



ESPP3

Spain Performance Plan for RP3: 2020 – 2024 Air Navigation Services

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1. EXECUTIVE SUMMARY

The purpose of the 2020-2024 Spain Performance Plan (ESPP3) is twofold: firstly to establish the high-level revised performance targets for the Air Navigation Services provided in Spain within the scope of the plan, and secondly to set out the guidelines for the action plan to meet them.

1.1 CONTEXT

The Performance Scheme is defined in Article 11 of Regulation (EC) 549/2004 of the European Parliament and of the Council of 10 March 2004 and has been developed by subsequent implementing rules that have been applicable since 2012. The Performance scheme provides the framework to deliver better air navigation services results by setting targets and incentives in four key performance areas (KPA), over five years cycle (reference period): Safety, Environment, Capacity and Cost-Efficiency.

ENAIRES, as the public Air Navigation Service Provider, has been subject to the Performance Scheme regulation since its beginning. Ferrocarril de España, as a private Air Navigation Service Provider, is involved in the Performance Scheme given the provision of aerodrome control service in Alicante – Elche and Ibiza airports, the first because overpassed the threshold of 80,000 IFR movements calculated as the yearly average over the three calendar years preceding the year in which the draft performance plan was to be submitted in 2019 and the latter because it was expected to do so along the period. However, the Performance Scheme applies partially to the private provided since market conditions were declared for both airports.

The Performance Scheme is closely linked to the Charging System defined in Chapter III of Regulation (EC) 550/2004. In this sense, with the goal of enhancing performance aspects, the charging scheme should promote cost and operational efficiencies and should establish incentive schemes for air navigation service providers to support improvements in the provision of air navigation services, including the application of traffic risk sharing.

The implementing rule in force setting out the detailed rules and procedures for the implementation of the performance and charging scheme is the *Commission Implementing Regulation (EU) 2019/317 laying down a performance and charging scheme in the single European sky and repealing Implementing Regulations (EU) No 390/2013 and (EU) No 391/2013*. Due to the extraordinary circumstances caused by the COVID-19 pandemic and its impact on the implementation of the performance and charging scheme in the third reference period, including the setting of performance targets and unit rates as well as the application of incentive schemes and risk sharing mechanisms, temporary measures needed to be taken. These temporary measures are detailed in the *Commission Implementing Regulation (EU) 2020/1627, on exceptional measures for the third reference period (2020-2024) of the single European sky performance and charging scheme due to the COVID-19 pandemic*.

Spain adopted and submitted to the Commission in 2019 the draft performance plan for the third reference period (2020-2024) taking on board the Commission Implementing Regulation (EU) 2019/317. That document which was not definitively approved by the Commission due to the outbreak of the COVID-19 pandemic was in line with the Union-wide performance targets in the key performance area of Safety and Cost-Efficiency and in line with the corresponding reference values assigned in the key performance areas of Environment and Capacity, but for the first year of the period in Capacity, where local circumstances were highlighted. Cost-Efficiency en-route KPI was consistent with the long-term determined unit cost trend due to the decreasing evolution of costs during RP1 and RP2.

Due to the COVID-19 pandemic that led to a sharp drop in air traffic created an exceptional situation which needed to be addressed with specific measures. Those measures were specified in the Commission Implementing Regulation (EU) 2020/1627 that empowered the Commission to set revised Union-wide

performance targets for the third reference period (RP3) and the special rules to do so. This process was finished with the publication of the *Commission Implementing Decision (EU) 2021/891 of 2 June 2021 setting revised Union-wide performance targets for the air traffic management network for the third reference period (2020-2024) and repealing Implementing Decision (EU) 2019/903*.

Upon the setting of revised Union-wide performance targets by the Commission for RP3, Member States had to establish performance plans containing revised performance targets for that period. Regarding this issue, Spain should develop a Revised Performance Plan including revised targets in consistency with revised EU-wide targets, set by the European Commission.

As the performance plan submitted by 2019 was consistent with the regulation in force, the revised performance plan preserves the former structure of the document and the parameters concerning the incentive mechanisms (e.g. traffic risk sharing mechanism and capacity incentive scheme). There have been two main changes with respect to the initial plan: the first one has a legal basis and consists of aligning the plan to the *Commission Implementing Decision (EU) 2021/891*, which aims at including revised performance targets themselves, and the second one is the revision of the arrival capacity targets to adapt them to the latest traffic forecast issued by STATFOR.

In line with Article 13 of Regulation (EU) 2019/317, European Commission concluded the verification of completeness of the draft performance plan submitted by Spain on 1st October. The report was sent on 27th October and required to update of the Spain's Draft Performance Plan in line with the findings raised. In particular, the new Eurocontrol STATFOR traffic forecast of 15 October was queried to be updated within the performance plan.

The two ANSPs subject to the performance and charging regulation are ENAIRE and FerroNATS. ENAIRE as the public provider for en-route, approach and aerodrome control services is entirely subject to the scope of the regulation in the areas of performance and charging. However, FerroNATS, as the private aerodrome control service provider for Alicante – Elche and Ibiza airports provides these services under market conditions. More details on this issue are addressed in Chapter 9 of this document.

Finally, AESA, as civil National Supervisory Authority, is responsible for the elaboration of the revised Performance Plan for RP3 (ESPP3). To this end, AESA has obtained data and information from all the relevant parties, including air navigation service provider under its supervision and other entities as the meteorological and military providers and their respective NSAs. In addition, AESA shall monitor the implementation of the Performance Plan during RP3.

1.2 SUMMARY OF KPA PROPOSALS

The *Commission Implementing Decision (EU) 2021/891 of 2 June 2021* set the revised Union-wide performance targets for the air traffic management network for the third reference period (2020-2024) and repealed the *Implementing Decision (EU) 2019/903*. In respect of the calendar year 2020, the Union-wide performance targets in the key performance area of Environment and Capacity were not revised and, therefore, were not included as part of its Decision that covers the remaining part of the reference period 2021-2024, so the targets shown below for 2020 are the ones included in the *Commission Implementing Decision (EU) 2019/903 of 29 May 2019* setting the Union-wide performance targets for the air traffic management network for the third reference period starting on 1 January 2020 and ending on 31 December 2024.

With respect to the Union-wide Cost-Efficiency performance target for calendar years 2020 and 2021 is presented as a single period and as from 2022 in a year-on-year basis.

The revised EU-wide performance targets for RP3 are shown in the following tables:

| Revised EU-wide performance targets for RP3 | | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---------------------------|-------|-------|-------|-------|-------|
| Safety KPA: EoSM | Safety Risk Management MO | - | - | - | - | D |
| | All other MOs | - | - | - | - | C |
| Environment KPA: KEA | | 2.53% | 2.37% | 2.37% | 2.40% | 2.40% |
| Capacity KPA: minutes of en-route ATFM delay / flight | | 0.90 | 0.35 | 0.50 | 0.50 | 0.50 |

| Revised EU-wide performance targets for RP3 | 2020-2021 | 2022 | 2023 | 2024 |
|--|-----------|--------|--------|--------|
| Cost-Efficiency KPA: year-on-year change of the average Union-wide determined unit cost (DUC) for en-route ANS (*) | +120.1% | -38.5% | -13.2% | -11.5% |

With the purpose of comparison, the EU-wide targets within the repealed *Commission Implementing Decision (EU) 2019/903* were:

| EU-wide Performance targets for RP3 | | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|---------------------------|-------|-------|-------|-------|-------|
| Safety KPA: EoSM | Safety Risk Management MO | - | - | - | - | D |
| | All other MOs | - | - | - | - | C |
| Environment KPA: KEA | | 2.53% | 2.47% | 2.40% | 2.40% | 2.40% |
| Capacity KPA: minutes of en-route ATFM delay / flight | | 0.90 | 0.90 | 0.70 | 0.50 | 0.50 |
| Cost-Efficiency KPA: year-on-year change of the average Union-wide determined unit cost (DUC) for en-route ANS (*) | | -1.9% | -1.9% | -1.9% | -1.9% | -1.9% |

The Spain performance targets have to be an adequate contribution to the EU-wide performance targets achievement for which detail is given in the following items.

1.2.1 SAFETY

Safety targets are set for the minimum level of the Effectiveness of Safety Management (EoSM) to be achieved by the ANSP certified to provide air traffic services. These targets are set and shall be monitored at National level, in line with *Regulation (EU) 2019/317*.

| Revised Safety Targets – Spain National level | | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|------------------------------|------|------|------|------|------|
| Safety KPI #1: EoSM | Safety policy and objectives | C | C | C | C | C |
| | Safety risk management | C | C | C | C | D |
| | Safety assurance | C | C | C | C | C |
| | Safety promotion | C | C | C | C | C |
| | Safety culture | C | C | C | C | C |

As per the pandemic does not change the overall goal related to safety, which remains the highest priority and should be further improved, there are no changes to the revised objectives from the originals.

1.2.2 ENVIRONMENT

Environment targets are set for the horizontal en-route flight efficiency of the actual trajectory (KEA), which is applicable at National level.

| Revised Environment Targets – Spain National level | 2020 | 2021 | 2022 | 2023 | 2014 |
|--|-------|-------|-------|-------|-------|
| Environment KPI #1: KEA | 3.23% | 3.08% | 3.08% | 3.08% | 3.08% |

The local target is consistent with the reference values for Spain as proposed by the Network Manager.

The targets set in the draft performance plan in 2019 were:

| Environment Targets – Spain National level | 2020 | 2021 | 2022 | 2023 | 2014 |
|--|-------|-------|-------|-------|-------|
| Environment KPI #1: KEA | 3.23% | 3.07% | 2.90% | 2.90% | 2.90% |

1.2.3 CAPACITY

Capacity targets are proposed for two KPIs: en-route ATFM delay per flight attributable to ANS and arrival ATFM delay per flight attributable to terminal and airport ANS.

Arrival capacity targets are set at National level considering past performance levels. There are no EU- wide targets on this KPI. The Spanish airports included in the scope of the Performance Plan are those with more than 80,000 IFR transport movements per year Adolfo Suárez Madrid-Barajas, Josep Tarradellas Barcelona-El Prat, Palma de Mallorca, Gran Canaria, Málaga-Costa del Sol, Alicante- Elche and Ibiza airport which was expected to overpass the previous threshold during the third reference period.

An incentive mechanism is established for both the en-route capacity target and the arrival capacity target. In each case, the selected incentive mechanism consists on a linear function, with a dead band around the capacity target to be achieved. The maximum level of bonus is set at 0.0% of the determined costs and penalty is set at 0.5%. Capacity targets for the en-route ATFM delay per flight and arrival ATFM delay per flight are presented in the next table:

| Revised Capacity Targets – Spain National level | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|------|------|------|------|------|
| Capacity KPI #1: minutes of en-route ATFM delay / flight | 0.47 | 0.12 | 0.20 | 0.19 | 0.19 |
| Capacity KPI #2: minutes of arrival ATFM delay / flight (*) | 0.91 | 0.44 | 0.66 | 0.57 | 0.57 |

(*) This Spain global target is separated at ANSP scope for incentive purposes, in consistency with the Terminal Charging Zone.

The targets set in the draft performance plan in 2019 were as shown in the table below.

| Capacity Targets – Spain National level | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|------|------|------|------|------|
| Capacity KPI #1: minutes of en-route ATFM delay / flight | 0.47 | 0.35 | 0.28 | 0.20 | 0.20 |
| Capacity KPI #2: minutes of arrival ATFM delay / flight (*) | 0.91 | 0.82 | 0.73 | 0.64 | 0.64 |

(*) This Spain global target was separated at ANSP scope for incentive purposes, in consistency with the Terminal Charging Zone.

1.2.4 COST-EFFICIENCY

There are two KPIs in the Cost-Efficiency KPA: the determined unit cost (DUC) for en-route ANS; and the DUC for terminal ANS. The Cost-Efficiency targets for Spain at charging zone level derived from the *Commission Implementing Decision (EU) 2021/891 of 2 June 2021* are:

| Revised Cost-Efficiency Targets – Spain National level | | 2020/2021 | 2022 | 2023 | 2024 |
|---|---------------------------------|-----------|--------|--------|--------|
| Cost efficiency KPI #1: En-route DUC Spain – Continental | Real (EUR 2017) en-route DUC LE | 114.59 | 70.47 | 61.17 | 54.14 |
| Cost efficiency KPI #2: En-route DUC Spain - Canarias | Real (EUR 2017) en-route DUC GC | 115.30 | 70.91 | 61.55 | 54.47 |
| Cost efficiency KPI #3: Terminal DUC Spain | Real (EUR 2017) DUC LE TNC | 248.01 | 152.53 | 132.39 | 117.17 |

In chapter 6 a detailed explanation on the Spanish consistency of the determined unit cost is included, being the cost-efficiency targets for Spain set at charging zone level as shown in the table below:

| Revised Cost-Efficiency Targets – Spain National level | | 2020 | 2021 | 2020/2021 | 2022 | 2023 | 2024 |
|---|-------------------------------------|---------|---------|-----------|---------|---------|---------|
| Cost efficiency KPI #1: En-route DUC Spain – Continental | Nominal en-route determined costs | 598,351 | 592,163 | 1,190,515 | 622,143 | 629,825 | 633,678 |
| | Inflation index (base 2017) | 102.50 | 103.60 | - | 104.90 | 106.50 | 108.20 |
| | Real en-route determined costs | 587,141 | 576,803 | 1,163,945 | 600,261 | 601,512 | 598,574 |
| | Total en-route Service Units (000) | 4,437 | 6,370 | 10,807 | 11,190 | 11,638 | 12,421 |
| | Real (EUR 2017) en-route DUC | 132.33 | 90.55 | 107.71 | 53.64 | 51.69 | 48.19 |
| Cost efficiency KPI #2: En-route DUC Spain - Canarias | Nominal en-route determined costs | 94,072 | 94,123 | 188,195 | 98,205 | 99,602 | 101,565 |
| | Inflation index (base 2017) | 102.50 | 103.60 | - | 104.90 | 106.50 | 108.20 |
| | Real en-route determined costs | 92,318 | 91,644 | 183,962 | 94,667 | 94,956 | 95,746 |
| | Total en-route Service Units (000) | 803 | 950 | 1,753 | 1,415 | 1,610 | 1,775 |
| | Real (EUR 2017) en-route DUC | 114.98 | 96.50 | 104.97 | 66.92 | 58.97 | 53.93 |
| Cost efficiency KPI #3: Terminal DUC Spain (*) | Nominal terminal determined costs | 95,965 | 104,577 | 200,542 | 103,842 | 104,879 | 105,254 |
| | Inflation index (base 2017) | 102.50 | 103.60 | - | 104.90 | 106.50 | 108.20 |
| | Real terminal determined costs | 93,857 | 101,331 | 195,188 | 99,508 | 99,224 | 98,238 |
| | Total terminal Service Units (000) | 350 | 497 | 847 | 841 | 880 | 924 |
| | Real (EUR 2017) terminal DUC | 268.28 | 203.81 | 230.44 | 118.36 | 112.71 | 106.28 |

(*) Considering: Gran Canaria (GCLP), Josep Tarradellas Barcelona-El Prat (LEBL), Adolfo Suárez Madrid-Barajas (LEMD), Málaga-Costa del Sol (LEMG), Palma de Mallorca (LEPA), Alicante-Elche (LEAL), Ibiza (LEIB).

The targets set in the draft performance plan in 2019 were as shown in the table below:

| Cost-Efficiency Targets – Spain National level | | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|-------------------------------------|---------|---------|---------|---------|---------|
| Cost efficiency KPI #1: En-route DUC Spain – Continental | Nominal en-route determined costs | 669,403 | 672,463 | 688,501 | 700,876 | 708,897 |
| | Inflation index (base 2017) | 104.6 | 106.3 | 108.4 | 110.4 | 112.5 |
| | Real en-route determined costs | 646,698 | 641,706 | 647,372 | 650,106 | 648,193 |
| | Total en-route Service Units (000) | 12,172 | 12,436 | 12,709 | 12,937 | 13,166 |
| | Real (EUR 2017) en-route DUC | 53.13 | 51.60 | 50.94 | 50.25 | 49.23 |
| Cost efficiency KPI #2: En-route DUC Spain - Canarias | Nominal en-route determined costs | 102,770 | 104,202 | 107,771 | 110,682 | 112,885 |
| | Inflation index (base 2017) | 104.6 | 106.3 | 108.4 | 110.4 | 112.5 |
| | Real en-route determined costs | 99,314 | 99,444 | 101,356 | 102,674 | 103,182 |
| | Total en-route Service Units (000) | 2,060 | 2,115 | 2,171 | 2,223 | 2,277 |
| | Real (EUR 2017) en-route DUC | 48.21 | 47.02 | 46.69 | 46.19 | 45.31 |
| Cost efficiency KPI #3: Terminal DUC Spain (*) | Nominal terminal determined costs | 110,835 | 109,095 | 114,147 | 117,534 | 119,368 |
| | Inflation index (base 2017) | 104.6 | 106.3 | 108.4 | 110.4 | 112.5 |
| | Real terminal determined costs | 106,464 | 103,311 | 106,257 | 107,665 | 107,513 |
| | Total terminal Service Units (000) | 9978 | 1,021 | 1,043 | 1,062 | 1,081 |
| | Real (EUR 2017) terminal DUC | 106.69 | 101.18 | 101.84 | 101.40 | 99.46 |

(*) Considering: Gran Canaria (GCLP), Josep Tarradellas Barcelona-El Prat (LEBL), Adolfo Suárez Madrid-Barajas (LEMD), Málaga-Costa del Sol (LEMG), Palma de Mallorca (LEPA), Alicante-Elche (LEAL) and Ibiza (LEIB), excluding from the latter two the costs of services subject to market conditions.

1.3 STRUCTURE OF THIS DOCUMENT

This document is structured as follows:

- Chapter 2 sets out an introduction of the Spain Reviewed Performance Plan for RP3, including a brief description of the scope and economic and traffic assumptions for this period.
- Chapters 3, 4, 5, 6 introduce the reviewed targets proposals in respect of Safety, Environment, Capacity and Cost-Efficiency, including, where appropriate financial incentives.
- Chapter 7 addresses the interdependencies and possible trade-offs.
- Chapter 8 sets out the risk sharing and revision mechanism for RP3.
- Chapter 9 introduces details on the modification of the terminal charging zone.
- Chapter 10 focuses on Cross border initiatives and SESAR implementation strategies.
- Chapter 11 describes the processes to monitor the implementation of the Performance Plan.
- Chapter 12 provides an overview of the results of the consultation process.

2. INTRODUCTION

2.1 PURPOSE OF THE ESPP3

The purpose of the 2020-2024 Spain Performance Plan (ESPP3) is to establish the high-level performance targets for the Air Navigation Services provided in Spain within the scope of the plan and set out the guidelines for the action plan to meet them. This has to be done in consistency with the Performance and Charging Regulation (Regulation (EU) N° 2019/317), the exceptional measures set by the Commission in Regulation (EU) N° 2020/1627 and with the *Commission Implementing Decision (EU) 2021/891 of 2 June 2021 setting revised Union-wide performance targets for the air traffic management network for the third reference period (2020-2024) and repealing Implementing Decision (EU) 2019/903*.

2.2 REGULATORY FRAMEWORK

The ESPP3 (Spain Performance Plan for RP3) is encompassed within the framework of the European ANS Performance Scheme. The Performance Scheme is a Single European Sky initiative aimed at improving the performance of the air navigation services and network functions in Europe through:

- The establishment of European-wide targets in four key performance areas: Safety, Environment, Capacity and Cost-Efficiency.
- The elaboration of performance plans at national or FAB level, consistent with and adequately contributing to the EU-wide targets.
- Periodic monitoring, review and assessment of performance.

The principles of the Performance Scheme are established in the SES Framework Regulation (Regulation (EC) 549/2004). The detailed requirements for RP3 are contained in an implementing regulation published in February 2019:

- Performance and Charging Regulation: Commission Implementing Regulation (EU) 2019/317 laying down a performance and charging scheme for air navigation services and framework functions, repealing implementing Regulations (EU) N° 390/213 and 391/2013 that covered the Second Reference Period.

This regulation requires NSAs to draw up Performance Plans, at national or FAB level, including targets in a gate-to-gate perspective, and adopt them after consultation with relevant stakeholders. The legal framework establishes a link between performance targets and the charging scheme, through mandatory financial incentives for Capacity and Cost-Efficiency.

During the Second Reference Period, the Performance Plan (SOWEPP) was applicable at FAB level after being elaborated by the Portuguese and Spanish authorities. Nevertheless, for RP3, Portugal and Spain have decided to develop the performance plan at National level.

Due to the COVID-19 pandemic that led to a sharp drop in air traffic created an exceptional situation which needed to be addressed with specific measures. Those measures were specified in the Commission Implementing Regulation

- Commission Implementing Regulation (EU) 2020/1627 on exceptional measures for the third reference period (2020-2024) of the Single European Sky performance and charging scheme due to the COVID-19 pandemic.

This regulation empowered the Commission to set revised Union-wide performance targets for RP3 and the special rules to do so. This process was finished with the publication of the *Commission Implementing Decision (EU) 2021/891 of 2 June 2021 setting revised Union-wide performance targets for the air traffic management network for the third reference period (2020-2024) and repealing Implementing Decision (EU) 2019/903*.

2.3 SITUATION AND SCOPE

The Spanish national regulation Ley 21/2003, de 7 de julio, de Seguridad Aérea (Law No 21/2003, of 7 July, Aviation Safety and Security), sets the framework of accountabilities for the civil, military and meteorological authorities within its Title I. Each entity is responsible for the supervision of the services of its field as specified below according to specific lower-level regulations (Royal Decree):

- The Spanish Civil NSA (AESA-Agencia Estatal de Seguridad Aérea) is responsible for the supervision of the civil air navigation services provision, except meteorological ones Real Decreto 184/2008, de 8 de febrero (Royal Decree 184/2008).
- The Spanish Meteorological NSA (ANSMET within MITERD – Ministerio para la Transición Ecológica y Reto Demográfico) is responsible for the supervision of the meteorological services provision Real Decreto 500/2020, de 28 de abril (Royal Decree 500/2020).
- The Spanish Military NSA (NSA-EA – Ejército del Aire) is responsible for the supervision of the military air navigation services provision.

In addition, the Spanish Civil NSA – AESA is responsible for integrating the different contributions and drawing up the Spain Performance Plan for the Third Reference Period (ESPP3). The RP3 Spain Performance Plan (ESPP3) covers:

- The en-route air navigation services provided in the Barcelona, Canarias, and Madrid Flight Information and Upper Information Regions (FIR/UIR). In the Spanish charging scheme, two charging zones are considered, Continental and Canary Island.
- The terminal air navigation services provided at airports in Spain with more than 80,000 instrument flight rules (IFR) air transport movements per year: Adolfo Suárez Madrid-Barajas (LEMD), Josep Tarradellas Barcelona-El Prat (LEBL), Palma de Mallorca (LEPA), Málaga-Costa del Sol (LEMG), Gran Canaria (GCLP), Alicante – Elche (LEAL) and Ibiza (LEIB). The latter was included under the expectation to overpass the threshold during RP3. Those airports are related to a single charging zone.

The performance regulation requires that national targets are consistent with EU-wide targets. In addition, target setting on Cost-Efficiency applies to the determined costs established in Article 15(2)(a) and (b) of Regulation (EC) No 550/2004. Consequently, the scope of the plan covers all the accountable entities for determined costs of en-route air navigation services financed through en-route charges imposed on the users of air navigation services, in accordance with the provisions of the Performance and Charging Regulation (2019/317).

Accordingly, the list of accountable entities within the scope of the ESPP3 is set out below:

- AESA (Agencia Estatal de Seguridad Aérea): Spanish Civil NSA and national responsible coordinator for integrating the different contributions and drawing up the Performance Plan.
- ENAIRE: En-route and terminal ANSP in Spain, CNS, ATS and AIS service provider.
- AEMET (Agencia Estatal de Meteorología): MET services provider in Spain.
- ANSP-EA: costs of the Spanish Air Forces (Ejército del Aire) associated to the provision of air navigation services.
- FerroNATS: a private aerodrome control service provider for Alicante – Elche and Ibiza airports under market conditions.

- NSA-EA: costs of the Spanish Air Forces (Ejército del Aire) associated to supervision, Spanish Military National Supervisory Authority.
- ANSMET (Autoridad Nacional de Supervisión Meteorológica): costs associated to the supervision of MET services in Spain, Spanish Meteorological National Supervisory Authority.

In addition, it has to be considered that at National level, Eurocontrol costs are financed by en-route charges as well.

2.4 **MACRO-ECONOMIC SCENARIO AND OVERALL ASSUMPTIONS**

2.4.1 **ECONOMIC ASSUMPTIONS**

The inflation forecasts considered in the development of the ESPP3 cost-efficiency data are included within the table below. Actual data are source Eurostat HICP, and forecasts are in line with those of the International Monetary Fund (IMF).

In addition, GDP forecasts for Spain are included to provide a view of the economical context in which ESPP3 shall be implemented. GDP actual data and forecasts are in line with those of the IMF (World Economic Outlook Database, April 2021):

| Economic Assumptions | | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|-----------------------------|---------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Inflation | Spain % | 2.00 | 1.70 | 0.8 | -0.03 | 1.023 | 1.28 | 1.523 | 1.596 |
| GDP (growth rate) | Spain % | 2.983 | 2.529 | 2.0 | -10.8 | 6.38 | 4.70 | 2.79 | 2.43 |

Source: IMF April 2021 World Economic Outlook.

