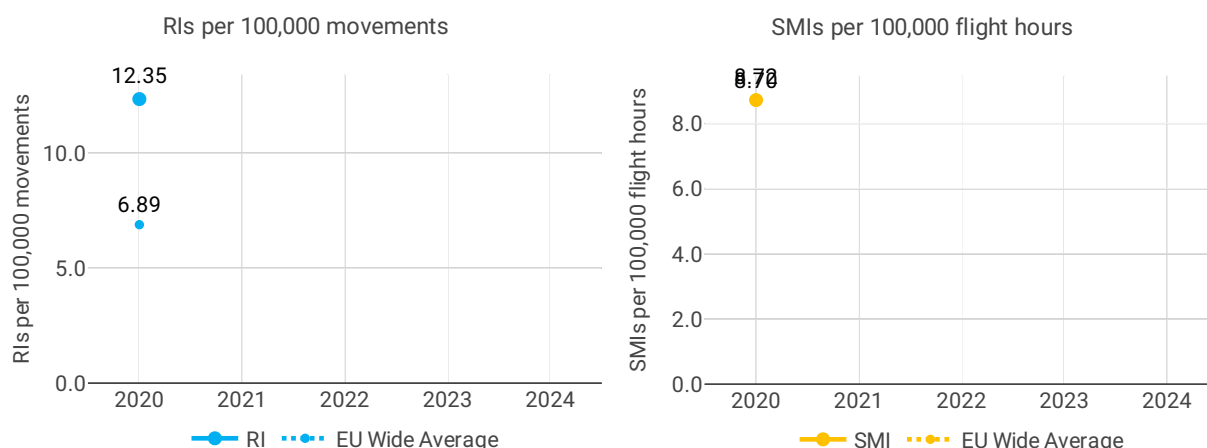
## 2.2 Effectiveness of Safety Management (EoSM) (KPI#1)



### Focus on EoSM

All five EoSM components of ENAIRE meet, or exceed, already the 2024 target level. Four out of five EoSM components of FERRONATS meet already the 2024 target level. Only the component “Safety Risk Management” is below 2024 target level, at level C. Improvements in safety risk management are still expected during RP3 to achieve 2024 targets.

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



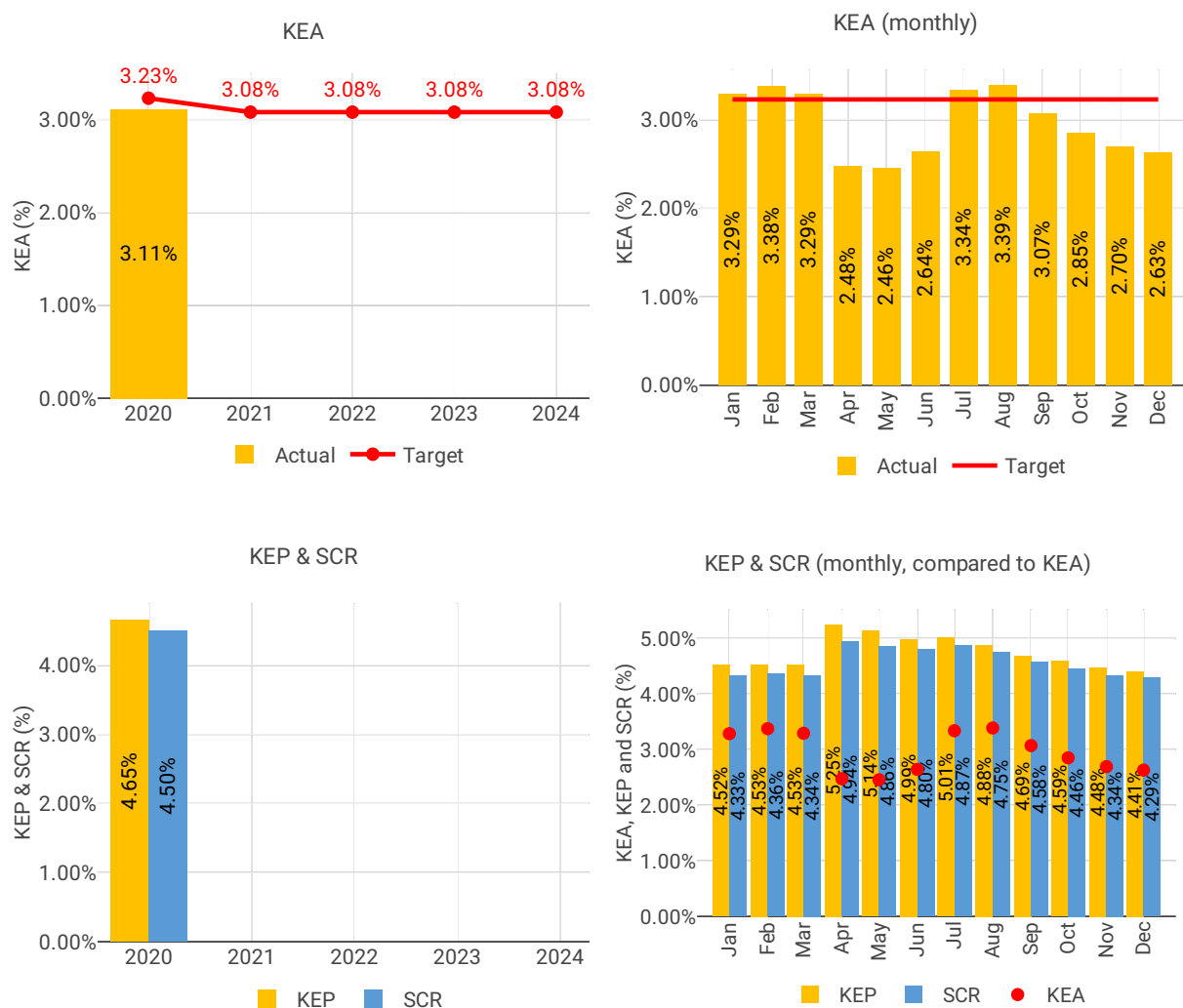
### 3 ENVIRONMENT - SPAIN

#### 3.1 PRB monitoring

- Spain achieved a KEA performance of 3.11% compared to its reference value of 3.23% and therefore contributed positively to the Union-wide target.
- The NSA stated that the 2020 KEA improvement is a direct consequence of the drastic reduction of traffic in 2020, which facilitated the implementation of operational and structural measures that have led to the improvement in horizontal efficiency. Spain offered airspace users direct routes, which meant that KEA performance was better than the shortest constrained routes.
- The share of flights operating CCO/CDO at Spanish airports improved in 2020 compared to 2019. The additional time airspace users spent taxiing or holding in terminal airspace reduced by 52% compared to 2019.

#### 3.2 En route performance

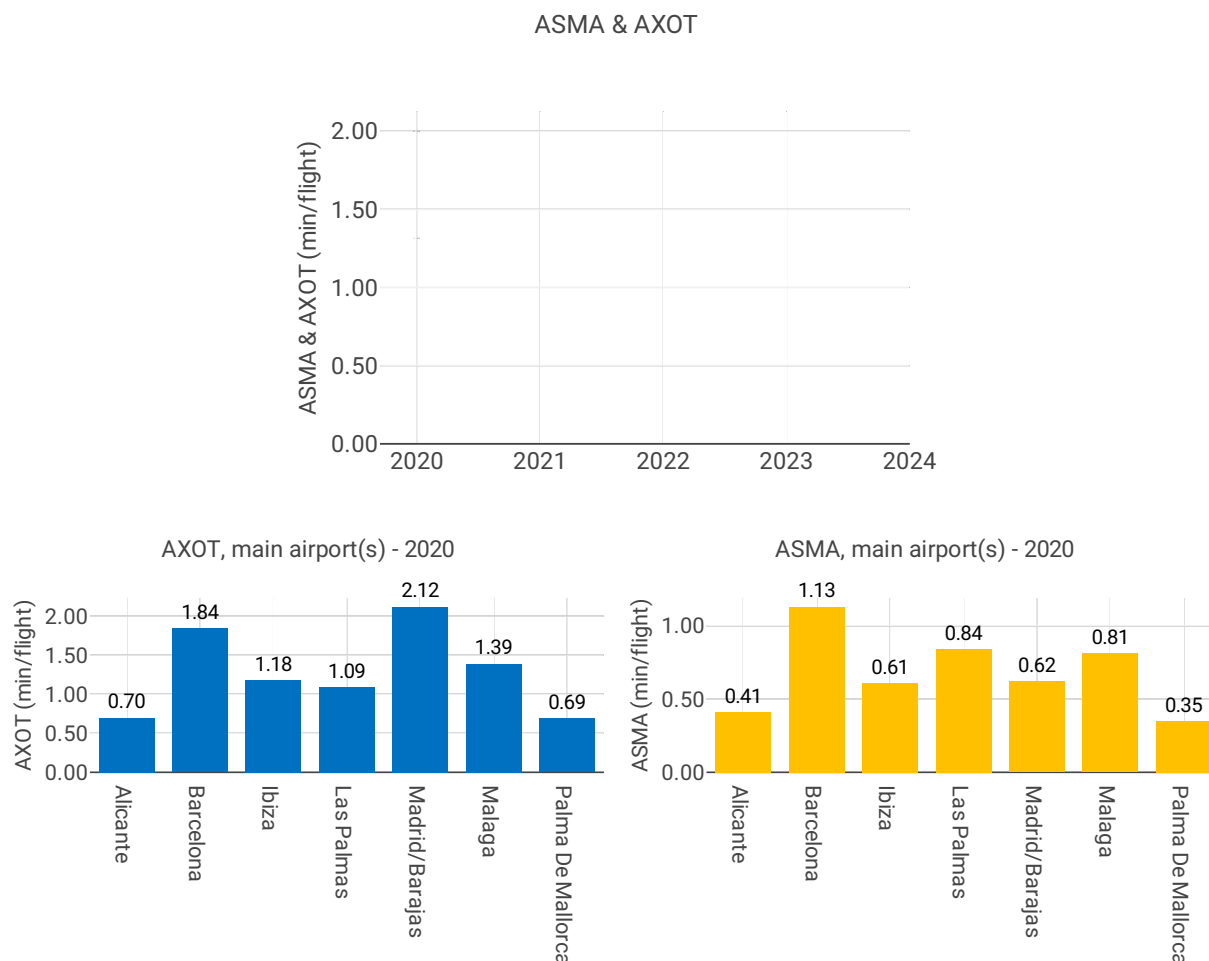
##### 3.2.1 Horizontal flight efficiency of the actual trajectory (KEA) (KPI#1), of the last filed flight plan (KEP) (PI#1) & shortest constrained route (SCR) (PI#2)





### 3.3 Terminal performance

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



#### Focus on ASMA & AXOT

##### AXOT

The additional taxi out time at national level has decreased in 2020 by 53% in relation to the value of 2019 (not taking Alicante into account as this airport was not monitored in 2019).

The drastic drop in traffic had a clear impact in the additional taxi-out times, and most of these airports averaged zero or practically zero minutes of additional time during April, May and June. With the partial recovery of the traffic in the Summer period, these times increased slightly and from July to December they averaged all together 0.85 min/dep.

The most important reduction in the annual values with respect to 2019 was observed at Palma (LEPA; 2019: 2.16 min/dep.; 2020: 0.69 min/dep.)

According to the Spanish monitoring report: *ENAIRe has implemented the D-DCL at the Airports of Palma, Barcelona, Malaga and Madrid, which automatizes departure authorizations, avoiding the saturation of the frequency that occurs in large airports and increasing efficiency. There is work in progress regarding the improvement of A-CDM in Madrid and Barcelona.*

##### ASMA

The additional time in terminal area at national level has decreased by 52% in relation to the value of 2019 (not taking Alicante into account as this airport was not monitored in 2019).

The evolution of this indicator is very similar to the additional taxi-out times, and in April-June most of these airports had zero or practically zero additional ASMA times. Although with the Summer these times increased again, the only averaged all together 0.42 min/arr in the second half of the year.

