LSSIP 2019 - SPAIN
LOCAL SINGLE SKY IMPLEMENTATION

Level 1 - Implementation Overview

EUROCONTROL

FOREWORD

"We manage a seamless European airspace by linking together the elements of the European air traffic management system. Focusing on performance of the European network, we ensure that flights reach their destination safely, on time, with the least possible impact on environment and in a cost-efficient way".

With this mission, as Director NM, I must ensure to develop and operate effectively and efficiently the air traffic management network in Europe and beyond, to meet current and future airspace and ground capacity needs, in full partnership with all operational stakeholders.

In particular, one of the NM activities through the Infrastructure Division, is to focus on the planning and monitoring of the European ATM implementation of the SES objectives at the local level according to EU legislation.

For more than 26 years, the Local Single Sky ImPlementation (LSSIP) documents are expressing yearly the commitment of civil and military national organisations (Regulators and National Supervisory Authorities), Air Navigation Service Providers and Airport Operators, towards the implementation of the European ATM Master Plan (Level 3).

These documents provide an extensive and harmonised picture, for the benefit of the ATM community at large, of how all ECAC States as well as States having a Comprehensive Agreement with EUROCONTROL, and stakeholders concerned, are progressing in planning and deploying the mature elements of the European ATM Master Plan and the European aviation policies.

The reliability and quality of the data provided by the national stakeholders is of such a high quality that it allowed, for the fifth consecutive year, for the information in the LSSIP documents to constitute the sole source of information for the development of ICAO's Aviation System Block Upgrades (ASBUs) Implementation Monitoring Report in the ICAO EUR Region. EUROCONTROL undertakes this work, on behalf of ICAO, for all 55 ICAO/EUR States in accordance with the Global Air Navigation Plan (GANP).

In addition, EUROCONTROL is developing efficient practices to avoid unnecessary duplication of reporting. We are cooperating with the SESAR Deployment Manager, the SESAR Joint Undertaking, the European Defence Agency and NATO on optimising the reporting mechanisms for relevant stakeholders by collecting some of the information needed on their behalf through the LSSIP process.

I would like to thank all the stakeholders for their engagement and substantial effort spent in contributing to the production of this LSSIP document. I see this as a proof of commitment to the principles of transparency and partnership, to the benefit of the entire ATM community!

I wish you a good read!

Iacopo PRISSINOTTI
Director NM – Network Manager
EUROCONTROL

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Reference Documents	
LSSIP Documents	https://www.eurocontrol.int/service/local-single-sky-implementation-monitoring
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Master Plan Level 3 – Report Year 2019	https://www.eurocontrol.int/publication/european-atm-master-plan-implementation-report-level-3-2019
European ATM Portal	https://www.atmmasterplan.eu/
STATFOR Forecasts	https://www.eurocontrol.int/statfor
National AIP	https://ais.enaire.es/aip/
National Performance Plan	https://www.seguridadaerea.gob.es/media/4630494/espp3.pdf

APPROVAL SHEET

The following authorities have approved all parts of the LSSIP Year 2019 document and the signatures confirm the correctness of the reported information and reflect the commitment to implement the actions laid down in the European ATM Master Plan Level 3 (Implementation View) – Edition 2019.
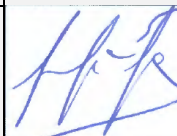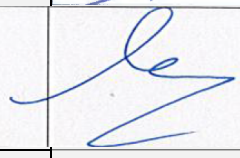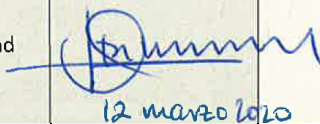
Stakeholder / Organisation	Name	Position	Signature and date
DGAC	Raúl MEDINA CABALLERO	Director General de Aviación Civil	
Civil NSA/ AESA	Isabel MAESTRE MORENO	Directora de la Agencia Estatal de Seguridad Aérea	
Spanish Aeronautical Military Authority	Julio NIETO SAMPAYO	General Jefe EMA/ DOP	
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Executive Summary

National ATM Context

Member State of:

The main National Stakeholders involved in ATM in Spain are:

Within the Ministry of Transport, Mobility and the urban Agenda and reporting to the General Secretary for Transport and Mobility are the DGAC and AESA.

- The General Directorate for Civil Aviation, **DGAC**, has the main role to define and propose to the Minister and the Government the policy objectives on civil aviation.
- The Spanish Aviation Safety and Security Agency (**AESA** – Agencia Estatal de Seguridad Aérea): AESA started its activity on the 20th October 2008. Currently AESA is in charge of civil NSA role for civil aviation with the exception of the military facilities and services provided to GAT by the military and the MET services.

The Spanish Military Competent Authority (Regulator) is the Chief of the Air Staff (JEMA – Jefe de Estado Mayor del Aire). **Spanish Air Force** coordinates civil-military use of airspace at strategic, pre-tactical and tactical levels with civil providers. Spanish Air Force provides Air Navigation Services (ATM, CNS, AIS, SAR) to the military and to civil aviation. Military ANS are coordinated with Civil ANS. Spanish Air Force operates Military Aerodromes, including some open to public use and joint civil-military aerodromes. Some systems are civil-military shared. Spanish Air Force is an Airspace User, both according to General Air Traffic (GAT) and Operational Air Traffic (OAT). Spanish Air Force coordinates Air Defence. Deputy Chief of the Air Force Staff (SEJEMA) is the recognized National Supervisory Authority (NSA) for Air Navigation Services provided by the military to civil aviation. SEJEMA is functionally independent of military ANS Providers and Aerodrome Operators. EMA/DOP is the working level for ATM decision-making.

The Public Corporate Entity Aeropuertos Españoles y Navegación Aérea (AENA), created by Article 82 of the 1990 General State Budget Act, Law 4/1990, of 29 June, changed its name to **ENAIRE** on 5 July 2014. ENAIRE, as a public business entity reporting to the Ministry of Public Works, manages the Spanish airspace over a territory of 2.19 MN square kilometres. ENAIRE provides air traffic services to 2 million flights carrying over 250 million passengers each year. Through five control centres, 22 control towers and a comprehensive network of aeronautical infrastructure and equipment, ENAIRE provides en-route, approach and aerodrome ATC services, as well as flight information, alerts and consulting services. ENAIRE is the communications, navigation and surveillance service provider across the whole of the Spanish airspace and at some airports in AENA network. Furthermore, ENAIRE holds 51% of the capital of AENA SME S.A.

FerroNATS Air Traffic Services S.A. is the leading private air navigation service provider in Spain, providing services to more than 550.000 operations and 44 million passengers each year, and present in 13 airports among Spain.

Born in 2011, the company is the result of a joint venture between Ferrovial Services, international benchmark in the operation of public and private infrastructures for transport, and NATS, the UK leading air navigation service provider.

SAERCO was created in 2010, founded by a group of professionals with extensive experience in the aviation, air navigation and services sector for a common purpose: to provide Air Navigation Services in Spain and internationally.

SAERCO's technological partner is ANS CR Air Navigation Services of the Czech Republic, the provider of air navigation services in the Czech Republic.

SAERCO's corporate purpose is to render air navigation services in aerodromes and airports according to the provisions of the Single European Sky standard, (EU) Regulation 1035/2011 on Common Requirements for the provision of air navigation services and the Spanish Air Traffic Regulation approved in Royal Decree 57/2002, as well as all international civil aviation rules applicable to air transit services.

The following table details the certified service providers:

ORGANISATION	ATS Certified Provider	AIS Certified Provider	CNS Certified Provider	ATFM Certified Provider
ENAIRE	✓	✓	✓	✓
SAERCO	✓		✓	
FerroNATS Air Traffic Services	✓		✓	
SEA AND AIR TECHNOLOGY S.L. (SEAIRTECH)	✓			

AENA SME S.A. is in charge of managing airports functions and duties in the 46 airports and 2 heliports in Spain, and participates directly and indirectly in the management of a further 17 airports in Europe and America, including London's Luton airport, with a 51% stake. AENA has won a tender for the operation of 6 more airports in Brazil, which are expected to start operations during 2020.

AENA is the world's number one airport operator in terms of passenger traffic. Over 280 million passengers passed through AENA's airports in 2018.

The **Secretary of State for Environment** within the Ministry for Ecological Transition is the National Supervisory Authority (NSA) for MET service.

The State Meteorological Agency (**AEMET**), reporting to the Ministry for Ecological Transition, is certified as meteorological service provider for air navigation since 2006 and designated by 21/2003 law. AEMET is the state meteorological authority.

The main airports covered by LSSIP are Adolfo Suárez Madrid-Barajas Airport, Barcelona-El Prat Airport and Palma de Mallorca Son Sant Joan Airport. Furthermore with the inclusion of local objectives in the ATM MP Level 3 Plan, the deployment of SESAR improvements in some other airports is also covered by Spanish LSSIP.

Traffic and Capacity

The following diagrams show the traffic growth in Spain (Continental and Canary Islands) in Summer 2019 plus the forecasted traffic increase for 2020-2025 period. 2019 Summer en-route delay figures are also shown per ACCs. According to the information contained in Chapter 2, Canarias, Palma and Seville ACCs are expected to meet the requirements for the planning period. However, a moderated capacity gap will remain in Madrid, Barcelona ACCs for the full planning period covered by the NOP.

Summer Forecast (May to October inclusive):

Continental Spain

TRAFFIC GROWTH ✈	FORECAST between ✈
+2.5%	0.3% & 3.4%
2019	2020-2024

Canary Islands

TRAFFIC GROWTH ✈	FORECAST between ✈
+0.6%	-0.1% & 3.2%
2019	2020-2024

Barcelona ACC	Canarias ACC	Madrid ACC	Palma ACC	Seville ACC
SUMMER EN-ROUTE DELAY	SUMMER EN-ROUTE DELAY	SUMMER EN-ROUTE DELAY	SUMMER EN-ROUTE DELAY	SUMMER EN-ROUTE DELAY
1.10 1.08	0.29 0.10	0.31 0.52	0.20 0.08	0.24 0.13
2018 2019	2018 2019	2018 2019	2018 2019	2018 2019

Spain is part of:

swfab

The **SW FAB** aims at achieving optimal performance in the areas related to safety, environmental sustainability, capacity, cost-efficiency, flight efficiency and military mission effectiveness throughout the design of airspace and the organisation of air traffic management in the airspace concerned regardless of existing State boundaries.
The SW FAB covers the airspace above FL245 under Portugal and Spain responsibility, with the exception of Santa Maria Oceanic FIR, thus being composed of the following Flight/Upper Information Regions (FIRs/UIRs):

– FIR Lisboa;
– UIR Madrid;
– UIR Barcelona;
– UIR Canarias.

Spanish national stakeholders, civil and military, are contributing to a number of projects to improve national ATM system:
Number of national projects: 22
Number of FAB projects: 13
Number of multinational projects: 6

Implementation progress

The analysis of the progress of the implementation objectives during 2019 shows a steady evolution since the past year. Overall, the number of completed objectives has increased from 27 objectives in LSSIP 2018 to 37 objectives in LSSIP 2019 that reveals the commitment of Spanish stakeholders in deploying the ATM Master Plan improvements.

Overall, two objectives ITY-SPI and AOP17 were completed at the end 2019. In the case of the provision/integration of departure planning information to NMOC (AOP17) it was deployed in 10 Spanish airports (Gran Canaria, Tenerife South, Tenerife North, Fuerteventura, Lanzarote, Malaga, Alicante, Valencia, Ibiza and Menorca).

Regarding "ongoing" objectives in 2019 cycle, five objectives (AOM19.2, ATC02.8, COM12, INF08.1 and AOP14) experienced a significant increase in the technical progress during last year.

Furthermore, five objectives are planned to be completed in 2020: AOM19.1, AOP04.2 (at Madrid, Barcelona and Palma de Mallorca airports), AOP12, ATC02.8 and COM12.

Progress per SESAR Key Feature

The figure below shows the progress made so far, per SESAR Key Feature. The percentages are calculated as an average, per Key Feature, of relevant objectives shown in Chapter 5.2.

Optimised ATM Network Services	Advanced Air Traffic Services	High Performing Airport Operations	Enabling the Aviation Infrastructure
38%	18%	30%	50%
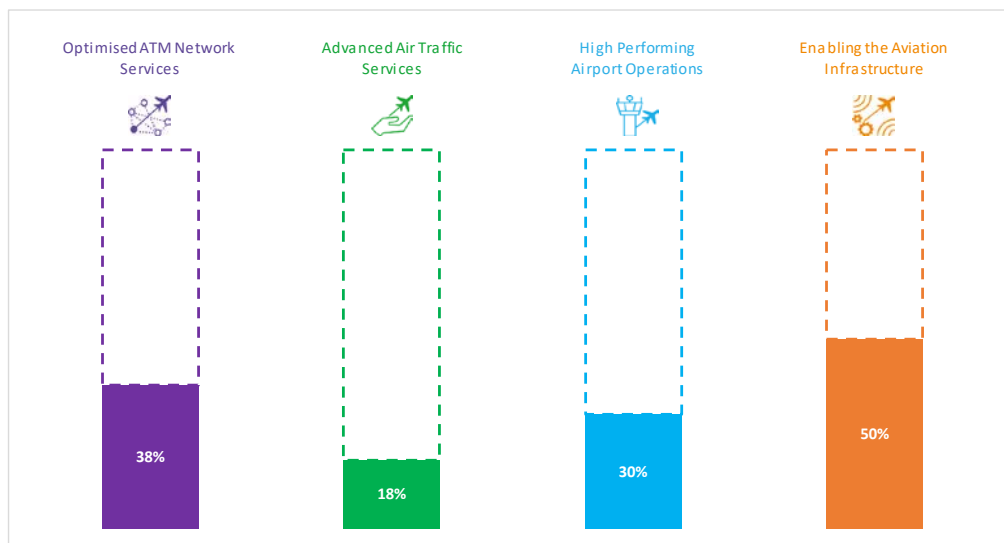
ICAO ASBUs Progress Implementation

The figure below shows the progress made so far in the implementation of the ICAO ASBUs Block 0. The overall percentage is calculated as an average of the relevant Objectives contributing to each of the relevant ASBUs; this is a summary of the table explained in Chapter 5.3 – ICAO ASBU Implementation Progress.

Block 0   2000   2024

89%

ATM Deployment Outlook

State Objectives

✓ **Deployed in 2018 - 2019**

- Voice over Internet Protocol (VoIP) in En-Route
COM11.1 - 100 % progress
- Surveillance Performance and Interoperability
ITY-SPI - 100 % progress

By 2020	By 2021	By 2022	By 2023+
- Ground-Based Safety Nets ATC02.8 - 99 % progress **- New Pan-European Network Service (NewPENS)** COM12 - 58 % progress **- ASM Support Tools to Support Advanced FUA (AFUA)** AOM19.1 - 80 % progress	**- Free Route Airspace** AOM21.2 - 16 % progress **- Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring** ATC12.1 - 07 % progress **- Interactive Rolling NOP** FCM05 - 28 % progress **- Short Term ATFCM Measures (STAM) - Phase 2** FCM04.2 - 05 % progress **- Traffic Complexity Assessment** FCM06 - 10 % progress **- Management of Pre-defined Airspace Configurations** AOM19.4 - 00 % progress **- Full Rolling ASM/ATFCM Process and ASM Information Sharing** AOM19.3 - 00 % progress **- ASM Management of Real-Time Airspace Data** AOM19.2 - 43 % progress	**- Electronic Terrain and Obstacle Data (eTOD)** INF07 - 68 % progress	**- Arrival Management Extended to En-route Airspace** ATC15.2 - 00 % progress **- Ensure Quality of Aeronautical Data and Aeronautical Information** ITY-ADQ - 82 % progress **- Voice over Internet Protocol (VoIP) in Airport/Terminal** COM11.2 - 73 % progress **- Aircraft Identification** ITY-ACID - 53 % progress **- Information Exchanges using the SWIM Yellow TI Profile** INF08.1 - 35 % progress **- RNP Approach Procedures to instrument RWY** NAV10 - 41 % progress **- Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer** ATC17 - 02 % progress **- Extended Flight Plan** FCM08 - 00 % progress **- RNP 1 in TMA Operations** NAV03.2 - 08 % progress **- RNAV 1 in TMA Operations** NAV03.1 - 43 % progress **- ATS IFR Routes for Rotorcraft Operations** NAV12 - 06 % progress

Airport Objectives - Palma de Mallorca Airport

✓ **Deployed in 2018 - 2019**   None

By 2020	By 2021	By 2022	By 2023+
- Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2) AOP04.2 - 50 % progress **- Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)** AOP12 - 28 % progress	**- Initial Airport Operations Plan** AOP11 - 05 % progress		**- Continuous Descent Operations (CDO)** ENV01 - 75 % progress **- Automated Assistance to Controller for Surface Movement Planning and Routing** AOP13 - 00 % progress

Airport Objectives - Madrid Barajas Airport

✓ **Deployed in 2018 - 2019**   **Airport Collaborative Environmental Management**

ENV02 - 100 % progress

By 2020	By 2021	By 2022	By 2023+
- Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2) AOP04.2 - 50 % progress **- Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)** AOP12 - 13 % progress	**- Initial Airport Operations Plan** AOP11 - 05 % progress		**- Continuous Descent Operations (CDO)** ENV01 - 75 % progress **- Automated Assistance to Controller for Surface Movement Planning and Routing** AOP13 - 00 % progress **- Time-Based Separation** AOP10 - 00 % progress

Airport Objectives - Barcelona Airport

✓ **Deployed in 2018 - 2019**   **Airport Collaborative Environmental Management**

ENV02 - 100 % progress

By 2020	By 2021	By 2022	By 2023+
- Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2) AOP04.2 - 50 % progress **- Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)** AOP12 - 28 % progress	**- Initial Airport Operations Plan** AOP11 - 05 % progress		**- Continuous Descent Operations (CDO)** ENV01 - 75 % progress **- Automated Assistance to Controller for Surface Movement Planning and Routing** AOP13 - 00 % progress

Airport Local Objectives - Fuerteventura Airport

✓ **Deployed in 2017/2018/2019**   **- Provision/integration of departure planning information to NMOC** AOP17 - 100 % progress

Airport Local Objectives - Gran Canaria Airport

✓ **Deployed in 2017/2018/2019**   **- Provision/integration of departure planning information to NMOC** AOP17 - 100 % progress

Airport Local Objectives - Lanzarote Airport

✓ **Deployed in 2017/2018/2019**   **- Provision/integration of departure planning information to NMOC** AOP17 - 100 % progress

Airport Local Objectives - Tenerife South Airport

✓ **Deployed in 2017/2018/2019**   **- Provision/integration of departure planning information to NMOC** AOP17 - 100 % progress

Airport Local Objectives - Tenerife North Airport

✓ **Deployed in 2017/2018/2019** **- Provision/integration of departure planning information to NMOC**
AOP17 - 100 % progress

Airport Local Objectives - Alicante Elche Airport

✓ **Deployed in 2017/2018/2019** **- Provision/integration of departure planning information to NMOC**
AOP17 - 100 % progress

Airport Local Objectives - Ibiza Airport

✓ **Deployed in 2017/2018/2019** **- Provision/integration of departure planning information to NMOC**
AOP17 - 100 % progress

Airport Local Objectives - Malaga Airport

✓ **Deployed in 2017/2018/2019** **- Provision/integration of departure planning information to NMOC**
AOP17 - 100 % progress

Airport Local Objectives - Menorca Airport

✓ **Deployed in 2017/2018/2019** **- Provision/integration of departure planning information to NMOC**
AOP17 - 100 % progress

Airport Local Objectives - Valencia (Manises) Airport

✓ **Deployed in 2017/2018/2019** **- Provision/integration of departure planning information to NMOC**
AOP17 - 100 % progress

Introduction

The Local Single Sky ImPlementation (LSSIP) documents, as an integral part of the Master Plan (MP) Level 3 (L3)/LSSIP mechanism, constitute a short/medium term implementation plan containing ECAC States' actions to achieve the Implementation Objectives as set out by the MP Level 3 and to improve the performance of their national ATM System. This LSSIP document describes the situation in the State at the end of December 2019, together with plans for the next years.

Chapter 1 provides an overview of the ATM institutional arrangements within the State, the membership of the State in various international organisations, the organisational structure of the main ATM players - civil and military - and their responsibilities under the national legislation. In addition, it gives an overview of the Airspace Organisation and Classification, the ATC Units and the ATM systems operated by the main ANSP;

Chapter 2 provides a comprehensive picture of the situation of Air Traffic, Capacity and ATFM Delay per each ACC in the State. It shows the evolution of Air Traffic and Delay in the last five years and the forecast for the next five years. It also presents the achieved performance in terms of delay during the summer season period and the planned projects assumed to offer the required capacity which will match the foreseen traffic increase and keep the delay at the agreed performance level;

Chapter 3 provides the main Implementation Projects (at national, FAB and multinational level) which contribute directly to the implementation of the MP Operational Improvements and/or Enablers and Implementation Objectives. The Level 1 document covers a high-level list of the projects showing the applicable links. All other details like description, timescale, progress made and expected contribution to the ATM Key Performance Areas provided by the State per each project are available in the Level 2 document.

Chapter 4 deals with other cooperation activities beyond Implementation Projects. It provides an overview of the FAB cooperation, as well as all other multinational initiatives, which are out of the FAB scope. The content of this chapter generally is developed and agreed in close cooperation between the States concerned;

Chapter 5 contains aggregated information at State level covering the overall level of implementation, implementation per SESAR Key Feature and implementation of ICAO ASBUs. In addition, it provides the high-level information on progress and plans of each Implementation Objective. The information for each Implementation Objective is presented in boxes giving a summary of the progress and plans of implementation for each Stakeholder. The conventions used are presented at the beginning of the section.

The Level 1 document is completed with a separate document called LSSIP Level 2. This document consists of a set of tables organised in line with the list of Implementation Objectives. Each table contains all the actions planned by the four national stakeholders (REG, ASP, MIL and APO) to achieve their respective Stakeholder Lines of Action (SLoAs) as established in the European ATM Master Plan L3 Implementation Plan Edition 2019. In addition, it covers a detailed description of the Implementation Projects for the State as extracted from the LSSIP Data Base.

The information contained in Chapter 5 – Implementation Objectives Progress is deemed sufficient to satisfy State reporting requirements towards ICAO in relation to ASBU (Aviation System Block Upgrades) monitoring.
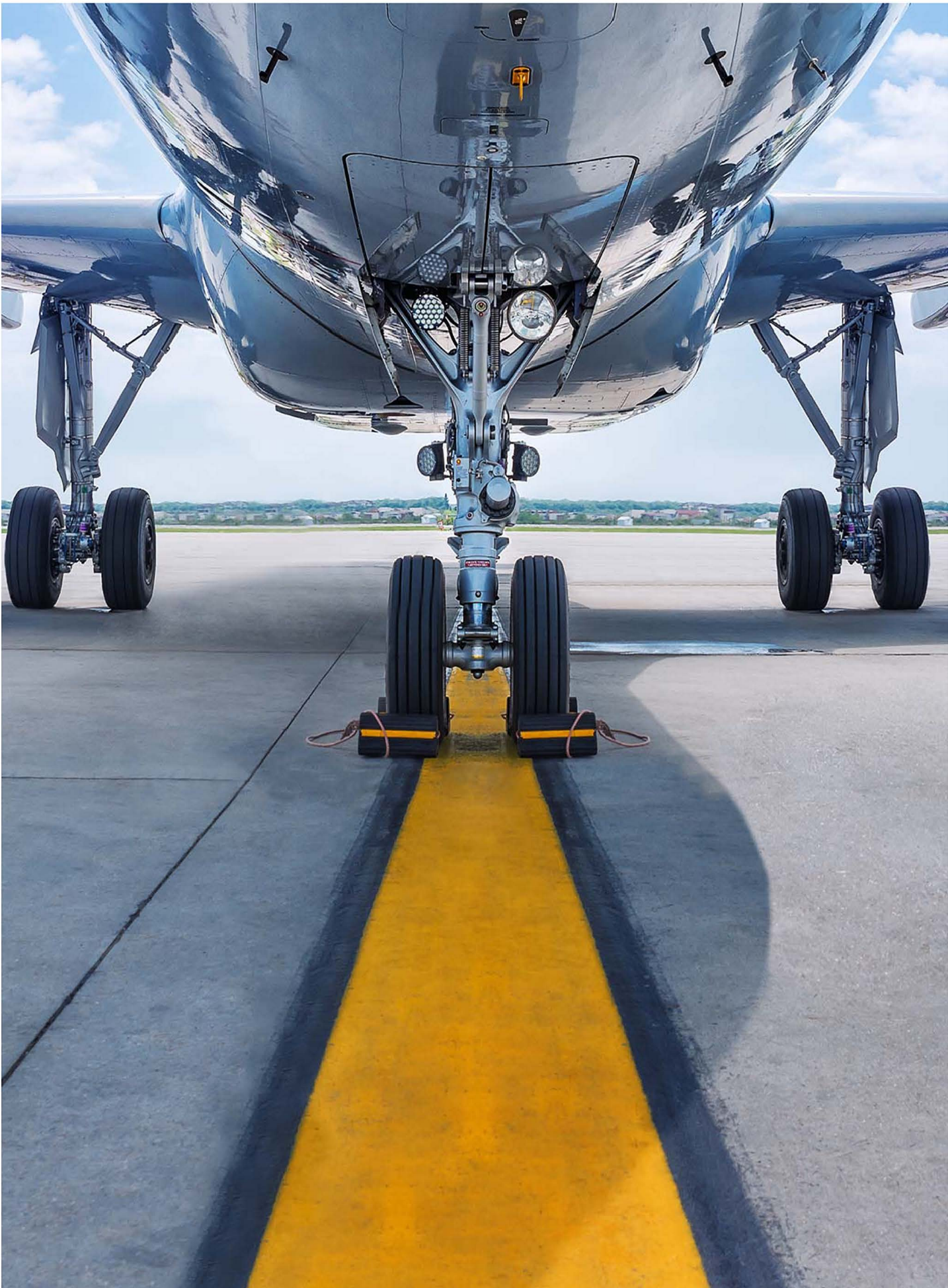
1. National ATM Environment

1.1. Geographical Scope

International Membership

Spain is a Member of the following international organisations in the field of ATM:

Organisation		Since
ECAC	✓	1955 (Founding Member)
EUROCONTROL	✓	1997
European Union	✓	1986
EASA	✓	2003
ICAO	✓	1951
NATO	✓	1982
ITU	✓	1866
SW FAB	✓	2013

Geographical description of the FIR(s)

Spanish airspace is split in two regions (Peninsula and Canarias) separated mainly by the airspace controlled by the ACCs of Lisboa and Casablanca (see figure below).
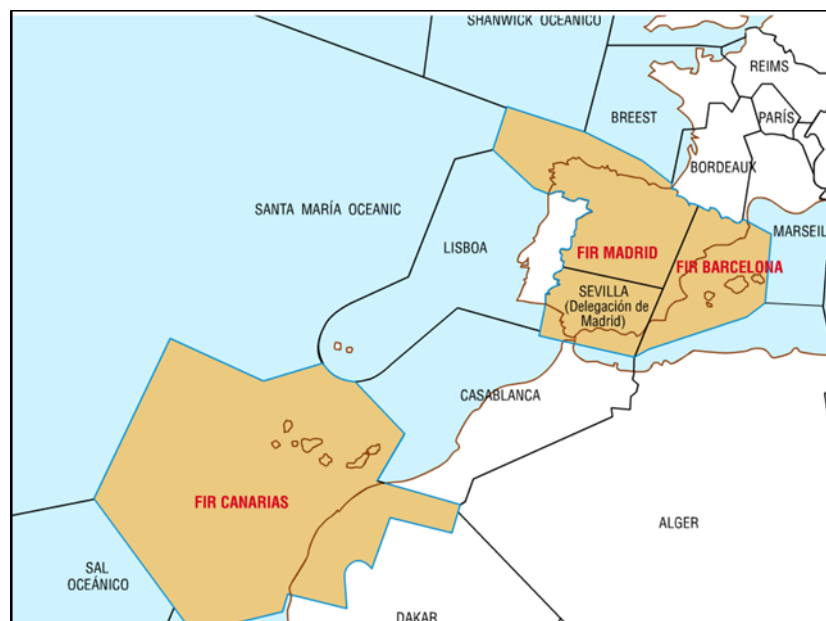
Surrounding the airspace of Spain, there are 10 FIRs controlled by 7 States (namely France (Brest, Bordeaux and Marseille) , United Kingdom (Shanwick), Portugal (Lisboa and Santa Maria), Morocco (Casablanca), Algeria (Alger), Cape Verde (La Sal) and Senegal (Dakar)) belonging to three ICAO regions, which makes this area a transition either to Africa or South America. This fact constitutes an important fact for the development of air transport as some capacity limitations still exist.

Spain is consolidating its presence in the South Atlantic corridor through the participation in cooperation programmes for the enhancement of CNS/ATM, thus increasing the capacity in this important area. Examples of this strategy are the extension of voice and radar communications networks using satellites (CAFSAT project) and the implementation of Navigation satellite systems (EDISA / SACSA).

The geographical scope of this document addresses the three Spain FIR(s):

• FIR/UIR Madrid,

• FIR/UIR Barcelona and

• FIR/UIR Canary Islands.

In turn, the Madrid FIR/UIR includes the airspace delegated to Seville, south of parallel 39° North. Within each FIR, the airspace in which the airways converge close to one or more airports is called Terminal Areas (TMA). In the Spanish airspace there are 12 TMAs.

The Division Flight Level (DFL) separating upper from lower ATS airspace is FL245.

Airspace Classification and Organisation
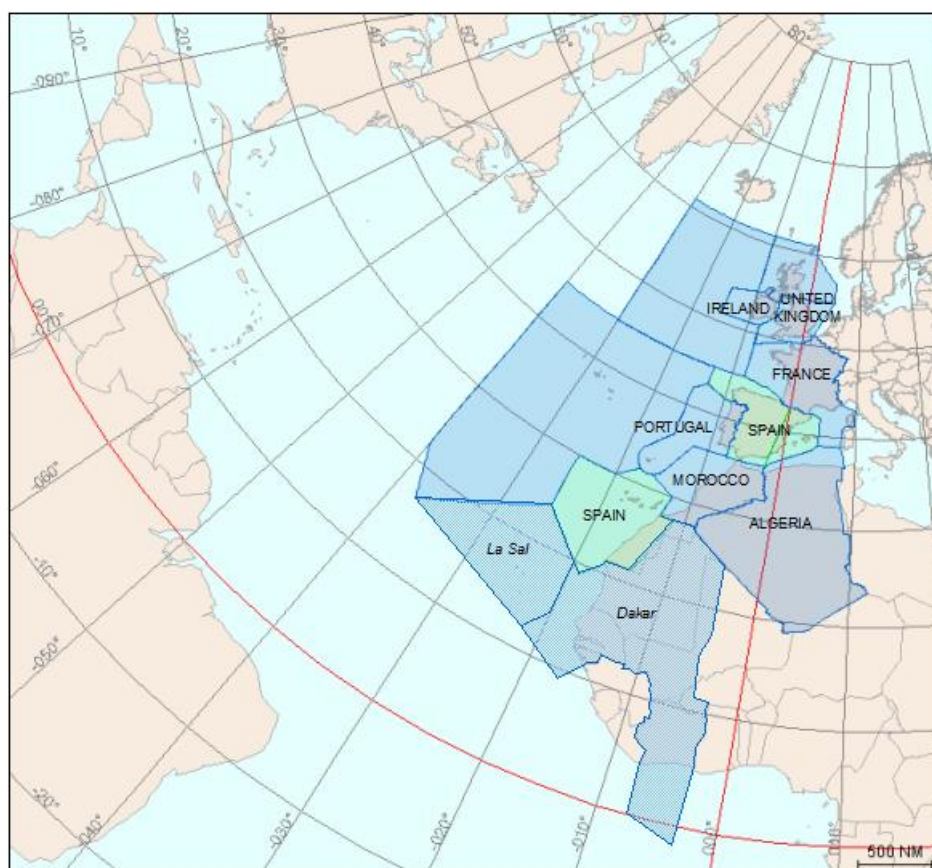
Spanish neighbouring airspace and airspace assigned to Spain

ATC Units

Basic information about the Spanish FIR/UIR and ATC Units is listed in the following table, taking into account that figures for sectors correspond to the maximum sectoring and may change due to different sector configurations during the year.

The ATC units in the Spanish airspace, which are of concern to this LSSIP, are the following:

ATC Unit	Number of sectors[1]		Associated FIR(s)	Remarks
	En-route	TMA		
MADRID	16		Madrid	OAT Control (ECAO Madrid (*)). Military APPs Zaragoza, Salamanca, León, Valladolid-Villanubla, Torrejón East Sector (not open to civil Air Traffic)
SEVILLA	9		Madrid	ATC delegated by Madrid to Sevilla ACC OAT Control (ECAO Sevilla (*)). Military APPs Talavera, Albacete
BARCELONA	13		Barcelona	OAT Control (ECAO Barcelona (*)). Military APP San Javier
PALMA	8		Barcelona	OAT Control (ECAO Barcelona (*)). ACC controlling Palma TMA, within Barcelona FIR
CANARIAS	5	5	Canarias	OAT Control (ECAO Las Palmas(*))

(*) Military Control Units and GAT/OAT Coordination Units

1.2. National Stakeholders

The main National Stakeholders involved in ATM in Spain are the following:

•   AESA (Agencia Estatal de Seguridad Aérea - Spanish Aviation Safety and Security Agency), National Civil Aviation Supervisory Authority except for meteorological service provision, as detailed below

•   DGAC (Dirección General de Aviación Civil) – Civil Aviation Regulation and Policy

•   Meteorological Authority and Supervisory Authority - Secretary of State for Environment (Secretaría de Estado de Medioambiente, SEMA)

•   Spanish Air Force (ESPAF)

•   AENA SME S.A. (Spanish Airports)

•   ENAIRE (Air Navigation Service Provider)

•   FerroNATS (Air Navigation Service Provider)

•   SAERCO (Air Navigation Service Provider)

•   AEMET (Agencia Estatal de Meteorología) - Meteorological Service Provider

Their activities are detailed in the following subchapters and their relationships are shown in the diagram below according to Royal Decree 2/2020, of January 12, which restructures the ministerial departments and Royal Decree 139/2020, of January 28, which establishes the basic organic structure of the ministerial departments.