2.4.2 **TRAFFIC ASSUMPTIONS**

2.4.2.1 **IFR Flights – En-route**

Traffic forecasts for Spain in the ESPP3 in terms of IFR flights are in line with those published by STATFOR in October 2021 (scenario base) and are set out within the table below:

| IFR Flights | | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------------------|--------------------|-------------|-------------|-------------|-------------|-------------|
| Spain Continental | Flights (000) | 780 | 1078 | 1,819 | 1,888 | 2,006 |
| | Annual variation % | -61.0% | 38.0% | 69.0% | 3.8% | 6.2% |
| Spain Canarias | Flights (000) | 172 | 214 | 324 | 334 | 353 |
| | Annual variation % | -52.0% | 24.0% | 52.0% | 3.0% | 5.7% |
| Spain Overall | Flights (000) | 854 | 1170 | 1,939 | 2,017 | 2,139 |
| | Annual variation % | -60.0% | 37.0% | 66.0% | 4.0% | 6.1% |

Source: STATFOR EUROCONTROL Seven-Year Forecast October 2021, scenario base.

2.4.2.2 IFR Flights – Terminal and Airport

Airport traffic forecasts for Spanish airports have been estimated by STATFOR, in consistency with the forecasts submitted on October 2021 (scenario base):

| IFR arrival movements at airports | | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|---------------------|--------|-------|-------|------|------|
| LEMD: Adolfo Suárez Madrid-Barajas | Arrival movs, (000) | 83 | 122 | 186 | 194 | 202 |
| | Annual variation % | -61.1% | 46.8% | 52.7% | 4.2% | 4.6% |
| LEBL: Josep Tarradellas Barcelona-El Prat | Arrival movs, (000) | 61 | 96 | 157 | 163 | 171 |
| | Annual variation % | -64.4% | 56.7% | 63.7% | 3.7% | 5.2% |
| LEPA: Palma de Mallorca | Arrival movs, (000) | 38 | 59 | 103 | 104 | 110 |
| | Annual variation % | -64.8% | 54.9% | 73.7% | 1.5% | 5.2% |
| LEMG: Málaga-Costa del Sol | Arrival movs, (000) | 28 | 37 | 66 | 67 | 70 |
| | Annual variation % | -59.6% | 29.5% | 79.2% | 1.0% | 4.8% |
| GCLP: Gran Canaria | Arrival movs, (000) | 33 | 40 | 58 | 59 | 61 |
| | Annual variation % | -47.4% | 23.0% | 45.4% | 1.3% | 3.5% |
| LEAL: Alicante - Elche | Arrival movs, (000) | 19 | 24 | 46 | 48 | 51 |
| | Annual variation % | -63.4% | 28.7% | 92.8% | 3.7% | 7.0% |
| LEIB: Ibiza | Arrival movs, (000) | 16 | 24 | 35 | 36 | 37 |
| | Annual variation % | -56.9% | 52.1% | 45.7% | 2.0% | 3.9% |

Source: STATFOR on the basis of EUROCONTROL Seven-Year Forecast October 2021, scenario base.

The forecast includes all 7 airports within the scope of the ESPP3: LEMD, LEBL, LEPA, LEMG, GCLP, LEAL and LEIB, which detailed figures were facilitated by STATFOR.

2.4.2.3 En-route Service Units

Traffic forecasts for Spain in the ESPP3 in terms of en-route service units are in line with those published by STATFOR in October 2021 (scenario base) and are set out within the table below:

| Total en-route service units | | 2020 | 2021 | 2022 | 2023 | 2024 |
|------------------------------|--------------------|--------|-------|--------|--------|--------|
| Spain Continental | SUs (000) | 4,437 | 6,370 | 11,190 | 11,638 | 12,421 |
| | Annual variation % | -61.4% | 43.6% | 75.7% | 4.0% | 6.7% |
| Spain Canarias | SUs (000) | 803 | 950 | 1,415 | 1,610 | 1,775 |
| | Annual variation % | -58.8% | 18.3% | 49.0% | 13.8% | 10.3% |

Source: STATFOR EUROCONTROL Seven-Year Forecast October 2021, scenario base.

2.4.2.4 Terminal Service Units

Traffic forecasts for Spain in the ESPP3 in terms of terminal service units are in line with those published by STATFOR in October 2021 (scenario base) and are set out within the table below:

| Total terminal service units | | 2020 | 2021 | 2022 | 2023 | 2024 |
|------------------------------|--------------------|--------|-------|-------|------|------|
| Spain TCZ (*) | SUs (000) | 350 | 497 | 841 | 880 | 924 |
| | Annual variation % | -63.1% | 42.1% | 69.1% | 4.7% | 5.0% |

Source: STATFOR on the basis of EUROCONTROL Seven-Year Forecast May 2021, scenario base.

(*) Terminal Charging Zone defined for 7 Airports: GCLP, LEBL, LEMD, LEMG, LEPA, LEAL and LEIB.

2.5 PROCESS TO COMPLETE ESPP3

This updated draft performance plan is the result of the adaptation of the plan submitted by Spain on 1st October 2021 consulted with stakeholders in an online multilateral stakeholder meeting on the 30th of July, in line with the findings raised by the EC on its verification of completeness sent on 27th October.

Comments received as a result of the written and virtual consultation have been analysed and considered in the final version of the updated draft. Feedback is available in the Appendix to this document so that the comments submitted can be traced with the content of the final Draft ESPP3.

After those steps have been taken, the ESPP3 shall follow the formal approval procedures in time for submission to the European Commission by mid-November 2021.

Further information on consultation arrangements and next steps can be found in chapter 12- Public Consultation.

3. SAFETY

3.1 INTRODUCTION

Safety is one of the utmost objectives under the Performance scheme, and Member States focus their attention on this key performance area when developing the Performance Plans, Safety remains the highest priority for air traffic management despite the pandemic situation.

In this sense, the State and in particular the Spanish NSA (AESA) has a primary duty in order to maintain the highest standards of safety in the provision and management of the air traffic services.

Therefore, this chapter presents the requirements under the performance regulation taking on board the safety key performance area, setting out the related key performance indicator (KPI).

3.2 SES REQUIREMENTS

Regarding the Safety key performance area (KPA), the Performance and Charging Regulation (EU) 2019/317 requires targets to be set at national or FAB level on the related KPI set out below:

- The effectiveness of safety management to be achieved by air navigation service providers, certified to provide air traffic services.

Targets for this KPI are set at EU-wide level, as established in *Commission Implementing Decision (EU) 2021/891 of 2 June 2021*. In this sense, these performance targets should take account of actual and targeted performance in the second reference period and go beyond minimum compliance with the requirements for the elements of the safety management system.

3.2.1 LEVEL OF EFFECTIVENESS OF SAFETY MANAGEMENT (EOSM)

The Performance and Charging Regulation (EU) 2019/317 establishes that the performance plans shall set binding national performance targets against a KPI, Effectiveness of Safety Management (EoSM). This KPI measures the level of implementation of the following components:

- a) Safety policy and objectives.
- b) Safety risk management.
- c) Safety assurance.
- d) Safety promotion.
- e) Safety culture.

The Commission published Supporting Material-RP3 Safety (K)PI Part (A), (B) and (C) available since Q3 2020 EoSM indicators are based on the questionnaires established by Supporting Material – RP3 Safety (K)PI Part (C).

Regarding the *Commission Implementing Decision (EU) 2021/891 of 2 June 2021*, the Union-wide performance targets in the key performance area of safety maintain the same level as previous EC Decision “*Commission Implementing Decision (EU) 2019/903 of 29 May 2019*” despite the pandemic situation. Those targets have to be achieved at the end of 2024 by air navigation service providers certified to provide services are set at the following levels of effectiveness of safety management:

- a) At least level C in the components “safety culture”, “safety policy and objectives”, “safety assurance” and “safety promotion”.
- b) At least level D in the component “safety risk management”.

According to the information verified by AESA by the end of 2020:

One of the ANSP within the performance scheme has already started RP3 at the maximum maturity level D in all the five EoS Components, this being a conditioned result by the continuation of compliance with the requirements associated with the maximum level by the end of the period. The other ANSP has obtained a level C in all the five Components, thus fulfilling the objective consider for the first year into the period of reference.

With due consideration to the EU-wide goals, the Spain Performance Plan targets are set out below for the en-route provider ENAIRE, since the targets for the private aerodrome control service provider are set in chapter 9:

| Safety KPI #1: Level of Effectiveness of Safety Management – EoS | | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|----------------------------------|------|------|------|------|------|
| Union-wide Targets | Safety Risk Management Component | - | - | - | - | D |
| | For all other Components | - | - | - | - | C |
| Spain en-route Targets (ANSP ENAIRE) | Safety policy and objectives | C | C | C | C | C |
| | Safety risk management | C | C | C | C | D |
| | Safety assurance | C | C | C | C | C |
| | Safety promotion | C | C | C | C | C |
| | Safety culture | C | C | C | C | C |

Among the key actions supporting the maintenance of the achieved targets, the following are highlighted:

- Human Performance area: consolidation of human factor as the primary element in Safety.
- Study and definition of the questionnaire model of the next general safety survey to be used in RP3, as well as establishment of the period in which the survey will be carried out.
- Innovation and Digitalization: Implementation of the “Digital Sky” strategic plan with the progressive modernization of the Communication, Navigation and Surveillance.
- Continue to carry out periodic reviews of the safety policy and actively compare it with the rest of the ANSPs.
- Reinforcement of the ENAIRE Safety Culture: Just Culture Policy will continue evolving and a new Safety Culture measure will be planned. Maintain the periodic review process (until 2025) of accountabilities and responsibilities to check their effectiveness throughout RP3.
- Continue performing an impact assessment/evaluation of the impact of the good and best practices learned adopted by the organization.

Continuous adaptation to the new normality with online sessions and virtual workshops to maintain the increase of dissemination and awareness about Safety. Implementation, promotion and exportation of NOM (Normal Operations Monitoring).

3.2.2 PERFORMANCE INDICATORS FOR MONITORING

Regarding Regulation (EU) 2019/317, Annex 1, Section 2, 1.2, there are five safety performance indicators that will be monitored during RP3, calculated for the whole calendar year and for each year of the reference period:

- a) The rate of runway incursions at airports located in a Member State.

- b) The rate of separation minima infringements within the airspace at all controlling air traffic services units in a Member State.
- c) The rate of runway incursions at an airport calculated as the total number of runway incursions with any contribution from air traffic services (ATS) or Communication, Navigation and Surveillance (CNS) services with a safety impact that occurred at that airport divided by the total number of IFR and VFR movements at that airport. The ANSP, as coordinated with NSA, applies the indicator to GCLP, LEBL, LEMD, LEMG and LEPA and presents it broken down by dependency.
- d) The rate of separation minima infringements within the airspace where the ANSP provides ATS, calculated as the total number of separation minima infringements with any contribution from ATS or CNS services with a safety impact divided by the total number of controlled flight hours within that airspace. The ANSP, as coordinated with NSA, applies the indicator to GCCC, LECB, LECL, LECM, LECP, LECS y LEMG and presents it aggregated for all the dependencies considered.
- e) Where applicable, the use of automated safety data recording systems by ANSPs as a component of their safety risk management framework.

AESA shall monitor and report on these performance indicators to the Commission in compliance with the Performance and Charging Regulation (EU) 2019/317.

4. ENVIRONMENT

4.1 INTRODUCTION

The Performance and Charging Regulation (EU) 2019/317 measures environmental performance in terms of horizontal flight efficiency, as an indicator that can be traced with pollution. In the short-term, horizontal flight efficiency can be improved through the tactical decisions provided by the air traffic controllers, such as direct routings. In the long-term, improvements can be pursued through changes in airspace design and management to provide more efficient flight trajectories and strengthening civil-military cooperation and coordination specially in the implementation of the flexible use of airspace (FUA).

Therefore, this chapter presents the requirement under the Performance Regulation taking on board the environment key performance area, setting out the related key performance indicator (KPI).

4.2 SES REQUIREMENTS

The Performance Regulation establishes one environment KPI: the horizontal en-route flight efficiency of the actual trajectory (KEA), applicable at National level. The KEA is defined as:

- The comparison between the length of the en-route part of the actual trajectory derived from surveillance data and the achieved distance, summed over all IFR flights within or traversing the local airspace.
- 'En-route' refers to the distance flown outside a circle of 40 NM around the airports.
- Where a flight departs from, or arrives at, an airport outside the local airspace, only the part inside the local airspace is considered.
- Where a flight departs from, and arrives at, an airport inside the local airspace and crosses a non-local airspace, only the part inside the local airspace is considered.
- 'Achieved distance' is a function of the position of the entry and exit points of the flight into and out of the local airspace.

The indicator is calculated for the whole calendar year and for each year of the reference period, as an average. When calculating this average, the ten highest daily values and the ten lowest daily values are excluded from the calculation.

4.2.1 HORIZONTAL EN-ROUTE FLIGHT EFFICIENCY (KEA)

The EU-wide target is to reach an average of horizontal en-route flight efficiency of at least 2.40 % in 2024 for the actual trajectory, as defined in the Performance Regulation (KEA), according to the Commission Implementing Decision (EU) 2021/891 of 2 June 2021 on European-wide targets.

Spain is committed to environmental sustainability and has recorded good results and significant improvement in the environment key performance area during RP2, exceeding the initially expected and allocated contribution to the achievement of the FAB RP2 target.

It is recognised that, at the time when the RP2 targets were set, there was limited understanding on the factors influencing the KEA KPI. Nevertheless, the improvement achieved during RP2 is 3.7% achieved mainly the latest years of the period. The first year of RP3, 2020, has represented an improvement in the indicator, decreasing to a value until 3.11%. This 15% improvement over the previous year was mainly due to the drastic reduction in traffic as a result of the COVID-19 pandemic. This has led, on the one hand, to manage a higher number of "direct to" authorizations and, on the other hand, to improve horizontal efficiency as a consequence of the suspension since April 2020 of RAD restrictions which, when active, in some cases contribute to the use of longer routes.

The understanding of the underlying factor affecting KEA has been significantly improved. Analysis has revealed that main factors affecting the worsening of KEA last years of RP2 have been:

- Prohibited, Restricted and Danger Areas and other reserved airspace where modularity, Variable Profile Areas and Dynamic mobile Areas are to be implemented.
- Lack of more direct routes including lack of CDRs aligned with the main flows of traffic.
- Unclear European guidelines in the use of tactical DCTs (route efficiency versus ATFCM predictability).
- Use of released airspace (CURA figures are low).
- National RAD restrictions.
- European Network RAD restrictions and foreign military areas close to our borders.
- TMA holdings attributed to the route inefficiency.
- Airlines planning for cheapest route vs. shortest route.

Therefore, in order to continue improving the KEA indicator, it is essential the intervention of all actors involved in Spanish air navigation.

Considering the EU-wide targets and the reference values provided by the Network Manager and published by the European Commission in the ESSKY portal, the ESPP3 targets are listed below:

| Environment KPI #1: Horizontal en-route flight efficiency (KEA) | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|--------------|--------------|--------------|--------------|--------------|
| Union-wide targets | 2.53% | 2.37% | 2.37% | 2.40% | 2.40% |
| Spain Targets | 3.23% | 3.08% | 3.08% | 3.08% | 3.08% |

The final result of KEA in 2020 (3.11%) which represents a 15% improvement compared with the last year of RP2, as it has been described before, and has facilitated the implementation of operational and structural measures that have led to the improvement in horizontal efficiency.

At EU level, the overall assumption is that the main driver to obtain significant flight efficiency improvements is free route airspace (FRA). Consequently, it is assumed that from 2022 onwards no additional benefits are expected since FRA will be fully implemented in most countries.

At National level, Spain is expected to have an improvement curve with a different profile from that of the European Union. For Spain, improvements in horizontal efficiency will benefit from the effective implementation of the Flexible Use of Airspace (FUA) that will lead to a better airspace design and management. Combination of improvements in FUA and FRA will provide better benefits, Civil-military coordination in this process is considered fundamental. The required coordination and deployment of the ATC tools required to achieve full FRA will necessarily take time and so the benefit will only become at the end of the RP3 period, in 2023-2024.

In the case of Spain, considering the reasons for flight inefficiency, current performance and the planned dates of measures foreseen, progressing towards the targets based on the reference values provided by the NM will require the contribution and coordination of the organisations involved at State level.

Combined operation of Flexible Airspace Management and Free Route, will enable all airspace users to fly as closely as possible to their preferred trajectory, hence will improve KEA. In particular, the following topics must be addressed in order to obtain the expected benefits:

- Offering greater choice of route options.
- Greater flexibility to respond to short notice military operational requirements for existing or additional portion of airspace.
- Provision of proactive route activation/airspace reservation or restriction allocation through a collaborative decision-making process to accommodate short-term changes in routings and civil/military demands, in coordination with airspace reservation or restriction request adjusted to match the military training and operation profile.

In order to establish the processes exploiting the airspace in a dynamic manner, permitting the users flight as close as possible to the preferred trajectory (including military activity), a set of actions are listed in the following section about The Flight Efficiency Plan.

4.2.1.1 Flight Efficiency Plan

In order to achieve the established KEA targets during RP3, all operational stakeholders agree that a State level collective work is needed.

Among the key actions supporting the achievement of the targets, the following have been identified as the main contributors (namely with safety and capacity areas) to the accomplishment of this Plan:

Facilitating actions (2020-2024):

- Single CDR implementation plan, SSC Transition Plan has the objective of using only one type of Conditional Route, improving ASM procedures and optimizing the use of airspace.
- Pilot project for the management of Airspace based on structures and FUA procedures, It is a project with civil-military coordination to improve the use of airspace and associated procedures, from both points of view, civil and military, starting from specific dangerous areas and working in CDM (Collaborative Decision Making) processes.
- Strengthening of the three levels of civil military ASM coordination:
 - ASM Level 1: definition of new structures, and procedures and assessment of both existing and new ones, revision of users requirements, define temporary airspace structures and procedures to offer multiple airspace reservation and route options, including the creation and use of adjustable lateral and vertical limits of airspace to accommodate different flight paths and changes of flights.
 - ASM Level 2: strengthen of the AMC, development of clear and flexible working procedures and efficient use of ASM tools.
 - ASM Level 3: improve mutual provision of information about current status of the airspace, including activation, deactivation or reallocation to allow tactical coordination to better use of airspace released in real time. Development of coordination procedures to ensure safe flexible interaction between civil and military flights.
- Optimized use of the new RAD measures (delay vs efficiency trade-off analysis) / Dynamic RAD: assessment of new RAD measures in terms of delay vs flight efficiency. Participation in trials/CDM processes introduced by NM.

Short-term actions (2020-2022):

- Encourage use of DCT in tactical phase (as long as it is in line with European advice -efficiency vs predictability-).
- Start communications between Spanish ANSP and the European entities to adjust the following calculation criterion within the ASMA and KEA indicators algorithm: count the ASMA time from the first entry into the 40 NM cylinder, instead of the last one. In this way, the distance flown in the holding circuits that cross the cylinder (e.g. Madrid TMA) would be imputed as approach inefficiency instead of en-route inefficiency, as is currently done.
- Implementation of independent parallel approaches in Adolfo Suárez Madrid-Barajas – LEMD, to increase capacity and efficiency in Madrid TMA, and thus reduce holdings which affect KEA.

Long-term actions (2023-2024):

- Identification of strategic flows for global cost-benefit optimization, using data analysis of flight plans and real trajectories flown for the past years.

- Routes improvement in the context of Free Route and Bricks¹ Project implementation: Free Route implementation will allow the use of close to optimal trajectories, whereas Bricks project will permit a better demand / capacity tailoring avoiding re-routings thus trajectories inefficiencies.
- Capacity improvements which will reduce the potential need of re-routings in both Canarias and Barcelona airspaces.

The actions to be implemented in order to improve the horizontal en-route flight efficiency are part of a Flight Efficiency plan, in particular as part of the “European Route Network Improvement Plan” (ERNIP). In this context, the contribution to the national targets at this stage is estimated to come mainly from the following projects:

| Environment: Projects with positive impact on flight efficiency | | | | | |
|---|------|------|------|------|------|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| Changes in CDR | | | | | |
| Independent parallel approaches LEMD | | | | | |
| New Canarias TMA organisation | | | | | |
| FRA implementation | | | | | |
| Canarias ACC sector Split (NE sector) | | | | | |
| BAS sector split-Barcelona ACC | | | | | |
| FUA measures – Civil Military coordination | | | | | |

The State level collective work referred to in section 4.2.1 above, is required to deliver the projects in the table to the extent where the KEA targets can be achieved, in particular when it comes to FUA and Free Route Airspace.

There are signs of potential re-routing measures being needed at network level, in the short term, due to foreseen system changes in France and Portugal, which could affect Spain results in KEA. The potential effect at local level is still unknown.

4.2.2 PERFORMANCE INDICATORS FOR MONITORING

There are eight environment performance indicators that will be monitored during RP3:

- The average horizontal en-route flight efficiency of the last filled flight plan trajectory.
- The average horizontal en-route flight efficiency of the shortest constrained trajectory.
- The additional time in the taxi-out phase.
- The additional time in terminal airspace.
- The share of arrivals applying Continuous operation (CDO).
- The effective use of reserved or segregated local airspace, calculated as the ratio of the initial requested allocated time for reservation or segregation from general air traffic, and the final allocated time used for the activity requiring such segregation or reservation. The indicator is calculated for all airspace allocations notified to the Network Manager.
- The rate of planning via available local airspace structures, including reserved or segregated airspace and conditional routes, for general air traffic calculated as the ratio of aircraft filing flight plans via such airspace structures and the number of aircraft that could have planned through those airspace structures.
- The rate of using available local airspace structures, including reserved or segregated airspace, conditional routes, by general air traffic calculated as the ratio of aircraft flying via such airspace structures and the number of aircraft that could have planned through these airspace structures.

AESA shall monitor and report on these performance indicators to the Commission in compliance with the Performance and Charging Regulation (EU) 2019/317.

¹ Bricks project envisages multiple layers sector definition and configuration in order to better adapt available capacity to demand

5. CAPACITY

5.1 INTRODUCTION

The Performance and Charging Regulation (EU) 2019/317 measures capacity performance in terms of ATFM delays, as an indicator for traffic flows optimization according to air traffic control capacity while enabling airlines to operate safely and efficiently.

Capacity can be increased through technological improvements that support airspace modernisation, Nevertheless, any change made to operational systems will require the utmost attention to ensure safety and service continuity.

The targets included had to be updated from the values indicated in the 2019 version of the Performance Plan (ESPP3-2019), as a consequence of the impact of the COVID-19 pandemic worldwide.

According to regulation 2020/1627 of 3 November 2020, the incentive scheme will not be applicable for the years 2020 and 2021 and it is necessary to update the version of the performance plan developed in 2019 according to the current situation, the new traffic forecasts and the new targets in the capacity area.

After the drop in traffic due to COVID-19 pandemic, there is not an immediate pressure focus on increasing capacity, but on providing scalability, flexibility and resilience for service provision. This flexibility in terms of capacity means that ANSPs should offer sufficient capacity to meet actual and expected demand and be prepared for continuous uncertainties and variations in it.

The main goal must be to implement technological improvements that support airspace modernisation in order to respond to changes in demand putting capacity where and when it is needed. Always paying the utmost attention to ensure safety and service continuity.

Therefore, this chapter presents the requirement under the performance regulation taking on board the capacity key performance area, setting out the related key performance indicator (KPI).

5.2 SES REQUIREMENTS AND CAPACITY KPIS

The Performance Regulation requires targets to be set on the KPIs set out below:

- The average minutes of en-route ATFM delay per flight.
- The average minutes of arrival ATFM delay per flight attributable to terminal and airport air navigation services and caused by landing restrictions at the destination airport.

The Charging scheme also requires Member States to adopt financial incentives for their air navigation service providers in the key performance area of capacity.

5.2.1 EN-ROUTE ATFM DELAY PER FLIGHT

The Performance scheme requires that the en-route capacity target is set at National level. The en-route capacity KPI is the average minutes of en-route ATFM delay per flight, defined as:

- The en-route ATFM delay, that is, the delay calculated by the Network Manager, expressed as the difference between the estimated take-off time and the calculated take-off time allocated by the Network Manager.
- Covering all IFR flights traversing the local airspace and all ATFM delay causes, excluding exceptional events.
- Calculated for the whole calendar year and for each year of the reference period.

By the end of each year, the result of the post ops process carried out by the Network Manager, shall be taken into consideration in the final figure of the KPI.

The EU-wide target for RP3 is an average en-route air traffic flow management (ATFM) delay per flight of no more than 0.50 minutes per flight at the end of 2024, according to the Commission Implementing Decision (EU) 2021/891 of 2 June 2021 on European-wide targets.

Considering the EU-wide target and the reference values for Spain, provided by the by the Network Manager and published by the European Commission in the ESKY portal in June 2021, not being available any modification of the reference values at the time of this update, the ESPP3 en-route capacity targets remains the same value as indicated in the previous draft, and are shown in the table below:

| Capacity KPI #1: En - route ATFM delay per flight | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|------|------|------|------|------|
| Union-wide targets | 0.90 | 0.35 | 0.50 | 0.50 | 0.50 |
| Spain Targets | 0.47 | 0.12 | 0.20 | 0.19 | 0.19 |

After the 2020 monitoring led by AESA, if all the -en-route delay minutes generated in 2020 are considered, the ERD indicator would be 0.40 with a global value of 338k minutes of delay, 77% of which have been exclusively to O-COVID-19. On the other hand, if those O-COVID-19 minutes are not taken into consideration the ERD reach a value of 0.09. Further explanations and details are given in Annex C.

The achievement of these targets in 2023 and 2024 is based on the following:

- Provision of flexibility in terms of capacity to meet expected demand through the implementation of the ENAIRE Capacity Plan (Plan de Vuelo 2025).
- Implementation of processes to better manage weather obtained either from improvements in forecasts accuracy or from better procedures and coordination, taking into account the incertitude of the evolution of local climatic conditions.