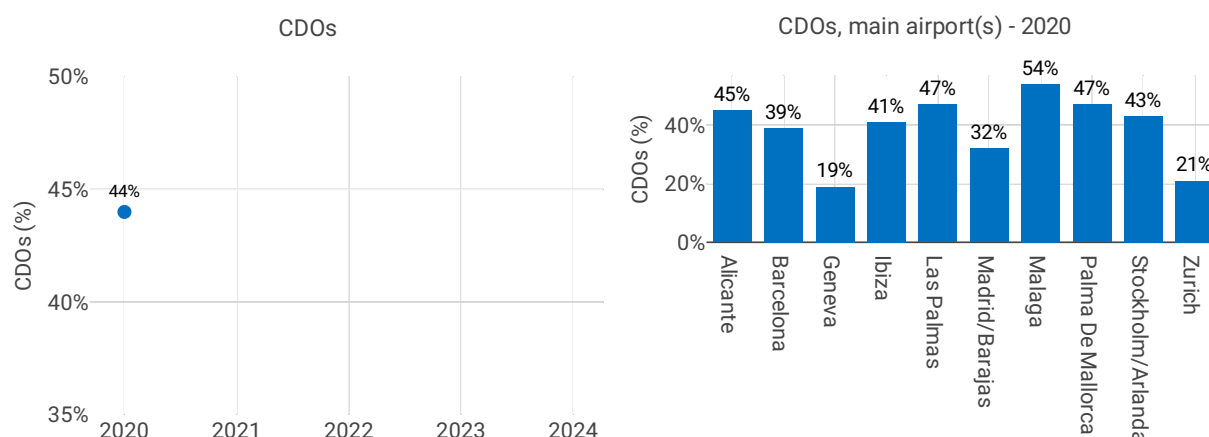
Once more the most important reduction in the annual values with respect to 2019 was observed at Palma

(LEPA; 2019: 1.31 min/arr.; 2020: 0.35 min/arr.), with -73% additional ASMA times.

According to the Spanish monitoring report: *In recent years, restructuring projects have been implemented in some TMAs that have made it possible to streamline and optimise the flow of air traffic, reducing additional time in the ASMA: Barcelona 2018, Madrid (South configuration) 2019. More restructuring projects are planned for the coming years in the main TMAs in Spain:*

- PBN SIDs, STARs and ILS & RNP APCH in Madrid TMA
- PBN SIDs in Barcelona TMA
- PBN SIDs, ILS & RNP APCH in Palma TMA
- PBN STARs in Malaga.

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



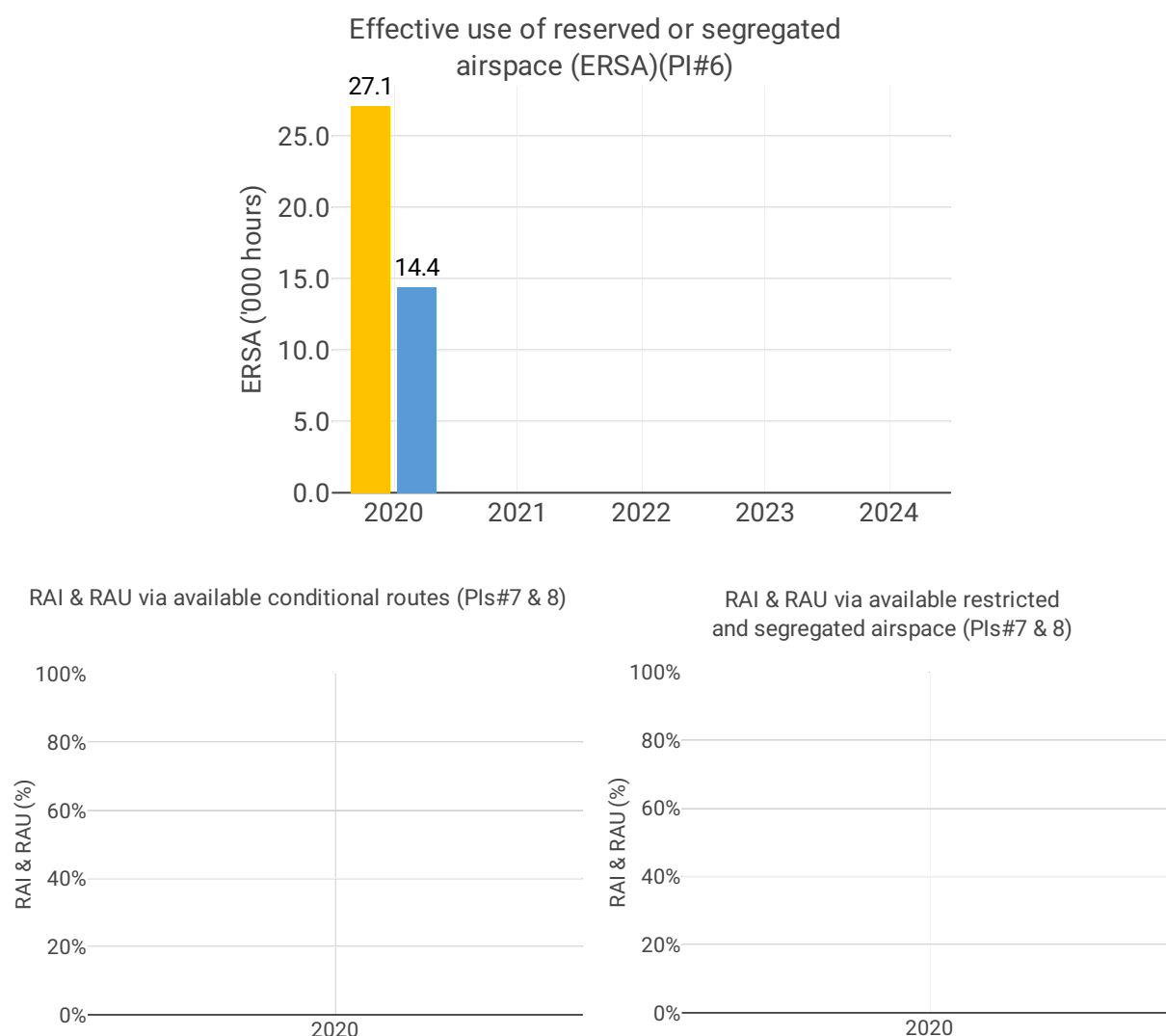
#### Focus CDOs

Only Madrid (LEMD: 31.5%) has its share of CDO flights below the overall RP3 value in 2020 (32.5%). All other airports have shares of CDO flights above the overall RP3 value in 2020, ranging from 38.8% to 54.1%. According to the Spanish monitoring report: *Currently, Alicante, Madrid, Gran Canaria, Málaga and Palma airports have implemented continuous descent procedures (CDA) for night-time approaches. The conditions of use of continuous descent procedures mean that the use of this type of procedure is not always compatible with the techniques used when it is necessary to manage medium/high traffic demands at airports/TMAs. Therefore, the authorisation of these procedures must be compatible with the airport's operations in order to meet the demand without establishing restrictions. In the long term, there are plans to modify the structure of the CDA procedures currently published at these airports and to transfer to the arrival procedures section of the AIP the information to proceed with the continuous descent from some point of the STARs to the IAF, to some point of the intermediate approach or to the IF, thus maximising the use of these operations. This is already implemented at Ibiza and Barcelona Airport.*

#### 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
Alicante	0.70	NA	NA	NA	NA	0.41	NA	NA	NA	NA	45%	NA	NA	NA	NA
Barcelona	1.84	NA	NA	NA	NA	1.13	NA	NA	NA	NA	39%	NA	NA	NA	NA
Las Palmas	1.09	NA	NA	NA	NA	0.84	NA	NA	NA	NA	47%	NA	NA	NA	NA
Ibiza	1.18	NA	NA	NA	NA	0.61	NA	NA	NA	NA	41%	NA	NA	NA	NA
Madrid/Barajas	2.12	NA	NA	NA	NA	0.62	NA	NA	NA	NA	32%	NA	NA	NA	NA
Malaga	1.39	NA	NA	NA	NA	0.81	NA	NA	NA	NA	54%	NA	NA	NA	NA
Palma De Mallorca	0.69	NA	NA	NA	NA	0.35	NA	NA	NA	NA	47%	NA	NA	NA	NA
Stockholm/Arlanda	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43%	NA	NA	NA	NA
Geneva	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	19%	NA	NA	NA	NA
Zurich	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21%	NA	NA	NA	NA

### 3.4 Civil-Military dimension



#### Focus on Civil-Military dimension

##### Update on Military dimension of the plan

Environment: Civil-Military coordination regarding Flexible Use of Airspace is on progress at strategic level established within the specific working group called UPEA inside CIDETMA (previous CIDEFO). Dissemination of progress on FUA to civil operators is considered an enabler to achieve Flight Plans using more efficient routes through the Civil Use of Release Airspace (CURA).

AMC manual revision was finished and the new version is in force.

Capacity: Based on the Principles of FUA, additional capacity to the planned one could be provided once the airspace used for military operations and training is released.

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

Environment: Spanish Air Force has been active participant in the general meetings to implement the Spanish Free Route Airspace Programme and an specific group composed by ENAIRE and Spanish Air Force was created in order to further improve the coordination for the implementation of FRA, with a special focus in ASM related matters. Furthermore, a close coordination work with the Network Manager is ongoing.

Several meetings have been held and discussions are ongoing in order to implement new single CDR category and to revise airspace structures (Reserved areas and to re-align ATS routes). At national level, there are some improvements at strategic level, including the definition of a SSC transition plan. SSC (Single Category CDR) transition plan has the objective of using only one type of Conditional Route improving ASM procedures and optimizing the use of the airspace.

Capacity: Establishment of SCC and the FUA Pilot Project. SCC transition plan is explained above. Regarding the “FUA Pilot Project” is a project with civil-military coordination to improve the use of the airspace and associated procedures, from both points of view, civil and military, starting from some specific Danger areas and working in Collaborative Decision Making processes.

#### **Initiatives implemented or planned to improve PI#6**

Several meetings have been held and discussions are ongoing in order to implement the Single CDR Category, to revise restricted areas and to re-align ATS routes, including the definition of a SSC transition plan. At national level, there are some improvements at strategic level, including the monitoring of the new mechanisms and the Pilot Project for FUA.

The particularities of this indicator are being analyzed in our airspace since there are no monthly data published at SES portal and, at the moment, they are annually provided by the Spanish Air Force NSA. This PI is being analyzed to develop a monitoring (where it is possible) not only annually but, at least, twice a year to evaluate the evolution of the indicators. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.

It is not possible to identify this information independently per each ACC in the Peninsula because there are some areas that are in the airspace of more than one ACC. Statistics are available per Area. The data for the Peninsula is the data for Spain (above) minus the data for Canarias ACC. Data for effective use of reserved airspace in ACC is accurate as all the areas in this airspace are within the boundaries of the ACC.

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

Spain is working on the transition to single CDR category.

The particularities of this indicator in our airspace are being analyzed since there are no monthly data published at SES portal and, at the moment, they are only provided annually, at national level, by the ANSP. This PI is being analyzed to develop a monitoring (where it is possible) not only annually but, at least, twice a year to evaluate the evolution of the indicators. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.

No data is available per ACC

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

Spain is working on the transition to single CDR category.

The particularities of this indicator in our airspace are being analyzed since there are no monthly data published at SES portal and, at the moment, they are only provided annually, at national level, by the ANSP. This PI is being analyzed to develop a monitoring (where it is possible) not only annually but, at least, twice a year to evaluate the evolution of the indicators. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.

No data available per ACC.

