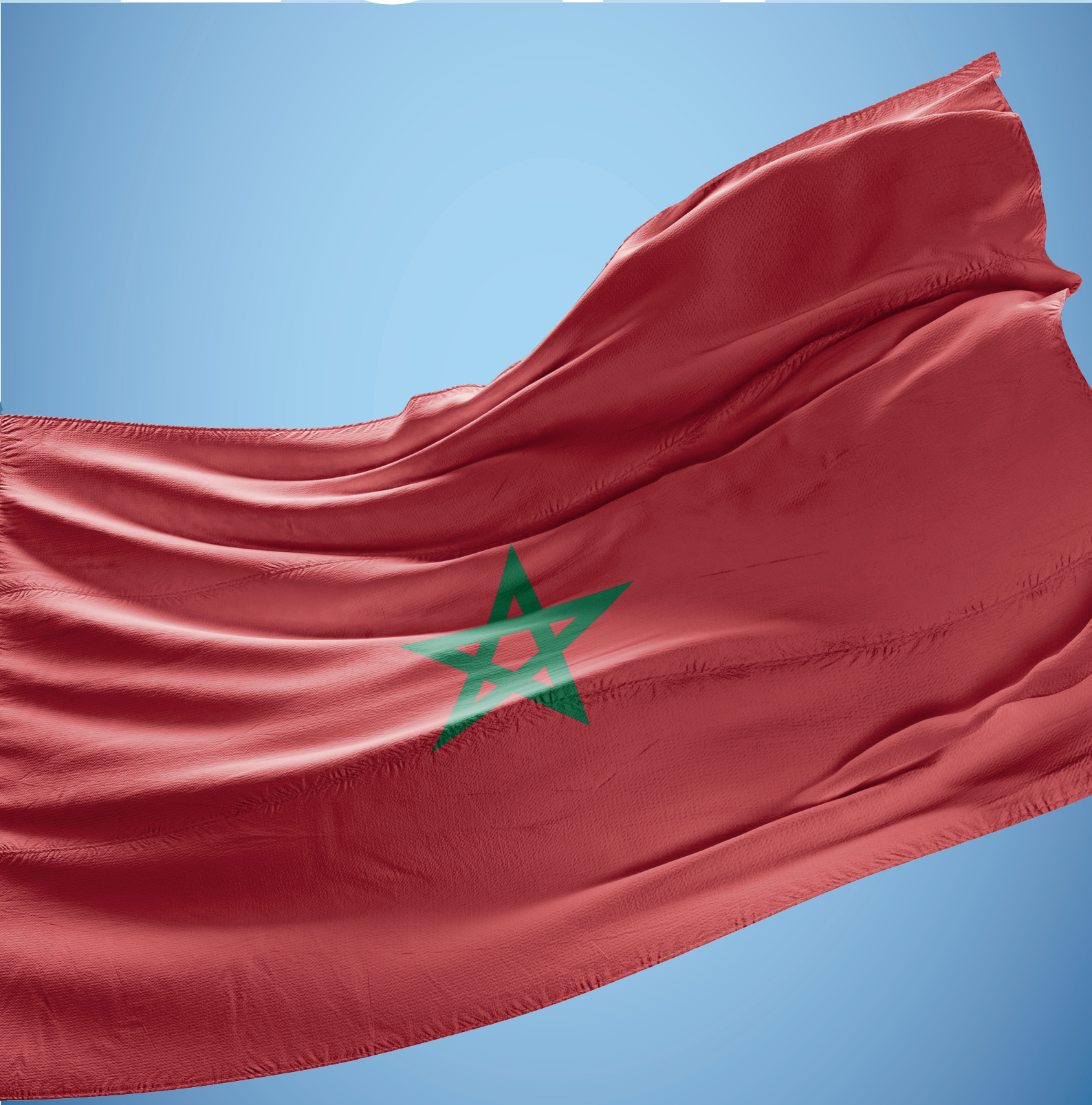
EUROCONTROL

2019

LSSIP 2019 - MOROCCO
LOCAL SINGLE SKY IMPLEMENTATION

Level 1 - Implementation Overview



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).

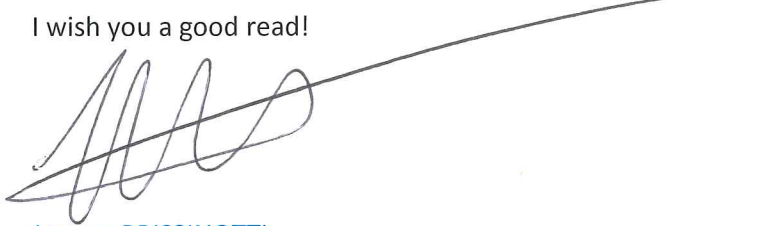
These documents provide an extensive and harmonised picture, for the benefit of the ATM community at large, of how all ECAC States as well as States having a Comprehensive Agreement with EUROCONTROL, and stakeholders concerned, are progressing in planning and deploying the mature elements of the European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



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EUROCONTROL

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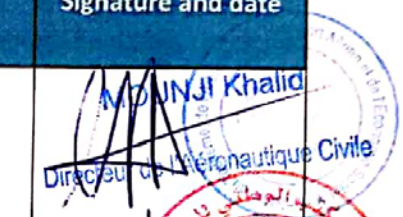
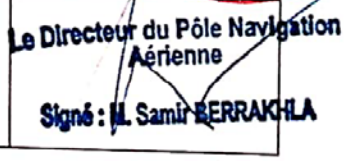
Reference Documents	
LSSIP Documents	https://www.eurocontrol.int/service/local-single-sky-implementation-monitoring
Master Plan Level 3 – Plan Edition 2019	https://www.eurocontrol.int/publication/european-atm-master-plan-implementation-plan-level-3-2019
Master Plan Level 3 – Report Year 2019	https://www.eurocontrol.int/publication/european-atm-master-plan-implementation-report-level-3-2019
European ATM Portal	https://www.atmmasterplan.eu/
STATFOR Forecasts	https://www.eurocontrol.int/statfor
National AIP	http://siamaroc.onda.ma
National Regulations	http://www.aviationcivile.gov.ma

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
Direction Générale de l'Aviation Civile	Mr. Khalid MOUNJI	Directeur de l´Aéronautique Civile	
Office National des Aéroports	Mr. Mohamed EL AOUFIR ZOUHAIR	Directeur Général de l´Office National des Aéroports	
Office National des Aéroports	Mr. Samir BERRAKHLA	Directeur du Pôle Navigation Aérienne	

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Executive Summary

National ATM Context

Member State of:

The main stakeholders involved in ATM in the Kingdom of Morocco are:

The authority in charge of Civil Aviation DGAC (Direction Générale de l'Aviation Civile): is in charge of the following missions:

- Ensure coordination, control and evaluation of the ministry's interventions in the aviation field. It is responsible for basic infrastructure and air navigation facilities and for the general operation of the air sector for which it establishes regulations and ensures their application.
- Ensure the control and coordination of airport activities, conduct international negotiations and ensure the execution of international agreements in the air sector to which Morocco has acceded.
- Apply the guidelines of the Minister with regard to the supervision of the department over public establishments whose activity is related to the field of air transport.

The National Airports Office (ONDA - Office National Des Aéroports) is a public industrial and commercial establishment. The principles missions revolve around into 4 areas:

- Guaranteeing the air navigation safety at National airports and airspace, under national jurisdiction.
- The development, operation, maintenance and development of national airports. The embarkation, disembarkation, transit and onshore transport of travelers, goods and mail carried by air, as well as any service intended to meet the needs of users and the public.
- Liaison with international organizations and airports to meet the needs of air traffic.
- The training of civil aeronautical engineers, air traffic controllers and Air Traffic Safety electronics engineers.

The Royal Moroccan Air Force RMAF (Forces Royales Air: FRA) constitute the military authority of the Kingdom of Morocco.

The General Directorate of Meteorology (DGM): Actors of the National Meteorology, ensure the observation of the atmosphere and the state of the sea, the follow-up of their evolution as well as the conservation of the national climatological heritage. Provides also, thanks to scientific and technological monitoring, meteorological and climatic services adapted.

ACCs and main airport covered by LSSIP:

- Casablanca and Agadir En route Area Control Centers – GMMM and GMAC ;
- Casablanca Mohammed V International Airport – GMMN ;
- Marrakech Menara International Airport – GMMX.

Traffic and Capacity

Summer Forecast (May to October inclusive)

Summer en-route delay per ACC: There was no delay in Casablanca and Agadir ACCs during summer 2019.

Number of national projects: **12**

Summary of 2019 developments:

2019 represents an important year in the ATM / CNS field of the Kingdom of Morocco through the implementation of several projects and changes in Moroccan airports and airspace.

The main projects implemented can be resumed as bellow:

- Reorganization of Casablanca TMA airspace;
- Revision of procedures related to airports associated to Casablanca airspace and creation of new flight procedures;
- Improvement of surveillance capability in Casablanca FIR;
- Implementation of Voice over IP(VoIP) systems and services.

Those projects and achievements will have a positive impact on the fluidity of air traffic, the capacity of airspace, the economic effect as well as the protection of the environment.

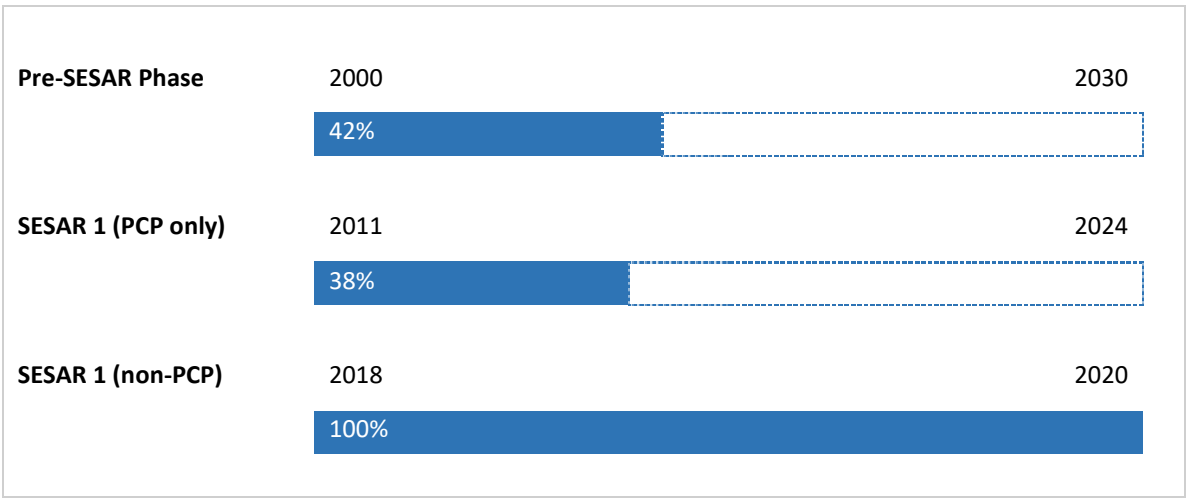
Also, in order to implement application regulation of his civil aviation code law 40.13, Morocco achieved, with the support of EUROCONTROL, a great advance in the development of basic regulations related to ATM/ANS by drafting the decree of air navigation services and its associated regulation.

Progress per SESAR Phase

The figure below shows the progress made so far in the implementation of the SESAR baseline (Pre-SESAR and SESAR1 non-PCP) and the PCP elements.

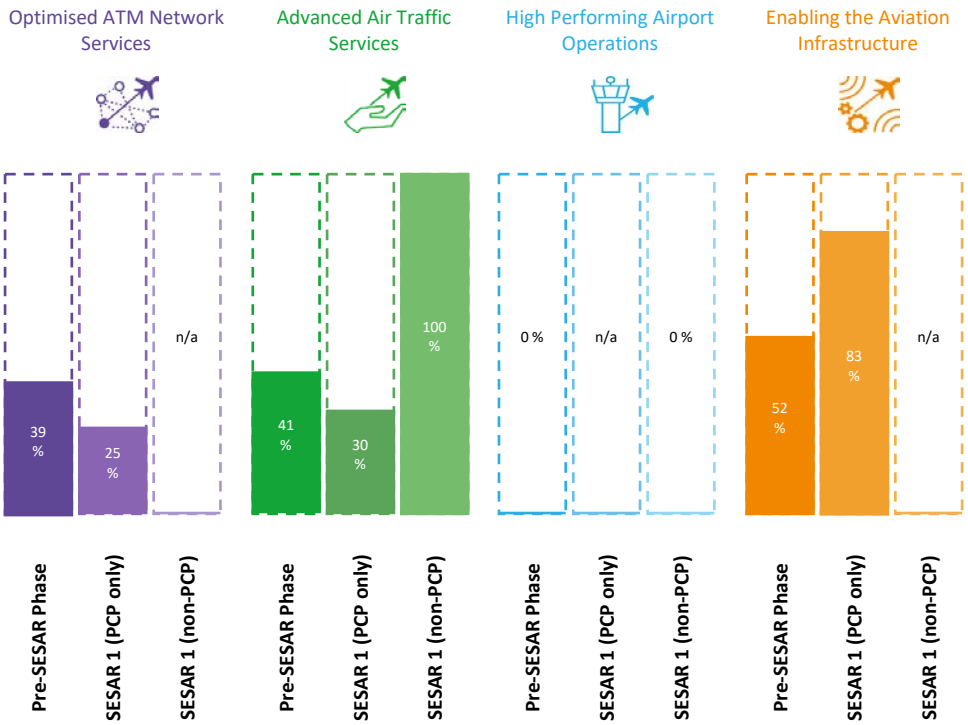
It shows the average implementation progress for all objectives grouped by SESAR Phases, excluding those for which the State is outside the applicability area as defined on a yearly basis in the European ATM Master Plan (Level 3) 2019, i.e. disregarding the declared "NOT APPLICABLE" LSSIP progress status.

The SESAR 1 (non-PCP) progress in the graphics below for this State is based on the following objective: ATC02.9.



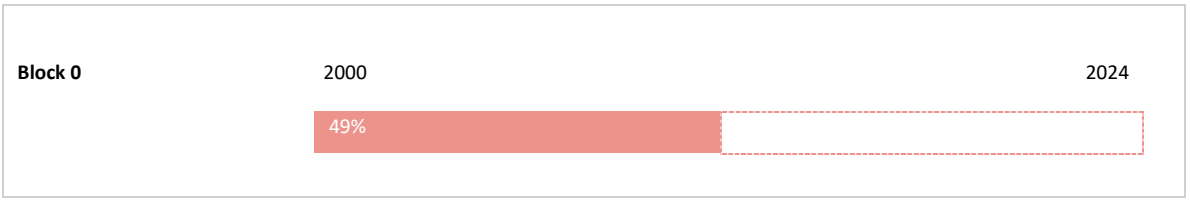
Progress per SESAR Key Feature and Phase

The figure below shows the progress made so far, per SESAR Key Feature, in the implementation of the SESAR baseline and the PCP elements. The percentages are calculated as an average, per Key Feature, of the same objectives as in the previous paragraph.



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.