5.2.1.1 En-Route Capacity Plan

After the decline in traffic demand caused by COVID-19 crisis, capacity is not expected to be a constraint for the coming years, therefore efforts should be directed to achieve scalability and resilience. ENAIRE’s strategic Plan “Plan de Vuelo 2025” (or “Flight Plan 2025”) focus on investment of new technologies and, in parallel, on the gradual implementation of measures aimed at the improvement of constraint areas that would become an issue when traffic returns by 2023/2024.

The Capacity Plan associated to the accomplishment of the Spanish targets has been coordinated with the Network Manager and most of the measures will be included in the Network Operations Plan. Please note that at the time of this update of the revised ESPP3, the Network Operations Plan is starting the 2022-2023 cycle. A summary of such plans at ACC level, expected to provide contributions to capacity, is drafted below. The annual number of ATCOs in Ops reflected in the tables is an initial estimation made with the information currently available.

The ENAIRE’s Capacity Plan is called “Plan de Vuelo 2025”. The Plan includes the following approach:

- **Modernisation of the ATM System.** The evolution of the Spanish ATM system (SACTA-iTEC) will facilitate the entry in service of functionalities as Data-Link Departure Clearance (D-DCL), Wake Vortex Re-categorisation (RECAT), Time Based Separation (TBS), extended Arrival Manager (AMAN), OSF, Medium Term Conflict Detection (MTCD), integration of Mode S, Complexity Manager, etc.
- **Adverse Meteorology.** A better coordination and new tools will improve the accuracy of meteorological forecasts, and improved processes will minimize the impact of adverse weather conditions on the operation. Management mechanisms with users and clients will be reinforced and active contribution of the meteorological provider will be assured with its presence in the dependencies.

- **Capacity and Quality of Service.** With the objective of providing the most efficient service to the users of the Spanish airspace when traffic demand returns to former levels, this group of measures includes the increase of sector capacities, the optimisation of arrivals, the improvements of the operations mode, flow management measures, interfaces, etc.
- **Efficiency measures.** The evolution of technology will facilitate new operation modes and the adoption of measures that address optimisation of human resources management will be essential to comply with the flexible capacity deployment required in this challenging period.
- **Increase of controllers.** ENAIRE initiated by the end of RP2 a recruitment process to compensate the staff reduction suffered along several years of freezing policy, the unexpected traffic growth in the last years and the future challenges. This process continues at a more moderate rate, in order to balance “close to zero” delay objective and costs efficiency.
- **Collective agreement.** Improvement measures, as the increase of efficiency in the rostering process, will be implemented through the negotiation of the new collective agreement for Air Traffic Controllers, which will be in place by the middle of RP3.

Madrid ACC

| Capacity Plan MADRID ACC (LECM) | | | | | |
|--|--|-----------|--|----------------------|-------------------------------------|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| ATCOs in Ops | 415 | 434 | 407 | 386 | 398 |
| Capacity and Quality of Service & Airspace | Optimised sector configuration and sector capacities | | | | |
| | FRASAI interface improvements with Lisboa and Brest | | Free Route Airspace (FRA) | | Cross Border Free Route with Lisboa |
| | | | | Splitting of ZGZ/TER | High Sectors |
| | ATFM Measures | | | | |
| ATM System | SACTA 3.z5.80 | SACTA 4.0 | <ul style="list-style-type: none"> ▪ iTEC 4.1: TTM ▪ iTEC 4.1: Complexity Manager ▪ iTEC 4.1: MTC D ▪ Stripless en-route | | |
| Meteo Plan | New tools and procedures | | Improved coordination & data analysis | | |

Barcelona ACC

| Capacity Plan BARCELONA ACC (LECB) | | | | | |
|--|--|-----------|--|---------------------------|---------------------|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| ATCOs in Ops | 323 | 341 | 350 | 350 | 338 |
| Capacity and Quality of Service & Airspace | Optimised sector configuration and sector capacities | | | | |
| | PBN implementation | | | Free Route Airspace (FRA) | |
| | | | | Splitting of BALSE sector | Marseille interface |
| | ATFM Measures | | | | |
| ATM System | SACTA 3.z5.80 | SACTA 4.0 | <ul style="list-style-type: none"> ▪ iTEC 4.1: TTM ▪ iTEC 4.1: Complexity Manager ▪ iTEC 4.1: MTC D ▪ Stripless en-route | | |
| Meteo Plan | New tools and procedures | | Improved coordination & data analysis | | |

Sevilla ACC

| Capacity Plan SEVILLA ACC (LECS) | | | | | |
|--|--|-----------|--|------|------------------------|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| ATCOs in Ops | 131 | 137 | 132 | 129 | 133 |
| Capacity and Quality of Service & Airspace | Optimised sector configuration and sector capacities | | | | |
| | Splitting of LECSSEV | | Free Route Airspace (FRA) | | Redesign of MAR sector |
| | | | ATFM Measures | | |
| ATM System | SACTA 3.z5.80 | SACTA 4.0 | <ul style="list-style-type: none"> ▪ iTEC 4.1: TTM ▪ iTEC 4.1: Complexity Manager ▪ iTEC 4.1: MTC D ▪ Stripless en-route | | |
| Meteo Plan | New tools and procedures | | Improved coordination & data analysis | | |

Canarias ACC

| Capacity Plan CANARIAS ACC (GCCC) | | | | | |
|--|--|-----------|--|---------------------------|------|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| ATCOs in Ops | 151 | 161 | 164 | 164 | 162 |
| Capacity and Quality of Service & Airspace | Optimised sector configuration and sector capacities | | | | |
| | Improvement NW sectors | | Splitting of NE sector & new cluster | Free Route Airspace (FRA) | |
| | | | Interface with Morocco | | |
| ATFM Measures | | | | | |
| ATM System | SACTA 3.z5.80 | SACTA 4.0 | <ul style="list-style-type: none"> ▪ iTEC 4.1: TTM ▪ iTEC 4.1: Complexity Manager ▪ iTEC 4.1: MTC D ▪ Stripless en-route | | |
| Meteo Plan | New tools and procedures | | Improved coordination & data analysis | | |

Palma ACC

| Capacity Plan PALMA ACC (LECP) | | | | | |
|--|--|-----------|--|------|------|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| ATCOs in Ops | 137 | 128 | 120 | 118 | 121 |
| Capacity and Quality of Service & Airspace | Optimised sector configuration and sector capacities | | | | |
| | | | TMA redesign | | |
| | ATFM Measures | | | | |
| ATM System | SACTA 3.z5.80 | SACTA 4.0 | <ul style="list-style-type: none"> ▪ iTEC 4.1: TTM ▪ iTEC 4.1: Complexity Manager ▪ iTEC 4.1: MTC D ▪ Stripless en-route | | |
| Meteo Plan | New tools and procedures | | Improved coordination & data analysis | | |

5.2.2 ARRIVAL ATFM DELAY PER FLIGHT

The Performance Regulation requires that arrival capacity targets are set at National level with a breakdown at airport level for monitoring purposes. The KPI is the average minutes of arrival ATFM delay per flight attributable to terminal and airport air navigation services and caused by landing restrictions at the destination airport, defined as follows:

- The average generated arrival ATFM delay per inbound IFR flight.
- Covering all IFR flights landing at the destination airport and all ATFM delay causes, excluding exceptional events.
- Calculated for the whole calendar year and for each year of the reference period.

By the end of each year, the result of the post ops process carried out by the Network Manager, shall be taken into consideration in the final figure of the KPI.

There is no EU-wide target on arrival capacity, or any other external reference. Considering local reference, the ESPP3 arrival capacity targets and airport level allocation for Spain are set out below. The reference values per airport are established only for monitoring purposes.

| Capacity KPI #2: Arrival ATFM delay per flight | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|-------------|-------------|-------------|-------------|-------------|
| Spain Target – 7 Airports (*) | 0.91 | 0.44 | 0.66 | 0.57 | 0.57 |
| GCLP – Gran Canaria | 0.34 | 0.18 | 0.22 | 0.22 | 0.22 |
| LEBL – Josep Tarradellas Barcelona-El Prat | 1.68 | 0.84 | 1.40 | 1.20 | 1.20 |
| LEMD – Adolfo Suárez Madrid-Barajas | 0.70 | 0.32 | 0.40 | 0.30 | 0.30 |
| LEMG – Málaga-Costa del Sol | 0.12 | 0.06 | 0.10 | 0.09 | 0.08 |
| LEPA – Palma de Mallorca | 1.40 | 0.66 | 1.00 | 0.90 | 0.90 |
| LEAL – Alicante-Elche (*) | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |
| LEIB – Ibiza (*) | 0.54 | 0.28 | 0.30 | 0.30 | 0.30 |

(*) This global target and reference values for Alicante - Elche and Ibiza add up the volumes were ENAIRE and FerroNATS are the ANSP to make up National and Airport level targets in consistency with the Regulation. However, ANSP scope values are presented separately for ENAIRE (section 5.2.4.1.2, for incentive purposes) and for FerroNATS (Chapter 9, target under market conditions). The Terminal Capacity Plan in section 5.2.2.1 is related to the strategy set up by ENAIRE.

Targets try to reflect an approach consistent with en-routes. The target for 2021 considers lower than usual traffic levels, 2022 reflects a relative recovery in traffic combined with ongoing improvement measures which still are not providing full benefits, expected to materialise towards the end of the period. Unfortunately, the weight of meteorological impact in the airports is still judged as important, although the expectation is to reduce it significantly through better prediction and management.

The targets showed the terminal and aerodrome services provided by ENAIRE at the five largest airports in Spain in terms of traffic, plus the terminal services to Alicante - Elche and Ibiza, where the aerodrome ATS is provided by FerroNATS. Therefore, the delay metrics corresponding to the services provided by the private ANSP are considered separately in chapter 9. Criteria have been adopted in order to distribute each cause of the ATFM Arrival delay minutes between ENAIRE and FerroNATS. As per definition of the indicator, the achievement of the abovementioned targets is responsibility of several actors, namely the airport operator and the air navigation services providers involved. Annex C provides further information on the construction of this target and the criteria used to apportion responsibilities.

In the same way that have described for en-route capacity targets, the arrival capacity target for the year 2020 are those that were proposed for the 2019 draft Performance Plan.

After the 2020 monitoring led by AESA, if all the arrival minutes of delay generated in 2020 are considered, the TAD indicator would be 0.30 with a global value of 82k minutes of delay, 19% of which have been exclusively to O-COVID-19. On the other hand, if those O-COVID-19 minutes are not taken into consideration the TAD indicator would reach a value of 0.24. Further explanations and details are given in Annexes C.

In terms of actions foreseen, the achievement of these targets in 2023 and 2024, is based on the following:

- Provision of flexibility in terms of capacity to meet expected demand through the implementation of the ENAIRE Capacity Plan (Plan de Vuelo 2025).

- Implementation of processes to better manage weather obtained either from improvements in forecasts accuracy or from better procedures and coordination, taking into account the incertitude of the evolution of local climatic conditions.

5.2.2.1 Terminal Capacity Plan

The following main projects have been considered to reduce ATFM arrival delay during RP3:

Adolfo Suárez Madrid-Barajas Airport (LEMD)

| Capacity Plan ADOLFO SUÁREZ MADRID-BARAJAS AIRPORT (LEMD) | | | | | |
|---|--|------|---|---|--|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| Capacity and Quality of Service & Airspace | Increase of LEMD Arrival Capacity | | | Increase of LEMD Departure and Global Capacity Independent parallel approaches in LEMD | Implementation of new Arrival-Departure Window (ADW) |
| ATM System | <ul style="list-style-type: none"> ▪ SACTA-iTEC 4.0 including ▪ Stripless TWR ▪ D-DCL | | SACTA-iTEC 4.1 including: <ul style="list-style-type: none"> ▪ RECAT ▪ TBS Phase1 ▪ AMAN 2.0 | | Stripless TMA |
| Meteo Plan | New tools and procedures | | Improved coordination & data analysis | | |

Josep Tarradellas Barcelona-El Prat Airport (LEBL)

| Capacity Plan JOSEP TARRADELLAS BARCELONA-EL PRAT AIRPORT (LEBL) | | | | | |
|--|--|--|--|------|---------------|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| Capacity and Quality of Service & Airspace | Increase of LEBL Arrival Capacity | ATENEA Project for the improvement of the airport Capacity | | | |
| ATM System | SACTA-iTEC 4.0 including <ul style="list-style-type: none"> ▪ OSF TWR ▪ D-DCL ▪ A-SMGCS-2 | | SACTA-iTEC 4.1 including <ul style="list-style-type: none"> ▪ RECAT ▪ TBS Phase1 ▪ AMAN 2.0 | | Stripless TMA |
| Meteo Plan | New tools and procedures | | Improved coordination & data analysis | | |

Palma de Mallorca Airport (LEPA)

| Capacity Plan PALMA AIRPORT (LEPA) | | | | | |
|--|--|--|--|------|--|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| Capacity and Quality of Service & Airspace | | Increase of LEPA Final Approach Capacity | Increase of LEPA Departure and Global Capacity | | New RNAV-1 Procedures Palma TMA New GMC position LEPA TWR |
| ATM System | SACTA-iTEC 4.0 including <ul style="list-style-type: none"> ▪ OSF TWR ▪ D-DCL ▪ A-SMGCS-2 | | SACTA-iTEC 4.1 including <ul style="list-style-type: none"> ▪ RECAT ▪ TBS Phase1 ▪ AMAN 2.0 | | Stripless TMA |
| Meteo Plan | New tools and procedures | | Improved coordination & data analysis | | |

Malaga-Costa del Sol Airport (LEMG)

| Capacity Plan MALAGA- COSTA DEL SOL AIRPORT (LEMG) | | | | | |
|--|-------------------------------------|------|--|----------------------------|---------------|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| Capacity and Quality of Service & Airspace | | | Increase of LEMG departure and arrival capacity | New RNAV-1 Procedures LEMG | |
| ATM System | SACTA-iTEC 4.0 including ▪ D-DCL | | SACTA-iTEC 4.1 including: ▪ RECAT ▪ TBS Phase1 ▪ AMAN 2.0 ▪ MLAT | | Stripless TMA |
| Meteo Plan | New tools and procedures | | Improved coordination & data analysis | | |

Gran Canaria Airport (GCLP)

| Capacity Plan GRAN CANARIA AIRPORT (GCLP) | | | | | |
|--|--------------------------|------|--|---|---------------|
| Project | 2020 | 2021 | 2022 | 2023 | 2024 |
| Capacity and Quality of Service & Airspace | | | Increase of GCLP Arrival, Departure and Global Capacity | New GCLP SID/STAR RNAV1 in GCTS Improved procedures in GCXO | |
| ATM System | | | SACTA-iTEC 4.0 including ▪ RECAT ▪ TBS Phase1 ▪ AMAN 2.0 ▪ Stripless | | Stripless TMA |
| Meteo Plan | New tools and procedures | | Improved coordination & data analysis | | |

5.2.3 PERFORMANCE INDICATORS FOR MONITORING

There are three capacity performance indicators that will be monitored during RP3:

- a) The percentage of IFR flights adhering to their ATFM departure slots at local level calculated for the whole calendar year and for each year of the reference period.
- b) The average minutes of air traffic control pre-departure delay per flight caused by take-off restrictions at the departure airport, calculated at local level.
- c) The average time, expressed in minutes, of departure delay from all causes per flight, calculated at local level.

AESA will monitor and report on these performance indicators to the Commission in compliance with the Performance and Charging Regulation (EU) 2019/317.

5.2.4 INCENTIVE MECHANISM

Regulation (EU) 2019/317 provides for the obligation to establish financial incentive mechanisms in the capacity KPA. The ESPP3 complies with the regulation by drawing up an incentive mechanism associated to the capacity target.

The incentive schemes on performance targets in the key performance area of capacity shall apply to en-route and terminal air navigation services in a non-discriminatory, transparent and effective mode during the entire period covered by the performance plan. In addition, the following principles should be met:

- They shall be proportionate to the level of ATFM delay and consist of financial advantages and financial disadvantages having material impact on revenue at risk.
- They shall be set so that the maximum financial disadvantages are at least equal to the maximum financial advantages.
- For the purpose of calculating the financial advantages and disadvantages, pivot values shall be used. The criteria used to calculate them based on the performance targets is established in this section of the plan. The national authority shall inform the Commission about these pivot values annually.
- There shall be a symmetric range around the pivot value set by the national supervisory authority, to ensure minor variations in ATFM delay do not steer in any financial advantages or disadvantages.
- Where the actual average ATFM delay per flight in year n is lower than the pivot value set for year n , this shall result in a financial advantage through an increase of the unit rate in year $n+2$.
- Where the actual average ATFM delay per flight in year n is higher than the pivot value set for year n , this shall result in a financial disadvantage through a reduction of the unit rate in year $n+2$.

Implementing Regulation 2020/1627 on exceptional measures for the third reference period due to the COVID-19 pandemic specifies at Article 3, point 3 *“the incentive schemes shall cover only the calendar years 2022 to 2024, Member States shall reflect this reduced period of the incentive schemes in their draft performance plans”*.

5.2.4.1 Capacity Incentive Scheme

The ESPP3 incentive mechanism for en-route and terminal capacity is applied at National level. The amount of the incentive is calculated based on the achievement of the ESPP3 target, expressed as a pivot value, for a given year. Incentives shall be calculated on a calendar year basis and be paid in year $n+2$.

The incentive mechanism formula consists of a linear function that relates the performance achieved in terms of ATFM delay per flight, with the amount of the bonus or penalty expressed in terms of percentage of determined costs. This linear function starts from a dead band around the target, where no incentive is applied, and spans to reach a maximum level of bonus or penalty.

The following concepts, defined by the Performance and Charging Regulation (EU) 2019/317, are described below to provide a better understanding of the incentive scheme formulas:

- **Dead band:** it defines the symmetrical range around the pivot value (modulated or not), in which the actual ATFM delay does not lead to any bonuses or penalties. It can be expressed as either a percentage of variation around the pivot value or a fraction of minutes of ATFM delay.
- **Alert threshold:** it defines the variation of the reference values as a result of the seasonal updates of the NOP in comparison to the reference values provided by the Network Manager and published by the European Commission in the ESKY portal at the time of drawing up the Performance Plan. This variation can be expressed as a percentage of variation, a fraction of minutes of en-route ATFM delay or a combination of both. The value of the alert threshold determines the level of performance as from which the maximum bonus or penalty is to be applied. The linear function goes from the limit of the dead band to the alert threshold.
- **Maximum bonus:** this value, expressed as a percentage of the determined costs of the charging zones affected by the scheme, defines the maximum bonus that the ANSP can receive if the ATFM delay is equal or lower than the lower boundary of the bonus range. It cannot be higher than the penalty.
- **Maximum penalty:** this value, expressed as a percentage of the determined costs of the charging zones affected by the scheme, defines the maximum penalty to be paid by the ANSP if the ATFM delay is equal or higher than the higher boundary of the penalty range, It cannot be higher than 2%.
- **Pivot values:** are the reference values for the calculation of the incentives. These values are based on the performance targets at National level and can be modulated for the purpose of calculating the financial advantages or disadvantages. The modulation mechanism can be applied to enable significant and unforeseen changes in traffic be taken into account (in the en-route this is reflected in the November release of year n-1 of the NOP), and/or to consider only delay causes with codes C, R, S, T, M and P of the ATFCM user manual.

5.2.4.1.1 Formula of the incentive scheme and parameters for the calculation of financial advantages or disadvantages for en-route

This section presents the main parameters of the incentive scheme for en-route that, together with the pivot values, define the financial advantages (bonus) and disadvantages (penalties) for the ANSP resulting from this scheme.

Out of all the possibilities, the option chosen is to use pivot value based on the modulation of the initial target in both possible ways according to Annex XIII, section 1.1 of Regulation (EU) 2019/317:

- To use the reference value from the latest available NOP (November release of year n-1), The main reason is to adapt the performance expectations of the ANSP to its actual situation in line with the possibilities of the European Network.
- To consider in the scope of the incentive mechanism only the delay causes attributable to the ANSP: causes related to ATC capacity, ATC routing, ATC staffing, ATC equipment, airspace management and special events with the codes C, R, S, T, M and P of the ATFCM user manual.

The modulated pivot value will be calculated starting from the latest NOP reference value. This value is multiplied by **the average weight of the delay due to ANSP attributable causes with respect to the total ATFM delay**, which the Network Manager post-ops delay allocation procedure data is closed.

The average of this delay ratio is called ADF, Attributable Delay Factor, and is generally calculated as the average of the last 4 years. However, after the results obtained in 2020 (where the exceptional event occurred due to COVID-19 pandemic modifies the tendency of minutes of delay in last years), it is necessary to open the possibility of modifying the average of last 4 years to calculate the ADF in order to ensure the adequate behaviour of the statistical model designed by AESA for the Spanish incentive scheme. Additional information regarding the ADF is provided in Annex D.

For the year 2022, the first one of the periods with the incentive scheme applying, the Attributable Delay Factor (ADF) for en-route is 76.74%.

Considering the above, the main characteristics and parameters of the function described below, are summarised in the following table defined as follows:

| | Expressed in | Standard RP3 Values | Values for 2022 |
|-------------------------------|-----------------|---|-------------------|
| Dead band | fraction of min | ±0.01 | ±0.01 |
| Alert threshold | fraction of min | ±0.05 | ±0.05 |
| Max Bonus | % of DC | 0.00% | 0.00% |
| Max Penalty | % of DC | 0.50% | 0.50% |
| The pivot values for RP3 are: | Min. | Reference value NOP November year n-1 release modulated by the attributable delay factor. | 0.20*0.7674=0.153 |

In light of the above parameters, the pivot values and financial advantages and disadvantages for en-route for the calendar years 2022 to 2024 to which the incentive scheme applies, are broken down in the following table:

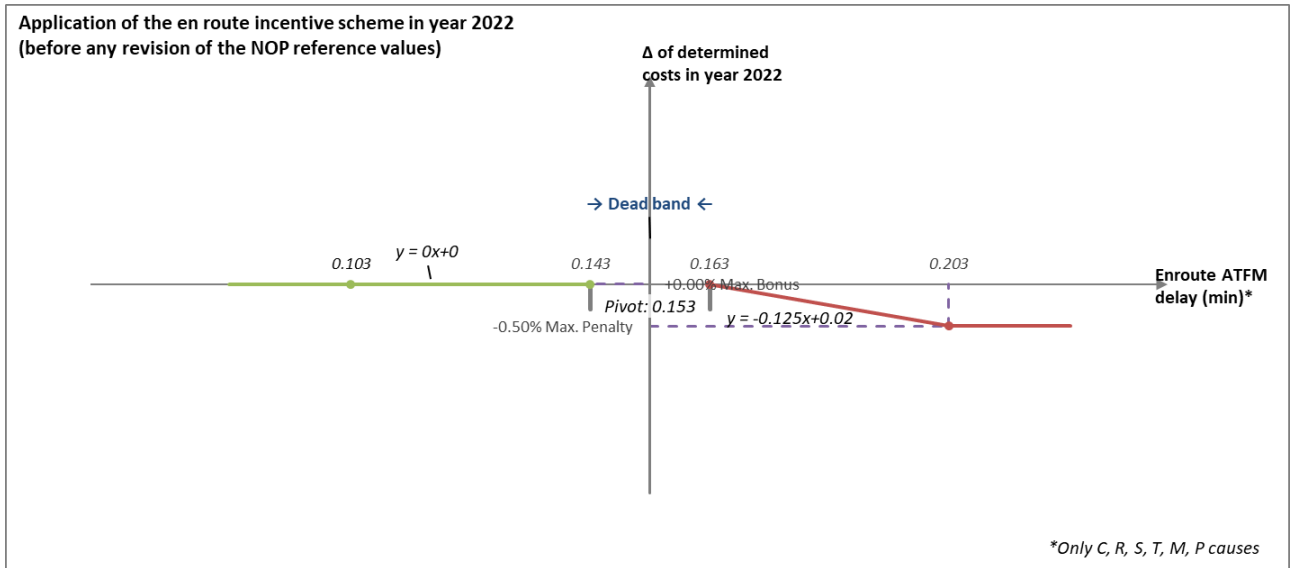
| | 2022 | 2023 | 2024 | |
|---|-----------------|---------------|---------------|---------------|
| Reference values (*) (min of ATFM delay per flight) | 0.2 | 0.19 | 0.19 | |
| Alert thresholds (**) | ±0.050 | ±0.050 | ±0.050 | |
| Performance Plan targets (min of ATFM delay per flight) | 0.20 | 0.19 | 0.19 | |
| Pivot values for RP3(***) (min of ATFM delay per flight) | 0.153 | 0.146 | 0.146 | |
| Financial advantages/disadvantages | Dead band range | [0.143-0.163] | [0.136-0.156] | [0.136-0.156] |
| | Bonus range | [0.103-0.143] | [0.096-0.136] | [0.096-0.136] |
| | Penalty range | [0.163-0.203] | [0.156-0.196] | [0.156-0.196] |

(*) Once updated with the reference values corresponding to the adopted EU-wide targets.

(**) At the moment of drawing up the Performance Plan the Alert threshold is 0.05 for the years 2022-2024 due to Pivot values in the same years are less than 0.2 min of en-route ATFM delay. These values may change after the annual updates of the NOP reference values.

(***) Pivot value considering only ANSP attributable delay: codes C, R, S, T, M and P of the ATFCM user manual. They are the result of multiplying the reference values Performance by the ADF. Modulation applies, so these figures are only indicative as they will be updated annually on the basis of the November n-1 NOP and the calculation of the ADF applicable.

With all these values, the en-route capacity incentive formula structure for Spain during 2022 is:



The variable parameters of the formula listed below shall be notified to the EC every year by AESA prior to the start of the year in which the incentive applies:

- Pivot values, calculated on the basis of the:
 - Updated ADF (attributable delay factor).
 - Updated reference value for Spain in the November release of the NOP.
- Alert thresholds: on the basis of the pivot value.