## **4 CAPACITY - SPAIN**

### **4.1 PRB monitoring**

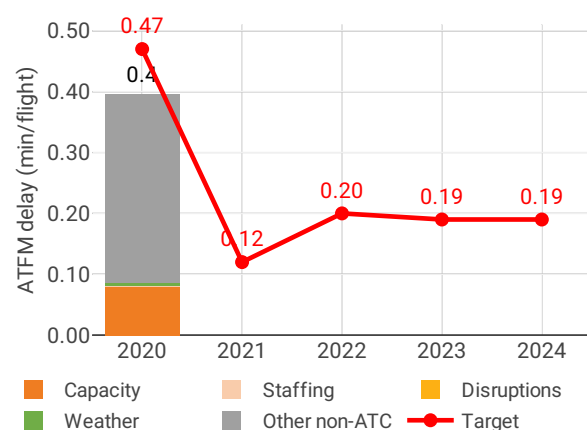
- ENAIRE registered 0.4 minutes of average en route ATFM delay per flight, thus not achieving the local breakdown value of 0.36 (the provisional national capacity target of 0.47 was achieved). IFR movements in 2020 were 60% below the 2019 levels in Spain.
- 79% of the total en route ATFM delays generated in Spain was during March due to the pandemic related restrictions imposed by the government (delay group ‘Other non-ATC’). Barcelona, Madrid and Palma ACCs recorded significantly less delays in 2020 than in 2019, but Canarias and Sevilla ACCs generated 0.29 and 0.16 minutes per flight more in 2020 respectively, mainly driven by special events (COVID-19 restrictions).
- Based on the analysis of previous capacity profiles, the PRB estimates Spain will face a capacity gap once IFR movements rise above 94% of 2019 levels. The PRB recommends that capacity improvement measures should be implemented.

- Delays were mostly driven by preventive COVID-19 measures and ATC capacity issues.
- The share of delayed flights with delays longer than 15 minutes in Spain increased by 14.03 p.p. compared to 2019.
- The yearly total of sector opening hours in Canarias ACC was 22,123, showing a 20.8% decrease compared to 2019. The yearly total of sector opening hours in Barcelona ACC was 28,553, showing a 52.7% decrease compared to 2019. The yearly total of sector opening hours in Madrid ACC was 53,299, showing a 48.3% decrease compared to 2019. The yearly total of sector opening hours in Palma ACC was 21,035, showing a 45.7% decrease compared to 2019. The yearly total of sector opening hours in Sevilla ACC was 23,753, showing a 41.9% decrease compared to 2019.
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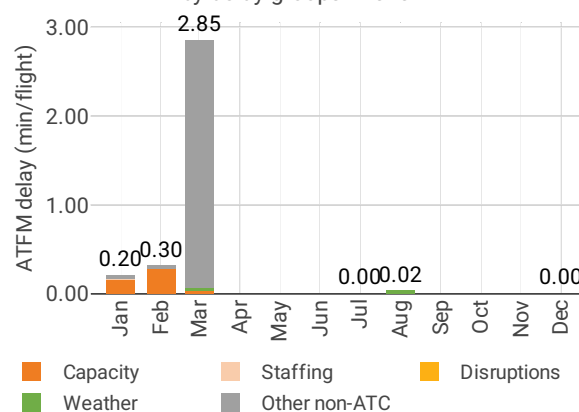
## 4.2 En route performance

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

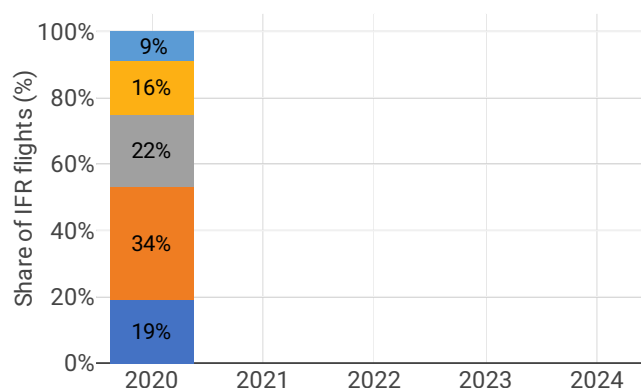
Average en route ATFM delay per flight by delay groups



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



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



## Focus on en route ATFM delay

### Summary of capacity performance

The PRB notes the reference by Spain to the activation of the European Aviation Crisis Coordination Cell (EACCC) and 'exceptional events'. The PRB also notes that neither the EACCC, nor the Network Manager, have published any information about ATFM delays to be considered as 'exceptional events'. The figure provided here is consistent with all national reports and is the PRB monitored result following all NM post-operations adjustment.

Spain (continental) experienced a traffic reduction of 61% from 2019 levels, to 780k flights. The Canarias FIR experienced a traffic reduction of 52% from 2019 levels, to 173k flights.

The traffic level was accommodated with 338k minutes of en route ATFM delays to airspace users. 77% of delays (260k minutes) were attributed to 'ATC other' in March 2020, 20% of delays (67k minutes) were attributed to ATC capacity between January and March 2020.

### NSA's assessment of capacity performance

The performance in the capacity KPA was below reference values in 2020 for Spain. It should be taken into account that those figures were achieved with a substantial reduction of traffic, but also with the goal of safety, ensuring business continuity and generating the minimum delay, in exceptional circumstances. To achieve that, several measures had to be implemented and adapted to the changing evolution of the pandemic:

- protect the essential operational staff from COVID19 in all places of work to reduce the active cases and spread of the disease among the staff
- keep the level of training and expertise for operational staff, and
- design mitigation measures for the recovery of the traffic.

The effect of the Covid-19 pandemic has had repercussions all over the world, but within Europe, Spain was one of the most affected countries. The Covid-19 explosion started at the beginning of March and, among the countries that usually present delays, Spain was one of the first to implement very restrictive measures. The objectives of these measures were, on the one hand, trying to control the increase in infections and, at the same time, being able to guarantee the control service. This caused great minutes of delay in our ACCs due to O-Other Covid cause.

The EACCC was activated by the NM due to the evolution of the pandemic in Europe at least in pre-alert phase since 31 January and in crisis phase since 19 March. Spain declared the state of alarm the 14 March. An in-depth analysis has been carried out [by Spain] of what happened in those weeks of March in relation to the causes of delays and the factors that influenced them. A total of 259.585 en-route delay minutes were generated due to the exceptional situation of Covid-19 between 12 and 21 March.

After the analysis made, it was concluded that the minutes of delay due to the cause O-Other Covid-19 should be considered as generated in an exceptional event and therefore not to be counted for the ERD indicator as the Annex I - Section 2 - Point 3.1.a.ii of Regulation 2019/317 defines. Taking this circumstance into account, ERD in 2020 has a value of 0.09, instead of the 0.40 pre-filled.

This conclusion was consulted in the framework of the post-ops procedure for consideration before the final 2020 data were finalised and published in April 2021, but we were referred to the annual monitoring framework for consideration.

### Monitoring process for capacity performance

The AESA Monitoring Process has evolved to monitor this indicator on a monthly basis taking into account the different causes of delay, since the incentive system implemented for RP3 considers a mechanism modulated by causes of delay. The evolution of the attributable and non-attributable delay causes is monitored in order to apply the incentive mechanism and to identify the reasons in the event of non-compliance.

The alert mechanism continues to be active to warn, months before the end of the year, of possible non-compliance.

### Capacity planning

The NOP 2020 Recovery Plan was the NOP structured plan adapted to the COVID-19 crisis, updated every week, initially covering an outlook of four weeks and later reconverted into the NOP Rolling Seasonal Plan covering an outlook of six weeks.

Every week ENAIRE updates data to the plan (planned sector openings, maximum possible sector openings, sector capacity reductions if any, availability of support to operations staff, additional information -e.g. other constraints to be highlighted- and special events and major projects). The plan is a living document regularly updated and published by NM in order to be adapted to the changed conditions of the Air Navigation Service.

Due to the exceptional situation that the whole world began experiencing in 2020 with the COVID pandemic, the projects planned for 2020 in the NOP for Spain were reviewed and adapted to the new scenario. The main projects:

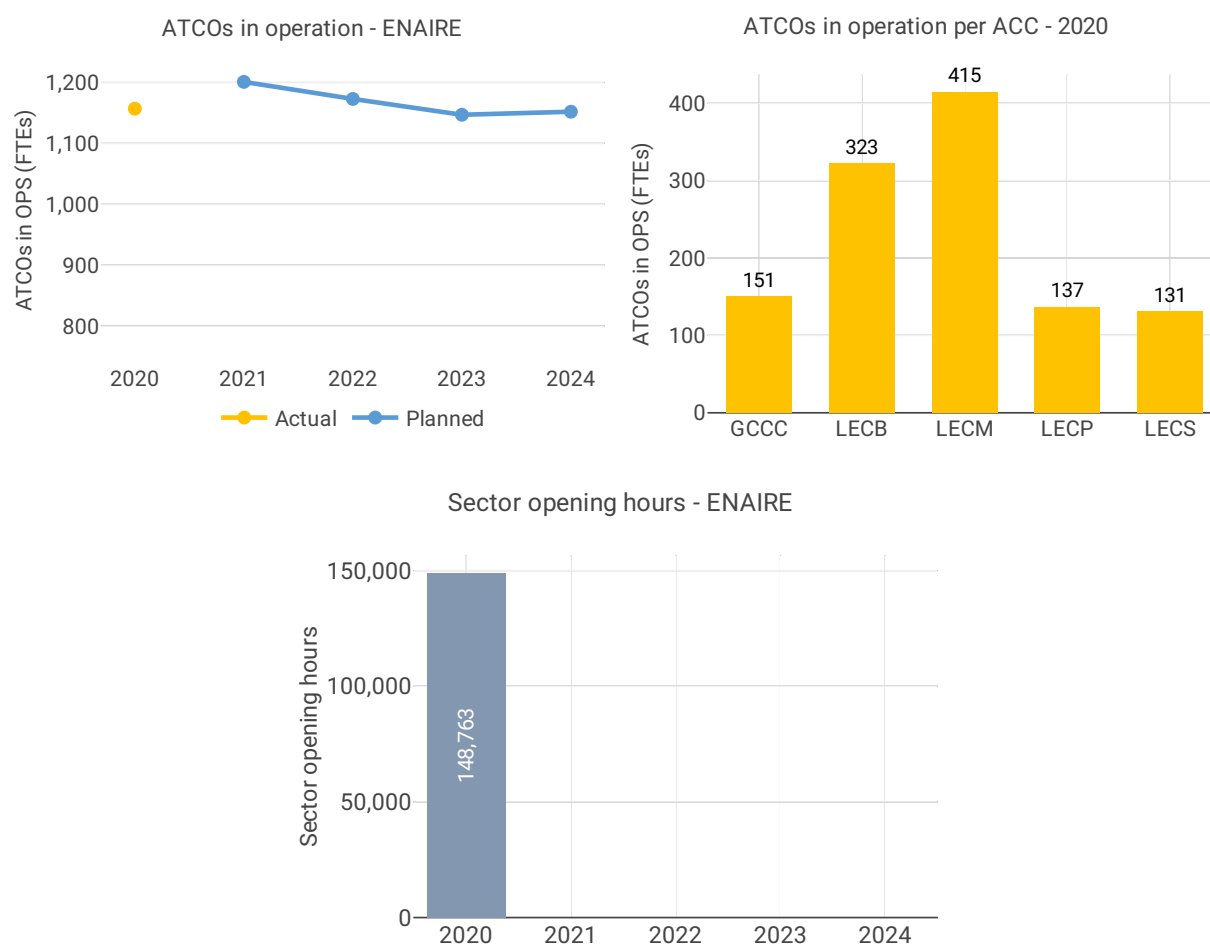
- ALL ACCs: improved ATFCM, in line with AF4 of PCP; optimized sector configurations and sector capacities, net increase of ATCOs -at a lower rate than planned due to COVID19-.
- PALMA ACC: Palma Final Approach Improvements (2021).
- CANARIAS ACC: Improvements of NW (2021) and Split NE Sector, 11th sector (sector cluster) (2021).

The new scenario is focused on service recovery and to facilitate users the return to normality, always prioritizing safety and the minimum delay.