ATM Deployment Outlook

State Objectives

✓	**Deployed in 2018 - 2019**	None

By 2020	By 2021	By 2022	By 2023+
- Initial ATC Air-Ground Data Link Services ITY-AGDL - 46 % progress	**- Collaborative Flight Planning** FCM03 - 21 % progress **- RNAV 1 in TMA Operations** NAV03.1 - 36 % progress **- Free Route Airspace** AOM21.2 - 10 % progress **- Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer** ATC17 - 25 % progress **- Information Exchange with En-route in Support of AMAN** ATC15.1 - 00 % progress **- Migrate from AFTN to AMHS** COM10 - 75 % progress **- Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring** ATC12.1 - 10 % progress	**- RNP Approach Procedures to instrument RWY** NAV10 - 26 % progress **- Voice over Internet Protocol (VoIP) in En-Route** COM11.1 - 83 % progress **- ASM Support Tools to Support Advanced FUA (AFUA)** AOM19.1 - 25 % progress	**- Ensure Quality of Aeronautical Data and Aeronautical Information** ITY-ADQ - 19 % progress **- Implement enhanced tactical flow management services** FCM01 - 57 % progress **- Electronic Terrain and Obstacle Data (eTOD)** INF07 - 08 % progress

Airport Objectives - Casablanca Mohammed V Airport

✓ **Deployed in 2018 - 2019** None

By 2020	By 2021	By 2022	By 2023+
	- AMAN Tools and Procedures ATC07.1 - 00 % progress	**- Continuous Descent Operations (CDO)** ENV01 - 00 % progress	**- Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** AOP04.1 - 00 % progress

Airport Objectives - Marrakech Menara International Airport

✓ **Deployed in 2018 - 2019** None

By 2020	By 2021	By 2022	By 2023+
	- Continuous Descent Operations (CDO) ENV01 - 10 % progress		**- Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** AOP04.1 - 00 % 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;

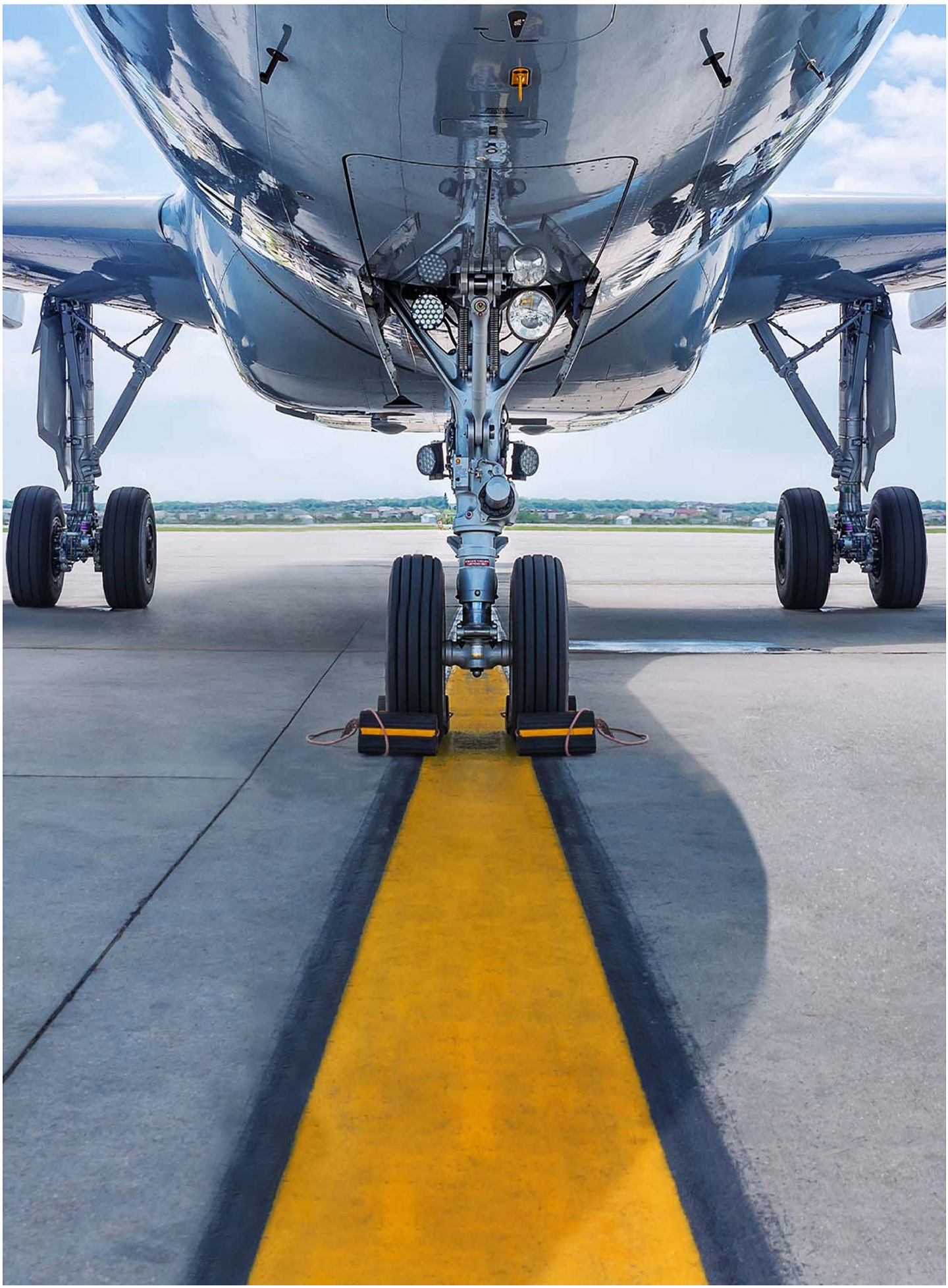
Chapter 3 provides the main Implementation Projects (at national, FAB and multinational level) which contribute directly to the implementation of the MP Operational Improvements and/or Enablers and Implementation Objectives. The Level 1 document covers a high-level list of the projects showing the applicable 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

The Kingdom of Morocco is a Member of the following international organisations in the field of ATM:

Organisation		Since
ECAC	-	-
EUROCONTROL	✓	2016 (as a Comprehensive Agreement State)
	✓	07/10/2007 : Cooperation agreement between Eurocontrol and ONDA in ANS provision and extension of the SES to the Kingdom of Morocco ;
	✓	08/02/2001 : Bilateral agreement between EUROCONTROL and ONDA relating to invoicing and collection of route charges
	✓	28/10/1997 : Cooperation agreement between EUROCONTROL and ONDA on air traffic flow management as an adjacent state to the Europe zone
European Union	-	-
EASA	-	-
ICAO	✓	1956
NATO	-	-
ITU	✓	1956
EDA	-	-
ACAO	✓	1996
AEFMP	✓	1996
CANSO	✓	2015

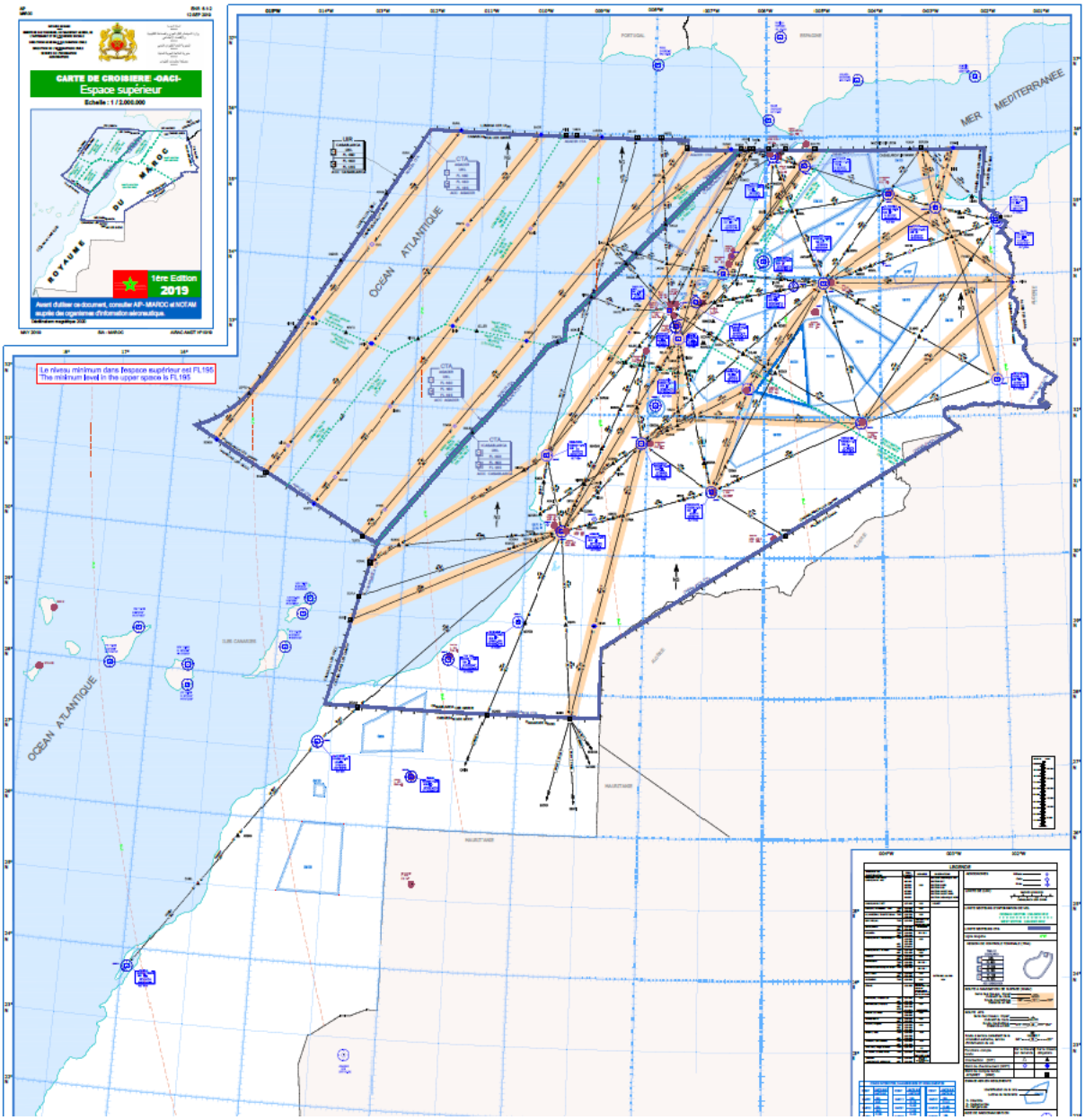
On 12 December 2006, EU and the Kingdom of Morocco signed the first Euro-Mediterranean Aviation agreement in the field of aviation. The agreement provides an innovative and modern framework that replaces all the bilateral aviation agreements between the EU Member States and Morocco. It aims to open up the markets gradually, to approximate the legislation of the two parts and allow all EU and Moroccan airlines to operate direct flights between any airport in the EU and Morocco.

In this context, Kingdom of Morocco has promulgated the civil aviation code 40.13 published on May 2016. The law provides a legal framework of all civil aviation activities and provides important provisions relating to air navigation, environment protection in aeronautical field, aeronautical personnel, air transport, Civil Aviation Security, liability and user compensation regimes, as well as accidents and incidents technical investigations.

On April 2016, the Kingdom of Morocco and the European Organization for the Safety of Air Navigation - EUROCONTROL, signed a Comprehensive Agreement in the margins of the International Marrakech Air-show. According to this Agreement, the Kingdom of Morocco is fully integrated into EUROCONTROL's working structures and will be able to benefit from all services the Agency provides.

Geographical description of the FIR(s)

The geographical scope of this document addresses the Kingdom of Morocco FIR/UIR: Casablanca FIR/UIR.
The Kingdom of Morocco FIR/UIR is surrounded by five FIR/UIR, namely: Algeria, Canarias, Dakar, Lisbon, and Seville.



Airspace Classification and Organisation

There are four classes of Airspace in Casablanca FIR/UIR: C, D, E and G.

Class **C**:

- CASABLANCA UIR , FL195 - FL460
- CTR and TMA associated to AGADIR AL MASSIRA Airport.

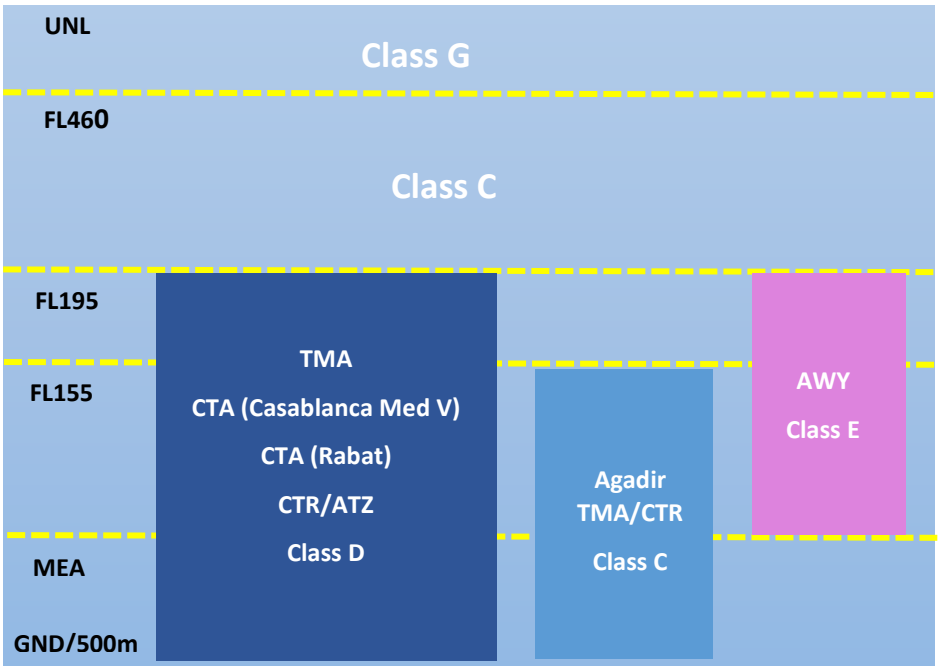
Class **D**:

- All CTR, ATZ, TMA except those associated to AGADIR AL MASSIRA Airport;
- CASABLANCA Mohamed V CTA, 2000FT AMSL/6500FT AMSL;
- RABAT/SALÉ CTA, 1500FT AMSL/6500FT AMSL.

Class **E**: ATS Routes below FL195.

Class **G**: Rest of the airspace.

Airspace Organization



ATC Units

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

ATC Unit	Number of sectors		Associated FIR(s)	Remarks
	En-route	TMA		
Casablanca ACC	4	X		Dynamic sector management
Agadir ACC	4	X		Dynamic sector management
Casablanca MV Airport	X	1		
Marrakech Airport	X	1		

1.2. National Stakeholders

The main stakeholders involved in ATM in the Kingdom of Morocco are:

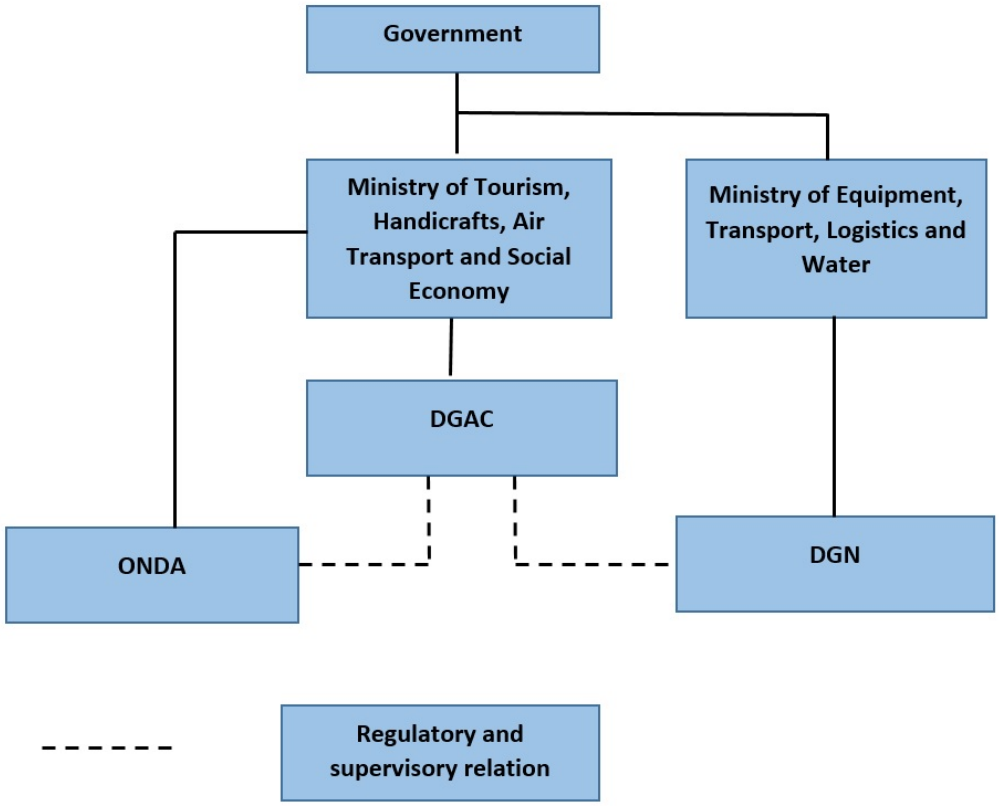
- The authority in charge of Civil Aviation DGAC (Direction Générale de l'Aviation Civile), which is a directorate of the Ministry of Tourism, Handicrafts, Air Transport and Social Economy.

  In addition to accidents investigation office (Bureau d'Enquête des Accidents: BEA), there are two directorates reporting to the DGAC:
  - DAC (Direction de l'Aéronautique Civile): in charge of air navigation safety oversight and regulation, licensing and certification, air navigation capacity and efficiency and security & facilitation.
  - DTA (Direction du Transport Aérien): in charge of economic and development of air transport.

- The Royal Moroccan Air Force RMAF (Forces Royales Air: FRA), Military Authorities.

- ONDA (Office National Des Aéroports) is the Air Navigation Service Provider and the Moroccan airports Manager. ONDA is designated by the Kingdom of Morocco, according to national legislation, to provide services within Flight/Upper Information Region (FIR/UIR) of Casablanca (ICAO Code: GMMM).

- General Directorate of Meteorology (DGM), reporting to the Ministry of Equipment, Transport, Logistics and Water as the national MET service provider.



Civil Regulator(s)

General Information

Civil Aviation in the Kingdom of Morocco is the responsibility of the Ministry of Tourism, Handicrafts, Air Transport and Social Economy. The different national entities having regulatory responsibilities in ATM are summarised in the table below. The DGAC is further detailed in the following sections.

