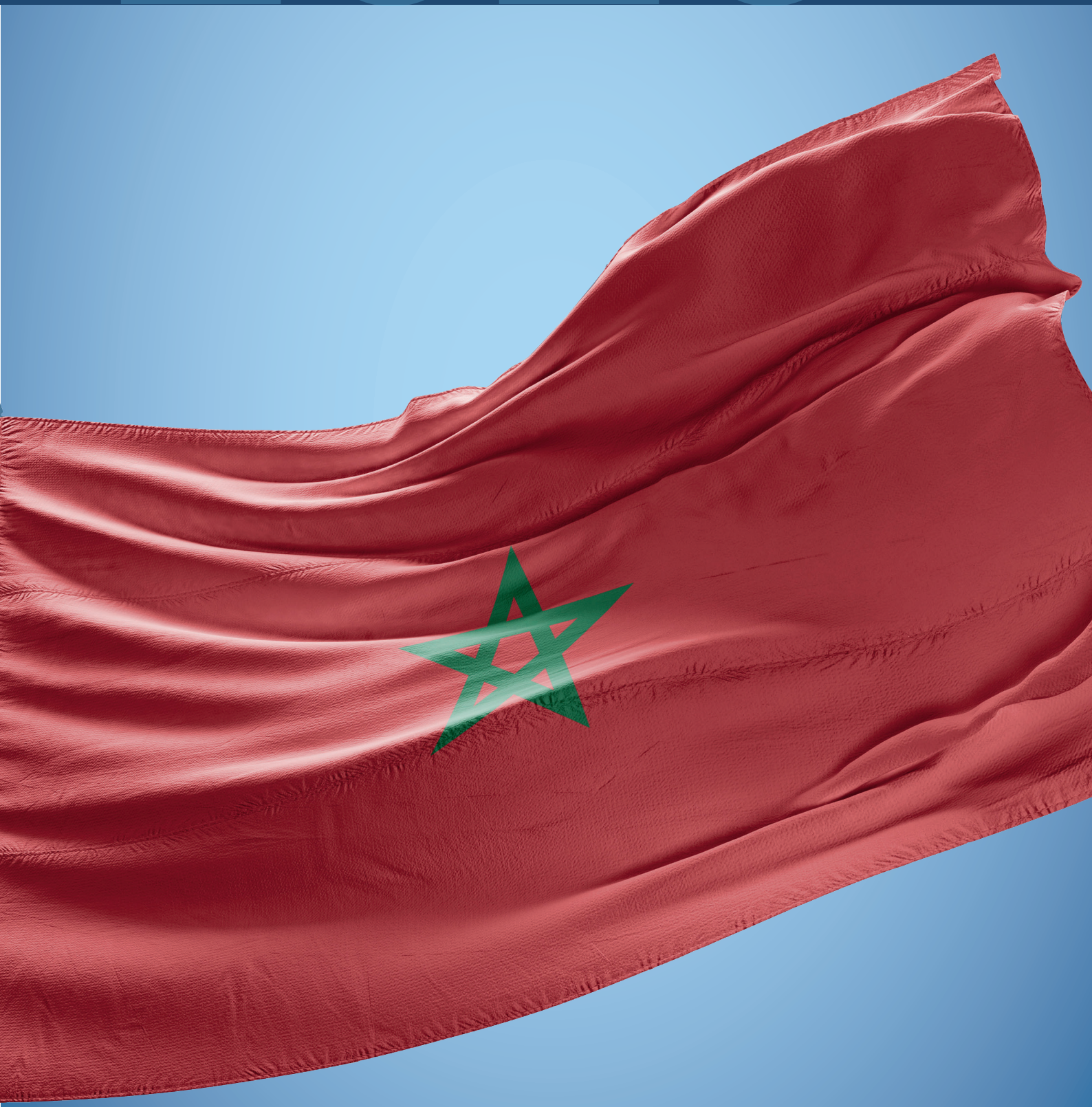
EUROCONTROL

LSSIP 2020 - MOROCCO
LOCAL SINGLE SKY IMPLEMENTATION

Level 1 - Implementation Overview



FOREWORD

We as the EUROCONTROL Network Manager have a major task to support aviation and all our partners; this is particularly true during these complex times of COVID 19 pandemic. We work with all the operational stakeholders to manage a seamless European airspace, linking together the elements of the European air traffic management system into a single value chain. Focusing on performance of the European network, we partner with the operational stakeholders to enable flights to reach their destination safely, on time, with the least possible impact on environment and in a cost-efficient way. In particular, in these difficult times, we are paving the way for a rapid and agile recovery committed to bring back better aviation.

For more than 27 years, the EUROCONTROL Local Single Sky ImPlementation (LSSIP) process, methodology, tools and documents annually express the commitment of civil and military national organisations (Regulators and National Supervisory Authorities, Air Navigation Service Providers and Airport Operators), and their cooperation towards the implementation of the European ATM Master Plan Level 3, also known as the European Single Sky ImPlementation (ESSIP) process.

The LSSIP documents provide an extensive, consolidated 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 all mature elements of the European ATM Master Plan and the various European aviation policies.

In addition, EUROCONTROL is promoting 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 to ensure the optimisation of the reporting mechanisms bringing all the processes into a single value chain.

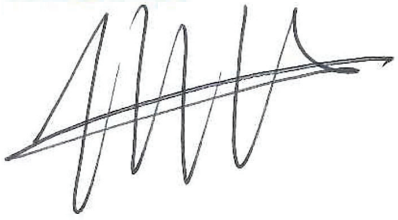
The reliability and quality of the data provided by the national stakeholders allowed, for the sixth consecutive year, the information in the LSSIP documents to constitute the sole source of information for the development of ICAO's Aviation System Block Upgrades (ASBUs) Implementation Monitoring Report 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).

We believe now is the time to build back better aviation. The exceptional situation we are living in shows the importance of a robust planning and monitoring process for the European ATM implementation in our evolving environment. In preparation of the next cycle of LSSIP documents ("LSSIP2021"), we therefore are working jointly and in close collaboration with the operational stakeholders towards a single Network Manager Planning Process integrating the Network Operations Plan (NOP), the LSSIP and the Operational Excellence Programme (OEP). We are working together with the SESAR Deployment Manager to streamline the reporting processes of LSSIP and PCP/CP1 in order to ensure a single reporting mechanism for all stakeholders.

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

Enjoy the reading!

Iacopo PRISSINOTTI
Director NM – Network Manager
EUROCONTROL



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Reference Documents	
LSSIP Documents	https://www.eurocontrol.int/service/local-single-sky-implementation-monitoring
Master Plan Level 3 – Plan Edition 2020	https://www.eurocontrol.int/publication/european-atm-master-plan-implementation-plan-level-3
Master Plan Level 3 – Report Year 2020	https://www.eurocontrol.int/publication/european-atm-master-plan-implementation-report-level-3
European ATM Portal	https://www.atmmasterplan.eu/
STATFOR Forecasts	https://www.eurocontrol.int/statfor
National AIP	http://siamaroc.onda.ma
Performance Plan	http://www.aviationcivile.gov.ma

APPROVAL SHEET

The following authorities have approved all parts of the LSSIP Year 2020 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 2020.

Stakeholder / Organisation	Name	Position	Signature and date
Direction Générale de l'Aviation Civile	Mr. Hicham Abdelaziz MOUMNI	Directeur de l'Aéronautique Civile	Directeur de l'Aéronautique Civile Hicham Abdelaziz MOUMNI
Office National des Aéroports	Mrs. Habiba LAKLALECH	Directrice Générale de l'Office National des Aéroports	La Directrice Générale Habiba LAKLALECH
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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 core missions revolve around the following areas:

- Guaranteeing the air navigation safety at National airports and airspace under national jurisdiction.
- The development, operation, maintenance and development of national airports open to public air traffic, as well as the facilities needed for air traffic control.
- 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

For Casablanca ACC

For Agadir ACC

Number of national projects: 10

Summary of 2020 developments:

The COVID-19 pandemic could be the biggest challenge that Moroccan civil aviation sector has ever faced. The effects of the pandemic have been felt in the various organizations: national companies, Air Navigation Service Providers, airports, authorities, etc.

This was marked during the year 2020 by a very significant drop in the volume of passenger air traffic which recorded an average decrease of 72% compared to the year 2019.

In addition, airport activities have been seriously impacted by the suspension of all international flights with the exception of cargo flights since 16th, March 2020, a delicate situation which was not improved until 15th, june2020 by the resumption of domestic flights followed by the programming of special flights and the partial resumption of tourist lines.

Despite this delicate situation, Moroccan civil aviation organizations were able to maintain the acceptable level of services quality and security in order to minimize the impact of the crisis on the national economy.

At the regulatory field, the Kingdom of Morocco has undertaken a review of national regulations, in particular the drafting of implementing texts for Law 40-13 in the form of decrees, orders and other circulars of specific interest.

With regard to improving the capacity and safety of Moroccan airspace, the implementation of the Free Route in oceanic airspace represents a national and international project which has enabled the improvement of fluidity. and the optimization of aircraft trajectories in oceanic airspace.

Moreover, in order to improve CNS infrastructures modernization , some projects have been implemented and can be resumed as bellow:

- Achievement of the last phase of Moroccan Air Navigation IP Network connecting both ACC to all airports, remote sites (Radio and Radar) ;
- Implementation of Voice over IP(VoIP) systems and services ;
- The renewal of Four MSSR radar stations FES, SAFI,IFRANE and AGADIR ;
- The renewal of Eight DVOR stations TGR, RBT, TTN, NDR, ORZ, DKH, TAN et SMARA.

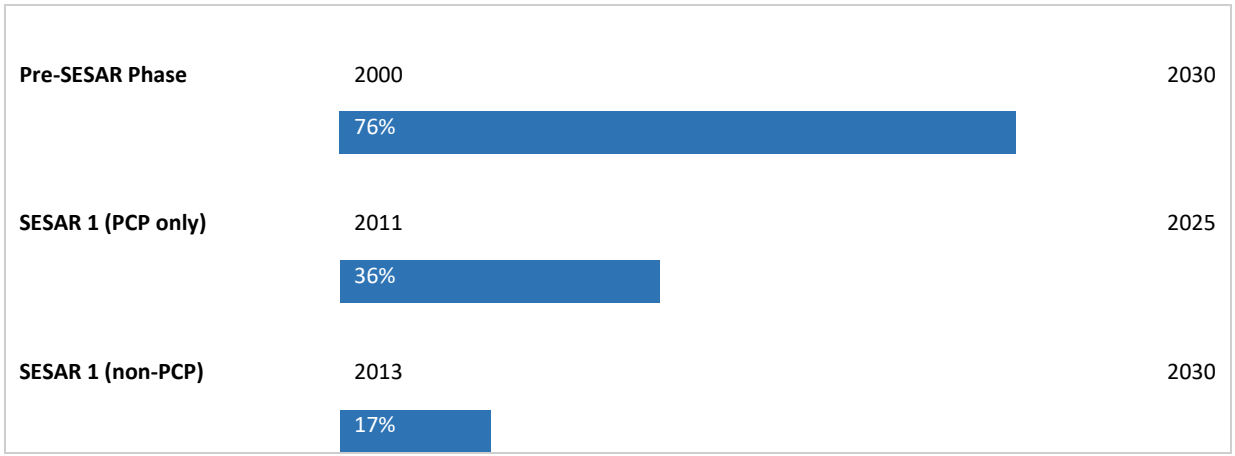
Those projects and achievements will have a positive impact on the fluidity of air traffic, the capacity of airspace, the economic effect as well as the protection of the environment.

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.

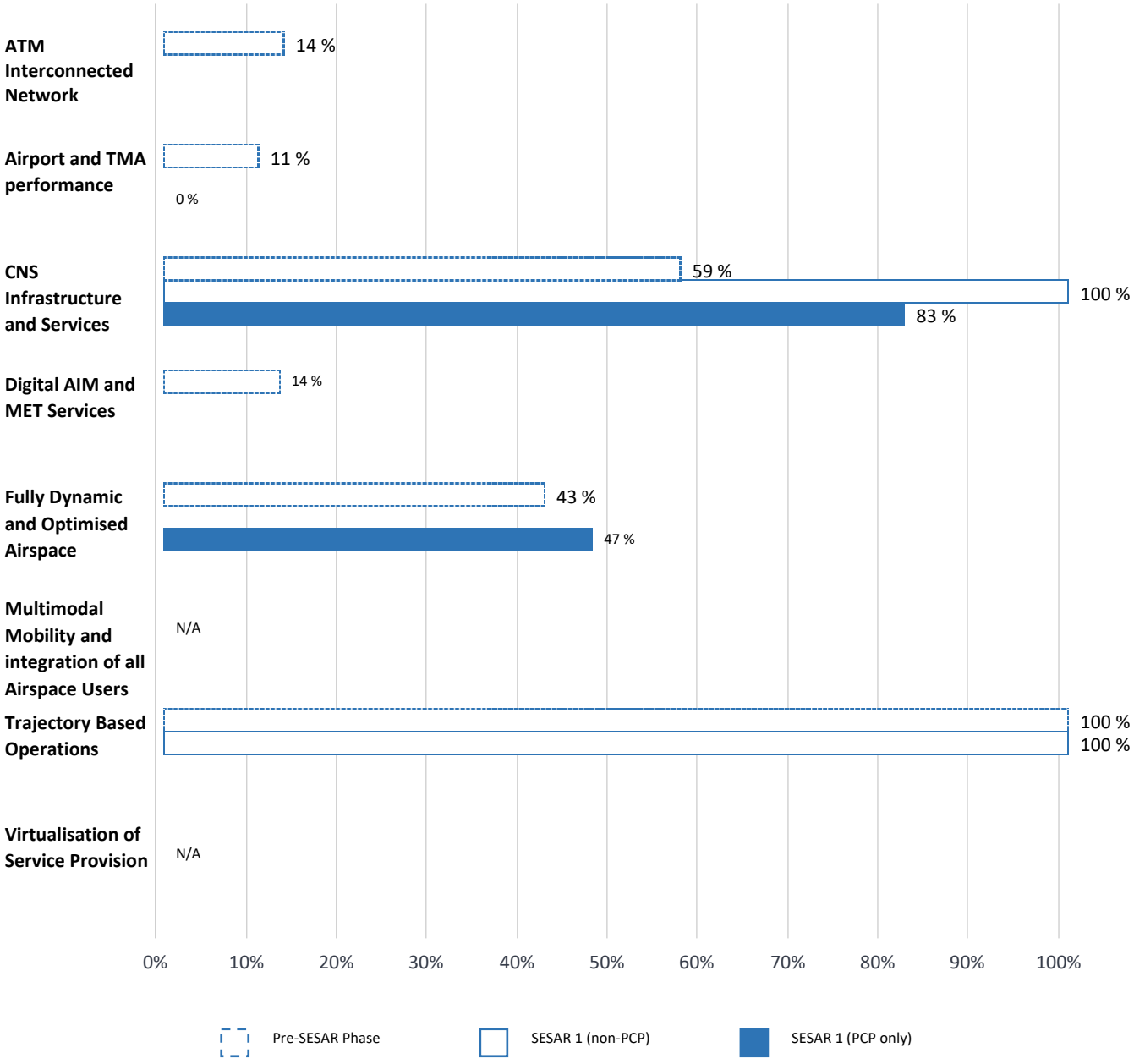
It shows the average implementation progress for all objectives grouped by SESAR Phases, excluding those for which the State is outside the applicability area as defined on a yearly basis in the European ATM Master Plan (Level 3) 2020, i.e. disregarding the declared “NOT APPLICABLE”LSSIP progress status.