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

No data available

### 4.2.2 Other indicators

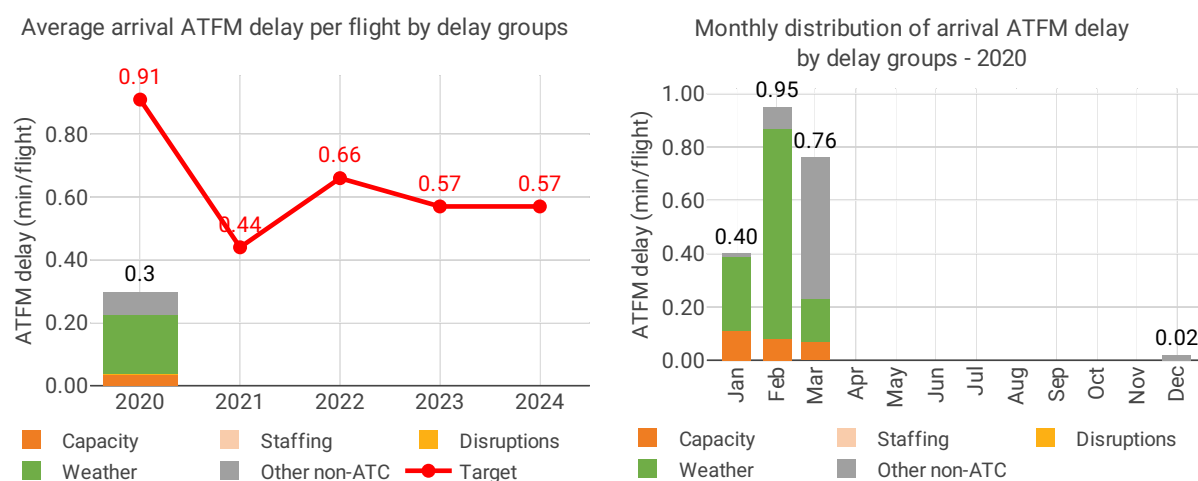


### Focus on ATCOs in operations



## 4.3 Terminal performance

### 4.3.1 Arrival ATFM delay (KPI#2)



#### Focus on arrival ATFM delay

Spain includes seven airports under RP3 monitoring. However in accordance with IR (EU) 2019/317 and the traffic figures, Ibiza is not monitored for pre-departure delays.

The Airport Operator Data Flow, necessary for the monitoring of these pre-departure delays, is correctly implemented where required. Nevertheless, the quality of the reporting from all the Spanish airports does not allow for the calculation of the ATC pre-departure delay, with more than 60% of the reported delay not allocated to any cause.

Traffic at the ensemble of Spanish airports under monitoring decreased by 61% in 2020 with respect to 2019, with the biggest reduction observed at Palma (-65%) and the lowest at Gran Canaria (-48%)

National arrival ATFM delay decreased by 71% with respect to 2019 following the drop in traffic, although Gran Canaria observed an increase with respect to the previous year. The national slot adherence was 95.3%.

The national average arrival ATFM delay at Spanish airports in 2020 was 0.30 min/arr, significantly lower than the 1.02 min/arr in 2019 (-71%)

All delays took place in the first trimester of the year, except for minor aerodrome capacity related delays in Gran Canaria in December.

The highest average ATFM delay per arrival was recorded at Gran Canaria (GCLP; 2019: 0.14 min/arr; 2020: 0.97 min/arr), mainly due to weather delays in February and delays attributed to "Other" in March.

At Madrid (LEMD; 2019: 1.29 min/arr; 2020: 0.49 min/arr) delays were attributed to weather (69%), ATC capacity (23%) and Other (8%)

At Barcelona (LEBL; 2019: 1.33 min/arr; 2020: 0.12 min/arr) delays in the first trimester were attributed mainly to weather (83%) and environmental issues (12%)

Palma (LEPA; 2019: 1.08 min/arr; 2020: 0.05 min/arr) recorded delays only in February (weather) and March (Other)

According to the Spanish monitoring report: *Although the TAD target has been largely met at national level, the crisis of Covid-19 had also an impact at certain airports, causing arrival delays. GCLP was the most significantly affected since in March, it was in the middle of the high season with many tourists in the Canary Islands. LEMD and LEPA also recorded delays due to O-Other Covid-19 but this did not have a major impact on the indicator.*

*As explained in tab 2.3.1.A. KPI#2 the effects of COVID-19 crisis has been also analysed for TAD KPI.*

*A detailed analysis of what happened in those weeks of March in relation to the causes of delay and the factors that influenced them was carried out. A total of 15.383 minutes of arrival delays were generated due to the exceptional Covid-19 situation between 14 and 16 March, the weekend when the state of alarm was declared in Spain.*

*After the analysis made, it was concluded that the delay minutes due to cause O-Other Covid-19 should be considered as generated in an exceptional event as the Annex I - Section 2 - Point 3.1.a.ii of Regulation*



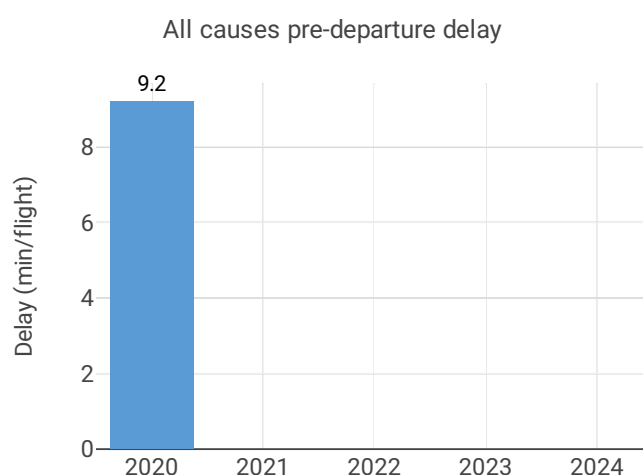
2019/317 defines and therefore not counted for TAD indicator. In that case, TAD in 2020 has a value of 0.24 instead of the 0.30 pre-filled.

The PRB notes the reference by Spain to the activation of the European Aviation Crisis Coordination Cell (EACCC) and 'exceptional events'. The PRB also notes that neither the EACCC, nor the Network Manager, have published any information about ATFM delays to be considered as 'exceptional events'. The figure provided here is consistent with all national reports and is the PRB monitored result following all NM post-operations adjustment.

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

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

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



Airport level								
Airport name	Avg arrival ATFM delay (KPI#2)				Slot adherence (PI#1)			
	2020	2021	2022	2023	2020	2021	2022	2023
Alicante	0.02	NA	NA	NA	98.8%	NA%	NA%	NA%
Barcelona	0.12	NA	NA	NA	94.9%	NA%	NA%	NA%
Ibiza	NA	NA	NA	NA	99.0%	NA%	NA%	NA%
Las Palmas	0.97	NA	NA	NA	96.4%	NA%	NA%	NA%
Madrid/Barajas	0.49	NA	NA	NA	94.2%	NA%	NA%	NA%
Malaga	0.01	NA	NA	NA	93.4%	NA%	NA%	NA%
Palma De Mallorca	0.05	NA	NA	NA	97.3%	NA%	NA%	NA%

Airport name	ATC pre departure delay (PI#2)				All causes pre departure delay (PI#3)			
	2020	2021	2022	2023	2020	2021	2022	2023
Alicante	0.23	NA	NA	NA	9.0	NA	NA	NA
Barcelona	0.00	NA	NA	NA	8.7	NA	NA	NA
Ibiza	NA	NA	NA	NA	6.3	NA	NA	NA
Las Palmas	0.08	NA	NA	NA	11.3	NA	NA	NA
Madrid/Barajas	NA	NA	NA	NA	9.5	NA	NA	NA
Malaga	0.18	NA	NA	NA	11.3	NA	NA	NA
Palma De Mallorca	NA	NA	NA	NA	5.4	NA	NA	NA

### Focus on performance indicators at airport level

#### ATFM slot adherence

With the drastic drop in traffic, the share of regulated departures from Spanish airports virtually disappeared as of April. The annual figures are therefore driven by the performance in the first trimester.

All Spanish airports showed adherence above 90% and the national average was 95.3%. With regard to the 4.7% of flights that did not adhere, 3.2% was early and 1.5% was late.

The Spanish monitoring reports adds: *As 2020 is the first year of the third reference period, and the result*

*at a national level includes for the first time a total of 7 airports, it is not directly comparable with the value reported to the European Commission the previous year, in which the result at the national level included the adherence to slots only of the 5 main airports. However, the calculated result for 2019 (PRU data) based on 7 airports would reach a 96.2% of adherence to slot, in line with that obtained in 2020 (95.3%). Both results are well above the value of 80% set in Commission Regulation (EU) No 255/2010, so ENAIRE does not think that it's necessary to establish specific improvement measures.*

*This PI is being analysed to develop a monitoring (where it is possible) not only annually but, at least, twice a year to evaluate the evolution of the indicators. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.*

### **ATC pre-departure delay**

The calculation of the ATC pre-departure delay is based on the data provided by the airport operators through the Airport Operator Data Flow (APDF) which is properly implemented at all 6 Spanish airports subject to monitoring of this indicator.

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

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

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

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

Finally, to be able to produce the annual figure, at least 10 months of valid data is requested by EUROCONTROL.

The high share of unidentified delay reported by 4 of these airports is a long standing issue, only worsened by the special traffic composition since April 2020. Gran Canaria and Alicante had a proper reporting prior to the pandemic.

The Spanish monitoring report includes some analysis on the monthly values that could be calculated:

- GCLP only has monthly data for 2 months, with a resulting value of 0.32, similar but somewhat lower than in previous years. In other years, all monthly data were available.
- LEAL has data for 7 months, with a resultant value of 0.26, lower than in previous years, which was around 0.36-0.34.
- LEBL only has data for one month, its value is 0.03. This is much lower than in the previous two years, which was above 1.2. The availability of monthly data has been getting worse every year since 2017.
- LEMD and LEPA do not have any data in 2020, the latest monthly data is from Jan-2019.
- LEMG has 3-month data available, with a resulting value of 0.45, somewhat lower than the previous 3 years which was around 0.5. The lack of data started in 2019 and has increased in 2020.

*At the moment, AESA is studying the particularities of this indicator in our airspace. Data are only available at SES portal, so AESA will investigate the lack of data at some airports during certain months.*

*This PI is being analysed to develop a monitoring (where it is possible) not only annually but, at least, twice a year to evaluate the evolution of the indicators. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.*

### **All causes pre-departure delay**

The total (all causes) delay in the actual off block time at Spanish airports in 2020 was between 5.44 min/dep for Palma (LEPA), which is the 3rd lowest among the RP3 monitored airports, and 11.33 min/dep. for Malaga (LEMG).

The higher delays per flight were observed in the first trimester of the year, except for Madrid where the highest delays per flight took place in April and May, due to the lower traffic and extraordinary circumstances. Malaga also registered very high delay per flight in the second trimester.