Activity in ATM:	Organisation responsible	Legal Basis
Rule-making	DGAC	- Law No. 40-13: Civil Aviation Code published on 17Chaabane 1437 (May 24, 2016); - Decree No.2-06-472 of 2 Chaabane 1429 (04 August 2008): Attributions and organization of the Ministry of Equipment and Transport; - Decree No. 2.17.204 of 01 Chaabane 1438 (April 28, 2017): Minister of Tourism, Air Transport, Handicrafts And Social Economy Attributions;
Safety Oversight	DAC	As above
Enforcement actions in case of non-compliance with safety regulatory requirements	DAC	- Law No. 40-13: Civil Aviation Code published on 17Chaabane 1437 (May 24, 2016); - Decree No. 2.61.161 of 10 July 1962 regulating civil aviation as amended and completed - Decree No.2-06-472 of 2 Chaabane 1429 (04 August 2008): Attributions and organization of the Ministry of Equipment and Transport; - Decree No. 2.17.204 of 01 Chaabane 1438 (April 28, 2017): Minister of Tourism, Air Transport, Handicrafts And Social Economy Attributions;
Airspace	DAC	- Law No. 40-13:Civil Aviation Code published on 17Chaabane 1437 (May 24, 2016); - Decree No.2-06-472 of 2 Chaabane 1429 (04 August 2008):Attributions and organization of the Ministry of Equipment and Transport; - Decree No. 2.17.204 of 01 Chaabane 1438 (April 28, 2017):Minister of Tourism, Air Transport, Handicrafts And Social Economy Attributions;
Economic	DTA	As above
Environment	DTA and DAC	As above
Security	DAC	As above
Accident investigation	BEA	As above

DGAC

In addition to the accidents investigation office (Bureau d'Enquête des Accidents: BEA), DGAC is composed of two directorates:

DAC (Direction de l'Aéronautique Civile): in charge of the following missions:

- Ensure the safety and regularity of air navigation;
- Orient, define, control and coordinate all aeronautical activities;
- Establish regulatory texts relating to civil aviation and ensure their application;
- Ensure compliance with international standards in civil aviation;
- Control and supervise the safety and security of civil aviation;
- Develop cooperation with international and regional civil aviation organizations;
- Develop airport infrastructure planning and ensure its implementation;
- Establish documents regulating the airport environment;
- Adopt standards and practices recommended by international organizations and ensure their respect.

DTA (Direction du Transport Aérien): responsible of the following missions:

- Develop strategic and economic studies for the development of air transport;
- Develop and adapt air transport regulations;
- Promote the airlines, monitor their contributions in operations and ensure their management and control;
- Prepare air agreements and ensure their monitoring and enforcement.

The authority in charge of Civil Aviation DGAC, through the DAC, ensure the planning, regulation and the supervision of air navigation services, airports and aerodromes, qualification and licensing of aeronautical personnel as well as safety and facilitation.

At the functional and organizational level, the DGAC is separated from air navigation service provider and airport manager (ONDA) which is an autonomous public establishment of industrial character created by Dahir n ° 1-80-350 of 11 Rejeb 1402 (May 6, 1982).

Annual Report published:	N	

The address of CAA website is the following: **www.aviationcivile.gov.ma**

ONDA – L'Office National des Aéroports du Maroc

Service provided

The ONDA (Office National Des Aéroports) is responsible of managing airports and controlling air navigation. It is a public institution under the supervision of the governmental authority in charge of air transport.

ONDA responsible for the following missions:

- The guarantee of the safety of air navigation at airports and airspace, under national jurisdiction.
- The development, operation, maintenance and development of civil airports of the State. Embarkation, disembarkation, transit and on-shore transportation of passengers, goods and mail transported by air, as well as any service intended to satisfy the needs of users and the public.
- Liaison with international agencies and airports to meet the needs of air traffic.
- The training of Civil Aviation Engineers, Air Safety Controllers and Air Traffic Safety Electronics Engineers.

With the signature and entry in force of the agreement with EUROCONTROL (April, 29th 2016), Morocco has not only achieved a global first, in that EUROCONTROL has never before signed such an agreement with a country outside Europe, but also recognises the performance of the Moroccan air traffic management (ATM) services and is consolidating a mutually desired and beneficial partnership between the Kingdom of Morocco and EUROCONTROL.

The strategy of the PNA_ONDA is underpinned by systemic and inclusive management, capitalising on the practices already in place and ensuring synergy with the Global Air Navigation Plan (GANP) of the International Civil Aviation Organization (ICAO) and the strategic plans of ONDA and the European Commission's Single European Sky (SES) programme.

This strategy was strengthened in 2016 by the adoption of the performance-based approach (PBA) and the agreement with EUROCONTROL to anchor regulatory conformity practices and to migrate towards a form of management based on the performance and excellence of the ATM system at national level. According to the comprehensive agreement, the Kingdom of Morocco will be fully integrated into EUROCONTROL's working structures and will benefit from all services the Agency provides.

The agreement brings significant operational advantages to airlines and passengers, including improved crisis management, more organised and harmonised management of the traffic flows between North Africa/the Canary Islands and the European continent, improved predictability in the planning of daily operations, improved safety of operations and a wider network approach to all developments such as airspace design, infrastructure coordination and management.

Until 1980, airports and air navigation services were administered directly by the Ministry of Transport. The Moroccan government then decided to opt for autonomous administration, with the creation of the first public airport administration establishment, the Office des Aéroports de Casablanca (OAC, the Casablanca Airport Authority), whose powers were initially limited to the Casablanca airports.

Subsequently, in 1990, ONDA was created by transforming the OAC into an establishment responsible for the administration of all airports in Morocco and the provision of ANS, to consolidate activities into a single organisation. This meant ONDA became a national strategic instrument, a powerful vehicle for economic development, a creator of value and wealth at regional and local levels, recognised throughout the world as an airport authority working to international standards.

Air navigation services are now provided by the PNA_ONDA to ensure the safety of air navigation at airports and airspace level under national jurisdiction and to administer air operations in accordance with national and international regulatory requirements. The PNA is also responsible for the coordination of communications, navigation and surveillance/air traffic management (CNS/ATM) as recommended by the global ATM plan and the Aviation System Block Upgrades (ASBU) roadmap, strengthening cooperation with EUROCONTROL in the ATM domain (following an initial cooperation agreement signed in 2008) and operational management and organisation of Moroccan airspace.

The PNA is employing state-of-the-art technologies and best practices by promoting cooperation with EUROCONTROL and many other bodies in the sector, to consolidate air safety and improve performance to make ONDA a vehicle for the development of the national economy while gaining a reputation for excellence in the field of air navigation.

Governance:	Autonomous public establishment of industrial character created by Dahir n ° 1-80-350 of 11 Rejeb 1402 (May 6, 1982).	**Ownership:**	Ministry of Tourism
Services provided	**Y/N**	**Comment**	
ATC en-route	Y		
ATC approach	Y		
ATC Aerodrome(s)	Y		
AIS	Y		
CNS	Y		
MET	Y	General Directorate of Meteorology (DGM), reporting to the Ministry of Equipment, Transport, Logistics and Water	
ATCO training	Y		
Others			
Additional information:			
Provision of services in other State(s):	N		
Annual Report published:	N		

The address of ONDA website is the following: www.onda.ma/

ATC Systems in use

Main ANSP part of any technology alliance[1]	N	-

FDPS

Specify the manufacturer of the ATC system currently in use:	INDRA
Upgrade[2] of the ATC system is performed or planned?	2011 Casablanca ACC - 2018 Agadir ACC
Replacement of the ATC system by the new one is planned.	2021 Casablanca ACC
ATC Unit	Casablanca & Agadir ACCs

SDPS

Specify the manufacturer of the ATC system currently in use:	INDRA
Upgrade of the ATC system is performed or planned?	2011 Casablanca ACC - 2018 Agadir ACC
Replacement of the ATC system by the new one is planned?	2021 Casablanca ACC
ATC Unit	Casablanca & Agadir ACCs

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

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

Airports

General information

The Office National des Aéroports (ONDA) is the manager of all civil airports in Morocco

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.

Therefore, the following airports are covered in this LSSIP:

- Casablanca Mohammed V International Airport – GMMN;
- Marrakech Menara International Airport – GMMX.

Military Authorities

The Royal Moroccan Air Force RMAF (Forces Royales Air: FRA).

DGM (Direction Générale de la Météorologie), National MET service Provider

The General Directorate of Meteorology (DGM) is a public institution, under guardianship of the Ministry of Equipment, Transport, Logistics and Water. Established by Decree-Law N°2.14.153, of April 16, 2014, it has responsibilities at national territory level in the areas of the sea and atmosphere (http://www.marocmeteo.ma).

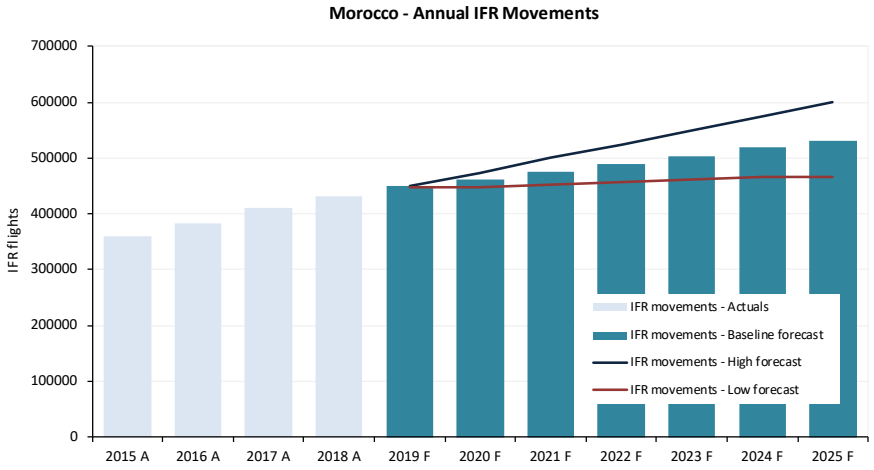
DGM co-operates with various national public and semipublic organizations and users and, at international level, with WMO, ICAO, ECMWF and meteorological services of other countries.

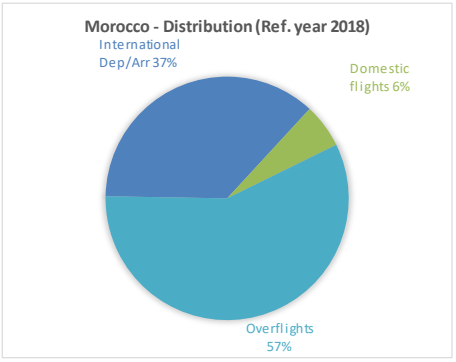
The strategic guidelines and goals of the DGM are:

- Contribution to saving lives and improving the well-being of citizens;
- Assistance to socio-economic sectors that are sensitive to weather and climate, and support the country's sustainable development;
- Providing activities related to meteorological, forecasting and climate information necessary to satisfy all the needs of users at the national level and to ensure international data exchanges in application of agreements ratified by the Kingdom of Morocco;
- Conducting theoretical, experimental and applied studies and research in the fields of meteorology and climate science, as well as studies and research relevant to its mission;
- Providing the reference role in the measurement and control of meteorological and climatological data in accordance with international rules and criteria.

2. Traffic and Capacity

2.1. Evolution of traffic in Morocco





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
Morocco	H				4.5%	5.0%	5.7%	4.9%	4.6%	4.8%	4.3%
	B	6.3%	7.3%	4.9%	4.0%	2.6%	3.2%	3.1%	2.8%	2.9%	2.2%
	L				3.5%	0.2%	1.0%	1.1%	0.9%	1.0%	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

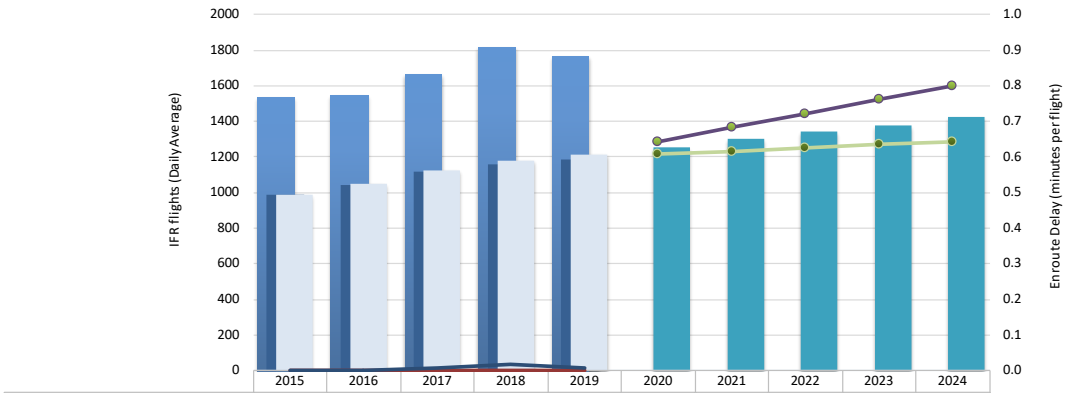
Traffic in Morocco increased by 2.6% in 2019 compared to 2018.

2020-2024

The EUROCONTROL Seven-Year Forecast predicts an average annual traffic growth between 0.8% and 4.9% throughout the planning cycle, with an average baseline growth of 2.8%.

2.2. CASABLANCA AND AGADIR ACCs

Traffic and en-route ATFM delays 2015-2024



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	1535	1548	1666	1815	1770					
Summer Traffic	991	1043	1115	1156	1187					
Yearly Traffic	988	1047	1126	1181	1212					
Summer Traffic Forecast						1255	1299	1344	1379	1425
High Traffic Forecast - Summer						1285	1367	1439	1523	1599
Low Traffic Forecast - Summer						1216	1229	1250	1271	1286
Summer enroute delay (all causes)	0.00	0.00	0.00	0.00	0.00					
Yearly enroute delay (all causes)	0.00	0.00	0.01	0.02	0.01					

Performance summer 2019

Casablanca & Agadir ACCs	Traffic evolution (2019 vs 2018)			En-route Delay (min. per flight)		Capacity (2019 vs 2018)			
	Traffic Forecast		Actual Traffic	All reasons	ACC Reference Value		Planned	Achieved	Capacity gap?
	Current Routes	Shortest Routes							
Year			+2.6%	0.01		Casablanca		69	No
Summer			+2.6%	0.00		Agadir		77	No

Summer 2019 performance assessment

There was no delay in Casablanca and Agadir ACCs during summer 2019.

The ACC capacity baseline for Casablanca ACC was estimated with ACCESS to be 69. During the measured period, the average peak 1 hour demand was 50 and the average peak 3 hour demand was 43.

The ACC capacity baseline for Agadir ACC was estimated with ACCESS to be 77. During the measured period, the average peak 1 hour demand was 49 and the average peak 3 hour demand was 41.

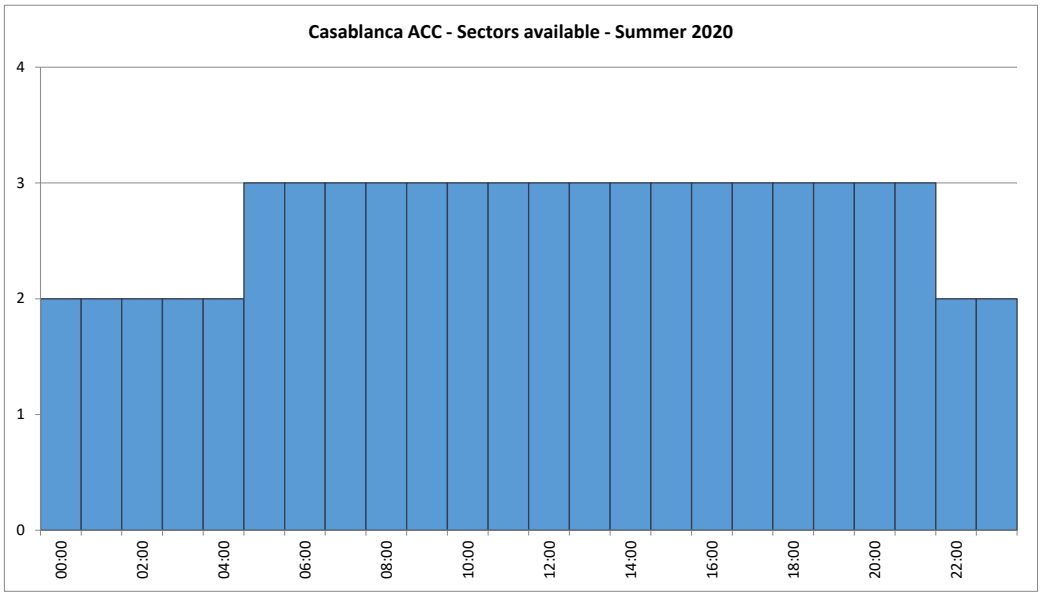
CASABLANCA ACC - Planning Period 2020-2024 - summer

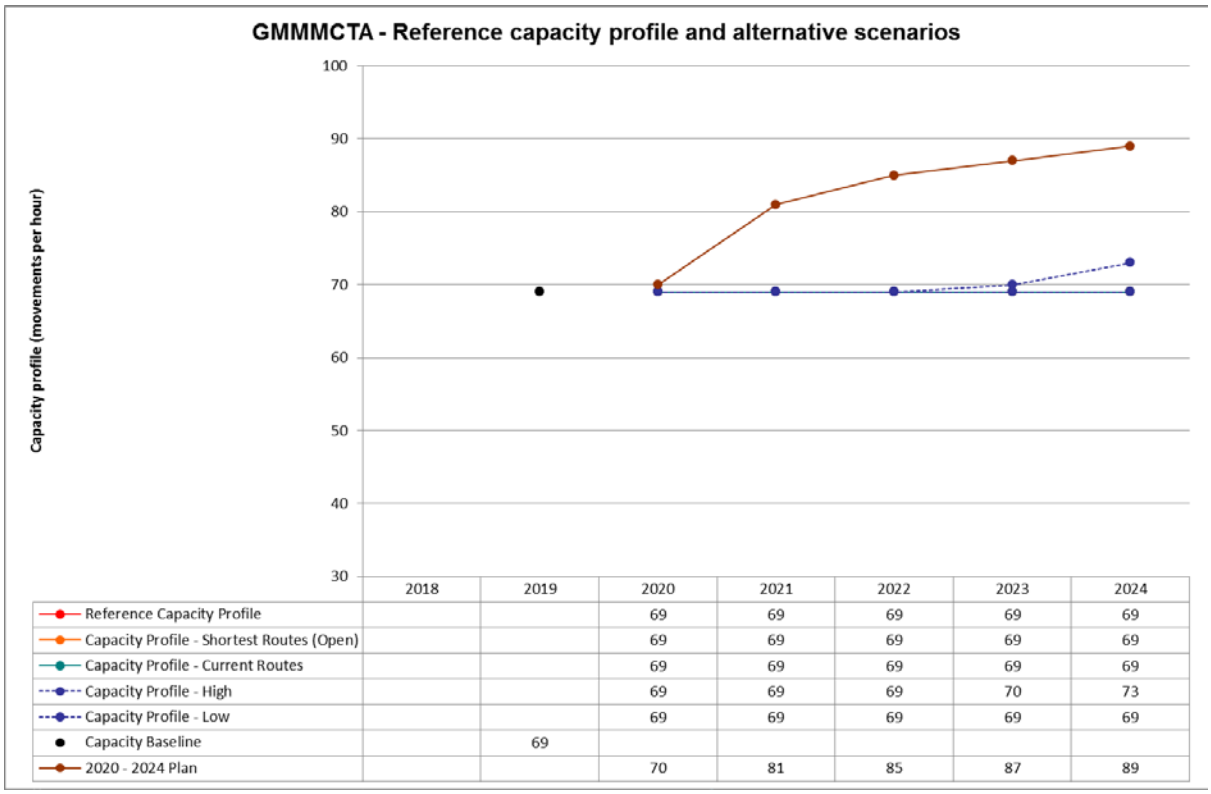
The planning focuses on the summer season to reflect the most demanding period of the year from a capacity perspective. This approach ensures consistency with the previous planning cycles.