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[1] The number of sectors open at maximum configurations planned in 2019

In particular, according to the new structure, DGAC is attached to the General Secretary for Transports and Mobility within the Ministry of Transport, Mobility and the Urban Agenda. Royal Decree 953/2018, of 27th July developing the basic structure of the Ministry of Public Works, where DGAC functions are detailed, is expected to be updated soon to reflect the new structures. Royal Decree 355/2018 of 6th June 2018 sets the structure of the Ministry for Ecological Transition.
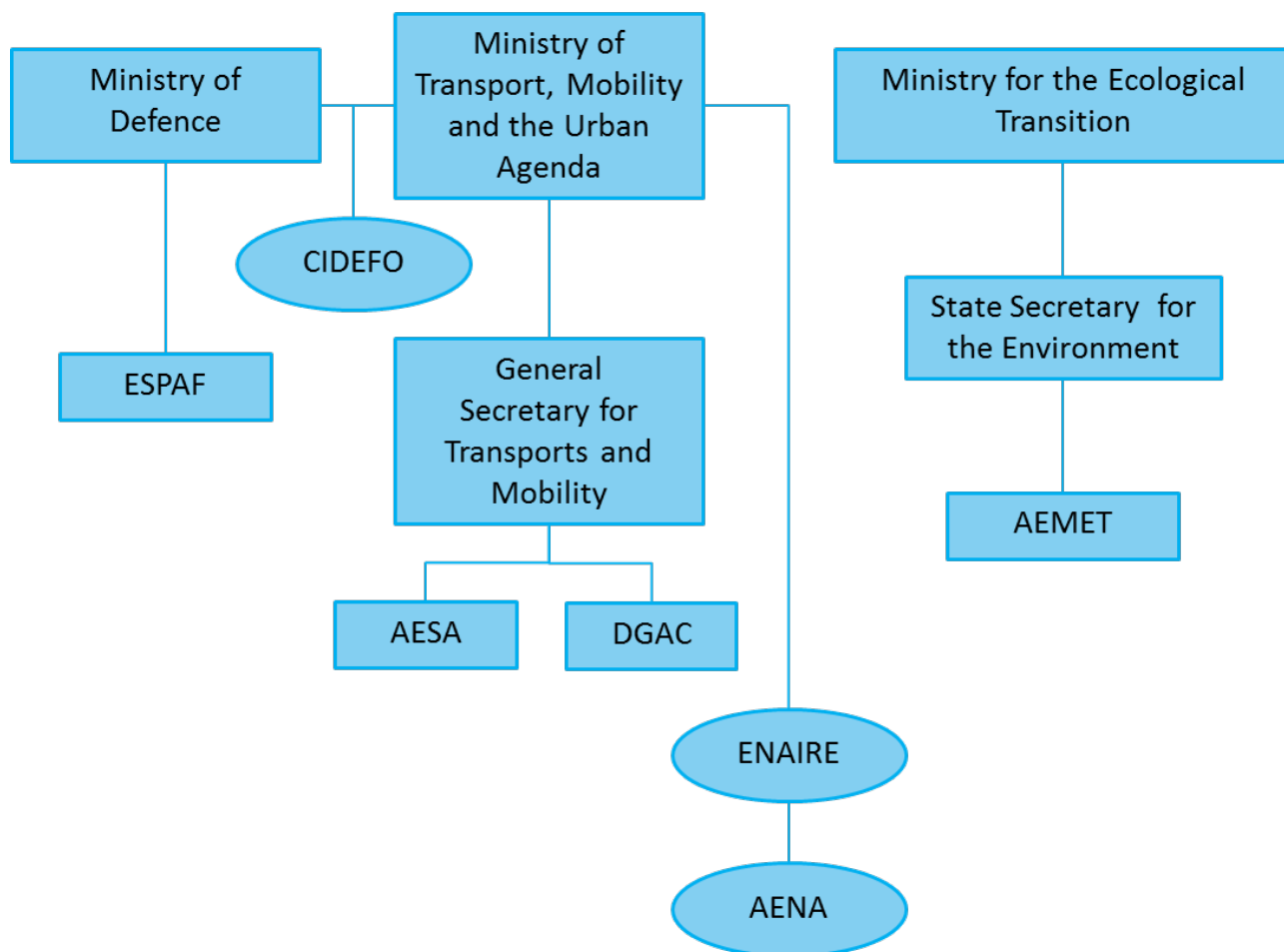
LSSIP national stakeholders relationship diagram

Civil Regulator(s)

General Information

The different national entities having regulatory responsibilities in ATM are summarised in the table below:

Activity in ATM:	Organisation responsible	Legal Basis
Rule-making	DGAC Ministry of Transport, Mobility and the Urban AgendaMinistry of Defence Ministry for Ecological Transition	According to Royal Decree 953/2018, the DGAC is responsible for the development of studies and formulation of strategic policy proposals regarding aviation and air navigation systems and airports, whereas AESA assumes the role of the CAA and NSA for all civil ANSPs except for the MET Service Provider. AESA, according article 9.1 k) of Royal Decree 184/2008, has the regulatory initiative in the fields of civil aviation that have attributed to its responsibility, for its elevation to competent bodies within the Ministry of Transport, Mobility and the Urban Agenda. These proposals are later on elevated to the DGAC for final assessment and administrative process (Analysis of proposals at CIDEFO and public audience and hearing process among others steps of the regulatory process). The DGAC finally submits the regulation to the relevant Authority for its adoption. The regulatory proposals regarding ATM/ASM must be informed favourably by CIDEFO.
Safety Oversight	AESA (for civil aviation excluding the meteorological service provision and the military services and facilities) Ministry of Transport, Mobility and the Urban Agenda Ministry of Defence (Military)	(Refer to Royal Decree 184/2008). AESA in its role NSA is in charge of promoting and enhancing safety in the civil aviation sector in Spain in accordance with ICAO and national regulations within the scope set for in the Law 21/2003. Thus AESA, in its role of civil NSA for ATM, CNS and AIS, is bound by the activities directly assigned to the NSAs by the European SES regulations and, in particular, regulation (CE) nº 549/2004 (article 4) and regulation (UE) nº 2017/373. To that end, AESA is responsible for the air safety oversight according to Law 21/2003 in the field of civil aviation. The functionally independent NSA for military Services Provider to civil aviation is in charge of preserving the safety of air transport in Military Air Bases open to civilian traffic and joint use (with regard to military-owned facilities in the latter case). On December 1st 2014 civil NSA (AESA) and NSA for military Services Provider to civil aviation (Spanish Air Force) signed a Protocol related to air navigation services provision oversight. This Protocol establishes the principles and means of collaboration and coordination between both NSAs, in the SES legislation framework.
Enforcement actions in case of non-compliance with safety regulatory requirements	AESA	(Refer to Royal Decree 184/2008) AESA has enforcement powers in the field of civil aviation according to Law 21/2003.

Airspace	CIDEFO AESA/DGAC Ministry of Transport, Mobility and the Urban AgendaMinistry of Defence	Article 53 Uno of Law 18/2014, of 15th October, approving urgent measures to growth, competitiveness and efficiency, published in the Official State Journal (BOE) October 17, 2014, amends Article 4 of Law 21/2003, of 7th July, on Air Safety, establishing that the Ministries of Defence and the Ministry of Transport, Mobility and the Urban Agenda define and set the policy and strategy for the airspace management, and the adoption of specific measures in this area in accordance with the provisions of the European Union and taking into account the needs of national defence. Likewise Article 53 of Law 18/2014 amends Article 6 of Law 21/2003 on CIDEFO in order to assign that high level body the functions on strategic management of airspace, including executive functions, required by Article 4 of Regulation (EC) № 2150/2005 of the Commission of 23 December 2005 establishing common rules for the flexible use of airspace is established. Therefore CIDEFO is the competent body responsible of the civil-military coordination at ASM-FUA strategic level (OM march 1995). The proposals regarding ASM and airspace organization must be examined and informed favourably by CIDEFO.
Economic	AESA Ministry of Transport, Mobility and the Urban Agenda/ Ministry for Ecological Transition / Ministry of Economy Ministry of Defence	AESA has economic supervisory powers in the field of the civil ATM sector in Spain (Performance Scheme Regulation (UE) nº 317/2019). NSA for military services provided to civil aviation has economic supervisory powers in that field.
Environment	AESA Ministry of Transport, Mobility and the Urban Agenda/ Ministry for Ecological Transition	(Refer to Royal Decree 184/2008)
Security	AESA Ministry of Transport, Mobility and the Urban Agenda/ Ministry for Ecological Transition/ Ministry of Defence/ Ministry of Presidency	(Refer to Royal Decree 184/2008) AESA, as National Supervisory Authority (NSA), is responsible for any competence derived from European Regulations (EC) and Directives, in the field of security of civil aviation, in particular, Regulation (EC) № 2017/373 NSA for military services provided to civil aviation is competent in air bases open to civil use and joint civil-military aerodromes in the field of security

Accident investigation	Civil Accident and Incident Investigation Commission (CIAIAC)	This body performs its functions independently from the Civil Aviation Authority (AESA) and the regulator (DGAC) in compliance with Regulation (UE) № 996/2010 and Spanish Air Safety Act 21/2003. CIAIAC reports to Ministry of Transport, Mobility and the Urban Agenda Under secretariat and to the Parliament.
		CIAIAC publishes the results of the safety investigations and statistics (including annual reports) through the following web site:
		https://www.fomento.gob.es/MFOM/LANG_CASTELLANO/ORGANOS_COLEGIADOS/CIAIAC/
	Study and Analysis of Air Traffic Incident Notifications Commission (CEANITA)	CEANITA is a collegiate body, currently attached to DESATI (Directorate for Safety Risk Analysis and Quality Management of AESA) with advisory functions and cooperation with civil and military aviation authorities aimed at increasing the safety of air navigation and prevent air traffic incidents (Ministerial Order PRE/697/2012 Order of 2 April). CEANITA is an inter-ministerial body (Ministry of Transport and Ministry of Defence) whose functions are to analyse air traffic incidents notified through the Occurrence Reporting System (SNS) and to directly advise aviation authorities. CEANITA/SNS perform their functions without interfering with CIAIAC activities.
		CEANITA is not only responsible for the study of civil air traffic incidents but also for those air traffic incidents in which a military aircraft or ATS unit is involved, with prior authorization of the Spanish Air Force Staff.
		CEANITA publishes the results of the safety investigations and statistics (including annual reports) through the following web site:
		http://www.seguridadaerea.gob.es/lang_castellano/g_r_seguridad/ceanita/default.aspx
	Military Aviation Accidents Technical Investigation Commission (CITAAM)	The CITAAM (Military Aviation Accidents Technical Investigation Commission) reports directly to the Minister of Defence and is responsible of any accident involving military service provision or military users. CITAAM and CIAIAC have subscribed a collaborative agreement for civil and military accidents or serious incidents investigations.
		CITAAM or designated body by Minister of Defence or CAS, in collaboration with CIAIAC can investigate accidents/serious incidents of civil aircraft which involve Military ANSP in Air Bases open to civil traffic and joint civil-military aerodromes.

DGAC Spain

ATM regulation in Spain falls essentially within the competences of the Ministry of Transport, Mobility and the Urban Agenda although the Ministry of Defence has an important participation on its definition and drafting. The Ministry for Ecological Transition is the regulator as far is concerned the aeronautical MET services.

The Ministry of Transport, Mobility and the Urban Agenda carries out its supervisory and regulatory competences through AESA and DGAC, respectively. AESA is the civil NSA for ATM, CNS and AIS services.

Within the Ministry for Ecological Transition, the Secretary of State for Environment is the NSA for aeronautical meteorological services.

The regulations affecting the military interest or requiring civil-military coordination are made through the works in the CIDEFO Commission.

The primary roles of the DGAC detailed in article 6 in Royal Decree 953/2018 are:

• To propose the air transport strategic policy and air navigation and airports planning (Master Plan).

• The institutional coordination with the different Administrations, including the Ministry of Defence, and with the regional governments in the State in the fields of the airport planning and air navigation.

• Coordination of competences with the local authorities regarding the planning of the uses of the territory in the aerodrome surroundings.

• Elaboration and proposal of regulations in the fields of civil aviation.

- Approval of 'Circulares Aeronáuticas'.

- High level representation of the Ministry of Transport, Mobility and the Urban Agenda, in national and international organizations in relation with civil aviation.

AESA's main competences detailed in Royal Decree 184/2008 are:

- Supervision and inspection of the civil aviation sector.

- Support to the optimization of safety and security aspects in air transport.

- Protection of User Rights, particularly passengers.

- Improvement of quality on civil aviation services provision.

- Economical supervision.

- Environment.

- The regulatory initiative in the fields of civil aviation that have attributed to its responsibility, for its elevation to competent bodies within the Ministry of Transport, Mobility and the Urban Agenda.

AESA and DGAC are organizations with its own legal entity and organizationally different and separated from the ANSPs, airlines and airports operators. AESA is an organisation regulated by the National Law 28/2006 and its own Statute (Royal Decree 184/2008), being financially and organisationally independent from other agencies.

Annual Report published:	Y	http://www.seguridadaerea.gob.es/lang_castellano/la_agencia/cuentas/default.aspx
		This link provides all the information related to the annual financial reports of the organisation since 2009. The annual 2018 financial report is the latest one available, elaborated in compliance with article 128 of the National Law 47/2003 of 26th November.

Additional information about AESA can be found on the website: http://www.seguridadaerea.es

The organisational chart can be seen in Annex "National stakeholders organisation charts".

Air Navigation Service Provider(s)

ENAIRE

Service provided

ENAIRE (Air Navigation Service Provider) is a public business entity, legally and organisationally separated from DGAC, although reporting to the Ministry of Transport, Mobility and the Urban Agenda.

ENAIRE(designated by the State) is the leading air navigation and aeronautical information service provider in Spain, the fourth largest in Europe by traffic volume and one of the most important in the world.

ENAIRE manages the Spanish airspace over a territory of 2.19 MN square kilometres (consisting of the Iberian Peninsula, except Portugal, and part of the North Atlantic, the Western Mediterranean and Western Sahara), providing air traffic services to 2 million flights carrying over 250 million passengers each year. Through its five control centres, 21 control towers and a comprehensive network of aeronautical infrastructure and equipment, it provides en-route, approach and aerodrome ATC services, as well as flight information, alerts and consulting services. ENAIRE is also the communications, navigation and surveillance service provider across the whole of the Spanish airspace and at airports in AENA network.

ENAIRE performs the national and international operational coordination of the Spanish air traffic management network through efficient airspace management, taking into account respect for the environment and the needs of users.

Furthermore, ENAIRE diversifies its activities through capital investments in a variety of companies. ENAIRE holds 51% of the capital of AENA SME S.A., managing a network comprising 46 airports and 2 heliports in Spain, including Adolfo Suárez Madrid-Barajas, Barcelona-El Prat, Palma de Mallorca and Malaga-Costa del Sol. This network serves over 275 million passengers a year. Likewise, AENA SME S.A. has a stake in the management of a further 17 airports in the United Kingdom, Colombia, Mexico and Jamaica.

Furthermore ENAIRE holds shares in INECO (45.85%), CRIDA (66.66%), EMGRISA (0.08%), GNSS, S.L (19.3%) and GROUP EAD (36%). It is also the owner of the ENAIRE Foundation.
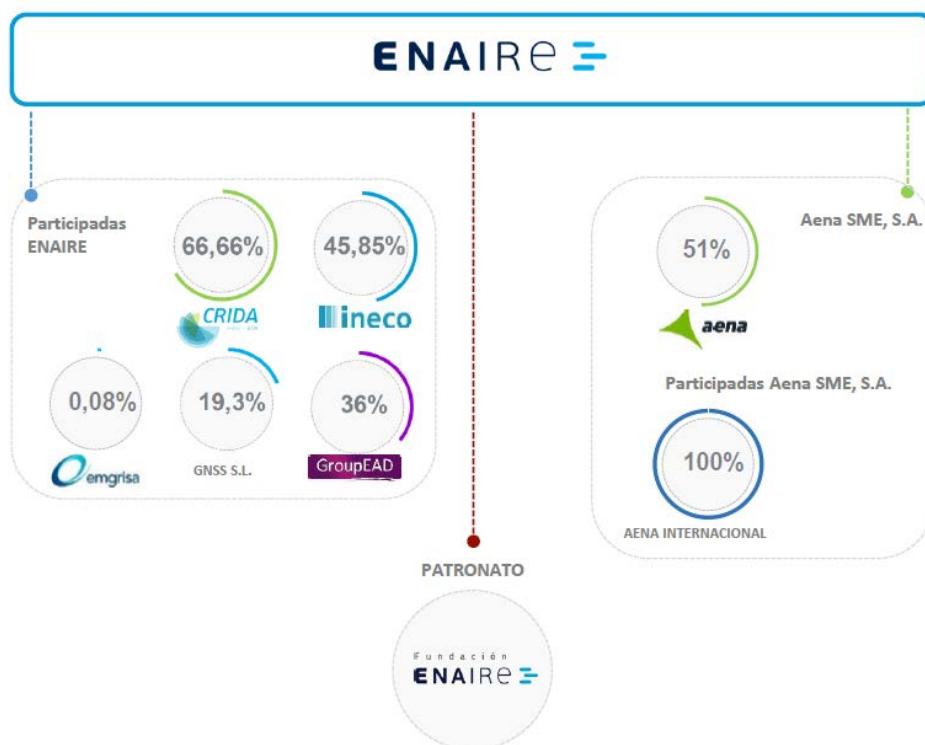
ENAIRE's investee companies

The Public Corporate Entity Aeropuertos Españoles y Navegación Aérea (AENA), created by Article 82 of the 1990 General State Budget Act, Law 4/1990, of 29 June, changed its name to ENAIRE on 5 July 2014.

Governance:	Corporatized since 1.1.1991 (Public Entity)	Ownership:	100% state-owned

Services provided	Y/N	Comment
ATC en-route	Y	
ATC approach	Y	
ATC Aerodrome(s)	Y	
AIS	Y	
CNS	Y	
MET	N	AEMET (State Meteorological Agency) is the MET Service Provider
ATCO training	Y	ENAIRE training/services certified: Unit training, continuation training, training of on-the-job training instructors and training of licence holders entitled to act as competence examiners and/or competence assessors.
Others	Y	
Additional information:		
Provision of services in other State(s):	N	
Annual Report published:	Y	https://www.enaire.es/about_enaire/know_enaire/annual_reports/report

Additional information about ENAIRE can be found in: http://www.ENAIRE.es

The organisation chart can be seen in Annex "National stakeholders organisation charts".

ATC Systems in use

Main ANSP part of any technology alliance[2]	Y	iTEC

FDPS

Specify the manufacturer of the ATC system currently in use:	INDRA
Upgrade[3] of the ATC system is performed or planned?	Systems and procedures for air traffic services, in particular flight data processing systems, surveillance data processing systems and human-machine interface systems: 3.Z5.80: 2018-2020 SACTA iTEC 4.0: 2020-2022 SACTA iTEC 4.1: 2022 - 2024
Replacement of the ATC system by the new one is planned?	See box above
ATC Unit	Madrid, Barcelona, Sevilla, Gran Canaria, and Palma de Mallorca ACCs.

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[2] Technology alliance is an alliance with another service provider for joint procurement of technology from a particular supplier (e.g. COOPANS alliance)

[3] Upgrade is defined as any modification that changes the operational characteristics of the system (SES Framework Regulation 549/2004, Article 2 (40))

SDPS

Specify the manufacturer of the ATC system currently in use:	INDRA
Upgrade of the ATC system is performed or planned?	Systems and procedures for air traffic services, in particular flight data processing systems, surveillance data processing systems and human-machine interface systems: 3.Z5.80: 2018-2020 SACTA iTEC 4.0: 2020-2022 SACTA iTEC 4.1: 2022 - 2024
Replacement of the ATC system by the new one is planned?	See box above
ATC Unit	Madrid, Barcelona, Sevilla, Gran Canaria, and Palma de Mallorca ACCs.

FerroNATS

Service provided

FerroNATS Air Traffic Services S.A. is the leading private air navigation service provider in Spain, providing services to more than 550.000 operations and 44 million passengers each year, and present in 13 airports among Spain.

Born in 2011, the company is the result of a joint venture between Ferrovial Services, international benchmark in the operation of public and private infrastructures for transport, and NATS, the UK leading air navigation service provider.

In 2011 FerroNATS was awarded two of the three lots offered by AENA which comprise the provision of aerodrome control services at nine airports: Alicante-Elche, Valencia, Ibiza, Seville, Jerez, Sabadell, Madrid-Cuatro Vientos, Vigo and A Coruña. Over the period from November 2012 to January 2014, FerroNATS took control of these nine control towers.

In 2018, FerroNATS initiated the provision of air flight information and communications, navigation and surveillance services at the airports or Cordoba and La Seu d'Urgell-Andorra. The same year the company also started the service provision of aerodrome traffic control and communications, navigation and surveillance services at Lleida-Alguaire airport. In January 2019 FerroNATS started the provision of air traffic control service at the airport of Murcia International.

Since April 2018 FerroNATS also manages its own ab-initio air traffic control training school, SkyWAY.

Governance:	Incorporated since 7th March 2011. (Private Company)	Ownership:	100% private
Services provided	**Y/N**	**Comment**	
ATC en-route	N		
ATC approach	N		
ATC Aerodrome(s)	Y		
AIS	N		
CNS	Y		
MET	N		
ATCO training	Y	FerroNATS training/services certified: Unit training, continuation training, training of on-the-job training instructors and training of licence holders entitled to act as competence examiners and/or competence assessors.	
Others	N		
Additional information:			
Provision of services in other State(s):	N		
Annual Report published:	Y	http://www.ferronats.com/es/area-de-comunicacion/Notas-informativas	

Additional information about FerroNATS can be found in: http://www.ferronats.com

The organisation chart can be seen in Annex "National stakeholders organisation charts".

SAERCO

Service provided

Founded in 2010 by a group of professionals with extensive experience in the aviation, air navigation and services sector for a common purpose: to provide Air Navigation Services in Spain and internationally.

SAERCO is the first private Spanish company certified by the Spain's National Supervisory Authority (Agencia Estatal de Seguridad Aérea-AESA) to provide air transport services according to the Single European Sky Standard and the Common Requirements established by the EU Commission.

SAERCO provides ATS Services at 5 airports to more than 12 million passengers

SAERCO is a multidisciplinary organization in the aviation sector providing air navigation services, apron management services, Initial, Unit and Continuous Training for AFIS, ATC, OJTI, Assessors, CNS-ATSEP, ATS simulators, calibration flights, and developing software and applications such as Aeronautical Logbooks, Drones /RPAS Flight Planning and Log, among others… SAERCO' highly qualified professionals also carry out consulting projects, advice and aeronautic engineering projects.

CNS Services are provided since Castellón Airport's first opening to commercial traffic

SAERCO is **certified** according to the requirements of European Regulations and with the supervision of the State Aviation Safety Agency (AESA).

- Re 1035/2011 - Re 2017/373 - laying down common requirements for the provision of air navigation services
- Re 2015/340 - laying down technical requirements and administrative procedures relating to air traffic controllers' licenses and certificates

More in detail SAERCO current certificates include:

ANSP	Certified	Training	Certified
Aeronautical Flight Information Services (AFIS)	✓	Initial Training (InT): TWR, APP, APS, ACP, ACS, OJTI, ASSESSOR	✓
Air traffic Control ATC -TWR	✓	Unit Training (UnT)	✓
Air traffic Control ATC -Approach	✓	Continuation Training (CoT)	✓
Meteorological Services (MET)	✓		
Communication, Navigation and Surveillance Services (CNS)	✓		

SAERCO has got an extensive experience in providing air navigation services for large airport operators having been involved in the successful and safe transition from a state owned service network to privatization.

The airports where SAERCO provides its services are managed by 4 different clients:

- AENA, the world's first airport operator managing more than 275 million passengers in 2019, with 48 airports in Spain and several abroad.
- AEROCAS, Castellón Airport, owned by the regional government of Valencia and the Municipal Authority in Castellón
- CRIA, Ciudad Real Airport, private owned
- (in the short-term) AVINOR AS, Norwegian state owned Airport Operator

In the following table, there is a summary of the current Air Navigation and Airport services provided by SAERCO:

Airport Operator	Airport	Services
AENA	La Palma GCLA Lanzarote GCRR Fuerteventura GCFV	ATC
	El Hierro GHI	ATC/AFIS
	La Gomera GCGM Burgos LEBG Huesca LEHC	AFIS
	Adolfo Suarez Madrid Barajas MAD	AMS Apron Management (Airport service)
AEROCAS	Castellón LECH	ATC/CNS
CRIA	Ciudad Real LERL	AFIS/C
(in the short term) AVINOR AS	Kjevik ENCN Alesund ENAL	ATC/MET (ENCN: ATC includes approach services)

Additional information about SAERCO can be found in: http://www.saerco.com
The organisation chart can be seen in Annex "National stakeholders organisation charts".

Airports

General information

AENA SME S.A. (Spanish Airports) is in charge of operating 46 airports and 2 heliports in Spain. AENA SME S.A. has not only the responsibility of airports management but also of infrastructure planning and development.

The new entity AENA SME S.A. has been set up within AENA Group, since 8th June 2011 in order to assume the functions and obligations related to the management and services of the Spanish airports network, as approved by the Spanish Government in the Royal Decree-Law (RDL 13/2010 of December 3rd).

There is a Royal Decree (1167/1995 from 7th of July – modified on the 31st May 1999 and 15th February 2001) about "Regime of use of aerodromes exploited jointly by an air base and an airport and air bases open to civil traffic". There are 6 air bases opened to civil traffic and 9 aerodromes exploited jointly as an air base and a civil airport. Since 14th October 2019, handling services and facilities for civil aircraft are not available in San Javier Air Base. No services are provided to civil aircraft, except authorized state aircraft. It was published by NOTAM (B6922/19). On December 20th, 2017 Aena won the tender for the management, operation, and maintenance of the International Airport of the Region of Murcia (AIRM), called by the Autonomous Community of the Region of Murcia, which owns the airport. On January 15th, 2019, the AIRM started operation.

There are others airports operators open to the public: Lleida-Alguaire, Castellon, and La Seu d'Urgell-Andorra.

The following figure shows the Spanish civil and military aerodromes:

Airports in Spain

Beyond the national scope, AENA SME S.A. has continued its international presence in the last years with the management of 17 airports in: United Kingdom (1), Mexico (12), Jamaica (2) and Colombia (2). For most of the airports abroad, AENA SME S.A. is present through its affiliate AENA Internacional. Aena has won a tender for the operation of 6 more airports in Brazil, which are expected to start operations during 2020.

Airport(s) covered by the LSSIP

Referring to the List of Airports in the European ATM Master Plan Level 3 Implementation Plan Edition 2019 – Annex 2, it is up to the individual State to decide which additional airports will be reported through LSSIP for those Objectives.

The airports covered in this LSSIP are Barcelona, Madrid-Barajas and Palma de Mallorca airport. The implementation objectives applicable can be seen in the abovementioned List.

The EUROCONTROL Public Airport Corner also provides information for the following airport(s):

Alicante https://ext.eurocontrol.int/airport_corner_public/LEAL

Bilbao https://ext.eurocontrol.int/airport_corner_public/LEBB

Barcelona/El Prat https://ext.eurocontrol.int/airport_corner_public/LEBL

Ibiza https://ext.eurocontrol.int/airport_corner_public/LEIB

Gran Canaria https://ext.eurocontrol.int/airport_corner_public/GCLP

Madrid/Barajas https://ext.eurocontrol.int/airport_corner_public/LEMD

Málaga https://ext.eurocontrol.int/airport_corner_public/LEMG

Palma de Mallorca https://ext.eurocontrol.int/airport_corner_public/LEPA

Tenerife Sur https://ext.eurocontrol.int/airport_corner_public/GCTS

Tenerife Norte https://ext.eurocontrol.int/airport_corner_public/GCXO

Valencia https://ext.eurocontrol.int/airport_corner_public/LEVC

Adolfo Suárez Madrid-Barajas Airport is one of the main points of entry for tourists to Spain. A short distance from the city centre, it is a key element of our tourist industry as it is convenient and saves passengers time and money in transport. Madrid - Barajas plays a very important role in the economies of Madrid and Spain as a whole, since it drives the regional economy and fosters business growth and tourism.

The new extensions have consolidated Adolfo Suárez Madrid-Barajas as a "hub" airport where airlines can increase connectivity between Latin American, domestic and European markets, making it a true bridge between Europe and Latin America. Adolfo Suárez Madrid-Barajas is now a symbol of modernity and progress and has consolidated its leading position among world airports, being the fifth in Europe in numbers of passengers.

Its innovative and attractive facilities, equipped with the latest technology to offer passengers greater mobility, efficiency and speed, with modern baggage handling systems, shopping areas and a greater number of flights make Madrid one of the airport capitals of the 21st century.

During 2019 more than 61,7 million passengers used its facilities, more than 169.000 a day.

Barcelona-El Prat Airport is now consolidated as a strategic point of reference in the Euro-Mediterranean airspace.

The continuous improvements of its facilities and the quality of its services have enabled this airport to establish an exceptional position to face the future with certainty.

Having modernised its facilities, Barcelona-El Prat can offer quality services for passengers and an airfield worthy of a top-level airport, suitable for use by large commercial planes.

The construction and introduction of the third runway in September 2004 and the extension to the primary runway were decisive steps to increase the airport's capacity, and it could reach 90 operations an hour.

With the aim of consolidating the airport as a model in the Mediterranean and southern Europe, the Master Plan included a set of actions to modernise and increase the airport's capacity.

The most emblematic project in this phase was the construction of Terminal T1, which is located between runways. T1, of great architectural value, was conceived as a large logistical operations and services centre. It has a capacity of 33 million users per year and has overseen an investment of 1.26 billion Euros.

Work on this building was followed by the remodelling of Terminal T2 and the expansion and remodelling of the shopping areas in both terminals, such as new shops, new concepts, and new brands to adapt the offer to the passengers who use the airport facilities.

Other projects included in the Master Plan are the urbanisation of over 300 hectares as a service area for the industrial and commercial development of the airport; the creation of a 90-hectare aeronautic park for installing maintenance hangars; and the construction of a city with office buildings and hotels.

This plan will continue to transform the airport by applying an innovative concept that aims to turn its facilities into a sustainable airport city and a large air traffic distribution centre for southern Europe.

The increase in passenger traffic at the airport is an accurate indicator of the advances made over the last decade. 2019 saw the record figure of 52,7 million passengers, as well as 344,6 thousand operations.

Palma de Mallorca Airport (Son Sant Joan), located 8 km from the city, is the gateway for the millions of tourists who visit the island.

Airport traffic is primarily international and reaches its greatest levels during the summer season. There are also numerous connections to the mainland.

The most important connections are to Barcelona (2.17 million passengers), Madrid-Barajas (1.99 million passengers) and Dusseldorf, with over 1.56 million passengers, and Frankfurt, which handles 1.13 million passengers per year. By nationality, Germany accounts for the largest number of passengers (9.99 million passenger), followed by Spain (7.49 million passengers) and the United Kingdom (5.43 million passengers).

In 2019, Son Sant Joan closed the year with a total of 29.7 million passengers, and 217.2 thousand operations.

The following table shows the evolution of passenger traffic for the last five years:

YEAR	EVOLUTION OF PASSANGER TRAFFIC		
	MADRID	BARCELONA	PALMA
2015	46,824,838	39,711,237	23,745,023
2016	50,418,909	44,154,722	26,254,110
2017	53,400,844	47,284,346	27,970,656
2018	57,890,057	50,172,689	29,081,446
2019	61,734,037	52,686,314	29,721,123

Military Authorities

The Spanish Military Competent Authority (Regulator) is the Chief of the Air Staff (JEMA – Jefe de Estado Mayor del Aire). Spanish Air Force coordinates civil-military use of airspace at strategic, pre-tactical and tactical levels with civil providers. Spanish Air Force provides Air Navigation Services (ATM, CNS, AIS, SAR) to the military and to civil aviation. Military ANS are coordinated with Civil ANS. Spanish Air Force operates Military Aerodromes, including some open to public use and joint civil-military aerodromes. Some systems are civil-military shared. Spanish Air Force is an Airspace User, both according to General Air Traffic (GAT) and Operational Air Traffic (OAT). Spanish Air Force coordinates Air Defence. Vice-Chief of the Air Staff (SEJEMA – Segundo Jefe del Estado Mayor del Aire) is the recognized National Supervisory Authority (NSA) for Air Navigation Services provided by the military to civil aviation. SEJEMA is functionally independent of military ANS Providers and Aerodrome Operators.

The organisation chart representing the Spanish Air Force involved in the provision of air navigation services to the civil aviation can be found in Annex "National stakeholders organisation charts".

Regulatory role

Regulatory framework and rule making

OAT		GAT	
OAT and provision of service for OAT governed by national legal provisions?	Y	Provision of service for GAT by the Military governed by national legal provisions?	Y
Level of such legal provision: Royal Decree: Reglamento de la Circulación Aérea Operativa – RCAO (Operative Rules of the Air). EUROAT specification has been included in Spanish OAT regulation; deviations have been communicated to EUROCONTROL.		Level of such legal provision: Commission Implementing Regulation (EU) 923/2012 (Common Rules of the Air) Royal Decree 57/2002: Reglamento de la Circulación Aérea – RCA (Rules of the Air). Royal Decree 552/2014 developing the rules of the air and common operational provisions regarding air navigation services and procedures and amending the Royal Decree 57/2002. Royal Decree 1180/2018 developing the rules of the air and common operational provisions regarding air navigation services and procedures and amending the Royal Decree 57/2002 and the Royal Decree 552/2014.	
Authority signing such legal provision: CAS		Authority signing such legal provision: CAS	

These provisions cover:			These provisions cover:	
Rules of the Air for OAT	Y			
Organisation of military ATS for OAT	Y		Organisation of military ATS for GAT	Y
OAT/GAT Co-ordination	Y		OAT/GAT Co-ordination	Y
ATCO Training	Y		ATCO Training	Y
ATCO Licensing	Y		ATCO Licensing	Y
ANSP Certification	N		ANSP Certification	N
ANSP Supervision	Y		ANSP Supervision	Y
Aircrew Training	Y		ESARR applicability	Y
Aircrew Licensing	Y			
Additional Information: Ministerial Decree, 15th March 1995, about the coordination rules between the General Air Traffic (GAT) and the Operational Air Traffic (OAT).			Additional Information: Ministerial Decree, 15th March 1995, about the coordination rules between the General Air Traffic (GAT) and the Operational Air Traffic (OAT).	
Means used to inform airspace users (other than military) about these provisions:			Means used to inform airspace users (other than military) about these provisions:	
National AIP	Y		National AIP	Y
National Military AIP	N		National Military AIP	N
EUROCONTROL eAIP	Y		EUROCONTROL eAIP	Y
Other:			Other:	

Oversight

OAT	GAT
National oversight body for OAT: DCAS	National Supervisory Authority (as per SES regulation (EC) No 550/2004) for GAT services provided by the military to civil aviation: DCAS
Additional information:	Additional information:

Service Provision role

OAT			GAT	
Services Provided:			Services Provided:	
En-Route	Y		En-Route	Y
Approach/TMA	Y		Approach/TMA	Y
Airfield/TWR/GND	Y		Airfield/TWR/GND	Y
AIS	Y		AIS	Y
MET	N	N – AEMET	MET	N
SAR	Y		SAR	Y
TSA/TRA monitoring	Y		FIS	N
Other:			Other:	
Additional Information:			Additional Information: In the Air Bases open to civil traffic and surroundings.	

Military ANSP providing GAT services SES certified?	N	If YES, since:	N/A	Duration of the Certificate:	N/A
Certificate issued by:	N/A		If NO, is this fact reported to the EC in accordance with SES regulations?		Y
Additional Information:					

User role

IFR inside controlled airspace, Military aircraft can fly?	OAT only		GAT only		Both OAT and GAT	Y

If Military fly OAT-IFR inside controlled airspace, specify the available options:				
Free Routing	Y	Within specific corridors only	Y
Within the regular (GAT) national route network	Y	Under radar control	Y
Within a special OAT route system	Y	Under radar advisory service	Y

If Military fly GAT-IFR inside controlled airspace, specify existing special arrangements:							
No special arrangements		N		Exemption from Route Charges			Y
Exemption from flow and capacity (ATFCM) measures		Y		Provision of ATC in UHF			Y
CNS exemptions:	RVSM	Y	8.33	Y	Mode S	Y	ACAS	Y
Others:	Operational agreements between ACCs and ECAOs.						

Flexible Use of Airspace (FUA)

Military in Spain applies FUA requirements as specified in the Regulation No 2150/2005:	Y
FUA Level 1 implemented: Y
FUA Level 2 implemented: Y
FUA Level 3 implemented: Y

2. Traffic and Capacity

2.1. Evolution of traffic in Spain
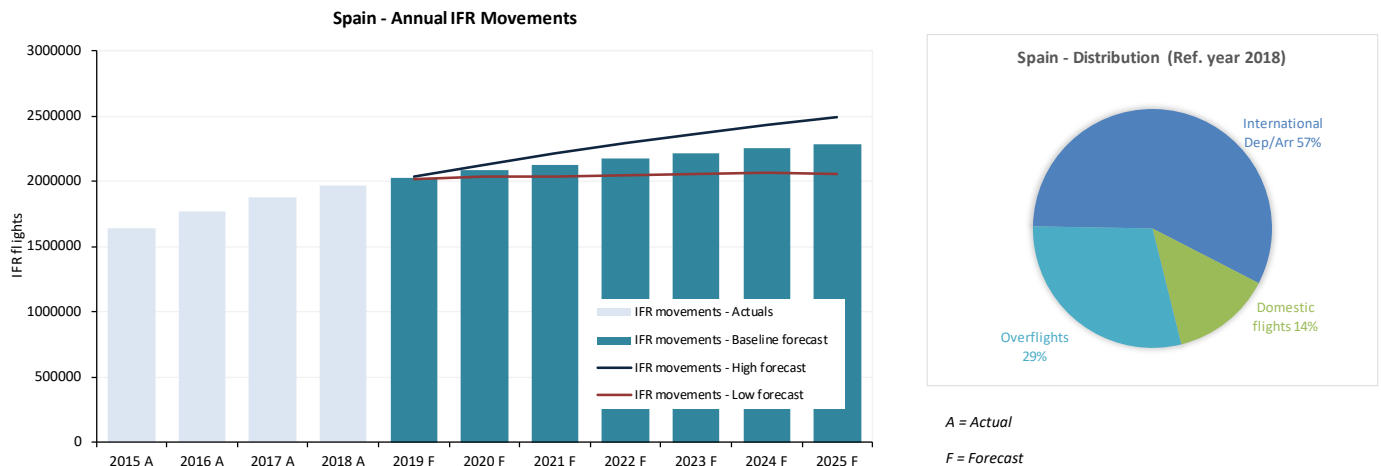
Spain - Annual IFR Movements

- IFR movements - Actuals
- IFR movements - Baseline forecast
- IFR movements - High forecast
- IFR movements - Low forecast

Spain - Distribution (Ref. year 2018)

- International Dep/Arr 57%
- Domestic flights 14%
- Overflights 29%

A = Actual

F = Forecast

EUROCONTROL Seven-Year Forecast (Autumn 2019)										
IFR flights yearly growth		2016 A	2017 A	2018 A	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F
Spain	H				3.3%	4.5%	4.2%	3.5%	2.9%	3.0%	2.5%
	B	7.7%	6.4%	4.8%	2.9%	2.7%	2.1%	2.3%	1.8%	1.9%	1.3%
	L				2.5%	0.7%	0.1%	0.6%	0.4%	0.4%	-0.3%
ECAC	B	2.8%	4.0%	3.8%	1.1%	2.3%	1.9%	2.2%	1.8%	1.9%	1.4%

2019

Traffic in the Spanish ACCs (excluding Canarias) increased by 2.5% in 2019 compared to 2018.

2020-2024

The EUROCONTROL Seven-Year forecast predicts an average annual increase between 0.3% and 3.4% during the planning cycle, with an average baseline growth of 2.0%.