According to the Spanish monitoring report:

*2020 is the first year in which this PI has been monitored, so it is not possible to compare the results with previous years. In addition, these data are only available annually, so AESA has not been able to carry out a monitoring process. At the moment, AESA is studying the particularities of this indicator in our airspace. This PI is being analysed to develop a monitoring (where it is possible) not only annually but, at least, twice a year to evaluate the evolution of the indicators. If significant deviations are found, the possible causes will be analysed by contacting the relevant stakeholder.*

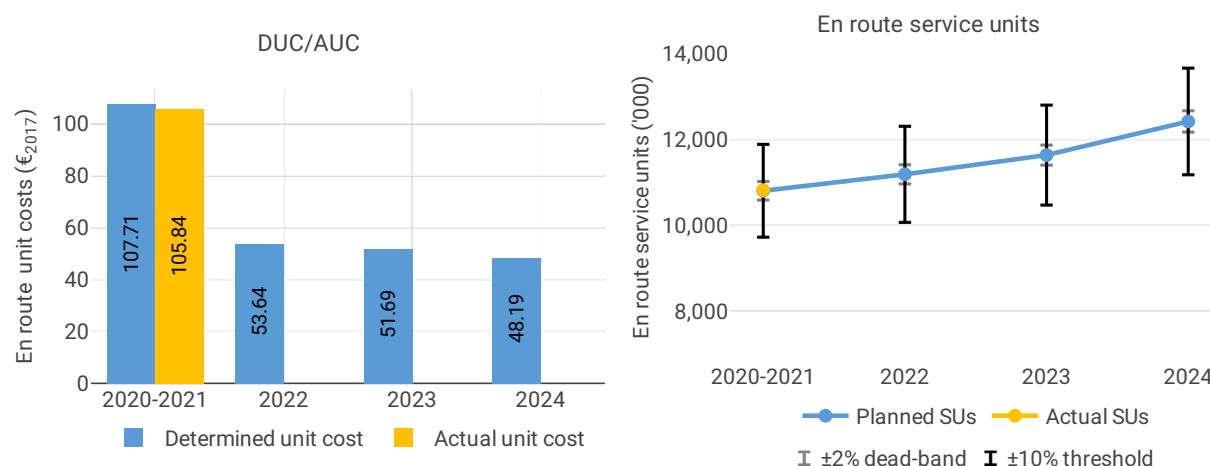
## 5 COST-EFFICIENCY - SPAIN

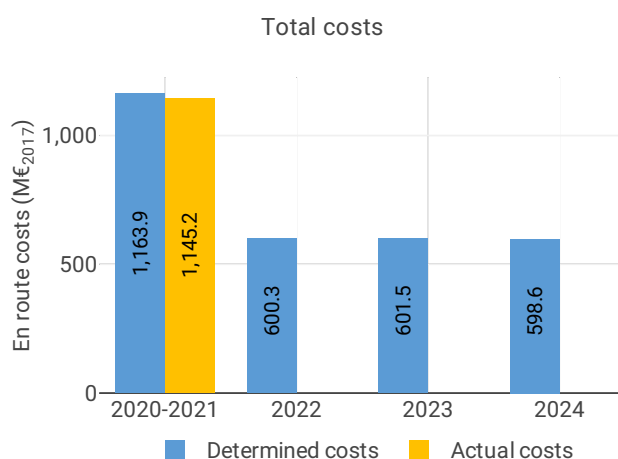
### 5.1 PRB monitoring

- The 2020 actual service units of Spain continental (4,437K) were 61% lower than the actual service units in 2019 (11,502K). At the same time, the 2020 actual service units of Spain Canarias (803K) were 59% lower than the actual service units in 2019 (1,954K).
- Spain continental reduced costs in 2020 compared to 2019 actual costs by 16 M€2017 (-3%). The reduction is mainly driven by a decrease in staff costs of 16 M€2017 (-4%). However, the adaptation to International Accounting Standards (IAS) increased exceptional costs by 12 M€2017 (+201%).
- Spain Canarias reduced costs in 2020 compared to 2019 actual costs by 5.5 M€2017 (-6%). The reduction is mainly driven by a decrease in staff costs of 6.2 M€2017 (-9%), due to exceptional measures. However, other operating costs increased mainly due to higher Eurocontrol costs (+4.6 M€2017 or +38%).
- ENAIRE spent 109 M€2017 in 2020 related to cost of investments, 8% less than planned in the 2019 draft performance plan (118 M€2017).

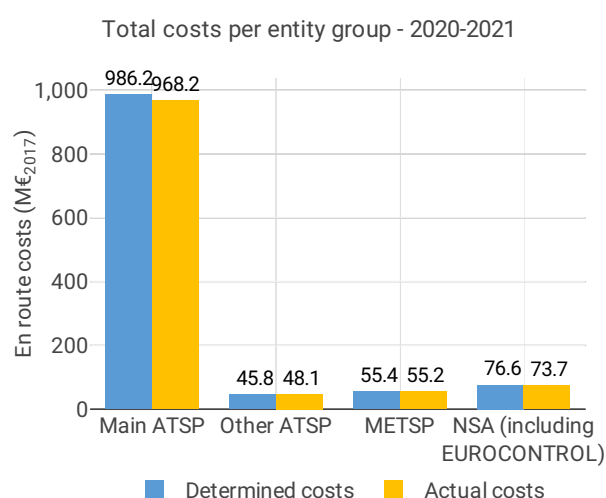
### 5.2 En route charging zone - Spain Continental

#### 5.2.1 Unit cost (KPI#1)

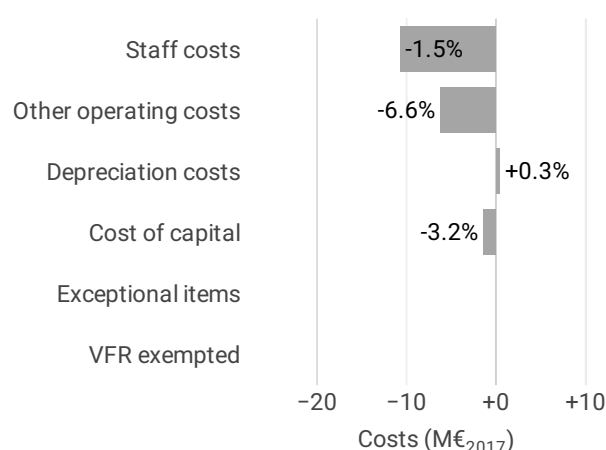




Actual and determined data				
Total costs - nominal (M€)	2020-2021	2022	2023	2024
Actual costs	1,180	NA	NA	NA
Determined costs	1,191	622	630	634
Difference costs	-11	NA	NA	NA
Inflation assumptions	2020-2021	2022	2023	2024
Determined inflation rate	NA	1.3%	1.5%	1.6%
Determined inflation index	NA	104.9	106.5	108.2
Actual inflation rate	NA	NA	NA	NA
Actual inflation index	NA	NA	NA	NA
Difference inflation index (p.p.)	NA	NA	NA	NA



**Costs by nature - ENAIRE 2020-2021**



## Focus on unit cost

### AUC vs. DUC

In the combined year 2020-2021, the AUC was lower than the planned DUC (by -1.7%, or -1.87€2017). This results from the combination of slightly higher than planned TSUs (+0.1%) and lower than planned en route costs in real terms (by -1.6%, or -18.8 M€2017).

### En route service units

The difference between actual and planned TSUs (+0.1) falls within the  $\pm 2\%$  dead band. Hence the resulting additional revenue is kept by the ANSPs.

### En route costs by entity

Actual real en route costs for 2020-2021 are -1.6% (-18.8 M€2017) lower than planned. This result is driven by the main ANSP, ENAIRE (-1.8%, or -17.9 M€2017), the MET service provider (-0.4% or -0.2 M€2017) and the NSA/EUROCONTROL costs (-3.8%, or -2.9 M€2017), whereas other ANSPs cost are higher than planned (+4.9% or +2.2 M€2017).

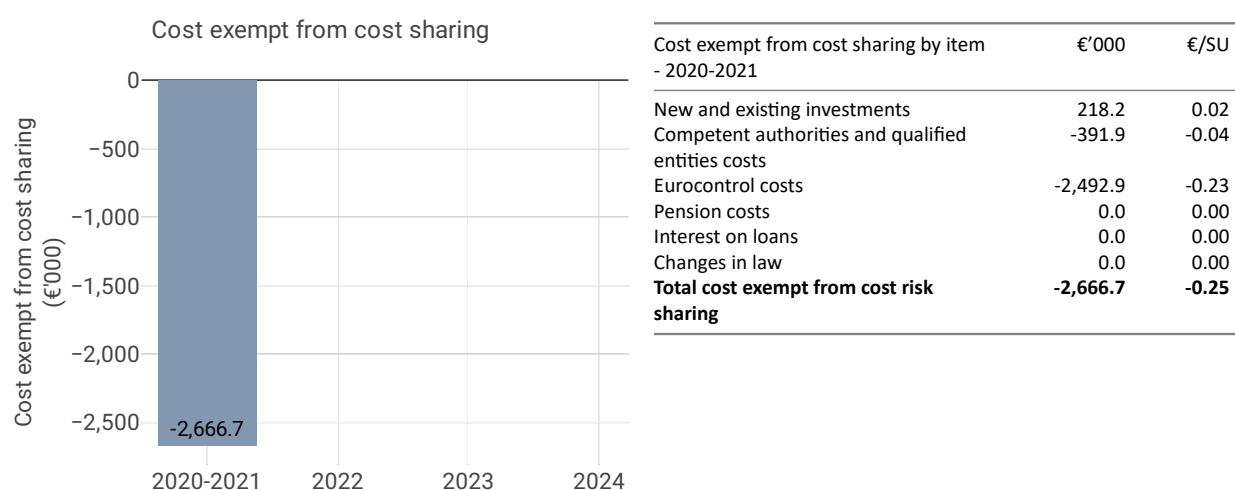
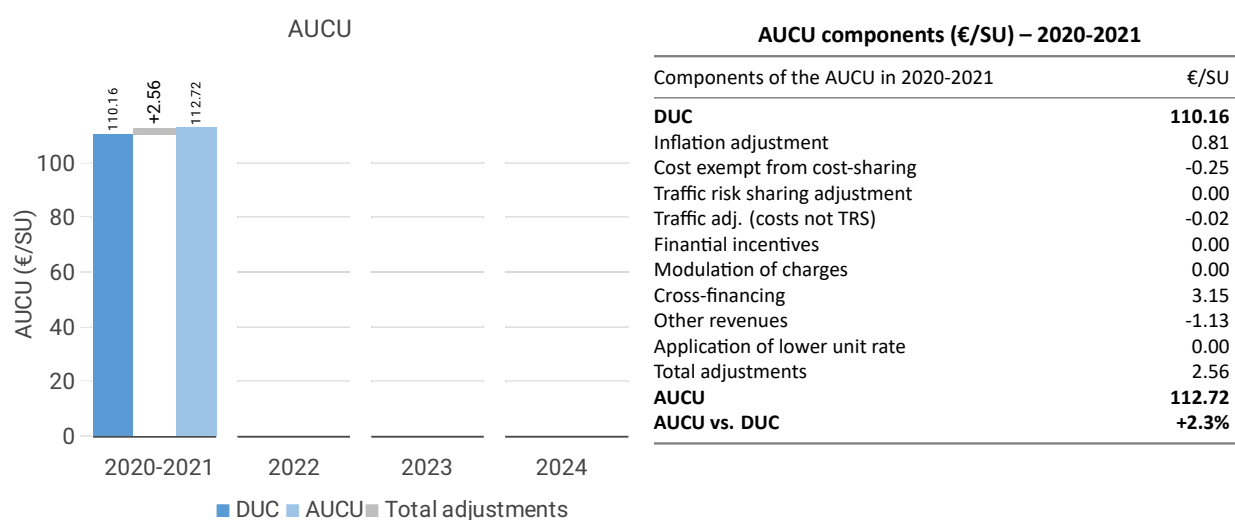
### En route costs for the main ANSP at charging zone level

Lower than planned en route costs in real terms for ENAIRE in 2020-2021 (-1.8%, or -17.9 M€2017) lower results from:

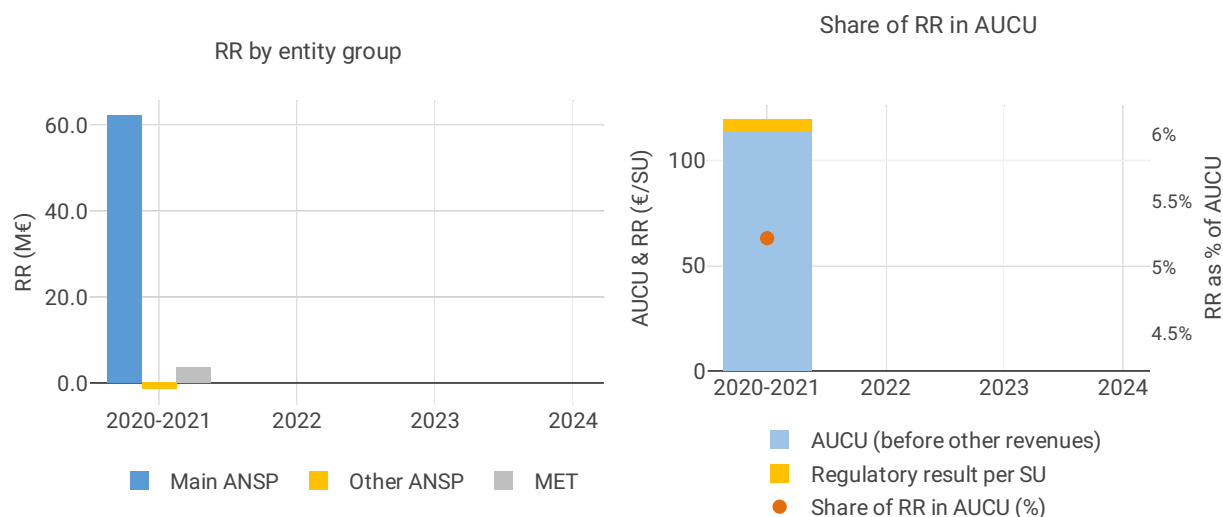
- lower staff costs (-1.5%), although the additional information to the en route reporting tables clarify that *“two provisional rulings unfavourable to ENAIRE, as a consequence of claims of control staff, have impacted in 2021 Annual Accounts for ENAIRE, with a total amount of 32.2M€ higher salaries. This mentioned total amount, although included as higher staff expenses in the 2021 ENAIRE Accounts, has not been considered in the costs submitted by ENAIRE pending national Supreme Court final rulings”*;