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		Night FRA (22H-06H)	FRA 24H,Including NM Action Plan: SW Axis airspace re-configuration project		
Airspace Management Advanced FUA					
Airport & TMA Network Integration	Reorganisation of Casablanca TMA- New AoR and procedures		Reorganisation of Casablanca TMA- Point Merge in GMMN		
Cooperative Traffic Management					
Airspace		New sectorisation			
Procedures		Reduction of separation minima from 10 NM to 7/8 NM			
Staffing	Continuous recruitment process to gradually increase current staffing levels				
Technical			New ATC system		
Capacity			CAPAN study to review sector capacities		
Significant Events					
Max sectors	3	5	5	5	5
Planned Annual Capacity Increase	2%	15%	5%	2%	2%
Reference profile Annual % Increase	0%	0%	0%	0%	0%
Difference Capacity Plan v. Reference Profile	1.4%	17.4%	23.2%	26.1%	29.0%
Annual Reference Value (min)	0.01	0.01	0.01	0.01	0.01
Additional information					

The graphs below show an outline of available sector configurations for summer 2020.





	2018	2019	2020	2021	2022	2023	2024
Reference Capacity Profile			69	69	69	69	69
Capacity Profile - Shortest Routes (Open)			69	69	69	69	69
Capacity Profile - Current Routes			69	69	69	69	69
Capacity Profile - High			69	69	69	70	73
Capacity Profile - Low			69	69	69	69	69
Capacity Baseline		69					
2020 - 2024 Plan			70	81	85	87	89

2020-2024 Planning Period Outlook
Based on the plan for Casablanca ACC, no capacity issues are foreseen during the planning period.

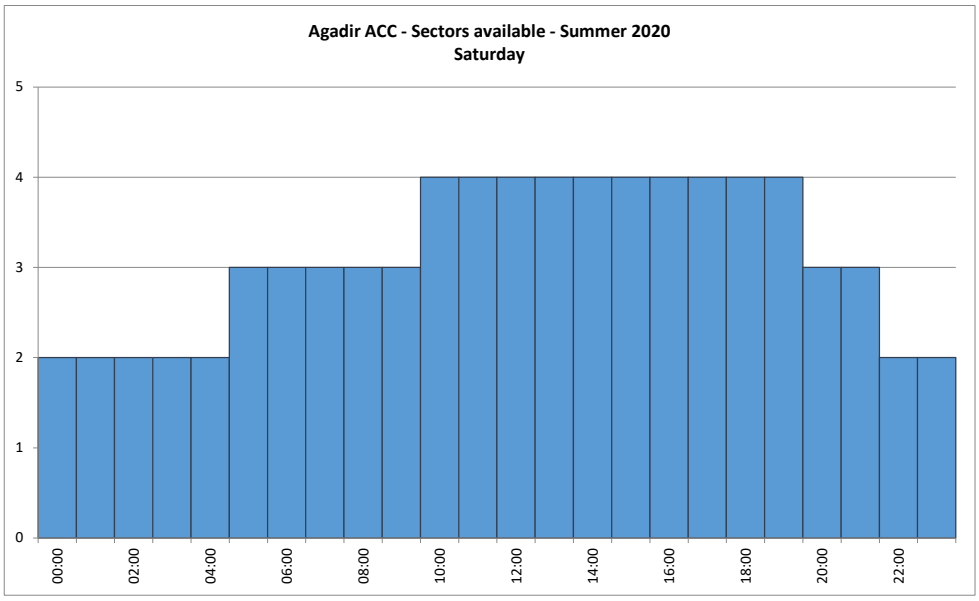
AGADIR ACC - Planning Period 2020-2024– summer

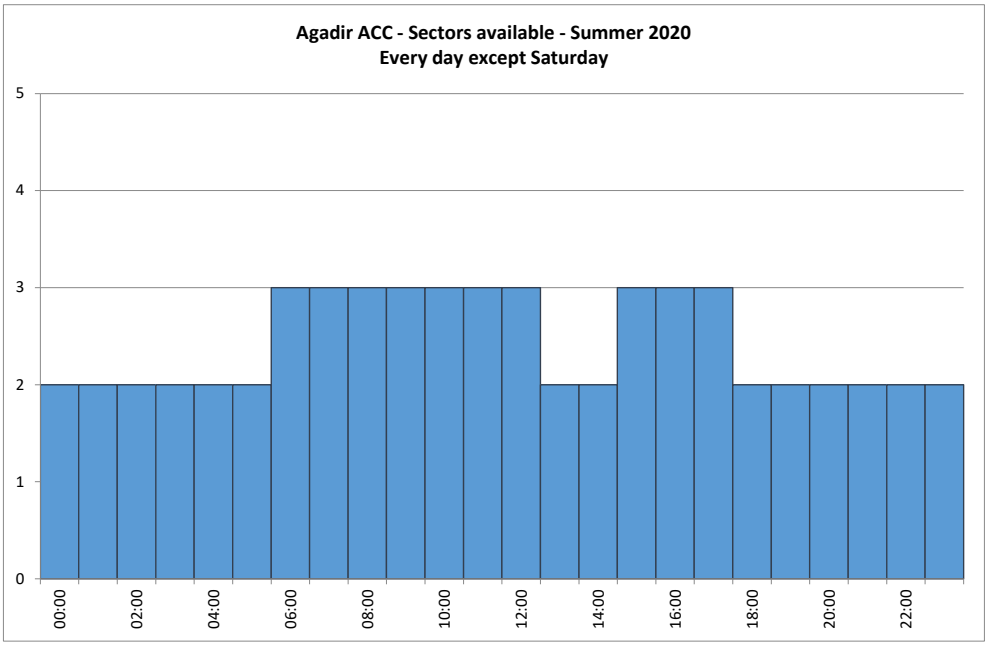
The planning focuses on the summer season to reflect the most demanding period of the year from a capacity perspective. This approach ensures consistency with the previous planning cycles.

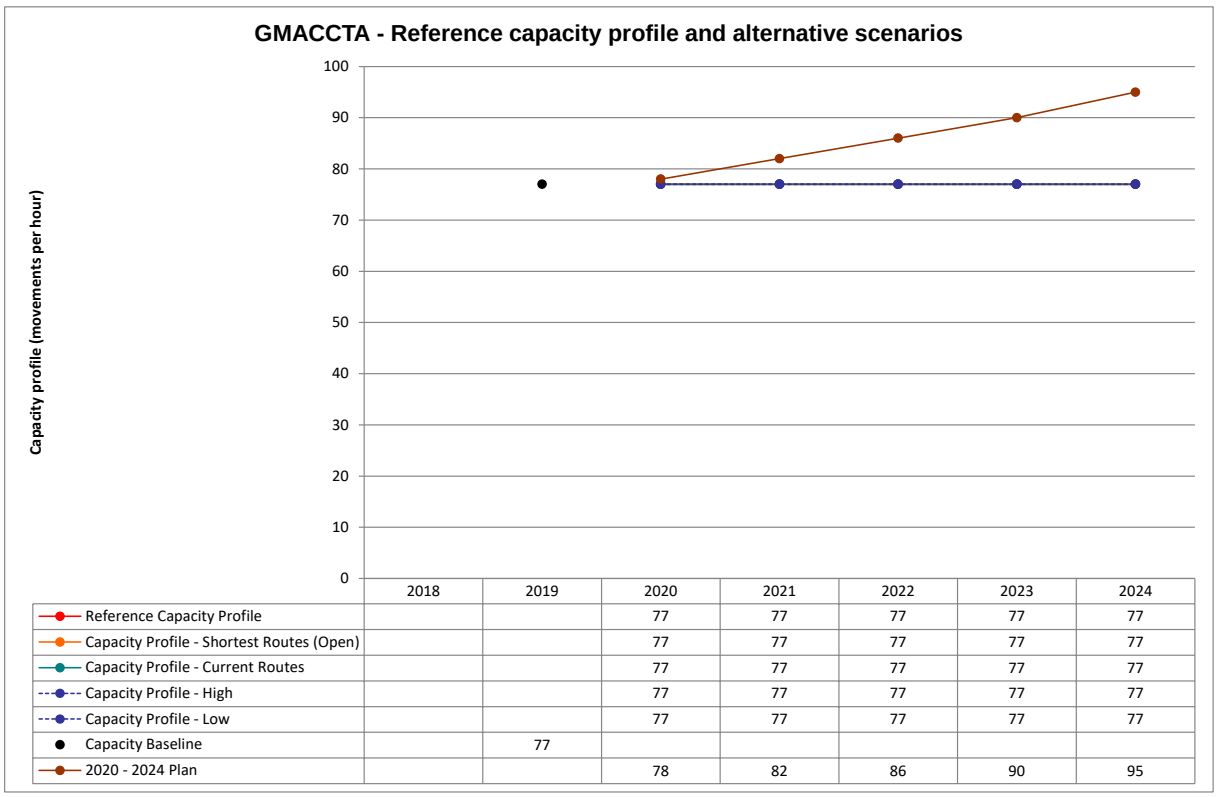
The measures for each year are the measures that will be implemented before the summer season.

Summer Capacity Plan					
	2020	2021	2022	2023	2024
Free Route Airspace	Night FRA (22H-06H)		FRA 24H,Including NM Action Plan: SW Axis airspace re-configuration project		
Airspace Management Advanced FUA					
Airport & TMA Network Integration					
Cooperative Traffic Management					
Airspace	New Interface with Canarias and Lisbon ACCs				
Procedures		Reduction of separation minima from 10 NM to 7/8 NM			
Staffing	Continuous recruitment process to gradually increase current staffing levels				
Technical					
Capacity	CAPAN study to update sector capacities				
Significant Events					
Max sectors	4	4	4	4	4
Planned Annual Capacity Increase	1%	5%	5%	5%	5%
Reference profile Annual % Increase	0%	0%	0%	0%	0%
Difference Capacity Plan v. Reference Profile	1.3%	6.5%	11.7%	16.9%	23.4%
Annual Reference Value (min)	0.01	0.01	0.01	0.01	0.01
Additional information					

The graphs below show an outline of available sector configurations for summer 2020.







	2018	2019	2020	2021	2022	2023	2024
Reference Capacity Profile			77	77	77	77	77
Capacity Profile - Shortest Routes (Open)			77	77	77	77	77
Capacity Profile - Current Routes			77	77	77	77	77
Capacity Profile - High			77	77	77	77	77
Capacity Profile - Low			77	77	77	77	77
Capacity Baseline		77					
2020 - 2024 Plan			78	82	86	90	95

2020-2024 Planning Period Outlook
Based on the plan for Agadir ACC, no capacity issues are foreseen during the entire planning period.

3. Implementation Projects

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

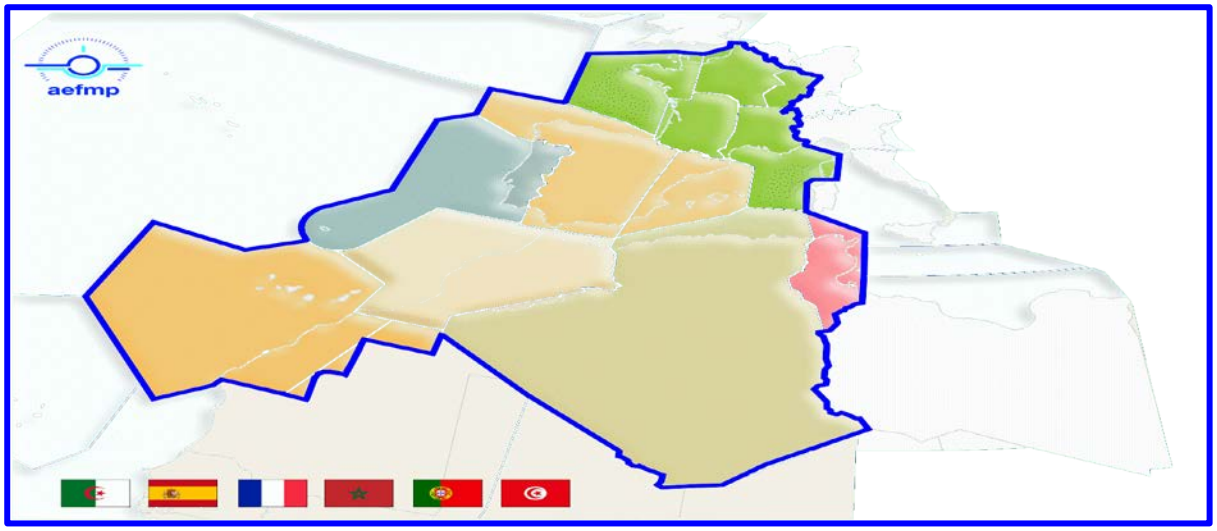
3.1. National projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
8,33 Below FL195	Office National Des Aéroports ANSP (MA)	2015-2020	The adaptation of radio stations to 8,33 started in 2015 and will continue until 2020. All radio stations will work with 8,33 at the horizon of 2020.	-
AIM System	Office National Des Aéroports ANSP (MA)	2020-2023	A new digital system for the management of aeronautical information will be installed from mid-2020 untill end of 2023.	L3: ITY-ADQ
A-SMGCS Level1	Office National Des Aéroports ANSP (MA)	2020-2022	The Casablanca and Marrakech airports will be equipped with A-SMGCS	L3: AOP04.1
Data-Link	Office National Des Aéroports ANSP (MA)	2017-2022	D-ATIS and D-volmet services are already functional since 2018. Data Link FANS in the Agadir CTA (CPDLC and ADS-C) test bed was done during 2018	L3: ITY-AGDL
ETOD/AMDB system	Office National Des Aéroports ANSP (MA)	2020-2023	A new digital system for the management of aeronautical information will be installed from mid-2020 untill end of 2023. The whole data for Morocco will be filled in the future database for completeness, consistency, data quality requirements,	L3: INF07
Free Routes	Direction Générale de l'Aviation Civile (MA), Office National Des Aéroports ANSP (MA)	February 2020	As part of the Moroccan Airspace Analysis and Reorganization project (AREAM) and the PBN Plan, Morocco initiated with the assistance of EUROCONTROL, the process of implementing the free route concept in the Oceanic area. This project, which is scheduled to be implemented at the end of February 2020, will have a positive impact in terms of improving the performance of air traffic management, in particular in terms of capacity, environmental protection and economic efficiency while ensuring a level high security.	L3: AOM21.2
Implementation and operation of an IP-based G/G data communication network	Office National Des Aéroports ANSP (MA)	2015-2020	During 2017, the integration in the RINAM Network of the nodes of the Casablanca and Agadir ACC and radar stations was completed. In2018, the migration of nodes and users of other locations (airports, radio remote stations, etc.) will continue until end of 2020.	L3: ATC17

Name of project:	Organisation(s):	Schedule:	Status:	Links:
Implementation of Voice over IP(VoIP) systems and services	Office National Des Aéroports ANSP (MA)	2015-2020	The deployment of native IP VCS in several towers and 2 ACCs was completed in 2018 and will continue during next years. The deployment of EUROCAE gateways started in 2015.	L3: COM11.1
Procurement and deployment of New PENS	Office National Des Aéroports ANSP (MA)	2019-2020	Ongoing	L3: COM12
Reorganization of CASABLANCA airspace	Direction Générale de l'Aviation Civile (MA), Office National Des Aéroports ANSP (MA)	-	Published on 2019	L3: AOM19.1, AOM19.2, AOM19.3, AOM19.4
Revision of RABAT airspace and creation of new flight procedures	Direction Générale de l'Aviation Civile (MA), Office National Des Aéroports ANSP (MA)	-	New airspace and procedures are designed and published	L3: AOM19.1, AOM19.2, AOM19.3, AOM19.4
Surveillance Evolution	Office National Des Aéroports ANSP (MA)	2014-2021	All radars sensors are Mode-S fully compliant. 8 ADS-B sensors are installed and their operational use is planned for 2020.	-

4. Cooperation activities

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.