The parameters in the incentive scheme have been selected by AESA on the basis of:

- Statistical delay analysis.
- ANSP financial risk analysis.
- Inputs received in the consultations with the stakeholders.

More information on these topics can be found within the Annex D.

5.2.4.1.2 Formula of the incentive scheme and parameters for the calculation of financial advantages or disadvantages for Terminal.

This section presents the incentive scheme on average arrival ATFM delay per flight adopted by the State and the main parameters of this incentive scheme, together with the pivot values, that define the financial advantages (bonus) and disadvantages (penalties) for the ANSP resulting from this scheme.

Out of all the possibilities, the option chosen is to use pivot value based on the modulation of the initial target in line with one of the possibilities set out in Annex XIII, section 1.1 of Regulation (EU) 2019/317:

- To consider in the scope of the incentive mechanism only the delay causes attributable to the ANSP: causes related to ATC capacity, ATC routing, ATC staffing, ATC equipment, airspace management and special events with the codes C, R, S, T, M and P of the ATFCM user manual.

The aerodrome ATS services provided by FerroNATS under market condition (see chapter 9) are not part of the Spain Terminal unit rate, nor the incentive mechanism defined by Regulation (EU) 2019/317, in consistency with Article 35.2. For this reason, the applicable terminal incentive mechanism requires a modulation of the aggregated Spain arrival capacity targets, to reflect only volumes where ENAIRE is the ANSP: all of arrival at LEMD, LEBL, LEPA, LEMG and GCLP; but only terminal services at LEAL and LEIB.

| Capacity KPI #2 where ENAIRE is the ANSP | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|-------------|-------------|-------------|-------------|-------------|
| Spain – 7 Airports (*) | 0.89 | 0.43 | 0.65 | 0.56 | 0.56 |
| GCLP – Gran Canaria | 0.34 | 0.18 | 0.22 | 0.22 | 0.22 |
| LEBL – Josep Tarradellas Barcelona-El Prat | 1.68 | 0.84 | 1.40 | 1.20 | 1.20 |
| LEMD – Adolfo Suárez Madrid-Barajas | 0.70 | 0.32 | 0.40 | 0.30 | 0.30 |
| LEMG – Málaga-Costa del Sol | 0.12 | 0.06 | 0.10 | 0.09 | 0.08 |
| LEPA – Palma de Mallorca | 1.40 | 0.66 | 1.00 | 0.90 | 0.90 |
| LEAL – Alicante-Elche (*) | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| LEIB – Ibiza (*) | 0.28 | 0.15 | 0.16 | 0.16 | 0.16 |

(*) Modulated values reflecting only the approach environment at LEAL and LEIB, where ENAIRE is the ANSP.

Finally, considering all the above, the modulated pivot value will be calculated by multiplying by **the average weight of the delay due to ANSP-ENAIRE attributable causes with respect to the total ATFM delay,² for which the Network Manager post-ops delay allocation procedure data is closed.**

The average of this delay ratio is called ADF, Attributable Delay Factor, and is generally calculated as the average of the last 4 years. However, after the results obtained in 2020 (where the exceptional event occurred due to COVID-19 pandemic modifies the tendency of minutes of delay in last years), it is necessary to open the possibility of modifying the average of last 4 years to calculate the ADF in order to ensure the adequate behaviour of the statistical model designed by AESA for the Spanish incentive scheme. Additional information regarding the ADF is provided in Annex D.

For the year 2022, the first one with the incentive scheme applies, the Attributable Delay Factor (ADF) for arrival is 29.59%.

The main characteristics and parameters of the function described below, are summarised in the following table defined as follows:

| | Expressed in | Standard RP3 Values | Values for 2022 |
|-------------------------------|------------------|---|-------------------|
| Dead band | fraction of min | ±0.02 | ±0.02 |
| Alert threshold | % of pivot value | ±50% | ±0.096 |
| Max Bonus | % of DC | 0.00% | 0.00% |
| Max Penalty | % of DC | 0.50% | 0.50% |
| The pivot values for RP3 are: | Min. | Target modulated by the attributable delay factor. | 0.65*0.2959=0.192 |

In light of the above parameters, the pivot values and financial advantages and disadvantages for terminal, for the calendar years 2022 to 2024 to which the incentive scheme applies, are broken down in the following table:

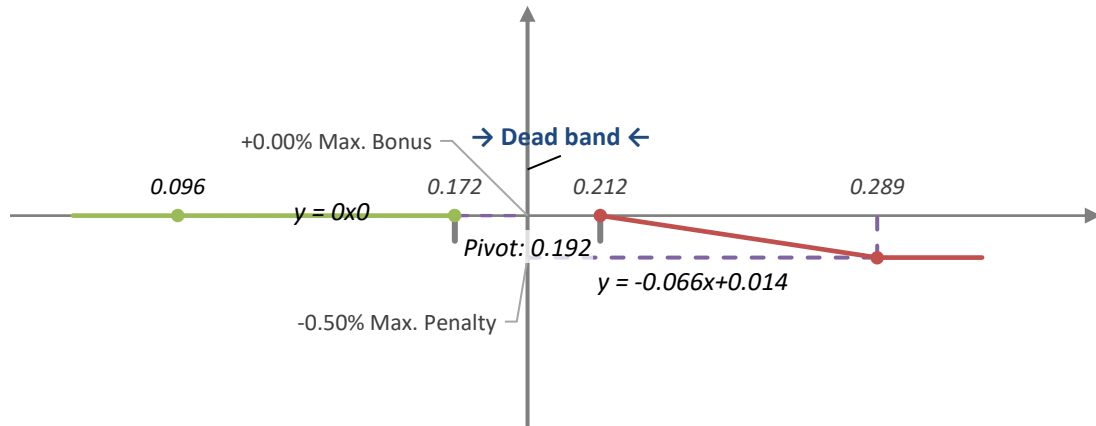
| | 2022 | 2023 | 2024 | |
|---|-----------------|---------------|---------------|---------------|
| ENAIRE contribution to Performance Plan targets (min of ATFM delay per flight) | 0.65 | 0.56 | 0.56 | |
| Alert thresholds (bonus/penalty range) | ±0.096 | ±0.083 | ±0.083 | |
| Pivot values for RP3 (*) (min of ATFM delay per flight) | 0.192 | 0.166 | 0.166 | |
| Financial advantages/disadvantages | Dead band range | [0.172-0.212] | [0.146-0.186] | [0.146-0.186] |
| | Bonus range | [0.096-0.172] | [0.083-0.146] | [0.083-0.146] |
| | Penalty range | [0.212-0.289] | [0.186-0.249] | [0.186-0.249] |

(*) Pivot value considering only ANSP attributable delay: codes C, R, S, T, M and P of the ATFCM user manual. They are the result of multiplying the Performance Plan targets by the ADF. Modulation applies, so **these figures are only indicative** as they will be updated annually on the basis of the ADF applicable.

² The oversight activity of AESA has concluded that prior to August 2018, some of the delay allocated to cause G-Aerodrome Capacity was actually ATC Capacity. Consequently, and to increase the consistency of the attributable delay factor, the assumptions set out in the Annexes have been made.

With all these values, the terminal capacity incentive formula structure for Spain during 2022 is:

**Only C, R, S, T, M, P causes*



The variable parameters of the formula listed below shall be notified to the EC every year by AESA prior to the start of the year in which the incentive applies:

- Pivot values, calculated on the basis of the:
 - Updated ADF (attributable delay factor).
- Alert thresholds (bonus/penalty range): based on the pivot value.

The parameters in the incentive scheme have been selected by AESA based on:

- Statistical delay analysis.
- ANSP financial risk analysis.
- Inputs received in the consultations with the stakeholders.

More information on these topics can be found within the Annex D.

6. COST-EFFICIENCY

6.1 SES REQUIREMENTS

6.1.1 EN-ROUTE COST-EFFICIENCY

The Performance and Charging Regulation requires a target for en-route Cost-Efficiency for en-route service to be expressed in terms of the determined unit costs (DUCs) at charging zone level and in local currency. There are two en-route charging zones in Spain:

- Spain Canarias
- Spain Continental

The DUC is the ratio between the en-route determined cost and the forecast traffic in the charging zone expressed in en-route service units, expected during the period in the performance plan (RP3). En-route cost efficiency European wide performance targets, established through the Commission Implementing Decision (EU) 2021/891 of 2 June 2021 on European-wide targets, are the reference for the Spain DUC targets. They are shown in the table below:

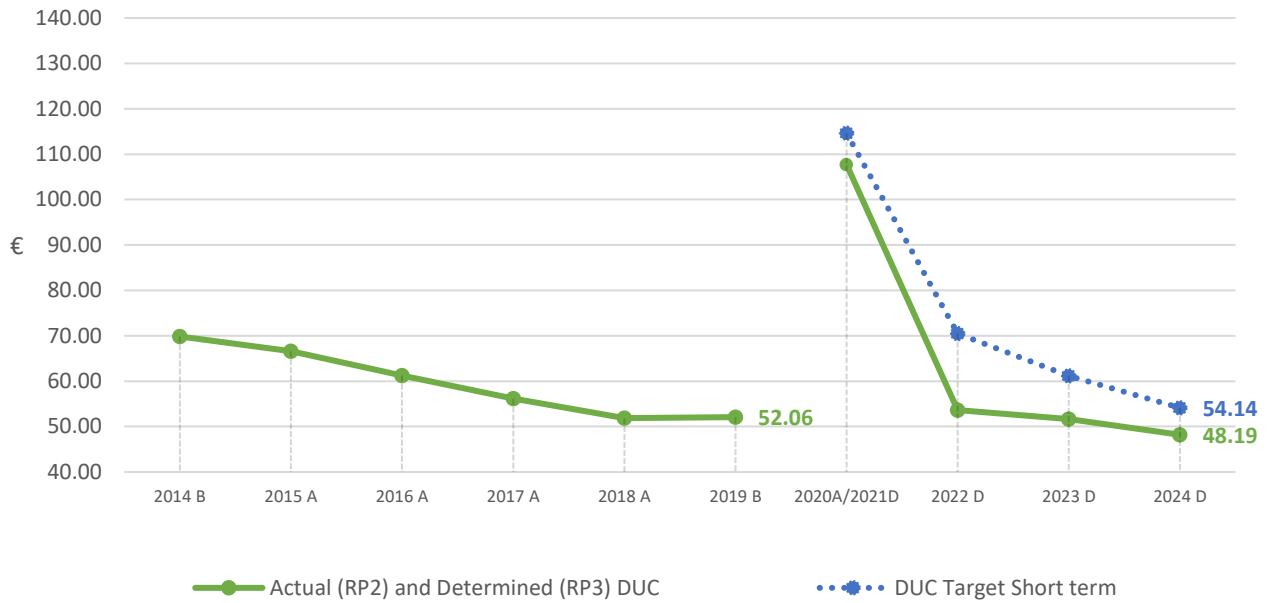
| Revised Cost-Efficiency DUC – Spain National level | | 2020 | 2021 | 2020/2021 | 2022 | 2023 | 2024 |
|---|---|---------|---------|-----------|---------|---------|---------|
| Cost efficiency KPI #1: En-route DUC Spain – Continental | Nominal en-route determined costs | 598,351 | 592,163 | 1,190,515 | 622,143 | 629,825 | 633,678 |
| | Inflation index (base 2017) | 102.50 | 103.60 | - | 104.90 | 106.50 | 108.20 |
| | Real en-route determined costs | 587,141 | 576,803 | 1,163,945 | 600,261 | 601,512 | 598,574 |
| | Total en-route Service Units (000) | 4,437 | 6,370 | 10,807 | 11,190 | 11,638 | 12,421 |
| | Real (EUR 2017) en-route DUC Spain - Continental | 132.33 | 90.55 | 107.71 | 53.64 | 51.69 | 48.19 |
| Cost efficiency KPI #2: En-route DUC Spain - Canarias | Nominal en-route determined costs | 94,072 | 94,123 | 188,195 | 98,205 | 99,602 | 101,565 |
| | Inflation index (base 2017) | 102.50 | 103.60 | - | 104.90 | 106.50 | 108.20 |
| | Real en-route determined costs | 92,318 | 91,644 | 183,962 | 94,667 | 94,956 | 95,746 |
| | Total en-route Service Units (000) | 803 | 950 | 1,753 | 1,415 | 1,610 | 1,775 |
| | Real (EUR 2017) en-route DUC Spain – Canarias | 114.98 | 96.50 | 104.97 | 66.92 | 58.97 | 53.93 |

The consistency of Cost-Efficiency targets is assessed against a trend starting from a baseline value. According to Article 9.4(a) in Regulation (EU) 2019/317, the target baseline shall be calculated on the basis of the latest costs estimates and traffic forecasts available for the year preceding the start of the reference period. Since 2019 is a closed year, consequently, the baseline is calculated with actual costs and actual traffic figures.

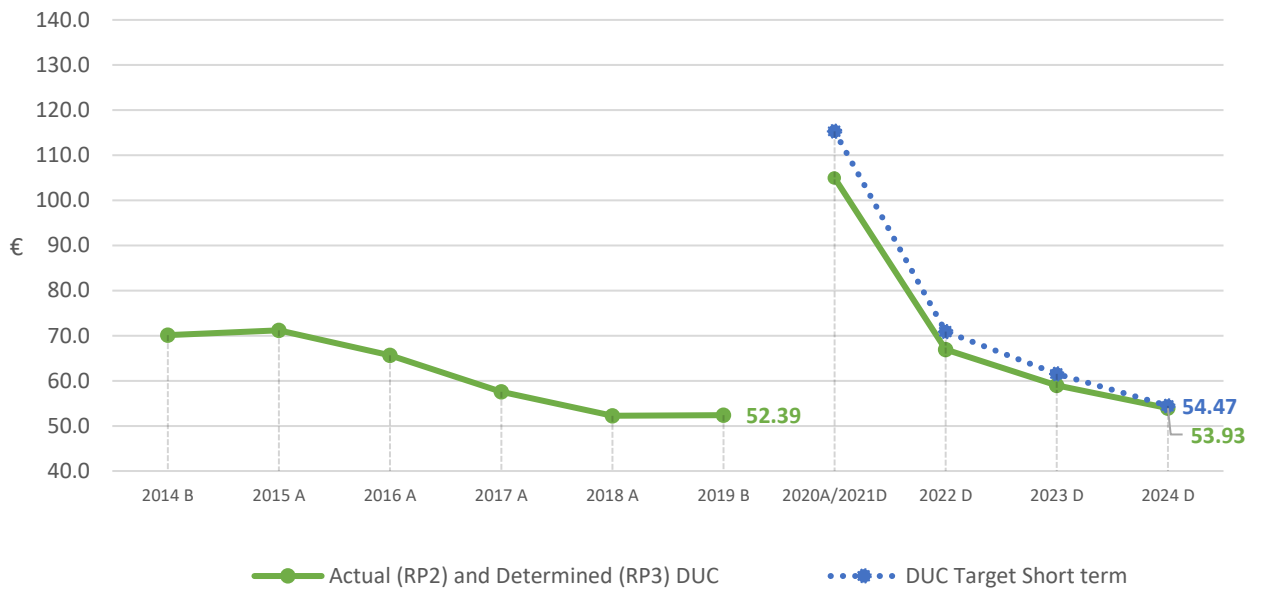
Regarding Annex IV 1(4)(a) in Regulation (EU) 2019/317, the Spanish scenario within the short term is set as represents the table below:

| Revised Cost-Efficiency Targets – Spain National level | | 2020/2021 | 2022 | 2023 | 2024 |
|---|--|-----------|-------|-------|-------|
| Cost efficiency KPI #1: En-route DUC Spain – Continental | Real (EUR 2017) en-route DUC LE Target | 114.59 | 70.47 | 61.17 | 54.14 |
| | Real (EUR 2017) en-route DUC Spain - Continental | 107.71 | 53.64 | 51.69 | 48.19 |
| | Deviations from target | 6.89 | 16.83 | 9.48 | 5.95 |
| Cost efficiency KPI #2: En-route DUC Spain - Canarias | Real (EUR 2017) en-route DUC GC Target | 115.30 | 70.91 | 61.55 | 54.47 |
| | Real (EUR 2017) en-route DUC Spain - Canarias | 104.97 | 66.92 | 58.97 | 53.93 |
| | Deviations from target | 10.34 | 3.99 | 2.58 | 0.55 |

LE - Spain Continental En route DUC - Consistency of Targets



GC - Spain Canarias En route DUC - Consistency of targets



Both targets prove being consistent with the baseline and trend criterion set in Annex IV, point 1.4(a): the short term determined unit cost trend. Annex IV point 1.4(b) compliance is implied.

6.1.2 TERMINAL COST-EFFICIENCY

The Performance and Charging Regulation requires a target for en-route Cost-Efficiency for en-route service to be expressed in terms of the determined unit costs (DUCs) at charging zone level and in local currency. There is one terminal charging zone in Spain within the scope of the performance plan for RP3 and therefore, subject to all the requirements set out in Regulation (EU) 2019/317:

- Spain Terminal

Spain Terminal charging zone includes the terminal air navigation services provision and national supervisory authorities' costs of the 7 airports below:

- Adolfo Suárez Madrid-Barajas (LEMD)
- Josep Tarradellas Barcelona-El Prat (LEBL)
- Palma de Mallorca (LEPA)
- Málaga-Costa del Sol (LEMG)
- Gran Canaria (GCLP)
- Alicante-Elche (LEAL)
- Ibiza (LEIB)

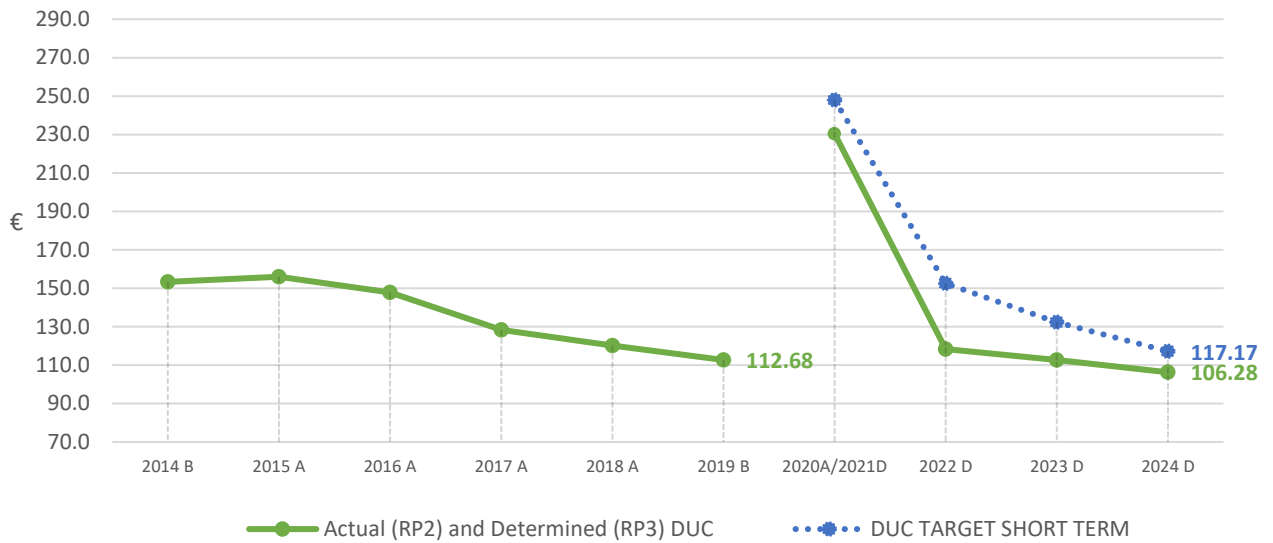
The aerodrome ATS is provided in LEAL and LEIB under market conditions. Consequently, the costs associated to that service in those locations is not included in the terminal charges cost base. More information is provided in chapter 9. The targets are consistent in line with Regulation (EU) 2019/317 (see Annex E).

| Revised Cost-Efficiency DUC – Spain National level | | 2020 | 2021 | 2020/2021 | 2022 | 2023 | 2024 |
|---|--|---------------|---------------|------------------|---------------|---------------|---------------|
| Cost efficiency KPI #3: Terminal DUC Spain (*) | Nominal terminal determined costs | 95,965 | 104,577 | 200,542 | 103,842 | 104,879 | 105,254 |
| | Inflation index (base 2017) | 102.50 | 103.60 | - | 104.90 | 106.50 | 108.20 |
| | Real terminal determined costs | 93,857 | 101,331 | 195,188 | 99,508 | 99,224 | 98,238 |
| | Total terminal Service Units (000) | 350 | 497 | 847 | 841 | 880 | 924 |
| | Real (EUR 2017) terminal DUC Spain Terminal | 268.28 | 203.81 | 230.44 | 118.36 | 112.71 | 106.28 |

Regarding Annex IV 1.4.a. in Regulation (EU) 2019/317, the Spanish scenario within the short term is set as represents the table below:

| Revised Cost-Efficiency Targets – Spain National level | | 2020/2021 | 2022 | 2023 | 2024 |
|---|------------------------------------|------------------|-------------|-------------|-------------|
| Cost efficiency KPI #3: Terminal DUC Spain | Real (EUR 2017) DUC LE TNC Target | 248.01 | 152.53 | 132.39 | 117.17 |
| | Real (EUR 2017) DUC Spain Terminal | 230.44 | 118.36 | 112.71 | 106.28 |
| | Deviations from target | 17.57 | 34.17 | 19.69 | 10.89 |

LE TNC - Spain Terminal DUC - Consistency of Targets



LE-TNC target proves being consistent with the baseline and trend criterion set in Annex IV, point 1.4(a): the short term determined unit cost trend. Annex IV point 1.4(b) compliance is implied.

6.1.3 PERFORMANCE INDICATORS FOR MONITORING

There is a cost-efficiency performance indicator that will be monitored during RP3:

- The actual unit cost incurred by users separately for en-route and terminal air navigation services.

6.1.4 INCENTIVE MECHANISM

The traffic risk and cost risk parameters applicable shall be the standards, as they are reflected in Articles 27 and 28 in Regulation (EU) 2019/317. More information is provided in section 8.

6.2 ANSP COSTS (ENAIRES)

Determined costs and unit costs from the ANSP ENAIRES can be seen in the following tables:

| Cost-Efficiency Targets – ENAIRES | | 2020/2021 | 2022 | 2023 | 2024 |
|--|----------------------------------|-----------|---------|---------|---------|
| Cost efficiency KPI #1: En-route Spain Cont, | Determined costs ('000 EUR 2017) | 986,160 | 506,577 | 506,433 | 502,461 |
| | DUC (EUR 2017) | 91.25 | 45.27 | 43.52 | 40.45 |
| Cost efficiency KPI #2: En-route Spain Canarias | Determined costs ('000 EUR 2017) | 135,510 | 70,573 | 70,757 | 71,382 |
| | DUC (EUR 2017) | 77.32 | 49.89 | 43.94 | 40.20 |
| Cost efficiency KPI #3: Terminal Spain | Determined costs ('000 EUR 2017) | 187,966 | 95,528 | 94,882 | 93,567 |
| | DUC (EUR 2017) | 221.87 | 113.62 | 107.77 | 101.22 |

ENAIRES, seriously affected by the worst crisis known to the aviation sector, reviewed its plans in the light of both temporary and structural measures, allowing to face the current situation and to contain as much as possible, the expected economic loss resulting from the pandemic.

ENAIRES has taken significant steps to reduce its costs in order to survive the severe shortfall in revenue, analysing and adapting to the economic and traffic environment in the coming years and to the scenario for the elaboration of the new Plan RP3, adopting additional efforts and efficiencies with a view to overcoming, together with other actors in the sector, the worst crisis in air transport.

It has to be pointed out that, the application of a policy of moderate charges evolution in the period by the State and ENAIRES derives, in the commitment that the unit rates for the entire period will not exceed the 2019 figures.

6.2.1 STAFF AND OPERATING COSTS

6.2.1.1 Staff costs

The Performance Plan for ENAIRES is built on the basis of the following staff costs estimates for RP3:

| Overall staff expenses estimate | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---------------------------------|------|-------|------|------|-------|-------|
| Annual % | | -6.1% | 1.1% | 6.0% | -0.7% | -0.3% |

The values for total ENAIRES staff costs in nominal terms reflects the significant measures of reduction adopted in years 2020 and 2021 and a very moderate evolution for the rest of the period, presenting figures for the latest years below 2019 actual.

The considered amounts respond mainly to the evolution of the workforce and wage estimates as well as additional efficiency improvements measures. The hypothesis of salary increase has been those of the scenario approved by the Ministry for Treasury for the period 2019-2020 (+2.75% in 2019 and +2.30% in 2020), and annual increases of 0.9% for year 2021; 0% for 2022; and 1% for the remainder RP3 years.

In addition, it should be highlighted that the salary increase mentioned includes the annual vegetative increase, an effect which is composed of wage increases due to seniority and also other factors, as the result of transfer/mobility (staff redistribution) that generate increased staff costs.

Apart from that, ENAIRES needs to recruit new controllers, in order to have the necessary staff to cope with the foreseen evolution in air traffic in optimal conditions of safety and efficiency. This will also serve to rejuvenate the staff, since ENAIRES's ATCOs have a quite high average age and with an unbalanced population pyramid.

A moderate hiring plan of ATCOs is foreseen from year 2021, taking into account the long training periods required by the controllers in order to be able to provide effective service in the ENAIRE Towers and Control Centres. Approximately 2 years elapse from the publication of a call for controller positions until the selected person starts working in an ENAIRE operational unit.