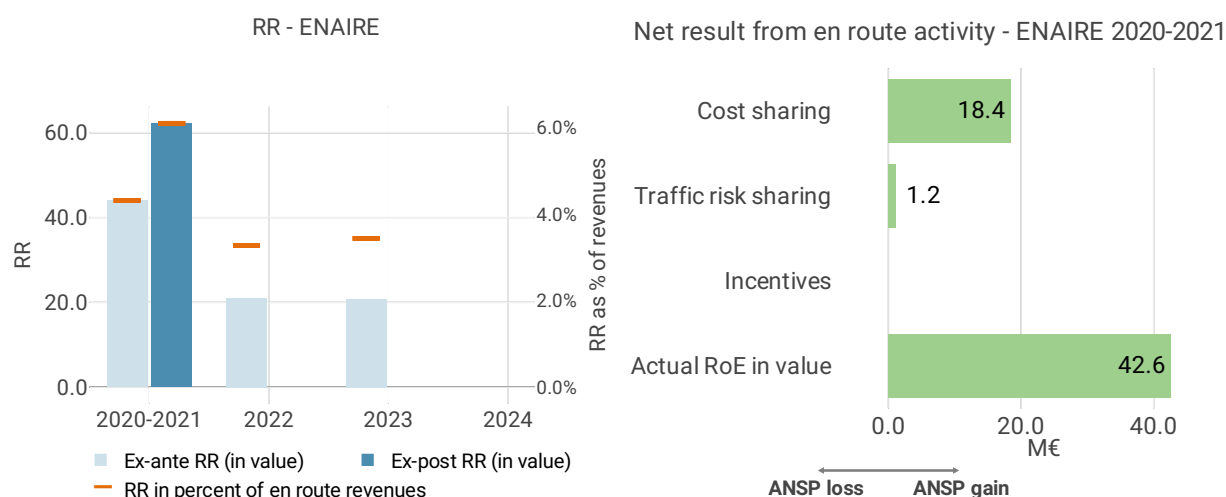
- lower other operating costs (-6.6%), as result of restrictive expenditure policy;
- slightly higher depreciation (+0.3%);
- lower cost of capital (-3.2%), due to lower asset base (-1.6%) and WACC.

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



## 5.2.3 Regulatory result (RR)





## Focus on regulatory result

### ENAIRE net gain on en route activity in the Spain Continental charging zone in the combined year 2020-2021

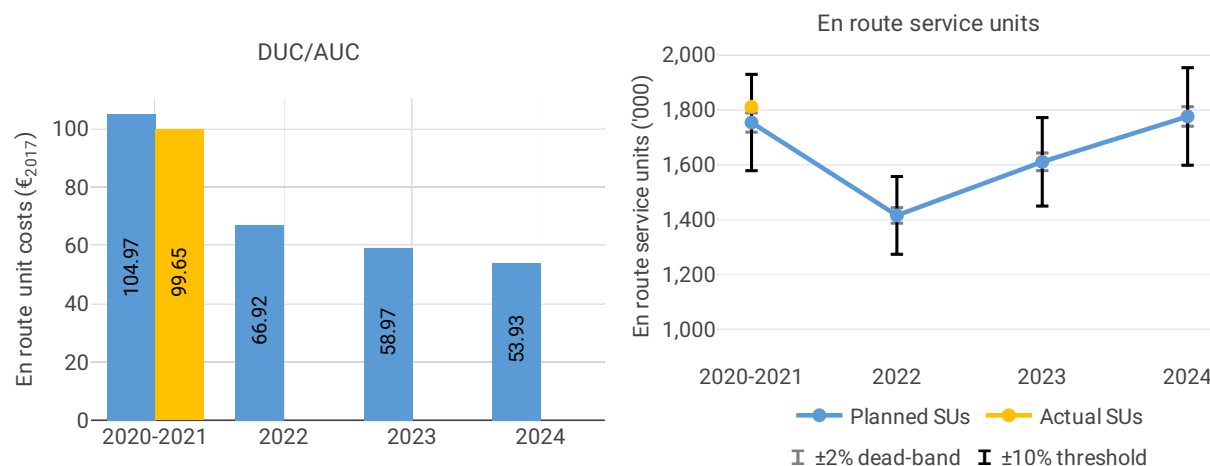
ENAIRE's net gain amounts to +19.6 M€, as a combination of a gain of +18.4 M€ arising from the cost sharing mechanism and a gain of +1.2 M€ arising from the traffic risk sharing mechanism.

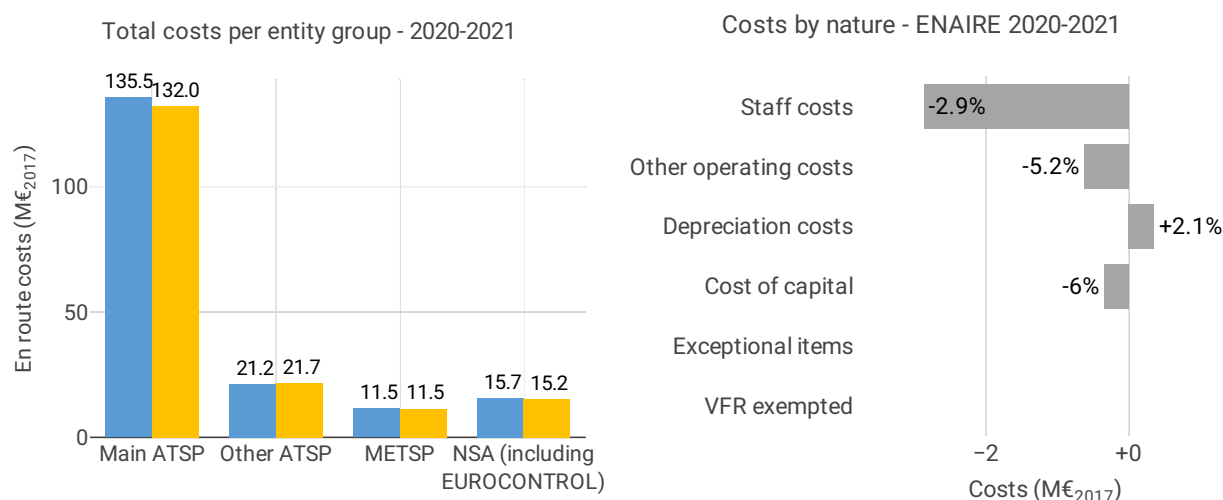
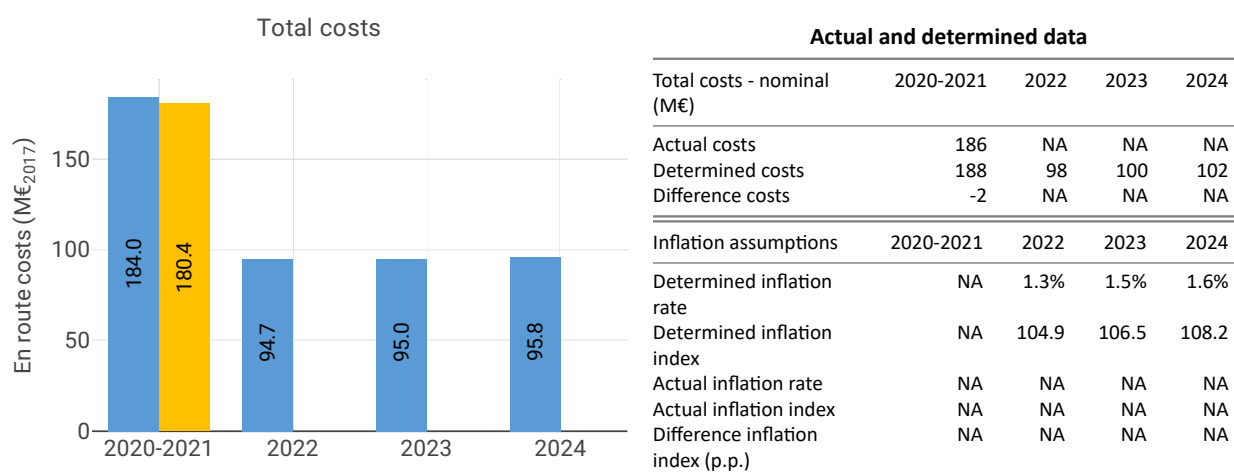
### ENAIRE overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+19.6 M€) and the actual RoE (+42.6 M€) amounts to +62.2 M€ (6.1% of the en route revenues). The resulting ex-post rate of return on equity is 9.8%, which is higher than the 6.7% planned in the PP.

## 5.3 En route charging zone - Spain Canarias

### 5.3.1 Unit cost (KPI#1)





## Focus on unit cost

### AUC vs. DUC

In the combined year 2020-2021, the AUC was lower than the planned DUC (by -5.1%, or -5.32€2017). This results from the combination of higher than planned TSUs (+3.3%) and lower than planned en route costs in real terms (by -1.9%, or -3.6 M€2017).

### En route service units

The difference between actual and planned TSUs (+3.3%) falls outside the  $\pm 2\%$  dead band, but does not exceed the  $\pm 10\%$  threshold foreseen in the traffic risk sharing mechanism. The resulting gain of additional en route revenues is therefore shared between the ATSP and the airspace users, with the ATSP (ENAIRE) retaining an amount of +3.3 M€2017.

### En route costs by entity

Actual real en route costs for 2020-2021 are -1.9% (-3.6 M€2017) lower than planned. This result is driven by the main ANSP, ENAIRE (-2.6%, or -3.5 M€2017), the MET service provider (-0.4% or -0.1 M€2017) and the NSA/EUROCONTROL costs (-3.4%, or -0.5 M€2017), whereas other ANSPs cost are higher than planned (+2.5% or +0.5 M€2017).