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



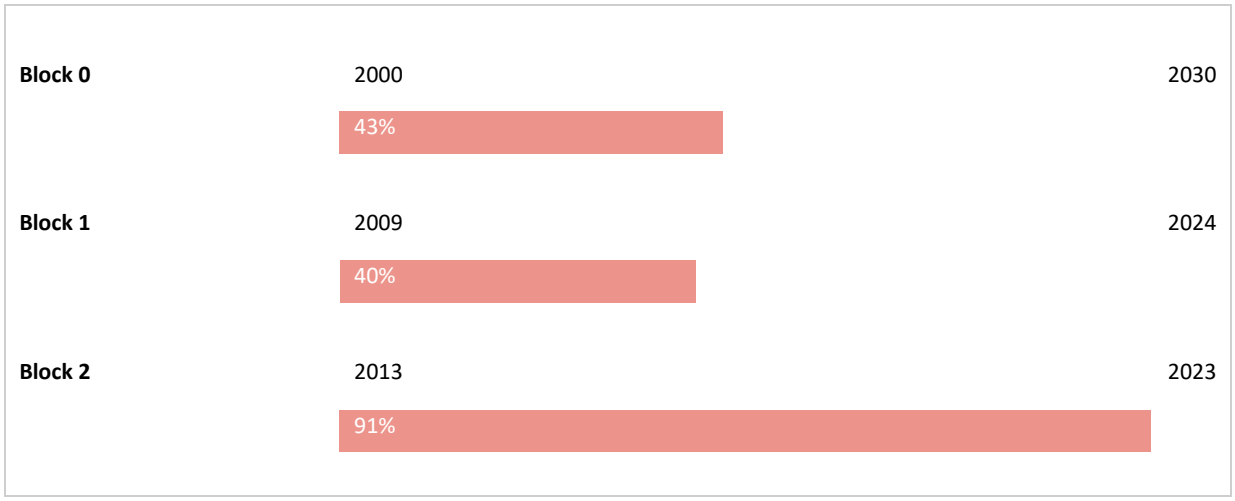
Progress per SESAR Essential Operational Changes and Phase

The figure below shows the progress made so far, per SESAR Essential Operational Changes, in the implementation of the SESAR baseline and the PCP elements. The percentages are calculated as an average, per EOC, 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 Blocks. 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 2019 – 2020**

- Voice over Internet Protocol (VoIP) in Airport/Terminal
COM11.2 - 100 % progress

By 2021	By 2022	By 2023	By 2024+
	- Migrate from AFTN to AMHS COM10 - 75 % progress **- Information Exchange with En-route in Support of AMAN** ATC15.1 - 00 % progress **- Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring** ATC12.1 - 38 % progress **- Free Route Airspace** AOM21.2 - 48 % progress **- Collaborative Flight Planning** FCM03 - 14 % progress **- Initial ATC Air-Ground Data Link Services** ITY-AGDL - 21 % progress **- Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer** ATC17 - 29 % progress **- Voice over Internet Protocol (VoIP) in En-Route** COM11.1 - 83 % progress **- RNAV 1 in TMA Operations** NAV03.1 - 46 % progress	**- RNP Approach Procedures to instrument RWY** NAV10 - 39 % progress	**- ASM Support Tools to Support Advanced FUA (AFUA)** AOM19.1 - 03 % progress **- Implement enhanced tactical flow management services** FCM01 - 57 % progress **- Ensure Quality of Aeronautical Data and Aeronautical Information** ITY-ADQ - 19 % progress **- Electronic Terrain and Obstacle Data (eTOD)** INF07 - 08 % progress

Airport Objectives - Casablanca Mohammed V Airport

✓ **Deployed in 2019 – 2020** None

By 2021	By 2022	By 2023	By 2024+
	- AMAN Tools and Procedures ATC07.1 - 00 % progress **- Continuous Descent Operations (CDO)** ENV01 - 17 % progress	**- Continuous Climb Operations (CCO)** ENV03 - 00 % progress **- Airport Collaborative Decision Making (A-CDM)** AOP05 - 03 % 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 2019 - 2020** None

By 2021	By 2022	By 2023	By 2024+
	- Continuous Descent Operations (CDO) ENV01 - 30 % progress	**- Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** AOP04.1 - 00 % progress **- Airport Collaborative Decision Making (A-CDM)** AOP05 - 03 % progress **- Continuous Climb Operations (CCO)** ENV03 - 00 % progress	

Overall situation of Implementation Objectives

Main Objectives	Topic	Progress at the end of 2020	Status	2020		2021		2022		2023		2024		2025		>2025
AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) Handling	0%	Not Applicable													
AOM19.1	ASM Support Tools to Support Advanced FUA (AFUA)	3%	Late					*								
AOM19.2	ASM Management of Real-Time Airspace Data	0%	Not Applicable					*								
AOM19.3	Full Rolling ASM/ATFCM Process and ASM Information Sharing	0%	Not Applicable					*								
AOM19.4	Management of Pre-defined Airspace Configurations	0%	Not Applicable					*								
AOM21.1	Direct Routing	100%	Completed													
AOM21.2	Free Route Airspace	48%	Ongoing					*								
AOP04.1(GMMN)	Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)	0%	Late			*										
AOP04.1(GMMX)	Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)	0%	Late			*										
AOP04.2(GMMN)	Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)	0%	Not Applicable			*										
AOP05(GMMN)	Airport Collaborative Decision Making (A-CDM)	3%	Ongoing			*										
AOP05(GMMX)	Airport Collaborative Decision Making (A-CDM)	3%	Ongoing			*										
AOP10(GMMN)	Time-Based Separation	0%	Not Applicable									*				
AOP11(GMMN)	Initial Airport Operations Plan	0%	Not Applicable			*										
AOP12(GMMN)	Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)	0%	Not Applicable			*										
AOP13(GMMN)	Automated Assistance to Controller for Surface Movement Planning and Routing	0%	Not Applicable									*				

Main Objectives	Topic	Progress at the end of 2020	Status	2020		2021		2022		2023		2024		2025		>2025
AOP14	Remote Tower Services	0%	Not Applicable													2030
ATC02.2	Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2 for en-route operations	100%	Completed													
ATC02.8	Ground-Based Safety Nets	100%	Completed					*								
ATC02.9	Short Term Conflict Alert (STCA) for TMAs	100%	Completed		*											
ATC07.1(GMMN)	AMAN Tools and Procedures	0%	Planned	*												
ATC12.1	Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring	38%	Ongoing					*								
ATC15.1	Information Exchange with En-route in Support of AMAN	0%	Planned													
ATC15.2	Arrival Management Extended to En-route Airspace	0%	Not Applicable									*				
ATC16	Implement ACAS II compliant with TCAS II change 7.1	100%	Completed													
ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer	29%	Ongoing					*								
ATC18	Multi-Sector Planning En-route - 1P2T	0%	Not Applicable													2030
COM10	Migrate from AFTN to AMHS	75%	Ongoing													
COM11.1	Voice over Internet Protocol (VoIP) in En-Route	83%	Ongoing					*								
COM11.2	Voice over Internet Protocol (VoIP) in Airport/Terminal	100%	Completed								*					
COM12	New Pan-European Network Service (NewPENS)	0%	Not Applicable											*		
ENV01(GMMN)	Continuous Descent Operations (CDO)	17%	Ongoing								*					
ENV01(GMMX)	Continuous Descent Operations (CDO)	30%	Ongoing								*					
ENV02	Airport Collaborative Environmental Management	0%	Not Applicable													2030
ENV03(GMMN)	Continuous Climb Operations (CCO)	0%	Ongoing													2030
ENV03(GMMX)	Continuous Climb Operations (CCO)	0%	Ongoing													2030
FCM01	Implement enhanced tactical flow management services	57%	Late													
FCM03	Collaborative Flight Planning	14%	Ongoing					*								

Main Objectives	Topic	Progress at the end of 2020	Status	2020		2021		2022		2023		2024		2025		>2025
FCM04.2	Short Term ATFCM Measures (STAM) - Phase 2	0%	Not Applicable					*								
FCM05	Interactive Rolling NOP	0%	Not Applicable					*								
FCM06	Traffic Complexity Assessment	0%	Not Applicable					*								
INF07	Electronic Terrain and Obstacle Data (eTOD)	8%	Late													
INF08.1	Information Exchanges using the SWIM Yellow TI Profile	0%	Not Applicable											*		
ITY-ACID	Aircraft Identification	0%	Not Applicable	*												
ITY-ADQ	Ensure Quality of Aeronautical Data and Aeronautical Information	19%	Late													
ITY-AGDL	Initial ATC Air-Ground Data Link Services	21%	Ongoing	*												
ITY-AGVCS2	8,33 kHz Air-Ground Voice Channel Spacing below FL195	0%	Not Applicable		*											
ITY-COTR	Implementation of ground-ground automated co-ordination processes	100%	Completed													
ITY-FMTP	Common Flight Message Transfer Protocol (FMTP)	100%	Completed													
ITY-SPI	Surveillance Performance and Interoperability	100%	Completed		*											
NAV03.1	RNAV 1 in TMA Operations	46%	Ongoing													2030
NAV03.2	RNP 1 in TMA Operations	0%	Not Applicable									*				
NAV10	RNP Approach Procedures to instrument RWY	39%	Ongoing									*				
NAV12	ATS IFR Routes for Rotorcraft Operations	0%	Not Applicable													2030
SAF11	Improve Runway Safety by Preventing Runway Excursions	0%	Not Applicable													

LEGEND:

*	Full Operational Capability (FOC) date
	The Planned Implementation Date as reported in the LSSIP DB for each objective

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 2020, 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 2provides 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 planned projects assumed to offer the required capacity, taking into account the current aviation situation caused by the COVID19 crisis;

Chapter 3provides 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 ahigh-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 Essential Operational Change 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 2020.In addition, it covers a detailed description of the Implementation Projects for the State as extracted from the LSSIP DataBase.