2.2. Evolution of traffic in Canary Island
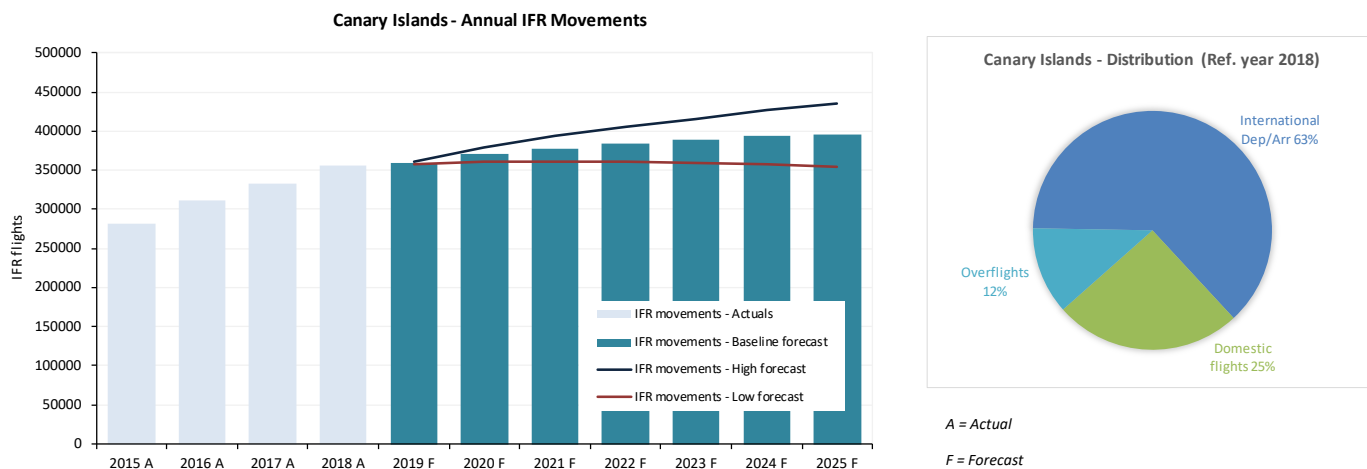
Canary Islands - Annual IFR Movements

Canary Islands - Distribution (Ref. year 2018)

International Dep/Arr 63%

Overflights 12%

Domestic flights 25%

A = Actual

F = Forecast

EUROCONTROL Seven-Year Forecast (Autumn 2019)										
IFR flights yearly growth		2016 A	2017 A	2018 A	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F
Canary Islands	H				1.5%	4.9%	3.9%	3.0%	2.6%	2.7%	2.0%
	B	10.5%	7.1%	6.9%	1.0%	3.0%	2.0%	1.6%	1.3%	1.3%	0.6%
	L				0.6%	0.8%	0.1%	-0.2%	-0.4%	-0.3%	-1.0%
ECAC	B	2.8%	4.0%	3.8%	1.1%	2.3%	1.9%	2.2%	1.8%	1.9%	1.4%

2019

Traffic in the Canarias ACC increased by 0.6% in 2019 compared to 2018.

2020-2024

The EUROCONTROL Seven-Year Forecast predicts an average annual increase between -0.1% and 3.2% during the planning cycle, with an average baseline growth of 1.6%.

2.3. ACC Barcelona

Traffic and en-route ATFM delays 2015-2024

LECBACC - Traffic and en-route ATFM delays

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	3294	3553	3632	3676	3698					
Summer Traffic	2628	2857	3003	3110	3151					
Yearly Traffic	2085	2261	2393	2501	2575					
Summer Traffic Forecast						3280	3370	3458	3544	3613
High Traffic Forecast - Summer						3342	3515	3653	3780	3912
Low Traffic Forecast - Summer						3210	3229	3257	3284	3305
Summer enroute delay (all causes)	0.70	0.69	0.66	1.10	1.08					
Yearly enroute delay (all causes)	0.46	0.49	0.45	0.78	0.80					

Note: A proportion of delay to be finalised in early 2020 shall be re-attributed to other ANSPs.

Performance summer 2019

Barcelona ACC	Traffic evolution (2019 vs 2018)			En-route Delay (min. per flight)		Capacity (2019 vs 2018)		
	Traffic Forecast		Actual Traffic	All reasons	ACC Reference Value			
	Current Routes	Shortest Routes				Planned	Achieved	Capacity gap?
Year	**H:** 6.5% **B:** 6.0% **L:** 4.4%	No significant impact	+3.0%	0.80	0.21			
Summer			+1.3%	1.08		164 (+0%)	164 (+0%)	Yes

Summer 2019 performance assessment
Average en-route delay per flight slightly decreased from 1.10 minutes per flight in Summer 2018 to 1.08 minutes per flight in Summer 2019.
70% of the delays were for the reason ATC Capacity, 25% for Weather, 5% for the reason ATC Staffing.
The ACC capacity baseline was measured with ACCESS/Reverse CASA at 164. During the measured period, the peak 1 hour demand was 170 and the peak 3 hour demand was 161.

Operational actions	Achieved	Comments
LARA	No	Technical issues encountered operational use expected early 2020
Improved ATFCM, in line with AF4 of PCP	Yes	
New NATPI traffic organisation (improved LFBB-LECB/measures summer 2019)	Yes	
Improved LoA LFBB-LECB	Yes	
eTANDEM EVEREST	Yes	

		Yes	
SATCA version 3.Z80		Yes	
Optimised sector configurations & sector capacities		Yes	
Improvement of BALSE sector		Yes	
Maximum configuration: 13 sectors		Yes	13 sectors were opened
Remedial measures		**Achieved**	**Comments**
Improved ATFCM techniques		Yes	
Continuous monitoring of the traffic evolution		Yes	
Adaptation of the ATCO recruitment levels		Yes	
France/Spain airspace restructuring project		Yes	

Planning Period 2020-2024

The planning focuses on the Summer season to reflect the most demanding period of the year from a capacity perspective. This approach ensures consistency with the previous planning cycles.

The measures for each year are the measures that will be implemented before the summer season.

Summer Capacity Plan					
	2020	2021	2022	2023	2024
Free Route Airspace			FRA, Including NM Action Plan:SW Axis airspace re-configuration project		
Airspace Management Advanced FUA	LARA	PRISMIL			
Airport & TMA Network Integration		RNP Approach LEBL			
Cooperative Traffic Management	Improved ATFCM, in line with AF4 of PCP				
Airspace		Splitting of BALSE sector		SWFAB/FABEC Marseille interface, including LUMAS	
Procedures					
Staffing		Net increase of ATCOs continues			
Technical			SACTA 4.0 including TTM		
Capacity	Optimised sector configurations & sector capacities				
		BALSE Improvement			
Significant Events	TLP – European military activity (4 times per year)				
	SIRIO – European military activity (once per year)				
	FLOTEX/NOBLE MARINER – European military activity (once per year)				
Max sectors	13	14	14	14	14
Planned Annual Capacity Increase	1%	4%	4%	2%	2%
Reference profile Annual % Increase	9%	3%	3%	4%	3%
Difference Capacity Plan v. Reference Profile	-7,3%	-6,5%	-5,8%	-7,1%	-7,4%
Annual Reference Value (min)	0.31	0.31	0.24	0.16	0.16
Additional information					

The charts below show an outline of available sector configuration for a typical weekday and a weekend day for summer 2020.

LECB - East Sectors available - Summer 2020 - WD

LECB - East Sectors available - Summer 2020 - WE

LECB - West Sectors available - Summer 2020 - WD

LECB - West Sectors available - Summer 2020 - WE

LECBACC - Reference capacity profile and alternative scenarios

	2018	2019	2020	2021	2022	2023	2024
Reference Capacity Profile			179	185	191	198	203
Capacity Profile - Shortest Routes (Open)			179	185	191	198	203
Capacity Profile - Current Routes			180	186	192	199	204
Capacity Profile - High			183	194	204	212	218
Capacity Profile - Low			176	178	180	182	184
Capacity Baseline	164	164					
2020 - 2024 Plan			166	173	180	184	188
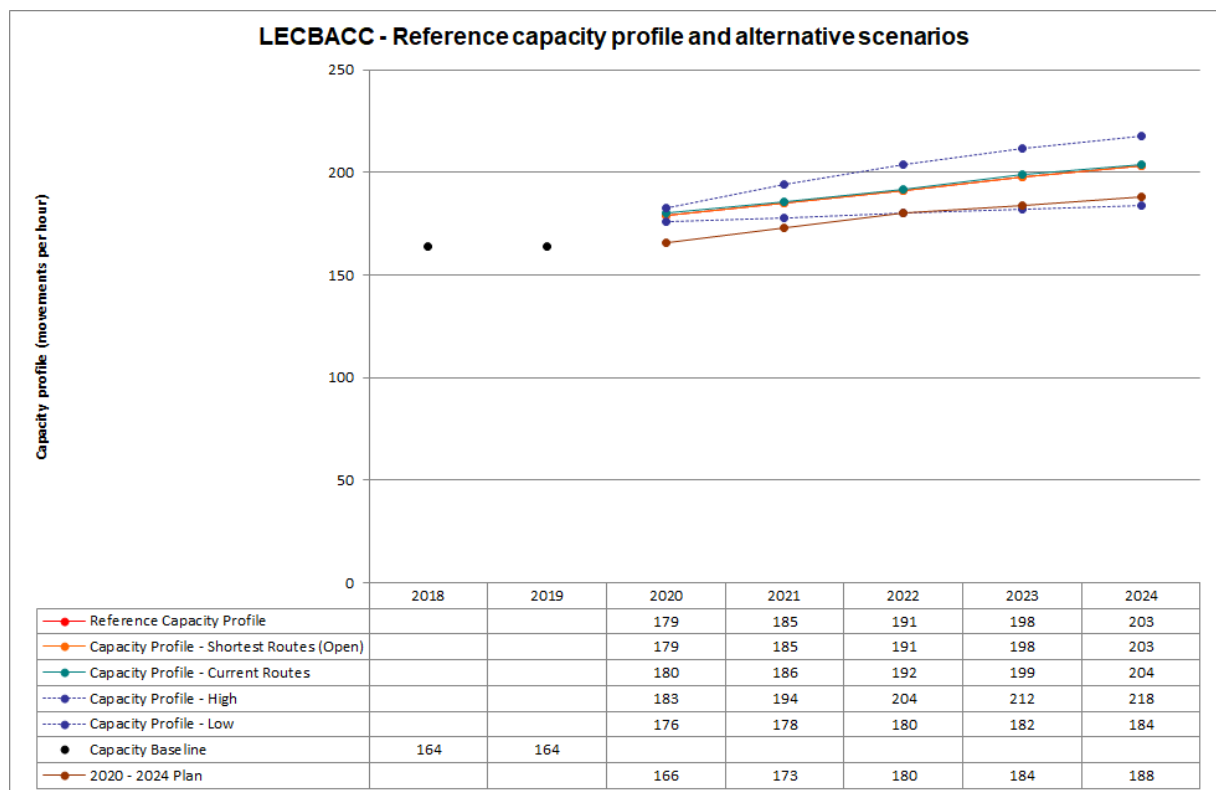
2020-2024 Planning Period Outlook
A moderate capacity gap will remain for the full period covered by the NOP.

2.4. ACC Canarias

Traffic and en-route ATFM delays 2015-2024

GCCCACC - Traffic and en-route ATFM delays

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	1261	1274	1384	1497	1444					
Summer Traffic	736	819	869	942	941					
Yearly Traffic	767	846	909	973	980					
Summer Traffic Forecast						962	989	1012	1034	1047
High Traffic Forecast - Summer						978	1030	1065	1104	1142
Low Traffic Forecast - Summer						941	951	958	961	962
Summer enroute delay (all causes)	0.17	0.22	0.05	0.29	0.10					
Yearly enroute delay (all causes)	0.26	0.38	0.26	0.53	0.22					

Performance summer 2019

Canarias ACC	Traffic evolution (2019 vs 2018)			En-route Delay (min. per flight)		Capacity (2019 vs 2018)		
	Traffic Forecast		Actual Traffic	All reasons	ACC Reference Value			
	Current Routes	Shortest Routes				Planned	Achieved	Capacity gap?
Year	**H:** 5.4% **B:** 4.8% **L:** 3.0%	No significant impact	+0.7%	0.22	0.27			
Summer			-0.1%	0.10		79 (+1%)	78 (+0%)	No

Summer 2019 performance assessment
Average en-route delay per flight decreased from 0.29 minutes per flight in Summer 2018 to 0.10 minutes per flight in Summer 2019.
86% of the delays were for the reason ATC Capacity, 11% for Weather, and 2% for the reason ATC Staffing.
The ACC capacity baseline was measured with ACCESS at 78. During the measured period, the peak 1 hour demand was 59 and the peak 3 hour demand was 53.

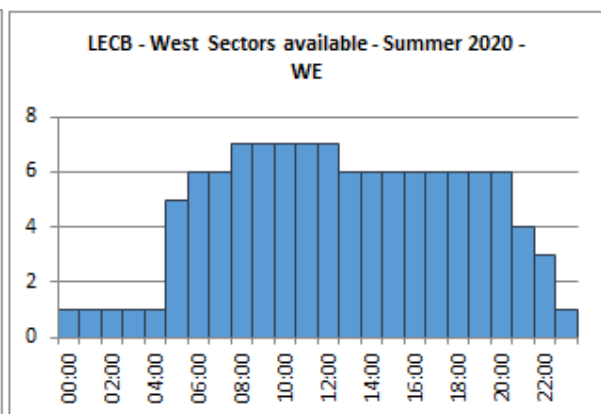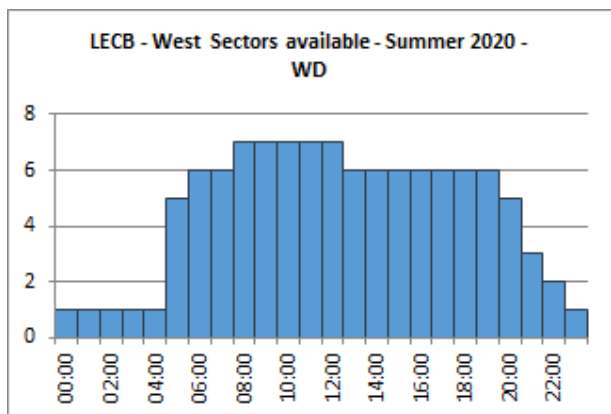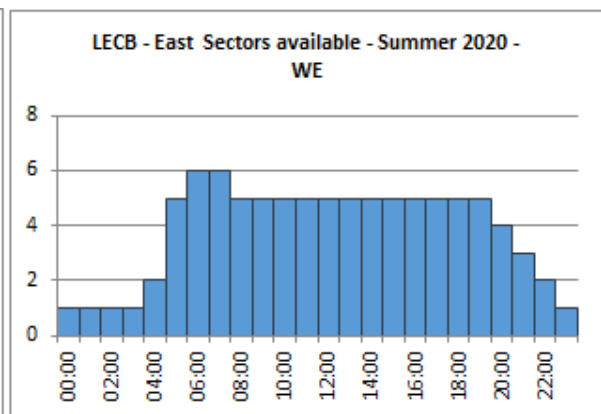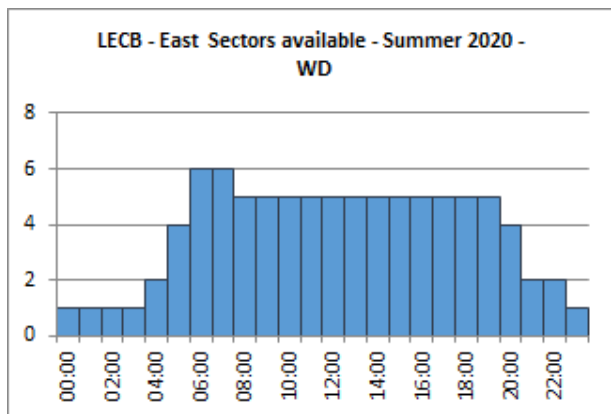| Operational actions	Achieved	Comments
LARA	No	Technical issues encountered operational use expected early 2020
Improve capacity in GCLP. Redesign of MAP	Yes	
Improved ATFCM, in line with AF4 of PCP	Yes	
Net increase of ATCOs continues	No	
SACTA versión 3.Z5.80	Yes	
Optimised sector configurations & sector capacities	Yes	
Improvement of NE sectors	Yes	
Maximum configuration: 10 (5 APP + 5 ENR)	Yes	10 sectors (5 APP + 5 ENR)

Planning Period 2020-2024

The planning focuses on the Summer season to reflect the most demanding period of the year from a capacity perspective. This approach ensures consistency with the previous planning cycles.

The measures for each year are the measures that will be implemented before the summer season.

Summer Capacity Plan					
	2020	2021	2022	2023	2024
Free Route Airspace			FRA, Including NM Action Plan:SW Axis airspace re-configuration project		
Airspace Management Advanced FUA	LARA	PRISMIL			
Airport & TMA Network Integration			Improved manoeuvres in GCXO		
			RNAV1 structure in GCTS		
	New SID / STAR GCLP				
Cooperative Traffic Management	Improved ATFCM, in line with AF4 of PCP				
Airspace	Improvement of NE sectors	Improvement of NW sectors	TMA redesign with Morocco interface		
		Split NE Sector			
Procedures					
Staffing	Net increase of ATCOs continues				
Technical	EVEREST		SACTA 4.0 including TTM		
Capacity	Optimised sector configurations & sector capacities				
		11th Sector (second cluster)			
Significant Events	DACT military event (Once per year)				
Max sectors (Summer)	10 (5APP/5ENR)	11 (5APP/6ENR)	11 (5APP/6ENR)	11 (5APP/6ENR)	11 (5APP/6ENR)
Max sectors (Winter)	10 (5APP/5ENR)	11 (5APP/6ENR)	11 (5APP/6ENR)	11 (5APP/6ENR)	11 (5APP/6ENR)
Planned Annual Capacity Increase	2%	2%	2%	1%	1%
Reference profile Annual % Increase	0%	1%	0%	1%	0%
Difference Capacity Plan v. Reference Profile	2,6%	3,8%	6,3%	6,3%	7,5%
Annual Reference Value (min)	0.33	0.33	0.29	0.23	0.23
Additional information					

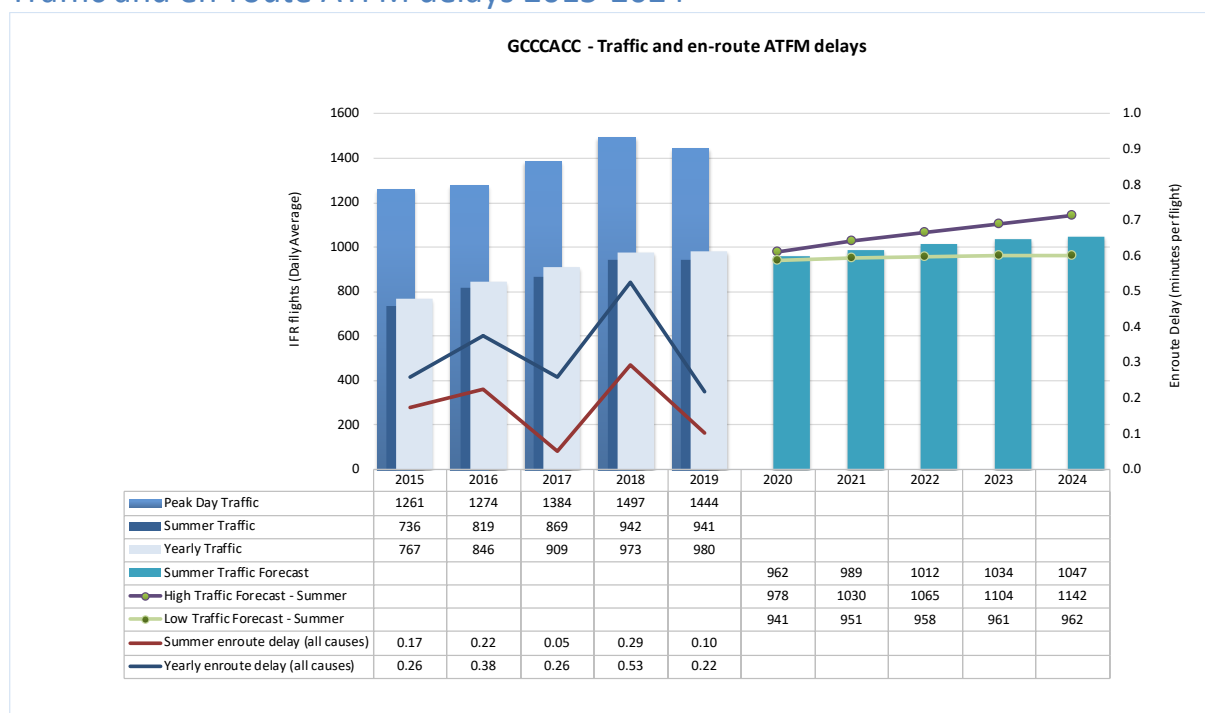The charts below show an outline of available sector configuration for a typical weekday and a weekend day for summer and winter 2020.

GCCC - Sectors available - Summer 2020

GCCC - Sectors available - Winter 2020 - WD

GCCC - Sectors available - Winter 2020 - WE

GCCCACC - Reference capacity profile and alternative scenarios

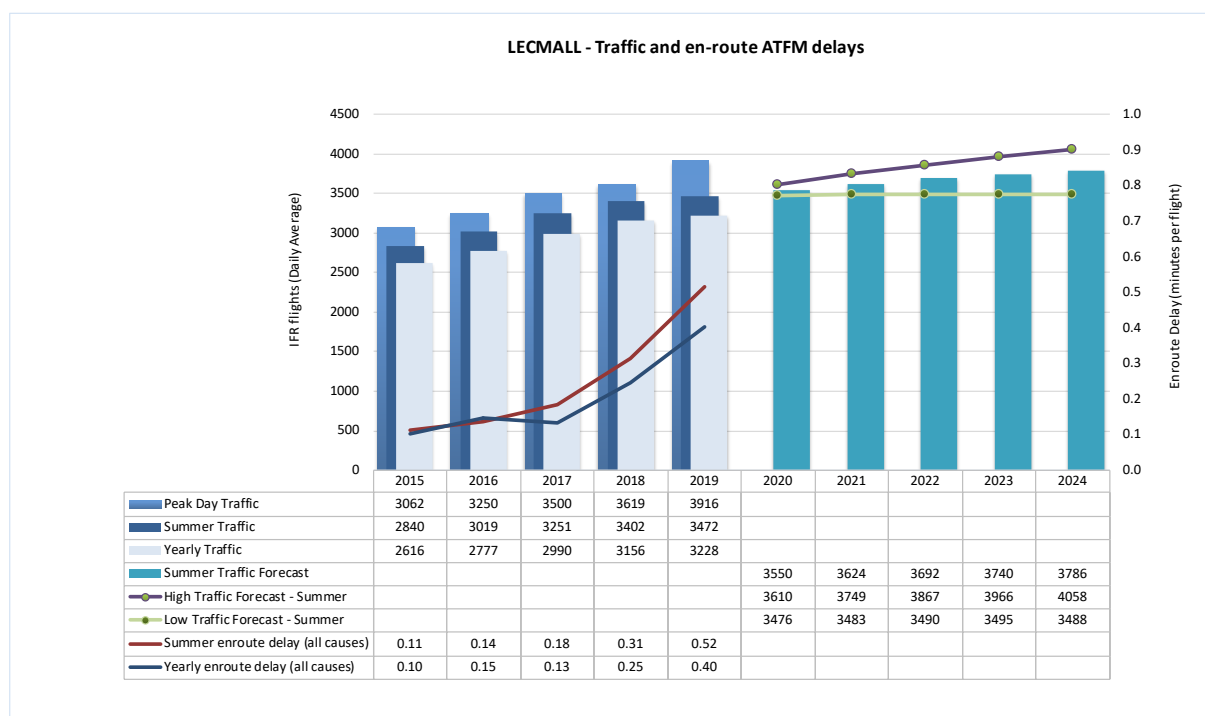|	2018	2019	2020	2021	2022	2023	2024
Reference Capacity Profile			78	79	79	80	80
Capacity Profile - Shortest Routes (Open)			78	79	79	80	80
Capacity Profile - Current Routes			78	79	79	80	80
Capacity Profile - High			78	79	80	81	82
Capacity Profile - Low			78	78	78	78	78
Capacity Baseline	78	78					
2020 - 2024 Plan			80	82	84	85	86

2020 - 2024 Planning Period Outlook
Canarias ACC is expected to meet the network requirements for the period covered by the NOP.

2.5. ACC Madrid

Traffic and en-route ATFM delays 2015-2024

LECMALL - Traffic and en-route ATFM delays

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	3062	3250	3500	3619	3916					
Summer Traffic	2840	3019	3251	3402	3472					
Yearly Traffic	2616	2777	2990	3156	3228					
Summer Traffic Forecast						3550	3624	3692	3740	3786
High Traffic Forecast - Summer						3610	3749	3867	3966	4058
Low Traffic Forecast - Summer						3476	3483	3490	3495	3488
Summer enroute delay (all causes)	0.11	0.14	0.18	0.31	0.52					
Yearly enroute delay (all causes)	0.10	0.15	0.13	0.25	0.40					

Performance summer 2019

Madrid ACC	Traffic evolution (2019 vs 2018)			En-route Delay (min. per flight)		Capacity (2019 vs 2018)		
	Traffic Forecast		Actual Traffic	All reasons	ACC Reference Value			
	Current Routes	Shortest Routes				Planned	Achieved	Capacity gap?
Year	H: 4.6% B: 3.9% L: 2.4%	No significant impact	+2.3%	0.40	0.14			
Summer			+2.0%	0.52		231 (+1%)	219 (-4%)	Yes

Summer 2019 performance assessment

Average en-route delay per flight increased from 0.31 minutes per flight in Summer 2018 to 0.52 minutes per flight in Summer 2019.

76% of the delays were for the reason ATC Capacity, 10% for Weather, 7% for the reason Other, and 5% for the reason ATC Staffing.

The ACC capacity baseline was measured with ACCESS at 219. During the measured period, the peak 1 hour demand was 228 and the peak 3 hour demand was 215.

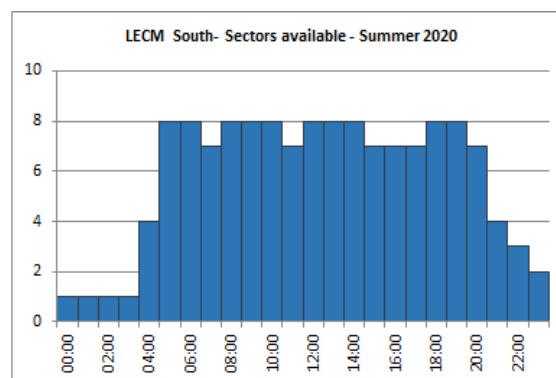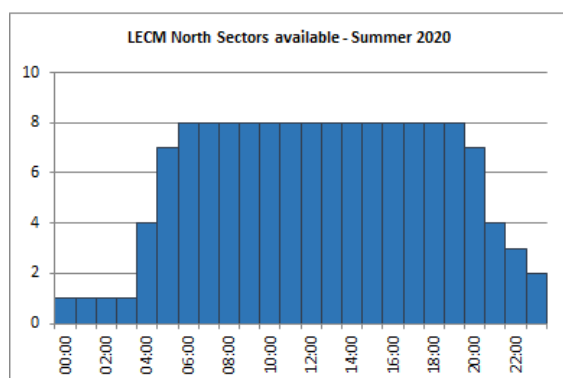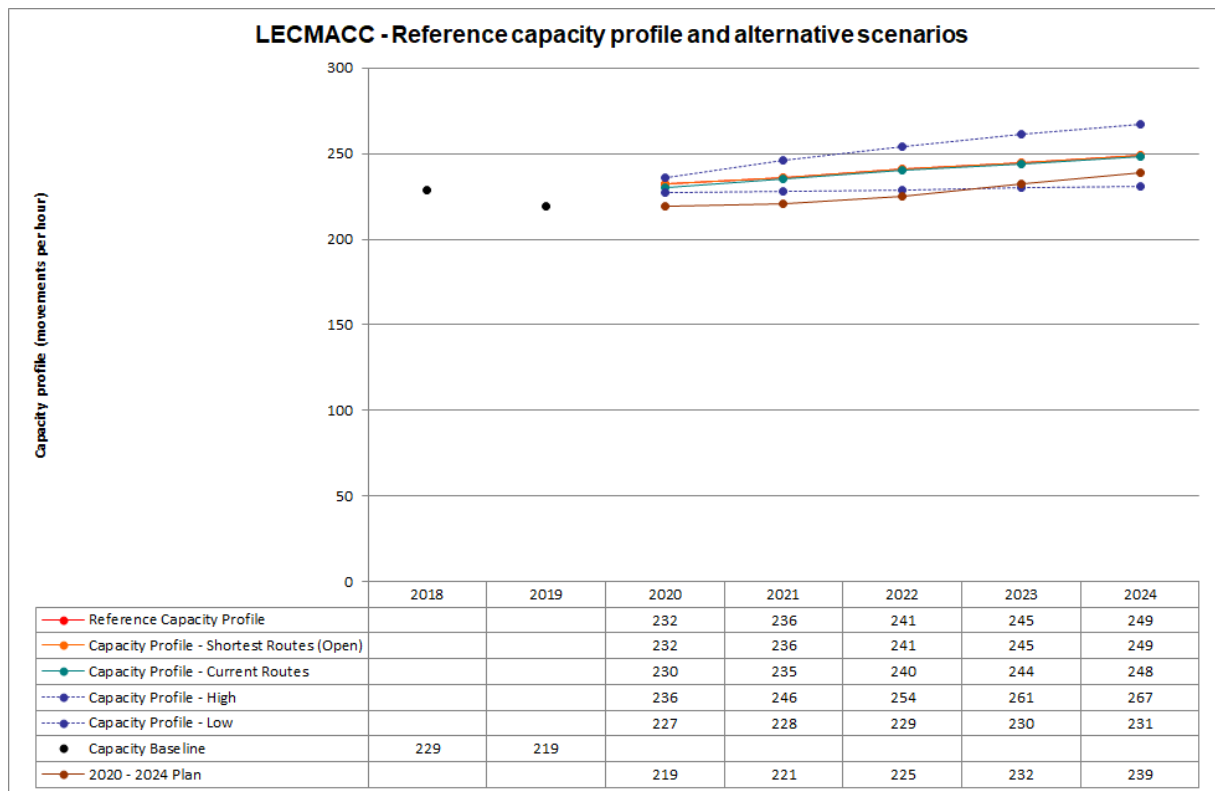| Operational actions	Achieved	Comments
LARA	No	Technical issues encountered operational use expected early 2020
Improved APP procedures in south configuration	Yes	
Reduced ARR separation from 4 to 3 NM	No	Delayed until 2020
Improved ATFCM, in line with AF4 of PCP	Yes	
Improvement of SANTIAGO sector	Yes	
SACTA versión 3.Z5.80	Yes	
eTANDEM EVEREST	Yes	
Optimised sector configurations & sector capacities	Yes	
Maximum configuration: 17	Yes	17 sectors opened

Planning Period 2020-2024

The planning focuses on the Summer season to reflect the most demanding period of the year from a capacity perspective. This approach ensures consistency with the previous planning cycles.

The measures for each year are the measures that will be implemented before the summer season.

Summer Capacity Plan					
	2020	2021	2022	2023	2024
Free Route Airspace			FRA, Including NM Action Plan:SW Axis airspace re-configuration project		
Airspace Management Advanced FUA	LARA	PRISMIL			
Airport & TMA Network Integration		Independent approaches to parallel runways (LEMD)			
Cooperative Traffic Management	Improved ATFCM, in line with AF4 of PCP				
Airspace			Splitting high ZAR / TER sectors	Additional Vertical Upper Layer split	
Procedures					
Staffing	Net increase of ATCOs continues				
Technical			SACTA 4.0 including TTM		
	Optimised sector configurations & sector capacities				
Capacity					
Significant Events	TLP – European military activity (4 times per year)				
	SIRIO – European military activity (once per year)				
Max sectors	16	17	18	18	18
Planned Annual Capacity Increase	0%	1%	2%	3%	3%
Reference profile Annual % Increase	6%	2%	2%	2%	2%
Difference Capacity Plan v. Reference Profile	-5,6%	-6,4%	-6,6%	-5,3%	-4%
Annual Reference Value (min)	0.26	0.25	0.19	0.14	0.14
Additional information					

The charts below show an outline of available sector configuration for a typical weekday and a weekend day for summer 2020.

LECMACC - Reference capacity profile and alternative scenarios

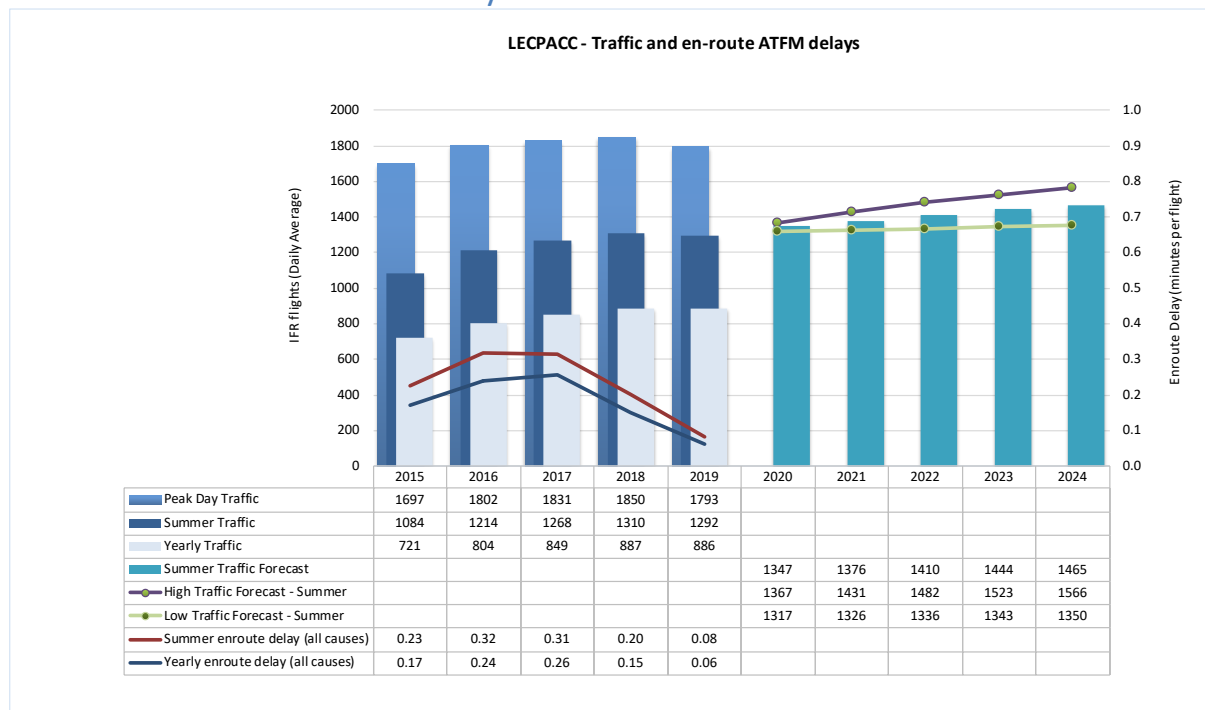|	2018	2019	2020	2021	2022	2023	2024
—●— Reference Capacity Profile			232	236	241	245	249
—●— Capacity Profile - Shortest Routes (Open)			232	236	241	245	249
—●— Capacity Profile - Current Routes			230	235	240	244	248
·····●···· Capacity Profile - High			236	246	254	261	267
·····●···· Capacity Profile - Low			227	228	229	230	231
● Capacity Baseline	229	219					
—●— 2020 - 2024 Plan			219	221	225	232	239

2020-2024 Planning Period Outlook
A moderate capacity gap will remain for the full period covered by the NOP.

2.6. ACC Palma

Traffic and en-route ATFM delays 2015-2024

LECPACC - Traffic and en-route ATFM delays

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	1697	1802	1831	1850	1793					
Summer Traffic	1084	1214	1268	1310	1292					
Yearly Traffic	721	804	849	887	886					
Summer Traffic Forecast						1347	1376	1410	1444	1465
High Traffic Forecast - Summer						1367	1431	1482	1523	1566
Low Traffic Forecast - Summer						1317	1326	1336	1343	1350
Summer enroute delay (all causes)	0.23	0.32	0.31	0.20	0.08					
Yearly enroute delay (all causes)	0.17	0.24	0.26	0.15	0.06					

Performance summer 2019

Palma ACC	Traffic evolution (2019 vs 2018)			En-route Delay (min. per flight)		Capacity (2019 vs 2018)		
	Traffic Forecast		Actual Traffic	All reasons	ACC Reference Value			
	Current Routes	Shortest Routes				Planned	Achieved	Capacity gap?
Year	**H:** 5.2%	No significant impact	-0.1%	0.06	0.17			
Summer	**B:** 4.5% **L:** 3.1%	No significant impact	-1.4%	0.08		108 (+0%)	109 (+1%)	No

Summer 2019 performance assessment

Average enroute delay per flight decreased from 0.20 minutes in Summer 2018 to 0.08 minutes per flight in Summer 2019.

88% of the delays were for the reason ATC Capacity, 8% for Weather and 4% for ATC Staffing.

The ACC capacity baseline was measured with ACCESS at 109. During the measured period, the peak 1 hour demand was 99, the peak 3 hour demand was 93.