It has to be pointed out that, considering the foreseen increase of control staff in Active Reserve (RA) as well as the lower salary for new recruitments, the ATCOs expenses estimate reduced by -7% and - 8% in 2020 and 2021, compared to 2019, and presents a moderate evolution, always below 2019 actual, in the remaining years.

ENAIRE includes in its planning recruiting Non-ATCO staff that is necessary to support the service provision, with the aim of internalising resources of structural technical assistance, reducing costs as well as avoiding the loss of knowledge of ENAIRE and adapting the workforce to new technologies.

The following table provides the planned figures of number of staff resources planned, broken down per charging zone:

| | 2019 | | 2020 | | 2021 | | 2022 | | 2023 | | 2024 | |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | ATCO | Non ATCO | ATCO | Non ATCO | ATCO | Non ATCO | ATCO | Non ATCO | ATCO | Non ATCO | ATCO | Non ATCO |
| Spain Continental | 1,327 | 1,177 | 1,307 | 1,220 | 1,331 | 1,303 | 1,300 | 1,365 | 1,271 | 1,391 | 1,275 | 1,389 |
| Spain Canarias | 200 | 198 | 201 | 205 | 208 | 217 | 211 | 221 | 211 | 223 | 209 | 225 |
| TNC (7 AD) | 388 | 280 | 381 | 274 | 363 | 290 | 367 | 295 | 358 | 296 | 353 | 295 |
| Other | 184 | 262 | 179 | 213 | 172 | 215 | 174 | 218 | 173 | 216 | 172 | 215 |
| TOTAL | 2,100 | 1,918 | 2,067 | 1,912 | 2,074 | 2,025 | 2,051 | 2,098 | 2,013 | 2,125 | 2,009 | 2,124 |

New Collective Agreements are being negotiated both with regard to ATCOs and to the rest of personnel (non-ATCO).

The main measures taken by ENAIRE in year 2020, related to staff costs, to face the significant drop in its revenue have been the following:

- Suspension of new staff recruitments, hiring plan delayed, number of ATCOS in “Active reserve” increased, reductions in variable salary complements, containment in salary increases, reduction in the number of extra hours, as well as adjustment and prioritisation of training courses.
- Agreements with ATCO staff, to face COVID crisis, in the years 2020-2021. The main objective of those ATCOs agreements has been to adapt the resources used to deal with highly variable and uncertain air traffic, optimising the scheduling of the number of services and to decrease wage costs, through reductions in Productivity and Variable Complement as well as lowering overtime to a minimum.

The efforts to reduce costs allowed that final 2020 en-route staff costs for ENAIRE were -11% (-52 MEUR) below draft Plan RP3 determined and -5% (-20 MEUR) lower than actual 2019.

Notwithstanding the above information not to revise the costs of the Plan has been decided in support of the sector as well as to achieve a moderate evolution of charges. It should be noted that the significant increase in STATFOR traffic data published in October 2021 compared to previous forecasts, anticipating a faster recovery exceeding the 2019 traffic earlier, it is a drastic change of scenario.

The new traffic forecast will mean for ENAIRE the need for more personnel resources, especially ATCO staff, which will result in higher costs than those foreseen in the Plan.

6.2.1.2 Other operating costs

The following figures correspond to the estimates contained in ENAIRE RP3 Multiannual Plan.

| Other operating expenses estimates | 2020 | 2021 | 2022 | 2023 | 2024 |
|------------------------------------|-------|------|-------|-------|-------|
| Annual % | -7.0% | 6.8% | -3.5% | -0.5% | -0.2% |

During the years 2020-2024 other operating expenses barely vary with respect to 2019, reflecting efforts in the control and containment of spending, as well as highlighting the advance in the field of digital transformation and implementation of agile methods, aligned with the Information Plan.

Some specific matters that deserve to be pointed out are as follows:

- Increased repair and maintenance expenses due to maintenance and support for the operation of the Datalink equipment: Front-End Processor (DL-FEP) and ATN Router (R-ATN) in both operating and model environments, for data link services requirements for the Single European Sky. Increase in the actual reinforcement of the technical service in the Regional Directorates concerning the SACTA and ICARO systems operation, and higher expense for termination of guarantees, Increased repair and maintenance expenses due to the opening of the new Valencia TACC and the start of operation of the new building at the Regional North-Centre Directorate in 2023.
- Full deployment of the communication service with two operators to meet the needs of the ENAIRE Inter-Centre Contingency Project, new service in the link between Centralized Systems and Barcelona ACC.
- The deployment and support of digital data networks and voice technology with regard to IP, in line with the Digital Tech plan.
- Within the Digital Sky plan, the adaptation of the resources needed for the provision of voice and data communications, navigation and surveillance services, associated with ATS through ATM systems and also the provision of flight verification management service.

The main measures taken by ENAIRE in year 2020, related to other operating costs, to face the significant drop in its revenue have been the following:

- Limitation of maintenance and repair actions to the minimum necessary, reduction of variable costs related to supplies, daily activity consumable and security, decrease of externalised service and reduction in expenses related to institutional and public relations events, marketing, etc.

6.2.2 INVESTMENTS-CAPEX

This section provides a summary of ENAIRE main investment programmes during the period 2020 – 2024. With respect to the first draft plan presented in 2019, some changes can be remarked, which are explained in the following sections.

Since Regulation 2019/317 puts emphasis on the costs, the information presented here is mainly based on the Costs of Capital and Depreciation expected to be derived from the investment plan, and it is aligned with ENAIRE’s strategic plan “Flight Plan 2025”.

It has to be taken into account that ENAIRE provides services to Spanish airports out of the scope of Regulation 2019/317. Therefore, the information presented here, which, unless specified otherwise, refers only to the scope of this Regulation, may presents some differences with information presented in other fora where the whole scope of ENAIRE’s investment plan is presented. Strong focus has been put on New & Major

investments, also assuring traceability with the European regulations and policies. Investments involving U-Space future services and other non-regulated or commercial activities have also been removed from this plan.

6.2.2.1 Summary of changes from the previous draft plan

The draft performance plan presented in 2019 had a structure coherent with the reporting scheme of the Spanish Ministry's Multiannual Activity Plan (in Spanish, "PAP"). At the time, ENAIRE's strategy plan was under development and not available yet.

Year 2020 was very challenging at all levels. The approval of the national performance plans never happened since the stroke of the COVID-19 pandemic invalidated the hypothesis on which the European targets and plans had been proposed. In the meanwhile, the reduction in air traffic was seen as an opportunity to re-plan the investment projects. This revision of the plan was necessary not only in the context of a delay in some planned actions due to the impact of the worldwide crisis, but also because a change in the scope of some activities not considered in the first draft was deemed necessary. In the wider context of recovery plans for many industry sectors being launched, an acceleration of some digitalisation and modernisation initiatives made sense. Finally, in order to avoid reproducing past mistakes, in which cuts in investments resulted in lack of technical means and resources when traffic and economy recovered, the revised investment plan wagered on a countercyclical proposal.

The plan presented considers all the changes introduced in 2020 with the purpose of adapting to the new context, while still providing the highest benefits to the users and with the lowest economic impact for them. The challenge was significant but ENAIRE is proud to present now a whole picture where all such requirements are successfully met.

6.2.2.2 ENAIRE's Strategic Plan "Flight Plan 2025"

ENAIRE's strategic plan "Flight Plan 2025" constitutes its roadmap for the next years and aims to contribute to the economic recovery of the air transport sector at all levels, while fostering innovation and ensuring future growth. It is an ambitious plan, also aiming to transform ENAIRE, so that it is ready for the challenges the European environment expects to come.

In terms of projects and investment plan, Flight Plan 2025 is articulated in the following 11 "strategic plans" and 38 "initiatives" or programmes. It is important to understand that this new classification leads to a rearrangement of previously existing projects which result embedded in this new structure. Traceability with the previous 2019 investment plan is explained in the following sections, so that it is understood that no major investment appearing in the previous draft has been cancelled.

Services

PE1. Safety Plan

- 1.1 "REINFORCE"- Safety Reinforcement
- 1.2 "ANTICIPATE" Predictive SMS
- 1.3 "FACILITATE" HHFF in ATM
- 1.4 "PROTECT" – Security & Cybersecurity

PE2. "Digital Sky"

- 2.1 Digital Airspace
- 2.2 Digital Tech
- 2.3 Digital Network
- 2.4 Digital AIM
- 2.5 Civil-Military coordination

PE3. "Green Sky"

- 3.1 Fly Clean
- 3.2 Fly Quiet
- 3.3 Eco-ENAIRES

PE4. Customers & Groups of interest

- 4.1 Customer Experience
- 4.2 Flying with general aviation
- 4.3 Agenda 2030

Business development

PE5. Business development

- 5.1 TWR services development
- 5.2 Services & Products commercialisation

PE6. Future services

- 6.1 Digital TWR
- 6.2 Technical evolution towards ADSP
- 6.3 ADS-B / COMM Satelital
- 6.4 SES Digital Backbone (SDB)

PE7. Integration of new users and tech

- 7.1 U-Space (*)
- 7.2 Drone-based services (**)
- 7.3 Spatial Traffic Management (STM)

Transformation

PE8. HHRR: One Team

- 8.1 Trust
- 8.2 Create
- 8.3 Lead
- 8.4 Feel
- 8.5 Plan

PE9. Campus ENAIRES

- 9.1 Campus as excellence training center
- 9.2 ATC Training
- 9.3 TrainAir Plus

PE10. Innovation

- 10.1 Innovation Plan
- 10.2 CRIDA as engine of ENAIRES innovation

PE11. Transformation: ENAIRES 5.0

- 11.1 Change Culture
- 11.2 Corporate Communication
- 11.3 Digital Transformation
- 11.4 Organisational model

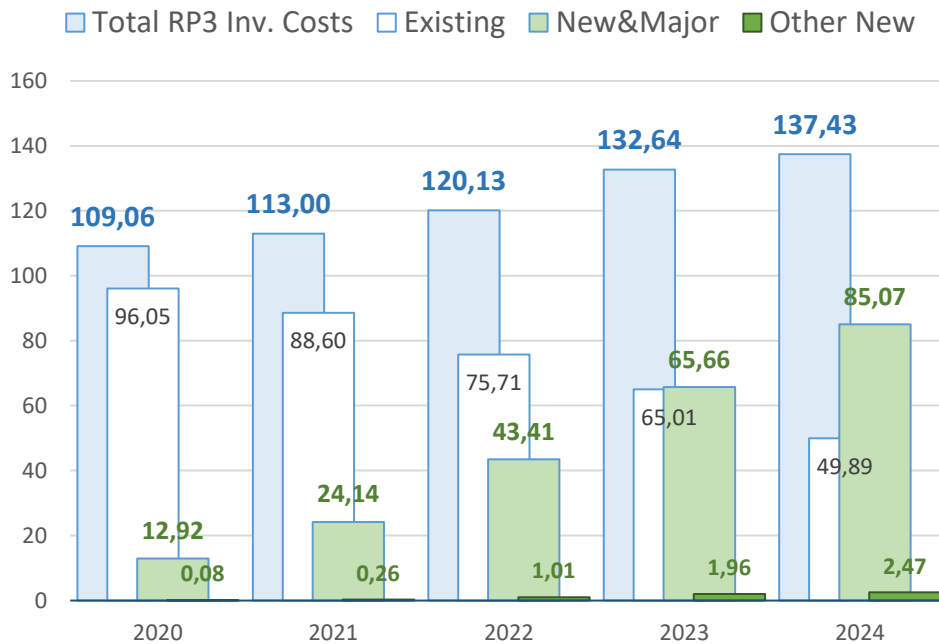
(*) Only investments related to changes to ATM systems for ATM-UTM integration have been included in the RP3 Plan.

(**) Only investment related to the use of drones for navaids verification have been included in the RP3 plan.

Note that the figure above reflects the whole strategic plan, from which only eligible investments according to Regulation 2019/317 have been included in the RP3 tables and the information detailed below.

6.2.2.3 Volume of Investment costs planned for RP3

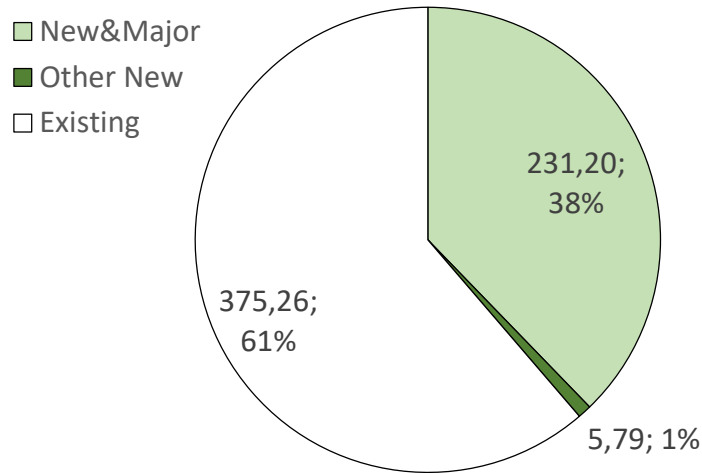
The total Costs (Depreciation plus Costs of Capital) related to the planned investments for RP3 (2020 – 2024) amounts 612.25 MEUR of which 231.20 MEUR derive from the planned new & major investments.



6.2.2.4 New & Major investment costs

Only 11 of the 38 abovementioned initiatives result in a level of investment that results in categorizing them as “New Major”. The ensemble of these new major initiatives represents 38% of the total plan (not including the already existing investment costs).

Total RP3 Investment Costs (MEUR)



| NEW&MAJOR INVESTMENT COSTS | | Total Cost RP3 | TOTAL 2020 | TOTAL 2021 | TOTAL 2022 | TOTAL 2023 | TOTAL 2024 |
|----------------------------|---------------------------------------|----------------|--------------|--------------|--------------|--------------|--------------|
| Safety Plan | "REINFORCE"-Safety Reinforcement | 4,33 | 0,05 | 0,52 | 0,90 | 1,33 | 1,52 |
| Safety Plan | "PROTECT" - Security & Cybersecurity | 3,91 | 0,11 | 0,44 | 0,78 | 1,11 | 1,47 |
| Digital Sky | Digital Airspace | 27,24 | 2,42 | 3,18 | 5,19 | 7,42 | 9,03 |
| Digital Sky | Digital Tech | 87,51 | 4,52 | 8,68 | 15,27 | 23,96 | 35,09 |
| Digital Sky | Digital Network | 31,03 | 0,71 | 3,20 | 5,78 | 9,62 | 11,71 |
| Digital Sky | Digital AIM | 2,54 | 0,10 | 0,18 | 0,43 | 0,76 | 1,08 |
| Digital Sky | Civil-Military Coordination | 0,86 | 0,00 | 0,10 | 0,23 | 0,26 | 0,27 |
| Green Sky | Eco-ENAIRES (Green Sky) | 2,77 | 0,01 | 0,19 | 0,51 | 0,99 | 1,07 |
| Future services | Technical evolution towards ADSP | 25,05 | 1,57 | 1,92 | 4,95 | 7,71 | 8,91 |
| Innovation | CRIDA as engine of ENAIRES innovation | 3,91 | 0,02 | 0,14 | 0,84 | 1,23 | 1,67 |
| Transformation ENAIRES 5.0 | ENAIRES's Digital Transformation | 42,07 | 3,40 | 5,59 | 8,54 | 11,28 | 13,26 |
| TOTAL | | 231,20 | 12,92 | 24,14 | 43,41 | 65,66 | 85,07 |

We provide hereunder an explanation of these 11 New& Major investments:

“REINFORCE” - Safety Reinforcement Action Plan – A safety programme aiming to continuous operational safety improvement and aligned with the national Operational Safety Action Plan (also known as PARSO). This initiative includes 10 action lines:

1. Adherence to the Operation Mode
2. Reducing Fatigue and Stress
3. Reinforcement of ENAIRES's Safety Culture, Just Culture Policy
4. Improving Air Traffic Controller Training
5. Reinforcement of the Management Team in the Room
6. Use of Mobile Devices in Room
7. Technological Modernization
8. Flow Management
9. Improved management in cases of adverse weather
10. Adherence to Procedures

This initiative is mainly aimed at **safety improvement**, in particular, through safety nets. The current alert system will derive in safety improvements and ATCO workload reduction through enhanced alerts integrating

additional information from Mode S and ADS-B surveillance sources, improvements in conformity alerts, area proximity warning and minimum safe altitude, short term conflicts and aerodrome ATC clearances, better usability (filtering functionalities), etc. This will result in a reduction of the occurrence and severity on any potential safety incidents, better adherence to procedures and modes of operation, reduction of fatigue and stress, better ATC training and early awareness/management of potential conflicts.

“PROTECT” - Security & Cybersecurity – A security programme aimed at the evolution of means and systems for the protection of people and infrastructure as well as cybersecurity, which is fundamental in a context of increasing information sharing and seeking for new services detached from physical location. Investment is also necessary in architecture design for ATM/CNS systems and deployment of new elements for the sake of cyber protection. It includes four lines of action:

1. Security analysis: implementation of cybersecurity structures and diagnoses of the physical barriers currently protecting goods, data, infrastructure, services and people.
2. Improvement and risk mitigation measures derived from the previous analysis. Launching of SIEM (Security Information and Event Management). Security improvement.
3. Consolidation and greater security culture within the organisation. Certification and collaboration with external entities, both national and international.
4. Maintenance of the certifications. Security culture promotion. Continuous improvement as part of the integrated management system. This initiative expects an increased security and cybersecurity enabling ENAIRE’s digital transformation, as well as the development of future services and products, much more dependent on digitalisation, information sharing, etc.

This initiative expects an increased security and cybersecurity enabling ENAIRE’s digital transformation, as well as the development of future services and products, much more dependent on digitalisation, information sharing, etc. It will ensure lower probability of systems failure and/or consequences of cyber-attacks; protection against cyberattacks; increase of people's trust in digital systems and environments; greater assurance that infrastructure, people, data, and services have greater physical and cyber protection. Cybersecurity may be seen as an enabler for the development of future services and products much more dependent on digitalisation, information sharing, etc. Note that a cyberattack could have as a consequence the interruption of the service, whose consequences are difficult to estimate but, for instance, a control centre out of service by force majeure would cause around 1 million minutes of delay in 24h, which would cost around 100M€/day to users.

Digital Airspace – Digital Airspace is ENAIRE's airspace modernisation programme, aimed to ensure enough capacity during traffic recovery and to pave the way towards Airspace Architecture Study Transition Plan challenges. The programme includes a lot of actions linked to TMA ATC services, airspace structure, free route, and new tools development such as Dynamic ATFM And Flow tools. It also includes actions to improve operations in adverse meteorological conditions. It is organised in 5 plans to increase capacity and resilience, and it is aligned with the already mentioned AAS TP and its Operational Excellence Programme (OEP):

- **Capacity Plan:** Increase of sector capacity, improvement of flow management, reduction of conflict points and bottlenecks and overall improvement of ATS in all phases (en-route, TMA y TWR). It includes the local subprojects: TMA Barcelona (ATENEA-BRAIN); TMA Madrid (AMBAR); TMA Valencia (AMELIA); TMA Málaga (MIDAS); TMA Palma (BRUT).
- **Airspace restructuring Plan:** More extensive use of PBN, which allows both routes and approach procedures optimisation; compliance with Reg, (UE) 2021/116 (CP1) in TMA & AD (LEMD, LEBL, LEPA), (implementation of RNAV/RNP1 y RNP APCH) and compliance with Reg, (UE) 2018/1048 (IR PBN) with progressive implementation of RNP APCH between 2021 – 2024.

The airspace modernisation includes: IFR procedures revision and alignment with Focus Area "Airspace and Capacity" of the AAS and NM's initiatives of the Operational Excellence Programme; progressive decommissioning of VOR/DME/NDB when and where possible; Greater flexibility to satisfy user's needs; and better integration of VFR in the airspace.

- **Free – Route:** Free route implementation, including ATM system modifications, publication, operational changes, training, and sectors reconfiguration in order to adapt volumetry to the new flows. The Plan foresees Nocturn free route (with some structural limitations) by end of 2021; Free Route H24 (with some structural limitations) by mid- 2022, elimination of the structural limitations and adaptation of volumetry/SID/STAR between 2022 – 2024. Cross-border free route will be implemented by 2024- 2025.
- **ATFM 5.0:** Capacity optimisation, flexibility in high demand situations, analysis of regulations through B2B tools seeking improvement, better post-processing and analysis, all of it as part of the Operational Excellence Programme, in particular, Work Streams: WST3 (Application of ATFCM), WST5 (Enhancing Sectors throughput, including occupancies) y WST7 (Interoperability of Network and local support tools). It also supports the "Spanish National Air Navigation Strategy", Development of Dynamic ATFCM and Flow tools, such as IMPACT. Use of what-if techniques and improvement of communication with the NM. Better integration of traffic and meteorological information. Better post-ops analysis. Dynamic model of sector management. Development of a new concept of elementary sector allowing dynamic integration, which will require also new procedures development. New ATFM management models and methodologies based on occupancy and complexity concepts through the use of B2B tools.
- **Adverse meteorology management plan:** New tools, mechanisms, and procedures to make available more accurate meteorological information, aiming at a better decision making and an overall improvement of safety and capacity. The presence of predictors in the control rooms will contribute to better tools design and better-informed decision making. New tools will include geo-references for more accurate displayed info (ICARO MAP).

This programme will impact all the KPAS, although it is designed mainly for capacity, resilience, and flexibility increase. New procedures will also enhance safety through software improvements in the ATFM 5.0 line of action, with reduction of sector overloads and predictability both in pre tactical and tactical phases, Support of this programme to free route will also positively impact environment and will contribute to less costly flights and time of flight reduction. This plan is expected to derive in important capacity improvements, additional capacity, and significant reduction of delays, as well as better resilience due to new reliable tools and adaptability to traffic situations and complexity, and provision of better awareness of adverse met conditions. Capacity optimisation and the introduction of new ATM concepts will also reflect on cost-efficiency in the medium term, ENAIRE foresees to save 5 M minutes of delay which means 500 MEUR of savings for the airlines, and a potential KEA improvement of 0.05 percentual points.

Digital Tech – Digital Tech is ENAIRE's program for the digital transformation of systems, infrastructures, and CNS/ATM and maintenance services. Future technologies will contribute to capacity and better efficiency in many business dimensions, including sustainability. This technical evolution will pave the way for future virtualisation and a dynamic management and configuration. It includes 3 main plans:

- **ATM Digitalisation (SACTA-iTEC):** This includes important investments that already appeared in the old plan as part of the "SACTA evolution" (SACTA-iTEC version 4 & 5), "ATM supporting infrastructure", as well as the Digitalisation of ATM simulation. It includes the development of future 4D trajectory management tools and functionalities, advanced tools for flight management and conflict detection and resolution, stripless operation, etc, in full alignment with AAS TP.

Service oriented technical exploitation and maintenance coping with the RD 373/2017: Optimization of the technical and maintenance resources focusing on developing people's new skills, and deploying supporting technology, for a safer, efficient and digitally oriented service provision:

- CNS/ATM 5.0 Services: human factors integration, better training, new tools (such as ETNA 5.0, which will improve and automatise maintenance management), new catalogue and reposition management, and digital working position.

- **Exploitation 5.0:** centralised management and supervision of CNS/ATM systems, improving availability and continuity and reducing human error.
 - Logistic XXI: digitalization of reposition management.
 - ePALESTRA - Digital exploitation of ATM data (predictive intelligence). Use of new big data technologies.

- **CNS evolution Plan (including digitalisation and satellite technologies):** This plan includes previous (2019 draft performance plan) new major investments related to communications, navigation and surveillance, in particular, previous investment lines named "air/ground communications", "ground/ground communications", "REDAN (air navigation data network)", "satellite navigation", "navaids", "primary radars", "secondary radars" and "ADS-B". Note that an important of "voice communications system (VCS)" has been moved to ADSP project. This initiative mainly includes:
 - Introduction of EGNOS v3, and deployment of Interference Detection systems and performance GNSS analysis network.
 - Rationalization of NAVAIDS and design of Minimal Operational Network as back-up of the Satellite Navigation.
 - Renovation of the PSR network using 3D Primary Radars.
 - Conclusion of the mode S implementation.
 - Provision of surveillance services using ADS-B Data.
 - Evolution of Communications: technological evolution and operational adaptation of communications.
 - Evolution of data link ground/air stations.
 - New operational requirements for air navigation data network (REDAN).
 - Adaptation of Aeronautical Messaging (CRAMI) to the SWIM concept.
 - Adaptation and renewal of Voice Communications Systems and ground / air coverage due to operational and technological needs.
 - Implementation and evolution of a centralized meteorological information system.
 - Adaptation and renovation of transmission systems (fibre optics systems and radio links).

This programme supports the evolution of most of the services through technological modernisation and digital transformation, therefore representing the underlying enablers for all the other projects. It needs to be seen as an enabler to materialise all the expected safety, capacity and environment benefits claimed by operational solutions, which are dependent on the ATM automated systems and the accurate and timely availability of CNS information. Quantitative benefits materialise at the end of the supported project. Technology upgrades and modernisation will contribute by themselves to cost-efficiency in the medium-long term through more resilient infrastructures, optimised and easier and cheaper to maintain. A thorough list of the benefits this programme is contributing to may be consulted in the investment section of the official template.

Digital Network: This initiative is one of the main digital transformation and innovation projects at national network level. The initiative includes previous new major investment identified as "SYSRED (National network data integration)", which includes hosting the monitoring and analysis (EYWA) system in an integrated H24 supervision room. It is now complemented by a resilience plan:

- **EYWA Plan:** Integrated room for centralised supervision of services and network H24. This system will allow monitoring of the status and evolution of the quality of the Air Navigation system provided by ENAIRE through automated and systematic analysis of data and other real time information, as well as time series comparison with previous stored data. Digitalization of service performance supervision in real time, and performance analysis in post-tactical phase. Availability of integrated status information for crisis situations.