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

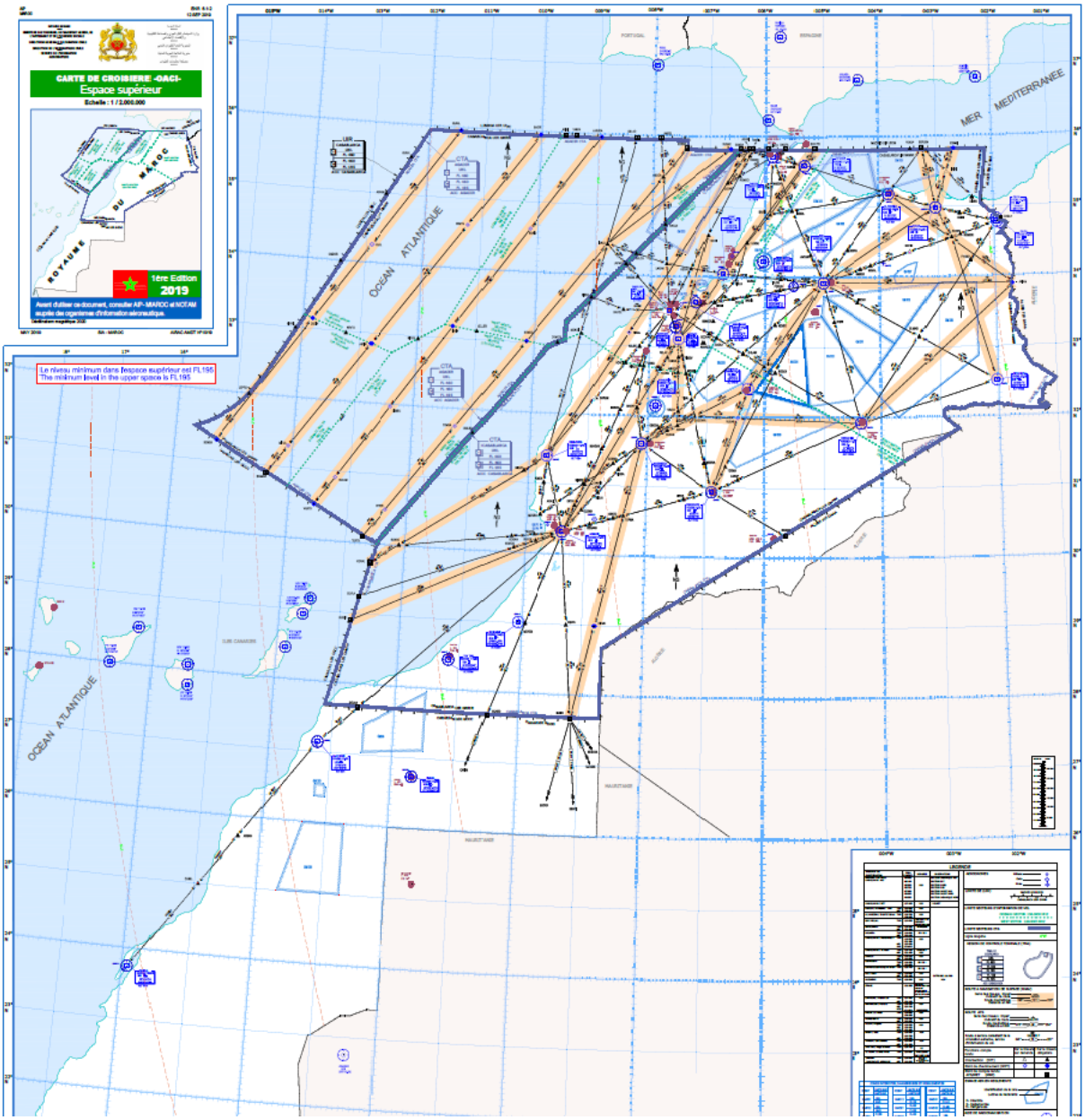
On 12 December 2006, EU and the Kingdom of Morocco signed the first Euro-Mediterranean Aviation agreement in the field of aviation. The agreement provides an innovative and modern framework that replaces all the bilateral aviation agreements between the EU Member States and Morocco. It aims to open up 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.



On top of its vast Airways network, Morocco has made it customary to allow for more direct routes by publishing a large number of DCTs on EUROCONTROL's RAD Document, as a mean to further improve the efficacy of all traffic flows crossing Casablanca UIR/FIR:

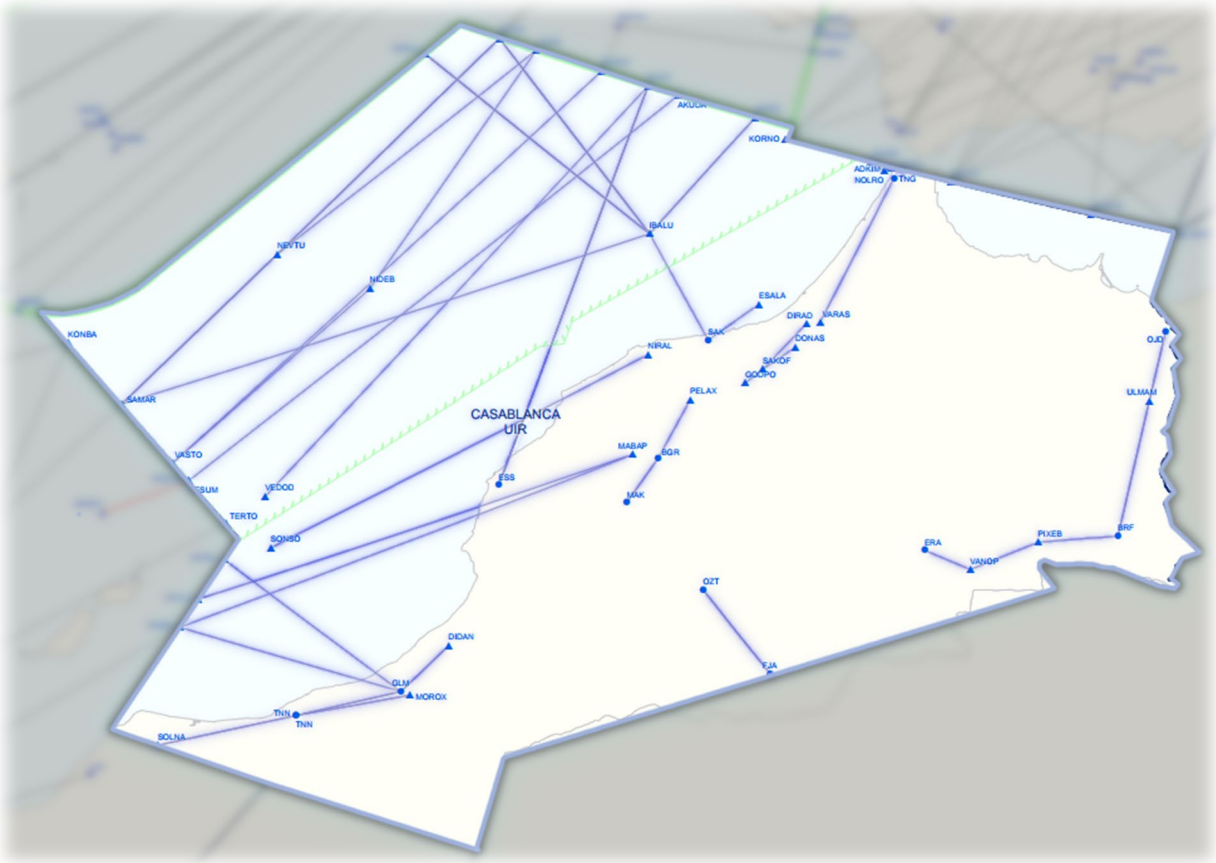


Figure: DCTs published within Casablanca UIR/FIR as of the AIRAC cycle #2105

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.

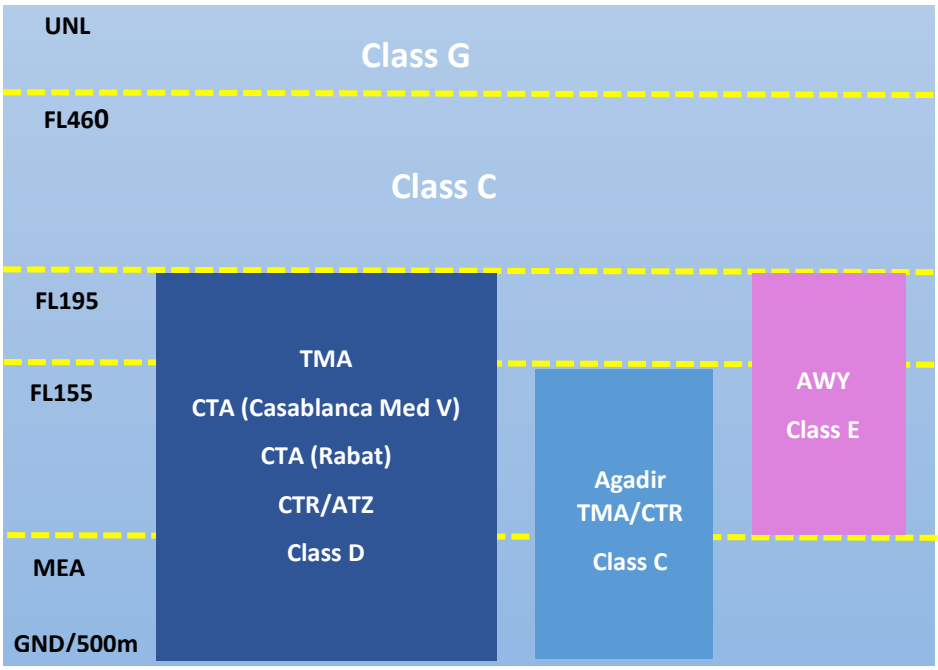
Class **D**:

- 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	APP	A/D		
Casablanca ACC	4	X	X		Dynamic sector management
Agadir ACC	4	X	X		Dynamic sector management
Casablanca MV Airport	X	1	1		
Marrakech Airport	X	1	1		

1.2. National Stakeholders

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

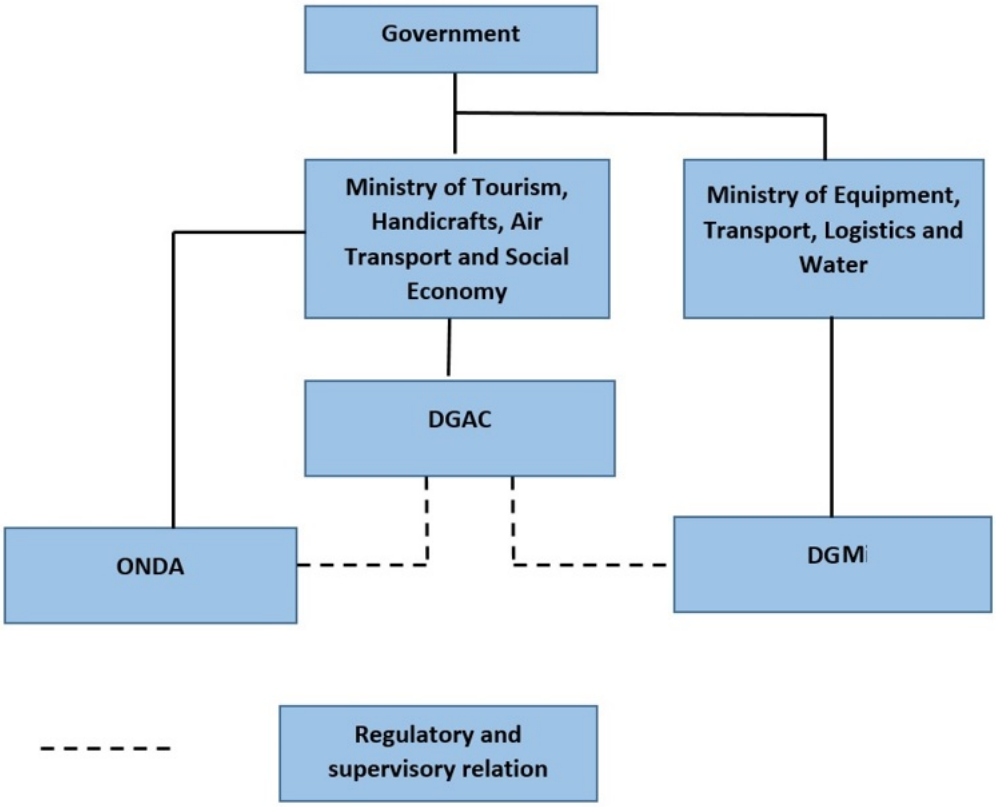
- The authority in charge of Civil Aviation DGAC (Direction Générale de l'Aviation Civile), which is a directorate of the Ministry of Tourism, Handicrafts, Air Transport and Social Economy.

  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:

- Guaranteeing the air navigation safety at National airports and airspace under national jurisdiction ;
- The development, operation, maintenance and development of national airports open to public air traffic, as well as the facilities needed for air traffic control ;
- 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.

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 programme including ATM Master Plan.

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**	
ATS en-route	Y		
ATS approach	Y		
ATS Aerodrome(s)	Y		
ATFM	Y		
ASM	Y		
AIS	Y		
CNS	Y		
MET	Y	General Directorate of Meteorology (DGM), reporting to the Ministry of Equipment, Transport, Logistics and Water	
ATCO and ATSEP 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 in both ACCs

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?	2012 Casablanca ACC - 2022 Agadir ACC
Replacement of the ATC system by the new one is planned.	2022 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?	2012 Casablanca ACC - 2022 Agadir ACC
Replacement of the ATC system by the new one is planned?	2022 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 2020– 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.

ATC Systems in use in both airports

FDPS - GMMN

Specify the manufacturer of the ATC system currently in use:	INDRA
Upgrade[3] of the ATC system is performed or planned?	2011 GMMN APP
Replacement of the ATC system by the new one is planned.	2022 GMMN APP
ATC Unit	GMMN

SDPS - GMMN

Specify the manufacturer of the ATC system currently in use:	INDRA
Upgrade of the ATC system is performed or planned?	2011 GMMN APP
Replacement of the ATC system by the new one is planned?	2022 GMMN APP
ATC Unit	GMMN

FDPS - GMMX

Specify the manufacturer of the ATC system currently in use:	SELEX
Upgrade[4] of the ATC system is performed or planned?	2011 GMMX APP
Replacement of the ATC system by the new one is planned.	2021 GMMX APP
ATC Unit	GMMX

SDPS - GMMX

Specify the manufacturer of the ATC system currently in use:	SELEX
Upgrade of the ATC system is performed or planned?	2011 GMMX APP
Replacement of the ATC system by the new one is planned?	2021 GMMX APP
ATC Unit	GMMX

Military Authorities

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

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

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

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 N°2.19.1094, of February 26, 2020, it has responsibilities at national territory level in the areas of the sea and atmosphere (http://www.marocmeteo.ma).