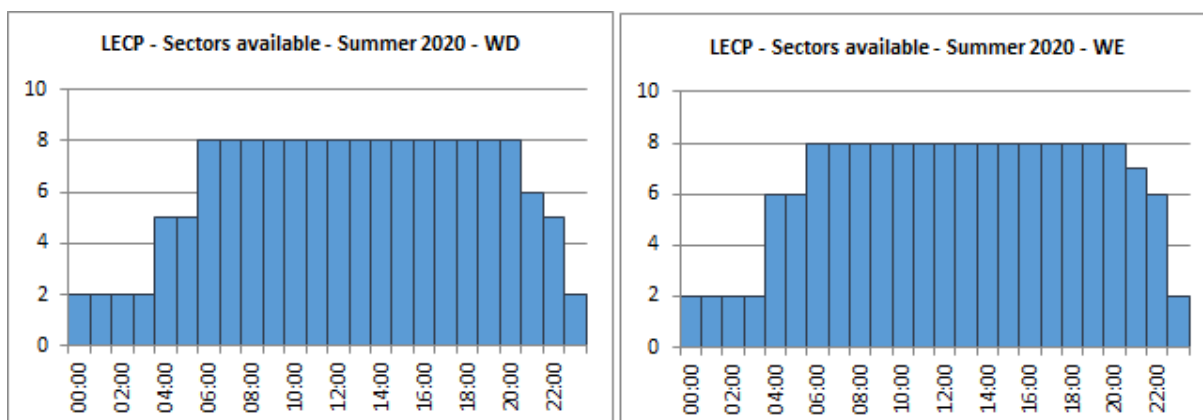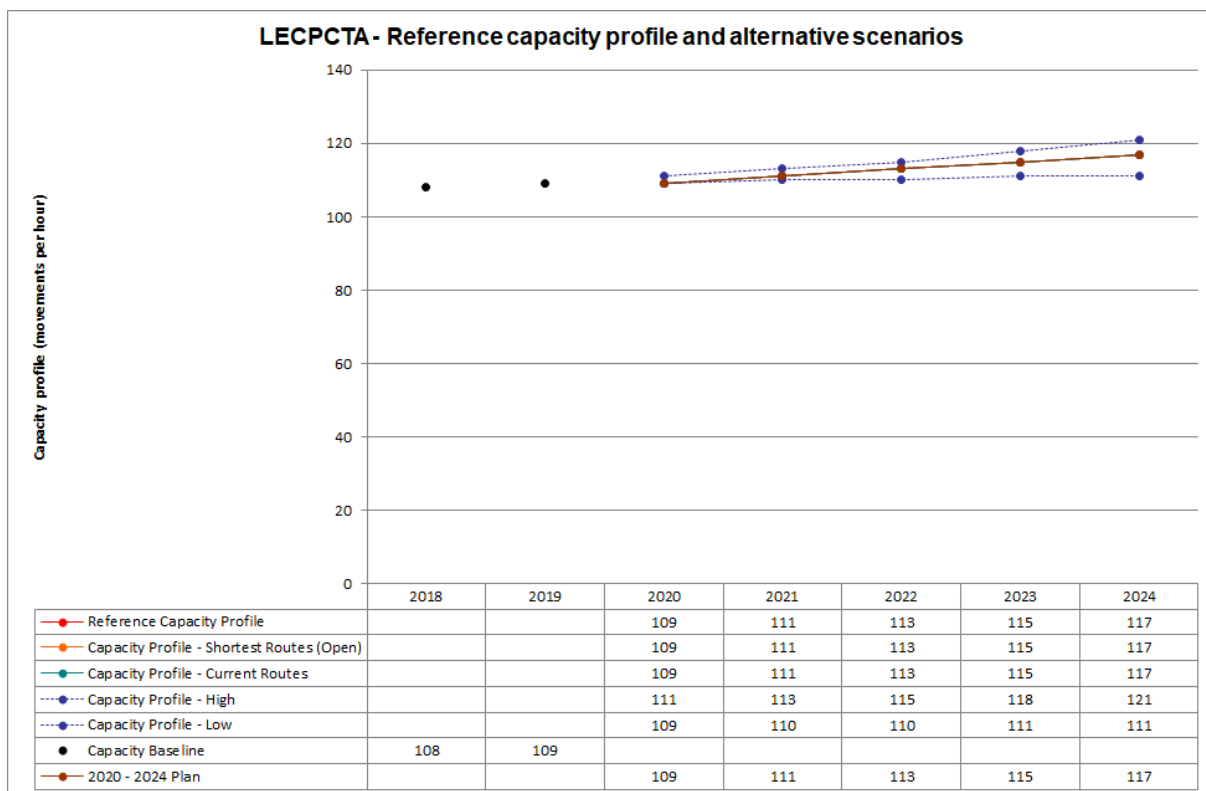| Operational actions	Achieved	Comments
LARA	No	Technical issues encountered operational use expected early 2020
Improved ATFCM, in line with AF4 of PCP	Yes	
NET increase of ATCOs continues	Yes	
SACTA versión 3.Z5.80	Yes	
EVEREST	Yes	
Optimised sector configurations & sector capacities	Yes	
Maximum configuration: 8	Yes	8 sectors opened

Planning Period 2020-2024

The planning focuses on the Summer season to reflect the most demanding period of the year from a capacity perspective. This approach ensures consistency with the previous planning cycles.

The measures for each year are the measures that will be implemented before the summer season.

Summer Capacity Plan					
	2020	2021	2022	2023	2024
Free Route Airspace					
Airspace Management Advanced FUA	LARA	PRISMIL			
Airport & TMA Network Integration					
Cooperative Traffic Management	Improved ATFCM, in line with AF4 of PCP				
Airspace			Improvements in Palma Terminal Area		
Procedures					
Staffing	NET increase of ATCOs continues				
Technical			SACTA 4.0 including TTM		
Capacity	Optimised sector configurations & sector capacities				
		Palma Final Approach Improvements			
Significant Events	SIRIO – European military activity (once per year)				
Max sectors	8	8	9	9	9
Planned Annual Capacity Increase	0%	2%	2%	2%	2%
Reference profile Annual % Increase	0%	2%	2%	2%	2%
Difference Capacity Plan v. Reference Profile	0.0%	0%	0%	0%	0%
Annual Reference Value (min)	0.24	0.24	0.19	0.14	0.14
Additional information					

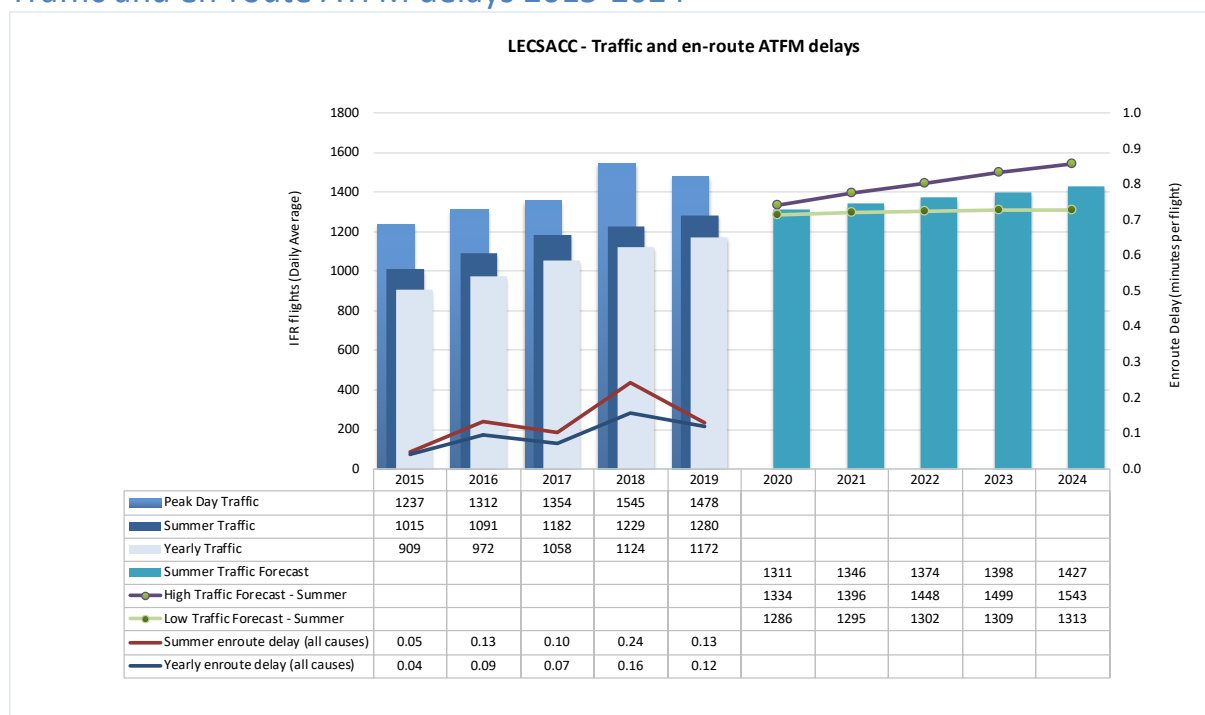The charts below show an outline of available sector configuration for a typical weekday and a weekend day for summer 2020.

LECPCTA - Reference capacity profile and alternative scenarios

	2018	2019	2020	2021	2022	2023	2024
Reference Capacity Profile			109	111	113	115	117
Capacity Profile - Shortest Routes (Open)			109	111	113	115	117
Capacity Profile - Current Routes			109	111	113	115	117
Capacity Profile - High			111	113	115	118	121
Capacity Profile - Low			109	110	110	111	111
Capacity Baseline	108	109					
2020 - 2024 Plan			109	111	113	115	117

2020-2024 Planning Period Outlook
No capacity gap expected

2.7. ACC Seville

Traffic and en-route ATFM delays 2015-2024

LECSACC - Traffic and en-route ATFM delays

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	1237	1312	1354	1545	1478					
Summer Traffic	1015	1091	1182	1229	1280					
Yearly Traffic	909	972	1058	1124	1172					
Summer Traffic Forecast						1311	1346	1374	1398	1427
High Traffic Forecast - Summer						1334	1396	1448	1499	1543
Low Traffic Forecast - Summer						1286	1295	1302	1309	1313
Summer enroute delay (all causes)	0.05	0.13	0.10	0.24	0.13					
Yearly enroute delay (all causes)	0.04	0.09	0.07	0.16	0.12					

Performance summer 2019

Sevilla ACC	Traffic evolution (2019 vs 2018)			En-route Delay (min. per flight)		Capacity (2019 vs 2018)		
	Traffic Forecast		Actual Traffic	All reasons	ACC Reference Value			
	Current Routes	Shortest Routes				Planned	Achieved	Capacity gap?
Year	H: 6.8%	+4%	+4.3%	0.12	0.13			
Summer	B: 6.5% L: 4.9%		+4.1%	0.13		103 (+2%)	103 (+2%)	No

Summer 2019 performance assessment
Average en-route delay decreased from 0.24 min/flight in Summer 2018 to 0.13 min/flight in Summer 2019.
69% of the delays were for the reason ATC Capacity, 17% for Weather and 10% for ATC Staffing.
The ACC capacity baseline was measured with ACCESS at 103. During the measured period, the peak 1 hour demand was 97 and the peak 3 hour demand was 87.

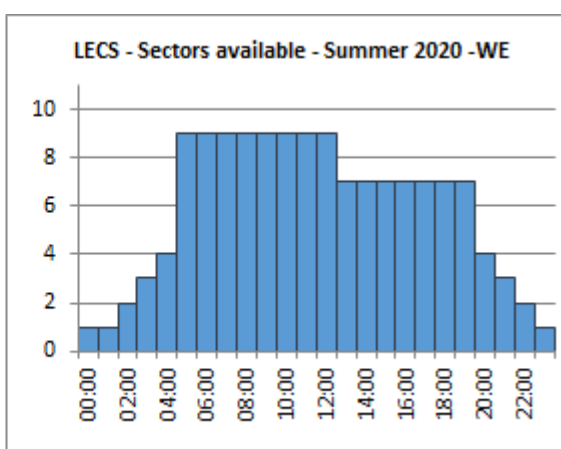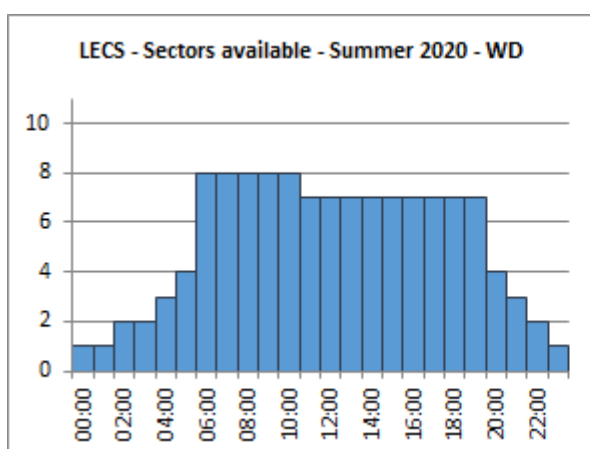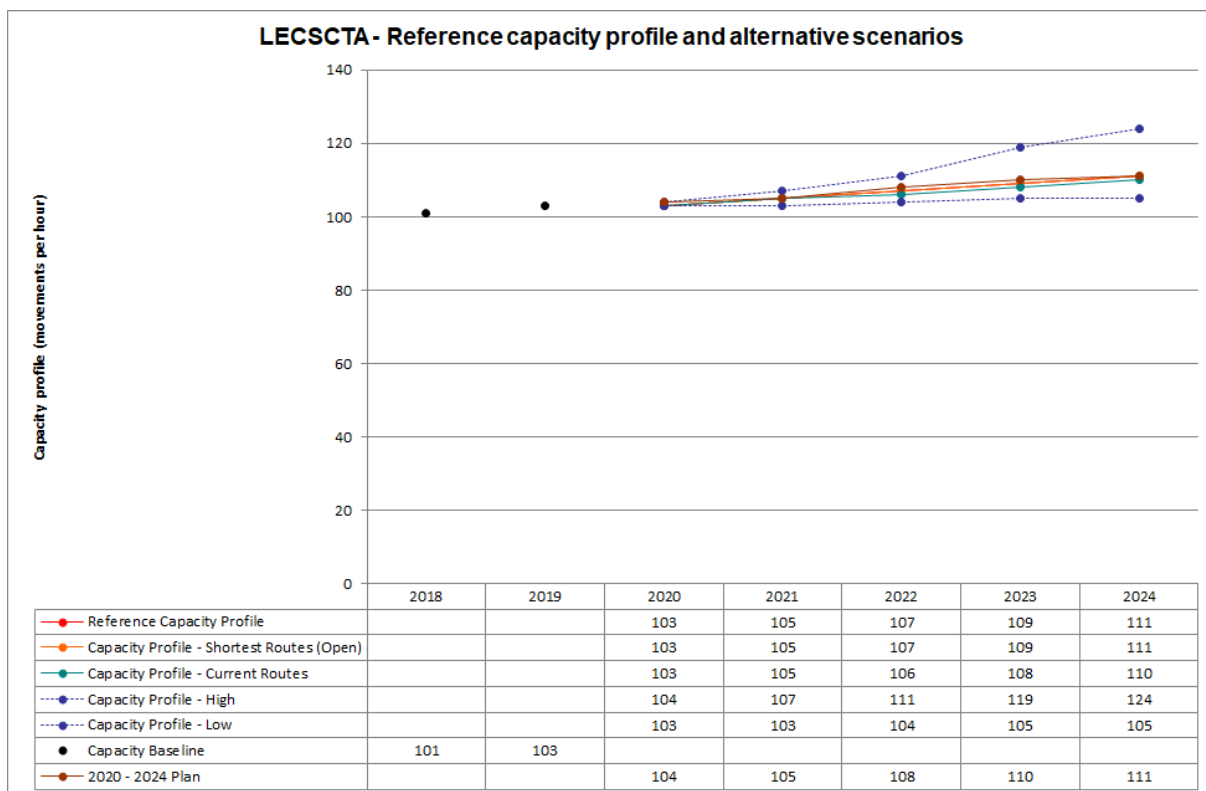| Operational actions	Achieved	Comments
LARA	No	Technical issues encountered operational use expected early 2020
Improved ATFCM, in line with AF4 of PCP	Yes	
New ATCOs to maintain current number	Yes	
SACTA versión 3.Z5.80	Yes	
Optimised sector configurations & sector capacities	Yes	
Splitting of LECSSEV	Yes	
Maximum configuration: 9 sectors	Yes	8 sectors were sufficient

Planning Period 2020-2024

The planning focuses on the Summer season to reflect the most demanding period of the year from a capacity perspective. This approach ensures consistency with the previous planning cycles.

The measures for each year are the measures that will be implemented before the summer season.

Summer Capacity Plan					
	2020	2021	2022	2023	2024
Free Route Airspace			FRA, Including NM Action Plan: SW Axis airspace re-configuration project		
Airspace Management Advanced FUA	LARA	PRISMIL			
Airport & TMA Network Integration		Improvement of operation mode TWR-APP LEMG	RNAV1 procedures in LEMG		
Cooperative Traffic Management	Improved ATFCM, in line with AF4 of PCP				
Airspace					
Procedures					
Staffing	New ATCOs to maintain current number				
Technical	EVEREST		SACTA 4.0 including TTM		
Capacity	Optimised sector configurations & sector capacities				
Significant Events	TLP – European military activity (4 times per year)				
	SIRIO – European military activity (once per year)				
	FLOTEX/NOBLE MARINER – European military activity (once per year)				
Max sectors	9	9	9	9	9
Planned Annual Capacity Increase	1%	1%	3%	2%	1%
Reference profile Annual % Increase	0%	2%	2%	2%	2%
Difference Capacity Plan v. Reference Profile	1%	0%	0.9%	0.9%	0.0%
Annual Reference Value (min)	0.19	0.19	0.17	0.12	0.12
Additional information					

The charts below show an outline of available sector configuration for a typical weekday and a weekend day for summer 2020.

LECSCTA - Reference capacity profile and alternative scenarios

	2018	2019	2020	2021	2022	2023	2024
Reference Capacity Profile			103	105	107	109	111
Capacity Profile - Shortest Routes (Open)			103	105	107	109	111
Capacity Profile - Current Routes			103	105	106	108	110
Capacity Profile - High			104	107	111	119	124
Capacity Profile - Low			103	103	104	105	105
Capacity Baseline	101	103					
2020 - 2024 Plan			104	105	108	110	111

2020-2024 Planning Period Outlook
Seville ACC is expected to meet the network requirements for the period covered by the NOP.

3. Implementation Projects

The tables below presents the high-level information about the main projects currently ongoing in Spain. The details of each project are available in Chapter 2 of the Level 2 - Detailed Implementation Status document.

3.1. National projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
A-SMGCS level 2	ENAIRE (ES)	2014 - 2020	The implementation of A-SMGCS level 2 started in 2017 in Barcelona (phase I) and will continue until the end of 2020 in Barcelona El Prat, Madrid-Barajas and Palma de Mallorca.	L3: AOP04.2 DP: 058AF2a 2015_211_AF2
AFIS Implementation	Aena S.A. (ES)	2014-2020	A Royal Decree related to AFIS provision was published in 2010 (RD 1133/2010) and modified in 2016 (by RD 703-16). In 2018 AFIS was implemented in LEBA. AFIS already implemented in 5 airports. Additional implementation at other airports will be analysed at state level.	-
AMHS/SWIM gateway	ENAIRE (ES)	2016 - 2019	Finished. The development of the SWIM/AMHS gateway is a subproject of a bigger project aiming at renewing the system for the overall Madrid COM Center. This bigger project has suffered some delays due to operational matters which have turned into consequent delays for the remaining activities and subprojects.	DP: 2015_210_AF5
Aerodrome ATC Liberalization	Aena S.A. (ES)	2010-2020	Openmarket in 18 airports (Aena's network)	-
Air traffic model research	Aena S.A. (ES)	2012-2020	AFIS already implemented in 5 airports.	-

Name of project:	Organisation(s):	Schedule:	Status:	Links:
Analysis implementation of CDM in more airports	Aena S.A. (ES)	2014-2021	In 2019 the first phase has been launched. The full implementation of A-CDM in LEMG is expected for 2020. It will also be planned to implement A-CDM in Alicante airport in 2021.	L3: AOP05
ES_Airbus A310 ATN VDL2 Compliance	Mil. Authority (ES)	Start date 01/03/2017 End date 31/10/2020	This Project is ongoing, being monitored by SDM.	L3: ITY-AGDL DP: 2016_125_AF6
ES_FALCON 900 compliance with Air Ground ATN VDL2 Data Link	Mil. Authority (ES)	Start date: 31/03/2017 End date. 30/12/2020	This Project is ongoing, being monitored by SDM.	L3: ITY-AGDL DP: 2016_126_AF6
ES_FALCON 900 compliance with RNP 1 and RNP APCH	Mil. Authority (ES)	Start day 31/03/2017 End day 30/12/2020	The project is ongoing. It is being monitored by SDM.	L3: NAV03.1, NAV03.2 DP: 2016_077_AF1
Electronic Flight Strips (EFS)	Aena S.A. (ES), ENAIRE (ES)	2014 - 2023	Ongoing. Electronic Flight Strips functionality was implemented in Malaga, Palma de Mallorca and Barcelona towers and it will be progressively implemented in the rest of the towers until 2023.	L3: AOP12 DP: 057AF2a (partially) 2015_212_AF2 (partially)
Implementation and operation of an IP-based G/G data communication network	ENAIRE (ES)	2014 - 2020	Ongoing. During 2017 the integration in the Network of the nodes of the Control Centers and SCNA (Centralized Air Navigation Systems) was completed with the migration of their users from REDAN IV to REDAN V. In 2018, the migration of nodes and users of other locations (airports, radio communications centers, radar stations, etc.) reached the 75% of the total, with the aim of reaching 100% during 2020	L3: COM10 DP: 059AF5 (partially) RP2 PP: REDAN Data Network
Implementation of Voice over IP (VoIP) systems and services	ENAIRE (ES)	2013 - 2024	Ongoing. The deployment of digital SCVs with IP in several towers was completed in 2017 and will continue during next years. The deployment of EUROCAE gateways also started in 2017.	L3: COM11.1 DP: 2015_221_AF3 (partially) RP2 PP: COMETA Voice over Internet Protocol

Name of project:	Organisation(s):	Schedule:	Status:	Links:
LARA implementation (2016_037_AF3)	ENAIRE (ES), Mil. Authority (ES)	Start Date: 07/02/2017 End date: 31/12/2019	Since December 2019 implementation of LARA is ready to perform ASM activities.	L3: AOM19.1, AOM19.2 DP: 2016_037_AF3
NewPENS Stakeholders contribution for the procurement and deployment of NewPENS - Part A (2015_174_AF5_A)	ENAIRE (ES)	2016-2020	Ongoing	L3: COM12 DP: 2015_174_AF5_A
RNP APCH implementation	ENAIRE (ES)	2013 - 2023	Ongoing. RNP APCH procedures have been implemented in some airports: Santander (2013), Almeria RWY25 (2015), Almeria RWY07 (2017) and Palma de Mallorca RWY06/24, Valencia RWY12/30, Fuerteventura RWY01/19 (2018), and will continue until 2023 with the implementation in several airports.	L3: NAV10 DP: 061AF1a (partially, Palma de Mallorca)a) 2015_215_AF1 (partially, Barcelona and Madrid) RP2 PP: RNP APCH PBN PLAN Performance Navigation
Remote TWR	Aena S.A. (ES)	-	Preliminary analysis on the deployment of remote tower operations in Aena's airport network has been completed. Attending to potential benefits at technical and operational levels, it has been decided to deploy remote tower ATS in Vigo and Menorca airports. Since 2019 coordination meetings have been established on a periodical basis among Aena, FerroNATS (ATS provider Vigo) and Enaire (ATS provider Menorca and CNS provider at both). Actions are being taken for the adaptations of the new units. Final implementation date has not been set yet.	-
SACTA-iTEC	ENAIRE (ES)	2014 - 2024	Ongoing. During the period 2019-2024, new functionalities will be incorporated to the system through next releases, ending the implementation of the version 3.z5.80 and continuing with the evolution towards the new SACTA-iTEC versions: v4.0, v4.1 and v4.2	L3: FCM03, ITY-FMTP RP2 PP: SACTA version including MTCD iTEC Flight Data Processing CWP Controller Working Position

Name of project:	Organisation(s):	Schedule:	Status:	Links:
SAFETY NETS	ENAIRE (ES)	2014 - 2020	Ongoing. APW: Implementation in Barcelona ACC and Palma ACC completed in 2014. In rest of ACCs, the implementation has been planned to be completed before 2020. STCA: implementation in Madrid ACC, Canarias ACC, Barcelona ACC and Seville ACC completed in 2016, and in Palma ACC completed in 2018. MSAW: It has been implemented in all regions during 2019.	L3: ATC02.8 RP2 PP: Safety Nets (STCA) SAFETY NETS STCA, APW, MSAW
SESAR PCP. CECAF RNP Procedures Design (2015_271_AF1)	Mil. Authority (ES)	Start day 01/04/2016 End day 31/12/2020	The project is ongoing, being monitored by SDM.	L3: INF07, ITY-ADQ DP: 2015_271_AF1
SESAR PCP. CECAF RNP Procedures Implementation (2015_272_AF1)	Mil. Authority (ES)	Pilots and flight operators courses: 01/11/2016 to 31/08/2017 On-board console acquisition: 01/11/2016 to 30/06/2017 Aircraft equipped and certified: 01/11/2016 to 31/12/2019	The project has been finished in December 2019.	L3: NAV10 DP: 2015_272_AF1
SWIM Common PKI and policies & procedures for establishing a Trust framework (2017_084_AF5)	Mil. Authority (ES)	Start date: 13/11/2018 End date: 31/12/2021	The study has started, being led by EUROCONTROL. Spanish Air Force is involved giving the military requirements.	DP: 2017_084_AF5
Surveillance evolution	ENAIRE (ES)	2014 - 2020	Ongoing. Some Mode-S radars have been deployed. The first of the three phases of ADS-B implementation was completed in 2016 and the second phase (certification of three stations) is ongoing. Granada and Alicante airports were certified in 2017 and the resto of airports will be certified before end 2020	L3: ITY-SPI RP2 PP: SURVEILLANCE EVOLUTION ModeS, ADSB

3.2. FAB projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
CIVIL/MIL ATC Network - CNS14	ENAIRE (ES), Mil. Authority (ES)	01/01/2018 - 30/06/2020	Ongoing. The conclusion of the 3 pending activities of this project was postponed in six months, from December 31st 2019 to June 30th 2020, for these three activities: - Activity 3 due to complex deployment of both network nodes in military sites and civil remote sites; - Activity 5 due to schedule restrictions on migration activities, and both reschedules and blockings of migrations due to execution of other projects with higher priority; - Activity 7 is being re-scoped due to accommodation of a more ambitious contingency requirements. ENAIRE is defining a contingency policy using local and inter-center contingency sites. A new ATC VoIP and network solutions have been required to be designed to support the new contingency voice flows included in the last ENAIRE Contingency Plan.	L3: COM11.1, COM11.2
Barcelona TMA Project - TMA3	AAN (PT), ENAIRE (ES), Mil. Authority (ES), NAV (PT)	01/01/2014 - 31/12/2023	Ongoing. Project re-scoped with an extension of 3 years to be finished in December 2023. A full new project, called BRAIN, has been established giving continuity to the activities already accomplished.	L3: ATC15.1, NAV03.2 DP: 2015_215_AF1 (partially) RP2 PP: Barcelona TMA project

Name of project:	Organisation(s):	Schedule:	Status:	Links:
CDM - ATM3	ENAIRE (ES), NAV (PT)	01/11/2013 - 30/06/2020	Ongoing. CDM functionality was successfully implemented in Adolfo Suarez Madrid-Barajas (July 2014), Barcelona-El Prat (October 2015) and Palma de Mallorca (June 2017) airports. The full implementation of the CDM functionality in Lisbon airport was achieved in 1Q 2018 when its CDM platform was connected to the NM to start contributing to, and benefitting from the entire network.	L3: AOP05
FUA Optimisation project - FUA1	AAN (PT), ENAIRE (ES), Mil. Authority (ES), NAV (PT)	01/01/2013 - 31/03/2020	Ongoing. FUA Pack III objectives to be determined by the Spanish High Level Airspace Policy Body (CIDEFO). Activity deleted until final State decision. New activity included to support the implementation of the LARA tool to be expected before summer 2020.	L3: AOM19.1 RP2 PP: Civil-Military Coordination
IPv6 Services - CNS15	ENAIRE (ES), NAV (PT)	01/09/2018 - 31/12/2020	Ongoing. The conclusion of this project has been postponed one year, from December 31st 2019 to December 31st 2020. This project has been re-scheduled due to the priorization of the migration of operational data flows (AMHS, radar and FMTP/OLDI) from PENS to New PENS that must finish before May 2020 since current PENS contract expires at that time. In addition, implementation of ATC voice services using VoIP technology has been also priorizated for the support of contingency procedures.	L3: COM11.1, COM11.2

Name of project:	Organisation(s):	Schedule:	Status:	Links:
Implementation of Voice over IP services (telephony) - CNS 16	ENAIRE (ES), NAV (PT)	01/09/2019 - 30/06/2021	Ongoing. This project aims at the migration of current leased lines by Voice over IP (VoIP) services based on EUROCAE ED-137 standards. National IP networks together New PENS will be used as ground network infrastructure.	L3: COM11.1, COM11.2
Lisboa TMA Project - TMA5	AAN (PT), ENAIRE (ES), NAV (PT)	01/01/2015 - 23/04/2020	Ongoing. Slightly adjustment of dates (2 months) to better commit with AIRAC cycles.	L3: NAV03.1
Madrid TMA Project - TMA2	AAN (PT), ENAIRE (ES), Mil. Authority (ES), NAV (PT)	2013 - 30/05/2021	Ongoing. Project postponed 11 months. The new finish date is 30th May 2021 accomplishing EU REG 716/2014 (January 2024).	L3: NAV03.2 DP: 2015_215_AF1 (partially) RP2 PP: Madrid TMA project
Palma TMA Project -TMA7	AAN (PT), ENAIRE (ES), Mil. Authority (ES), NAV (PT)	2015 - 01/02/2022	Ongoing. Project re-scoped with an extension of 2 years and 8 months from the original project. New planned deadline is February 2022, accomplishing with EU REG 716/2014 (January 2024), from Palma eastern area reconfiguration to the improvement of the full Palma TMA, including the implementation of LEPA RNP1 SIDs/STARs. A full new project called BRUT has been established, giving continuity to the activities already accomplished.	L3: ATC15.1, NAV03.1 DP: 061AFa (partially)

Name of project:	Organisation(s):	Schedule:	Status:	Links:
SW FAB En-route Sectorisation Improvement Project - NMP4	AAN (PT), ENAIRE (ES), Mil. Authority (ES), NAV (PT)	2014 - 31/12/2021	Ongoing In order to increase airspace capacity in Madrid ACC a new prioritization of new sectors has been agreed which will permit the split of ZGZ/TER upper sectors, strictly depending of new ATCOs availability (in addition, an operational analysis will be done comparing the pros/cons of this splitting vs new TTM (Tactical Trajectory Module) tool implementation in order to gain efficiency). A new voice-over-IP system is expected to offer additional screen space for the new sector coordination actions. Taking into account training of ATCOs and installation of the new communications system, the activity is rescheduled at least for December 31st, 2021. Airspace restructuration actions are limited in Lisbon ACC due to the Transition Plan initiated with the NM as a consequence of the implementation of a new ATM System (Q1 2021) with an expected delay in activity 4.8 from April 25th 2019 to October 01st 2021.	L3: AOM19.1
SW FAB FRA Phase II - FRA2	ENAIRE (ES), NAV (PT)	01/07/2014 - 01/12/2021	Ongoing. There was a delay for the implementation of the Activity 1 due to AIS amendment publication slot. Activity 2 will be implemented after the installation of the new ATM system in Lisboa ACC.	L3: AOM21.2
SW FAB FRA Phase III Project - FRA4	AAN (PT), ENAIRE (ES), Mil. Authority (ES), NAV (PT)	2017 - 31/12/2021	Ongoing.	L3: AOM21.2
SW FAB harmonisation project - PRO1	AAN (PT), ENAIRE (ES), Mil. Authority (ES), NAV (PT)	2013 - 28/03/2019	Finalised	-

3.3. Multinational projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
Bordeaux Interface Project - NMP2	AAN (PT), DSNA (FR), ENAIRE (ES), Mil. Authority (ES), NAV (PT)	2013 - 2019	Finalised	L3: AOM19.1 RP2 PP: SWFAB/Bordeaux interface project
Lisboa/Madrid/Brest FRA (iFRA)	AAN (PT), DSNA (FR), ENAIRE (ES), Mil. Authority (ES), NAV (PT)	2012 - 31/12/2021	Ongoing. The implementation of Santiago-Asturias Free Route Airspace (FRASAI) was completed in 2014 and the re-organisation and optimisation of the interface between SW FAB (FRASAI area) and FABEC airspace was finished in January 2016. Extension of the Free Route Airspace concept into Brest airspace has been delayed with respect to the initial plan in order to consider post-implementation activities. After the implementation of FRA in Brest by DSNA, planned in March 2021, 9 months are needed to extend it cross-border. Activity 4 has been also postponed until December 31st, 2021.	L3: AOM21.2 RP2 PP: Free Route Airspace (FRA)
SW FAB FRA Phase II - FRA2	AAN (PT), ENAIRE (ES), NAV (PT)	2014 - 01/12/2021	Ongoing.	L3: AOM21.2

| Name of project:	Organisation(s):	Schedule:	Status:	Links:
SW FAB Marseille Interface - NMP1	AAN (PT), DSNA (FR), ENAIRE (ES), Mil. Authority (ES), NAV (PT)	2013 - 31/12/2023	Ongoing. Project postponed 1 year until December 2023 in order to complete free-route airspace projects in Spain and France which will have priority on both countries to accomplish with EU REG 716/2014. Taking into consideration the complexity of the area due to the military interests of the French Navy and the important traffic flows affected, it is expected the necessity to extend the end date of the project.	L3: AOM19.2 RP2 PP: SW FAB/Marseille FIR interface project
SWIM Common PKI and policies & procedures for establishing a Trust framework (2017_084_AF5)	Mil. Authority (ES)	02/07/2018 - 31/12/2021	On going	DP2016: 2017_084_AF5
SWIM Common PKI and policies & procedures for establishing a Trust framework (2017_084_AF5)	Mil. Authority (ES)	Start date: 13/11/2018 End date: 31/12/2021	The study is on going.	DP2016: 2017_084_AF5

4. Cooperation activities

4.1. FAB Co-ordination

The joint collaboration towards the establishment of a Functional Airspace Block (FAB) in the South West region of Europe was initially promoted by the Portuguese and Spanish en-route Air Traffic Services Providers (ATSP), respectively NAV Portugal and ENAIRE. The initiative was launched building upon historical collaboration between both organisations (e.g. Memorandum of Understanding (MoU) signed on May 16th, 2001, by NAV Portugal and ENAIRE) and with the main aim of achieving an optimised Air Navigation Services (ANS) provision in the South West of Europe, in accordance with the specific regulatory requirements on FABs.

The process for the formal constitution of the SW FAB concluded with the signature by the Ministers of Transport of Spain and Portugal on May 17th 2013, of the 'Agreement between the Portuguese Republic and the Kingdom of Spain on the establishment of the South West Functional Airspace Block (SW FAB)' on the basis of an enhanced cooperation between Air Navigation Services Providers (ANSP) and under the herein under governance structure:
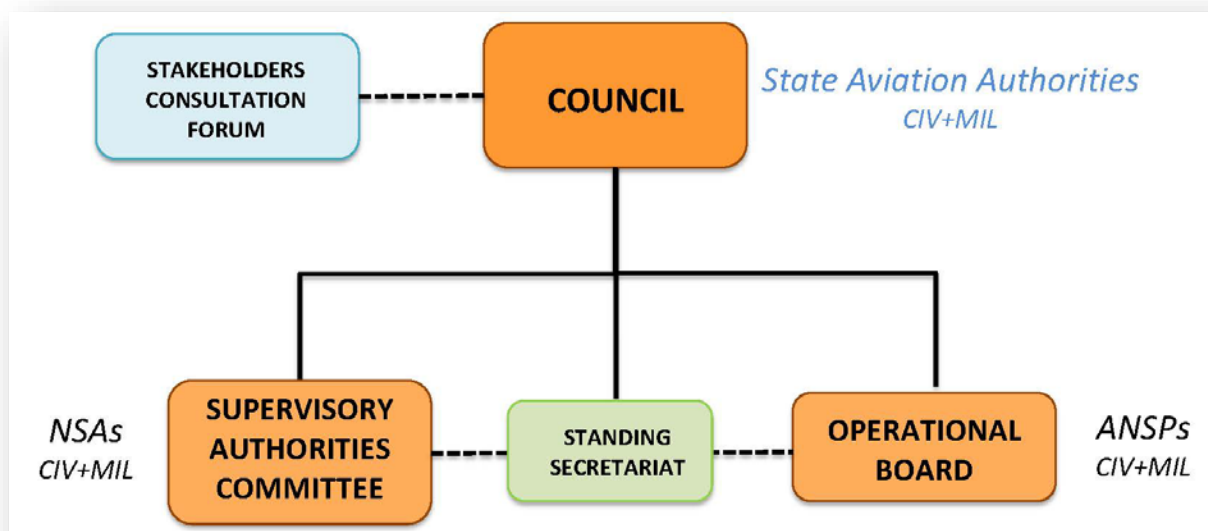
The objectives of the SW FAB are set to achieve optimal performance in the areas related to safety, environmental sustainability, capacity, cost-efficiency, flight efficiency and also military mission effectiveness, throughout the design of airspace and the organisation of air traffic management in the airspace concerned regardless of existing boundaries.

The Supervisory Authorities Committee (SAC) has developed the **South West FAB Performance Plan (SOWEPP)**. The SOWEPP sets out the plans to be followed in order to reach the FAB Performance objectives, including the capacity plans established in the European Network Operations Plan (NOP), which were coordinated with the Network Manager (NM) and have been updated in a yearly basis during RP2.