EYWA will permit to provide status and performance information to external users.

- **Resilience Plan:** Data analysis will support better decision-making processes, not only in real time, but also at strategic level with new procedures and infrastructure supported by new technologies allowing more robust service provision, mitigating the impact of potential failures. This plan includes:
 - Communications resilience: contingency measures in case of potential failures of the data network (REDAN) through some implementations in SACTA and the support infrastructure.
 - Operational resilience: reinforcing functionalities and providing additional communications systems to CATS rooms.
 - Airspace resilience (ALADÍN): visual tool supporting the evaluation of CNS systems unavailability.

The system will contribute to safety by improving knowledge, visualisation, and communication of technical incidents, which will ultimately, reduce the probability of systems unavailability. Services will be more reliable and resilient, QoS of Air navigation services will also be improved through direct observation and visualisation of relevant indicators of real time activity. Improvement of the Spanish network management will contribute to resilience and improved decision-making processes. ATS services improvement, innovation and better management will derive in better productivity and cost savings. Process efficiency will be improved. Several investments in Infrastructures and procedures across ATM/CNS systems aim to offer robust resilience to failures and service provision recovery and continuity mitigating the impact of potential unavailability. For instance, a control centre falling out of service by force majeure would cause around 1 M minutes of delay in 24h, which would cost around 100 MEUR/day to users.

Digital AIM: Digital AIM is ENAIRE's programme for the digitalisation of aeronautical information and migration to AIM concept. It will improve digitalisation and integration of data, ensuring quality and accessibility, improving the scope of AIS/AIM. This initiative includes previous new major investment known as "ICARO", together with other two additional plans:

- **Digital AIP:** It will improve information management processes and the interface between data providers and the users, also improving coordination, knowledge, and access to AIP information.
- **INSIGNIA 5.0:** This is an online tool to visualise aeronautical charts and information on tailored maps, which continues evolving to integrate data and functionalities.
- **ICARO:**
 - Digital ICARO: evolution of the current tools, extending functionalities and adapting to new requirements aligned with ATC needs and the FIS services (PLANEA).
 - ICARO SWIM: deployment of a geographic information system in order to process and provide georeferenced information to other systems and implementation of ASM FUA functions through an interface between LARA-ICARO-SACTA ATS system.

An improved aeronautical information system with better available information derives in increased safety and favours data interoperability and integration with new future applications from which better scalability resilience and cost-effectiveness are also expected. Concrete expected improvements include: Flight Plan presentation from mobile terminals (as required by airspace users in the corresponding forums); improvement in the management of restricted areas, according FUA concept; improvements in the Flight Information Service (FIS); Digital NOTAM; implementation of RCR regulation; georeferenced AIS/MET information to users. The provision of B2B services to users and clients impulses ENAIRE as a digital company and evolves towards a collaborative approach to users thanks to web services access.

Civil/Military Coordination: This initiative aims to foster the implementation of FUA in the context of a national framework of coordination between civil and military authorities. There are two main lines of action:

- **Strategic:** Improvement of coordination mechanisms promoting civil-military coordination both at national and European level, fostering FUA coordination and helping to a smooth transition to free route operations.

- Civil-military coordination improvement at all levels (strategic, pre-tactical and tactical). Processes improvement, ASM1, ASM2, ASM 3. Improved synchronisation ASM/ATFM, AirSpace Management Cell (AMC) and use of the LARA/Prismil tool.

This Plan is also aligned with the Operational Excellence Programme (OEP), Eurocontrol and expects positive impact in safety, capacity and en-route flight efficiency and environment indicators. It expects improvement in civil-military coordination procedures, better and more flexible airspace that will allow to respond better to all users' needs and improved QoS perceived by our customers.

This investment also contains a regularization action regarding properties previously owned by the military authorities but hosting CNS infrastructures, which, in compliance with Regulation EU 2017/373 ATS.OR.100 will, from now on, be owned by ENAIRE.

Eco ENAIRE - Green Sky - This is an initiative related to environment, promoting the use of renewable energy solutions and better management of residues in order to reduce ENAIRE's carbon footprint and contribute to environmental sustainability in a wide scope. This project imports the previous new major investment relative to "Environmental sustainability" and it also includes:

- Monitoring, controlling, and reducing energy consumption, with positive impact on billing.
- Deployment of systems to exploit alternative energy sources (photovoltaic panels) or more energetically efficient solutions (LED lighting, fostering the use of electric cars...).
- Reducing paper consumption and managing residues.
- Promoting a sustainable culture among employees.

The initiative will be of high positive environmental impact, though unrelated to KEA, Indirect CO2 reductions through the use of alternative energy sources are estimated around 13%. Long-term benefits for the use of renewable energies. Reductions in electricity billing. Costs reductions in 2021-2025 are estimated around 1,170,000 €.

Note that environmental sustainability is a must in current society. This project shows that ENAIRE is committed to preserve the environment beyond the KPI retained in current performance regulation. Note as well that this sustainability initiative goes beyond environment and represents also cost savings in the longer term, as indicated above.

Technical communications evolution (& basis for future concepts such as ADSP) - Development of new technology solution allowing evolution of communication infrastructure and systems, which, furthermore, will ease the implementation of new future concepts, such as ATM Data Services, based on the concept of digital evolution of current ATM system. This project, as part of ENAIRE's strategic plan, is linked to future concepts aligned with EC's SES2+ proposals, as also anticipated by the Airspace Architecture Study.

This investment project includes part of the old New&Major project "Voice Communications Systems infrastructure", which has been moved to this grouping as part of the technologic environment for ADSP, as supporting infrastructure.

Within this project, ENAIRE has included enablers that are key to current service provision, such as voice communications systems migration and cloud architecture. VCS' upgrades related to clouding are of particular interest for information sharing concepts that are also linked to ADSP future concepts, although in a non-exclusive basis (i.e that these features provide advantages in the exploitation of the information, regardless ADSPs, although for the ADSP concept they would be necessary, which is why in our strategic plan they are in the same project). Even before the implementation of the first ADSP in Europe, this technology is part of the natural evolution of the system. Airlines will benefit from more information available and accessible more quickly than today. The non- implementation of this upgrade will mean in the long-term higher and less efficient costs due to obsolete and more difficult to maintain information technologies

Benefits are expected through better response times and system availability deriving in better resilience against system failure, therefore improving safety and capacity. Improved cybersecurity is also expected. It allows scalability, flexibility, airspace reconfiguration and delegation, improved sectorization and

infrastructure rationalisation. All of them may derive in potential cost savings in services provision. Better synergies in services provision will also increase productivity, New VCS will save approximately 20% in maintenance costs in the long term. Approximately 3 MEUR/yr of savings associated to the upgrade of analogical lines to IP-based, VoIP VCS system COMETA will also improve quality of voice communications with users and resilience to failures and represents an enabler for Dynamic airspace configuration as basic requirement for ADSP and efficient operations.

CRIDA as engine on ENAIRE’s innovation - Innovation is key for evolving the ENAIRE ATM system to achieve the SES goals. Apart from deployment of new solutions, the involvement in SESAR JU activities and promoting internal R&D is a must to promote and validate new concepts leading to the improvement of the provided services. CRIDA (the REFERENCE CENTER FOR RESEARCH, DEVELOPMENT AND INNOVATION IN ATM A,I,E) is the centre supporting the innovation activities in ENAIRE, Apart from accompanying ENAIRE into the SESAR programme activities, plays a relevant role into the Execution of ENAIRE's innovation programme for ATM improvement. Its activities are mainly focusing on:

- Identifying ENAIRE needs for new R&D activity areas.
- Set up of an Innovation observatory.
- Development of R+D projects for further CNS/ATM improvement.
- Support to new functionalities implementation through the evolution of the performance monitoring tools.

Apart from the above, CRIDA works for integrating the Open Innovation into the ENAIRE innovation processes. The programme will be deployment driven, prioritising SESAR derived solutions and their eventual customization to local environments when and where required.

ENAIRE’s Digital Transformation - Digital transformation of the organisation, processes and mindset. It is part of the Strategic Plans included in the “Flight Plan 2025” addressing the Organizational Transformation through several initiatives. In particular, the one covered by this investment project of Digital Transformation **will enable increasing productivity and efficiency in services and processes, smart management of knowledge and information for making decisions, will facilitate ENAIRE's administrative procedures and service provision, and will enhance the satisfaction of users and staff because new technologies are being used. The following commitments of ENAIRE should be highlighted:**

- Optimisation, automatization, and digitalisation of key processes.
- Development of a data strategy and introduction of big data operational and corporate. Interconnection of all tools for managing data efficiently
- Digitalization of systems and applications. New tools to augment the efficiency of our resources. real-time interfaces for sharing information with other actors and clients of Air Navigation services.

Although a significant part of the investment is not ATM-related, there are some applications related to ATCO rostering and electronic briefings.

Benefits are expected in terms of better productivity and reduction of cost due to new technologies, efficiency in both services and process. Management of the knowledge and information in the decisions facilitates and reduces the time for administrative processes for users and employees.

6.2.2.5 Planned lifecycles

Note that, due to the nature of the defined investment projects, which, as can be seen in the previous section, may include several assets of different nature, in the official template ranges regarding lifecycles have been provided. The approach followed to define such ranges has been to indicate the minimum and maximum of

the involved lifecycles. Standard lifecycles are used by ENAIRE for planning purposes, according to the table shown below..

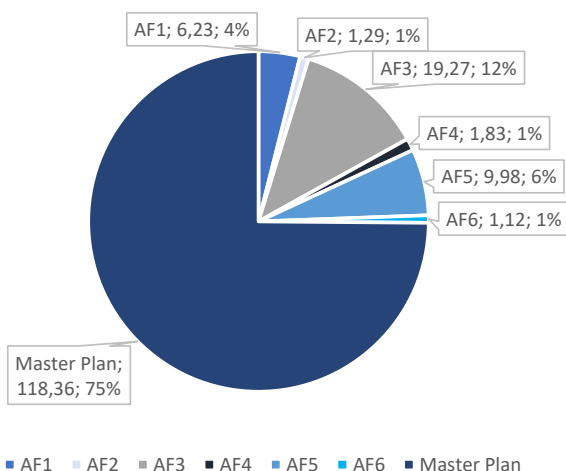
| STANDARD ESTIMATION OF LIFECYCLE PER TYPE OF ASSET FOR PLANNING PURPOSES | LIFECYCLE |
|--|-----------|
| SOFTWARE (STANDARD LICENSES / CUSTOMISED DEVELOPMENT / SW SIRA/SCADA/ORION/WONDERWARE) | 4 |
| SOFTWARE (AIR NAVIGATION APPLICATIONS EXCEPT SACTA / ICARO / COMETA) | 6 |
| SOFTWARE (AIR NAVIGATION APPLICATIONS SACTA / ICARO / COMETA) | 8 |
| INDUSTRIAL AND INTELLECTUAL PROPERTY | 4 |
| DEVELOPMENT | 4 |
| ESPECIAL PLANS | 8 |
| FLIGHT PROCEDURES | 5 |
| TERRAINS | N/A |
| BUILDINGS (AND THEIR NECESSARY ASSOCIATED CONTRACTORS) | 35 |
| URBAN DEVELOPMENT (AND THEIR NECESSARY ASSOCIATED CONTRACTORS) | 20 |
| RADARS (PSR, SSR & MLAT) | 18 |
| NAVAIDS (VOR, DVOR, DME, NDB) | 18 |
| SATELLITE NAVIGATION: GBAS, RECNET, RIMS | 5 |
| ADS SYSTEM | 8 |
| SACTA/ICARO/COMETA (HW):SERVERS, COMPUTERS,WORKSTATIONS,MONITORS... | 7 |
| COMMUNICATION SYSTEMS SCV,SCO,REDAN,TIERRA /AIR(TX/RX) | 12 |
| COMMUNICATION SYSTEMS: OPTICAL FIBER AND G/G SYSTEMS | 8 |
| SIMULATION SYSTEMS (REAL TIME SIM. AND ACCELERATED SIM:) | 5 |
| TOOLS AND MEASUREMENT INSTRUMENTS | 5 |
| ELECTRICAL INFRASTRUCTURE | 18 |
| ELECTRICAL SYSTEMS (BATTERIES ETC:) | 6 |
| CLIMATISATION AND OTHER SUPPLIES INFRASTRUCTURE (WATER, FUEL, TELEPHONY, FIRE PROTECTION, ETC) | 15 |
| SECURITY SYSTEMS (ACCESS CONTROL, ELEVATORS, MECHANICAL STAIRS, ETC) | 12 |
| MAINTENANCE AND INDUSTRIAL MACHINERY | 12 |
| SECURITY INSPECTION EQUIPMENT | 10 |
| FURNITURE AND OFFICE EQUIPMENT | 12 |
| TRANSPORT (SHUTTLES, VEHICLES, ETC) | 6 |
| IT SERVERS | 6 |
| IT (COMPUTERS AND SW SIRA) | 5 |
| IT (NETWORKS AND PERIFERIC DEVICES) | 7 |
| CONTAINERS AND PALLETS | 5 |

As an illustrative example, if a project includes, IT servers, standard software, communications equipment and works to be done in a building, a range (4 – 35 years) will appear.

6.2.2.6 Common Projects Investments

The following data traces back all the RP3 “New&Major” and “Other new” investments to CP ATM Functionalities (“Existing” costs are excluded from this classification). Therefore, comparisons are made against total costs resulting from the addition of “New&Major” and “Other new investments”.

Note that the classification of the projects against CP1 is under revision after publication of the new Regulation 2021/116. The information displayed below might be updated in the final version of the plan.



158 MEUR of the total costs reflected in RP3 (67%) have been associated to contribute directly to the European Master Plan projects and the Common Projects. The rest is associated with other investment necessary for the activity (buildings and other non-ATM infrastructure maintenance, furniture, other equipment, and materials, etc).

This distribution may change during the RP3 due to the update of Common Projects (either in timing and/or in content).

CP PLANNED INVESTMENT COSTS (ONLY New & New&Major)

| MEUR | RP3 Total | 2020 | 2021 | 2022 | 2023 | 2024 |
|--------------------|---------------|--------------|--------------|--------------|--------------|--------------|
| AF1 | 6.23 | 0.12 | 0.59 | 1.44 | 2.62 | 1.47 |
| AF2 | 1.29 | 0.06 | 0.26 | 0.39 | 0.51 | 0.06 |
| AF3 | 19.27 | 2.10 | 2.82 | 5.25 | 7.85 | 1.24 |
| AF4 | 1.83 | 0.04 | 0.20 | 0.27 | 0.52 | 0.78 |
| AF5 | 9.98 | 0.27 | 0.66 | 1.58 | 2.76 | 4.71 |
| AF6 | 1.12 | 0.02 | 0.03 | 0.12 | 0.27 | 0.69 |
| CP Total | 39.72 | 2.62 | 4.56 | 9.05 | 14.53 | 8.96 |
| Master Plan | 118.36 | 6.03 | 10.97 | 20.08 | 30.24 | 51.05 |
| Neither CP nor MP | 78.91 | 4.36 | 8.88 | 15.29 | 22.86 | 27.53 |
| TOTAL | 236.99 | 13.00 | 24.40 | 44.42 | 67.63 | 87.54 |

6.2.3 COST OF CAPITAL AND FUNDING

The estimate of the average rate used to determine the cost of capital is calculated by ENAIRE through the weighted average cost of capital (WACC) and the Capital Asset Pricing Model (CAPM). The capital cost base is estimated taking into account the average asset base of the capital employed.

As indicated in the *Article 22.4.d of the COMMISSION IMPLEMENTING REGULATION (EU) 2019/317*, the cost of capital shall be equal to the product of the following elements:

$$\mathbf{CoC} = \mathbf{Total\ asset\ base} \cdot \mathbf{WACC}$$

Total asset base:

$$\mathbf{Total\ asset\ base} = (\mathbf{Net\ book\ value} + \mathbf{Adjustments\ total\ assets} + \mathbf{Net\ current\ assets})$$

Regarding total asset base, next table shows the values established for the different years of the reference period differed by charging zones:

| LE | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|-------------|-------------|-------------|-------------|-------------|
| <i>Net book value - T1 3.1</i> | 454,670 | 483,939 | 535,811 | 581,629 | 609,994 |
| <i>Adjustments total assets (*) - T1 3.2</i> | - | - | - | - | - |
| <i>Net current assets - T1 3.3</i> | 2,468 | -35,935 | -60,586 | -51,863 | -39,317 |

| GC | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|-------------|-------------|-------------|-------------|-------------|
| <i>Net book value - T1 3.1</i> | 58,090 | 62,669 | 74,703 | 85,721 | 92,964 |
| <i>Adjustments total assets (*) - T1 3.2</i> | - | - | - | - | - |
| <i>Net current assets - T1 3.3</i> | 315 | -4,653 | -8,447 | -7,644 | -5,992 |

| TNC | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|-------------|-------------|-------------|-------------|-------------|
| <i>Net book value - T1 3.1</i> | 36,202 | 40,221 | 44,544 | 48,077 | 50,745 |
| <i>Adjustments total assets (*) - T1 3.2</i> | - | - | - | - | - |
| <i>Net current assets - T1 3.3</i> | 196 | -2,987 | -5,037 | -4,287 | -3,271 |

(*) No possible adjustments to total assets has been determined by the national supervisory authority either used by the air navigation service provider

WACC:

$$\mathbf{WACC} = \mathbf{RoE} \cdot \frac{\mathbf{E}}{\mathbf{D} + \mathbf{E}} + \mathbf{Kd} \cdot \frac{\mathbf{D}}{\mathbf{D} + \mathbf{E}}$$

Where:

RoE = The return on equity shall be that provided in the performance plan for the reference period and shall be based on the financial risk incurred by the air navigation service provider.

Kd = The interest rate on debts shall be equal to the weighted average interest rate on debts of the air navigation service provider.

$$\mathbf{RoE} = \mathbf{Rf} + \mathbf{Pm} * \mathbf{\beta e}$$

Rf = Risk free rate
 Pm= Market risk premium
 Be = equity beta

$$\beta e = \beta a * \left[1 + (1 - t) \cdot \frac{D}{E} \right]$$

βa = Asset beta
 t = Corporate tax rate

Current WACC for ENAIRE is lower through all the period compared to Draft RP3 Performance Plan elaborated in 2019, lower than -25% in the latest years of the period:

CURRENT WACC COMPARED TO DRAFT RP3 PLAN (2019)

| | 2020A | 2021D | 2022D | 2023D | 2024D |
|---|--------|--------|--------|--------|--------|
| WACC % (pre-tax) - Draft Plan (2019) | 5.70% | 5.74% | 5.79% | 5.87% | 5.93% |
| NEW - WACC % (pre tax) | 5.05% | 4.93% | 4.67% | 4.34% | 4.25% |
| % NEW / draft Plan (2019) | -11.5% | -14.1% | -19.4% | -26.0% | -28.3% |

The forecast includes an estimation of external funding that will depend on the real traffic evolution.

Comments related to the main parameters applied for cost of capital determination:

Risk free rate: 2.3%

ENAIRE follows the regulations and latest recommendations of the National Commission for Markets and Competition (CNMC), the economic supervisor of the majority of regulated sectors.

The CNMC considers as risk free rate the average of the ten-year bond in the previous five years adjusted upwards (1%) to correct the effect of the debt purchase mechanism carried out by the European Central Bank on sovereign debt (adjustment by application of the so-called Quantitative Easing).

The National Commission for Markets and Competition (CNMC), in several documents (November 2019 concerning energy sector and December 2020 updating the Methodology of WACC calculation for the telecommunications operators), considers the application of an adjustment to the risk free rate, called adjustment due to Quantitative Easing (QE). The justification is that the rate of the ten-year Spanish bond is below its real value, affected by the QE program of purchase of public debt.

Then, the risk-free rate value of 1.3%, considered by the CNMC in its document related to telecommunications, is adjusted with a 1% more due to QE.

In addition, the value of 1.30% mentioned, resulting from the average of the bond to ten years in the previous five years, coincides with the average value for Spain collected by Professor Pablo Fernández (IESE) for the year 2020. Therefore, with the application of the QE, which the CNMC recommends and has applied in its latest WACC estimates for both telecommunications and other regulated sectors, would be in the same value.

Market risk premium: 5.31%

The above-mentioned CNMC document of December 2020 considers a market risk premium of 5.31%, as the result of applying the selected methodology to that effect.

Just to indicate some other possible references, the value resulting from the survey conducted by Professor Pablo Fernández, with a median value collected of 6.4%, also, while the historical data of DMS (Dimson, Marsh and Staunton) is around 3.6%, another world benchmark can be mentioned such as DAMODARAN (Stern School of Business), that presents a value of 6.27% for Spain, which would lead to an average of around 5.4%, fully in line with the estimate by the CNMC and with the figure used by ENAIRE in the draft Plan RP3 (5.00%).

Asset beta or Risk of Business: 0.4

It has to be pointed out that there is no specific documentation available related to the asset beta for the air navigation service provision sector.

Just to mention a first reference, the specific parameter of the deleveraging asset beta for telecommunications operators proposed by the CNMC, in the above-mentioned document, is 0.53.

Although elaborated in 2014 it can be mentioned that, according to the final report elaborated by Steer Davies Gleave for the European Commission on the "*Cost of Capital Study, Cost of Equity and Pension Cost of Air Navigation Service Providers*": "*Based on the comparison of ANSPs with entities from other regulated industries, we conclude that the underlying risk of the ANSP (after abstraction from financial risk due to leverage) can be represented with a assets beta in the range of 0.3 to 0.5*".

Taking into account that in the last draft of RP3 Performance Plan elaborated in 2019 ENAIRE considered a value of 0.50, close to that of other regulated sectors and to that indicated by the CNMC, it should also be accepted that the current economic scenario presents a greater economic risk than that existing in 2019:

- global economic slowdown,
- uncertainty about the pace and extent of recovery in the aviation sector, as well as
- the scenario for the liberalisation of air navigation services.

Considering the above information, in particular that there is no other beta-related information that could be considered appropriate for air navigation service providers and no proposal at European level on this, ENAIRE considers that it would be perfectly appropriate to maintain the same value of 0.50 for this parameter, considered in the draft Performance Plan.

However, given the current exceptional crisis circumstances at the time of the revision of the new Performance Plan, and in order to reduce the cost to be transferred to the charges system, ENAIRE considered a reduction of the asset beta parameter to 0.40.

With these parameters, the current tax rate of 25% and leverage between 27% and 56% estimated for RP3, the estimated cost of equity before tax would be around 6.67% to 8.65% for years 2020-2024, summarised as follows:

| ENAIRES | RP3 PP | | | | |
|---|------------------------------------|--------------|--------------|--------------|--------------|
| Assumptions for the Cost of Capital (WACC) in nominal terms | For the determined cost of capital | | | | |
| | 2020 A | 2021 D | 2022 D | 2023 D | 2024 D |
| Share of financing through equity % - T1 – 3.8 | 73.35% | 71.85% | 61.20% | 47.77% | 43.58% |
| Corporate tax rate % | 25.0% | 25.0% | 25.0% | 25.0% | 25.0% |
| Risk free rate % | 2.3% | 2.3% | 2.3% | 2.3% | 2.3% |
| Market risk premium % | 5.31% | 5.31% | 5.31% | 5.31% | 5.31% |
| Asset beta | 0.40 | 0.40 | 0.40 | 0.40 | 0.40 |
| Equity beta | 0.51 | 0.52 | 0.59 | 0.73 | 0.79 |
| Return on Equity % (after tax) | 5.00% | 5.05% | 5.43% | 6.17% | 6.49% |
| Return on Equity % (pre tax) - T1 – 3.6 | 6.67% | 6.73% | 7.25% | 8.22% | 8.65% |
| Average interest on debts - T1 – 3.7 | 0.58% | 0.32% | 0.60% | 0.80% | 0.86% |
| WACC % (pre tax) - T1 – 3.5 | 5.05% | 4.93% | 4.67% | 4.34% | 4.25% |

Comparing with the support table prepared by the PRB, the WACC data of ENAIRES seem very reasonable and in line with that support information, considering the whole period and the average value for the period.

It has to be taken into account that ENAIRES is a company with autonomous economic management and financed by its own means, without public resources or inclusion in the State budget.