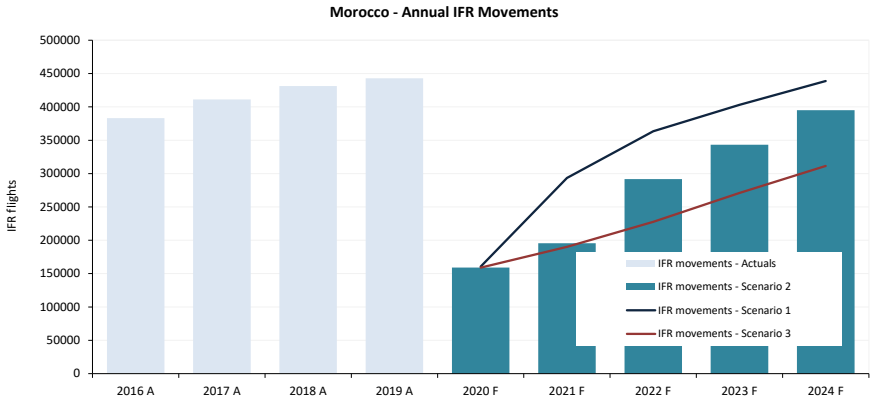
DGM co-operates with various national public and semipublic organizations and users and, at international level, with WMO, ICAO, ECMWF and meteorological services of other countries.

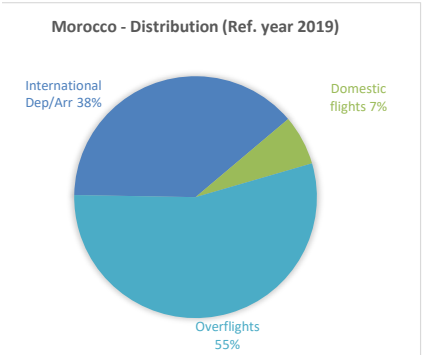
The strategic guidelines and goals of the DGM are:

- 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

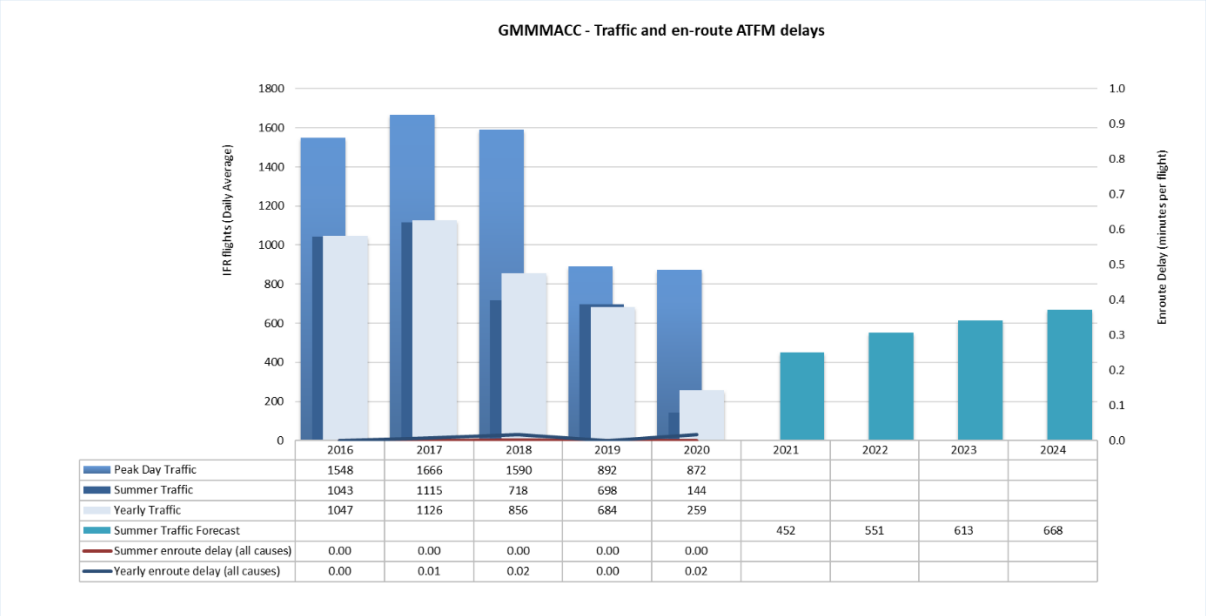
EUROCONTROL Five-Year Forecast 2020-2024									
IFR flights yearly growth		2017 A	2018 A	2019 A	2020 F	2021 F	2022 F	2023 F	2024 F
Morocco	Sc1				-63.7%	82.8%	23.8%	10.9%	8.8%
	Sc2	7.3%	4.9%	2.7%	-64.1%	22.9%	49.2%	17.6%	15.1%
	Sc3				-64.1%	19.6%	19.7%	19.1%	14.9%
ECAC	Sc1				-55.1%	61.9%	21.9%	8.9%	6.8%
	Sc2	4.0%	3.8%	0.8%	-56.4%	16.6%	41.9%	14.1%	12.2%
	Sc3				-56.6%	14.5%	17.5%	14.8%	11.6%

2020

Traffic in Morocco decreased by 60% in 2020 compared to 2019.

2.2. CASABLANCA ACC

Traffic and en-route ATFM delays 2016-2024



	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	1548	1666	1590	892	872				
Summer Traffic	1043	1115	718	698	144				
Yearly Traffic	1047	1126	856	684	259				
Summer Traffic Forecast						452	551	613	668
Summer enroute delay (all causes)	0.00	0.00	0.00	0.00	0.00				
Yearly enroute delay (all causes)	0.00	0.01	0.02	0.00	0.02				

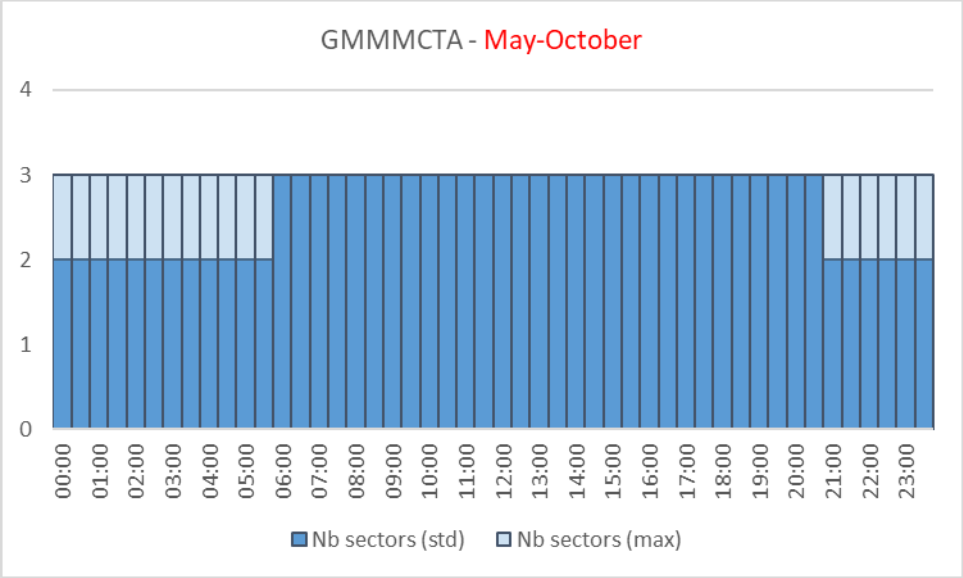
2020 performance

Casablanca ACC	Traffic evolution (2020 vs 2019)	En-route Delay (min. per flight)
	Actual Traffic	All reasons
Year	-62%	0.02
Summer	-79%	0.00

Summer 2020 performance assessment		
The average delay per flight was zero in Summer 2020.		
Operational actions	**Achieved**	**Comments**
Reorganisation of Casablanca TMA- New AoR and procedures	Ongoing	Phase I completed in 2020, other phases planned for 2021-2023
Continuous recruitment process to gradually increase current staffing levels	Yes	

Planning Period – Summer 2021

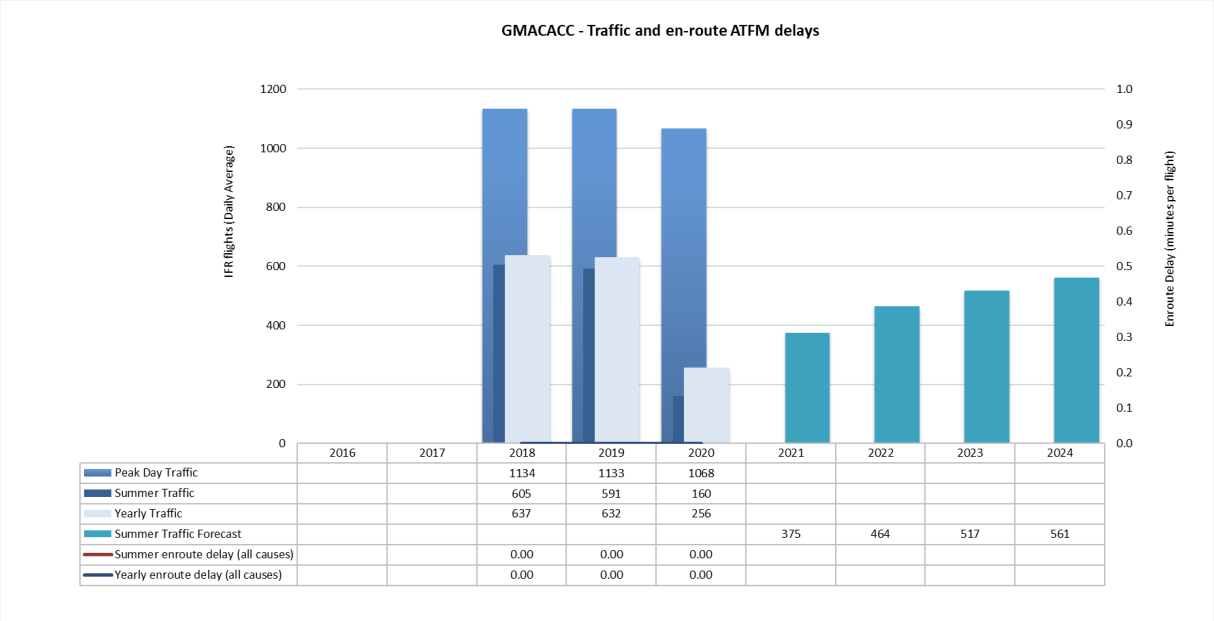
2021 Summer Capacity Plan	
Free Route Airspace	
Airspace Management Advanced FUA	
Airport & TMA Network Integration	Reorganisation of Casablanca TMA- New AoR and procedures (Phase II)
Cooperative Traffic Management	
Airspace	
Procedures	
Staffing	Continuous recruitment process to gradually increase current staffing levels
Technical	
Capacity	
Significant Events	
Additional information	



Summer 2021 Outlook
No capacity issues are foreseen for Casablanca ACC in Summer 2021.

2.3.**AGADIR ACC**

Traffic and en-route ATFM delays 2016-2024



	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic			1134	1133	1068				
Summer Traffic			605	591	160				
Yearly Traffic			637	632	256				
Summer Traffic Forecast						375	464	517	561
Summer enroute delay (all causes)			0.00	0.00	0.00				
Yearly enroute delay (all causes)			0.00	0.00	0.00				

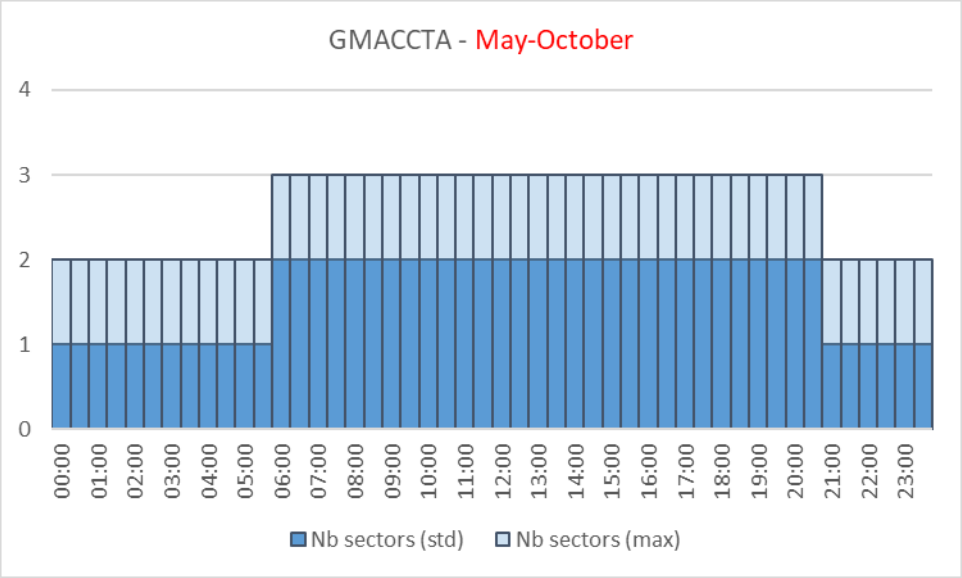
2020 performance

Agadir ACC	Traffic evolution (2020 vs 2019)	En-route Delay (min. per flight)
	Actual Traffic	All reasons
Year	-59%	0.00
Summer	-73%	0.00

Summer 2020 performance assessment		
The average delay per flight was zero in Summer 2020.		
Operational actions	**Achieved**	**Comments**
Night FRA (22H-06H)	Yes	
New Interface with Canarias and Lisboa ACCs	Ongoing	Project with different phases distributed over several years
Continuous recruitment process to gradually increase current staffing levels	Yes	
CAPAN study to update sector capacities	No	Study linked to FRA H24 (postponed to spring 2022)

Planning Period – Summer 2021

2021 Summer Capacity Plan	
Free Route Airspace	
Airspace Management **Advanced FUA**	
Airport & TMA Network Integration	
Cooperative Traffic Management	
Airspace	New Interface with Canarias and Lisboa ACCs
Procedures	
Staffing	Continuous recruitment process to gradually increase current staffing levels
Technical	
Capacity	
Significant Events	
Additional information	



Summer 2021 Outlook
No capacity issues are foreseen for Agadir ACC in Summer 2021.