The Operational Board has developed the **South West FAB Operational Board Common Plan (SW FAB OB CP)**, in order to achieve the objectives tasked to it by the SW FAB State Agreement. The SW FAB OB CP is a rolling plan, updated every year with an application period of five years, which contains an overview of those operational and technical activities planned to be implemented by the ANSPs in the years ahead that most contribute to enable optimum use of airspace, taking into account main air traffic flows in the airspace under the responsibility of Spain and Portugal and among the surrounding airspaces.

The SW FAB OB CP has been made in full awareness of the European framework with particular attention to the Operational, Deployment and Performance areas.

Taking into consideration the Europe-wide network approach and the importance of the collaboration and cooperation between ANSPs, in terms of airspace covered, the projects included in the SW FAB OB CP, go beyond the scope of the Agreement between the Kingdom of Spain and the Portuguese Republic on the establishment of the SW FAB and ranges over the following airspaces:

- Lisboa FIR
- Canary Islands FIR/UIR
- Bordeaux FIR
- Madrid FIR/UIR
- Santa Maria FIR
- Marseille FIR
- Barcelona FIR/UIR
- Brest FIR

Before its approval by the SW FAB Council, the SW FAB OB CP is coordinated with the Supervisory Authorities Committee (SAC) who ensures that any regulatory issues have been considered.

In particular, in what refers to the year 2019 the following projects included in the SW FAB OB CP were successfully finalised:

PRO 1 | SW FAB Harmonisation Project:
Taking into consideration the Efficiency Plan of ENAIRE's PV2020 strategy document, a new airspace classification was developed in ENAIRE which have permitted the harmonization of Upper/Lower airspace vertical limits at FL195. Consequently, the whole project is finished accomplishing with their objectives at technical and operational level on March 28th, 2019.

NMP 2 | Bordeaux Interface Project:
The last activity of this project, affecting the interface between Bordeaux and Barcelona ACC, was concluded on April 25th, 2019, with operational improvements and the establishment of a new Letter of Agreement. As the interface with Madrid, first activity of this project, was successfully concluded in 2018, it is possible to confirm the finalization of the whole project.

The main contribution of the SW FAB to each performance area is as follows:

Safety: SW FAB ANSPs work together to improve common areas of interest (in particular policy, occurrence reporting and investigation areas) and develop a common just culture policy enhancement plan during RP2.

Capacity: Efforts on capacity are focused on the improvement of the airspace through redesign of structures, routes, optimisation of the interfaces, implementation of PBN procedures, Free Route and sectorisation. Operational and technical measures will be also deployed according to the traffic growth scenario, and complying with the European Regulations (SES). The Network Manager has recognized the great performance of the SW FAB in an increasing non-expected traffic scenario.

Cost-Efficiency: Significant efforts in cost savings are the basis for the achievement of the improved levels of cost-efficiency defined for RP2.

Environment: The improvement of the impact of the operations on the environment facilitates a reduction of flown distances, therefore minimising CO_2 and other contaminant emissions and saving fuel, providing a benefit for the users of the airspace. Measures considered include more direct routes, reduction of holdings, continuous descent operations, etc. SW FAB free route strategy will extend free route operations in the SW Axis in a cross-border operations with the surrounding airspaces.

4.2. Multinational cooperation initiatives

Regional AEFMP Framework

The AEFMP initiative was set up in 1996 in order to harmonize and optimize the air navigation operations among Algeria, Spain, France, Morocco and Portugal. This collaboration was renewed in 2002 with the signature of a Joint AEFMP Plan.
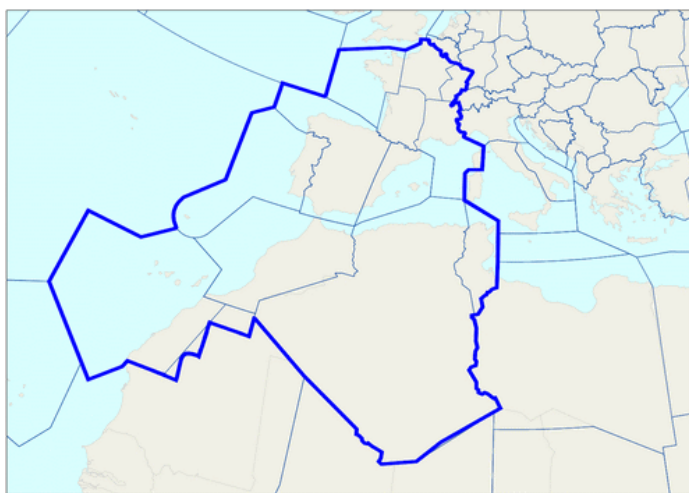
It aims at promoting the establishment of common regional convergence objectives in order to increase safety and achieve a high operational efficiency in the provision of services.

After 14 years of fruitful cooperation, the AEFMP MoU (Memorandum of Understanding) was signed in January 2016 among the five countries, and publicly ratified during the WAC (World ATM Congress) held in Madrid, in March 2016, with the attendance of representatives of the European Commission.

The renewed framework of cooperation includes updated leading principles and reinforced cooperation to face current and future ATM (Air Traffic Management) developments steaming from the SES (Single European Sky) framework evolution.

Having celebrated in 2018 the inclusion of Tunisia in AEFMP membership, AEFMP was gratified on 12th March 2019 for its activities by a Single European Sky Special Mention for "Cooperation".

Such AEFMP's activities are particularly focused on harmonization of procedures, improvement of interoperability and management of implementation of new systems. Accordingly, the main AEFMP objectives are to:

- coordinate and collaborate on the operational and technical enablers' alignment;
- harmonize and optimize the deployment timeline of the operational and technical enablers;
- push towards more interoperable systems;
- optimize the traffic flows across the AEFMP area; and
- interconnect ATM systems, share data stemming from AEFMP facilities and systems.

The main achievements of the AEFMP have been the result of the collaboration in the following areas:

- **Optimum use of Technical Systems**: technical optimization is considered essential to provide the users with systems aimed at improving or maintaining performance through synchronized interoperable technology deployment. Likewise, the main general objectives are to:
  - o establish systems and common protocols allowing a reliable, quick and effective exchange of information between operational centres;
  - o share data stemming from technical premises between cross-border units, when pertinent;
  - o share technical knowledge and experience between AEFMP ANSPs and propose new technical ways of improving CNS/ATM systems.

- **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. Also, some of the general objectives are to:
  - o study and elaborate common working methods for the area, as well as establishing support systems necessities;
  - o establish common criteria for airspace organization and co-ordination of adjacent units in order to avoid bottlenecks;
  - o analyse delays in the AEFMP area and propose joint measures in order to reduce delays in the area.

AEFMP areas of work include inter-FAB and other non AEFMP countries collaboration activities, with the aim to promote SES objectives to EU neighbouring airspaces in Western Mediterranean.

It is worth to highlight two events having occurred in 2019:

- On March 12, 2019 during the World ATM Congress in Madrid, AEFMP actions have been rewarded by European Commission through a Special Mention in the category "Cooperation" of the Single European Sky Awards;
- Launch of a specific task, coordinated by ENNA (Algeria) about cooperation in the implementation of TOD.

For further information on AEFMP, please consult our website: http://www.aefmp-atm.org.

iTEC-eFDP

iTEC collaboration agreement was signed in 2007, and since then ENAIRE, DFS and NATS, and with the further incorporation of LVNL, AVINOR, PANSA and Oro Navigacija (with INDRA as technological partner), have worked together in order to jointly develop their ATM Systems, complying with the Single European Sky initiative.

iTEC Collaboration aims to deliver improved operational performance and increased cost efficiency through the convergence in terms of concept of operation, airspace architecture and system architecture, to enable the development of a common ATM system.

Currently are under the scope of the collaboration the Flight Data Processing System (FDP), the Controller Working Position (CWP), the Adaptation Data Tool (iTAP), the IOP Flight Object Manager (FOM), the SWIM component and the Middleware (iMAS).

In 2019, the main efforts have been devoted to jointly define the next FDP, CWP and iTAP releases and also to the development and verification of FDP, CWP and iTAP current release. ENAIRE has also completed an initial operational evaluation of iTEC Tactical MTCD functionality (TTM) and the definition of requirements for the new controller console, which will host iTEC CWP.

In 2020 ENAIRE will mainly focus on the technical verification of the SACTA version which integrates the iTEC Tactical MTCD functionality (TTM) and also on the production and verification of the first units of the controller console, to enable the deployment in the operational centres in 2021. In parallel, ENAIRE along with the rest of the partners, will work on the verification of next release and the definition of the requirements for the future iTEC V3 release.

A6 Alliance

The A6 Alliance was founded in 2011 by six ANSP members of the SESAR JU – DFS (Germany), DSNA (France), AENA (Spain) renamed later to ENAIRE, ENAV (Italy), NATS (UK) and NORACON – a consortium of Austro Control (Austria), AVINOR (Norway), EANS (Estonia), Finavia (Finland), IAA (Ireland), LFV (Sweden) and Naviair (Denmark).

In 2015, PANSA became a full member of the A6 Alliance. At the same time, the COOPANS consortium replaced NORACON in all A6 activities and the B4 Consortium joined A6 in the area of SESAR 2020.

The A6 Alliance has also concluded a collaboration agreement with Skyguide in relation to SESAR 2020 R&D activities, as well as with ROMATSA and HungaroControl in relation to SESAR Deployment Manager.

The A6 Alliance plays a significant role in Research & Development through active participation in the SESAR Programme.

The A6+ partners participate in 68 of the 80 ATM-solution projects, leading 30 of them. Furthermore, the A6+ partners hold an active role in transversal activities including the Masterplan and in Very Large Scale Demonstrations.

Since the launch of SESAR 1, members of the A6 Alliance have achieved significant results together with other SJU partners (development of 63 successfully completed SESAR solutions).

The members of the A6 Alliance control more than 80 % of EU air traffic. They are responsible for more than 70 % of the investment in the future air traffic management infrastructure.

Areas of ENAIRE involvement in 2019:

   a) preparation of positions regarding operational/technical, policy and legal regulations proposals prepared or led by the EU institutions/bodies together with other partners (CEF funding, CP1 Proposal, etc.);

   b) participation in the SESAR Joint Undertaking (mainly focusing on a successful closing of Wave 1 and preparing the call for Wave 2 of SESAR 2020 Programme), SESAR Deployment Manager and initiatives/projects financed by INEA (SWIM, DLS, etc.);

   c) A6 activities: develop proposals for improvement of the ATM system in Europe and drive their implementation (e.g. SESAR Digital Backbone).

SESAR Deployment Alliance

The SESAR Deployment Alliance was appointed by the European Commission (05/Dec/2014) as Deployment Manager. The main task of the SESAR Deployment Manager is to develop, propose and maintain the Deployment Programme of SESAR concepts and technologies and ensure efficient synchronisation and overall coordination of implementation projects, as well as the related investments in line with the Deployment Programme. The SESAR Deployment Alliance is a partnership of leading airlines, airports and air navigation service providers – the managers and users of Europe's airspace-. They are committed to the principle of the Single European Sky and to deploying the technologies that will deliver it to create customer and environmental efficiencies.

The partners are:

•   A6 Deployment Manager Alliance: The A6 Deployment Manager Alliance is formed of five ANSP members of the SESAR JU – DFS (Germany), DSNA (France), ENAIRE (Spain), ENAV (Italy) and NATS (UK), working with PANSA of Poland and a group representing ANSPs members of the COOPANS alliance including AustroControl (Austria), Croatia Control, IAA (Ireland), LFV (Sweden) and Naviair (Denmark). In January 2018, the Air Navigation Service Providers of Hungary and Romania joined the SDA.

•   A4 Airlines: Air France-KLM group, easyJet, IAG and Lufthansa Group, the four airline members of the EC's Aviation Platform, created the A4 Group of Airlines at the end of 2012. Ryanair joined the SDA in April 2018. Their aim is to help accelerate operational improvements in ATM and to coordinate airline participation in the SESAR Deployment Manager to ensure performance driven implementation of new ATM procedures and technologies.

•   The SESAR-related Deployment Airport Group (SDAG) European Economic Interest Group (EEIG) includes a group of 25 airports from among those represented by Airport Council International Europe (ACI-E) and that are in the scope of the Pilot Common Project.

The SESAR Deployment Alliance (SDA) has progressed towards transitioning to operate as a legal entity on the 1st January 2018. The legal entity is a not-for-profit "International Association", set up according to Belgian law (AISBL). The reorganisation is focussed on internal management and processes, with no impact on the scope of its activities.

Some of the main activities accomplished by SDM during 2019 are:

•   CP1 proposal and CP1 CBA in consultation: CP1 proposal has been amended, in accordance with the feedback received from EC in October 2019. Coherently with these amendments, a revised CBA has been elaborated and consulted with ATM operational stakeholders via the dedicated Stakeholders' Consultation Platform.
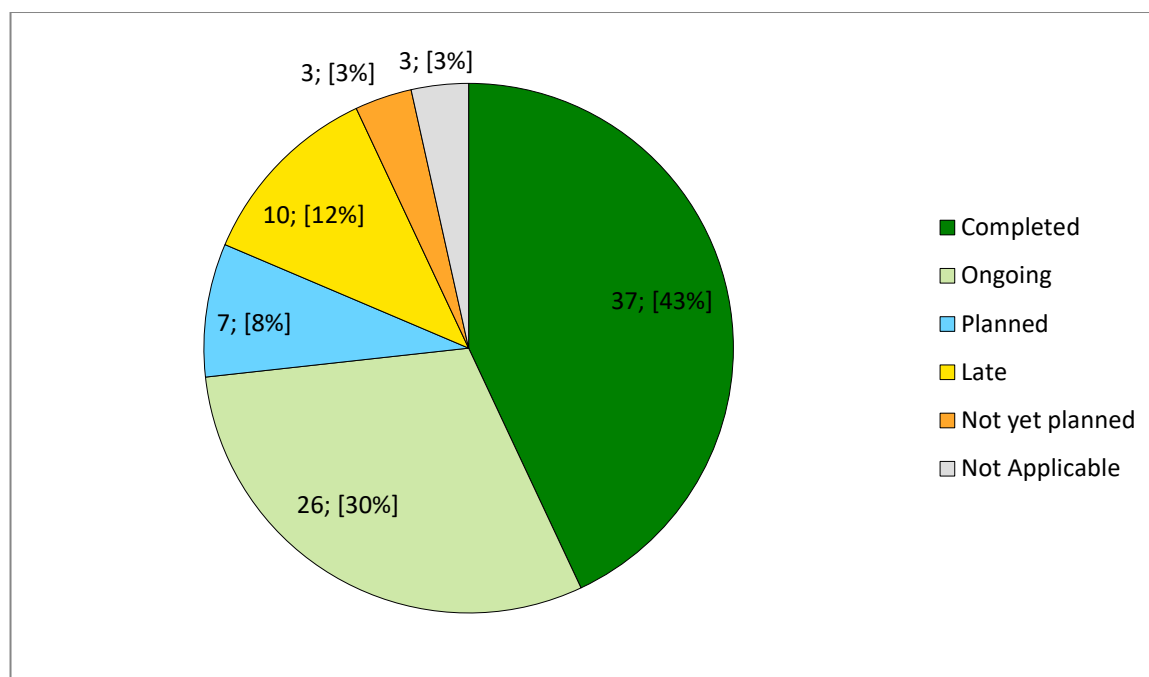
- ADS-B implementation plan delivered to EC: SDM, with the support from EUROCONTROL, produced a full-fledged 2019 update of the ADS-B Implementation Plan. Once the plan had obtained the official support from the Stakeholders' Consultation Platform, it was submitted to EC on the 20th of December 2019. Furthermore, SDM has continued carrying out its monitoring, coordination and has launched a dedicated ADS-B website.

- DLS architecture proposal in consultation: According to the DLS recovery plan, SDM has continued the monitoring activities regarding the Ground and Airborne domain. Moreover, preparatory activities towards the target solution have been carried out, resulting in the consultation of the DLS Architecture and deployment strategy Report. This document was delivered to Stakeholders' Consultation Platform and cooperative arrangements partners on the 19th of December 2019.

- Preparation of a proposal to 2019 CEF CALL: The 2019 CEF Transport Call proposal preparation process, launched by SDM, has resulted in the elaboration, for the official presentation to INEA, of the proposal that that targets the implementation of the first steps to deploy Flight Object IOP. It is a multi-stakeholder project with 13 stakeholders involved, including Enaire. The awarding of this Implementation Project will allow SDM to reinforce future oversight and programme management on IOP aspects.

- Preparation of ASRs 2020: SDM, in its role of Action Coordinator, has accomplished the tasks related to the update on the 2020 Action Status Report process for the 7 Actions under execution.

- Preparation of Final Report for implementation action 2015 C1: On 3rd December 2019, SDM has officially launched the preparatory activities to elaborate the CEF Call 2015 Cluster 1 Final Report. This Final Report represents the contractual deliverable to be submitted to INEA within 12 months following the Action end date.

5.   Implementation Objectives Progress

5.1. **State View**

Overall Objective Implementation Progress

The graph below shows progress for all Implementation Objectives (applicable and not applicable to Spain).

The analysis of the progress of the implementation objectives during 2019 shows a steady evolution since the past year. Overall, the number of completed objectives has increased from 27 objectives in LSSIP 2018 to 37 objectives in LSSIP 2019 that reveals the commitment of Spanish stakeholders in deploying the ATM Master Plan improvements.

Overall, two objectives ITY-SPI and AOP17 were completed at the end 2019. In the case of the provision/integration of departure planning information to NMOC (AOP17) it was deployed in 10 Spanish airports (Gran Canaria, Tenerife South, Tenerife North, Fuerteventura, Lanzarote, Malaga, Alicante, Valencia, Ibiza and Menorca).

Regarding "ongoing" objectives in 2019 cycle, five objectives (AOM19.2, ATC02.8, COM12, INF08.1 and AOP14) experienced a significant increase in the technical progress during last year.

In contrast, for seven objectives the planned implementation date goes beyond the full operational capability date set in the European Master Plan Level 3 Ed. 2019. In addition to objectives AOM19.1 AOP04.2 ATC17, INF07 and ITY-ADQ that were reported already "Late" in 2018 LSSIP cycle, two more objectives have joined this status in 2019: FCM08 and ITY-ACID. Below are some details about the planning of these two objectives:

FCM08 - Extended Flight Plan: in line with Deployment Programme family 4.2, Spanish air traffic control system (SACTA) used by civil and military, already exchanges coordination messages with NM (AFP, ACH, APL, FSA). This coordination mechanism will be upgraded to include Extended Flight Plan by end 2027.

ITY-ACID - Aircraft Identification: Spain will have the capability to establish individual aircraft identification using the downlinked aircraft identification feature, for all IFR/GAT flights by end 2024.

Furthermore, five objectives are planned to be completed in 2020: AOM19.1, AOP04.2 (at Madrid, Barcelona and Palma de Mallorca airports), AOP12, ATC02.8 and COM12.

5.2. Objective Progress per SESAR Key Feature

The Implementation objectives progress charts per Key Feature below show progress only for Implementation Objectives applicable to the State/airport and which are not local objectives.
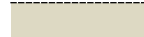
Note: The detailed table of links between Implementation Objectives and SESAR Key Features is available in Annex C: Implementation Objectives' links with SESAR, ICAO and DP.

Legend:

▲ ## % = Expected completion / % Progress

▲ 100% = Objective completed

■ = Implementation Objective timeline (different colour per KF)

■ = Completion beyond Implementation Objective timeline

Optimised ATM Network Services

		<16	16	17	18	19	20	21	22	23	24	25	>26
AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) Handling					100 %							
AOM19.1	ASM Support Tools to Support Advanced FUA (AFUA)							80 %					
AOM19.2	ASM Management of Real-Time Airspace Data								43 %				
AOM19.3	Full Rolling ASM/ATFCM Process and ASM Information Sharing								0 %				
AOM19.4	Management of Pre-defined Airspace Configurations								0 %				
FCM01	Implement enhanced tactical flow management services		100 %										
FCM03	Collaborative Flight Planning					100 %							
FCM04.2	Short Term ATFCM Measures (STAM) - Phase 2								5 %				
FCM05	Interactive Rolling NOP								28 %				
FCM06	Traffic Complexity Assessment								10 %				

Advanced Air Traffic Services

		<16	16	17	18	19	20	21	22	23	24	25	>26

AOM21.1   Direct Routing   100 %

AOM21.2   Free Route Airspace   16 %

ATC02.2   Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2 for en-route operations   100 %

ATC02.8   Ground-Based Safety Nets   99 %

ATC02.9   Short Term Conflict Alert (STCA) for TMAs   100 %

ATC07.1   AMAN Tools and Procedures

     LEBL - Barcelona Airport   100 %

     LEMD - Madrid Barajas Airport   100 %

     LEPA - Palma de Mallorca Airport   100 %

ATC12.1   Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring   7 %

ATC15.1   Information Exchange with En-route in Support of AMAN   100 %

ATC15.2   Arrival Management Extended to En-route Airspace   0 %

ATC16   Implement ACAS II compliant with TCAS II change 7.1   100 %

ATC17   Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer   2 %

ENV01   Continuous Descent Operations (CDO)

     LEBL - Barcelona Airport   75 %

     LEMD - Madrid Barajas Airport   75 %

     LEPA - Palma de Mallorca Airport   75 %

ITY-COTR   Implementation of ground-ground automated co-ordination processes   100 %

NAV03.1   RNAV 1 in TMA Operations   43

NAV03.2   RNP 1 in TMA Operations   8

NAV10   RNP Approach Procedures to instrument RWY   41 %

NAV12	ATS IFR Routes for Rotorcraft Operations		6

High Performing Airport Operations

		<16	16	17	18	19	20	21	22	23	24	25	>26

AOP04.1 Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)

LEBL - Barcelona Airport ▲ 100 %

LEMD - Madrid Barajas Airport ▲ 100 %

LEPA - Palma de Mallorca Airport ▲ 100 %

AOP04.2 Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)

LEBL - Barcelona Airport ▲ 50 %

LEMD - Madrid Barajas Airport ▲ 50 %

LEPA - Palma de Mallorca Airport ▲ 50 %

AOP05 Airport Collaborative Decision Making (A-CDM)

LEBL - Barcelona Airport ▲ 100 %

LEMD - Madrid Barajas Airport ▲ 100 %

LEPA - Palma de Mallorca Airport ▲ 100 %

AOP10 Time-Based Separation

LEMD - Madrid Barajas Airport ▲ 0 %

AOP11 Initial Airport Operations Plan

LEBL - Barcelona Airport ▲ 5 %

LEMD - Madrid Barajas Airport ▲ 5 %

LEPA - Palma de Mallorca Airport ▲ 5 %

AOP12 Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)

LEBL - Barcelona Airport ▲ 28 %

LEMD - Madrid Barajas Airport ▲ 13 %

LEPA - Palma de Mallorca Airport ▲ 28 %

AOP13	Automated Assistance to Controller for Surface Movement Planning and Routing		
	LEBL - Barcelona Airport	▲	0 %
	LEMD - Madrid Barajas Airport	▲	0 %
	LEPA - Palma de Mallorca Airport	▲	0 %
SAF11	Improve Runway Safety by Preventing Runway Excursions		100 %

Enabling Aviation Infrastructure

		<16 16 17 18 19 20 21 22 23 24 25 >26	
COM10	Migrate from AFTN to AMHS		100 %
COM11.1	Voice over Internet Protocol (VoIP) in En-Route		100 %
COM11.2	Voice over Internet Protocol (VoIP) in Airport/Terminal		73 %
COM12	New Pan-European Network Service (NewPENS)		58 %
FCM08	Extended Flight Plan		0 %
INF07	Electronic Terrain and Obstacle Data (eTOD)		68 %
INF08.1	Information Exchanges using the SWIM Yellow TI Profile		35 %
ITY-ACID	Aircraft Identification		53 %
ITY-ADQ	Ensure Quality of Aeronautical Data and Aeronautical Information		82 %
ITY-AGDL	Initial ATC Air-Ground Data Link Services		100 %
ITY-AGVCS2	8,33 kHz Air-Ground Voice Channel Spacing below FL195		100 %
ITY-FMTP	Common Flight Message Transfer Protocol (FMTP)		100 %
ITY-SPI	Surveillance Performance and Interoperability		100 %

5.3. ICAO ASBU Implementation Progress

The following table shows, for each of the ASBU Block 0 and 1 modules, the overall status, the final date foreseen for completion and the percentage of progress achieved in the current cycle.

These results were determined using the LSSIP Year 2019 declared statuses and progress of the relevant Implementation objectives in accordance with the mapping approved by the ICAO EUR EASPG/1 meeting (European Aviation System Planning Group).

Legend:

= Completed (during 2019 or before)   = Missing planning date

= Progress achieved in 2019   = Not applicable

		<16	16	17	18	19	20	21	22	23	24	25	>26	
B0-ACAS	ACAS Improvements													100 %
B0-ACDM	Improved Airport Operations through Airport-CDM													100 %
B0-APTA	Improved Airport Accessibility					41.0 %								100 %
B0-ASUR	Improved access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B													100 %
B0-CCO	Improved Flexibility and Efficiency in Departure Profiles													
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDOs)					75.0 %								100 %
B0-DATM	Service Improvement through Digital Aeronautical Information Management					82.0 %								100 %
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration													100 %
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories.													100 %
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view													100 %
B0-RSEQ	Improved Runway Traffic Flow through Sequencing (AMAN/DMAN)													100 %
B0-SNET	Ground based safety nets					99.67 %								100 %
B0-SURF	Improved Runway Safety (A-SMGCS Level 1-2 and Cockpit Moving Map)					75.0 %								100 %
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route													100 %

5.4. Detailed Objectives Implementation progress

Objective/Stakeholder Progress Code:			
Completed	🟩	Not yet planned	🟧
Ongoing	🟩	Not Applicable	⬜
Planned	🟦	Missing Data	⬜
Late	🟨		

Main Objectives

AOM13.1	**Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) Handling** *Timescales:* Initial operational capability: 01/01/2012 Full operational capability: 31/12/2018	100%	**Completed**
Key Feature: Optimised ATM Network Services			
-			
Revision of national regulation has finished and the Royal Decree 552/2014 has been published. National publications (RCAO) were updated in accordance with EUROAT in December 2012. A new update to RCAO, adapted to SERA and RCA (Royal Decree 552/2014), has been approved and published in December 2016. **Note: Royal Decree 552/2014 was in October 2018 superseded by Royal Decree 1180/2018, which is currently in force.** **At present there is specific documentation regarding OAT/GAT interface. An updated version has been approved and it is pending on publication. Military ATS personnel is trained according to the current OAT/GAT interface document. It is planned to train them according to the updated version of the document once published. Military units and training centres have been alerted about changes included in that document, in order to adapt both, upgrade and study plans.**			**31/12/2017**

REG (By:12/2018)				
Mil. Authority	Spanish mil authorities are involved in harmonisation of OAT with EUROAT. National publications (RCAO) were updated in accordance with EUROAT in December 2012. National legislation has been approved and published at Ministerial level on December 2016. At present there is an OAT/GAT interface document. An updated version has been approved and it is pending on publication.	-	100%	Completed 31/12/2017
DGAC	Revision of national regulation has finished and the Royal Decree 552/2014 has been published. Note: Royal Decree 552/2014 was in October 2018 superseded by Royal Decree 1180/2018, which is currently in force.	-	100%	Completed 31/12/2014
ASP (By:12/2018)				
ENAIRE	The agreed texts have been officially approved by CIDEFO and RCAO MIL.	-	100%	Completed 31/12/2014

Mil. Authority	ATS personnel is trained according to the current OAT/GAT interface document. It is planned to train them according to updated version of the document (pending on publication, see AOM13.1-REG01). Military units and training centres have been alerted about changes included in that document, in order to adapt both, upgrade and study plans.	-	100%	Completed 31/12/2017
MIL (By:12/2018)				
Mil. Authority	Spanish military authorities are involved in harmonisation of OAT with EUROAT. At national level, there is an outstanding OAT and GAT handling coordination, approved by national regulation (RCAO, RCA and civil-military coordination rules). Civil and military users follow RCA (adapted to SERA), while RCAO (adapted to EUROAT, published on the 2nd December 2016) is only needed to show military deviations and specificities. National annex containing Spanish information was delivered in December 2012. All military aeronautical information is included in AIP-España (a formal agreement between Mil Authority and Civil ANSP (ENAIRE) is done from 2006), which is already migrated to EAD. At FAB level the LoA was signed in September 2012 for handling procedures between Spain and Portugal.	-	100%	Completed 31/12/2017

AOM19.1	**ASM Support Tools to Support Advanced FUA (AFUA)** *Timescales:* Initial operational capability: 01/01/2011 Full operational capability: 31/12/2018	80%	**Late**

Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services

-

ENAIRE and the Spanish Air Force have deployed LARA as ASM Tool. The project includes the interoperability of the tool with NM systems. LARA has been deployed in joint AMC (Airspace Management Cell) and in several civil and military locations. PRISMIL deployment will follow for KPI calculation. A specific Project "Deployment of LARA System in Spain" was partly awarded during INEA Call 2016, being ENAIRE the project leader and Spanish Air Force a contributor. This project has been finished by 31/12/2019. Operational use of LARA started in January 2020.	31/12/2020

ASP (By:12/2018)				

| ENAIRE | ENAIRE and the Spanish Air Force have deployed LARA as ASM Tool. The project includes the interoperability of the tool with NM systems. LARA has been deployed in joint AMC (Airspace Management Cell) and in several civil and military locations. PRISMIL deployment will follow for KPI calculation. A specific Project "Deployment of LARA System in Spain" was partly awarded during INEA Call 2016, being ENAIRE the project leader and Spanish Air Force a contributor. This project has been finished by 31/12/2019. Operational use of LARA started in January 2020. | Bordeaux Interface Project - NMP2 / FUA Optimisation project - FUA1 / LARA implementation / SW FAB En-route Sectorisation Improvement Project - NMP4 | 80% | Late

31/12/2020 |
| Mil. Authority | ENAIRE and the Spanish Air Force have deployed LARA as ASM Tool. The project includes the interoperability of the tool with NM systems. LARA has been deployed in joint AMC (Airspace Management Cell) and in several civil and military locations. PRISMIL deployment will follow for KPI calculation. A specific Project "Deployment of LARA System in Spain" was partly awarded during INEA Call 2016, being ENAIRE the project leader and Spanish Air Force a contributor. This project has been finished by 31/12/2019. | Bordeaux Interface Project - NMP2 / FUA Optimisation project - FUA1 / LARA implementation / SW FAB En-route Sectorisation Improvement Project - NMP4 | 80% | Late

31/12/2020 |

AOM19.2	ASM Management of Real-Time Airspace Data *Timescales:* Initial operational capability: 01/01/2017 Full operational capability: 31/12/2021	43%	Ongoing

Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services

-

LARA tool is fully operational and provides real time ASM data. ATC system will be upgraded by ENAIRE to facilitate full connectivity. Procedures related to real-time (tactical) ASM level III information Exchange already exist, in accordance with national regulations as part of the OAT-GAT handling. LARA Spanish User Manual includes procedures for real time level III information Exchange, that will be tested and validated during 2020.	31/12/2021

ASP (By:12/2021)

Mil. Authority	LARA tool is fully operational and provides real time ASM data. ATC system will be upgraded by ENAIRE to facilitate full connectivity. Procedures related to real-time (tactical) ASM level III information Exchange already exist, in accordance with national regulations as part of the OAT-GAT handling. LARA Spanish user Manual includes procedures for real time level III information Exchange, that will be tested and validated during 2020.	LARA implementation / SW FAB Marseille Interface - NMP1	50%	Ongoing 31/12/2021
ENAIRE	LARA tool is fully operational and provides real time ASM data. ATC system will be upgraded to facilitate full connectivity. Procedures related to real-time (tactical) ASM level III information Exchange already exist, in accordance with national regulations as part of the OAT-GAT handling. LARA Spanish User Manual includes procedures for real time level III information Exchange, that will be tested and validated during 2020.	LARA implementation / SW FAB Marseille Interface - NMP1	37%	Ongoing 31/12/2021

AOM19.3	**Full Rolling ASM/ATFCM Process and ASM Information Sharing** *Timescales:* Initial operational capability: 01/01/2014 Full operational capability: 31/12/2021	**0%**	**Planned**

Links: B0-FRTO, B1-FRTO, B1-NOPS, B2-NOPS | Key Feature: Optimised ATM Network Services

-	
ENAIRE and the Spanish Air Force have deployed LARA as ASM Tool (objective AOM19.1). A specific project "Deployment of LARA System in Spain" was partly awarded during INEA Call 2016. Full rolling ASM/ATFCM process is out of the scope of that project. However it is planned to implement the necessary updates to cope with Full rolling ASM/ATFCM process and ASM information sharing.	**31/12/2021**

ASP (By:12/2021)

ENAIRE	The objective is to have a continuous information Exchange between ASM and ATFCM systems to get the best exploitation of the airspace. This requires ASM system upgrade to facilitate dynamic configuration of sectors to accommodate traffic demand.	-	0%	Planned
				31/12/2021
Mil. Authority	The objective is to have a continuous information Exchange between ASM and ATFCM systems to get the best exploitation of the airspace. This requires ASM system upgrade to facilitate dynamic configuration of sectors to accommodate traffic demand. These activities will be performed in coordination with ENAIRE.	-	0%	Planned
				31/12/2021

AOM19.4	**Management of Pre-defined Airspace Configurations** *Timescales:* Initial operational capability: 01/01/2018 Full operational capability: 31/12/2021	**0%**	**Planned**

Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services

-	
Airspace configuration is defined at national level, as well as the procedures in support of an improved ASM solution process and pre-defined airspace configurations. It is planned that improved ASM solutions and pre-defined airspace configurations are implemented by end 2021.	**31/12/2021**

ASP (By:12/2021)

ENAIRE	It is planned that improved ASM solutions and pre-defined airspace configurations are implemented by end 2021.	-	0%	Planned
				31/12/2021
Mil. Authority	Airspace configuration is defined at national level, as well as the procedures in support of an improved ASM solution process and pre-defined airspace configurations. For the military, ATM system adaptation is developed and implemented by Civil ANSP (ENAIRE) as well as any software related with ATC. It is installed in Military Air Bases open to civil traffic and joint civil-military bases by ENAIRE.	-	0%	Planned
				31/12/2021

AOM21.2	**Free Route Airspace** *Timescales:* Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021	**16%**	**Ongoing**

Links: B0-FRTO, B1-FRTO | Key Feature: Advanced Air Traffic Services

-

The SW FAB already operates the free route concept in Lisbon FIR and Madrid FIR sectors of Santiago and Asturias (FRASAI project). The implementation of the FRA concept in the SW FAB has a long-term perspective, coherent with the operational benefits it offers to aircraft operators, that includes the following phases: Free route extension to FABEC, Free route extension to Santa Maria Oceanic airspace and SW FAB FRA Phase III (implementation of Free Route operations based in DCT segments in Madrid, Barcelona and Canarias UIR -limited to overflying traffic and from FL345). The overall project, that covers all phases, is planned to be implemented by the end 2022. At national level, Free Route is being implemented by CIDEFO. CIDEFO is the competent body responsible for the civil-military coordination at ASM-FUA strategic level. The Project is led by ENAIRE taking into account all the civil and military stakeholders (ANSP, civil-military authorities, etc.).	**31/12/2021**

ASP (By:12/2021)

ENAIRE	THE SW FAB ALREADY OPERATES THE FREE ROUTE CONCEPT IN LISBON FIR AND NORTH-WEST MADRID FIR SECTORS OF SANTIAGO AND ASTURIAS (FRASAI PROJECT). THE OBJECTIVE IS TO EXTEND FRA CONCEPT TO BOTH THE WHOLE SW FAB AIRSPACE AND SURROUNDING AIRSPACES. CONSEQUENTLY, NAV PORTUGAL AND ENAIRE HAVE PLANNED A PHASED EXTENSION OF FREE ROUTE: TO BREST ACC (FABEC AIRSPACE) AND TO SANTA MARIA OCEANIC AIRSPACE (ICAO NAT REGION). IT IS EXPECTED THAT ALL PROJECTS WILL BE IMPLEMENTED IN DIFFERENT PHASES WITH AN EXPECTED IMPLEMENTATION TARGET OF 2021. Implementation of Santiago/Asturias Free Route Airspace (FRASAI). ESPAF has reduced the vertical limits of several training areas in order to facilitate FRASAI.	Lisboa/Madrid/Brest FRA (iFRA) / SW FAB FRA Phase II - FRA2 / SW FAB FRA Phase II - FRA2 / SW FAB FRA Phase III Project - FRA4	Ongoing 16%	31/12/2021

AOP04.1	**Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** *Timescales:* Initial operational capability: 01/01/2007 Full operational capability: 31/12/2011	100%	**Completed**

Links: B0-SURF | Key Feature: High Performing Airport Operations

LEBL - Barcelona Airport	
A-SMGCS architecture adopted by ENAIRE consists of a combination of SMR and Mode S multilateration system with capability for ADS-B 1090 information processing capability. **In order to avoid possible discontinuities between different surveillance systems, multilateration system coverage will be extended until it overlaps area surveillance radars. Where needed, wide area multilateration (WAM) systems will be used.** **Although the system is available since July 2012, the implementation of operational procedures has been finished in December 2016.**	**31/12/2016**

REG (By:12/2010)

AESA	-	-	100%	Completed 31/12/2013

ASP (By:12/2011)