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. The collaboration was renewed in 2002 with the signature of a Joint AEFMP Plan.

After 14 years of fruitful cooperation among the five countries, the AEFMP MoU (Memorandum of Understanding) was signed in January 2016 by the five above-mentioned states, 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.

During 2018, the AEFMP celebrated the approval by its Steering Committee of Tunisia application to AEFMP membership, formalized through the signature of a new AEFMP MoU by the civil Air Traffic Services Providers of Algeria (ENNA), Spain (ENAIRE), France (DSNA), Morocco (ONDA), Portugal (NAV Portugal) and Tunisia (OACA), and by the Civil Aviation Authorities of Algeria, Spain, Morocco, Portugal and Tunisia.

AEFMP's activities 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:
  - establish systems and common protocols allowing a reliable, quick and effective exchange of information between operational centres;
  - share data stemming from technical premises between cross-border units, when pertinent;
  - 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:
  - study and elaborate common working methods for the area, as well as establishing support systems necessities;
  - establish common criteria for airspace organization and co-ordination of adjacent units in order to avoid bottlenecks;
  - 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 a special event having occurred in 2019:

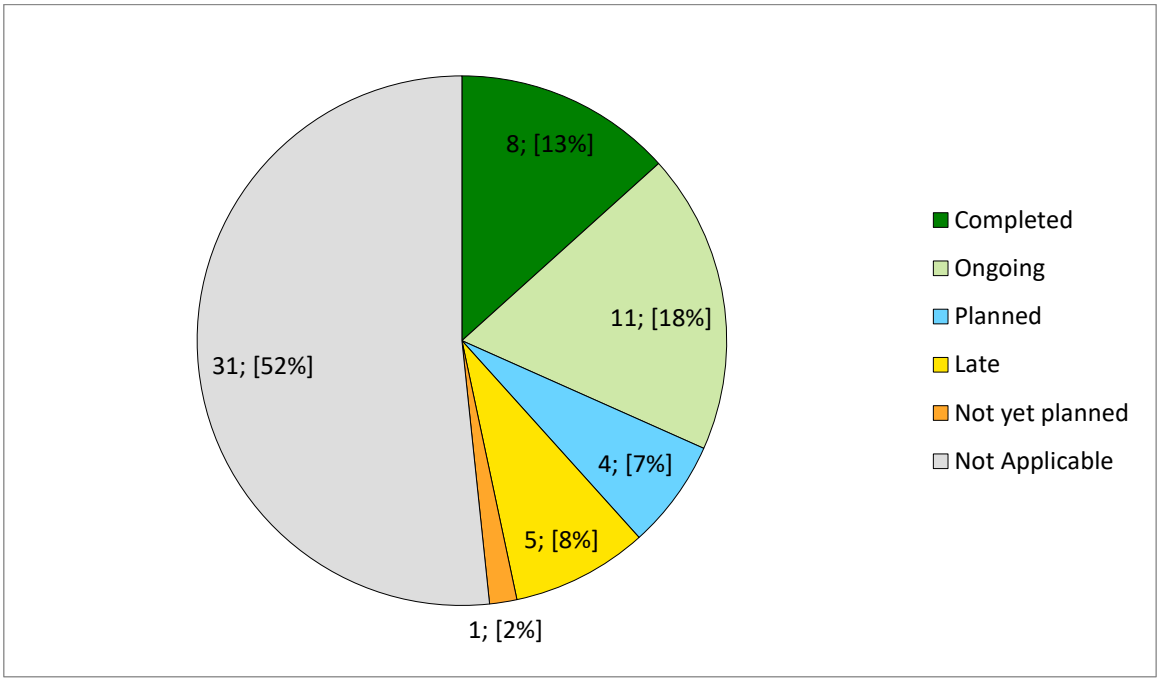
- On March 12, 2019 during the World ATM Congress in Madrid, AEFMP actions have been rewarded by European Commission through a Special Mention in the category “Cooperation” of the Single European Sky Awards;

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

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 the State).



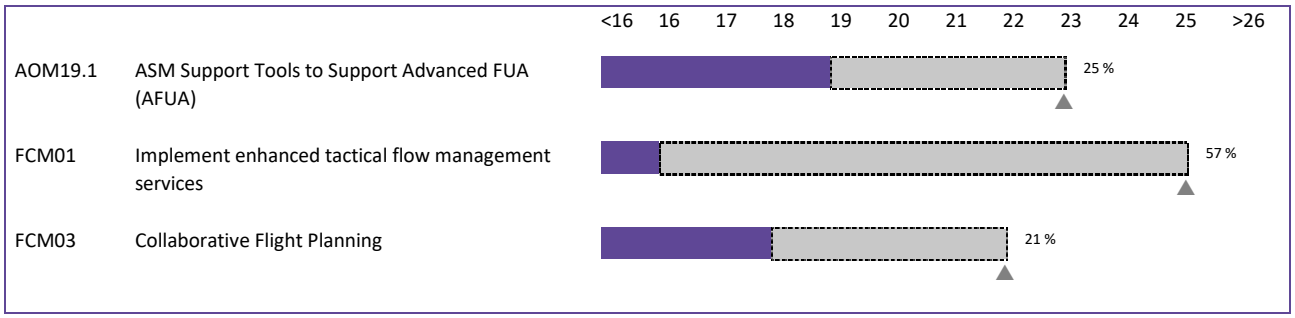
5.2. Objective Progress per SESAR Key Feature

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.

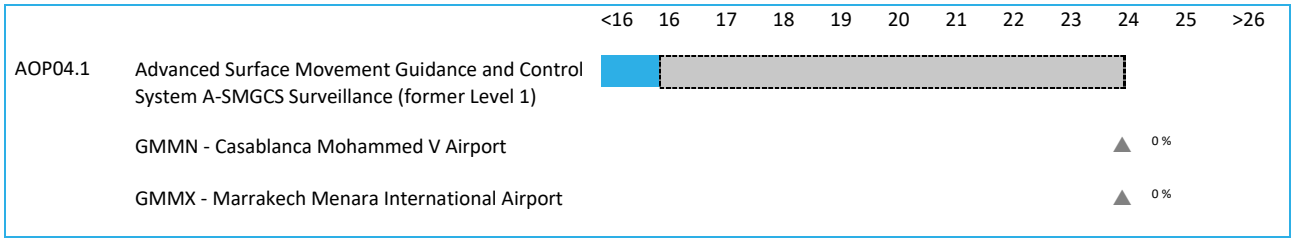
Legend:

Optimised ATM Network Services

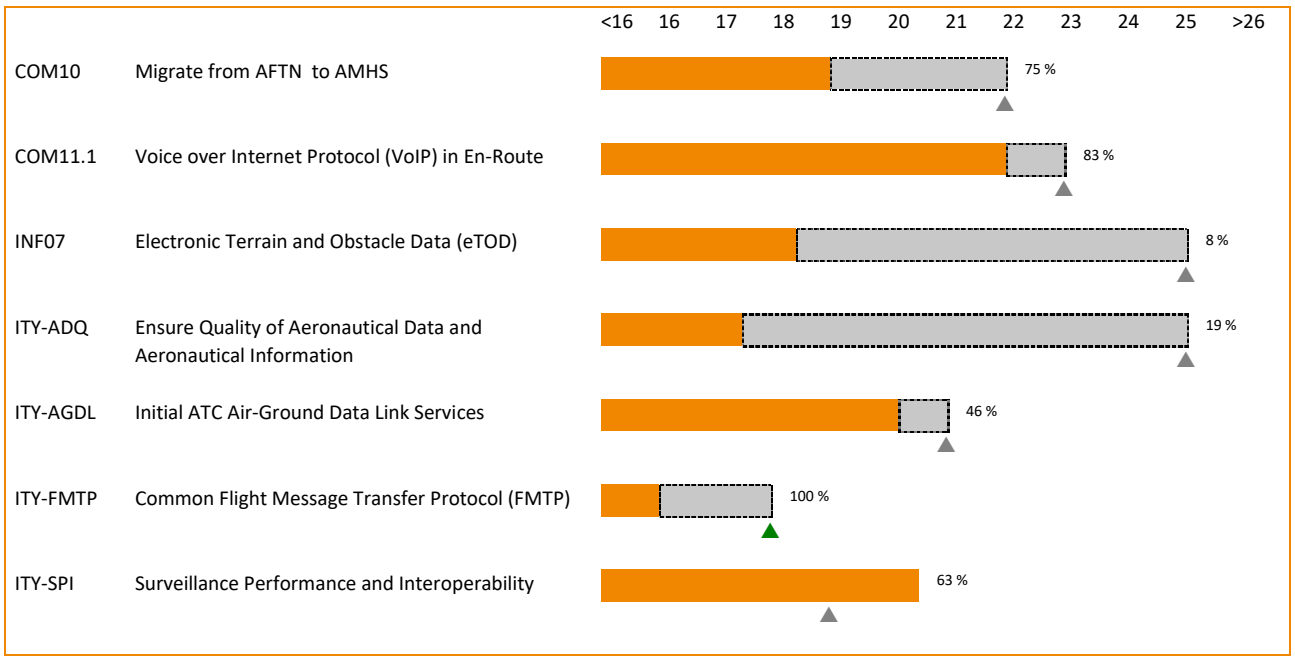



<16
16
17
18
19
20
21
22
23
24
25
>26
AOM21.1 Direct Routing
100 %
AOM21.2 Free Route Airspace
10 %
ATC02.2 Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2 for en-route operations
100 %
ATC02.8 Ground-Based Safety Nets
100 %
ATC02.9 Short Term Conflict Alert (STCA) for TMAs
100 %
ATC07.1 AMAN Tools and Procedures
GMMN - Casablanca Mohammed V Airport
0 %
ATC12.1 Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring
10 %
ATC15.1 Information Exchange with En-route in Support of AMAN
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
25 %
ENV01 Continuous Descent Operations (CDO)
GMMN - Casablanca Mohammed V Airport
0 %
GMMX - Marrakech Menara International Airport
10 %
ITY-COTR Implementation of ground-ground automated co-ordination processes
100 %
NAV03.1 RNAV 1 in TMA Operations
36
NAV03.2 RNP 1 in TMA Operations
0 %
NAV10 RNP Approach Procedures to instrument RWY
26 %

High Performing Airport Operations



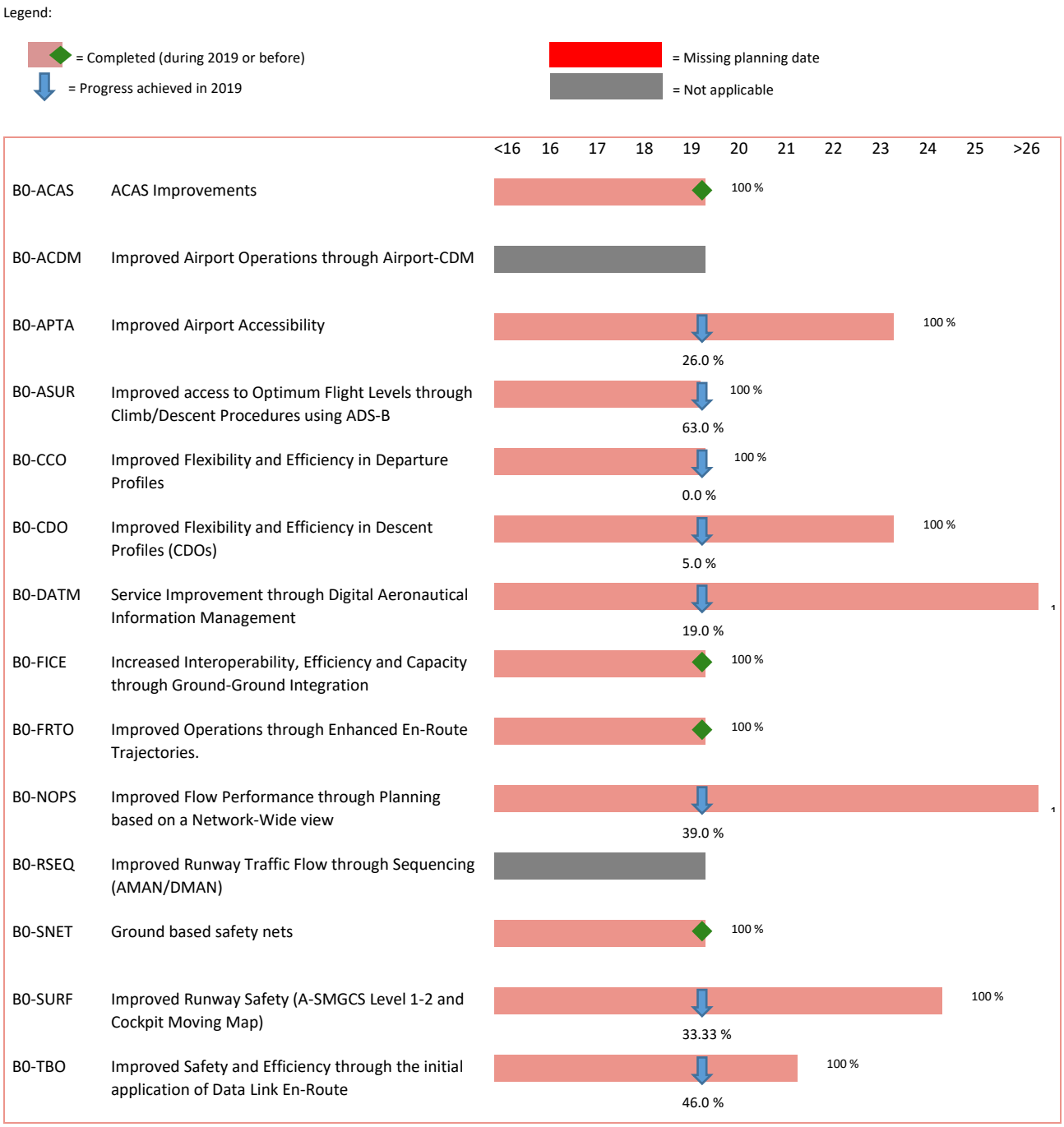
Enabling Aviation Infrastructure



5.3. ICAO ASBU Implementation Progress

The following table shows, for each of the ASBU Block 0 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).



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** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Key Feature: Optimised ATM Network Services				
-				
Morocco is not in the Applicability Area.				**-**
REG (By:12/2018)				
Direction Générale de l'Aviation Civile	-	-	%	Not Applicable -
ASP (By:12/2018)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -
MIL (By:12/2018)				
The Royal Moroccan Air Force	-	-	%	Not Applicable -

AOM19.1	**ASM Support Tools to Support Advanced FUA (AFUA)** ***Timescales:*** Initial operational capability: 01/01/2011 Full operational capability: 31/12/2018		**25%**	**Ongoing**
Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
The implementation of FUA is planned through the "AREA-M" project. **The acquisition of LARA tools is planned** **Basic FUA regulation is drafted and is under discussion for publication**				**31/12/2022**
ASP (By:12/2018)				
Office National Des Aéroports ANSP	The implementation of FUA is planned through the "AREA-M" project. The acquisition of LARA tools is planned	Reorganization of CASABLANCA airspace / Revision of RABAT airspace and creation of new flight procedures	25%	Ongoing 31/12/2022

AOM19.2	**ASM Management of Real-Time Airspace Data** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
Morocco is not in the Applicability Area.				-
ASP (By:12/2021)				
Office National Des Aéroports ANSP	-	Reorganization of CASABLANCA airspace / Revision of RABAT airspace and creation of new flight procedures	%	Not Applicable -

AOM19.3	**Full Rolling ASM/ATFCM Process and ASM Information Sharing** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B0-FRTO, B1-FRTO, B1-NOPS, B2-NOPS | Key Feature: Optimised ATM Network Services				
-				
Morocco is not in the Applicability Area.				-
ASP (By:12/2021)				
Office National Des Aéroports ANSP	-	Reorganization of CASABLANCA airspace / Revision of RABAT airspace and creation of new flight procedures	%	Not Applicable -

AOM19.4	**Management of Pre-defined Airspace Configurations** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
Morocco is not in the Applicability Area.				-
ASP (By:12/2021)				
Office National Des Aéroports ANSP	-	Reorganization of CASABLANCA airspace / Revision of RABAT airspace and creation of new flight procedures	%	Not Applicable -

AOM21.2	**Free Route Airspace** ***Timescales:*** Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021		**50%**	**Ongoing**
Links: B0-FRTO, B1-FRTO | Key Feature: Advanced Air Traffic Services				
-				
Implementation of Free Route is foreseen through the AREA-M project in CTA Agadir and Casablanca CTAs. **FRA airspace has been implemented in coordination with NM for Agadir CTA** **CONOPS is already done in coordination with NM** **Agadir ATC system is supporting FRA OPS** **FRA air space implementation in Casablanca CTA is planned for 2021**				**31/12/2021**
ASP (By:12/2021)				
Office National Des Aéroports ANSP	FRA airspace has been implemented in coordination with NM for Agadir CTA CONOPS is already done in coordination with NM Agadir ATC system is supporting FRA OPS	Free Routes	50%	Ongoing 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		**0%**	**Late**
Links: B0-SURF | Key Feature: High Performing Airport Operations				
GMMN - Casablanca Mohammed V Airport				
Project of new Casablanca ATC tower includes the implementation of an A-SMGCS Level1 due to low visibility impact.				**31/12/2023**
REG (By:12/2010)				
Direction Générale de l'Aviation Civile	Publication related to A-SMGCS Surveillance system implementation will be drafted and published.	-	0%	Late 31/12/2022
ASP (By:12/2011)				
Office National Des Aéroports ANSP	-The Call for tender will be launched during Q3 2022. -Delivery equipment expected during Q2 2023	A-SMGCS Level1	0%	Late 31/12/2023
APO (By:12/2010)				
Office National Des Aéroports APO	-The start of activity is expected by Q4 2023. -OJT training will take place Q4 2023	-	0%	Late 31/12/2023