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.

National projects

Name of project:	Organisation(s):	Schedule:	Progress Description:	Links:
AIM System	Office National Des Aeroports ANSP (MA)	2020-2023	A new digital system for the management of aeronautical information will be installed from mid-2020 till end of 2023.	L3: ITY-ADQ
A-SMGCS Level1	Office National Des Aeroports ANSP (MA)	2020-2024	The Casablanca and Marrakech airports will be equipped with A-SMGCS	L3: AOP04.1
Data-Link	Office National Des Aeroports 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

Name of project:	Organisation(s):	Schedule:	Progress Description:	Links:
ETOD/AMDB system	Office National Des Aeroports ANSP (MA)	2020-2026	A new digital system for the management of aeronautical information has been installed in 2020. 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 Aeroports ANSP (MA)	31/12/2022	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. Free Route concept implementation within Agadir CTA is split into two phases : Free Route 1st phase night 22/6 (completed) Free Route 2nd phase H24 (planed for December 2022) FRA air space implementation in Casablanca CTA is planned for 2022	L3: AOM21.2

Name of project:	Organisation(s):	Schedule:	Progress Description:	Links:
Implementation and operation of an IP-based G/G data communication network	Office National Des Aeroports ANSP (MA)	2015-2022	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: COM11.1, ATC17, COM11.2
Implementation of Voice over IP(VoIP) systems and services	Office National Des Aeroports ANSP (MA)	2015-2022	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, COM11.2
Procurement and deployment of New PENS	Office National Des Aeroports ANSP (MA)	2019-2022	Ongoing	L3: COM12
Reorganization of CASABLANCA airspace	Direction Générale de l'Aviation Civile (MA), Office National Des Aeroports ANSP (MA)	2018-2023	Airspace reorganisation published on 2019 RNP procedures will be published in 2023	L3: NAV10, NAV03.1, ENV01
Surveillance Evolution	Office National Des Aeroports 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 2021.	L3: ITY-SPI

4. Cooperation activities

Multinational cooperation initiatives

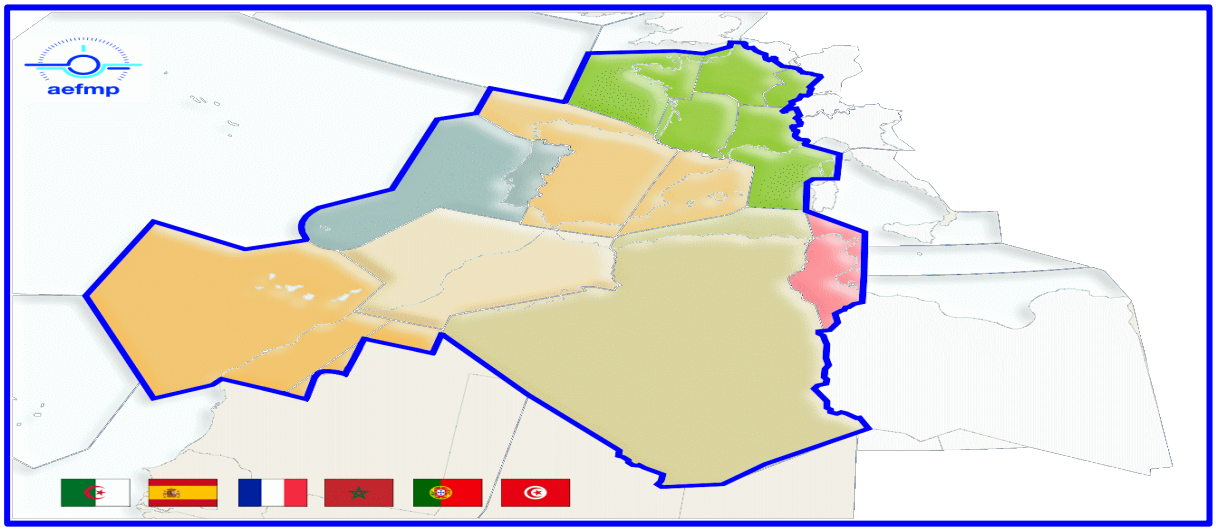
Morocco has strengthened its cooperation in ATM / CNS services, through the conclusion of several agreements with regional and international organizations such as:

- CANSO
- ICAO-EUR
- ACAO
- EUROCONTROL

The year 2020 has been marked by the signature of the new PENS contract with EUROCONTROL.

In addition, and thanks to an agreement between DGAC and ACAO Many Webinars, and training sessions were held by ACAO for the benefit of CNS/ATM personal in order to update and maintain staff knowledge on CNS / ATM systems.

Regional AEFMP Framework



The AEFMP initiative was set up in 1996 in order to harmonize and optimize the air navigation operations among Algeria, Spain, France, Morocco and Portugal. This collaboration was renewed in 2002 with the signature of a Joint AEFMP Plan.

It aims at promoting the establishment of common regional convergence objectives in order to increase safety and achieve a high operational efficiency in the provision of services.

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

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

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

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

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

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

- **Optimum use of Technical Systems**: technical optimization is considered essential to provide the users with systems aimed at improving or maintaining performance through synchronized interoperable technology deployment. Likewise, the main general objectives are to:
  - 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.

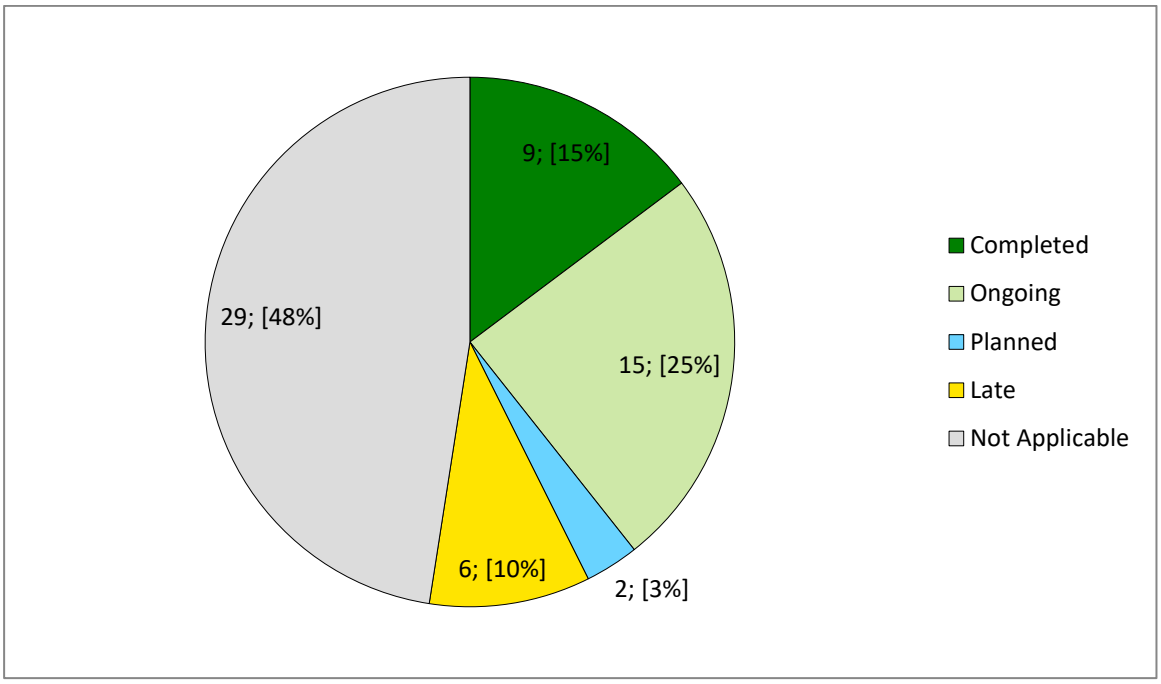
Due to the COVID-19 pandemic situation which affected the international face to face meetings during 2020, the AFEMP groups adapted their coordination procedures to keep the communications active over telecommunication channels.

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).

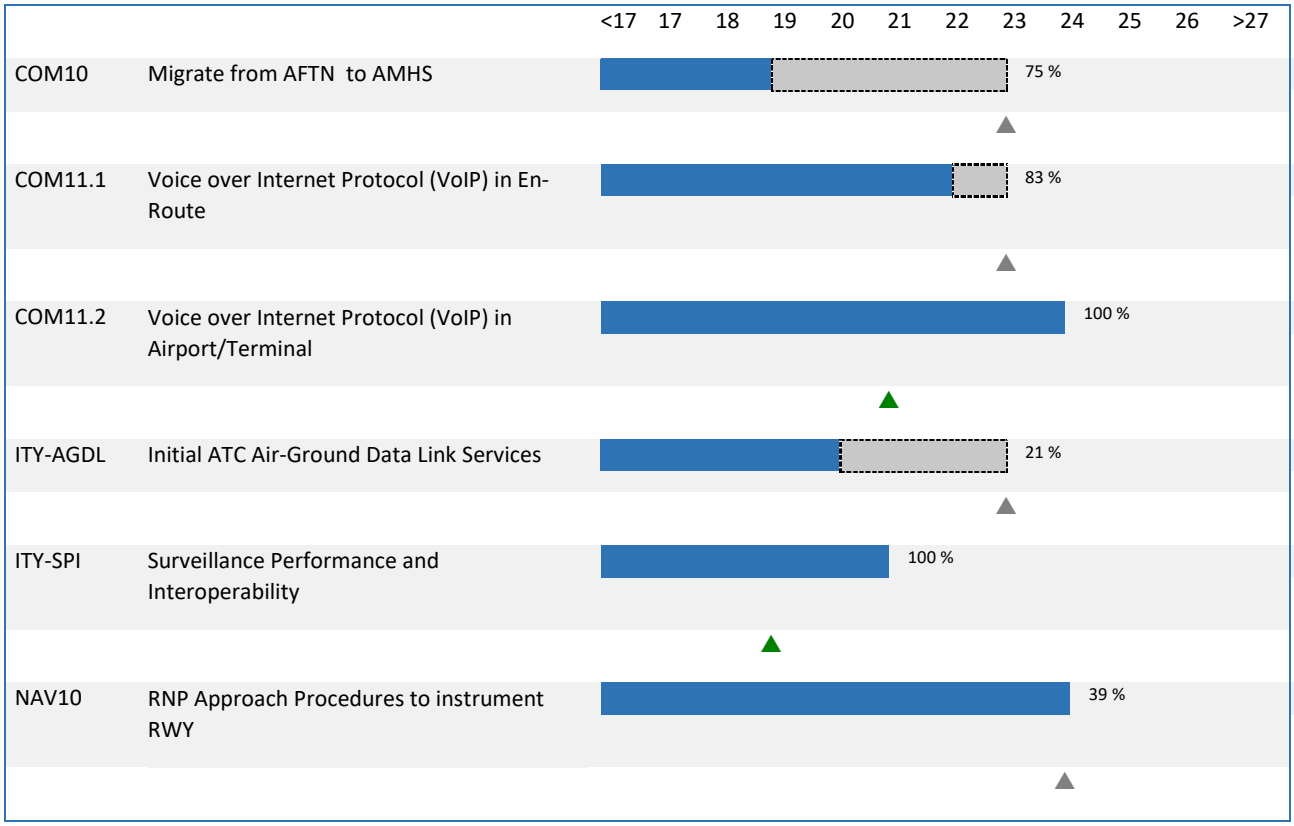


Summary of the implementation of the objectives

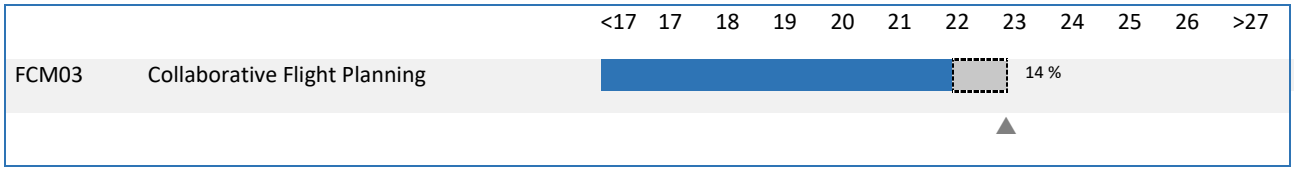
The respect of certain FOC of the LSSIP objectives was affected by the COVID-19 pandemic which caused an operational and financial delay in relation to certain projects, however some projects were not affected by this crisis and continued their progress as the implementation Voice IP, Free Route and the data link project (CPDLC).