ENAIRE	A-SMGCS architecture adopted by ENAIRE consists of a combination of SMR and Mode S multilateration system with capability for ADS-B 1090 information processing capability. In order to avoid possible discontinuities between different surveillance systems, multilateration system coverage will be extended until it overlaps area surveillance radars. Where needed, wide area multilateration (WAM) systems will be used. In the case of Barcelona Airport the system is available since July 2012. The implementation of operational procedures has been finished in December 2016.	-	100%	Completed 31/12/2016

APO (By:12/2010)

Aena S.A.	-	-	100%	Completed 31/12/2013

AOP04.1	**Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** *Timescales:* Initial operational capability: 01/01/2007 Full operational capability: 31/12/2011	100%	Completed

Links: B0-SURF | Key Feature: High Performing Airport Operations

LEMD - Madrid Barajas Airport

A-SMGCS architecture adopted by ENAIRE consists of a combination of SMR and Mode S multilateration system with capability for ADS-B 1090 information processing capability. A-SMGCS operational procedures are already in place. In order to avoid possible discontinuities between different surveillance systems, multilateration system coverage will be extended until it overlaps area surveillance radars. Where needed, wide area multilateration (WAM) systems will be used. **A-SMGCS Level 1 is operational in Madrid.**	**31/12/2013**

REG (By:12/2010)			
AESA	-	-	100%	Completed 31/12/2013

ASP (By:12/2011)			
ENAIRE	A-SMGCS architecture adopted by ENAIRE consists of a combination of SMR and Mode S multilateration system with capability for ADS-B 1090 information processing capability. A-SMGCS operational procedures are already in place. In order to avoid possible discontinuities between different surveillance systems, multilateration system coverage will be extended until it overlaps area surveillance radars. Where needed, wide area multilateration (WAM) systems will be used. A-SMGCS Level 1 is operational in Madrid.	-	100%	Completed 31/12/2010

APO (By:12/2010)			
Aena S.A.	A-SMGCS Level 1 is operational in Madrid.	-	100%	Completed 31/12/2010

AOP04.1	**Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** *Timescales:* Initial operational capability: 01/01/2007 Full operational capability: 31/12/2011	100%	**Completed**

Links: B0-SURF | Key Feature: High Performing Airport Operations			
LEPA - Palma de Mallorca Airport			
A-SMGCS architecture adopted by ENAIRE consists of a combination of SMR and Mode S multilateration system with capability for ADS-B 1090 information processing capability. In order to avoid possible discontinuities between different surveillance systems, multilateration system coverage will be extended until it overlaps area surveillance radars. Where needed, wide area multilateration (WAM) systems will be used. The implementation of procedures has been finished in mid 2016.			**23/06/2016**
REG (By:12/2010)			
AESA	-	-	100%	Completed 31/12/2013
ASP (By:12/2011)			
ENAIRE	A-SMGCS architecture adopted by ENAIRE consists of a combination of SMR and Mode S multilateration system with capability for ADS-B 1090 information processing capability. The implementation at Palma Airport is planned by mid of 2014. In order to avoid possible discontinuities between different surveillance systems, multilateration system coverage will be extended until it overlaps area surveillance radars. Where needed, wide area multilateration (WAM) systems will be used. The implementation of procedures has been finished in mid 2016.	-	100%	Completed 23/06/2016
APO (By:12/2010)			
Aena S.A.	-	-	100%	Completed 31/12/2011

AOP04.2	**Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)** *Timescales:* Initial operational capability: 01/01/2007 Full operational capability: 31/12/2017	50%	**Late**

Links: B0-SURF | Key Feature: High Performing Airport Operations			
LEBL - Barcelona Airport			
Implementation planned by end 2020.			**31/12/2020**
ASP (By:12/2017)			
ENAIRE	The A-SMGCS Level 2 implementation is linked to a new SACTA version (3.Z5.80)	A-SMGCS level 2	50%	Late 31/12/2020
APO (By:12/2017)			
Aena S.A.	SLoAs under the responsibility of ENAIRE- Air Navigation.	-	%	Not Applicable -

AOP04.2	**Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)** *Timescales:* Initial operational capability: 01/01/2007 Full operational capability: 31/12/2017		50%	**Late**

Links: B0-SURF | Key Feature: High Performing Airport Operations

LEMD - Madrid Barajas Airport				
Implementation planned by end 2020.				31/12/2020
ASP (By:12/2017)				
ENAIRE	The A-SMGCS Level 2 implementation is linked to a new SACTA version (3.Z5.80)	A-SMGCS level 2	50%	Late 31/12/2020
APO (By:12/2017)				
Aena S.A.	SLoAs under the responsibility of ENAIRE- Air Navigation.	-	%	Not Applicable -

AOP04.2	**Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)** *Timescales:* Initial operational capability: 01/01/2007 Full operational capability: 31/12/2017		50%	**Late**

Links: B0-SURF | Key Feature: High Performing Airport Operations

LEPA - Palma de Mallorca Airport				
Implementation planned by end 2020.				31/12/2020
ASP (By:12/2017)				
ENAIRE	The A-SMGCS Level 2 implementation is linked to a new SACTA version (3.Z5.80)	A-SMGCS level 2	50%	Late 31/12/2020
APO (By:12/2017)				
Aena S.A.	SLoAs under the responsibility of ENAIRE- Air Navigation.	-	%	Not Applicable -

AOP05	**Airport Collaborative Decision Making (A-CDM)** *Timescales:* Initial operational capability: 01/01/2004 Full operational capability: 31/12/2016		100%	**Completed**

Links: B0-ACDM, B0-RSEQ | Key Feature: High Performing Airport Operations

LEBL - Barcelona Airport				
CDM implementation at Barcelona Airport has finished in 2015				31/12/2015
ASP (By:12/2016)				
ENAIRE	CDM implementation at Barcelona Airport has finished in October 2015	CDM - ATM3	100%	Completed 20/10/2015
APO (By:12/2016)				
Aena S.A.	This airport is considered active as CDM airport (with exchange of messages with CFMU) since March 2015, but the project extends until December 2015 to cover the implementation of procedures in adverse conditions.	Analysis implementation of CDM in more airports	100%	Completed 31/12/2015

AOP05	**Airport Collaborative Decision Making (A-CDM)** _Timescales:_ Initial operational capability: 01/01/2004 Full operational capability: 31/12/2016		100%	**Completed**

Links: B0-ACDM, B0-RSEQ | Key Feature: High Performing Airport Operations

LEMD - Madrid Barajas Airport				
Madrid is a CDM airport since January 2015				**31/01/2015**
ASP (By:12/2016)				
ENAIRE	Madrid is a CDM airport since January 2015	CDM - ATM3	100%	Completed 31/01/2015
APO (By:12/2016)				
Aena S.A.	This airport is considered active as CDM airport (with exchange of messages with CFMU) since January 2014, but the project extends until December 2014 to cover the implementation of procedures in adverse conditions.	Analysis implementation of CDM in more airports	100%	Completed 31/12/2014

AOP05	**Airport Collaborative Decision Making (A-CDM)** _Timescales:_ Initial operational capability: 01/01/2004 Full operational capability: 31/12/2016		100%	**Completed**

Links: B0-ACDM, B0-RSEQ | Key Feature: High Performing Airport Operations

LEPA - Palma de Mallorca Airport				
CDM implementation at Palma de Mallorca Airport has been finished in 2017				**06/10/2017**
ASP (By:12/2016)				
ENAIRE	CDM is operational at Palma de Mallorca Airport since 4/5/2017	CDM - ATM3	100%	Completed 04/05/2017
APO (By:12/2016)				
Aena S.A.	-	Analysis implementation of CDM in more airports	100%	Completed 06/10/2017

AOP10	**Time-Based Separation** _Timescales:_ Initial operational capability: 01/01/2015 Full operational capability: 31/12/2023		0%	**Planned**

Links: B1-RSEQ, B2-WAKE | Key Feature: High Performing Airport Operations

LEMD - Madrid Barajas Airport				
Current planning is still very preliminary to fulfil PCP requirements, however internal assessments have revealed that TBS may involve only a very slight increase in runway capacity. The removal of TBS functionality has been proposed by SDM within the PCP Review Process.				**31/12/2023**
REG (By:12/2023)				
AESA	Current planning is still very preliminary, however it is envisaged to fulfil objective FOC date.	-	0%	Planned 31/12/2023
ASP (By:12/2023)				
ENAIRE	Current planning is still very preliminary, however it is envisaged to fulfil objective FOC date.	-	0%	Planned 31/12/2023

AOP11	**Initial Airport Operations Plan** *Timescales:* Initial Operational Capability: 01/01/2015 Full Operational Capability: 31/12/2021	**5%**	**Ongoing**

Links: B1-ACDM | Key Feature: High Performing Airport Operations

LEBL - Barcelona Airport		
Once the Initial AOP concept has been developed and validated in SESAR 1, the planning to implement this objective has been started. Nevertheless, the planning will be refined once the AOP Implementation Guidelines are published.		**31/12/2021**

ASP (By:12/2021)

ENAIRE	ENAIRE already provides the AO with the information regarding flight plans and DMAN. ENAIRE will provide the required information to fully implement the AOP concept, once the AOP Implementation Guidelines are published.	-	0%	Planned
				31/12/2020

APO (By:12/2021)

Aena S.A.	The Initial AOP concept has been developed and validated in SESAR 1. Aena is confident that in the short term an AOP Implementation Guidelines will be published. Nevertheless, Aena is planning the implementation. Although there are lines of action planned, as the planning of this Objective is at an early stage, the Training of staff has not been planned yet.	-	7%	Ongoing
				31/12/2021

AOP11	**Initial Airport Operations Plan** *Timescales:* Initial Operational Capability: 01/01/2015 Full Operational Capability: 31/12/2021	**5%**	**Ongoing**

Links: B1-ACDM | Key Feature: High Performing Airport Operations

LEMD - Madrid Barajas Airport		
Once the Initial AOP concept has been developed and validated in SESAR 1, the planning to implement this objective has been started. Nevertheless, the planning will be refined once the AOP Implementation Guidelines are published.		**31/12/2021**

ASP (By:12/2021)

ENAIRE	ENAIRE already provides the AO with the information regarding flight plans and DMAN. ENAIRE will provide the required information to fully implement the AOP concept, once the AOP Implementation Guidelines are published.	-	0%	Planned
				31/12/2020

APO (By:12/2021)

Aena S.A.	The Initial AOP concept has been developed and validated in SESAR 1. Aena is confident that in the short term an AOP Implementation Guidelines are published. Nevertheless, Aena is planning the implementation. Although there are lines of action planned, as the planning of this Objective is at an early stage, the Training of staff has not been planned yet.	-	7%	Ongoing
				31/12/2021

AOP11	**Initial Airport Operations Plan** *Timescales:* Initial Operational Capability: 01/01/2015 Full Operational Capability: 31/12/2021	**5%**	**Ongoing**

Links: B1-ACDM | Key Feature: High Performing Airport Operations				
LEPA - Palma de Mallorca Airport				
Once the Initial AOP concept has been developed and validated in SESAR 1, the planning to implement this objective has been started. Nevertheless, the planning will be refined once the AOP Implementation Guidelines will be published.				**31/12/2021**
ASP (By:12/2021)				
ENAIRE	ENAIRE already provides the AO with the information regarding flight plans and DMAN. ENAIRE will provide the required information to fully implement the AOP concept, once the AOP Implementation Guidelines are published.	-	0%	Planned
				31/12/2020
APO (By:12/2021)				
Aena S.A.	The Initial AOP concept has been developed and validated in SESAR 1. Aena is confident that in the short term an AOP Implementation Guidelines will be published. Nevertheless, Aena is planning the implementation. Although there are lines of action planned, as the planning of this Objective is at an early stage, the Training of staff has not been planned yet.	-	7%	Ongoing
				31/12/2021

AOP12	**Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)** *Timescales:* Initial operational capability: 01/01/2015 Full operational capability: 31/12/2020	**28%**	**Ongoing**

Links: B2-SURF | Key Feature: High Performing Airport Operations				
LEBL - Barcelona Airport				
Implementation of EFS support tool is already on-going under CEF 2014 and CEF 2015 projects				**31/12/2020**
ASP (By:12/2020)				
ENAIRE	Implementation of EFS support tool is already on-going under CEF 2014 and CEF 2015 projects	Electronic Flight Strips (EFS)	37%	Ongoing
				31/12/2020
APO (By:12/2020)				
Aena S.A.	Aligned with the date provided by ENAIRE.	Electronic Flight Strips (EFS)	0%	Planned
				31/12/2020

AOP12	**Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)** *Timescales:* Initial operational capability: 01/01/2015 Full operational capability: 31/12/2020	13%	**Ongoing**

Links: B2-SURF	Key Feature: High Performing Airport Operations		
LEMD - Madrid Barajas Airport			
Implementation of EFS support tool is already on-going under CEF 2014 and CEF 2015 projects			**31/12/2020**
ASP (By:12/2020)			
ENAIRE	Implementation of EFS support tool is already on-going under CEF 2014 and CEF 2015 projects	Electronic Flight Strips (EFS)	17%	Ongoing 31/12/2020
APO (By:12/2020)			
Aena S.A.	Aligned with the date provided by ENAIRE.	Electronic Flight Strips (EFS)	0%	Planned 31/12/2020

AOP12	**Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)** *Timescales:* Initial operational capability: 01/01/2015 Full operational capability: 31/12/2020	28%	**Ongoing**

Links: B2-SURF	Key Feature: High Performing Airport Operations		
LEPA - Palma de Mallorca Airport			
Implementation of EFS support tool is already on-going under CEF 2014 and CEF 2015 projects			**31/12/2020**
ASP (By:12/2020)			
ENAIRE	Implementation of EFS support tool is already on-going under CEF 2014 and CEF 2015 projects	Electronic Flight Strips (EFS)	37%	Ongoing 31/12/2020
APO (By:12/2020)			
Aena S.A.	Aligned with the date provided by ENAIRE.	Electronic Flight Strips (EFS)	0%	Planned 31/12/2020

AOP13	**Automated Assistance to Controller for Surface Movement Planning and Routing** *Timescales:* Initial operational capability: 01/01/2016 Full operational capability: 31/12/2023	0%	**Planned**

Links: B1-ACDM, B1-RSEQ, B2-SURF	Key Feature: High Performing Airport Operations		
LEBL - Barcelona Airport			
Some previous operational validation activities have been performed within the SESAR Framework (projects 06.09.02 and 06.03.02). Current planning is still very preliminary, however it is envisaged to fulfil proposed FOC date			**31/12/2023**
REG (By:12/2023)			
AESA	Current planning is still very preliminary, however it is envisaged to fulfil proposed FOC date	-	0%	Planned 31/12/2023
ASP (By:12/2023)			
ENAIRE	Some previous operational validation activities have been performed within the SESAR Framework (projects 06.09.02 and 06.03.02)	-	0%	Planned 31/12/2023

AOP13	**Automated Assistance to Controller for Surface Movement Planning and Routing** *Timescales:* Initial operational capability: 01/01/2016 Full operational capability: 31/12/2023	0%	**Planned**

Links: B1-ACDM, B1-RSEQ, B2-SURF | Key Feature: High Performing Airport Operations

LEMD - Madrid Barajas Airport		
Some previous operational validation activities have been performed within the SESAR Framework (projects 06.09.02 and 06.03.02). Current planning is still very preliminary, however it is envisaged to fulfil proposed FOC date		31/12/2023

REG (By:12/2023)

AESA	Current planning is still very preliminary, however it is envisaged to fulfil proposed FOC date	-	0%	Planned
				31/12/2023

ASP (By:12/2023)

ENAIRE	Some previous operational validation activities have been performed within the SESAR Framework (projects 06.09.02 and 06.03.02)	-	0%	Planned
				31/12/2023

AOP13	**Automated Assistance to Controller for Surface Movement Planning and Routing** *Timescales:* Initial operational capability: 01/01/2016 Full operational capability: 31/12/2023	0%	**Planned**

Links: B1-ACDM, B1-RSEQ, B2-SURF | Key Feature: High Performing Airport Operations

LEPA - Palma de Mallorca Airport		
Some previous operational validation activities have been performed within the SESAR Framework (projects 06.09.02 and 06.03.02).Current planning is still very preliminary, however it is envisaged to fulfil proposed FOC date		31/12/2023

REG (By:12/2023)

AESA	Current planning is still very preliminary, however it is envisaged to fulfil proposed FOC date	-	0%	Planned
				31/12/2023

ASP (By:12/2023)

ENAIRE	Some previous operational validation activities have been performed within the SESAR Framework (projects 06.09.02 and 06.03.02)	-	0%	Planned
				31/12/2023

ATC02.8	**Ground-Based Safety Nets** *Timescales:* Initial operational capability: 01/01/2009 Full operational capability: 31/12/2016	**99%**	**Late**
Links: B0-SNET, B1-SNET | Key Feature: Advanced Air Traffic Services			
-			
Except for APW, the rest of ground safety nets are already deployed. Implementation of APW functionality in Madrid ACC is pending on testing and validating to be in operational use APW implementation is expected to be completed by end 2020.			**31/12/2020**

ASP (By:12/2016)

Mil. Authority	This functionality, as well as any software related to ATC system (SACTA), is developed and implemented by Civil ANSP (ENAIRE). It is installed in the Military Air Bases open to civil traffic and joint civil-military bases. It is also installed in the Operational Air Traffic Squadron as (ECAOs) control positions inside the Air Control Centres (Madrid, Barcelona, Sevilla and Las Palmas).	-	99%	Late
				31/12/2020
ENAIRE	SPANISH AND PORTUGUESE ANSPS HAVE PLANNED THE IMPLEMENTATION OF GROUND BASED SAFETY NETS FUNCTIONALITY ACCORDING THEIR ATC SYSTEM UPGRADE PLANNING: SPANISH ANSP (SACTA) BY 2020 AND PORTUGUESE (TOPLIS) ANSP BY 2022 The implementation of the ground-based safety nets is being carried out according to the activities related to the update of ATC systems.	SAFETY NETS	99%	Late
				31/12/2020

ATC02.9	**Short Term Conflict Alert (STCA) for TMAs** *Timescales:* Initial operational capability: 01/01/2018 Full operational capability: 31/12/2020	**100%**	**Completed**
Links: B0-SNET, B1-SNET | Key Feature: Advanced Air Traffic Services			
-			
STCA function is operational in all TMA's in Spain, including Palma TMA., where the implementation has been finished by October 2018. The multi-hypothesis algorithm is not used (in SACTA, the algorithm used in the STCA in TMA is the same already used in En-route).			**31/10/2018**

ASP (By:12/2020)

Mil. Authority	This functionality, as well as any software related to ATC system (SACTA), is developed and implemented by Civil ANSP (ENAIRE). It is installed in the Military Air Bases open to civil traffic and joint civil-military bases.	-	100%	Completed
				31/10/2018
ENAIRE	STCA function is operational in all TMA's in Spain.	-	100%	Completed
				31/10/2018

ATC07.1	**AMAN Tools and Procedures** *Timescales:* Initial operational capability: 01/01/2007 Full operational capability: 31/12/2019	**100%**	**Completed**
Links: B0-RSEQ | Key Feature: Advanced Air Traffic Services			
LEBL - Barcelona Airport			

Functionality is already operational at Barcelona Airport since March 2015.			**03/03/2015**
ASP (By:12/2019)			
ENAIRE	Functionality is already operational at Barcelona Airport since March 2015.	-	100%	Completed 03/03/2015

ATC07.1	**AMAN Tools and Procedures** *Timescales:* Initial operational capability: 01/01/2007 Full operational capability: 31/12/2019	**100%**	**Completed**
Links: B0-RSEQ | Key Feature: Advanced Air Traffic Services			
LEMD - Madrid Barajas Airport			

Functionality is already operational at Madrid Airport.			**31/07/2013**
ASP (By:12/2019)			
ENAIRE	Functionality is already operational at Madrid Airport.	-	100%	Completed 31/07/2013

ATC07.1	**AMAN Tools and Procedures** *Timescales:* Initial operational capability: 01/01/2007 Full operational capability: 31/12/2019	**100%**	**Completed**
Links: B0-RSEQ | Key Feature: Advanced Air Traffic Services			
LEPA - Palma de Mallorca Airport			

Functionality is already operational at Palma Airport.			**28/04/2016**
ASP (By:12/2019)			
ENAIRE	Functionality is already operational at Palma Airport.	-	100%	Completed 28/04/2016

ATC12.1	**Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring** *Timescales:* Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021	**7%**	**Ongoing**

Links: B1-FRTO | Key Feature: Advanced Air Traffic Services

-	

This functionality is going to be partially implemented within the project "Deployment of SACTA-iTEC" submitted under CEF 2016 call. Among the activities to be carried out within the scope of this project, it is included the deployment of Tactical Trajectory Module (TTM) within the Spanish ATC system SACTA, as an enabler of FRA (Free Route), and the provision of the tactical MTCD (Medium Term Conflict Detection) function.	**31/12/2021**

ASP (By:12/2021)

Mil. Authority	This functionality, as well as any software related to ATC system (SACTA), is developed and implemented by Civil ANSP (ENAIRE). It is installed in the Military Air Bases open to civil traffic and joint civil-military bases. It is also installed in the Operational Air Traffic Squadron as (ECAOs) control working positions inside the Air Control Centres (Madrid, Barcelona, Sevilla and Las Palmas).	-	7%	Ongoing 31/12/2021
ENAIRE	SPANISH AND PORTUGUESE ANSPS HAVE PLANNED THE IMPLEMENTATION OF MTCD AND MONA FUNCTIONALITIES BY 2021 AND 2022 RESPECTIVELY This functionality is going to be partially implemented within the project "Deployment of SACTA-iTEC" submitted under CEF 2016 call. Among the activities to be carried out within the scope of this project, it is included the deployment of Tactical Trajectory Module (TTM) within the Spanish ATC system SACTA, as an enabler of FRA (Free Route), and the provision of the tactical MTCD (Medium Term Conflict Detection) function.	-	7%	Ongoing 31/12/2021

ATC15.1	**Information Exchange with En-route in Support of AMAN** *Timescales:* Initial operational capability: 01/01/2012 Full operational capability: 31/12/2019	100%	**Completed**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services			
-			
AMAN operations have been deployed sequentially: Madrid ACC (07/2013): AMAN information of Madrid TMA is exchanged with Madrid ACC en-route sectors. Barcelona ACC (05/2014): AMAN information of Barcelona TMA is exchanged with Barcelona ACC en-route sectors. AMAN information of Barcelona and Palma are exchanged with Barcelona ACC en-route sectors (31/10/2018) AMAN information of Madrid and Seville are exchanged with Madrid ACC en-route sectors (31/10/2018)			31/10/2018
ASP (By:12/2019)			

ENAIRE	THE OBJECTIVE IMPLEMENTATION HAS BEEN FINISHED BY SPANISH ANSP IN 2018. CURRENT PLANS FOR PORTUGUESE ANSP, FORESEE TO FULLY IMPLEMENT THIS FUNCTIONALITY IN 2021. AMAN operations are being deployed sequentially: Madrid ACC (07/2013): AMAN information of Madrid TMA is exchanged with Madrid ACC en-route sectors. Barcelona ACC (05/2014): AMAN information of Barcelona TMA is exchanged with Barcelona ACC en-route sectors. AMAN information of Barcelona and Palma are exchanged with Barcelona ACC en-route sectors (31/10/2018) AMAN information of Madrid and Seville are exchanged with Madrid ACC en-route sectors (31/10/2018).	Barcelona TMA Project - TMA3 / Palma TMA Project - TMA7	100%	Completed 31/10/2018

ATC15.2	**Arrival Management Extended to En-route Airspace** *Timescales:* Initial operational capability: 01/01/2015 Full operational capability: 31/12/2023	0%	**Planned**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services			
-			
ENAIRE has finished (31/10/2018) the deployment of objective ATC15.1 (Implement, in en-route sectors, information exchange mechanisms, tools and procedures in support of basic AMAN) for the availability of AMAN sequence in the en-route sectors. Once completed that objective, the systems will be upgraded to meet the requirements of ATC15.2.			31/12/2023
ASP (By:12/2023)			

ENAIRE	THE OBJECTIVE IMPLEMENTATION WILL BE DONE IN THE SPANISH AND PORTUGUESE ANSPs BY 2023. ENAIRE has finished (31/10/2018) the deployment of objective ATC15.1 (Implement, in en-route sectors, information exchange mechanisms, tools and procedures in support of basic AMAN) for the availability of AMAN sequence in the en-route sectors. Once completed that objective, the systems will be upgraded to meet the requirements of ATC15.2.	-	0%	Planned 31/12/2023

ATC17	**Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer** *Timescales:* Initial operational capability: 01/01/2013 Full operational capability: 31/12/2018		2%	Late
Key Feature: Advanced Air Traffic Services				
	-			
The objective will be fully implemented by 2025				**31/12/2025**
ASP (By:12/2018)				
ENAIRE	THE IMPLEMENTATION OF THIS OBJECTIVE WILL BE FINISHED IN SPAIN BY 2025. PORTUGUESE ANSP HAS PLANNED TO FULLY IMPLEMENT IT BY 2022 The objective will be fully implemented by 2025. PAC is already implemented. COD is linked to FDP iTEC implementation.	-	2%	Late 31/12/2025
Mil. Authority	This functionality, as well as any software related to ATC system (SACTA), is developed and implemented by Civil ANSP (ENAIRE). It is installed in the Operational Air Traffic Squadron as (ECAOs) control working positions inside the Air Control Centres (Madrid, Barcelona, Sevilla and Las Palmas).	-	2%	Late 31/12/2025

COM10	**Migrate from AFTN to AMHS** *Timescales:* Initial operational capability: 01/12/2011 Full operational capability: 31/12/2018		100%	**Completed**
Key Feature: Enabling the Aviation Infrastructure				
	-			
AMHS system is implemented in Spain.				**28/02/2006**
ASP (By:12/2018)				
ENAIRE	Spain implemented AMHS in its system since 2000. The objective of the FIRST project was to establish an AMHS connection between Madrid and Frankfurt. The interconnection was implemented and the pre-operational phase began in October 2005. The service was fully operative in February 2006. The main objective for ENAIRE is to migrate existing international AFTN or CIDIN connections to AMHS.	Implementation and operation of an IP-based G/G data communication network	100%	Completed -
Mil. Authority	Spanish Mil. Authorities, in their ANSPs message systems, are connected to national civ systems and comply with AMHS specifications. Spain implemented AMHS in its system since 2000. The objective of the FIRST project was to establish an AMHS connection between Madrid and Frankfurt. The interconnection was implemented and the pre-operational phase began in October 2005. The service was fully operative in February 2006. The main objective for ENAIRE is to migrate existing international AFTN or CIDIN connections to AMHS. For the military, migration from AFTN to AMHS took place at the same time as ENAIRE. Equipment is implemented by ENAIRE to Military Bases open to civil air traffic and joint civil-mil bases.	-	100%	Completed 28/02/2006

COM11.1	**Voice over Internet Protocol (VoIP) in En-Route** *Timescales:* Initial operational capability: 01/01/2013 Full operational capability: 31/12/2021	**100%**	**Completed**

Key Feature: Enabling the Aviation Infrastructure

-	

VoIP technology is being deployed by two streams: 1) To deploy VoIP (GWs) associated with all the operational legacy VCSs and Radio stations. REDAN will be used as the IP transport network. 2) Procurement of new VCSs and Radio Stations that will be fully VoIP compatible. VoIP is already in service in Canarias ACC and Valencia. The current planning considers to implement this functionality also in Madrid (2020), Barcelona (2021), Palma de Mallorca (2022) and Sevilla (2022).	**22/10/2019**

ASP (By:12/2021)

ENAIRE	SPANISH ANSP HAS PLANNED TO EXTEND VCS IP TECHNOLOGY TO OTHER LOCATIONS (2022) PORTUGUESE ANSP HAVE PLANNED TO UPGRADED THE VCS SYSTEM TO SUPPORT VOIP, AND IT IS OPERATIONAL SINCE 2020/01/14. The first VCS put into service with VoIP technology was in Canarias ACC (2014). During 2019, the implementation of VCS IP in Valencia has been finished. ENAIRE has planned to implement this functionality in Madrid (2020), Barcelona (2021), Palma de Mallorca (2022) and Sevilla (2022).	CIVIL/MIL ATC Network - CNS14 / IPv6 Services - CNS15 / Implementation of Voice over IP (VoIP) systems and services / Implementation of Voice over IP services (telephony) - CNS 16	100%	Completed 22/10/2019

COM11.2	**Voice over Internet Protocol (VoIP) in Airport/Terminal** *Timescales:* Initial operational capability: 01/01/2013 Full operational capability: 31/12/2023	73%	**Ongoing**
Key Feature: Enabling the Aviation Infrastructure			
-			
It is expected to fully implement VoIP in Airport/Terminal by end 2023.			31/12/2023
ASP (By:12/2023)			

Mil. Authority	Spanish Mil. Authorities in the role of ANSPs have planned the implementation of VoIP protocol. Currently, VoIP full capability is a requirement for acquisition and implementation of new VCS in military air bases.	CIVIL/MIL ATC Network - CNS14	63%	Ongoing
				31/12/2023
ENAIRE	THE OBJECTIVE IMPLEMENTATION WILL BE DEPLOYED BY THE SPANISH ANSP BY 2023. THE PORTUGUESE ANSP HAVE NOT YET PLANNED THE ACTIVITIES. VoIP technology is being deployed by two streams: 1) To deploy VoIP (GWs) associated with all the operational legacy VCSs and Radio stations. REDAN will be used as the IP transport network. 2) Procurement of new VCSs and Radio Stations that will be fully VoIP compatible.	CIVIL/MIL ATC Network - CNS14 / IPv6 Services - CNS15 / Implementation of Voice over IP services (telephony) - CNS 16	83%	Ongoing
				31/12/2023

COM12	**New Pan-European Network Service (NewPENS)** *Timescales:* Initial operational capability: 01/01/2018 Full operational capability (33 ANSPs): 31/12/2020	58%	**Ongoing**
Links: B1-SWIM | Key Feature: Enabling the Aviation Infrastructure			
-			
The implementation of this Objective is covered by some of the activities already included in the co-funded project 2015_174_AF5_A (CEF call 2015)			31/03/2020
ASP (By:12/2024)			

ENAIRE	THE OBJECTIVE IMPLEMENTATION WILL BE DEPLOYED BY BOTH THE SPANISH AND THE PORTUGUESE ANSPs BY 2020. The implementation of this Objective is covered by some of the activities already included in the co-funded project 2015_174_AF5_A (CEF call 2015).	NewPENS Stakeholders contribution for the procurement and deployment of NewPENS - Part A	88%	Ongoing
				31/03/2020
APO (By:12/2024)				
Aena S.A.	The state is NO PLAN, because is a long term objective, and its implementation will take place if it is deemed beneficial.	-	0%	Not yet planned
				-

ENV01	**Continuous Descent Operations (CDO)** *Timescales:* Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023	75%	**Ongoing**

Links: B0-CDO, B1-CDO | Key Feature: Advanced Air Traffic Services				
LEBL - Barcelona Airport				
CDA has been implemented during the night period in Barcelona.				**31/12/2023**
ASP (By:12/2023)				
ENAIRE	CDA has been implemented during the night period in Barcelona. Controllers have been trained. The monitoring and measuring of CDO execution as well as the implementation of CDO procedures enabled by PBN are planned.	-	75%	Ongoing 31/12/2023
APO (By:12/2023)				
Aena S.A.	CDA has been implemented during the night period in Barcelona. The follow-up reports on action plans against noise, include the monitoring of CDA's provided by ANSP. It is planned to publish CDA's measurement in the Aeronautical Authority's website.	-	75%	Ongoing 30/12/2020

ENV01	**Continuous Descent Operations (CDO)** *Timescales:* Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023	75%	**Ongoing**

Links: B0-CDO, B1-CDO | Key Feature: Advanced Air Traffic Services				
LEMD - Madrid Barajas Airport				
CDA has been implemented during the night period in Madrid-Barajas.				**31/12/2023**
ASP (By:12/2023)				
ENAIRE	CDA has been implemented during the night period in Madrid-Barajas. Controllers have been trained. The monitoring and measuring of CDO execution as well as the implementation of CDO procedures enabled by PBN are planned.	-	75%	Ongoing 31/12/2023
APO (By:12/2023)				
Aena S.A.	CDA has been implemented during the night period in Madrid-Barajas. The follow-up reports on action plans against noise, include the monitoring of CDA's provided by ANSP. It is planned to publish CDA's measurement in the Aeronautical Authority's website.	-	75%	Ongoing 30/12/2020

ENV01	**Continuous Descent Operations (CDO)** *Timescales:* Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023		75%	**Ongoing**
Links: B0-CDO, B1-CDO | Key Feature: Advanced Air Traffic Services				
LEPA - Palma de Mallorca Airport				
CDA has been implemented during the night period in Palma.				31/12/2023
ASP (By:12/2023)				
ENAIRE	CDA has been implemented during the night period in Palma. Controllers have been trained. The monitoring and measuring of CDO execution as well as the implementation of CDO procedures enabled by PBN are planned.	-	75%	Ongoing 31/12/2023
APO (By:12/2023)				
Aena S.A.	CDA has been implemented during the night period in Palma de Mallorca. The follow-up reports on action plans against noise, include the monitoring of CDA's provided by ANSP. It is planned to publish CDA's measurement in the Aeronautical Authority's website.	-	75%	Ongoing 30/12/2020

FCM03	**Collaborative Flight Planning** *Timescales:* Initial operational capability: 01/01/2000 Full operational capability: 31/12/2017		100%	**Completed**
Links: B0-NOPS | Key Feature: Optimised ATM Network Services				
-				
AFP messages are automatically provided by Spanish SACTA system. Improvements have been developed in order to fully comply with EUROCONTROL Standard URB/USD/MSG_INTF "Flight Progress Messages Document"				30/11/2018
ASP (By:12/2017)				
ENAIRE	THE OBJECTIVE IMPLEMENTATION HAS BEEN FINISHED BY SPANISH ANSP IN 2018. CURRENT PLANS FOR PORTUGUESE ANSP, FORESEE TO FULLY IMPLEMENT THIS FUNCTIONALITY IN 2020. AFP messages are automatically provided by Spanish SACTA system. Improvements have been developed in order to fully comply with EUROCONTROL Standard URB/USD/MSG_INTF "Flight Progress Messages Document".	SACTA-iTEC	100%	Completed 30/11/2018

FCM04.2	**Short Term ATFCM Measures (STAM) - Phase 2** *Timescales:* Initial operational capability: 01/11/2017 Full operational capability: 31/12/2021		5%	**Ongoing**
Key Feature: Optimised ATM Network Services				
-				
STAM phase 2 requires the upgrade of supporting tools for FMPs in cooperation with NM.				31/12/2021
ASP (By:12/2021)				
ENAIRE	STAM phase 2 requires the upgrade of supporting tools for FMPs in cooperation with NM.	-	5%	Ongoing 31/12/2021

FCM05	**Interactive Rolling NOP** **_Timescales:_** Initial operational capability: 01/09/2013 Full operational capability: 31/12/2021	28%	**Ongoing**

Links: B1-ACDM, B1-NOPS | Key Feature: Optimised ATM Network Services			
-			
Planning will be refined with the collaboration of the Network Manager			**31/12/2021**
ASP (By:12/2021)			
ENAIRE	THE OBJECTIVE IMPLEMENTATION WILL BE DEPLOYED BY BOTH THE SPANISH AND THE PORTUGUESE ANSPs BY 2021. Planning will be refined with the collaboration of the Network Manager.	-	0%	Planned 31/12/2021
APO (By:12/2021)			
Aena S.A.	Planning will be refined with the collaboration of the Network Manager	-	55%	Ongoing 31/12/2021

FCM06	**Traffic Complexity Assessment** **_Timescales:_** Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021	10%	**Ongoing**

Links: B1-NOPS | Key Feature: Optimised ATM Network Services			
-			
Within the SESAR framework, a tool (IMPACT) that supports the management of local traffic load is being developed. IMPACT will receive the information through B2B services.			**31/12/2021**
ASP (By:12/2021)			
ENAIRE	It is planned to be fully implemented by 2021 IMPACT will receive the information through B2B services.	-	10%	Ongoing 31/12/2021

FCM08	**Extended Flight Plan** **_Timescales:_** Initial operational capability: 01/01/2016 Full operational capability: 31/12/2021	0%	**Late**

Links: B1-FICE | Key Feature: Enabling the Aviation Infrastructure			
-			
The system will be upgraded to include Extended Flight Plan by end 2027			**31/12/2027**
ASP (By:12/2021)			
ENAIRE	In line with PCP family 4.2, SACTA system already exchanges coordination messages with NM (AFP, ACH, APL, FSA). This coordination mechanism will be upgraded to include Extended Flight Plan by end 2027	-	0%	Late 31/12/2027
Mil. Authority	Flight Plan system and its update is installed in Military Air Bases open to civil traffic and joint civil-military bases by ENAIRE.	-	0%	Late 31/12/2027

INF07	**Electronic Terrain and Obstacle Data (eTOD)** _Timescales:_ Initial operational capability: 01/11/2014 Full operational capability: 31/05/2018	68%	**Late**