6.3 COSTS FROM OTHER ENTITIES

Determined costs and unit costs from the other entities contributing to the cost base for en-route and terminal charges can be seen in the following tables:

| Cost-Efficiency Targets | | | 2020 | 2021 | 2020/2021 | 2022 | 2023 | 2024 | |
|--|---|-----------------------------|-----------------------------|--------|-----------|--------|--------|--------|--------|
| Cost efficiency KPI #1: En-route Spain - Continental | ANSP EA | Determined costs (EUR 2017) | 22,364 | 23,467 | 45,831 | 24,775 | 25,550 | 26,406 | |
| | | DUC (EUR 2017) | 5.04 | 3.68 | 4.24 | 2.21 | 2.20 | 2.13 | |
| | AEMET | Determined costs (EUR 2017) | 27,508 | 27,896 | 55,404 | 28,575 | 29,031 | 29,308 | |
| | | DUC (EUR 2017) | 6.20 | 4.38 | 5.13 | 2.55 | 2.49 | 2.36 | |
| | AESA | Determined costs (EUR 2017) | 4,930 | 4,469 | 9,399 | 4,329 | 4,117 | 3,808 | |
| | | DUC (EUR 2017) | 1.11 | 0.70 | 0.87 | 0.39 | 0.35 | 0.31 | |
| | NSA EA | Determined costs (EUR 2017) | 1,190 | 1,088 | 2,278 | 1,106 | 1,124 | 1,143 | |
| | | DUC (EUR 2017) | 0.27 | 0.17 | 0.21 | 0.10 | 0.10 | 0.09 | |
| | ANSMET | Determined costs (EUR 2017) | 187 | 252 | 439 | 269 | 272 | 274 | |
| | | DUC (EUR 2017) | 0.04 | 0.04 | 0.04 | 0.02 | 0.02 | 0.02 | |
| | ECTL | Determined costs (EUR 2017) | 30,866 | 33,568 | 64,434 | 34,630 | 34,986 | 35,174 | |
| | | DUC (EUR 2017) | 6.96 | 5.27 | 5.96 | 3.09 | 3.01 | 2.83 | |
| | Cost efficiency KPI #2: En-route Spain - Canarias | ANSP EA | Determined costs (EUR 2017) | 10,506 | 10,704 | 21,210 | 11,232 | 11,447 | 11,694 |
| | | | DUC (EUR 2017) | 13.08 | 11.27 | 12.10 | 7.94 | 7.11 | 6.59 |
| AEMET | | Determined costs (EUR 2017) | 5,714 | 5,795 | 11,509 | 5,936 | 6,028 | 6,085 | |
| | | DUC (EUR 2017) | 7.12 | 6.10 | 6.57 | 4.20 | 3.74 | 3.43 | |
| AESA | | Determined costs (EUR 2017) | 1,087 | 884 | 1,971 | 751 | 690 | 626 | |
| | | DUC (EUR 2017) | 1.35 | 0.93 | 1.12 | 0.53 | 0.43 | 0.35 | |
| NSA EA | | Determined costs (EUR 2017) | 120 | 121 | 241 | 123 | 125 | 127 | |
| | | DUC (EUR 2017) | 0.15 | 0.13 | 0.14 | 0.09 | 0.08 | 0.07 | |
| ANSMET | | Determined costs (EUR 2017) | 33 | 45 | 78 | 48 | 48 | 48 | |
| | | DUC (EUR 2017) | 0.04 | 0.05 | 0.04 | 0.03 | 0.03 | 0.03 | |
| ECTL | | Determined costs (EUR 2017) | 6,806 | 6,638 | 13,444 | 6,005 | 5,861 | 5,782 | |
| | | DUC (EUR 2017) | 8.48 | 6.99 | 7.67 | 4.25 | 3.64 | 3.26 | |
| Cost efficiency KPI #3: Terminal Spain | | AEMET | Determined costs (EUR 2017) | 2,599 | 2,651 | 5,249 | 2,736 | 2,848 | 2,940 |
| | | | DUC (EUR 2017) | 7.43 | 5.33 | 6.20 | 3.25 | 3.23 | 3.18 |
| | AESA | Determined costs (EUR 2017) | 961 | 982 | 1,943 | 1,226 | 1,475 | 1,713 | |
| | | DUC (EUR 2017) | 2.75 | 1.98 | 2.29 | 1.46 | 1.68 | 1.85 | |
| | ANSMET | Determined costs (EUR 2017) | 12 | 17 | 29 | 18 | 18 | 18 | |
| | | DUC (EUR 2017) | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 | |

6.4 CHARGING POLICY

Regulation (EU) 2020/1627 in its article 5 states that:

3. In respect of calendar years 2020 and 2021, reductions or increases of unit rates under Article 28(4) to (6) of Implementing Regulation (EU) 2019/317 shall be calculated on the basis of the relevant total determined costs and the relevant total actual costs for those 2 years. Those 2 years shall be referred to as a single period and replace the calendar year period referred to in those provisions. Without prejudice to the last sentence of the second subparagraph of Article 29(5) of Implementing Regulation (EU) 2019/317, the reductions or increases of unit rates to be applied in year n+2 shall be made in calendar year 2023.

4. In respect of RP3, adjustments shall in accordance with the second subparagraph of Article 29(5) of Implementing Regulation (EU) 2019/317 be calculated on the basis of the draft performance plans as relevant for the setting of unit rates under Article 17(1) of Implementing Regulation (EU) 2019/317.

By way of derogation from Article 29(5) of Implementing Regulation (EU) 2019/317, those adjustments shall be spread equally over 5 calendar years, starting in the year following the year in which the performance plan has been adopted.

5. The national supervisory authority may decide to extend the time period referred to in paragraph 4 to a maximum of 7 calendar years, where this is necessary in order to avoid a disproportionate effect of the carry-overs on the unit rates charged to airspace users.

Spain, in its commitment of preventing disproportionate effects in unit rates charged to airspace users in coming years, will spread the adjustments referred to in article 5(3) in 7 years as article 5(5) states.

In this sense, during the period for written comments after the consultation of the Performance Plan held on 30 July 2021, two stakeholders asked to assess the option showed by other States during their consultations on distributing adjustments equally over seven years based on the forecast service unit. This interpretation means an equal amount per forecasted service unit starting from 2023 until 2029.

This interpretation was rejected by the PRB during the NCP meeting held on 9 September 2021 and clarified that “Article 5(4) of Implementing Regulation 2020/1627 refers to ‘adjustments’ which in our understanding are absolute amounts of money. This amount needs to be spread ‘equally’, i.e. the same amount of money each and every year of the 5-7 year period. To us this means that a formula setting the amount of money to be spread according to expected traffic distribution within the period is not covered by the rules.”

In the case that the PRB approach eventually changes in the moment to apply the adjustments and the alternative interpretation of article 5(4) and (5) is finally accepted, Spain would be interested in its application on the understanding that it will bring benefits to the recovery of airspace users, as intended in art. 5 of Regulation (EU) 2020/1627.

7. INTERDEPENDENCIES AND TRADE-OFFS

This section describes the interdependencies and trade-offs between the various KPAs, including the assumptions used to assess trade-offs. It also includes an evaluation of the impact on safety of the performance plan with any mitigation required to maintain safety assurance.

7.1 INTERDEPENDENCIES BETWEEN SAFETY AND OTHER KPAS

Every change in the functional system is assessed from the safety point of view in the context of the safety management system processes. If the assessment identifies any potential safety implication, in order to avoid them, appropriate mitigation measures are always established, before putting in place the proposed change. Maintaining the levels of safety is the main issue when trying to reach targets in any KPA.

Safety assurance is brought by the Safety Management System implemented in the certified ANSPs ENAIRE and FerroNATS and through the oversight activity of the NSA AESA, under the umbrella of the EASA Regulations.

ENAIRE makes use a range of indicators to assess safety levels, which contribute to ensure targets on the rest of KPAs do not degrade safety, in particular:

- NPS indicator (Weighted safety level for incidents), severe occurrences weighted with traffic, Scope: All types of operational occurrences (not only separation minima violations and runway incursions as established by Regulation, severities A and B are included). Global aggregation level (all the ENAIRE services provision)
- Specific Safety monitoring indicators related to units/sectors, to certain types of incidents and to implemented changes, in order to check if Safety performance after the change is according to expected.

ENAIRE's management staff continuously monitors the relevant key performance indicators in order to both try to reach the operational targets and, above all, ensure that safety is always preserved.

Safety is prioritised. For that reason, the implementation of new initiatives towards meeting the targets, require risk mitigation measures. This includes training that requires operational staff to be available, However, the workforce is dimensioned for a determined capacity, in situations of high demand it is necessary to use all the resources for the operation. For this reason, implementations that require significant training are normally removed from high season.

FerroNATS, as the other air navigation service provider within the performance scheme is in line with prioritization of safety over any other criteria and allocate all required resources to achieve this goal. The organisation integrates safety fully into overall objectives.

7.2 INTERDEPENDENCIES BETWEEN CAPACITY AND ENVIRONMENT

One of the major elements in the analysis of interdependencies between environment / flight efficiency with other areas, in particular capacity, is related to re-routings. Re-routings are used to take advantage of available capacity that can happen at the expense of horizontal flight efficiency, Inversely, prioritization of the shortest routes may congest some sectors.

In the current scenario of reduced traffic due to the COVID-19 pandemic, there is eventually a lesser need for re-routings to help capacity, However, it is worth noting than during year 2019 ENAIRE actively collaborated in the context of the measures proposed by the NM to alleviate the capacity constraints in central Europe, significantly contributing to the network improvement. Should a need to balance capacity at

network level repeats in the short term, deriving in a redistribution of traffic flows that impacts the Spanish airspace, analysis on whether measures could locally affect the KEA indicator would be needed.

In a more general way, the following elements also stand out in the analysis:

- Re-routings affecting flows within a sector may vary complexity, either because the apparition/disappearance of interactions or because interactions, occur in a more inconvenient area.
- Re-routings affecting several sectors may affect saturation since the flow may discharge some sectors while collapsing others or vice versa, also resulting in potential reorganisation of the airspace through creation of new sectors or elimination of some current ones.
- The previous points may also affect the traffic flows at ACC level.

7.3 INTERDEPENDENCIES BETWEEN COST-EFFICIENCY AND CAPACITY

This section has been reviewed in the light of the new scenario. The revised RP3 Performance Plan has been elaborated in a very different situation than the initial one.

When RP3 performance plans were first presented in 2019, capacity shortage was the main concern in Europe. Improving capacity in order to reduce ATFM delays was the main challenge for Spain during RP3, taking also into account that the high traffic levels experienced during RP2 (with nearly 30% deviations from the assumptions made in the performance plan) which was still expected to affect RP3 results, especially during the first part of the period.

In that scenario, the main challenge was to hire enough ATCOs to offer the required services and capacity, assuming the necessary costs, Spain's performance plan presented in 2019 was already considered a balanced approach, in which cost increases allowed improvements in both key performance areas. Preliminary evaluations of the Spain Performance Plan were quite positive in March 2020. Although formal approval of the plans was suspended due to the COVID-19 outbreak, Spain cost efficiency targets were judged as consistent with EU targets.

COVID-19 has temporarily reduced the need of additional capacity. Traffic levels in 2020 have turned back to before 1990's levels, but there is a lot of uncertainty on how long this setback is going to last. Should the sector recovery happen soon enough, the capacity shortage situation would be reproduced, especially if all the initially planned actions get suspended.

For this reason, ENAIRE, in line with other European ANSPs, advocates for adequate consideration of future capacity needs, and the opportunity to prepare and adequately invest during the recovery time, so that RP3 becomes an opportunity for a smooth transition towards a RP4 with normal traffic levels and strengthened perspectives of growth. This vision is without prejudice of adequate prudence and moderation during the critical years 2020 and 2021.

This is why in this revised plan, ENAIRE, conscious of the new situation has reconsidered priorities. In the revised plan, capacity is not the immediate objective, due to the traffic drop, but still we should use the period and take advantage of the time borrowed as a consequence of the COVID-19 pandemic, to work for the capacity that will be necessary in the next years.

The revised strategy for the reference period is balanced around different goals:

- Cost control during the period.

ENAIRES, seriously affected by the worst crisis known to the aviation sector, reviewed its plans in the light of both temporary and structural measures, allowing to face the current situation and to contain, as much as possible, the expected economic loss resulting from the pandemic.

Regarding staff, specially ATCOS, the values for total ENAIRES staff costs reflects the significant measures of reduction adopted in years 2020 and 2021 and a very moderate evolution for the rest of the period, presenting figures, for the latest years of the period, still below 2019 actual cost.

The main measures for the period have been a delay in the hiring plan, the number of ATCOS in “Active reserve” increased, reductions in variable salary complements, containment in salary increases, reduction in the number of extra hours when possible, as well as adjustment and prioritisation of training courses.

However, ENAIRES still needs to recruit new controllers, in order to have the necessary staff to cope with the foreseen evolution in air traffic in optimal conditions of safety and efficiency. This will also serve to rejuvenate the staff, since ENAIRES’s ATCOS have a quite high average age and with an unbalanced population pyramid.

A moderate hiring plan of ATCOS is foreseen from year 2021, considering the long training periods required by the controllers in order to be able to provide effective service in the ENAIRES Towers and Control Centers. Approximately 2 years elapse from the publication of a call for controller positions until the selected person starts working in an ENAIRES operational unit.

It has to be pointed out that, considering the foreseen increase of control staff in Active Reserve (RA) as well as the reviewed salary for new recruitments, the associated expenses are estimated to show a reduction by -7% and -8% in 2020 and 2021, compared to 2019, and present a moderate evolution, always below 2019 actual, in the remaining years.

- Management of a necessary Investment Plan in order to prepare a recovery future.

Technology evolution is also one of the pillars to balance the cost-efficiency versus capacity trade-off. As explained in the sections corresponding to both capacity plans and investments ENAIRES wages for a counter-cyclic investment plan, which ensures the lower traffic period is used to pave the way towards RP4. The right investments will also allow more sustainable capacity solutions for the future.

The proposed investment plan will also make the best possible use of the funding made available through European mechanisms. It is expected to receive more than 150 MEUR, which will reflect in reductions of the cost base and unit rates.

In conclusion, we think that, in a scenario of low traffic, our challenges for the new Plan are the cost control and to invest in the right way to be prepared for the traffic recovery, to be cost-efficient and to take advantage for the future, for facing the next capacity targets. In this sense, ENAIRES’S Plan shows a fair balance between cost-efficiency and capacity, a cautious cost evolution with figures in real terms below 2019 actual and an Investment Plan as a way to modernization and technology for the capacity of the next future.

8. RISK SHARING AND REVISION MECHANISM

8.1 INTRODUCTION

This section includes the reference to the charging parameters that shall apply in RP3.

8.2 TRAFFIC RISK

With regard to the traffic risk sharing mechanism defined in Article 27 of the Regulation (EU) 2019/317, the standard sharing keys shall be the ones applicable for both en-route and terminal charging. That is, AESA has decided not to adapt the parameter of the traffic risk sharing mechanism laid out in paragraphs from 2 to 4 of Article 27.

8.3 COST RISK

According to Article 28 in Regulation (EU) 2019/317 the difference between actual and determined costs over the reference period is borne by the ANSP or the Member State concerned.

The general principle above does not apply to the following costs, in line with Article 28.3;

- a) unforeseen changes in costs of new and existing investments;
- b) unforeseen changes in costs referred to in the third subparagraph of Article 22(1);
- c) unforeseen and significant changes in pension costs established in accordance with Article 22(4) resulting from unforeseeable changes in national pensions law, pensions accounting law or unforeseeable changes in financial market conditions, on the condition that such changes in pension costs are outside the control of the air navigation service provider and, in the case of cost increases, that the air navigation service provider has taken reasonable measures to manage cost increases during the reference period;
- d) unforeseen and significant changes in costs resulting from unforeseeable changes in interest rates on loans that finance costs arising from the provision of air navigation services, on the condition that such changes in costs are outside the control of the air navigation service provider and, in the case of cost increases, that the air navigation service provider has taken reasonable measures to manage cost increases during the reference period;
- e) unforeseen and significant changes in costs resulting from unforeseeable changes in national taxation law or other unforeseeable new cost items not covered in the performance plan but required by law.

The adjustments due to differences in year n between the actual and determined costs related to point (a) above, shall be applied in the following reference period as stated in Article 28(4).

8.4 REVISION OF THE PERFORMANCE PLAN

According to Article 18.1 in Regulation (EU) 2019/317, Member States may revise one or more of its performance targets if at least one of the following circumstances occurs:

- (i) At least one of the alert thresholds referred to in point (b) of Article 9.4 is reached
- (ii) The initial data, assumptions and rationales, including on investments, on the basis of which the performance targets concerned were set are to a significant and lasting extent no longer accurate due to circumstances that were unforeseeable at the time of the adoption of the performance plan.

In both cases, the NSA has to assess the situation and determine the results cannot be mitigated without revising the targets. The actual revision of the targets, is subject to a positive decision from the EC.

For the purpose of the mechanism described in point (i) above, the reference will be the alert thresholds defined in Article 6 of the Commission Implementing Decision (EU) 2021/891 of 2 June 2021 on European-wide targets:

- 1) When the actual traffic, recorded by Eurocontrol, deviates from the traffic forecast in the performance plan (sections 2.4.2.1 and 2.4.2.2) over a given calendar year by at least 10% of IFR movements.
- 2) When the actual traffic, recorded by Eurocontrol, deviates from the traffic forecast in the performance plan (sections 2.4.2.1 and 2.4.2.2) over a given calendar year by at least 10% of service units.
- 3) where the variation of the reference values as a result of the seasonal updates of the NOP pursuant to point (a) of Article 9(4) and Article 9(8) of Regulation (EU) 2019/123 in comparison to the reference values from the latest version of the NOP available at the time of drawing up the performance plan is at least:
 - 0.05 minute of en-route ATFM delay if the reference value from the latest version of the NOP available at the time of drawing up the performance plan is less than 0.2 minute of en-route ATFM delay; or
 - 0.04 minute of en-route ATFM delay increased by 5 % of the reference value from the latest version of the NOP available at the time of drawing up the performance plan if the reference value is greater than or equal to 0.2 minute of en-route ATFM delay.

| | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|------|------|-------|-------|-------|
| Reference values (min of ATFM delay per flight) | - | - | 0.20 | 0.19 | 0.19 |
| Alert thresholds | - | - | ±0.05 | ±0.05 | ±0.05 |

For the purpose of the mechanism described in point (ii), given the specificities of the ATS provision model in Spain, factors such as changes in the conditions of the contracts between ANSPs and airport operators can be considered a reason for the revision of the targets.

9. TERMINAL NAVIGATION SERVICES AND MARKET CONDITIONS

9.1 INTRODUCTION

The performance and charging scheme aim to enhance the performance of air navigation services through gate-to-gate approach, covering both en-route and terminal air navigation services (TANS). TANS are provided in Spain in the context of a model in which public and private providers coexist.

The Commission Implementing Decision (EU) 2019/2174, of 17 December 2019, on the existence of market conditions, within the meaning of Article 35 of Commission Implementing Regulation (EU) 2019/317, in respect of some of the terminal air navigation services at the airports of Alicante - Elche and Ibiza was adopted. That Decision stated that the assessment of market conditions for the provision of aerodrome air traffic control services at airports of Alicante - Elche and Ibiza was carried out in accordance with the conditions laid down in Annex X to Implementing Regulation (EU) 2019/317.

This section is introduced in the ESPP3, in order to provide more clarity on the elements for which Regulation (EU) 2019/317 fully applies and separate the ones that are under the market conditions umbrella. In particular, this section:

- Lists the airports, and services within them, that are subject to market conditions and therefore should be in the scope of the exemptions of the performance and charging scheme Regulation.
- Sums up the approach to Safety, Environment, and Capacity KPIs, applicable to the TANS under market conditions.

9.2 SCOPE

Regarding terminal air navigation services (TANS), the performance and charging scheme Regulation applies to airports with 80,000 or more IFR movements per year, measured using the average of the three years prior to the performance plan being submitted in 2019. Considering this definition, the following airports are included in the scope of this regulation during RP3:

| Airports | Average annual movements (*) | ATS Provider |
|--|------------------------------|--------------|
| Adolfo Suárez Madrid-Barajas | 391,757 | ENAIRES |
| Josep Tarradellas Barcelona-El Prat | 322,303 | ENAIRES |
| Palma de Mallorca | 208,777 | ENAIRES |
| Málaga-Costa del Sol | 131,453 | ENAIRES |
| Gran Canaria | 117,696 | ENAIRES |
| Alicante - Elche | 92,841 | FerroNATS |
| Ibiza | 72,574 | FerroNATS |

(*) Considering 2016-2017-2018

Actual traffic 2020 decreased the average annual movements for Alicante -Elche and Ibiza below the previous threshold and STATFOR forecast foresees to maintain figures below 80,000 IFR movements per year by the end of the period for both airports. However, these two airports are kept within the scope of the Plan for the whole period.

Since market conditions are proved, Article 35 in Regulation (EU) 2019/317 allows the exclusion from charging requirements. The full list of exemptions under these circumstances are:

- The application of cost efficiency targets, including the setting of determined costs.

- The application of traffic risk sharing and cost sharing mechanisms.
- The setting of financial incentives in the KPAs of capacity and environment.
- The calculation of terminal charges.
- The setting of terminal unit rates.
- Being subject to certain consultation requirements.

To determine whether this service is subject to market conditions, the Member State must have:

- A detailed analysis in accordance with the conditions laid down in Annex X of the Regulation (EU) 2019/317.
- Several airspace users' consultation concerned on the intended decision and taken account of comments.
- Make this decision and the assessment publicly available.
- Submit this decision and the assessment to the Commission and received the agreement of the Commission.

Considering the above, and the fact that ENAIRE is a public entity, the possibility of market conditions exists only for the services provided by FerroNATS in Alicante - Elche and Ibiza airports for TANS operations (only for aerodrome control service).

FerroNATS is a private Spanish Air Navigation Services Provider (ANSP), certified by AESA and designated by the Ministry for Transport (Ministerio de Transportes, Movilidad y Agenda Urbana). FerroNATS is the result of a joint venture of Ferrovial Services and the British ANSP NATS Services Limited. This enterprise was created to bid for the contracts for the provision of the aerodrome ATS services put out to tender by AENA (airport operator) in several of airport control towers in 2011, under the umbrella of the Law that effectively liberalised these services in Spain (Ley 9/2010). FerroNATS provides aerodrome air traffic control services from the airport tower, that is: the management of arrivals to and departures from the runway, the taxiways and the airspace under the responsibility of the airport tower.

Regarding the above introduction, it has been proved that all the established requirements in Annex X of the Performance and Changing Regulation are met for Alicante - Elche and Ibiza airports, currently provided by FerroNATS, as it is stated in "Evaluation Report of SES Market Conditions in Spain". The analysis is summarized below:

- No significant legal or economic barriers are found that prevent a service provider from offering to provide or withdraw from the provision of TANS (only taking on board in mind the part of aerodrome control service).
- No significant barriers are found in relation with the tendering process and the value and scope of this assessment.
- No significant barriers are found in relation with the existence of any procedure that could affect to the intellectual property or staff to be transferred.
- No significant legal or economic barriers are found that prevent airport operators from choosing the air traffic services provider.
- There is a range of TANS service providers and there are public tendering processes available to these Spanish airports.
- These airports are either subject to economic regulation or actively compete for airline business – and so all face commercial incentives to manage the costs of TANS.
- Where TANS providers also provide en-route air navigation services, these activities are subject to separate accounting and reporting arrangements.
- This assessment applies to TANS operations (only for aerodrome control service) at Ibiza and Alicante airports subject to the relevant EC regulation.

The Commission Implementing Decision (EU) 2019/2174, of 17 December 2019, on the existence of market conditions, within the meaning of Article 35 of Commission Implementing Regulation (EU) 2019/317, in respect of some of the terminal air navigation services at the airports of Alicante - Elche and Ibiza was adopted. That Decision stated that the assessment of market conditions for the provision of aerodrome air traffic control services at airports of Alicante - Elche and Ibiza was carried out in accordance with the conditions laid down in Annex X to Implementing Regulation (EU) 2019/317.

Consequently, the exemptions set out in Article 35 of Regulation (EU) are applicable to these services and locations during the whole period of RP3. Nevertheless, it is necessary to establish Safety and Capacity targets for this TANS provider (understanding TANS as the provision of airdrome ATC services).

The market conditions exist in the service provision at the airport, and they are not necessarily limited to the ANSP currently operating. When the contracts for aerodrome ATS at Alicante - Elche and Ibiza, between AENA and FerroNATS expire, a different ANSP could win the tender process and enter into operation. However, the market conditions would persist. AESA would analyse if eventual changes due to the renewal of the contracts between AENA and the ANSPs require an update of the ESPP3.

During 2019-2020 a new tendering process for Alicante – Elche and Ibiza airports was carried out by AENA, resulting FerroNATS the provider awarded of the process and therefore renewing the contract for the provision of aerodrome control service at those airports for seven more years. As a result, at the beginning of 2021. AESA assessed that conditions laid down in Annex X of Regulation 2019/317 continued being met so market conditions were concluded to remain valid as stated in 2019.

9.3 SAFETY

FerroNATS as a TANS provider must report the safety performance under Regulation (EU) 2019/317. Regarding the Safety key performance area (KPA), the Performance and Charging Regulation requires targets to be set at National level on the related KPI set out below:

- The effectiveness of safety management to be achieved by air navigation service providers, certified to provide air traffic services.

With due consideration to the EU-wide goals, the Spain Performance Plan targets are set out below for all the services and dependencies subject to market conditions:

| Safety KPI #1: Level of Effectiveness of Safety Management - EoSM | | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|------------------------------|------|------|------|------|------|
| Union-wide Targets | Safety Risk Management MO | - | - | - | - | D |
| | For all other MOs | - | - | - | - | C |
| Alicante-Elche and Ibiza Aerodrome ATS | Safety policy and objectives | C | C | C | C | C |
| | Safety risk management | C | C | C | C | D |
| | Safety assurance | C | C | C | C | C |
| | Safety promotion | C | C | C | C | C |
| | Safety culture | C | C | C | C | C |

At the time of the drafting of this document, the AMC and GM from EASA has just been made available (19th of September). The transition to the new methodology has been made using the drafts advanced by EASA, See Annex A, section 1.2.

In the area of safety, the following lines of work represent the evolution expectations of FerroNATS:

- Policy describing the interface with judicial authorities in related cases with the application of Just Culture.
- Continue advancing in the knowledge and improvement of the Safety Culture through evaluations of external bodies taking into account different groups and their involvement in safety levels.

- Evolution of the Safety Management Systems audit and survey procedures to a model of risk-based supervision.
- Work on the identification of leading indicators.

9.4 ENVIRONMENT

The environment KPIs are set for en-route services, so there is not target set for TANS provider. Out of all the environment PIs which have reporting requirements (but no targets set), only one is applicable at the airport level:

- Additional time in the taxi-out phase.

In accordance with Regulation (EU) 2019/317, FerroNATS, as a TANS provider at Alicante - Elche and Ibiza airports will monitor and report these PIs annually.