5.2. Objective Progress per SESAR Essential Operational Changes

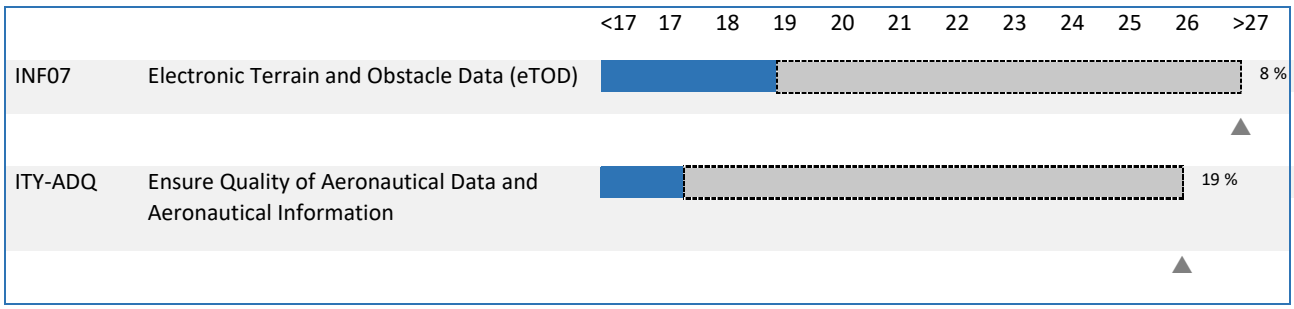
CNS infrastructure and services



ATM interconnected network



Digital AIM and MET services

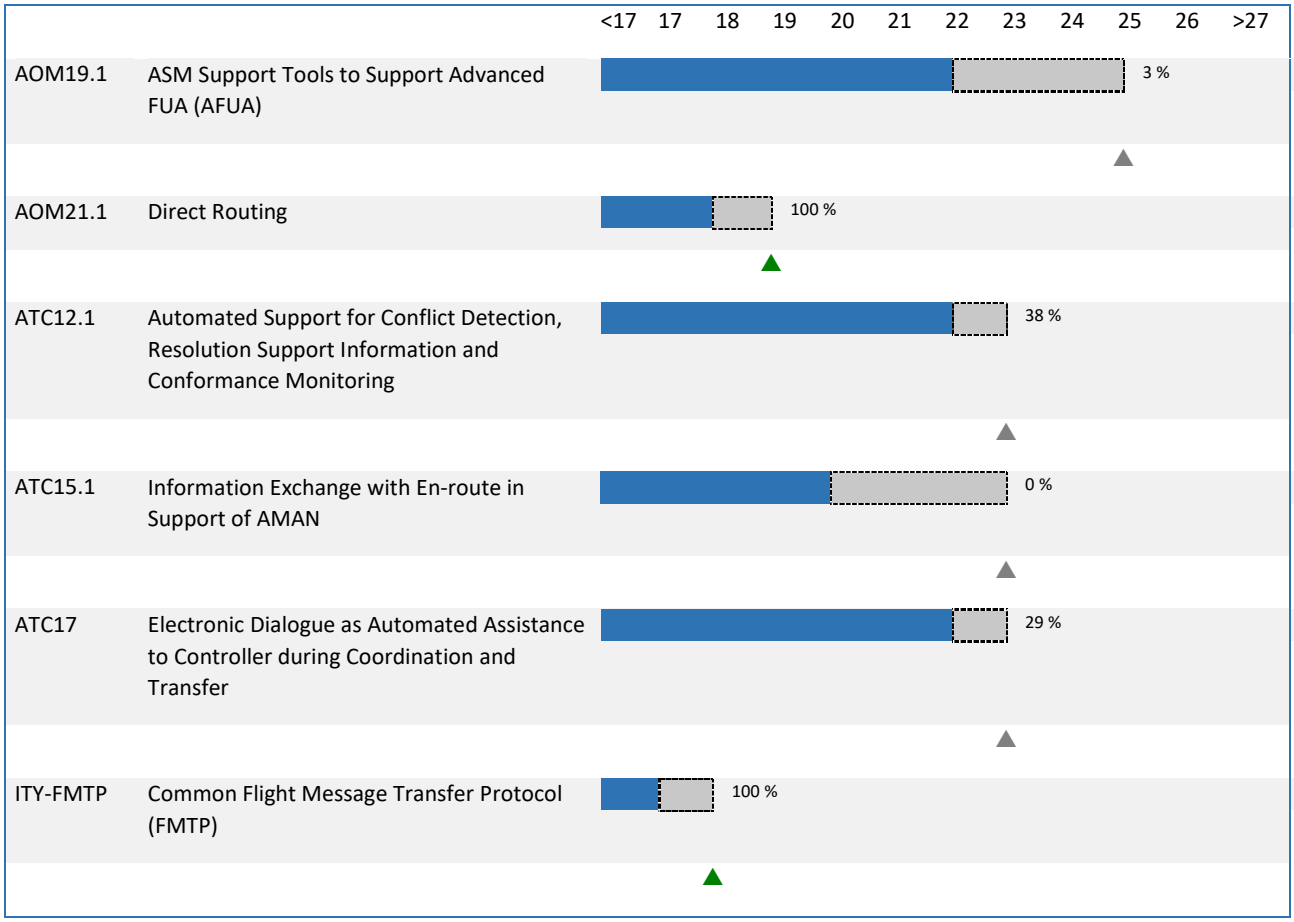


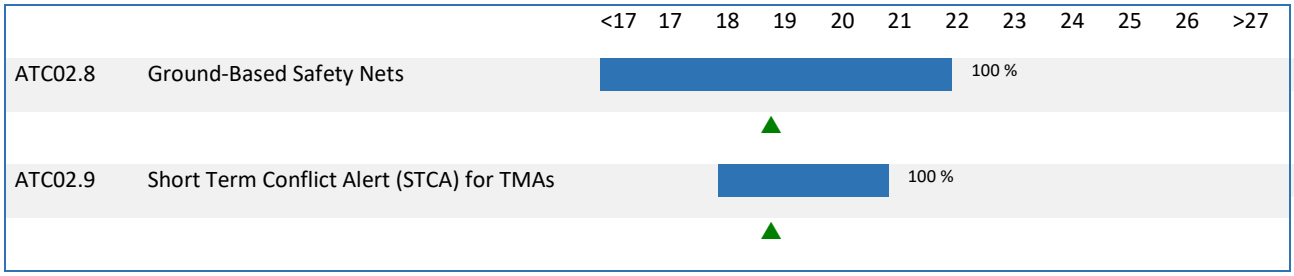
Virtualisation of service provision

This EOC Chart is not applicable for Morocco since Objective AOP14 is not applicable

Airport and TMA performance

		<17 17 18 19 20 21 22 23 24 25 26 >27
AOP04.1	Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)	
	GMMN - Casablanca Mohammed V Airport	0 %
	GMMX - Marrakech Menara International Airport	0 %
AOP05	Airport Collaborative Decision Making (A-CDM)	
	GMMN - Casablanca Mohammed V Airport	3 %
	GMMX - Marrakech Menara International Airport	3 %
ATC07.1	AMAN Tools and Procedures	
	GMMN - Casablanca Mohammed V Airport	0 %
ENV01	Continuous Descent Operations (CDO)	
	GMMN - Casablanca Mohammed V Airport	17 %
	GMMX - Marrakech Menara International Airport	30 %
ENV03	Continuous Climb Operations (CCO)	
	GMMN - Casablanca Mohammed V Airport	0 %
NAV03.1	RNAV 1 in TMA Operations	46%
NAV03.2	RNP 1 in TMA Operations	0 %





This EOC Chart is not applicable for Morocco since Objective NAV12 is not applicable.

5.3.ICAO ASBU Implementation Progress

The following tables show, for each of the ASBU Elements belonging to a particular ASBU Thread and Block, 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 2020 declared statuses and progress of the relevant implementation objectives in accordance with the initial mapping between ATM Master Plan Level 3 and new ICAO GANP 6th Edition (2019), as reflected in the Implementation Plan 2020. A comprehensive analysis performed as part of the ongoing ICAO EURGANT Project Team activity may result in updating the mapping following EASPG approval

Legend:

ACAS

		<17	17	18	19	20	21	22	23	24	25	26	>27
ACAS-B1/1	ACAS Improvements						100 %						

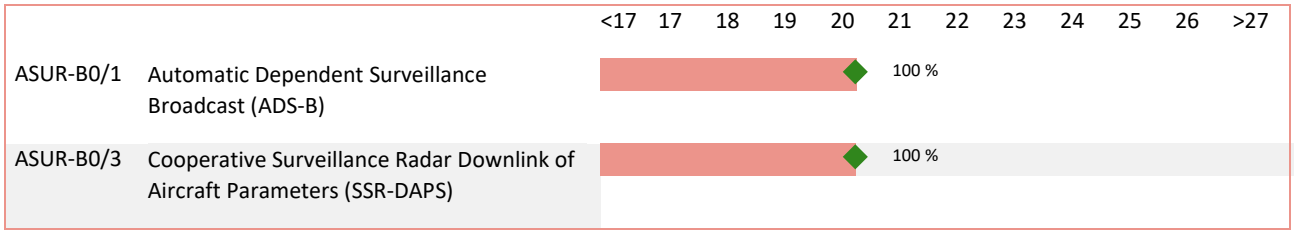
ACDM

		<17	17	18	19	20	21	22	23	24	25	26	>27
ACDM-B0/2	Integration with ATM Network function					3.0 %					100 %		

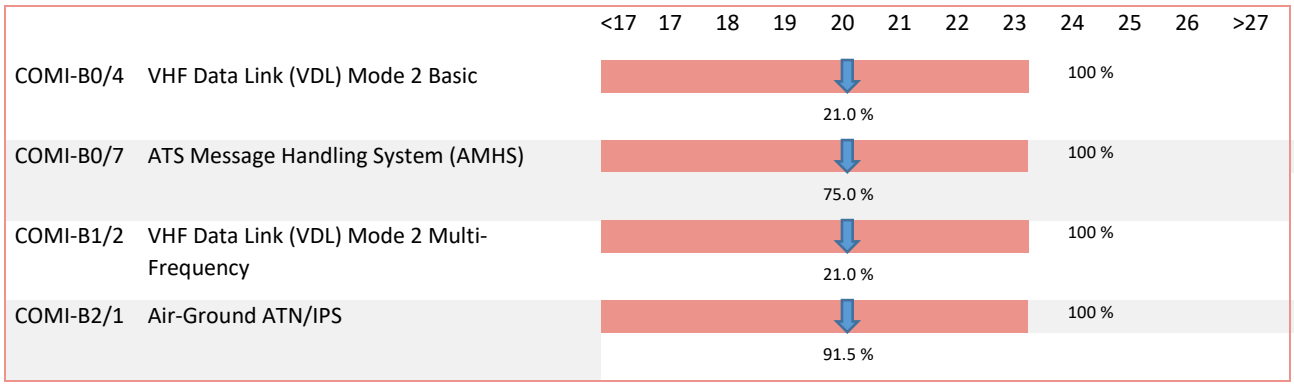
APTA

		<17	17	18	19	20	21	22	23	24	25	26	>27
APTA-B0/1	PBN Approaches (with basic capabilities)					39.0 %					100 %		
APTA-B0/2	PBN SID and STAR procedures (with basic capabilities)					46.0 %				100 %			
APTA-B0/4	CDO (Basic)					23.5 %				100 %			
APTA-B0/5	CCO (Basic)					0.0 %	100 %						
APTA-B1/1	PBN Approaches (with advanced capabilities)					39.0 %					100 %		

ASUR



COMI



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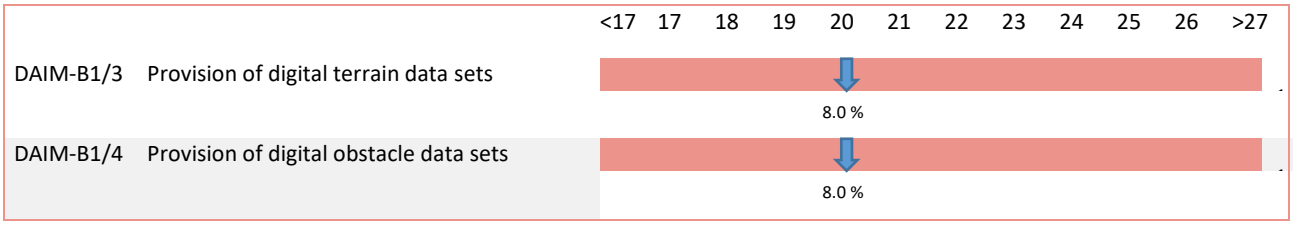
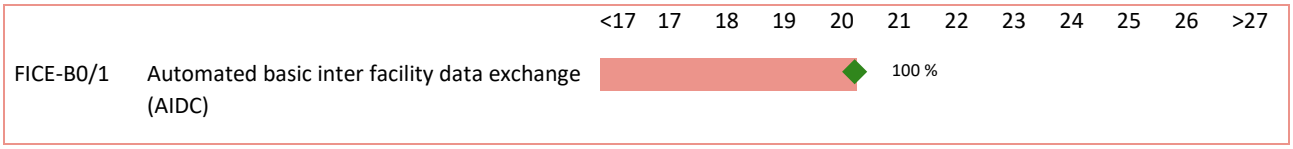