Key Feature: Enabling the Aviation Infrastructure		
-		
Both Civil Air Navigation Service Provider and Airport Operator comply with the ICAO Annex 15 requirements to provide TOD data. The activities assigned to ENAIRE and Aena within this objective have been already accomplished. National stakeholders ensure compliance with the approved national eTOD policy. **In relation to military, eTOD implementation is not a compulsory requirement. However, a specific proposal was submitted during CEF INEA Call 2015, being partially awarded. eTOD capability is already implemented.** **During 2017, a Working Group (WG) was established to deal with the elaboration of a proposal for national eTOD policy. The WG proposal for national eTOD policy was sent to the national stakeholders to get the final comments before the official endorsement. During 2018 the national eTOD policy was approved and a follow up Working Group was established after the adoption of the national eTOD policy to monitoring its implementation and review. During 2019 another Working Group was established in order to develop TOD national rules, the requirements on development and updating of national regulation according to the national eTOD policy, the amendment 40 to ICAO Annex 15 and the EASA Opinion 02/2018 were identified and a project of new regulation affecting organisations other than ATM/ANS or aerodrome operators was drafted.**		31/12/2022

REG (By:05/2018)				
DGAC	During 2017, a Working Group (WG) was established to deal with the elaboration of a proposal for national eTOD policy. The WG proposal for national eTOD policy was sent to the national stakeholders to get the final comments before the official endorsement. During 2018 the national eTOD policy has been approved	-	70%	Late
				31/12/2020
AESA	During 2017, a Working Group (WG) was established to deal with the elaboration of a proposal for national eTOD policy. The WG proposal for national eTOD policy was sent to the national stakeholders to get the final comments before the official endorsement. During 2018 the national eTOD policy has been approved. A follow up Working Group will be established after the adoption of the national eTOD policy to monitoring its implementation and review. During 2019 another Working Group was established in order to develop TOD national rules, the requirements on development and updating of national regulation according to the national eTOD policy. At the end of 2019 a draft version of the eTOD national regulation has been issued to national stakeholders for comments. In line with the work carried out by the groups immersed in the proposal for the elaboration of the eTOD policy, AESA is awaiting the approval of the Royal Decree, which will establish the bases of the supervisory system that will be applicable.	-	0%	Late
				31/12/2022

ASP (By:05/2018)			
ENAIRE		-	Completed

	ENAIRE AIS systems already comply with all international regulations regarding TOD data (ICAO-Annex 15). A National eTOD policy draft has been sent to the national stakeholders for comments. Once the proposed Policy is approved, ENAIRE will ensure its compliance.		100%	03/11/2014
APO (By:05/2018)				
Aena S.A.	Aena S.A is aligned with the information provided by ENAIRE. ENAIRE (Spanish ANSP) is AIS provider, AENA (Airport Operator) will give all the information in form and format ENAIRE indicates us.	-	100%	Completed 03/11/2014

INF08.1	**Information Exchanges using the SWIM Yellow TI Profile** *Timescales:* Initial operational capability: 01/01/2018 Full operational capability: 31/12/2024	**35%**	**Ongoing**

Links: B1-DATM, B1-SWIM | Key Feature: Enabling the Aviation Infrastructure

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Implementation of Information Exchanges using the SWIM Yellow TI Profile is being performed in close coordination between ENAIRE and MIL. Spanish Air Force collaborates in the study "SWIM Common PKI", led by EUROCONTROL. It is being co-financed with INEA funds (Call 2017). The aim of this study is to analyse the requirements necessary to guarantee a secure information exchange among all network users. The implementation will be performed according to this study conclusions.	31/12/2024

ASP (By:12/2024)				
ENAIRE	Implementation of Information Exchanges using the SWIM Yellow TI Profile is being performed in close coordination with MIL. Among other actions, ENAIRE is carrying out activities within the scope of the projects Aeronautical Information (2016_035_AF5) and SWIM Governance (2016_141_AF5).	-	28%	Ongoing 31/12/2024
MIL (By:12/2024)				
Mil. Authority	Implementation of Information Exchanges using the SWIM Yellow TI Profile is being performed in coordination with ENAIRE. Spanish Air Force collaborates in the study "SWIM Common PKI", led by EUROCONTROL. It is being co-financed with INEA funds (Call 2017). The aim of this study is to analyse the requirements necessary to guarantee a secure information exchange among all network users. The implementation will be performed according to this study conclusions.	-	50%	Ongoing 31/12/2024
APO (By:12/2024)				
Aena S.A.	Although there are no specific plans yet, Aena foresees to accomplish the implementation objective	-	%	Not yet planned -

ITY-ACID	**Aircraft Identification** *Timescales:* Entry into force of the Regulation: 13/12/2011 System capability: 02/01/2020		53%	Late
Key Feature: Enabling the Aviation Infrastructure				
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According to the Regulation (EU) No 1206/2011 Spain will have the capability to establish individual aircraft identification using the downlinked aircraft identification feature, for all IFR/GAT flights by end 2024.				**31/12/2024**
ASP (By:01/2020)				
Mil. Authority	For the military, deployment of surveillance Mode-S included in SACTA is developed and implemented by Civil ANSP (ENAIRE) as well as any software related with ATC.	-	53%	Late
				31/12/2024
ENAIRE	THE SPANISH ANSP WILL HAVE ALL RADARS MODE S IN OPERATIONAL USE BY 2024 WHILST THE PORTUGUESE ANSP PLANNING FORESEES TO COMPLETE THE IMPLEMENTATION BY 2021 It is expected (by end 2024) that all the radars will be in operational use. Additionally, the Data Processing system and the declaration of mode S will also be ready. ENAIRE has already implemented eORCAM in all FIRs in Spain, since Sept 2017 (first, GCCC since 25/05/2017 and the remaining FIRs since 27/09/2017).	-	53%	Late
				31/12/2024

ITY-ADQ	**Ensure Quality of Aeronautical Data and Aeronautical Information** *Timescales:* Entry into force of the regulation: 16/02/2010 Article 5(4)(a), Article 5(4)(b) and Article 6 to 13 to be implemented by: 30/06/2013 Article 4, Article5(1) and Article 5(2), Article 5(3) and Article 5(4)(c) to be implemented by: 30/06/2014 All data requirements implemented by: 30/06/2017	**82%**	**Late**

Links: B0-DATM | Key Feature: Enabling the Aviation Infrastructure

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The ADQ implementation is currently being prepared and planned to be fully achieved by end 2023, including the retrofit of all data.	**31/12/2023**

REG (By:06/2017)

AESA	All these activities are being reassessed as part as an on-going supervision activity undertaken by AESA, once the new version of the ADQ implementation plan updated by ENAIRE has been agreed in 2018. As it is explained at ENAIRE's comment ADQ implementation is currently being prepared and planned to be fully achieved by end 2023, including the retrofit of all data.	-	70%	Late 31/12/2023
Mil. Authority	Military Authority has verified that there is an arrangement between civil ANSP and military ANSP for data, called "Agreement of collaboration between Minister of Defence and Minister of Public Works in relation to the publication of integrated information/ aeronautical data, civil and military, in the Spanish Aeronautical Information Service".	SESAR PCP. CECAF RNP Procedures Design	100%	Completed 31/12/2006

ASP (By:06/2017)

Mil. Authority	Although the objective is not binding for military, a Project is being implemented to comply with Regulation (EC) nº 73/2010. CECAF (Military Cartographic and Photographic Centre) is the main technical Air Force Unit in charge of Aeronautical Information. That information produced is always validated by ESP Air Force Staff (Airspace Management Branch). During 2012 this Unit was oversight by NSA for military providers to civil aviation in order to check that data quality and process requirements are according to Regulation (EC) nº 73/2010. A quality management system is implemented, it is the Mil specifications; Spanish Military regulations NME-2964/2008, M-83015 A, NM-C-2948 and NM-C-2923 EMAG are applied. Military information is published in AIP-España through Civil ANSP (ENAIRE). There is an agreement between civil and military ANSPs for AIP. Consistency and timeliness are taken into account continuously At present there is a common database. Digital Exchange format is not compulsory for military. However, a specific proposal to implement AIXM 5.1 format was submitted to INEA for CEF funding (CALL 2), being partially awarded. The project will finish on 31/12/2020.	SESAR PCP. CECAF RNP Procedures Design	100%	Completed 31/05/2012
ENAIRE		-		Late

	ADQ IMPLEMENTATION BY SPANISH AND PORTUGUESE ANSPs IS CURRENTLY BEING PREPARED AND PLANNED TO BE FULLY ACHIEVED BY END 2023. The ADQ implementation is currently being prepared and planned to be fully achieved by end 2023, including the retrofit of all data.		87%	31/12/2023

APO (By:06/2017)

				Late
Aena S.A.	The exchange format of airport modelling data agreed with ENAIRE was fully implemented by 2019. The update of all electronic data to be compliant to all data quality requirements is planned by end 2023	-	83%	31/12/2023

	Initial ATC Air-Ground Data Link Services _Timescales:_ Entry into force: 06/02/2009 ATS unit operational capability: 05/02/2018 Aircraft capability: 05/02/2020			
ITY-AGDL			**100%**	**Completed**

Links: B0-TBO | Key Feature: Enabling the Aviation Infrastructure

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A/G Data Link services have been deployed by ENAIRE in Canarias FIR/UIR (29/01/2018), Barcelona FIR/UIR (01/02/2018) and Madrid FIR/UIR (31/05/2018). During 2018, the NSA has ensured the implementation of the appropriate security policy for data exchange.	**31/12/2018**

REG (By:02/2018)

DGAC	It hasn´t been notified any exemption to the European Commission	-	100%	Completed 31/12/2012
AESA	A/G Data Link services have been deployed by ENAIRE in Canarias FIR/UIR (29/01/2018), Barcelona FIR/UIR (01/02/2018) and Madrid FIR/UIR (31/05/2018). During 2018, the NSA has ensured the implementation of the appropriate security policy for data exchange.	-	100%	Completed 31/12/2018

ASP (By:02/2018)

ENAIRE	SPANISH ANSP HAS FULLY COMPLETED THE OBJECTIVE IMPLEMENTATION IN 2018. MESSAGES PENDING IMPLEMENTATION BY PORTUGUESE ANSP ARE PLANNED BY 2022 A/G Data Link services have been deployed by ENAIRE in Canarias FIR/UIR (29/01/2018), Barcelona FIR/UIR (01/02/2018) and Madrid FIR/UIR (31/05/2018).	-	100%	Completed 31/05/2018

MIL (By:01/2019)

Mil. Authority	New transport-type state aircraft entering into services from January 2014 will have data link. First transport-type State aircraft entering into service is planned to be A400M, with CPDLC capability. Two specific proposals (ES_Airbus A310 ATN VDL2 Compliance and ES_FALCON 900 compliance with Air Ground ATN VDL2 Data Link) were submitted to INEA for CEF funding (CALL 3), being partially awarded.	ES_Airbus A310 ATN VDL2 Compliance / ES_FALCON 900 compliance with Air Ground ATN VDL2 Data Link	100%	Completed 31/12/2013

ITY-AGVCS2	**8,33 kHz Air-Ground Voice Channel Spacing below FL195** _**Timescales:**_ Entry into force: 07/12/2012 New and upgraded radio equipment: 17/11/2013 New or upgraded radios on State aircraft: 01/01/2014 Interim target for freq. conversions: 31/12/2014 All radio equipment: 31/12/2017 All frequencies converted: 31/12/2018 State aircraft equipped, except those notified to EC: 31/12/2018 State aircraft equipped, except those exempted [Art 9(11)]: 31/12/2020	**100%**	**Completed**

Key Feature: Enabling the Aviation Infrastructure

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The AGVCS implementation has been fully achieved on 31/12/2018. **The implementation full achievement has to be understood having regard to the utilization of the exception mechanism set at Spanish national level in 2017 contemplated in Implementing Regulation (EU) Nº 1079/2012. In accordance with this Spanish exception mechanism the next conversion phases are to be completed before 31-Dec-2023 and before 31-Dec-2028.** **In relation to the frequency assignments used for Operational Control (OPC-freqs.) by airlines, airport handling services, etc. more than 98% of those have been either converted or eliminated during the last months of 2019.**	**31/12/2018**

REG (By:12/2018)

Mil. Authority	At present, all Military Air Bases open to civil traffic and joint civil-military use bases comply with Regulation (EU) 1079/2012, being capable with 8,33 kHz Air-Ground Voice Channel Spacing radios. Despite the military air bases are out of the scope of that Regulation, some military air bases are also capable with 8,33 kHz radios (e.g. Torrejón and Getafe air bases).	-	100%	Completed 31/12/2017
DGAC	Article 4 (5) of the VCS Regulation establishes that "Member States shall ensure that by 31 December 2017 at the latest all radios have the 8,33 kHz channel spacing capability with the exception of ground radios operated by air navigation service providers". In this sense, the NSA is already supervising the ground radios deployment plan in order to ensure compliance with this requirement in time, taking into account that ANSP radios may be (and some will be) upgraded during 2018, which does comply with Regulation VCS and, consequently, with SLoA ITY-AGVCS2-REG01 (4). Therefore, AGVCS implementation is planned to be achieved by the dates established in Regulation.	-	100%	Completed 31/12/2017
AESA	Article 4 (5) of the VCS Regulation establishes that Member States shall ensure that by 31 December 2017 at the latest all radios have the 8,33 kHz channel spacing capability with the exception of ground radios operated by air navigation service providers. In this sense, the NSA is already supervising the ground radios deployment plan in order to ensure compliance with this requirement in time, taking into account that ANSP radios may be (and some will be) upgraded during 2018, which does comply with Regulation VCS and, consequently, with SLoA ITY-AGVCS2-REG01 (4). Therefore, AGVCS implementation has been achieved by the dates established in the Regulation.	-	100%	Completed 08/11/2018

ASP (By:12/2018)					
ENAIRE	New systems have been put into service during 2018	-	100%	**Completed**	
				08/11/2018	
Mil. Authority	At present, all Military Air Bases open to civil traffic and joint civil-military use bases comply with Regulation (EU) 1079/2012, being capable with 8,33 kHz Air-Ground Voice Channel Spacing radios. Despite the military air bases are out of the scope of that Regulation, some military air bases are also capable with 8,33 kHz radios (e.g. Torrejón and Getafe air bases).	-	100%	**Completed**	
				31/12/2017	
MIL (By:12/2020)					
Mil. Authority	List of State aircraft that could not be equipped with 8,33 kHz radios requested by REGULATION (EC) No 1265/2007 was communicated to DGAC (for the European Commission) during summer 2013.	-	100%	**Completed**	
				30/06/2013	
APO (By:12/2018)					
Aena S.A.	All radio equipment of Aena can operate at 8,33 kHz. They do operate at 8,33 in LEMD LEBL LEPA LEMG and LEAL. In the rest of the airports, they will operate at 8,33 when ENAIRE converts the frequency (subject to EC moratorium).	-	100%	**Completed**	
				31/12/2018	
Mil. Authority	In the case of military, procedures for handling non-8,33 kHz equipped vehicles through airport areas using 8,33 kHz channel spacing are published in AIP-España. Military training courses will be gradually updated in all the affected units when the system is implemented. It is not planned to include 8,33 kHz radios in the following vehicles: refuelling units, tugs and autonomous equipment. However, their personnel are properly trained to communicate with ATS through terrestrial band frequencies. Other vehicles (such as fire protection and rescue) are foreseen to be updated with 8,33 kHz radios. Training plans are being gradually updated in all the affected units when the system is implemented.	-	%	Not Applicable	
				-	

ITY-FMTP	**Common Flight Message Transfer Protocol (FMTP)** _**Timescales:**_ Entry into force of regulation: 28/06/2007 All EATMN systems put into service after 01/01/09: 01/01/2009 All EATMN systems in operation by 20/04/11: 20/04/2011 Transitional arrangements: 31/12/2012 Transitional arrangements when bilaterally agreed between ANSPs: 31/12/2014	**100%**	**Completed**

Links: B0-FICE, B1-FICE | Key Feature: Enabling the Aviation Infrastructure			
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The objective has been completed in 2015 with the upgrade of communications systems between ATS units and controlling military units.			**31/12/2015**

ASP (By:12/2014)				
ENAIRE	FMTP OBJECTIVE IMPLEMENTATION OVER IPV6 IS CURRENTLY BEING PREPARED AND PLANNED TO FULFILL THE 633/2007 AND 283/2011 REGULATIONS. NAV AND ENAIRE DEPLOYED FMTP OVER IPV4 IN JUNE 2014 AND IMPLEMENTATION OVER IPV6 IS CURRENTLY PLANNED BY PORTUGUESE ANSPs TO BE CONCLUDED BY 2020. SPANISH ANSP HAS FULLY ACHIEVED THE OBJECTIVE. Systems will be compliant on the implementation date established on article 8 of Regulation EC No 633/2007 on flight message transfer protocol.	SACTA-iTEC	100%	Completed 31/12/2014
Mil. Authority	Systems will be compliant on the implementation date established on article 8 of Regulation EC No 633/2007 on flight message transfer protocol.	-	100%	Completed 31/12/2014
MIL (By:12/2014)				
Mil. Authority	Flight message transfer protocol (FMTP) is developed and implemented by Civil ANSP (ENAIRE) as well as any software related with ATC. It is installed in Spanish Military Air Bases open to civil traffic and joint civil-military bases by ENAIRE. Verification of the systems and safety oversight are conducted by AESA (civil NSA) to the certified ANSP (ENAIRE).	-	100%	Completed 31/12/2015

ITY-SPI	**Surveillance Performance and Interoperability** _**Timescales:**_ Entry into force of regulation: 13/12/2011 ATS unit operational capability: 12/12/2013 EHS and ADS-B Out in transport-type State aircraft : 07/06/2020 ELS in transport-type State aircraft : 07/06/2020 Ensure training of MIL personnel: 07/06/2020 Retrofit aircraft capability: 07/06/2020	100%	**Completed**

Links: B0-ASUR | Key Feature: Enabling the Aviation Infrastructure

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During 2018, AESA has monitored the tasks carried out by ENAIRE in relation to the safety assessment. A new version of the ENAIRE safety assessment should be delivered to the NSA. The tasks of updating generic studies were stopped due to the adaptation of the ENAIRE's procedures to Regulation EU 2017/373.The already done safety assessment follows the SAM methodology, which is not considered Acceptable Means of Compliances for EU 2017/373.The quantitative requirements established in the safety assessment are based on classification schemes of Safety Objectives (SOCS) that are no longer applicable with the new regulation. Therefore, ENAIRE does not consider necessary to undertake a task of updating a document that does not comply with current regulation as well as updating requirements that would no longer apply to the new changes.	**31/12/2019**

REG (By:02/2015)

AESA	Although the AESA's line of action appears as completed, the NSA considers that it is necessary to perform some additional oversight tasks so that this objective can be implemented.	-	100%	Completed 20/02/2017

ASP (By:02/2015)

ENAIRE	THE OBJECTIVE IMPLEMENTATION HAS BEEN DEPLOYED BY BOTH ANSPS IN 2015. All surveillance systems in ENAIRE Air Navigation are already ASTERIX compliant.	Surveillance evolution	100%	Completed 30/11/2015

MIL (By:06/2020)

Mil. Authority	Spanish Air Force communicated to the Commission detailed information justifying the need for granting exemptions in some of the military State aircraft. Currently, about the 50% of concerned military State aircraft is equipped accordingly.	-	100%	Completed 31/12/2019

NAV03.1	**RNAV 1 in TMA Operations** *Timescales:* Initial operational capability: 01/01/2001 One SID and STAR per instrument RWY, where established: 25/01/2024 All SIDs and STARs per instrument RWY, where established: 06/06/2030		43%	**Ongoing**
Links: B0-CCO, B0-CDO, B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
TMA RNAV procedures are designed in accordance with P-RNAV standards (JAA TGL-10 Circular Operativa 03/01 of the DGAC) and in accordance with the RCA. RNAV1 manoeuvres have already been implemented (RNAV1 charts published and operational) in the 3 TMAs (Madrid, Barcelona and Palma). Nevertheless, new implementation projects of RNAV1 manoeuvres are planned for the next few years in the 3 TMAs. For the military, RNAV/RNP is regulated by Chief of Air Staff Directive 14/04 and Chief of Air Staff General Instruction 70-10. New implementation projects of RNAV1 manoeuvres are planned for the next years, in Zaragoza TMA. Cartographic and Photographic Centre is responsible of RNP/RNAV procedures design and flight validation (projects 2015_272_AF1 and 2015_271_AF1 co-funded by INEA).				06/06/2030
REG (By:06/2030)				
DGAC	In Spain the competent authority referred to in Article 4 of Commission Implementing Regulation (EU) 2018/1048 of 18 July ("competent authority responsible for the airspace concerned") is CIDEFO. Submission of draft plan to CIDEFO for its verification expected to take place in first half 2020. Draft plan approval by CIDEFO expected to take place during second half 2020. ANSP notification expected to take place not later than 15 days after CIDEFO's approval	-	10%	Ongoing 18/11/2020
ASP (By:06/2030)				
Mil. Authority	New implementation projects of RNAV1 manoeuvres are planned for the next years, in Zaragoza TMA.	ES_FALCON 900 compliance with RNP 1 and RNP APCH / Palma TMA Project - TMA7	8%	Ongoing 06/06/2030
ENAIRE	RNAV1 manoeuvres have already been implemented (RNAV1 charts published and operational) in the 3 TMAs (Madrid, Barcelona and Palma). Nevertheless, new implementation projects of RNAV1 manoeuvres are planned for the next few years in the 3 TMAs.	Lisboa TMA Project - TMA5 / Palma TMA Project - TMA7	73%	Ongoing 06/06/2030

NAV03.2	**RNP 1 in TMA Operations** *Timescales:* Start: 07/08/2018 All SIDs and STARs per instrument RWY, at PCP airports: 25/01/2024 One SID and STAR per instrument RWY, where established: 25/01/2024 All SIDs and STARs per instrument RWY, where established: 06/06/2030	**8%**	**Ongoing**

Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services	
-	
Civil ANSP will implement RNP1 in TMAs, according to the following schedule: Palma TMA in 2021, Barcelona TMA in 2022 and Madrid TMA in 2023. For the military, RNAV/RNP is regulated by Chief of Air Staff Directive 14/04 and Chief of Air Staff General Instruction 70-10. New implementation projects of RNP1 manoeuvres are planned, in Zaragoza TMA. CECAF unit (Spanish Air Force Cartographic and Photographic Centre) is responsible of RNP procedures design and flight validation (projects 2015_272_AF1 and 2015_271_AF1 co-funded by INEA).	06/06/2030

REG (By:06/2030)

DGAC	In Spain the competent authority referred to in Article 4 of Commission Implementing Regulation (EU) 2018/1048 of 18 July ("competent authority responsible for the airspace concerned") is CIDEFO. Submission of draft plan to CIDEFO for its verification expected to take place in first half 2020. Draft plan approval by CIDEFO expected to take place during second half 2020. ANSP notification expected to take place not later than 15 days after CIDEFO's approval	-	10%	Ongoing 18/11/2020

ASP (By:06/2030)

ENAIRE	RNP 1 in TMA Operations will be deployed according to the following schedule: Palma TMA in 2021 Barcelona TMA in 2022 Madrid TMA in 2023	Barcelona TMA Project - TMA3 / Madrid TMA Project - TMA2	8%	Ongoing 06/06/2030
Mil. Authority	New implementation projects of RNP1 manoeuvres are planned, in Zaragoza TMA.	Barcelona TMA Project - TMA3 / ES_FALCON 900 compliance with RNP 1 and RNP APCH / Madrid TMA Project - TMA2	8%	Ongoing 06/06/2030

NAV10	**RNP Approach Procedures to instrument RWY** **_Timescales:_** Initial operational capability: 01/06/2011 Instrument RWY ends without precision approach in EU SES States, at Non-PCP airports: 03/12/2020 Instrument RWY ends served by precision approach (including PCP airports): 25/01/2024 Instrument RWY ends without precision approach in EU SES States, at PCP airports: 25/01/2024	**41%**	**Ongoing**

Links: B0-APTA | Key Feature: Advanced Air Traffic Services			
-			
PBN National Implementation Plan for APV ends in 31/12/2023 (including runways with precision approach). New PBN regulation for APV implementation will end in 2024 (all instrument runways). First safety assessment to implement an APV approach procedure with 3 minima lines (LNAV, LNAV/VNAV and LPV) in Santander Airport was approved in 2013 and for Almeria airport in 2015. RNP APCH (APV type) in Santander is already in service (Oct/2013) for both runway ends. For Almeria airport both RNAV-1 SID and STAR and RNP APCH have been put in operational use in 2016. For the military, RNAV/RNP is regulated by Chief of Air Staff Directive 14/04 and Chief of Air Staff General Instruction 70-10. Spanish Air Force has a plan to develop and implement RNP Approach Procedures in all the air bases (military and also the ones open to civil traffic and joint use). CECAF unit (Spanish Air Force Cartographic and Photographic Centre) is responsible of RNP procedures design and flight validation (projects 2015_272_AF1 and 2015_271_AF1 co-funded by INEA).			25/01/2024

REG (By:01/2024)					
AESA	AMCs 20-26 and 20-27 are considered acceptable means of compliance - AMCs 20-28 is considered an acceptable means of compliance as of September 2012 when it was adopted by EASA (AMC 20-28 Effective: 24/09/2012, Annex II to ED Decision 2012/014/R of 17/09/2012)	-	100%	Completed 30/06/2012
DGAC	In Spain the competent authority referred to in Article 4 of Commission Implementing Regulation (EU) 2018/1048 of 18 July ("competent authority responsible for the airspace concerned") is CIDEFO. Submission of draft plan to CIDEFO for its verification expected to take place in first half 2020. Draft plan approval by CIDEFO expected to take place during second half 2020. ANSP notification expected to take place not later than 15 days after CIDEFO's approval	-	10%	Ongoing 18/11/2020

ASP (By:01/2024)					
ENAIRE	PBN National Implementation Plan for APV ends in 31/12/2023 (including runways with precision approach). New PBN regulation for APV implementation will end in 2024 (all instrument runways).	RNP APCH implementation	39%	Ongoing 31/12/2023
Mil. Authority	Spanish Air Force has a plan to develop and implement RNP Approach Procedures in all the air bases (military and also the ones open to civil traffic and joint use).	SESAR PCP. CECAF RNP Procedures Implementation	0%	Planned 25/01/2024

NAV12	**ATS IFR Routes for Rotorcraft Operations** _**Timescales:**_ Rotorcraft RNP0.3, RNP1 or RNAV1 ATS routes above FL150, where established.: 03/12/2020 One rotorcraft RNP0.3, RNP01 or RNAV1 SID and STAR per instrument RWY, where established.: 25/01/2024 Rotorcraft RNP0.3, RNP1 or RNAV1 ATS routes below FL150, where established.: 25/01/2024 All rotorcraft RNP0.3, RNP01 or RNAV1 SIDs and STARs per instrument RWY, where established.: 06/06/2030	**6%**	**Ongoing**

Links: B1-APTA | Key Feature: Advanced Air Traffic Services

-

According to the Regulation (EU) 2018/1048 of 18 July 2018, the Spanish transition plan for PBN includes the specifications and procedures to be complied with in case of IFR routes for rotorcraft operations. The tasks needed to implement these specifications will be initiated when there were requests to provide this service. Currently, in Spain there is no IFR routes published for Rotorcraft because there is no demand for rotorcraft at the moment.	**06/06/2030**

REG (By:06/2030)

				Ongoing
DGAC	In Spain the competent authority referred to in Article 4 of Commission Implementing Regulation (EU) 2018/1048 of 18 July ("competent authority responsible for the airspace concerned") is CIDEFO. Submission of draft plan to CIDEFO for its verification expected to take place in first half 2020. Draft plan approval by CIDEFO expected to take place during second half 2020. ANSP notification expected to take place not later than 15 days after CIDEFO's approval	-	10%	18/11/2020

ASP (By:06/2030)

				Ongoing
ENAIRE	According to the Regulation (EU) 2018/1048 of 18 July 2018, the Spanish transition plan for PBN includes the specifications and procedures to be complied with in case of IFR routes for rotorcraft operations. The tasks needed to implement these specifications will be initiated when there are requests to provide this service.	-	5%	06/06/2030

SAF11	**Improve Runway Safety by Preventing Runway Excursions** _**Timescales:**_ Initial operational capability: 01/09/2013 Full operational capability: 31/01/2018	100%	**Completed**

Key Feature: High Performing Airport Operations

	-		

Recommendations of the European Action Plan for the Prevention of Runway Excursions, have been implemented by ASP, MIL and APO. The Part 3.6 of the Action Plan has been implemented by Aesa.	30/11/2018

REG (By:01/2018)

AESA	The applicable measures of the Action plan, Part 3.6 have been implemented.	-	100%	Completed 30/11/2018

ASP (By:12/2014)

ENAIRE	The implementation and monitoring of the Action Plan activities for prevention of runway excursions are described in the SGOP-13-INF-073-2.0 document.	-	100%	Completed 31/12/2014
Mil. Authority	For the military, most recommendations of Runway Safety Action Plan have been adapted to the features of the military air bases open to civilian traffic. The plan is monitored through NSA for military services provided to civil aviation. EUROCONTROL guidance material is taken into account in the development of internal methods which have its own characteristics. The final objective is to complete most of the EAPPRE recommendations in the Air Base Flight Safety Plans and Accidents Prevention Plan according to internal Chief of ESP Air Staff regulation.	-	100%	Completed 31/12/2014
Aena S.A.	-	-	100%	Completed 30/09/2013

APO (By:12/2014)

Aena S.A.	-	-	100%	Completed 31/01/2014
Mil. Authority	For the military, most recommendations of Runway Safety Action Plan have been adapted to the features of the military air bases open to civilian traffic. The plan is monitored through NSA for military services provided to civil aviation. EUROCONTROL guidance material is taken into account in the development of internal methods which have its own characteristics. The final objective is to complete most of the EAPPRE recommendations in the Air Base Flight Safety Plans and Accidents Prevention Plan according to internal Chief of ESP Air Staff regulation.	-	100%	Completed 31/12/2014

Additional Objectives for ICAO ASBU Monitoring

AOM21.1	**Direct Routing** *Timescales:* Initial Operational Capability: 01/01/2015 Full Operational Capability: 31/12/2017	100%	**Completed**

Links: B0-FRTO, B1-FRTO | Key Feature: Advanced Air Traffic Services

-		
A first Direct Routing deployment phase has been successfully put in place by end of December 2017. With FRASAI improvements and the deployment of a relevant set of Direct Routes (to be used mainly at night time periods), this first stage is considered concluded. Nevertheless, even though within the PCP review process, the FRA deployment is about to be optional, ENAIRE plans to perform a second and more complete deployment phase by 2021.		**31/12/2017**

ASP (By:12/2017)

ENAIRE	A first Direct Routing deployment phase has been successfully put in place by end of December 2017. With FRASAI improvements and the deployment of a relevant set of Direct Routes (to be used mainly at night time periods), this first stage is considered concluded. Nevertheless, even though within the PCP review process, the FRA deployment is about to be optional, ENAIRE plans to perform a second and more complete deployment phase by 2021.	-	100%	Completed 31/12/2017

ATC02.2	**Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2 for en-route operations** *Timescales:* Initial operational capability: 01/01/2008 Full operational capability: 31/01/2013	100%	**Completed**

Links: B0-SNET | Key Feature: Advanced Air Traffic Services

-		
This objective concerns only En-route operations in Spanish ACCs. **Short Term Conflict Alert is operational in Spanish ACC's for en-route operations since 30/07/2016.** **There is a new objective (ATC 2.9) related to TMA.**		**30/07/2016**

ASP (By:01/2013)

Mil. Authority	For the military, STCA is developed and implemented by Civil ANSP (ENAIRE) as well as any software related with ATC. It is installed in Military Air Bases open to civil traffic and joint civil-military bases by ENAIRE.	-	100%	Completed 30/07/2016
ENAIRE	This objective concerns only En-route operations in Spanish ACCs. There is a new objective (ATC 2.9) related to TMA.	-	100%	Completed 30/07/2016

ATC16	**Implement ACAS II compliant with TCAS II change 7.1** *Timescales:* Initial operational capability: 01/03/2012 Full operational capability: 31/12/2015	100%	**Completed**

Links: B0-ACAS | Key Feature: Advanced Air Traffic Services

-

Currently most service transport-type military aircraft are equipped with ACAS II.	01/12/2015

REG (By:12/2015)

AESA	-	-	100%	Completed 01/12/2015

ASP (By:03/2012)

ENAIRE	-	-	100%	Completed 31/12/2012

MIL (By:12/2015)

Mil. Authority	Currently most service transport-type aircraft are equipped with ACAS II (not version 7.1), e.g. CASA 295, C-130, B-707, A-310 and Falcon 900. Despite Regulation No. 1332/2011 is not applicable for State aircraft, TCAS II v7.1 implementation is foreseen in several fleets, (A-310 and Falcon 900). ACAS II training is not included in the Unit Instruction Plans. However tactical aircraft pilots are trained to be aware of possible false RA generated on-board the surrounding equipped civil aircraft. Military crews are trained to flight with due regard to safety of civil aircraft, according to State's compromise in Chicago Convention.	-	100%	Completed 31/12/2012

FCM01	**Implement enhanced tactical flow management services** *Timescales:* Initial operational capability: 01/08/2001 Full operational capability: 31/12/2006	100%	**Completed**

Links: B0-NOPS | Key Feature: Optimised ATM Network Services

-

This objective has been completed during 2004 with the supply ETFMS in ASTERIX category 062 format.	31/12/2004

ASP (By:07/2014)

Mil. Authority	This objective has been completed during 2004 with the supply ETFMS in ASTERIX category 062 format.	-	100%	Completed 31/12/2004
ENAIRE	This objective has been completed during 2004 with the supply ETFMS in ASTERIX category 062 format.	-	100%	Completed 31/12/2004

ITY-COTR	**Implementation of ground-ground automated co-ordination processes** ***Timescales:*** Entry into force of Regulation: 27/07/2006 For putting into service of EATMN systems in respect of notification and initial coordination processes: 27/07/2006 For putting into service of EATMN systems in respect of Revision of Coordination, Abrogation of Coordination, Basic Flight Data and Change to Basic Flight Data: 01/01/2009 To all EATMN systems in operation by 12/2012: 31/12/2012	**100%**	**Completed**

Links: B0-FICE | Key Feature: Advanced Air Traffic Services

-

Implementation has been completed in 2016.	**30/06/2016**

ASP (By:12/2012)

ENAIRE	Implementation has been completed in 2016.	-	100%	Completed 30/06/2016

MIL (By:12/2012)

Mil. Authority	The process for the transmission of basic flight data between ATC units (civil and military) is implemented since 2012. As a minimum, aircraft identification, SSR mode and code are always provided.	-	100%	Completed 31/01/2012

Local Objectives

Note: Local Objectives are addressing solutions that are considered beneficial for specific operating environments, therefore for which a clear widespread commitment has not been expressed yet. They are characterised with no deadline and voluntary applicability area.