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		**0%**	**Late**
Links: B0-SURF | Key Feature: High Performing Airport Operations				
GMMX - Marrakech Menara International Airport				
The implementation of an A-SMGCS Level1 is planned in Marrakech airport due to traffic volume and low visibility impact.				**31/12/2023**
REG (By:12/2010)				
Direction Générale de l'Aviation Civile	-	-	0%	Late 31/12/2023
ASP (By:12/2011)				
Marrakech Menara International Airport	-	-	0%	Late 31/12/2023
APO (By:12/2010)				
Marrakech Menara International Airport	-	-	0%	Late 31/12/2023

AOP04.2	**Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B0-SURF | Key Feature: High Performing Airport Operations				
GMMN - Casablanca Mohammed V Airport **(Outside Applicability Area)**				
No need for the moment to implement this objective				**-**
ASP (By:12/2017)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -
APO (By:12/2017)				
Office National Des Aéroports APO	-	-	%	Not Applicable -

AOP05	Airport Collaborative Decision Making (A-CDM) ***Timescales:*** - not applicable -		%	Not Applicable
Links: B0-ACDM, B0-RSEQ | Key Feature: High Performing Airport Operations				
GMMN - Casablanca Mohammed V Airport **(Outside Applicability Area)**				
Discussion in Morocco has started to assess the eventual need of CDM. For the moment, this is assumed to be "not applicable".				-
ASP (By:12/2016)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -
APO (By:12/2016)				
Office National Des Aéroports APO	-	-	%	Not Applicable -

AOP10	Time-Based Separation ***Timescales:*** - not applicable -		%	Not Applicable
Links: B1-RSEQ, B2-WAKE | Key Feature: High Performing Airport Operations				
GMMN - Casablanca Mohammed V Airport **(Outside Applicability Area)**				
Moroccan airports are not in the Applicability Area.				-
REG (By:12/2023)				
Direction Générale de l'Aviation Civile	-	-	%	Not Applicable -
ASP (By:12/2023)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -

AOP11	Initial Airport Operations Plan ***Timescales:*** - not applicable -		%	Not Applicable
Links: B1-ACDM | Key Feature: High Performing Airport Operations				
GMMN - Casablanca Mohammed V Airport **(Outside Applicability Area)**				
Moroccan airports are not in the Applicability Area.				-
ASP (By:12/2021)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -
APO (By:12/2021)				
Office National Des Aéroports APO	-	-	%	Not Applicable -

AOP12	Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC) ***Timescales:*** - not applicable -	%	Not Applicable
Links: B2-SURF | Key Feature: High Performing Airport Operations			
GMMN - Casablanca Mohammed V Airport **(Outside Applicability Area)**			
Moroccan airports are not in the Applicability Area.			**-**
ASP (By:12/2020)			
Office National Des Aéroports ANSP	-	- %	Not Applicable -
APO (By:12/2020)			
Office National Des Aéroports APO	-	- %	Not Applicable -

AOP13	Automated Assistance to Controller for Surface Movement Planning and Routing ***Timescales:*** - not applicable -	%	Not Applicable
Links: B1-ACDM, B1-RSEQ, B2-SURF | Key Feature: High Performing Airport Operations			
GMMN - Casablanca Mohammed V Airport **(Outside Applicability Area)**			
All involved stakeholders decided that, for this first edition of the LSSIP, there would be no reporting for this Objective. This will be revisited in the next edition(s) of the document.			**-**
REG (By:12/2023)			
Direction Générale de l'Aviation Civile	-	- %	Not Applicable -
ASP (By:12/2023)			
Office National Des Aéroports ANSP	-	- %	Not Applicable -

ATC02.8	Ground-Based Safety Nets ***Timescales:*** Initial operational capability: 01/01/2009 Full operational capability: 31/12/2016	100%	Completed
Links: B0-SNET, B1-SNET | Key Feature: Advanced Air Traffic Services			
-			
The APW , MSAW and APM functions are implemented since 2007 **Operational manuals and procedures contain APW and MSAW procedures and instructions** **ATCO training is align with the use of APW and MSAW ground-based safety tools**			**31/12/2018**
ASP (By:12/2016)			
Office National Des Aéroports ANSP	-The APW , MSAW and APM functions are implemented in Casablanca ACC since 2007 and in Agadir ACC since 2018 -Operational manuals and procedures contain APW and MSAW procedures and instructions -ATCOs training is align with the use of APW and MSAW ground-based safety tools	- 100%	Completed 31/12/2018

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 implemented in Casablanca MOHAMMED V Airport since 2010 and in Marrakech Airport since 2018				**31/12/2018**
ASP (By:12/2020)				
Office National Des Aéroports ANSP	-STCA function implemented in Casablanca MOHAMMED V Airport, since 2010 and in Marrakech Airport since 2018 -Procedures related to the use of STCA are incorporated in Casablanca and Marrakech operational instructions and manuals.	-	100%	Completed 31/12/2018

ATC07.1	**AMAN Tools and Procedures** ***Timescales:*** Initial operational capability: 01/01/2007 Full operational capability: 31/12/2019		**0%**	**Planned**
Links: B0-RSEQ | Key Feature: Advanced Air Traffic Services				
GMMN - Casablanca Mohammed V Airport				
The implementation is planned in the new system of Casablanca ACC.				**31/12/2021**
ASP (By:12/2019)				
Office National Des Aéroports ANSP	Implementation of AMAN Tools and Procedures is planned on the framework of new Casablanca ACC system. Delivery system is expected by Q3 2020 and the system installation will be achieved around June 2021	-	0%	Planned 31/12/2021

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		**50%**	**Ongoing**
Links: B1-FRTO | Key Feature: Advanced Air Traffic Services				
-				
Implemented in Agadir ACC since 2018 and planned in the new system of Casablanca ACC.				**31/12/2021**
ASP (By:12/2021)				
Office National Des Aéroports ANSP	Automated support for conflict detection, resolution support information and conformance monitoring system is implemented in Agadir ACC since 2018 and is planned in the new system of Casablanca ACC.	-	50%	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		**0%**	**Planned**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
The implementation is planned in the new system (acquisition of new ATC system in 2021) of Casablanca ACC and in some airport.				**31/12/2021**
ASP (By:12/2019)				
Office National Des Aéroports ANSP	The implementation is planned in the new system (acquisition of new ATC system in 2021) of Casablanca ACC and in some airport.	-	0%	Planned 31/12/2021

ATC15.2	**Arrival Management Extended to En-route Airspace** **(Outside Applicability Area)** ***Timescales:*** - not applicable -	**%**	**Not Applicable**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services			
-			
Arrival Management system implementation is planned for Casablanca airport **The need of Arrival Management in En-route Airspace will be evaluated later**			-
ASP (By:12/2023)			
Office National Des Aéroports ANSP	-	-	%	Not Applicable -

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		**50%**	**Ongoing**
Key Feature: Advanced Air Traffic Services				
-				
The PAC is implemented since 2007. **Implementation of COD is planned in the framework of new system of Casablanca ACC implementation.**				**31/12/2021**
ASP (By:12/2018)				
Office National Des Aéroports ANSP	The PAC is implemented in Casablanca ACC since 2007. Implementation of COD is planned in the framework of new system of Casablanca ACC implementation.	Implementation and operation of an IP-based G/G data communication network	50%	Ongoing 31/12/2021

COM10	**Migrate from AFTN to AMHS** ***Timescales:*** Initial operational capability: 01/12/2011 Full operational capability: 31/12/2018		**75%**	**Ongoing**
Key Feature: Enabling the Aviation Infrastructure				
-				
AMHS implemented in Casablanca COM Center since 2007. **An Aeronautical Messages HANDLING System is installed, which allows the management of the three protocols (AFTN, CIDIN and AMHS).** **This Aeronautical Messages HANDLING System possesses Gateways that allow Conversion between the three different protocols mentioned above.** **The system provides the Basic AMHS Capabilities.** **A CFT will be launched during Q1 2020 in order to renew the existing system with extended ATSMHS system.**				**31/12/2021**
ASP (By:12/2018)				
Office National Des Aéroports ANSP	AMHS implemented in Casablanca COM Center since 2007. An Aeronautical Messages HANDLING System is installed, which allows the management of the three protocols (AFTN, CIDIN and AMHS). This Aeronautical Messages HANDLING System possesses Gateways that allow Conversion between the three different protocols mentioned above. The system provides the Basic AMHS Capabilities. A CFT will be launched during Q1 2020 in order to renew the existing system with extended ATSMHS system.	-	75%	Ongoing 31/12/2021

COM11.1	**Voice over Internet Protocol (VoIP) in En-Route** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 31/12/2021		**83%**	**Ongoing**
Key Feature: Enabling the Aviation Infrastructure				
-				
For both Casablanca and AGADIR ACCs, the Voice Communication Systems support VoIP are in use. ACC CASABLANCA VCS operational since 03/14/2018. ACC AGADIR VCS operational since 04/25/2018. Between the two ACC AGADIR and CASABLANCA, the telephone coordination with VoIP is operational. However, with the adjacent ACC (Lisbon/Seville/ Algeria/Mauritania) the VoIP is planned for 2021.				**31/12/2022**
ASP (By:12/2021)				
Office National Des Aéroports ANSP	For both Casablanca and AGADIR ACCs, the Voice Communication Systems support VoIP are in use. ACC CASABLANCA VCS operational since 03/14/2018. ACC AGADIR VCS operational since 04/25/2018. Between the two ACC AGADIR and CASABLANCA, the telephone coordination with VoIP is operational. However, with the adjacent ACC (Lisbon/Seville/ Algeria/Mauritania) the VoIP is planned for 2021.	Implementation of Voice over IP(VoIP) systems and services	83%	Ongoing 31/12/2022

COM11.2	**Voice over Internet Protocol (VoIP) in Airport/Terminal** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Key Feature: Enabling the Aviation Infrastructure				
-				
Morocco is not in the applicability area but this objective is planned. Morocco would like to implement this and to be added to the applicability area.				-
ASP (By:12/2023)				
Office National Des Aéroports ANSP	Morocco is not in the applicability area but this objective is planned. Morocco would like to implement this and to be added to the applicability area.	-	%	Not Applicable -

COM12	**New Pan-European Network Service (NewPENS)** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B1-SWIM | Key Feature: Enabling the Aviation Infrastructure				
-				
Morocco is not in the applicability area				-
ASP (By:12/2024)				
Office National Des Aéroports ANSP	-	Procurement and deployment of New PENS	%	Not Applicable -
APO (By:12/2024)				
Office National Des Aéroports APO	-	-	%	Not Applicable -

ENV01	**Continuous Descent Operations (CDO)** ***Timescales:*** Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023		**0%**	**Planned**
Links: B0-CDO, B1-CDO | Key Feature: Advanced Air Traffic Services				
GMMN - Casablanca Mohammed V Airport				
Implementing new PBN procedures including CDOs is planned for Casablanca airport.				**31/12/2022**
ASP (By:12/2023)				
Office National Des Aéroports ANSP	-	-	0%	Planned 31/12/2022
APO (By:12/2023)				
Office National Des Aéroports APO	-	-	0%	Planned 31/12/2022

ENV01	**Continuous Descent Operations (CDO)** ***Timescales:*** Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023		**10%**	**Ongoing**
Links: B0-CDO, B1-CDO | Key Feature: Advanced Air Traffic Services				
GMMX - Marrakech Menara International Airport				
-Implementing of new PBN procedures including CDO is planned for Marrakech airport. **-New Continuous Descent Operations procedures for Marrakech airport is designed and will be published by the end of 2020.**				**31/12/2021**
ASP (By:12/2023)				
Office National Des Aéroports ANSP	-Implementing of new PBN procedures including CDO is planned for Marrakech airport. -New Continuous Descent Operations procedures for Marrakech airport is designed and will be published by the end of 2020.	-	13%	Ongoing 31/12/2021
APO (By:12/2023)				
Marrakech Menara International Airport	New Continuous Descent Operations procedures for Marrakech airport is designed and will be published by the end of 2020.	-	0%	Planned 31/12/2021

FCM03	**Collaborative Flight Planning** ***Timescales:*** Initial operational capability: 01/01/2000 Full operational capability: 31/12/2017		**21%**	**Ongoing**
Links: B0-NOPS | Key Feature: Optimised ATM Network Services				
-				
Morocco integrated IFPS zone and CFMU area since 2008. **All FPLs and associated messages are processing by IFPS since 2008 and the ATC system processes automatically in ADEXP format.** **Automatically process FPLs derived from RPLs, which are received from IFPS.** **Processing of APL and ACH messages in ATC.** **The implementation of other messages is planned in the framework of the new system (acquisition of new ATM system planned for 2020) of Casablanca ACC.**				**31/12/2021**
ASP (By:12/2017)				
Office National Des Aéroports ANSP	Morocco integrated IFPS zone and CFMU area since 2008. All FPLs and associated messages are processing by IFPS since 2008 and the ATC system processes automatically in ADEXP format. Automatically process FPLs derived from RPLs, which are received from IFPS. Processing of APL and ACH messages in ATC. The implementation of other messages is planned in the framework of the new system (acquisition of new ATM system planned for 2020) of Casablanca ACC.	-	21%	Ongoing 31/12/2021

FCM04.2	**Short Term ATFCM Measures (STAM) - Phase 2** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Key Feature: Optimised ATM Network Services				
-				
All involved stakeholders decided that, for this first edition of the LSSIP, there would be no reporting for this Objective. This will be revisited in the next edition(s) of the document.				-
ASP (By:12/2021)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -

FCM05	**Interactive Rolling NOP** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B1-ACDM, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
All involved stakeholders decided that, for this first edition of the LSSIP, there would be no reporting for this Objective. This will be revisited in the next edition(s) of the document.				-
ASP (By:12/2021)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -
APO (By:12/2021)				
Office National Des Aéroports APO	-	-	%	Not Applicable -

FCM06	**Traffic Complexity Assessment** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
Morocco is not in the applicability area.				-
ASP (By:12/2021)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -

FCM08	**Extended Flight Plan** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B1-FICE | Key Feature: Enabling the Aviation Infrastructure				
-				
Morocco is not in the applicability area.				-
ASP (By:12/2021)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -

INF07	**Electronic Terrain and Obstacle Data (eTOD)** ***Timescales:*** Initial operational capability: 01/11/2014 Full operational capability: 31/05/2018		**8%**	**Late**
Key Feature: Enabling the Aviation Infrastructure				
-				
A new digital system for the management of aeronautical information will be installed from mid-2020 untill end of 2023. **The whole data for Morocco will be filled in the future database for completeness, consistency, data quality requirements.** **Phase 1: Marrakech 2023, Phase 2: Casablanca 2024.**				**31/12/2026**
REG (By:05/2018)				
Direction Générale de l'Aviation Civile	TOD Regulation framework including TOD policy and basic regulation will be published by the end of 2021.	-	5%	Ongoing 31/12/2021
ASP (By:05/2018)				
Office National Des Aéroports ANSP	A new digital system for the management of aeronautical information will be installed from mid-2020 until end of 2023. The whole data for Morocco will be filled in the future database for completeness, consistency, data quality requirements.	ETOD/AMDB system	10%	Late 31/12/2026
APO (By:05/2018)				
Office National Des Aéroports APO	The whole data for Marrakech and Casablanca airport will be filled in the future database for completeness, consistency, data quality requirements in two phases : Phase 1: Marrakech 2023. Phase 2: Casablanca 2024.	-	10%	Late 31/12/2026

INF08.1	**Information Exchanges using the SWIM Yellow TI Profile** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B1-DATM, B1-SWIM | Key Feature: Enabling the Aviation Infrastructure				
-				
Morocco is not in the applicability area				**-**
ASP (By:12/2024)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -
MIL (By:12/2024)				
The Royal Moroccan Air Force	-	-	%	Not Applicable -
APO (By:12/2024)				
Office National Des Aéroports APO	-	-	%	Not Applicable -

ITY-ACID	**Aircraft Identification** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Key Feature: Enabling the Aviation Infrastructure				
-				
Morocco is not in the applicability area.				**-**
ASP (By:01/2020)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -

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		**19%**	**Late**
Links: B0-DATM | Key Feature: Enabling the Aviation Infrastructure				
-				
Quality management system (QMS) is fully implemented since 2009. **A new digital system for the management of aeronautical information will be installed from mid-2020 until end of 2023.** **The whole data for Morocco will be filled in the future database for completeness, consistency, data quality requirements, resolution and integrity analysis.** **The entire impact of the Implementing Rule 73/2010 will be further studied and appropriate actions will be taken in due time. Therefor the initial date of end 2020 has been postponed to 2025.**				**31/12/2025**
REG (By:06/2017)				
Direction Générale de l'Aviation Civile	Quality management system (QMS) is accepted by the CAA. The Verification of data requirements conformity is periodically done in the framework of the new digital system implementation.	-	7%	Late 31/12/2025
ASP (By:06/2017)				
Office National Des Aéroports ANSP	Quality management system (QMS) is fully implemented since 2009. A new digital system for the management of aeronautical information will be installed from mid-2020 untill end of 2023. The whole data for Morocco will be filled in the future database for completeness, consistency, data quality requirements, resolution and integrity analysis.	AIM System	20%	Late 31/12/2025
APO (By:06/2017)				
Office National Des Aéroports APO	Quality management system (QMS) is fully implemented in Marrakech and Casablanca airports. The new digital system for the management of aeronautical information, which will be installed from mid-2020 until end of 2023 will includes all data related to Marrakech and Casablanca airports.	-	24%	Late 31/12/2025