9.5 CAPACITY

The arrival capacity KPI is defined as follows: The average time, expressed in minutes, of arrival ATFM delay per flight attributable to terminal and airport ANS, calculated at local level as:

- (i) The average arrival delay at the destination airport caused by ATFM regulations per inbound IFR flight;
- (ii) All IFR flights landing at the destination airport and all ATFM delay causes, excluding exceptional events; and
- (iii) For the whole calendar year and for each year of the reference period.

There is no EU-wide target on arrival capacity, or any other external reference. Considering local reference, the ESPP3 arrival capacity targets and airport level allocation for TANS providers at Spain are set out below. The reference values per airport are established only for monitoring purposes.

| Capacity KPI #2: Arrival ATFM delay per flight: aerodrome TWR environment | 2020 | 2021 | 2022 | 2023 | 2024 |
|--|------|------|------|------|------|
| LEAL-Alicante-Elche | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| LEIB-Ibiza | 0.25 | 0.13 | 0.14 | 0.14 | 0.14 |

Reference values are expressed for the aerodrome TWR environment within the arrival phase, and all causes of delay. For more details see Annex C, section 2.2.

In the area of capacity, the following lines of work will be carried out by FerroNATS to ensure capacity:

- The correct and adequate planning of a sufficient number of ATCOs will facilitate the opening of the number of control positions needed at any time to ensure that demand at both airports is properly managed. This analysis will cover all phases of operational, strategic, pre-tactical and tactical management.
- FerroNATS will work closely with the airport and collateral approach units to establish those measures necessary to ensure that available capacity can meet existing demand.
- Continuous revisions and improvements in the Letters of Agreement and specific operating procedures that could be carried out with the collateral control centres to allow optimum management of the existing capacity/demand.

9.6 COST-EFFICIENTY

FerroNATS as a TANS provider subject to market conditions does not propose setting cost efficiency targets or financial incentives for TANS in RP3, as it is stated in Regulation (EU) 2019/317.

The mandatory confidential reporting requirements shall be met, in compliance with Annex XI of Regulation (EU) 2019/317.

10. CROSS-BORDER INITIATIVES AND SESAR IMPLEMENTATION

10.1 CROSS BORDER INITIATIVES

10.1.1 SOUTH WEST FAB JOINT INITIATIVES

The formal constitution of the SW FAB took place on May 17th, 2013, with the signature of the ‘Agreement between the Portuguese Republic and the Kingdom of Spain on the establishment of the South West Functional Airspace Block (SW FAB)’. The objectives of the SW FAB are set to achieve optimal performance in the areas related to safety, environmental sustainability, capacity, cost-efficiency, flight efficiency and also military mission effectiveness, throughout the design of airspace and the organisation of air traffic management in the airspace concerned regardless of existing boundaries. The main achievements of the SW FAB along RP2 have been as follows:

- Safety: SW FAB ANSPs have worked together towards a common just culture policy enhancement plan.
- Capacity: The Network Manager has recognized the great performance of the SW FAB in an unexpected increasing traffic scenario. Efforts have focused on airspace redesign improvement.
- Cost-Efficiency: Significantly improved levels of cost-efficiency.
- Environment: Reduction of flown distances, CO2 and other contaminant emissions and fuel savings, providing a benefit for the users of the airspace.

The main SW FAB projects planned in the Operational Board Common Plan (SW FAB OB CP) within the RP3 timeframe are the following (check the original document for further details):

| PROJECT | BRIEF DESCRIPTION |
|--|--|
| Airspace Management Optimisation | |
| Free Route Concept | |
| Lisboa/Madrid/Brest Free Route Airspace (iFRA) | Extension of SW FAB Free Route Airspace towards Brest Airspace, creating one of the largest Free Route Airspaces in the ECAC area. Lisboa/Madrid/Brest Free route project (iFRA) is the first FRA initiative involving two FAB (SW FAB and FABEC). |
| SW FAB FRA Phase II | Extension of Free Route operations (FRASAI and LISBOA FIR) to Santa Maria Oceanic Airspace. |
| SW FAB FRA Phase III | Improvement of flight efficiency through the implementation of Free Route operations in Madrid, Barcelona and Canarias UIR. |
| Network Management | |
| Marseille interface | Airspace restructuration to improve traffic flows and traffic management between SW FAB and FABEC airspace (via Marseille FIR), Expected benefits are: <ul style="list-style-type: none"> • Conflicts reduction at the boundary. • Traffic load balancing between different exit points. • Increased capacity. • Improved flow segregation; and • Improved hand-over between collateral ACCs. |
| SW FAB en-route sectorisation improvement | Several re-sectorisation projects are planned to increase the airspace capacity. |
| Civil-Military coordination | |
| SW FAB FUA Optimisation | Improvement of flight efficiency through an increase of the availability of conditional routes, the implementation of new ones and the revision of restricted areas. |
| Terminal Area Management | |
| Madrid TMA | Optimisation of Madrid TMA based on CNS infrastructure adaptation allowing to implement independent parallel approaches and RNP Approaches to improve safety. |
| Barcelona TMA | Optimisation of Barcelona TMA based on re-organisation of ATC sectors, implementation of new instrumental procedures allowing more efficiency and capacity, implementation of RNP Approaches and AMAN deployment to improve the precision of the approach trajectory and facilitates air traffic sequencing. |
| Lisboa TMA | In order to increase Lisbon APT capacity, Terminal area will be restructured taking advantage of RNAV-1 navigation procedures. |

| PROJECT | BRIEF DESCRIPTION |
|--|--|
| SW FAB RNP APCH Implementation Plan | Deployment of RNP Approaches to reduce and/or optimise the number of conventional nav aids necessary for the final approach, in line with EC recommendations, improving safety. |
| Palma TMA | Implementation of a new RNAV-1 based TMA in Palma to improve capacity and efficiency. It will enhance the SID/STAR structure, enabling operations closer to user preferred trajectory. |
| Infrastructure harmonisation | |
| ATM systems | |
| CDM | Identification, analysis and implementation of common solutions regarding implementation of CDM functionality and interface with the ATM systems in ENAIRE and NAV Portugal. |
| CNS Systems | |
| Datalink | Identification, analysis and implementation of common technical solutions for Datalink services compliant with Regulations. This project also considers current Implementation Project submitted to INEA Call, namely, European Air Ground Data Communication Service, ENAIRE and NAV Portugal monitor this initiative so that SW FAB aligns with Datalink strategies. ENAIRE and NAV Portugal participate in the INEA Call 2016 Path 1 Implementation Project aiming to solve the technical problems identified in the provision of Datalink. This Project is mainly focused on the deployment of multifrequency. |
| Datalink Phase II | Identification, definition and provision of an overall deployment picture of “target” solution according to DLS Recovery plan. The project consists of preparatory activities towards the transitional path to the “target” solution, ENAIRE and NAV Portugal also participate in the INEA Call 2017 Path 2 Pre-Implementation Project. |
| IR Conformity (Phase II) | Description solutions for the Conformity with Implementing Rules. Planning and implementation of the agreed solutions. |
| New surveillance sensors (Phase III) | Implementation plans for the introduction of ADS-B in the surveillance system of the SW FAB complying with Regulations. A related joint project was launched in 2018, with INEA support. |
| CIVIL/MIL ATC Network | Deploy operational ATC IP network (REDAN) nodes at civil and military sites in Spain for the provision of communications services to support both ATC voice and data. |
| IPv6 Services | Define, agree, and implement technical solutions for the provision of IPv6 communication services by means of the interconnection of aeronautical data networks of ENAIRE and NAV Portugal. |
| Implementation of Voice over IP Services (telephony) | Define, agree, and implement the technical solutions for the migration of current operational services (telephony) using native VoIP technology and supported by Portuguese and Spanish network interconnection through New PENS infrastructure. |
| European Network Planning | |
| LSSIP Coordination | Coordinate the civil ANSPs contribution to their national LSSIPs according to the SW FAB OB Common Plan. |

All the projects together involve Lisboa FIR, Canary Islands FIR/UIR, Madrid FIR/UIR, Santa Maria FIR, Marseille FIR, Barcelona FIR/UIR and Brest FIR.

It is convenient to highlight other SW FAB cross-border projects successfully completed outside the RP3 framework but with clear benefits on it, notably in terms of interoperability and cost-efficiency, such as, but not limited to:

| PROJECT | BRIEF DESCRIPTION |
|---|---|
| Airspace Management Optimisation | |
| New inter-FAB boundary limit definition | One of the main achievements of the SW FAB concerning the optimum utilisation of the airspace was the delegation of ATS service provision between Spain and Portugal through the implementation in October 2012 of a new cross border boundary limit definition irrespective of national borders. |
| Bordeaux Interface | The two interfaces reorganizations included in the project, interface between Bordeaux and Barcelona (2019), and interface between Bordeaux and Madrid (2018), were successfully concluded. |
| ATM Procedures Area | |
| SW FAB harmonisation project | Project successfully closed during the first quarter of 2019 meeting all the proposed objectives: <ul style="list-style-type: none"> • Harmonisation of Upper/Lower Airspace vertical limits. • Harmonisation of Airspace Classification; and • Harmonisation of radar separation; |

| PROJECT | BRIEF DESCRIPTION |
|---|---|
| Infrastructure harmonisation | |
| CNS Systems | |
| Evolution of the Aeronautical Messaging Networks (AMHS) | Implementation of a reliable AMHS link between Portugal and Spain, replacing the former CIDIN link, in operation since September 30th, 2014. |
| IP Interconnection | Implementation of FMTP service between Lisbon and Madrid on June 4th, 2014, representing the first operational IP service using the implemented IP interconnection. Introduction of further new FTMP and AMHS operational services. |
| Surveillance IP | Migration of surveillance data exchange between Portugal and Spain from X,25 to IP operationally deployed on March 7th, 2018. Additionally, to the scope of this project, the injection of these new radar data flows was completed in June 2018. |
| New radars sharing | Enhancing radar data sharing between Portugal and Spain through surveillance data exchange among Taborno, Valdespina, Peñas del Chache and Porto radars. |
| CIVIL/MIL ground communications | Implementation of two sets of voice communications services that also allow the use of military infrastructure as a contingency mechanism of civil ATC voice services between ACCs. |
| CIVIL/MIL Ground Communications (Phase II) | Implementation of voice communications services and identification of a new set of communications services to evolve from old voice communications protocols to more sophisticated ones, supporting the AGVN (ATS Ground Voice Network). |
| CIVIL/MIL Ground Communications (Phase III) | Improvement of civil-military and civil/civil ground voice communications. |
| New surveillance sensors (Phase I) | Identification of communications requirements for ADS-B and WAM systems using the IP protocol and the implementation and/or technical validation of several WAM/MLAT systems. |
| New Surveillance Sensors (Phase II) | Identification of communications requirements for ADS-B and WAM systems using the IP protocol and implementation and technical validation of a new WAM system in South Portugal. |

10.1.2 OTHER CROSS BORDER INITIATIVES

10.1.3 REGIONAL AEFMP FRAMEWORK

AEFMP is another cross-border initiative in which some States outside the European Union are also involved. Set up in 1996 in order to harmonize and optimize the air navigation operations among Algeria, Spain, France, Morocco and Portugal, it aims at promoting common regional objectives, increase safety and achieve a high operational efficiency in the services provision. Collaboration was renewed in 2002 with the signature of a Joint AEFMP Plan. During 2018, Tunisia joined the AEFMP membership, through the signature of a new AEFMP MoU by the civil Air Traffic Services Providers of Algeria (ENNA), Spain (ENAIRE), France (DSNA), Morocco (ONDA), Portugal (NAV Portugal) and Tunisia (OACA), and by the Civil Aviation Authorities of Algeria, Spain, Morocco, Portugal and Tunisia.

AEFMP’s activities focus on procedures harmonization, improvement of interoperability and implementation of new systems. Collaboration exists in the following areas:

- Optimum use of Technical Systems: systems and common protocols, exchange of information between operational centres.
- Optimum use of Airspace: common methods and procedures as well as operational changes have been and shall be assessed considering the impact on global performance and in order to optimize the use of the AEFMP airspace by its users.

Out of the several cross-border initiatives carried out in the AEFMP, it is worth to highlight the sharing of radar data between collateral airspace countries with the objective to improve the already very high safety level in the concerned areas through two-fold/three-fold radar coverage.

11. IMPLEMENTATION OF THE PLAN

This section describes the processes that AESA (NSA of Spain) has put in place to monitor the implementation of this performance plan and to address all those situations where targets are not reached during the reference period.

11.1 MONITORING OF THE IMPLEMENTATION PLAN

AESA as NSA is responsible for monitoring the achievement of targets and action plans in the ESPP3 throughout RP3. Data collection, coordination, analysis and reporting are some of the tasks under the responsibility of the national supervisory authority. The annual monitoring of the indicators shall be carried out at National level since the performance plan has been defined at National level for the RP3 period.

According to articles 36 and 37 of the performance and charging scheme, it is necessary to report to the Commission the data indicated in Annex VI of the same regulation. The NSA plays two roles, one as source of some of the data, and another as the coordinator and verifier of some of the data provided by other accountable entities.

AESA has organised two types of monitoring procedures based on the ones applied during RP2, and tailored to meet the requirements set out in Article 37.1 in Regulation (EU) 2019/317:

- Annual monitoring: to report on the actual performance of the previous year.
- Continuous monitoring: carried out during the year to identify when targets risk not being met.
- Regular monitoring of the PIs in the different KPAs

Each year and no later than 1 June, the NSA must report to the Commission the results of the annual monitoring of the previous year. The annual monitoring process is fed by the results of the continuous monitoring carried out throughout the year already completed, as well as by the information provided by the different stakeholders involved in the process.

The annual monitoring report includes information and results on the compliance with the performance targets in the areas of Safety, Environment, Capacity and Cost-Efficiency, as well as the additional indicators subject to mandatory report.

The level of EoSM is calculated on the basis of the answers provided to questionnaires tailored for NSAs and ANSPs. Both questionnaires are derived from elements of the ICAO State Safety Programme (SSP) and Safety Management System (SMS) as described in ICAO Annex 19, AESA shall verify the maturity levels reported by the ANSPs making use of the Supporting Material – RP3 Safety (K)PI: Measurement of the safety key performance indicator and safety performance indicators in the SES Performance and Charging Scheme: Part (A), Part (B) and Part (C) developed by the Commission, prior to its submission by the 1st of February each year.

11.2 NON-COMPLIANCE WITH TARGETS DURING THE REFERENCE PERIOD

AESA has implemented continuous monitoring procedure. A monthly monitoring system follows-up the evolution of the capacity indicators (ERD and TAD) and the environmental indicator KEA throughout the year, against early alert thresholds. When an early alert is triggered, the situation is analysed with the ANSP and can eventually lead to a report to the EC in accordance with Articles 36 and 37 of the Performance and Charging Regulation (EU) 2019/317.

This system is based on data provided by EUROCONTROL. It also takes into consideration requests related to Post-OPS (Post-Operations), an existing mechanism to rectify certain cases of delay not correctly attributed at the beginning. Through this procedure, the ANSP can claim certain cases of delay by requesting it to the NM and, once approved, it is incorporated into the analysis to obtain a picture of the real situation and evolution of the indicators.

Each parameter that is analysed monthly is framed at National level or regional level (ACC or airport) depending on each case:

| DATA | ANALYSIS LEVEL |
|------------------------------------|-----------------------------------|
| IFR flights | SPA / ACC |
| APT Inbound IFR flights | SPA / APT |
| KEA / Actual trajectory | SPA |
| Minutes of en-route ATFM delay ERD | SPA / ACC / Delay reasons per ACC |
| Minutes of ATFM arrival delay TAD | SPA / APT / Delay reasons per APT |

This continuous process runs parallel with the annual monitoring and has a reciprocal relationship with it. It contributes as a warning of possible non-compliance before it occurs and at the same time captures the plan updates and potential additional measures that will eventually be reported in the annual monitoring.

The early alert system has already shown its effectiveness on several occasions. When the alerts have been triggered for several months, AESA contacts the ANSP, to evaluate the situation, the causes and the measures implemented and planned by the provider to mitigate the situation.

Additionally, an assessment of the delay will be carried out annually to analyse the causes of ATFM delay attributed throughout the year in the different units. This verification is essential to ensure that the attribution of the cause of ATFM delay is correctly assigned by ANSP, confirming that the incentive mechanism established is robust in its definition since, as a consequence of modulating the capacity objectives by causes of delay, a more detailed and effective assessment is necessary.

At the end of the year, all the work developed in monthly monitoring can feed into the annual monitoring procedure described above.

11.3 OVERSIGHT

AESA will audit the mechanisms affecting the quality and data of its impact on the charges.

Taking into account the continuous monitoring process carried out at National level and the incentive mechanism established in this plan, it is necessary to conduct a specific supervision of the aspect of:

- Cost base audits.

The cost base of ENAIRE shall be audited by AESA every year to revise the consistency of the data reported in the tables defined in the Performance and Charging Regulation (EU) 2019/317, in particular the information that has an impact on the unit rate to be charged to the users. The scope of this oversight includes the review of the actual evolution of the investments with respect to the plan linked to the ESPP3. The timescale of this oversight might result in differences between the data reported by the 1st of June and the final data submitted by the 1st of November.

12. PUBLIC CONSULTATION

This section provides an overview of the results of the consultation process during the elaboration of this performance plan, in order to provide a detailed view on the held stakeholder consultation.

Four public consultation meetings were scheduled during the elaboration of the ESPP3 Performance Plan during 2019:

- Grupo OPS ESPP3 #1 – 19/02/2019
- Grupo OPS ESPP3 #2 – 18/03/2019
- Grupo OPS ESPP3 #3 – 10/05/2019
- Public consultation – 18/06/2019

During the development period, AESA (the Spanish NSA) presented the main elements of the operational part of the ESPP3 to facilitate the exchange of ideas between all the stakeholders involved and also to capture their needs and expectations for RP3. Discussions were focused on Environment, Safety, Capacity and Cost-Efficiency targets, and in particular the incentive scheme mechanisms and cost risk sharing.

The OPS group meetings started in February 2019 to report on the evolution of the performance plan for RP3 in the operational areas, to develop mechanisms in the ESPP3 (in particular incentives), as well as to collect the different points of view of the stakeholders. Representatives of airlines, airlines associations, ANSPs, professional associations, airport operators and other authorities attended the meetings.

In the first OPS meeting, the basics Performance Plan drafting process were introduced. The new incentive mechanism principles were presented, including the "pivot value" concept, allowing to modulate the target for incentive purposes in two different ways: variations of the traffic included in the NOP or limiting the incentive mechanism only to ATC causes delay (codes C, R, S, T, M, P). AESA presented the models for en-route and arrival delay, the contribution of the different types of causes of delay and in particular Weather.

In the second OPS meeting, conclusions were presented on the incentive mechanism following the meeting with the EC, the establishment of alert thresholds that would allow the Performance Plan to be changed if exceeded, and the proposal of EC targets for PR3, ENAIRE explained the characteristics of the ATFM delay, which should be taken into account for the Performance Plan. The feedback of the comments received by the members of this group was also presented. Finally, AESA explained the different possibilities to establish the modulation by causes of delay, as well as an estimate of the amount of the incentive in the reference period RP3.

In the third OPS meeting, the proposed targets for arrival delay were presented by ENAIRE. Comments and opinions related to the incentive mechanism were compiled and the process that would continue until culminating with the public consultation on 18 June was explained.

Comments were circulated and views raised during these thematic consultation meetings. All the inputs were taken into account when drafting the consultation document that was distributed among main stakeholders for the ESPP3 consultation meeting held in Madrid on 18 June.

In the consultation on 18 June, the Draft Performance Plan was presented almost completely outlined. After this, there was a period of 3 weeks to receive written comments from the stakeholders. The plan was completed taking due consideration of the contributions received and incorporating the feedback traceability.

The result of the work done in 2019 has been used for the elaboration of this version of the ESPP3 that include the revised EU – wide performance targets and the reference values on environment and capacity assigned to Spain and a revision of the arrival capacity targets.

A public consultation was held on 30 July 2020 on the revised Draft Performance Plan and a period for written comments from the stakeholders was opened until 20 August. The final version of the document was completed taking due consideration of the contributions received and incorporating the feedback traceability.

Upon reception of the Verification of Completeness of the European Commission on 27th October 2021 where considering October 2021 STATFOR traffic forecast was requested, a written and a public consultation were held. The written consultation was opened from 8th to 14th November and a virtual meeting was held with users and the main ANSP on 12 November 2021. The final version of the document has been completed taking due consideration of the contributions received and incorporating the feedback traceability.

During the meeting held with users and the ANSP on 12 November 2021 the modifications introduced in the plan were explained. Users showed their support to the overall Performance Plan. Charging policy and efforts done to achieve it were well appreciated. The proposal of new capacity targets for years 2022 and 2023 based in significant increase of traffic figures received no comments against. The modification of the maximum bonus from a 0.5% to a 0.0% and maximum penalty from 1.0% to a 0.5%, in order to keep the balance between the ANSP and users' expectancies, given the uncertainty and volatility of traffic, received no comments by users.

A summary of the comments made by the users, together with the responses made by AESA and the reference in the final ESPP3 is provided within the Appendix A.

13. ACRONYMS

| | |
|---------|---|
| ACC | Area Control Centre |
| ACDM | Airport Collaborative Decision Making |
| AEMET | Agencia Estatal de Meteorología (MET services provider in Spain) |
| ENAIRE | Aeropuertos Españoles y Navegación Aérea (En-route and terminal ANSP in Spain) |
| AESA | Agencia Estatal de Seguridad Aérea (Spanish NSA) |
| AMAN | Arrival Manager |
| ANAC | Autoridade Nacional de Aviação Civil (Portuguese NSA) |
| ANS | Air Navigation Services |
| ANSMET | Autoridad Nacional de Supervisión Meteorológica (Supervisor of MET services in Spain) |
| ANSP | Air Navigation Services Provider |
| ANSP-EA | Spanish Air Forces (Ejército del Aire) – ANSP function |
| APW | Area Proximity Warning |
| ASMT | Automated Safety Monitoring Tool |
| AST | Annual Summary Template Mechanism |
| ATC | Air Traffic Control |
| ATCO | Air Traffic Controller |
| ATFM | Air Traffic Flow Management |
| ATFCM | Air Traffic Flow and Capacity Management |
| ATM | Air Traffic Management |
| ATM-S | ATM-specific occurrences |
| ATS | Air Traffic Services |
| CAPEX | Capital Expenditure |
| CDR | Conditional Route |
| CEANITA | Comisión de Estudio y Análisis de Notificaciones de Incidentes de Tránsito Aéreo (Spanish Commission for the study and analysis of ATS incidents) |
| CEO | Chief Executive Officer |
| CFIT | Controlled Flight Into Terrain |
| CISM | Crisis Stress Management System |
| CWP | Controller Working Position |
| DMAN | Departure Manager |
| DUC | Determined Unit Cost |
| EASA | European Air Safety Agency |
| EC | European Commission |
| ECAC | European Civil Aviation Conference |
| ECR | European Central Repository |
| EFS | Electronic Flight Strips |
| EoSM | Effectiveness of Safety Management |
| ERNIP | European Route Network Improvement Plan |
| ERT-CZ | En-Route Charging Zone |
| EU | European Union |
| FAB | Functional Airspace Block |
| FABEC | FAB Europe Central |
| FIR | Flight Information Region |
| FL | Flight Level |
| FRA | Free Route Airspace |
| FRASAI | FRA Santiago Asturias |
| FRMS | Fatigue Risk Management System |
| FUA | Flexible Use of Airspace |
| GDP | Gross Domestic Product |
| GCLP | Gran Canaria Airport |
| HICP | Harmonised Indices of Consumer Prices |
| ICAO | International Civil Aviation Organisation |
| IFR | Instrument Flight Rules |
| IMF | International Monetary Fund |

| | |
|---------|---|
| iTEC | Flight Data Processing |
| JC | Just Culture |
| KEA | horizontal en-route flight efficiency of the actual trajectory |
| KPA | Key Performance Area |
| KPI | Key Performance Indicator |
| LEBL | Josep Tarradellas Barcelona-El Prat Airport |
| LEMD | Adolfo Suárez Madrid-Barajas Airport |
| LEMG | Málaga-Costa del Sol Airport |
| LEPA | Palma de Mallorca Airport |
| MO | Management Objectives |
| MTCD | Medium Term Conflict Detection |
| MSAW | Minimum Safe Altitude Warning |
| NAT | North Atlantic ICAO region |
| NEST | Network Strategic Tool (EUROCONTROL) |
| NM | Network Manager |
| NM | Nautical Mile |
| NOP | Network Operations Plan |
| NSA | National Supervisory Authority |
| NSA-EA | Spanish Air Forces (Ejército del Aire) – Supervision function |
| NSP | Network Strategic Plan |
| PBN | Performance Based Navigation |
| PCP | Pilot Common Project |
| PP | Performance Plan |
| PRB | Performance Review Body |
| P-RNAV | Precision Area Navigation |
| QMS | Quality Management System |
| RI | Runway Incursion |
| RNDSG | Route Network Development Sub-Group |
| RP | Reference Period |
| SACTA | Sistema Automatizado de Control del Tránsito Aéreo (Automated Air Traffic Control System) |
| SES | Single European Sky |
| SID | Standard Instrument Departure |
| SMI | Separation Minima Infringement |
| SMS | Safety Management System |
| SSP | State Safety Plan |
| STCA | Short Term Conflict Alert |
| STAR | Standard Terminal Arrival |
| STATFOR | EUROCONTROL Statistics and Forecasts |
| SU | Service Units |
| SW FAB | South West FAB |
| TCZ | Terminal Charging Zone |
| TMA | Terminal Management Area |
| TNZ | Terminal Zone |
| UIR | Upper Flight Information Region |
| UNL | Unlimited height |
| ESPP3 | Spain Performance Plan for RP3 |