AOP14	**Remote Tower Services** *Applicability and timescale: Local*	**%**	**Ongoing**
Links: B1-RATS | Key Feature: High Performing Airport Operations			
LEMH - MENORCA			
AENA: Preliminary analysis on the deployment of remote tower operations in Aena's airport network has been completed. Attending to potential benefits at technical and operational levels, it has been decided to deploy remote tower ATS in Vigo and Menorca airports. Since 2019 coordination meetings have been established on a periodical basis among Aena, FerroNATS (ATS provider Vigo) and Enaire (ATS provider Menorca and CNS provider at both). Actions are being taken for the adaptations of the new units. Final implementation date has not been set yet.			-

AOP14	**Remote Tower Services** *Applicability and timescale: Local*	**%**	**Ongoing**
Links: B1-RATS | Key Feature: High Performing Airport Operations			
LEVX - VIGO			
AENA, FerroNATS: Preliminary analysis on the deployment of remote tower operations in Aena's airport network has been completed. Attending to potential benefits at technical and operational levels, it has been decided to deploy remote tower ATS in Vigo and Menorca airports. Since 2019 coordination meetings have been established on a periodical basis among Aena, FerroNATS (ATS provider Vigo) and Enaire (ATS provider Menorca and CNS provider at both). Actions are being taken for the adaptations of the new units. Final implementation date has not been set yet.			-

AOP15	**Enhanced traffic situational awareness and airport safety nets for the vehicle drivers** *Applicability and timescale: Local*	**%**	**Ongoing**
Links: B2-SURF | Key Feature: High Performing Airport Operations			
LEMD - Madrid Barajas Airport			
Madrid Barajas airport operates with VAP Lite system, which provides the vehicle drivers with a plane view of the manoeuvring area of the airport, together with their location and the location of the rest of airplanes and vehicles. This system is currently available at firemen and follow-me vehicles. It is expected to continue installing this equipment in other vehicles that may have access to manoeuvring areas. Full implementation date has not been set yet.			-

AOP16	**Guidance assistance through airfield ground lighting** *Applicability and timescale: Local*	**%**	**Ongoing**
Links: B1-RSEQ, B2-SURF | Key Feature: High Performing Airport Operations			
LEMD - Madrid Barajas Airport			
Preliminary tests are being addressed. Further evolution under study. Implementation date has not been set yet.			-

AOP17	Provision/integration of departure planning information to NMOC *Applicability and timescale: Local*	100%	Completed

Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations

GCFV - FUERTEVENTURA	
SAERCO: We have implemented this functionality in the GCRR and GCFV airports and consequently, it has been included in their Operations Manuals as "CEOPS-ATC A-TWR (Advanced Tower) coordination procedure". This procedure describes the coordination process carried out in TWR with CEOPS, which manages and warns the NMOC in case an outbound flight has any incidence (such as returning to the parking lot, what it is a possible breach of the TTOT + 25 minutes, or CTOT + 10 minutes). In these cases, CEOPS, taking into account the received information, sends a C-DPI suspending the Flight Plan and requesting the operator a DLA, CHG or a new flight plan. The flight will be re-operated, when appropriate, after an automatic A-DPI delivery.	26/08/2019

AOP17	Provision/integration of departure planning information to NMOC *Applicability and timescale: Local*	100%	Completed

Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations

GCLP - Gran Canaria Airport	
AENA: Gran Canaria Airport was validated as Advanced Tower in 2017. Since then, the airport sends information of all departures to the NMOC using the predefined DPI message system.	31/12/2017

AOP17	Provision/integration of departure planning information to NMOC *Applicability and timescale: Local*	100%	Completed

Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations

GCRR - LANZAROTE	
SAERCO: We have implemented this functionality in the GCRR and GCFV airports and consequently, it has been included in their Operations Manuals as "CEOPS-ATC A-TWR (Advanced Tower) coordination procedure". This procedure describes the coordination process carried out in TWR with CEOPS, which manages and warns the NMOC in case an outbound flight has any incidence (such as returning to the parking lot, what it is a possible breach of the TTOT + 25 minutes, or CTOT + 10 minutes). In these cases, CEOPS, taking into account the received information, sends a C-DPI suspending the Flight Plan and requesting the operator a DLA, CHG or a new flight plan. The flight will be re-operated, when appropriate, after an automatic A-DPI delivery.	27/05/2019

AOP17	Provision/integration of departure planning information to NMOC *Applicability and timescale: Local*	100%	Completed

Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations

GCTS - Tenerife South-Reina Sofia Airport	
AENA: Tenerife South Airport was validated as Advanced Tower in 2017. Since then, the airport sends information of all departures to the NMOC using the predefined DPI message system.	31/12/2017

AOP17	Provision/integration of departure planning information to NMOC *Applicability and timescale: Local*	100%	Completed

Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations

GCXO - Tenerife North Airport	
AENA: Tenerife North Airport was validated as Advanced Tower in 2018. Since then, the airport sends information of all departures to the NMOC using the predefined DPI message system.	31/12/2018

AOP17	Provision/integration of departure planning information to NMOC *Applicability and timescale: Local*	100%	Completed

Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations

LEAL - Alicante - Elche Airport	
FerroNATS: On 29 August 2016, Alicante Airport, where FerroNATS is ATC provider, was validated as an Advanced Tower. From that moment on the airport sends information of all departures to the NMOC using the predefined DPI message system	29/08/2016

AOP17	**Provision/integration of departure planning information to NMOC** *Applicability and timescale: Local*	100%	**Completed**
Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations				
LEIB - IBIZA			
FerroNATS: On 9 December 2017, Ibiza Airport, where FerroNATS is ATC provider, was validated as an Advanced Tower. From that moment on the airport sends information of all departures to the NMOC using the predefined DPI message system			09/12/2017

AOP17	**Provision/integration of departure planning information to NMOC** *Applicability and timescale: Local*	100%	**Completed**
Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations				
LEMG - Malaga Airport			
AENA: Malaga Airport was validated as Advanced Tower in 2017. Since then, the airport sends information of all departures to the NMOC using the predefined DPI message system.			31/12/2017

AOP17	**Provision/integration of departure planning information to NMOC** *Applicability and timescale: Local*	100%	**Completed**
Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations				
LEMH - MENORCA			
AENA: Menorca Airport was validated as Advanced Tower in 2018. Since then, the airport sends information of all departures to the NMOC using the predefined DPI message system.			31/12/2018

AOP17	**Provision/integration of departure planning information to NMOC** *Applicability and timescale: Local*	100%	**Completed**
Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations				
LEVC - Valencia Airport (Manises)			
FerroNATS: In December 2019, Valencia Airport, where FerroNATS is ATC provider, was validated as an Advanced Tower. From that moment on the airport sends information of all departures to the NMOC using the predefined DPI message system			31/12/2019

AOP18	**Runway Status Lights (RWSL)** *Applicability and timescale: Local*	%	**Not yet planned**
Links: B2-SURF | Key Feature: High Performing Airport Operations				
LEMD - Madrid Barajas Airport			
Further evolution under study. Implementation date has not been set yet.			-

ATC18	**Multi-Sector Planning En-route - 1P2T** *Applicability and timescale: Local*	%	**Not Applicable**
Key Feature: Advanced Air Traffic Services				
-			
ENAIRE: Multi-Sector Planning En-route (1P2T) will not be implemented in Spanish ACCs in the coming years. However, it is possible that this functionality could be implemented beyond 2022, in the SACTA- iTEC 4.1 version.			-

ATC19	**Enhanced AMAN-DMAN integration** *Applicability and timescale: Local*	%	**Not Applicable**
Links: B2-RSEQ | Key Feature: Advanced Air Traffic Services				
-			
ENAIRE: This functionality does not have the required maturity for implementation, as stated in "EC Letter on scope of PCP review", dated on 14.10.2019, where AMAN/DMAN integration is classified as non-compliant with Regulation (EU) Nº 409/2013 Article 4.3 (a).			-

ATC20	**Enhanced STCA with down-linked parameters via Mode S EHS** *Applicability and timescale: Local*	**%**	**Not yet planned**
Links: B1-SNET | Key Feature: Advanced Air Traffic Services		
-		
ENAIRE: Related work has been done in the context of the SESAR PJ11 project.			-

ENV02	**Airport Collaborative Environmental Management** *Applicability and timescale: Local*	**100%**	**Completed**
Key Feature: High Performing Airport Operations		
LEBL - Barcelona Airport		
AENA: Implementation of this objective has been enhanced as a result of the CEM specification published in Sept/2014. New working arrangements have been established among the involved Stakeholders.			28/05/2018

ENV02	**Airport Collaborative Environmental Management** *Applicability and timescale: Local*	**100%**	**Completed**
Key Feature: High Performing Airport Operations		
LEMD - Madrid Barajas Airport		
AENA: Implementation of this objective has been enhanced as a result of the CEM specification published in Sept/2014. New working arrangements have been established among the involved Stakeholders.			28/05/2018

ENV02	**Airport Collaborative Environmental Management** *Applicability and timescale: Local*	**%**	**Not yet planned**
Key Feature: High Performing Airport Operations		
LEPA - Palma de Mallorca Airport		
AENA: Nowadays Aena has not planned a CEM working arrangement in the airport of Palma de Mallorca. On behalf of the APO, the environmental issues having an impact on local communities are managed and supervised by the corresponding commissions, participated by representatives of the Ministry of Public Works, the Ministry of Environment, regional government, city councils and Aena. In this regard, there are a large list of activities included in AOP01 that are implemented outside a formal CEM arrangement.			-

ENV03	**Continuous Climb Operations (CCO)** *Applicability and timescale: Local*	**%**	**Not Applicable**
Links: B0-CCO | Key Feature: Advanced Air Traffic Services		
LEMD - Madrid Barajas Airport		
ENAIRE: CCO is Not Applicable in any Spanish Airports. While Continuous Climb Operations do offer benefits to operators and the environment, as smooth climb profiles allow for less fuel consumption and a reduction in emissions, such benefits have to be measured against the costs of designing and implementing them. Operators are of course interested in CCO, but we find that they are far more concerned about horizontal efficiency and delay reduction, especially in peak summer season where bottlenecks in heavily seasonal areas might disrupt rotations, something that may be very costly considering how tight their overall schedule is. ENAIRE is adapting its airspace and procedure design checklists to include tasks related with vertical efficiency, in accordance to the latest amendment to ERNIP. Designs for Alicante and Madrid Barajas are giving consideration to CCO/CDO criteria. In addition, there is participation by ENAIRE in the CCO/CDO Task Force, and the new procedures for Madrid Barajas are being shared with the task force for analysis.			-

6. Annexes

A. Specialists involved in the ATM implementation reporting for Spain

LSSIP Co-ordination

LSSIP Focal Points	Organisation	Name
LSSIP National Focal Point	ENAIRE	Estíbaliz SALAZAR
LSSIP Focal Point for NSA/CAA	DGAC AESA	Luis CASTILLO Claudia PÉREZ
LSSIP Focal Point for ANSP	ENAIRE	Estíbaliz SALAZAR
LSSIP Focal Point for ANSP	SAERCO	Francisco MARTÍNEZ
LSSIP Focal Point for ANSP	FerroNATS	Adriana SALMÓN
LSSIP Focal Point for Airport	AENA SME S.A.	Francisco SALMERÓN Cristina MONTERO Andrés TASCÓN
LSSIP Focal Point for Military	ESP Air Force	Lt.Col. José Javier CHUECA IBÁÑEZ

Other Focal Points	Organisation	Name
Focal Point for U-space	Directorate General of Civil Aviation	Andrés LÓPEZ MORALES
Focal Point for NETSYS	ENAIRE	Francisco MARTÍNEZ RICO

B. National stakeholders organisation charts

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                    ┌─────────────────────┐
                    │      General        │
                    │   Directorate for   │
                    │    Civil Aviation   │
                    └──────────┬──────────┘
                               │        ┌─────────────────────┐
                               │        │ General Secretariat │
                               ├────────┤     and Legal       │
                               │        │    Department       │
                               │        └─────────────────────┘
              ┌────────────────┴────────────────┐
     ┌────────────────────┐        ┌────────────────────┐
     │  Subdirectorate of │        │  Subdirectorate of │
     │  Air Transport     │        │  Air Navigation    │
     │   Operation        │        │   and Airports     │
     └────────────────────┘        └──────────┬─────────┘
                          ┌──────────────┬──────────────┐
                 ┌──────────────┐ ┌──────────────┐ ┌──────────────┐
                 │   Airport    │ │Air Navigation│ │              │
                 │   Strategy   │ │   Strategy   │ │   Airspace   │
                 └──────────────┘ └──────────────┘ └──────────────┘
```
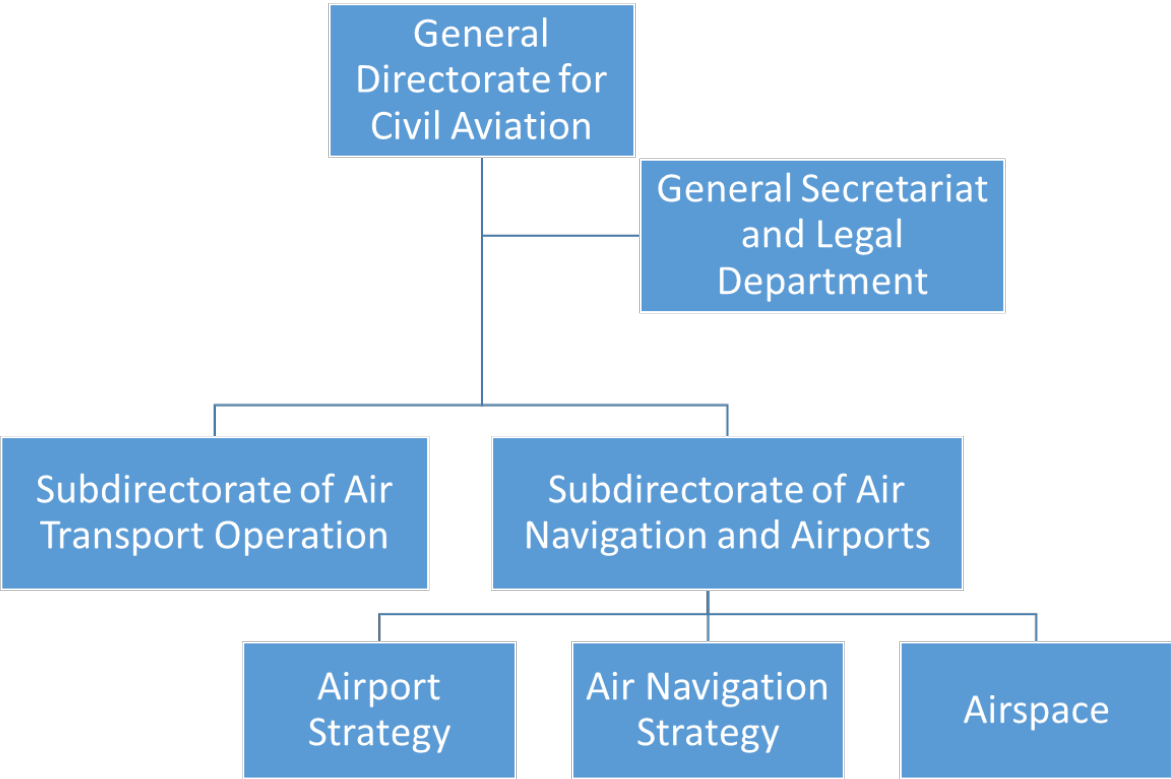
Spanish Direction General of Civil Aviation Schematic Structure

AESA Agencia Estatal de Seguridad Aérea
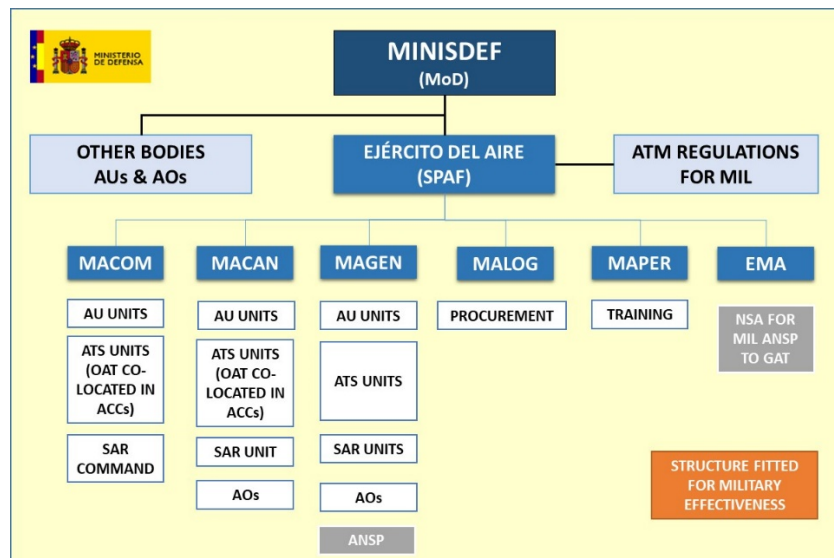
Spanish Air Force involved in the provision of air navigation services to the civil aviation

AENA SME S.A Schematic Organisation
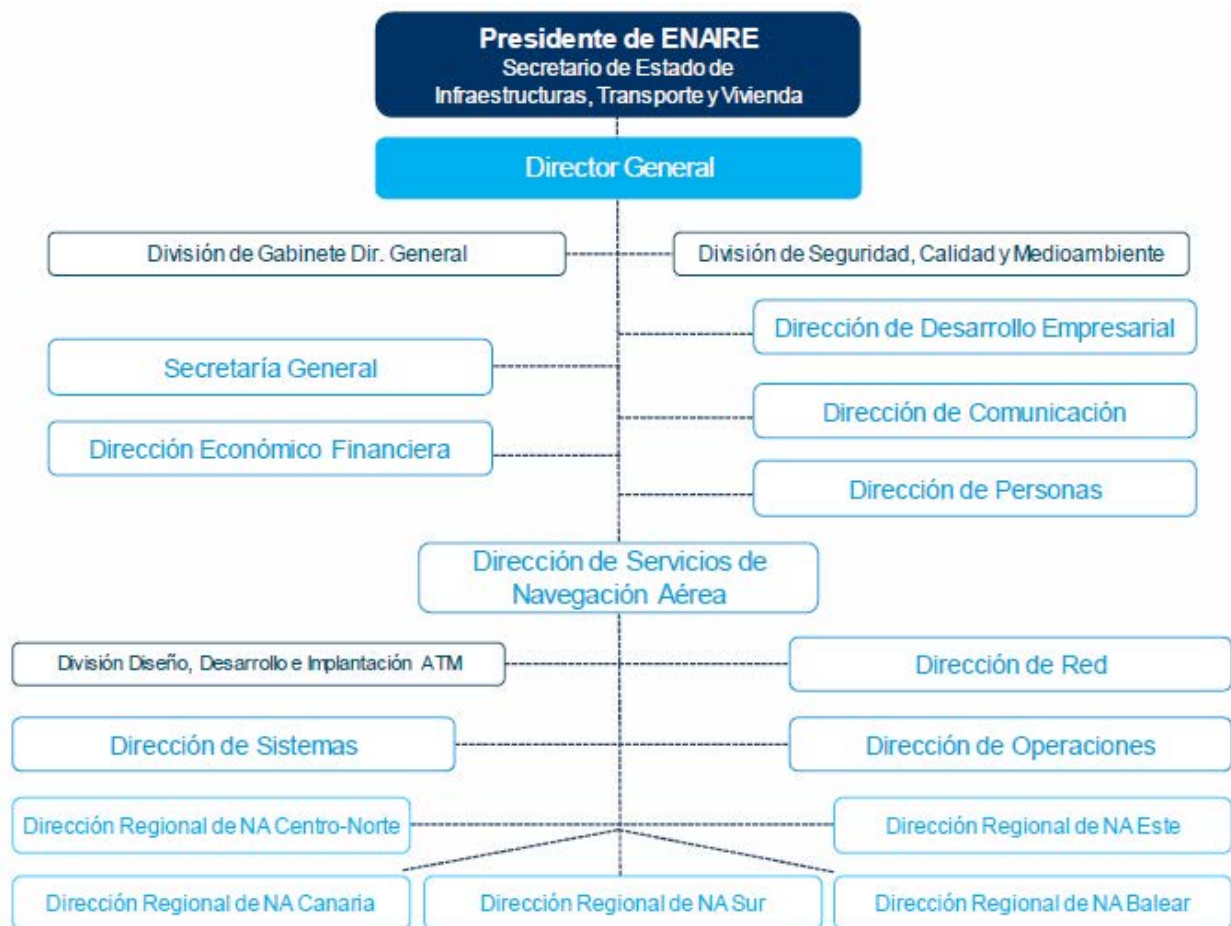
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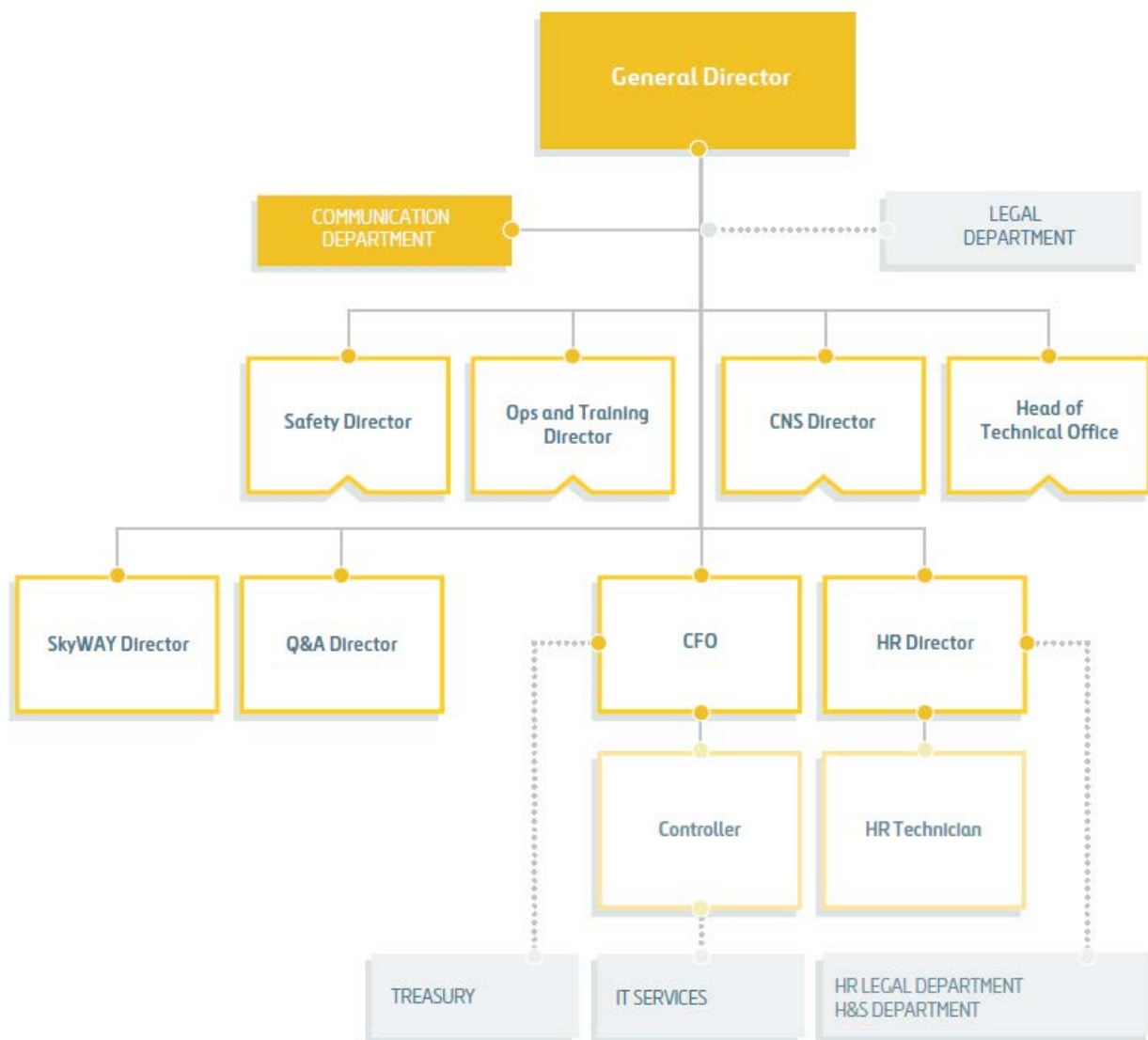
FerroNATS Schematic Organisation
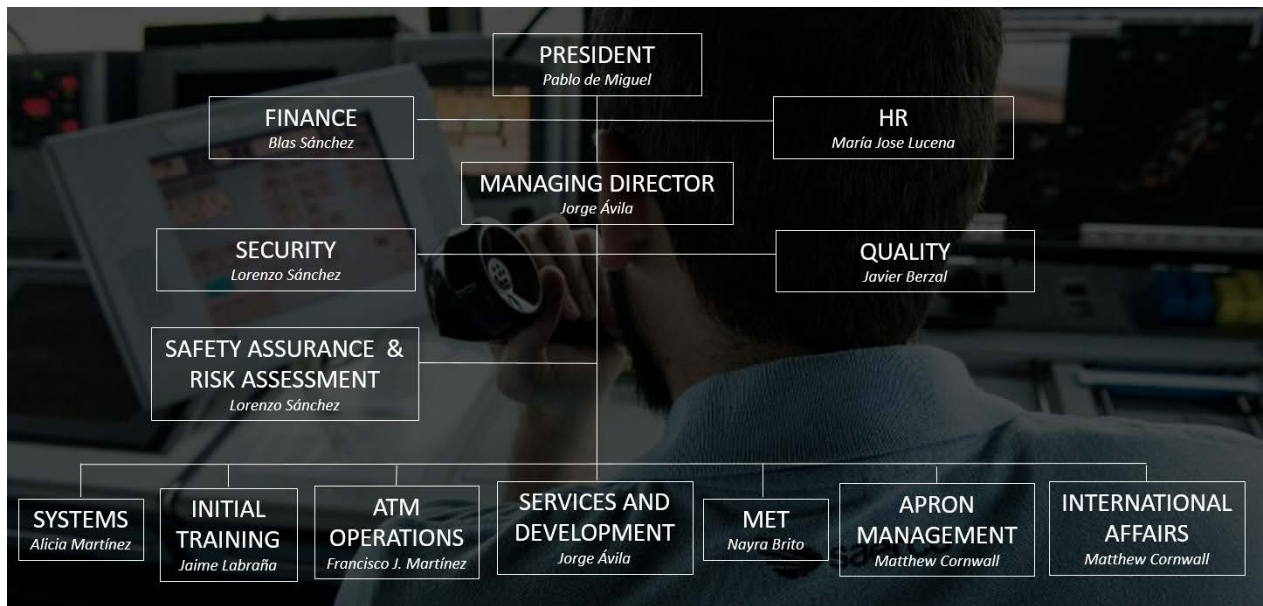
SAERCO Schematic Organisation

C. Implementation Objectives' links with SESAR KF, ASBU blocks and more

The table below (extracted from the MPL3 Progress Plan 2019) shows for each implementation objective, the links with the SESAR Key Features, Major ATM Changes, SESAR 1 Solutions, Deployment Program families, ICAO ASBU, EASA EPAS and AAS TP milestones.

Level 3 Implementation Objectives	SESAR Key Feature	Major ATM change	SESAR Solution	DP family	ICAO ASBU B0, B1, B2	EPAS	AAS TP
AOM13.1 - Harmonise OAT and GAT handling		FRA & A-FUA	-	-	-	-	-
AOM19.1 - ASM tools to support A-FUA		FRA & A-FUA	#31	3.1.1	B1-FRTO B1-NOPS	-	AM-1.8
AOM19.2 - ASM management of real-time airspace data		FRA & A-FUA	#31	3.1.2	B1-FRTO B1-NOPS	-	AM-1.8
AOM19.3 - Full rolling ASM/ATFCM process and ASM information sharing		FRA & A-FUA	#31	3.1.3	B1-FRTO B1-NOPS B2-NOPS	-	AM-1.8
AOM19.4 – Management of Pre-defined Airspace Configurations		FRA & A-FUA	#31	3.1.4	B1-FRTO B1-NOPS	-	-
FCM03 - Collaborative flight planning		ATFCM	-	4.2.3	B0-NOPS	-	AM-1.14
*FCM04.1 – STAM phase 1		ATFCM	-	4.1.1	-	-	-
FCM04.2 - STAM phase 2		ATFCM	#17	4.1.2	-	-	AM-1.11
FCM05 - Interactive rolling NOP		NOP	#20, #21	4.2.2 4.2.4	B1-ACDM B1-NOPS	-	AM-1.12
FCM06 - Traffic Complexity Assessment		ATFCM	#19	4.4.2	B1-NOPS	-	AM-1.13
FCM07 - Calculated Take-off Time (CTOT) to Target Times for ATFCM Purposes		ATFCM	#18	4.3.1 4.3.2	B1-NOPS	-	AM-1.9
FCM09 - Enhanced ATFM Slot swapping		ATFCM	#56	-	B1-NOPS	-	-

Level 3 Implementation Objectives	SESAR Key Feature	Major ATM change	SESAR Solution	DP family	ICAO ASBU B0, B1, B2	EPAS	AAS TP
*AOM21.1 - Direct Routing	✈	Free Route	#32	3.2.1 3.2.3	B0-FRTO B1-FRTO	-	-
AOM21.2 - Free Route Airspace	✈	Free route	#33, #66	3.2.1 3.2.4	B1-FRTO	-	AM-1.6 AM-1.10 AM-5.1
ATC02.8 - Ground based safety nets	✈	ATM Systems	-	3.2.1	B0-SNET B1-SNET	-	-
ATC02.9 – Enhanced STCA for TMAs	✈	ATM Systems	#60	-	B0-SNET B1-SNET	MST.030	-
ATC07.1 - Arrival management tools	✈	Enhanced Arrival Seq	-	1.1.1	B0-RSEQ	-	-
ATC12.1 - MONA, TCT and MTCD	✈	ATM Systems	#27, #104	3.2.1	B1-FRTO	-	AM-1.15 AM-5.1
ATC15.1 – Initial extension of AMAN to En-route	✈	Enhanced Arrival Seq	-	1.1.2	B1-RSEQ	-	-
ATC15.2 - Extension of AMAN to En-route	✈	Enhanced Arrival Seq	#05	1.1.2	B1-RSEQ	-	AM-1.3
ATC17 - Electronic Dialog supporting COTR	✈	Free Route	-	3.2.1	-	-	AM-1.3
ATC18 – Multi Sector Planning En-route – 1P2T	✈	Free Route	#63	-	-	-	AM-4.3 AM-5.1
ATC19 - Enhanced AMAN-DMAN integration	✈	Enhanced Arrival Seq	#54	-	B2-RSEQ	-	-
ATC20- Enhanced STCA with down-linked parameters via Mode S EHS	✈	ATM Systems	#69	-	B1-SNET	-	-
ENV01 – Continuous Descent Operations	✈	PBN	-	-	B0-CDO B1-CDO	-	-
ENV03 – Continuous Climb Operations	✈	PBN	-	-	B0-CCO	-	-
NAV03.1 – RNAV1 in TMA Operations	✈	PBN	#62	-	B0-CDO B0-CCO B1-RSEQ	RMT.0639 RMT.0445	-

Level 3 Implementation Objectives	SESAR Key Feature	Major ATM change	SESAR Solution	DP family	ICAO ASBU B0, B1, B2	EPAS	AAS TP
NAV03.2 – RNP1 in TMA Operations		PBN	#09, #51	1.2.3 1.2.4	B1-RSEQ	RMT.0639 RMT.0445	-
NAV10 - RNP Approach Procedures to instrument RWY		PBN	#103	1.2.1 1.2.2	B0-APTA	RMT.0639 RMT.0445 RMT.0643	-
NAV12 – ATS IFR Routes for Rotorcraft Operations		PBN	#113	-	B1-APTA	MST.031	-
AOP04.1 - A-SMGCS Surveillance (former Level 1)		Surface mgt	#70	2.2.1	B0-SURF	-	-
AOP04.2 - A-SMGCS RMCA (former Level 2)		Surface mgt	-	2.2.1	B0-SURF	-	-
AOP05 - Airport CDM		Collaborative Apt	#106	2.1.1 2.1.3	B0-ACDM B0-RSEQ	-	-
AOP10 - Time Based Separation		Enhanced ops in vicinity of rwy	#64	2.3.1	B1-RSEQ B2-WAKE	-	-
AOP11 - Initial Airport Operations Plan		Collaborative Apt	#21	2.1.4	B1-ACDM	-	-
AOP12 - Improve RWY and Airfield safety with CATC detection and CMAC		Surface mgt	#02	2.1.2 2.5.1	B2-SURF	-	-
AOP13 – Automated assistance to Controller for Surface Movement planning and routing		Surface mgt	#22 #53	2.4.1	B1-ACDM B1-RSEQ B2-SURF	-	-
AOP14 – Remote Tower Services		Remote Tower	#12, #71, #52, #13	-	B1-RATS	RMT.0624	-
AOP15 - Enhanced traffic situational awareness and airport SNET for the vehicle drivers		Surface mgt	#04	-	B2-SURF	-	-
AOP16 - Guidance assistance through airfield ground lighting		Surface mgt	#47	-	B1-RSEQ B2-DURF	-	-
AOP17 - Provision/integration of departure planning information to NMOC		Collaborative Apt	#61	-	B1-ACDM B1-NOPS	-	-

Level 3 Implementation Objectives	SESAR Key Feature	Major ATM change	SESAR Solution	DP family	ICAO ASBU B0, B1, B2	EPAS	AAS TP
AOP18 - Runway Status Lights (RWSL)		Surface mgt	#01	-	B2-SURF	-	-
ENV02 – Airport Collaborative Environmental Management		Collaborative Apt	-	-	-	-	-
NAV11 - Implement precision approach using GBAS CAT II/III based on GPS L1		Enhanced ops in vicinity of rwy	#55	-	B1-APTA	-	-
SAF11 - Improve runway safety by preventing runway excursions		Surface mgt	-	-	-	MST.007 RMT.0570 RMT.0703	-
COM10 - Migration from AFTN to AMHS		CNS rat.	-	-	-	-	-
COM11.1 - Voice over Internet Protocol (VoIP) in En-Route		CNS rat.	-	3.1.4	-	-	AM-1.3
COM11.2 - Voice over Internet Protocol (VoIP) in Airport/Terminal		CNS rat.	-	-	-	-	-
COM12 - NewPENS		Pre-SWIM & SWIM	-	5.1.2 5.2.1	B1-SWIM	-	-
FCM08 – Extended Flight Plan		Pre-SWIM & SWIM	#37	4.2.3	B1-FICE	-	AM-1.4
INF07 - Electronic Terrain and Obstacle Data (e-TOD)		Pre-SWIM & SWIM	-	1.2.2	-	RMT.0703 RMT.0704 RMT.0722	-
INF08.1 - Information Exchanges using the SWIM Yellow TI Profile		Pre-SWIM & SWIM	#35, #46	5.1.3, 5.1.4, 5.2.1, 5.2.2, 5.2.3, 5.3.1, 5.4.1, 5.5.1, 5.6.1	B1-DATM B1-SWIM	-	AM-1.5

Level 3 Implementation Objectives	SESAR Key Feature	Major ATM change	SESAR Solution	DP family	ICAO ASBU B0, B1, B2	EPAS	AAS TP
INF08.2 - Information Exchanges using the SWIM Blue TI Profile		Pre-SWIM & SWIM	#28, #46	5.1.3, 5.1.4, 5.2.1, 5.2.2, 5.2.3, 5.6.2	B1-DATM B1-SWIM	-	AM-9.1
INF09 - Digital Integrated Briefing		Pre-SWIM & SWIM	#34	-	B1-DATM B1-SWIM	-	-
ITY-ACID - Aircraft identification		CNS rat.	-	-	-	-	-
ITY-ADQ - Ensure quality of aeronautical data and aeronautical information		Pre-SWIM & SWIM	-	1.2.2	B0-DATM	RMT.0722 RMT.0477	-
ITY-AGDL - Initial ATC air-ground data link services		Data link	-	6.1.1 6.1.3 6.1.4	B0-TBO	RMT.0524	AM-1.1
ITY-AGVCS2 – 8.33 kHz Air-Ground Voice Channel Spacing below FL195		CNS rat.	-	-	-	-	-
ITY-FMTP - Apply a common flight message transfer protocol (FMTP)		Pre-SWIM & SWIM	-	-	B0-FICE B1-FICE	-	AM-1.3
ITY-SPI - Surveillance performance and interoperability		CNS rat.	-	-	B0-ASUR	RMT.0679 RMT.0519	-

* *AOM21.1 was achieved in 2017 and FCM04.1 was achieved in 2018, therefore they were removed from the Implementation Plan 2018/2019. They are kept in this table for traceability purposes.*

Legend:

Objective's link to SESAR Key Feature:			
	Optimised ATM Network Services		High Performing Airport Operations
	Advanced Air Traffic Services		Enabling Aviation Infrastructure

D. SESAR Solutions implemented in a voluntary way[4]

This Annex is not published in the LSSIP Level 1, but is available in the LSSIP Level 2, which can be made available upon request to Focal Point and/or Contact Person.

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[4] Referred as 'Non-committed' SESAR solutions in the MP L3 Report.

E. Military Organisations Infrastructure

This Annex is not produced in 2019. It will be updated every second year, therefore it will be produced as part of the LSSIP 2020 document.

In case information is sought on military infrastructure, previous LSSIP may be made available upon request to the respective Focal Point and/or Contact Person.

F. Glossary of abbreviations

This Annex mainly shows the abbreviations that are specific to the LSSIP Document for Spain:

Other general abbreviations are in the Acronyms and Abbreviations document in:

https://www.eurocontrol.int/airial/

Term	Description
AEFMP	Algeria, Spain, France, Morocco and Portugal Plan
AEMET	Agencia Estatal de Meteorología - Meteorological Service Provider
AESA	Spanish Aviation Safety and Security Agency - Agencia Estatal de Seguridad Aérea
AFIS	Aerodrome Flight Information Service
AIS	Aeronautical Information Services
ANS	Air Navigation Services
ASBU	Aviation System Block Upgrades (ICAO)
ATM	Air Traffic Management
AWG	Airspace Working Group (SW FAB)
CAA	Civil Aviation Authority
CAS	Chief of Air Staff
CAFSAT	Central Atlantic FIR Satellite Network (ICAO)
CEANITA	Comisión de Estudio y Análisis de Notificaciones de Incidentes de Tránsito Aéreo
CIAIAC	Comisión de Investigación de Accidentes e Incidentes de Aviación Civil
CECAF	Spanish Air Force Cartographic and Photographic Centre
CIDEFO	Defence-Development Interdepartmental Commission
CITAAM	Comisión de Investigación Técnica de Accidentes de Aeronaves Militares
CNS	Communication, Navigation & Surveillance
COOPANS	COOPANS Alliance (Austro Control, Croatia Control, Naviair, Irish Aviation Authority and LFV)
DCAS	Deputy Chief of Air Staff
DESATI	Directorate for Safety Risk Analysis and Quality Management of AESA
DFL	Division Flight Level
DGAC	Dirección General de Aviación Civil/Spanish Civil Aviation Authority
DOP	División de Operaciones – Operations Division (ESPAF)
ECAO	Escuadrón de Circulación Aérea Operacional/Operational Air Traffic Squadron
EDA	European Defence Agency
EDISA	Regional Project launched by ICAO in order to carry out a study on the implementation of n SBAS system in the CAR/SAM region
EMA	Estado Mayor del Aire - Spanish Air Force Staff
ESPAF	Spanish Air Force
EUROMED	Euro-Mediterranean Aviation Project
GAT	General Air Traffic
GCCC	Canarias ACC

LECB	Barcelona ACC
LECM	Madrid ACC
LECP	Palma ACC
LECS	Sevilla ACC
NORACON	North European and Austrian Consortium
OAT	Operational Air Traffic
OB	Operational Board
OCC	Operational Coordination Committee
PCP	Pilot Common Project
REDAN	Spanish Data Network
S-AF	Sub ATM Functionality
SAC	Supervisory Authorities Committee (SW FAB)
SACSA	Sociedad Aeroportuaria de la Costa
SACTA	Automated System of Air Traffic Control
SAR	Search And Rescue
SDM	SESAR Deployment Manager
SESPA	Sección de Espacio Aéreo – Airspace Section
TWG	Technical Working Group (SW FAB)