ITY-AGDL	**Initial ATC Air-Ground Data Link Services** ***Timescales:*** ATS unit operational capability: 05/02/2018 Aircraft capability: 05/02/2020		**46%**	**Ongoing**
Links: B0-TBO | Key Feature: Enabling the Aviation Infrastructure				
-				
The Moroccan ANSP has chosen an alternative communication technology using ARINC infrastructure to ensure the provision of data link services in oceanic and west sectors. **Compliance trials have been performed in the concerned CTA (Agadir CTA).** **Technically all work has been done, awaiting operational implementation.** **It has been found that there is no need to implement this in the rest of Moroccan airspace for the moment.**				**31/12/2020**
REG (By:02/2018)				
Direction Générale de l'Aviation Civile	Relevant information related to Initial ATC Air-Ground Data Link Services will be drafted and published according to the project progress.	-	10%	Ongoing 31/12/2020
ASP (By:02/2018)				
Office National Des Aéroports ANSP	-Interoperability test between ARINC infrastructure and ATM system were performed since Q3 2018. - Air ground data communication tests have been performed. -Safety assessment in progress and training will take place by Q4 2020.	Data-Link	52%	Ongoing 31/12/2020
MIL (By:01/2019)				
The Royal Moroccan Air Force	-	-	%	Not Applicable -

ITY-AGVCS2	**8,33 kHz Air-Ground Voice Channel Spacing below FL195** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Key Feature: Enabling the Aviation Infrastructure				
-				
All equipment is capable to perform 8,33 kHz operations above and below FL195, however, there is no need to use this.				-
REG (By:12/2018)				
Direction Générale de l'Aviation Civile	-	-	%	Not Applicable -
ASP (By:12/2018)				
Office National Des Aéroports ANSP	-	-	%	Not Applicable -
MIL (By:12/2020)				
The Royal Moroccan Air Force	-	-	%	Not Applicable -
APO (By:12/2018)				
Office National Des Aéroports APO	-	-	%	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				
-				
				31/12/2017
ASP (By:12/2014)				
Office National Des Aéroports ANSP	-New aeronautical messaging protocols such as FMTP over IP are already in use between Casablanca ACC, Agadir ACC and Lisbon ACC, Canary ACC and Seville ACC. -An FMTP link will be established with Alger ACC when they implement the required system.	-	100%	Completed 31/12/2017
MIL (By:12/2014)				
The Royal Moroccan Air Force	-	-	%	Completed -

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		**63%**	**Completed**
Links: B0-ASUR | Key Feature: Enabling the Aviation Infrastructure				
-				
Mode-S level-2 in 2009, ADS-B for en route 2011. **ADS-B as a secondary back-up in some airports (Marrakech) in 2015.**				**31/12/2018**
REG (By:02/2015)				
Direction Générale de l'Aviation Civile	Safety assessment has been reviewed according to the new system installed in Agadir ACC. Results are communicated to the ANSP. And the implementation of action plan are assessed during audits.	-	100%	Completed 31/12/2018
ASP (By:02/2015)				
Office National Des Aéroports ANSP	Mode-S level-2 in 2009, ADS-B for en route 2011. ADS-B as a secondary back-up in some airports (Marrakech, Agadir, Fes, Tanger, Oujda) in 2015.	-	100%	Completed 31/12/2009
MIL (By:06/2020)				
The Royal Moroccan Air Force	No implementation data available for Military.	-	0%	Missing Data -

NAV03.1	**RNAV 1 in TMA Operations** ***Timescales:*** Initial operational capability: 01/01/2001 Locally determined number of RNAV1 SID/STAR, where established: 06/06/2030		**46%**	**Ongoing**
Links: B0-CCO, B0-CDO, B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
Moroccan PBN Plan was developed in 2013, it has been reviewed in 2019 **Moroccan PBN Plan includes the phased implementation of the transition plan for PBN in ANS provision.** **RNAV 1 procedures are implemented in Marrakech TMA.** **Casablanca TMA RNAV procedures are planned on the framework of Casablanca airspace reorganization project.**				**31/12/2021**
REG (By:06/2030)				
Direction Générale de l'Aviation Civile	Moroccan PBN Plan was developed in 2013, it has been reviewed in 2019 Moroccan PBN Plan includes the phased implementation of the transition plan for PBN in ANS provision.	-	100%	Completed 31/12/2019
ASP (By:06/2030)				
Office National Des Aéroports ANSP	RNAV 1 procedures are implemented in Marrakech TMA. Casablanca TMA RNAV procedures are planned on the framework of Casablanca airspace reorganization project.	-	39%	Ongoing 31/12/2021

NAV03.2	**RNP 1 in TMA Operations** ***Timescales:*** Start: 07/08/2018 Locally determined number of RNP1 SID/STAR, where established.: 06/06/2030		**0%**	**Not yet planned**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
The implementation of RNP1 is not planned for airports with Radar surveillance such as Casablanca and Marrakech airports.				-
REG (By:06/2030)				
Direction Générale de l'Aviation Civile	-	-	%	Not yet planned -
ASP (By:06/2030)				
Office National Des Aéroports ANSP	-	-	0%	Not yet planned -

NAV10	**RNP Approach Procedures to instrument RWY** ***Timescales:*** Initial operational capability: 01/06/2011 Instrument RWY ends served by precision approach (including PCP airports): 25/01/2024 Instrument RWY ends without precision approach at other ECAC+ instrument RWYs.: 25/01/2024		**37%**	**Ongoing**
Links: B0-APTA | Key Feature: Advanced Air Traffic Services				
-				
Casablanca and Marrakech airports have the major part of the passenger traffic with 68 %. **On-going project on the first phase was issued for implementing new PBN procedures including APV/Baro in Casablanca and Marrakech airports.**				**31/12/2022**
REG (By:01/2024)				
Direction Générale de l'Aviation Civile	National regulation of Airspace structures design is drafted according to EASA material. Drafted regulation is under discussion by national stakeholders in order to be validated and published. Moroccan PBN Plan was developed in 2013 and includes the phased implementation of the transition plan for PBN in ANS provision	-	45%	Ongoing 31/12/2021
ASP (By:01/2024)				
Office National Des Aéroports ANSP	There is no Vertical Guidance with SBAS because no EGNOS coverage! The Air navigation capabilities for APV as DME, GPS and SBAS are ongoing. Marrakech airport procedures to LNAV minima are designed and published since 2013. Casablanca airport : planned for 2021	-	34%	Ongoing 31/12/2022

NAV12	ATS IFR Routes for Rotorcraft Operations (Outside Applicability Area) ***Timescales:*** - not applicable -	%	Not Applicable
Links: B1-APTA | Key Feature: Advanced Air Traffic Services			
-			
Morocco is not in the applicability area. Morocco has no IFR routes for rotorcraft operations. This objective is not needed. No local needs.			-
REG (By:06/2030)			
Direction Générale de l'Aviation Civile	-	- %	Not Applicable -
ASP (By:06/2030)			
Office National Des Aéroports ANSP	-	- %	Not Applicable -

SAF11	Improve Runway Safety by Preventing Runway Excursions (Outside Applicability Area) ***Timescales:*** - not applicable -	%	Not Applicable
Key Feature: High Performing Airport Operations			
-			
All involved stakeholders decided that, for this first edition of the LSSIP, there would be no reporting for this Objective. This will be revisited in the next edition(s) of the document.			-
REG (By:01/2018)			
Direction Générale de l'Aviation Civile	-	- %	Not Applicable -
ASP (By:12/2014)			
Office National Des Aéroports ANSP	-	- %	Not Applicable -
APO (By:12/2014)			
Office National Des Aéroports APO	-	- %	Not Applicable -

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			
-			
- Completed in Agadir CTA and in Casablanca CTA **- DCT implemented with close coordination of NM and adjacent ACCs within Agadir ACC (oceanic part)**			**31/12/2018**
ASP (By:12/2017)			
Office National Des Aéroports ANSP	- Completed in Agadir CTA and in Casablanca CTA - DCT implemented with close coordination of NM and adjacent ACCs within Agadir ACC (oceanic part)	-	100%	Completed 31/12/2018

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			
-			
-Function installed in Casablanca ACC since 2007 and in Agadir ACC since 2018 **-Procedures related to the use of STCA are incorporated in Casablanca and Agadir ACCs operational instructions and manuals.** **-ATCO training program is align with the use of STCA ground-based safety tools.**			**31/12/2018**
ASP (By:01/2013)			
Office National Des Aéroports ANSP	-Function installed in Casablanca ACC since 2007 and in Agadir ACC since 2018 -Procedures related to the use of STCA are incorporated in Casablanca and Agadir ACCs operational instructions and manuals. -ATCO training program is align with the use of STCA ground-based safety tools.	-	100%	Completed 31/12/2018

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			
-			
All Moroccan aircraft engaged in commercial air operations are equipped with TCAS II version 7.1. **An ACAS II version 7.1 Condition is included in the airworthiness certification process.** **ATC reporting of ACAS RAs implemented in the ACC.**			**31/12/2018**
REG (By:12/2015)			
Direction Générale de l'Aviation Civile	-All Moroccan aircraft engaged in commercial air operations are equipped with TCAS II version 7.1. -An ACAS II version 7.1 Condition is included in the airworthiness certification process.	-	100%	Completed 31/12/2018
ASP (By:03/2012)			
Office National Des Aéroports ANSP	-ATC reporting of ACAS RAs implemented in the ACC. -ATCO training, operational manuals and procedures are align with ACAS II.	-	100%	Completed 31/12/2010
MIL (By:12/2015)			
The Royal Moroccan Air Force	-	-	%	Not Applicable -

FCM01	**Implement enhanced tactical flow management services** ***Timescales:*** Initial operational capability: 01/08/2001 Full operational capability: 31/12/2006		**57%**	**Late**
Links: B0-NOPS | Key Feature: Optimised ATM Network Services				
-				
FMP operational in Casablanca ACC since 2007. **FSA messages are provided by Moroccan ATM system since 2011.** **The provision of CPR messages to the ETFMS is now planned for 2021 for both ACCs**				**31/12/2025**
ASP (By:07/2014)				
Office National Des Aéroports ANSP	FMP operational in Casablanca ACC since 2007. FSA messages are provided by Moroccan ATM system since 2011. CPR messages for Agadir ACC will be provided to the ETFMS during Q2 2020. The provision of CPR messages for Casablanca ACC is planned for 2021.	-	57%	Late 31/12/2025

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				
-				
The OLDI system links Morocco's ACC to those at Canaries, Seville and Lisbon. **An OLDI link will be established with Algiers FIR when they implement required functionality. The Objective can be considered Completed**				**31/12/2011**
ASP (By:12/2012)				
Office National Des Aéroports ANSP	The OLDI system links Morocco's ACC to those at Canaries, Seville and Lisbon. An OLDI link will be established with Algiers FIR when they implement required functionality. The Objective can be considered Completed	-	100%	Completed 31/12/2011
MIL (By:12/2012)				
The Royal Moroccan Air Force	-	-	%	Not Applicable -

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*	%	Not Applicable
Links: B1-RATS | Key Feature: High Performing Airport Operations			
GMMN - Casablanca Mohammed V Airport			
Morocco does not need remote tower provision.			-

AOP15	Enhanced traffic situational awareness and airport safety nets for the vehicle drivers *Applicability and timescale: Local*	%	Not Applicable
Links: B2-SURF | Key Feature: High Performing Airport Operations			
GMMN - Casablanca Mohammed V Airport			
No current local needs. This will depend on the implementation of objective AOP04.which is planned for 31/12/2024			-

AOP16	Guidance assistance through airfield ground lighting *Applicability and timescale: Local*	%	Not Applicable
Links: B1-RSEQ, B2-SURF | Key Feature: High Performing Airport Operations			
GMMN - Casablanca Mohammed V Airport			
Moroccan airports are not in the applicability area. There is no local needs.			-

AOP17	Provision/integration of departure planning information to NMOC *Applicability and timescale: Local*	%	Not Applicable
Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations			
GMMN - Casablanca Mohammed V Airport			
Morocco plans to implement A-CDM, the alternative solution. There are no local needs for AOP17.			-

AOP18	Runway Status Lights (RWSL) *Applicability and timescale: Local*	%	Not Applicable
Links: B2-SURF | Key Feature: High Performing Airport Operations			
GMMX - Marrakech Menara International Airport			
Moroccan airports are not in the applicability area. There is no local needs.			-

ATC18	Multi-Sector Planning En-route - 1P2T *Applicability and timescale: Local*	%	Not Applicable
Key Feature: Advanced Air Traffic Services			
-			
Morocco is not in the applicability area. There is no local needs.			-

ATC19	Enhanced AMAN-DMAN integration *Applicability and timescale: Local*	%	Not Applicable
Links: B2-RSEQ | Key Feature: Advanced Air Traffic Services			
-			
Morocco is not in the applicability area. There is no local needs.			-

ATC20	Enhanced STCA with down-linked parameters via Mode S EHS *Applicability and timescale: Local*	%	Not Applicable
Links: B1-SNET | Key Feature: Advanced Air Traffic Services			
-			
Morocco is not in the applicability area. No local needs.			-

ENV02	Airport Collaborative Environmental Management *Applicability and timescale: Local*	%	Not Applicable
Key Feature: High Performing Airport Operations			
GMMN - Casablanca Mohammed V Airport			
Morocco has no local needs nor regulation on this objective.			-

ENV03	Continuous Climb Operations (CCO) *Applicability and timescale: Local*	0%	Planned
Links: B0-CCO | Key Feature: Advanced Air Traffic Services			
GMMN - Casablanca Mohammed V Airport			
Implementing new PBN procedures including CCOs is planned.			31/12/2020

6. Annexes

A. Specialists involved in the ATM implementation reporting for Morocco

LSSIP Co-ordination

LSSIP Focal Points	Organisation	Name
LSSIP National Focal Point	DAC	Hamza HMAMOUCHE
LSSIP Focal Point for ANSP	ONDA	Souheil BAYAHIA

DAC LSSIP Support

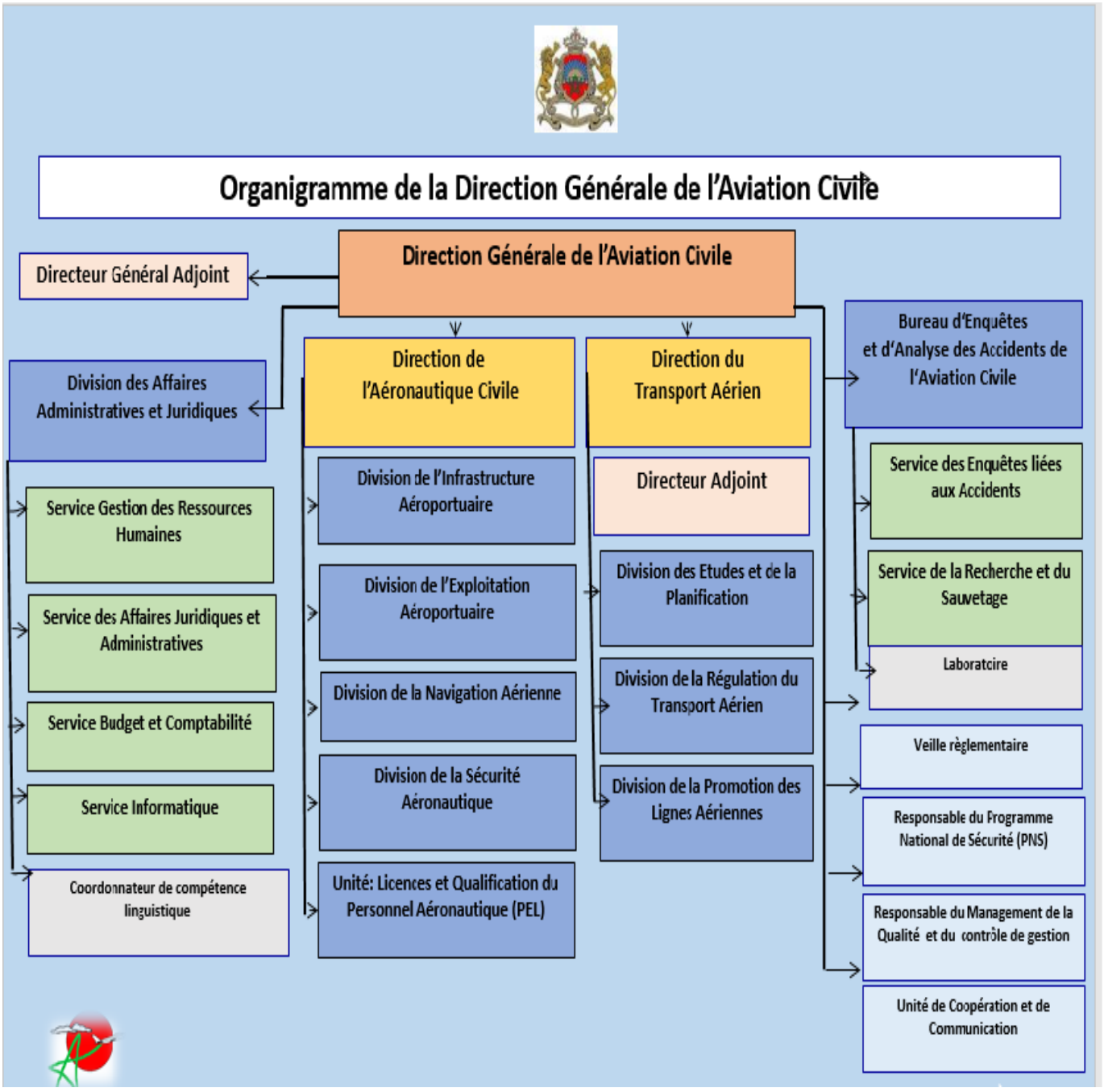
LSSIP Focal Points	Organisation	Name
LSSIP ANS Focal Point	DAC	Mohamed SABBARI
LSSIP AIS Focal Point	DAC	Said LAKOUASSEMI
LSSIP ATM Focal Point	DAC	Mohamed ETTEMRI
LSSIP CNS Focal Point	DAC	Sara TOUIL