FICE



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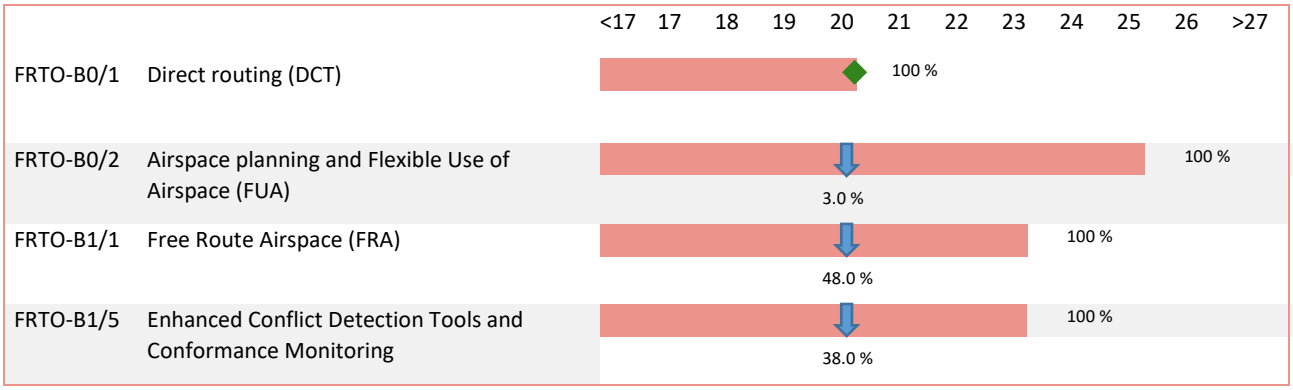
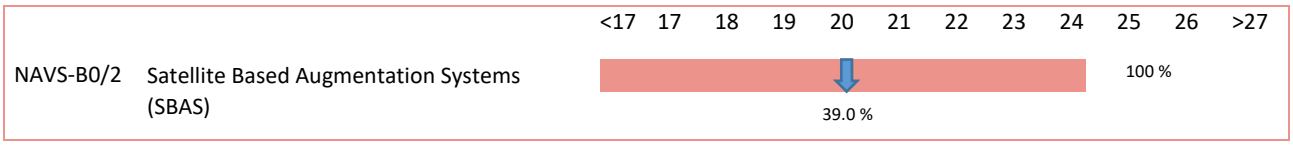
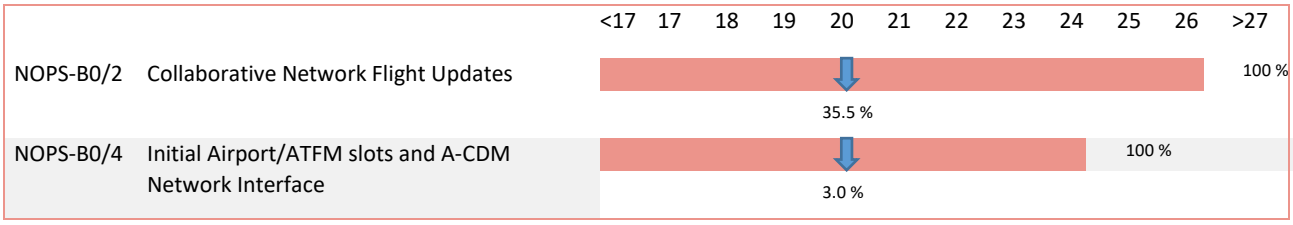


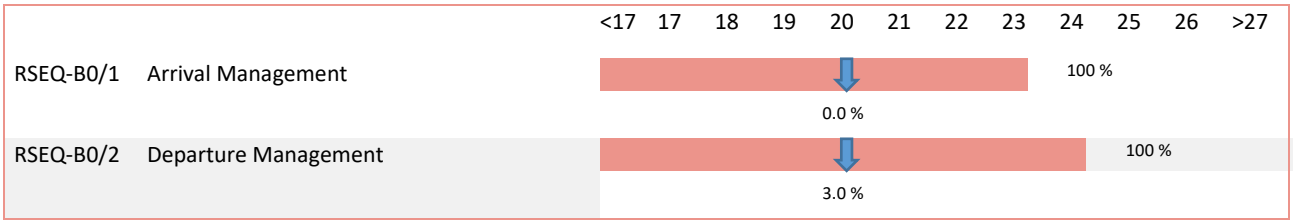
NAVS



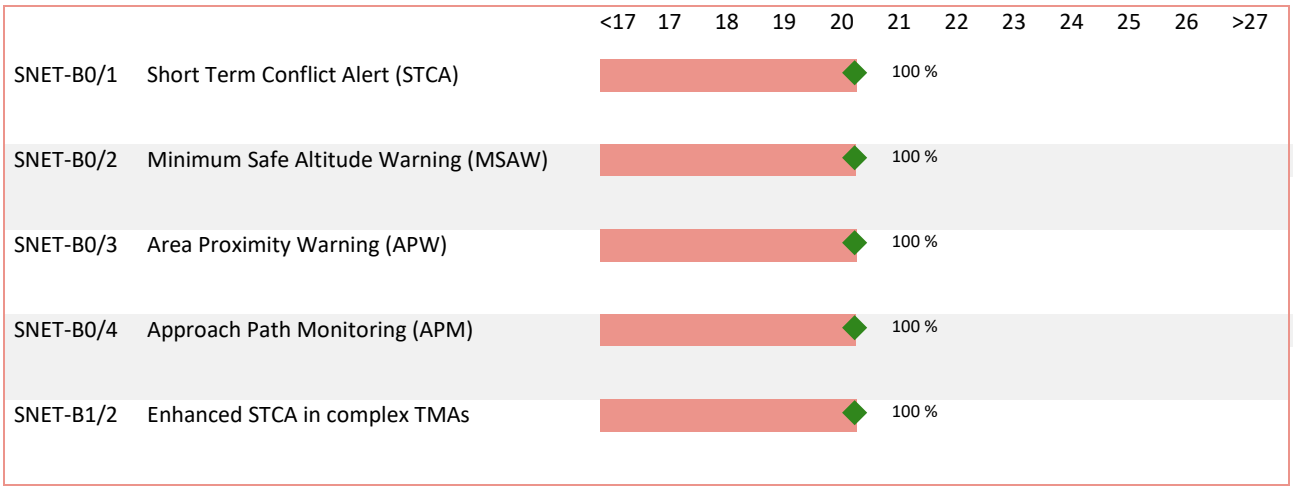
NOPS



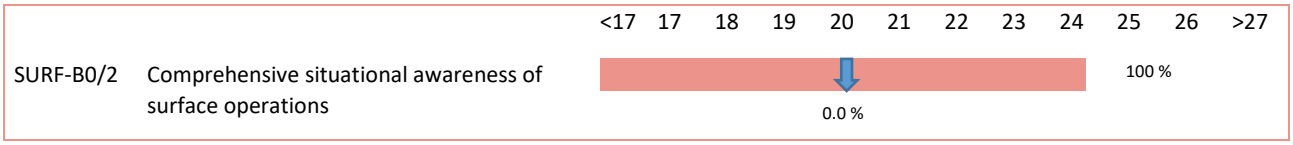
RSEQ



SNET



SURF



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 -		**0%**	**Not Applicable**
	-			
Morocco is not in the Applicability Area.				**-**
REG (By:12/2018)				
Direction Générale de l'Aviation Civile	-	-	0%	Not Applicable -
ASP (By:12/2018)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -
MIL (By:12/2018)				
The Royal Moroccan Air Force	-	-	0%	Not Applicable -

AOM19.1	**ASM Support Tools to Support Advanced FUA (AFUA)** ***Timescales:*** Initial operational capability: 01/01/2011 Full operational capability: 01/01/2022		**3%**	**Late**
	-			
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				**31/12/2024**
ASP (By:01/2022)				
Office National Des Aeroports ANSP	The implementation of FUA is planned through the "AREA-M" project. The acquisition of LARA tools is planned	-	3%	Late 31/12/2024

AOM19.2	**ASM Management of Real-Time Airspace Data** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
-				
Morocco is not in the Applicability Area.				**-**
ASP (By:01/2022)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -

AOM19.3	**Full Rolling ASM/ATFCM Process and ASM Information Sharing** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
-				
Morocco is not in the Applicability Area.				**-**
ASP (By:01/2022)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -

AOM19.4	**Management of Pre-defined Airspace Configurations** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
-				
Morocco is not in the Applicability Area.				**-**
ASP (By:01/2022)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -

AOM21.2	**Free Route Airspace** ***Timescales:*** Initial operational capability: 01/01/2015 Full operational capability: 01/01/2022		**48%**	**Ongoing**
		-		
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**				**31/12/2022**
ASP (By:01/2022)				
Office National Des Aeroports 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	48%	Ongoing 31/12/2022

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: 01/01/2021		**0%**	**Late**
		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:01/2021)				
Office National Des Aeroports 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:01/2021)				
Office National Des Aeroports 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: 01/01/2021		**0%**	**Late**
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:01/2021)				
Marrakech Menara International Airport	-	-	0%	Late 31/12/2023
APO (By:01/2021)				
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 -		**0%**	**Not Applicable**
GMMN - Casablanca Mohammed V Airport **(Outside Applicability Area)**				
No need for the moment to implement this objective in Casablanca Mohammed V and Marrakech airports.				**-**
ASP (By:01/2021)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -
APO (By:01/2021)				
Office National Des Aeroports APO	-	-	0%	Not Applicable -

AOP05	**Airport Collaborative Decision Making (A-CDM)** ***Timescales:*** Initial operational capability: 01/01/2004 Full operational capability: 01/01/2021		**3%**	**Ongoing**
GMMN - Casablanca Mohammed V Airport				
Activities related to the implementation of A-CDM were initiated in 2019. **Establishment of a monitoring committee for the establishment of the A-CDM in Casablanca airport.**				**31/12/2023**
ASP (By:01/2021)				
Office National Des Aeroports ANSP	Activities related to the implementation of A-CDM were initiated in 2019. Establishment of a monitoring committee for the establishment of the A-CDM in Casablanca airport.	-	3%	Ongoing 31/12/2023
APO (By:01/2021)				
Office National Des Aeroports APO	Activities related to the implementation of A-CDM were initiated in 2019. Establishment of a monitoring committee for the establishment of the A-CDM in Casablanca airport.	-	3%	Ongoing 31/12/2023

AOP05	**Airport Collaborative Decision Making (A-CDM)** ***Timescales:*** Initial operational capability: 01/01/2004 Full operational capability: 01/01/2021		**3%**	**Ongoing**
GMMX - Marrakech Menara International Airport				
Activities related to the implementation of A-CDM were initiated in 2019. **Establishment of a monitoring committee for the establishment of the A-CDM in Marrakech airport.**				**31/12/2023**
ASP (By:01/2021)				
Office National Des Aeroports ANSP	Activities related to the implementation of A-CDM were initiated in 2019. Establishment of a monitoring committee for the establishment of the A-CDM in Marrakech airport.	-	3%	Ongoing 31/12/2023
APO (By:01/2021)				
Office National Des Aeroports APO	Activities related to the implementation of A-CDM were initiated in 2019. Establishment of a monitoring committee for the establishment of the A-CDM in Marrakech airport.	-	2%	Ongoing 31/12/2023

AOP10	**Time-Based Separation** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
GMMN - Casablanca Mohammed V Airport **(Outside Applicability Area)**				
Moroccan airports are not in the Applicability Area.				**-**
REG (By:01/2024)				
Direction Générale de l'Aviation Civile	-	-	0%	Not Applicable -
ASP (By:01/2024)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -

AOP11	**Initial Airport Operations Plan** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
GMMN - Casablanca Mohammed V Airport **(Outside Applicability Area)**				
Moroccan airports are not in the Applicability Area.				**-**
ASP (By:01/2021)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -
APO (By:01/2021)				
Office National Des Aeroports APO	-	-	0%	Not Applicable -

AOP12	**Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
GMMN - Casablanca Mohammed V Airport **(Outside Applicability Area)**				
Moroccan airports are not in the Applicability Area.				**-**
ASP (By:01/2021)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -
APO (By:01/2021)				
Office National Des Aeroports APO	-	-	0%	Not Applicable -

AOP13	**Automated Assistance to Controller for Surface Movement Planning and Routing** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
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:01/2024)				
Direction Générale de l'Aviation Civile	-	-	0%	Not Applicable -
ASP (By:01/2024)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -

ATC02.8	**Ground-Based Safety Nets** ***Timescales:*** Initial operational capability: 01/01/2009 Full operational capability: 01/01/2022		**100%**	**Completed**
		-		
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:01/2022)				
Office National Des Aeroports 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**
		-		
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 Aeroports 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: 01/01/2020		**0%**	**Planned**
		GMMN - Casablanca Mohammed V Airport		
The implementation is planned in the new system of Casablanca ACC.				**31/12/2022**
ASP (By:01/2020)				
Office National Des Aeroports 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 31/12/2022

ATC12.1	**Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring** ***Timescales:*** Initial operational capability: 01/01/2015 Full operational capability: 01/01/2022		**46%**	**Ongoing**
		-		
Implemented in Agadir ACC since 2018 and planned in the new system of Casablanca ACC.				**31/12/2022**
ASP (By:01/2022)				
Office National Des Aeroports 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.	-	46%	Ongoing 31/12/2022

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**
		-		
The implementation is planned in the new system (acquisition of new ATC system in 2021) of Casablanca ACC and in some airport.				**31/12/2022**
ASP (By:12/2019)				
Office National Des Aeroports 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 31/12/2022

ATC15.2	**Arrival Management Extended to En-route Airspace** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
		-		
Arrival Management system implementation is planned for Casablanca airport **The need of Arrival Management in En-route Airspace will be evaluated later**				-
ASP (By:01/2024)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -

ATC17	**Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 01/01/2022		**32%**	**Ongoing**
	-			
The PAC is implemented since 2007. **Implementation of COD is planned in the framework of new system of Casablanca ACC implementation.**				**31/12/2022**
ASP (By:01/2022)				
Office National Des Aeroports 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	32%	Ongoing 31/12/2022

COM10	**Migrate from AFTN to AMHS** ***Timescales:*** Initial operational capability: 01/12/2011 Full operational capability: 31/12/2018		**75%**	**Ongoing**
	-			
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.** **Current version of aeronautical messaging switching system does not support Extended ATSMHS capabilities** **An update of this version is planned for 2022.**				**31/12/2022**
ASP (By:12/2018)				
Office National Des Aeroports 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. Current version of aeronautical messaging switching system does not support Extended ATSMHS capabilities An update of this version is planned for 2022.	-	75%	Ongoing 31/12/2022

COM11.1	**Voice over Internet Protocol (VoIP) in En-Route** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 01/01/2022	**83%**	**Ongoing**
	-		
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 but with the adjacent ACC (Lisbon/Seville/ Algeria/Mauritania) the VoIP is planned for 2021.**			**31/12/2022**
ASP (By:01/2022)			

Office National Des Aeroports 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 but with the adjacent ACC (Lisbon/Seville/ Algeria/Mauritania) the VoIP is planned for 2021.	Implementation and operation of an IP-based G/G data communication network / Implementation of Voice over IP(VoIP) systems and services	83%	Ongoing 31/12/2022