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

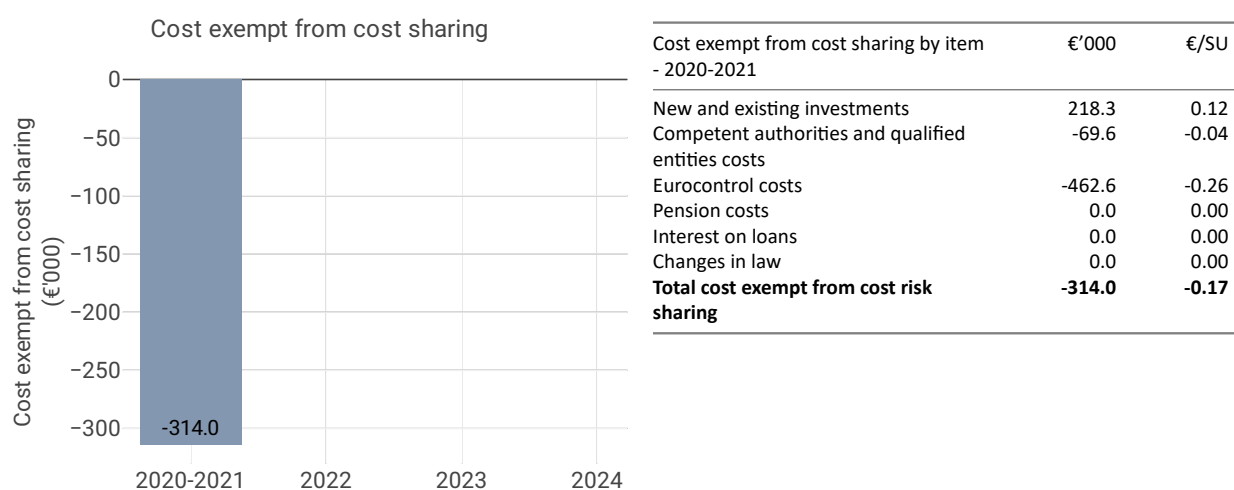
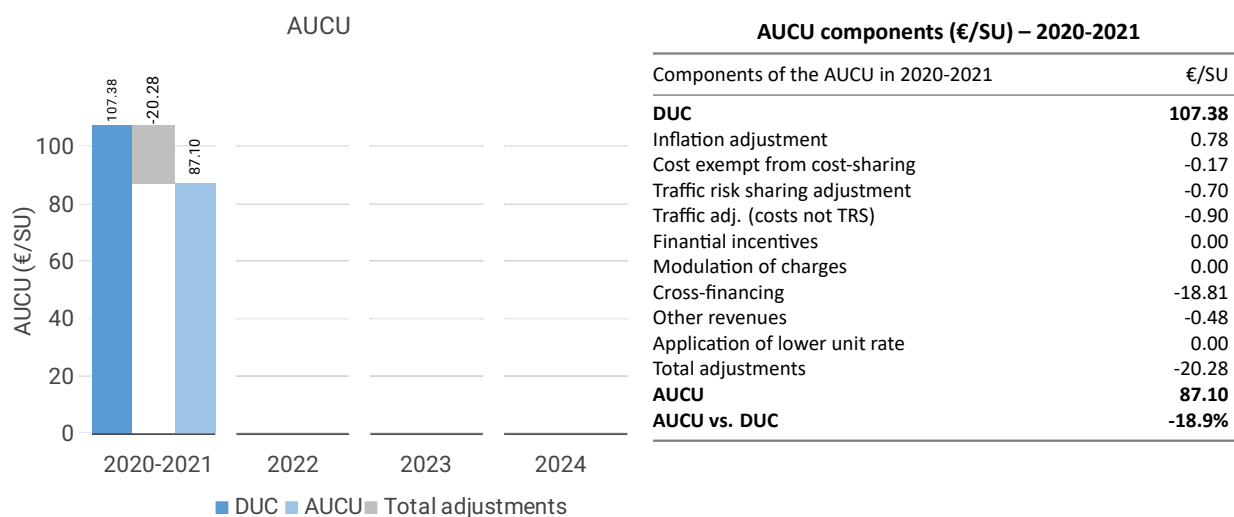
Lower than planned en route costs in real terms for ENAIRE in 2020-2021 (-2.6%, or -3.5 M€2017 lower) results from:

- lower staff costs (-2.9%), although the additional information to the en route reporting tables clarify that *“two provisional rulings unfavourable to ENAIRE, as a consequence of claims of control staff, have impacted in 2021 Annual Accounts for ENAIRE, with a total amount of 32.2M€ higher salaries. This mentioned total*

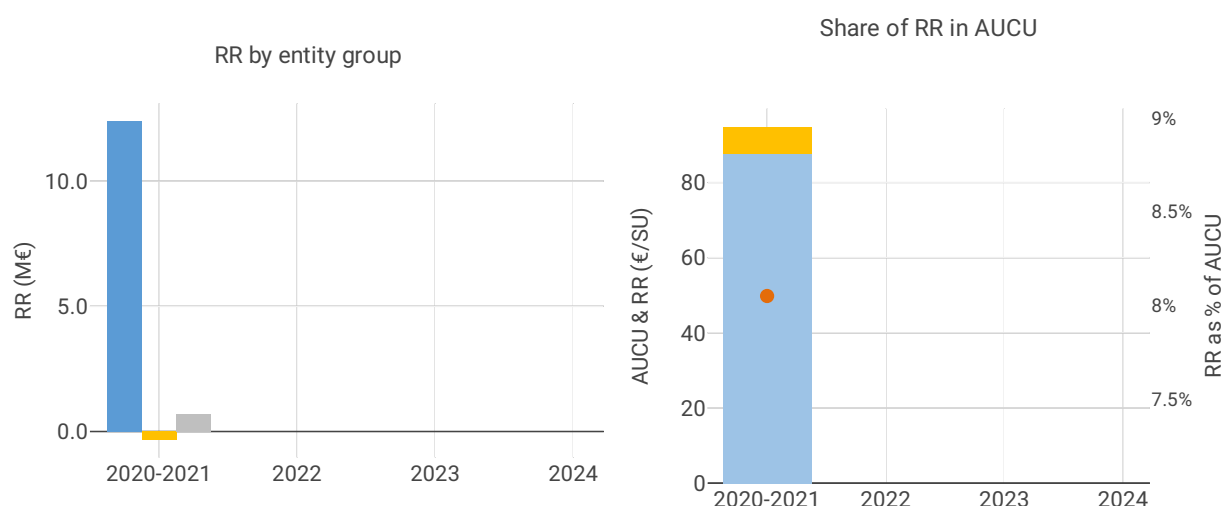
amount, although included as higher staff expenses in the 2021 ENAIRE accounts, has not been considered in the costs submitted by ENAIRE pending national Supreme Court final rulings”;

- lower other operating costs (-5.2%), as result of restrictive expenditure policy;
- higher depreciation (+2.1%);
- lower cost of capital (-6.0%), due to lower asset base (-4.5%) and WACC.

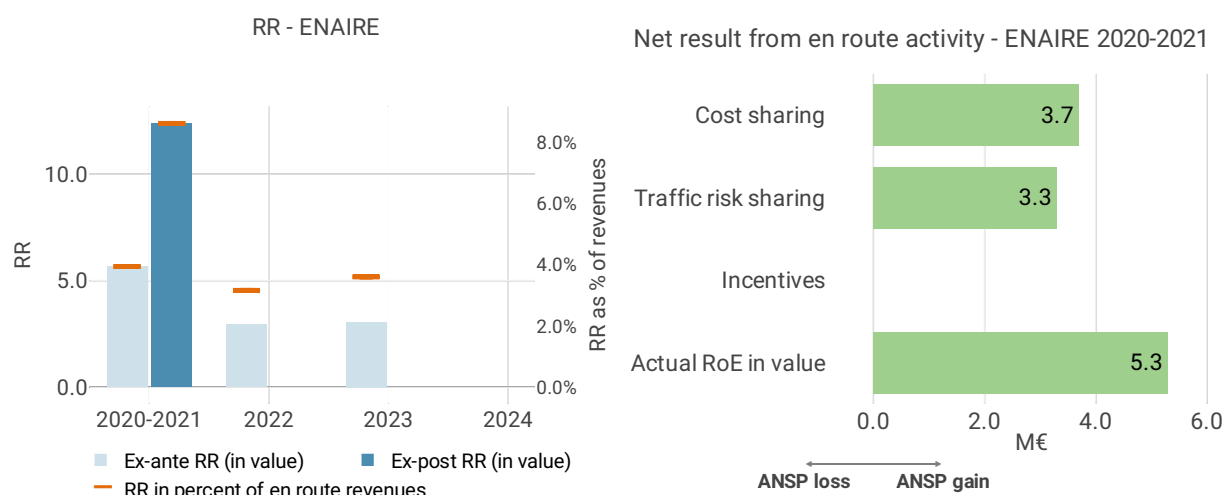
### 5.3.2 Actual unit cost incurred by the users (AUCU) (PI#1)



### 5.3.3 Regulatory result (RR)







## Focus on regulatory result

### ENAIRE net gain on en route activity in the Spain Canarias charging zone in the combined year 2020-2021

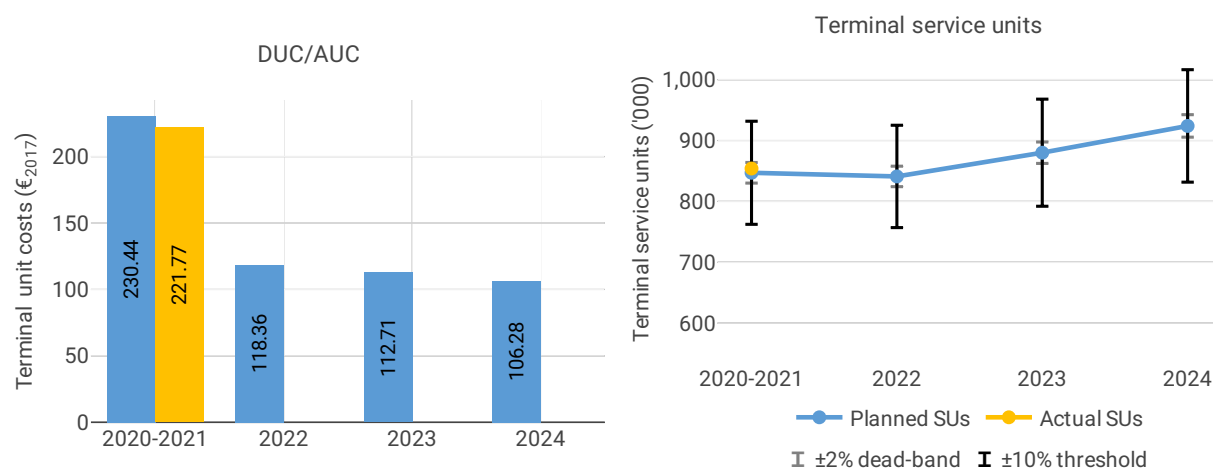
ENAIRE's net gain amounts to +7.1 M€, as a combination of a gain of +3.7 M€ arising from the cost sharing mechanism and a gain of +3.3 M€ arising from the traffic risk sharing mechanism.

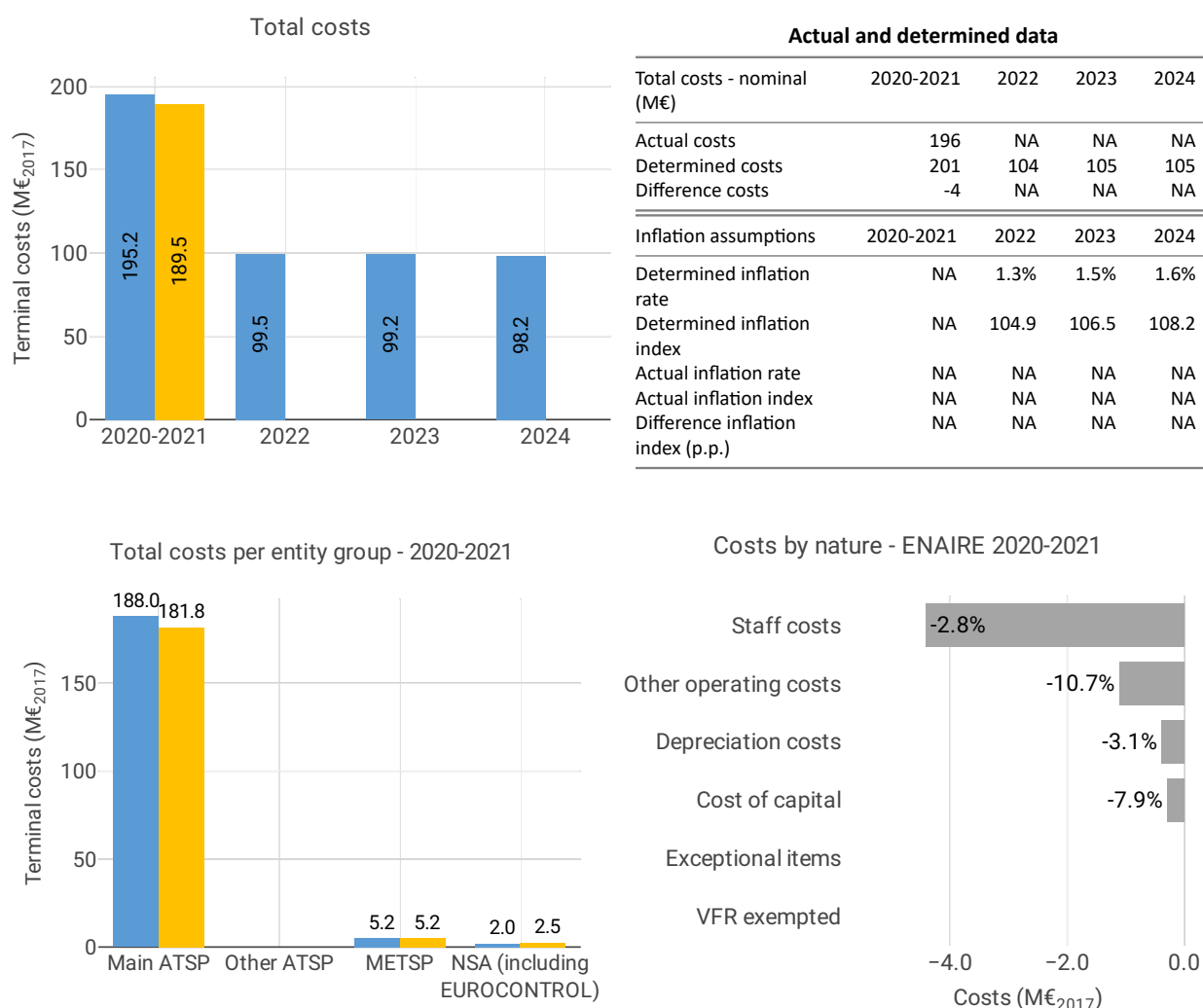
### ENAIRE overall regulatory results (RR) for the en route activity

Ex-post, the overall RR taking into account the net gain from the en route activity mentioned above (+7.1 M€) and the actual RoE (+5.3 M€) amounts to +12.4 M€ (8.6% of the en route revenues). The resulting ex-post rate of return on equity is 15.6%, which is higher than the 6.7% planned in the PP.