ONDA LSSIP Support

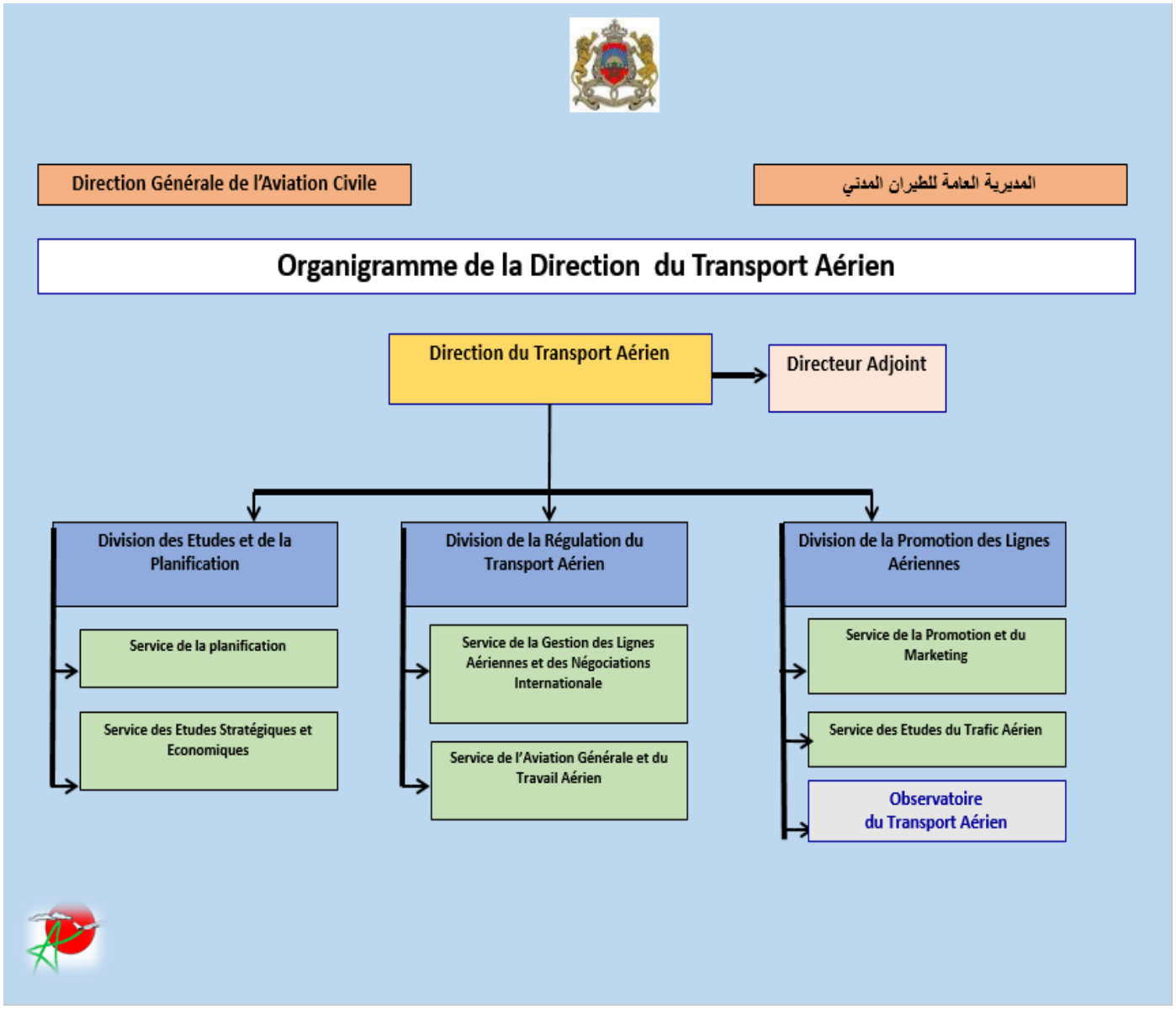
Function	Directorate	Name
LSSIP Coordinator Focal Point	PNA_ONDA	Souheil BAYAHIA
LSSIP AIM Focal Point	PNA_ONDA	Abderrahim ASSOUFI
LSSIP CNS Focal Point	PNA_ONDA	Fouad NAJI

B. National stakeholders organisation charts

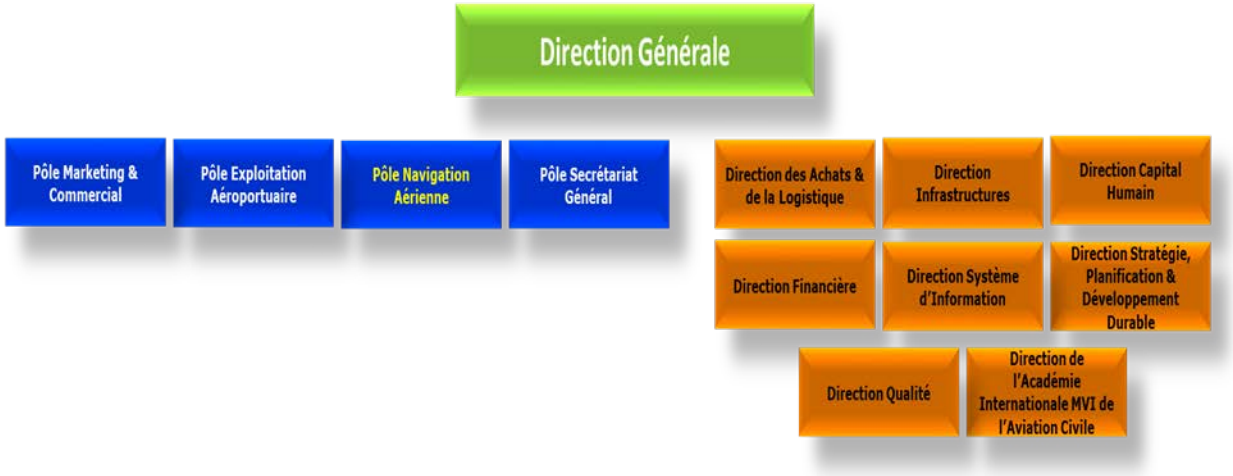
DGAC Chart



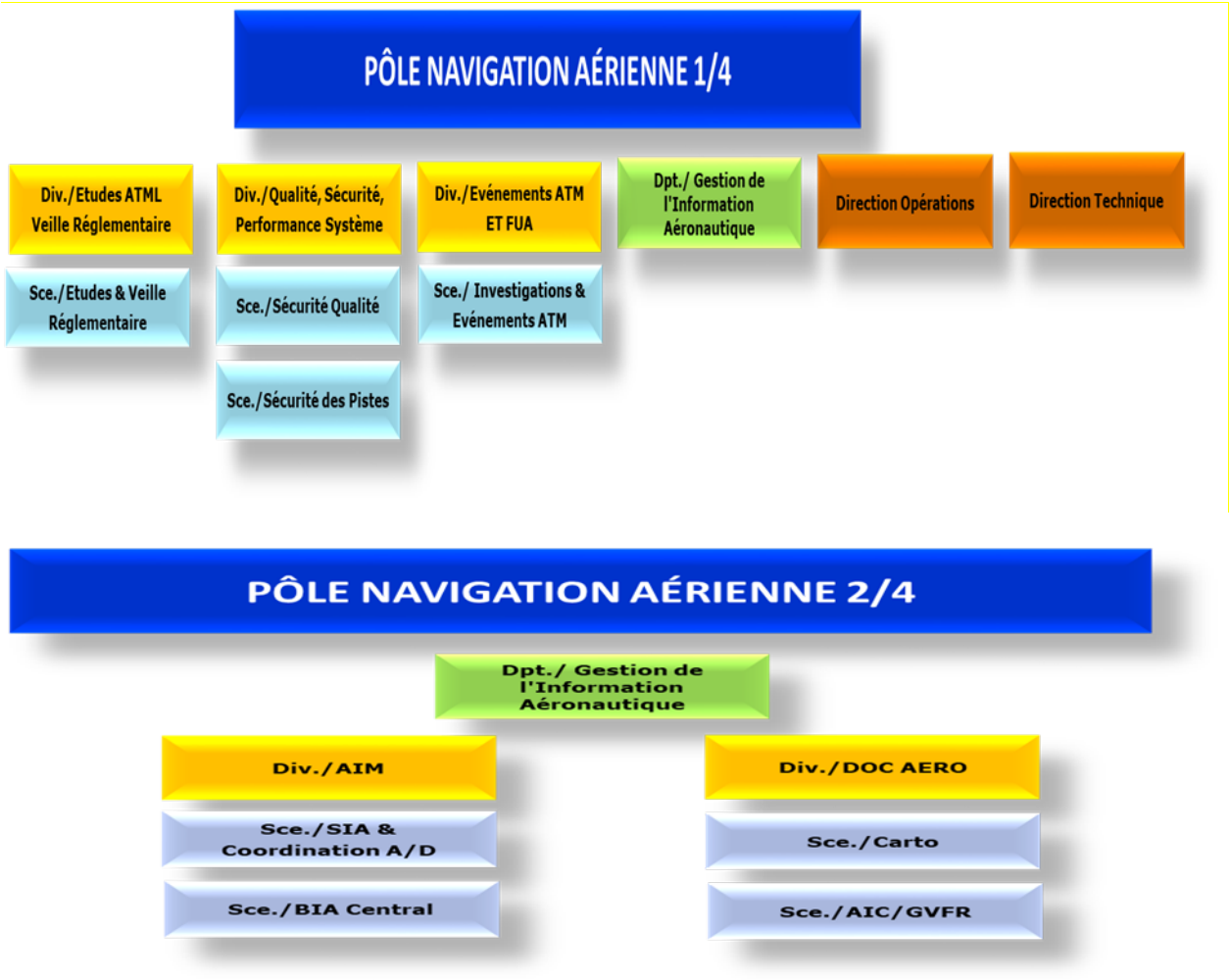
DTA Chart


Direction Générale de l'Aviation Civile
المديرية العامة للطيران المدني
Organigramme de la Direction du Transport Aérien
Direction du Transport Aérien
Directeur Adjoint
Division des Etudes et de la Planification
Service de la planification
Service des Etudes Stratégiques et Economiques
Division de la Régulation du Transport Aérien
Service de la Gestion des Lignes Aériennes et des Négociations Internationale
Service de l'Aviation Générale et du Travail Aérien
Division de la Promotion des Lignes Aériennes
Service de la Promotion et du Marketing
Service des Etudes du Trafic Aérien
Observatoire du Transport Aérien

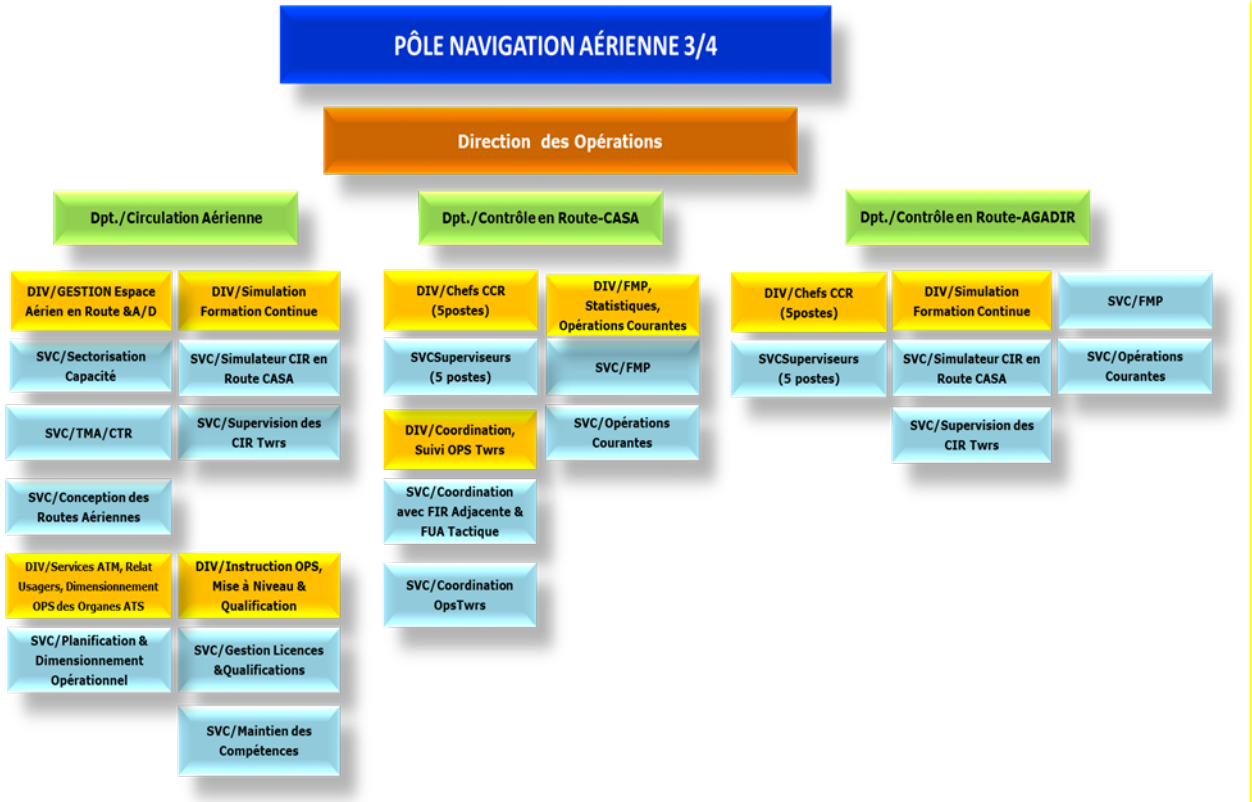
ONDA Chart



PNA ONDA Chart



PNA_ONDA Chart



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	-	-
*AOM21.1 - Direct Routing		Free Route	#32	3.2.1 3.2.3	B0-FRTO B1-FRTO	-	-

Level 3 Implementation Objectives	SESAR Key Feature	Major ATM change	SESAR Solution	DP family	ICAO ASBU B0, B1, B2	EPAS	AAS TP
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	-
NAV03.2 – RNP1 in TMA Operations		PBN	#09, #51	1.2.3 1.2.4	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
NAV10 - RNP Approach Procedures to instrument RWY		PBN	#103	1.2.1 1.2.2	B0-APTA	RMT.0639 RMT.0445R MT.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	-	-
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 way3

This annex is considered as not applicable for Morocco.

These SESAR Solutions are not included yet in the ATM MP L3 Plan.

EUROCONTROL is tasked by the SJU to identify the implementation progress of functionalities corresponding to validated SESAR Solutions published in the SJU Solutions Catalogue (https://www.sesarju.eu/newsroom/brochures-publications/sesar-solutions-catalogue), for which there is no implementation Objective (yet) in the ATM MP L3 Plan. This will allow to identify early movers and to gauge the interest generated by some of these functionalities, with the view of potentially addressing them with new Implementation Objectives in the ATM MPL3 Plan.

[3] 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 the Kingdom of Morocco.

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

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

Term	Description
ACAO	Arab Civil Aviation Organisation
AF	ATM Functionality
ACCs	Area Control Centre / Centre de Contrôle Régional (=CCR)
ADR	Airspace Data Repository
AFUA	Advanced FUA: extended civil-military cooperation, more proactive, performance oriented to achieve mission effectiveness and flight efficiency
APW	Area Proximity Warning
ATS	Air Traffic Services (Services de la circulation aérienne)
CANSO	Civil Air Navigation Services Organisation
FDP	Flight Data Processing (Traitement automatique des données de vol)
FMP	Flight Plan Monitoring (N-FDPS)
FUA	Flexible Used of Airspace
FT	Fast Track
KOE	Kick of Event
MIL	Military
MSAW	Minimum Safe Altitude Warning
N-FDPS	Next-Generation Flight Data Processing System
NOP	Network Operations Plan
NSA	National Supervisory Authority
PDP	Project Deployment Programme
REG	Regulator / state
S-AF	Sub ATM Functionality
TBO	Trajectory-Based Operations
TMA	Terminal Control Area / Terminal Manoeuvring Area