## 5.4 Terminal charging zone

### 5.4.1 Unit cost (KPI#1)





## Focus on unit cost

### AUC vs. DUC

In the combined year 2020-2021, the terminal AUC was -3.8% (or -8.67€2017) lower than the planned DUC. This results from the combination of higher than planned TNSUs (+0.9%) and lower than planned terminal costs in real terms (-2.9%, or -5.7 M€2017).

### Terminal service units

The difference between actual and planned TNSUs (+0.9) falls within the  $\pm 2\%$  dead band. Hence the resulting additional revenue is kept by the ANSPs.

### Terminal costs by entity

Actual real terminal costs are -2.9% (-5.7 M€2017) lower than planned. This is driven by the main ANSP, ENAIRE (-3.3%, or -6.2 M€2017) and the MET service provider (-1.3%, or -0.1 M€2017), whereas NSA cost are higher than planned (+27.6% or +0.5 M€2017).

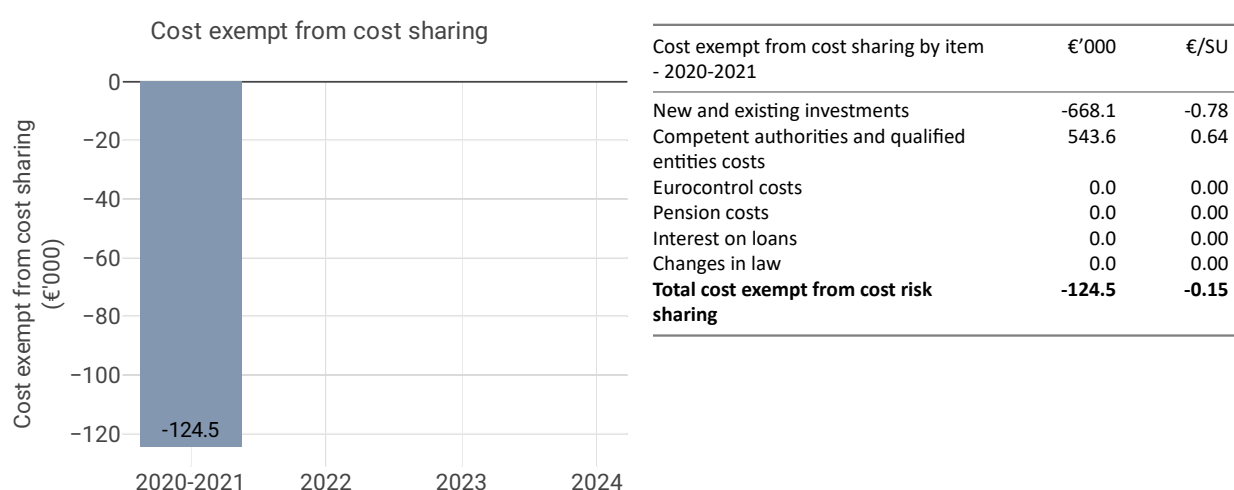
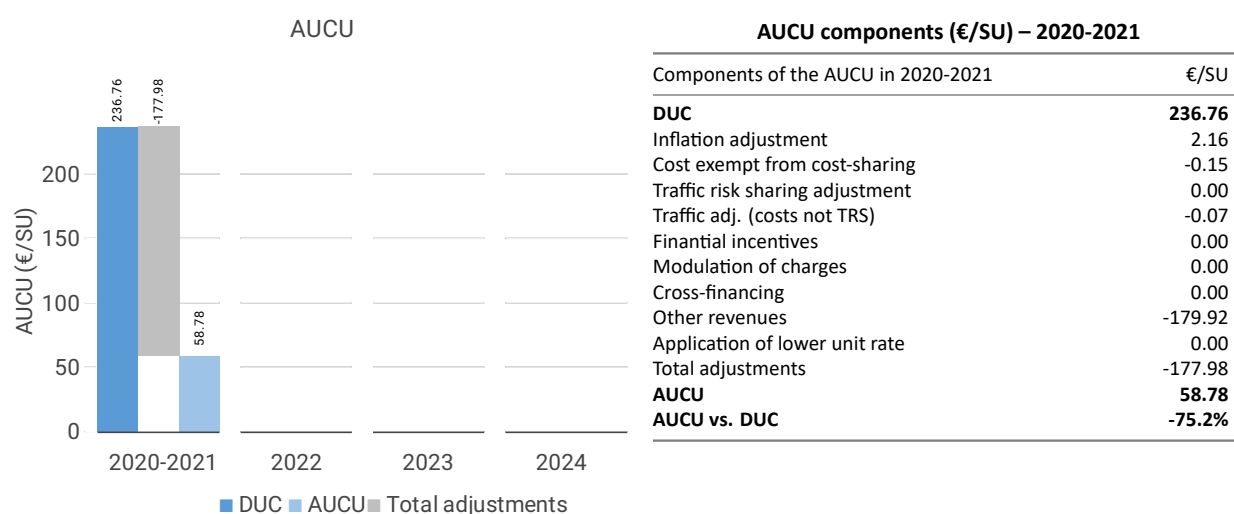
### Terminal costs for the main ANSP at charging zone level

The lower than planned terminal costs in real terms for ENAIRE (-3.3%, or -6.2 M€2017) result from:

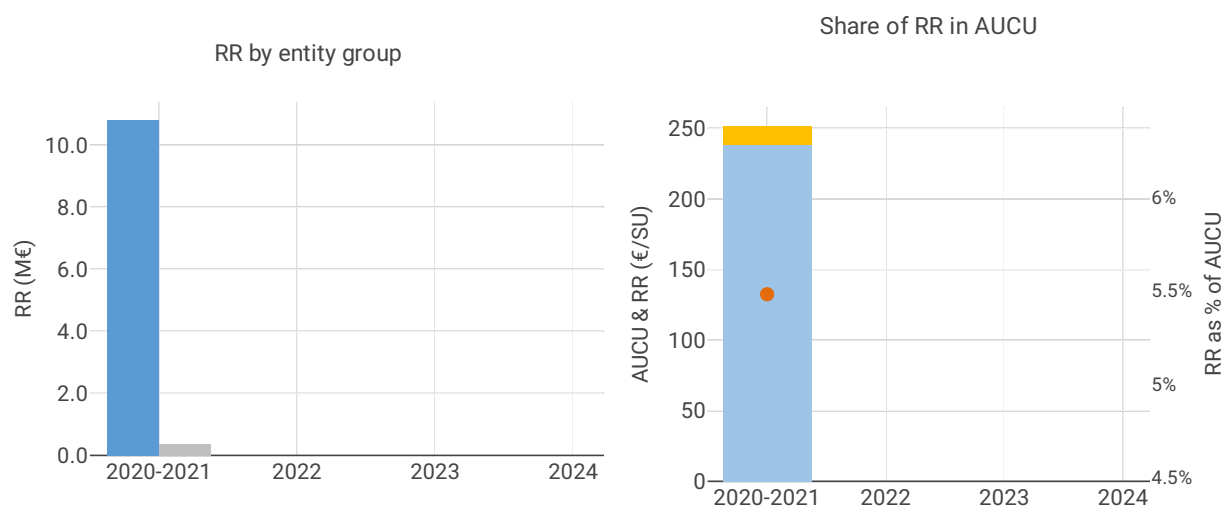
- lower staff costs (-2.8%), although the additional information to the terminal reporting tables clarify that *“two provisional rulings unfavourable to ENAIRE, as a consequence of claims of control staff, have impacted in 2021 Annual Accounts for ENAIRE, with a total amount of 32.2M€ higher salaries. This mentioned total amount, although included as higher staff expenses in the 2021 ENAIRE Accounts, has not been considered in the costs submitted by ENAIRE pending national Supreme Court final rulings”*;
- lower other operating costs (-10.7%), as result of restrictive expenditure policy;

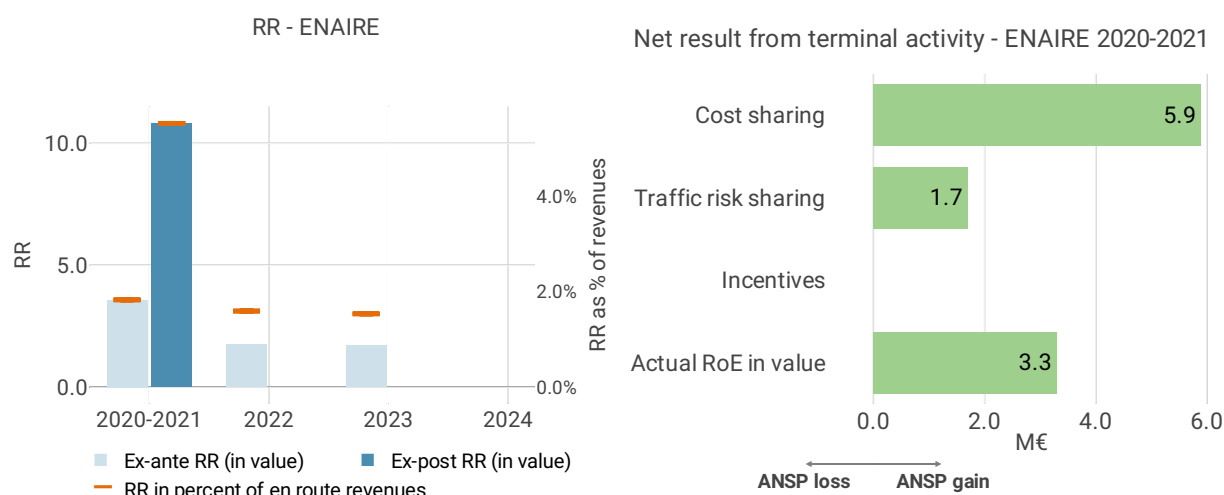
- lower depreciation (-3.1%);
- lower cost of capital (-7.9%), due to lower asset base (-6.5%) and WACC.

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



#### 5.4.3 Regulatory result (RR)





### Focus on regulatory result

#### ENAIRE net gain on activity in the Spain terminal charging zone in the combined year 2020-2021

ENAIRE's net gain amounts to +7.5 M€ due to gains of +5.9 M€ from the cost sharing mechanism and of +1.7 M€ from the traffic risk sharing mechanism.

#### ENAIRE overall regulatory results (RR) for the terminal charging zone activity

Ex-post, the overall RR taking into account the net gain from the terminal activity mentioned above (+7.5 M€) and the actual RoE (+3.3 M€) amounts to +10.8 M€ (5.5% of the terminal revenues). The resulting ex-post rate of return on equity is 22.0%, which is higher than the 6.7% planned in the PP.