COM11.2	**Voice over Internet Protocol (VoIP) in Airport/Terminal** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 31/12/2023	**100%**	**Completed**
	-		
For all Airports/Terminal, the Voice Communication Systems support VoIP are in use. **Between all ATS Units, the telephone coordination with VoIP is operational.**			**31/12/2020**
ASP (By:12/2023)			

Office National Des Aeroports ANSP	For all Airports/Terminal, the Voice Communication Systems support VoIP are in use. Between all ATS Units, the telephone coordination with VoIP is operational.	Implementation and operation of an IP-based G/G data communication network / Implementation of Voice over IP(VoIP) systems and services	100%	Completed 31/12/2020

COM12	**New Pan-European Network Service (NewPENS)** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
-				
Morocco is not in the applicability area				**-**
ASP (By:01/2025)				
Office National Des Aeroports ANSP	-	Procurement and deployment of New PENS	0%	Not Applicable -
APO (By:01/2025)				
Office National Des Aeroports APO	-	-	0%	Not Applicable -

ENV01	**Continuous Descent Operations (CDO)** ***Timescales:*** Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023		**17%**	**Ongoing**
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 Aeroports ANSP	-	Reorganization of CASABLANCA airspace	21%	Ongoing 31/12/2022
APO (By:12/2023)				
Office National Des Aeroports APO	-	-	0%	Planned 31/12/2022

ENV01	**Continuous Descent Operations (CDO)** ***Timescales:*** Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023		**30%**	**Ongoing**
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 2021.**				**31/12/2022**
ASP (By:12/2023)				
Office National Des Aeroports 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 2022.	Reorganization of CASABLANCA airspace	38%	Ongoing 31/12/2022
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 2022.	-	0%	Planned 31/12/2022

FCM03	**Collaborative Flight Planning** ***Timescales:*** Initial operational capability: 01/01/2000 Full operational capability: 01/01/2022		**14%**	**Ongoing**
-				
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 2021) of Casablanca ACC.**				**31/12/2022**
ASP (By:01/2022)				
Office National Des Aeroports 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 2021) of Casablanca ACC.	-	14%	Ongoing 31/12/2022

FCM04.2	**Short Term ATFCM Measures (STAM) - Phase 2** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
-				
Morocco is not in the Applicability Area.				**-**
ASP (By:01/2022)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -

FCM05	**Interactive Rolling NOP** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
-				
All involved stakeholders decided that there would be no reporting for this Objective. This will be revisited in the next edition(s) of the document.				**-**
ASP (By:01/2022)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -
APO (By:01/2022)				
Office National Des Aeroports APO	-	-	0%	Not Applicable -

FCM06	**Traffic Complexity Assessment** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
-				
Morocco is not in the applicability area.				**-**
ASP (By:01/2022)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -

INF07	**Electronic Terrain and Obstacle Data (eTOD)** ***Timescales:*** Initial operational capability: 01/11/2014 Full operational capability: 01/01/2019		**8%**	**Late**
		-		
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.** **Phase 1: Marrakech 2023, Phase 2: Casablanca 2024.**				**31/12/2026**
REG (By:01/2019)				
Direction Générale de l'Aviation Civile	TOD Regulation framework including TOD policy and basic regulation will be published by the end of 2021.	-	5%	Late 31/12/2023
ASP (By:01/2019)				
Office National Des Aeroports 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:01/2019)				
Office National Des Aeroports 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 -		**0%**	**Not Applicable**
		-		
Morocco is not in the applicability area				**-**
ASP (By:01/2025)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -
MIL (By:01/2025)				
The Royal Moroccan Air Force	-	-	0%	Not Applicable -
APO (By:01/2025)				
Office National Des Aeroports APO	-	-	0%	Not Applicable -

ITY-ACID	**Aircraft Identification** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
	-			
Morocco is not in the applicability area.				-
ASP (By:01/2020)				
Office National Des Aeroports ANSP	-	-	0%	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**
	-			
Quality management system (QMS) is fully implemented since 2009. **A new digital system for the management of aeronautical information has been installed in 2020.** **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.**				**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 Aeroports ANSP	Quality management system (QMS) is fully implemented since 2009. A new digital system for the management of aeronautical information has been installed in 2020. The whole data for Morocco will be filled in the future database for completeness, consistency, data quality requirements, resolution and integrity analysis.	AIM System	21%	Late 31/12/2025
APO (By:06/2017)				
Office National Des Aeroports APO	Quality management system (QMS) is fully implemented in Marrakech and Casablanca airports. The new digital system for the management of aeronautical information which is installed in 2020 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		**21%**	**Ongoing**
		-		
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.				**31/12/2022**
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 31/12/2022
ASP (By:02/2018)				
Office National Des Aeroports 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	23%	Ongoing 31/12/2022
MIL (By:01/2019)				
The Royal Moroccan Air Force	-	-	0%	Not Applicable -

ITY-AGVCS2	**8,33 kHz Air-Ground Voice Channel Spacing below FL195** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**0%**	**Not Applicable**
		-		
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	-	-	0%	Not Applicable -
ASP (By:12/2018)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -
MIL (By:12/2020)				
The Royal Moroccan Air Force	-	-	0%	Not Applicable -
APO (By:12/2018)				
Office National Des Aeroports APO	-	-	0%	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**
-				
				31/12/2017
ASP (By:12/2014)				
Office National Des Aeroports 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	-	-	0%	Not Applicable -

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 : 07/12/2020 ELS in transport-type State aircraft : 07/12/2020 Ensure training of MIL personnel: 07/12/2020 Retrofit aircraft capability: 07/12/2020		**100%**	**Completed**
-				
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. In addition, the implementation of action plan are assessed during audits.	-	100%	Completed 31/12/2018
ASP (By:02/2015)				
Office National Des Aeroports 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.	Surveillance Evolution	100%	Completed 31/12/2018
MIL (By:12/2020)				
The Royal Moroccan Air Force	No implementation data available for Military.	-	0%	Not Applicable -

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		**49%**	**Ongoing**
-				
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.**				**31/12/2022**
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.	Reorganization of CASABLANCA airspace	100%	Completed 31/12/2019
ASP (By:06/2030)				
Office National Des Aeroports ANSP	RNAV 1 procedures are implemented in Marrakech TMA. Casablanca TMA RNAV procedures are planned on the framework of Casablanca airspace reorganization project.	Reorganization of CASABLANCA airspace	41%	Ongoing 31/12/2022

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 Applicable**
-				
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	-	-	0%	Not Applicable -
ASP (By:06/2030)				
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -

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	**39%**	**Ongoing**
-			
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.			**31/12/2023**
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	Reorganization of CASABLANCA airspace 70%	Ongoing 31/12/2021
ASP (By:01/2024)			
Office National Des Aeroports 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 2023	Reorganization of CASABLANCA airspace 26%	Ongoing 31/12/2023

NAV12	**ATS IFR Routes for Rotorcraft Operations** **(Outside Applicability Area)** ***Timescales:*** - not applicable -	**0%**	**Not Applicable**
-			
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	-	- 0%	Not Applicable -
ASP (By:06/2030)			
Office National Des Aeroports ANSP	-	- 0%	Not Applicable -

SAF11	**Improve Runway Safety by Preventing Runway Excursions** **(Outside Applicability Area)** ***Timescales:*** - not applicable -	**0%**	**Not Applicable**
-			
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	-	-	0%	Not Applicable -
ASP (By:12/2014)			
Office National Des Aeroports ANSP	-	-	0%	Not Applicable -
APO (By:12/2014)			
Office National Des Aeroports APO	-	-	0%	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**
	-		
- 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 Aeroports 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**
	-		
-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 Aeroports 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**
		-		
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 Aeroports 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	-	-	0%	Not Applicable -

FCM01	**Implement enhanced tactical flow management services** ***Timescales:*** Initial operational capability: 01/08/2001 Full operational capability: 31/12/2006		**57%**	**Late**
		-		
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 Aeroports 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**
-				
The OLDI system links Morocco's ACC to those at Canaries, Sevilla and Lisboa. 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 Aeroports ANSP	The OLDI system links Morocco's ACC to those at Canaries, Sevilla and Lisboa. 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	-	-	0%	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**
	-		
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**
	-		
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**
	-		
There is no local needs.			-

AOP17	**Provision/integration of departure planning information to NMOC** ***Applicability and timescale: Local***	**%**	**Not Applicable**
	-		
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**
	-		
There is no local needs.			-

ATC18	**Multi-Sector Planning En-route - 1P2T** ***Applicability and timescale: Local***	**%**	**Not Applicable**
	-		
There is no local needs.			-

ATC19	**Enhanced AMAN-DMAN integration** ***Applicability and timescale: Local***	**%**	**Not Applicable**
	-		
There is no local needs.			-

ATC20	Enhanced STCA with down-linked parameters via Mode S EHS *Applicability and timescale: Local*	%	Not Applicable
-			
No local needs.			-

ENV02	Airport Collaborative Environmental Management *Applicability and timescale: Local*	%	Not Applicable
-			
Morocco has no local needs nor regulation on this objective.			-

ENV03	Continuous Climb Operations (CCO) *Applicability and timescale: Local*	0%	Ongoing
GMMN - Casablanca Mohammed V Airport			
Implementing new PBN procedures including CCOs is planned.			31/12/2023

ENV03	Continuous Climb Operations (CCO) *Applicability and timescale: Local*	0%	Ongoing
GMMX - Marrakech Menara International Airport			
Implementing new PBN procedures including CCOs is planned.			31/12/2023

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

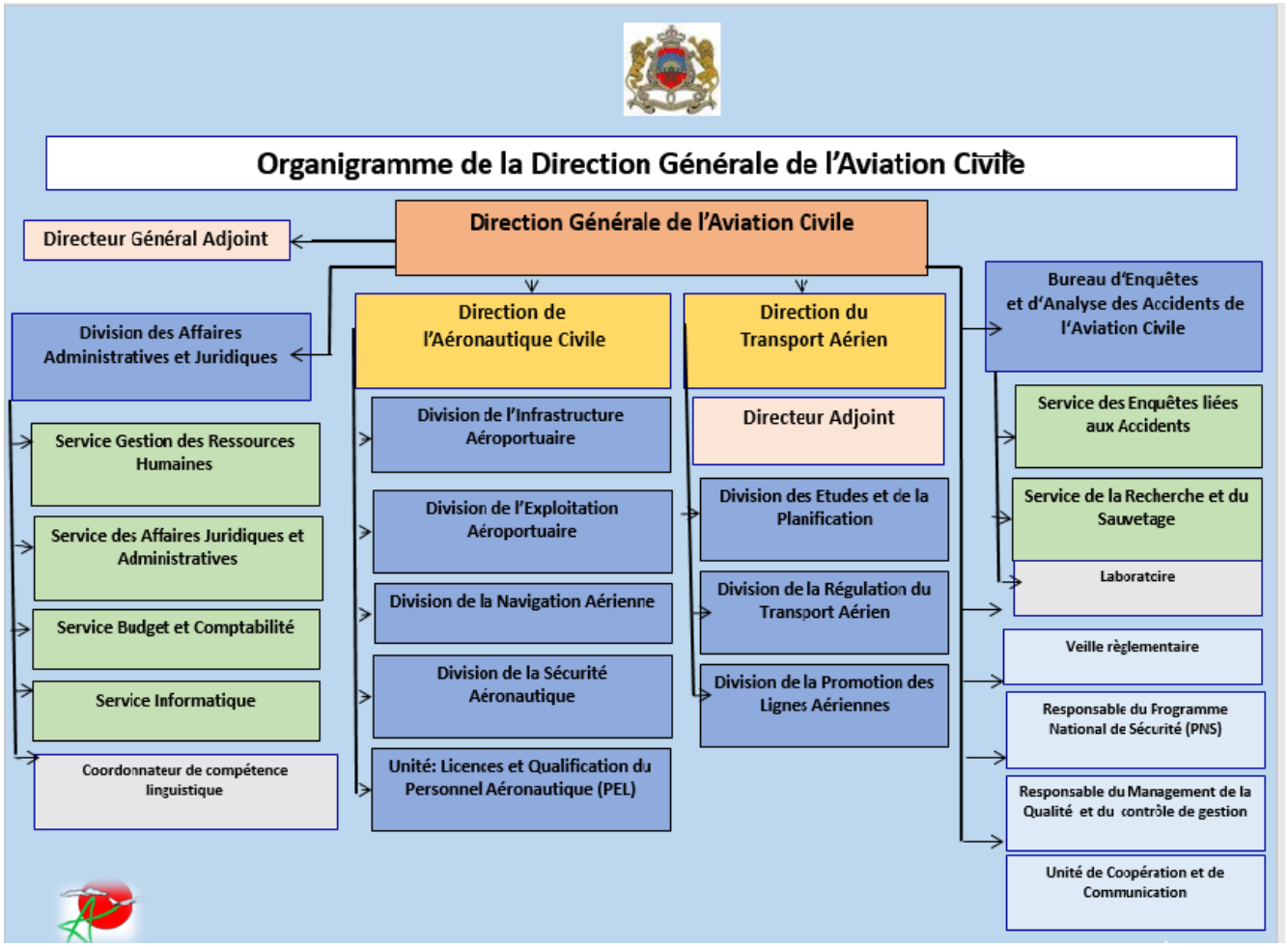
LSSIP Focal Points	Organisation	Name
LSSIP ANS Focal Point	DAC	Mohamed SABBARI
LSSIP AIS Focal Point	DAC	Said LAKOUASSEMI
LSSIP ATM Focal Point	DAC	Mohamed ETTEMRI
LSSIP CNS Focal Point	DAC	Sara TOUIL

ONDA LSSIP Support

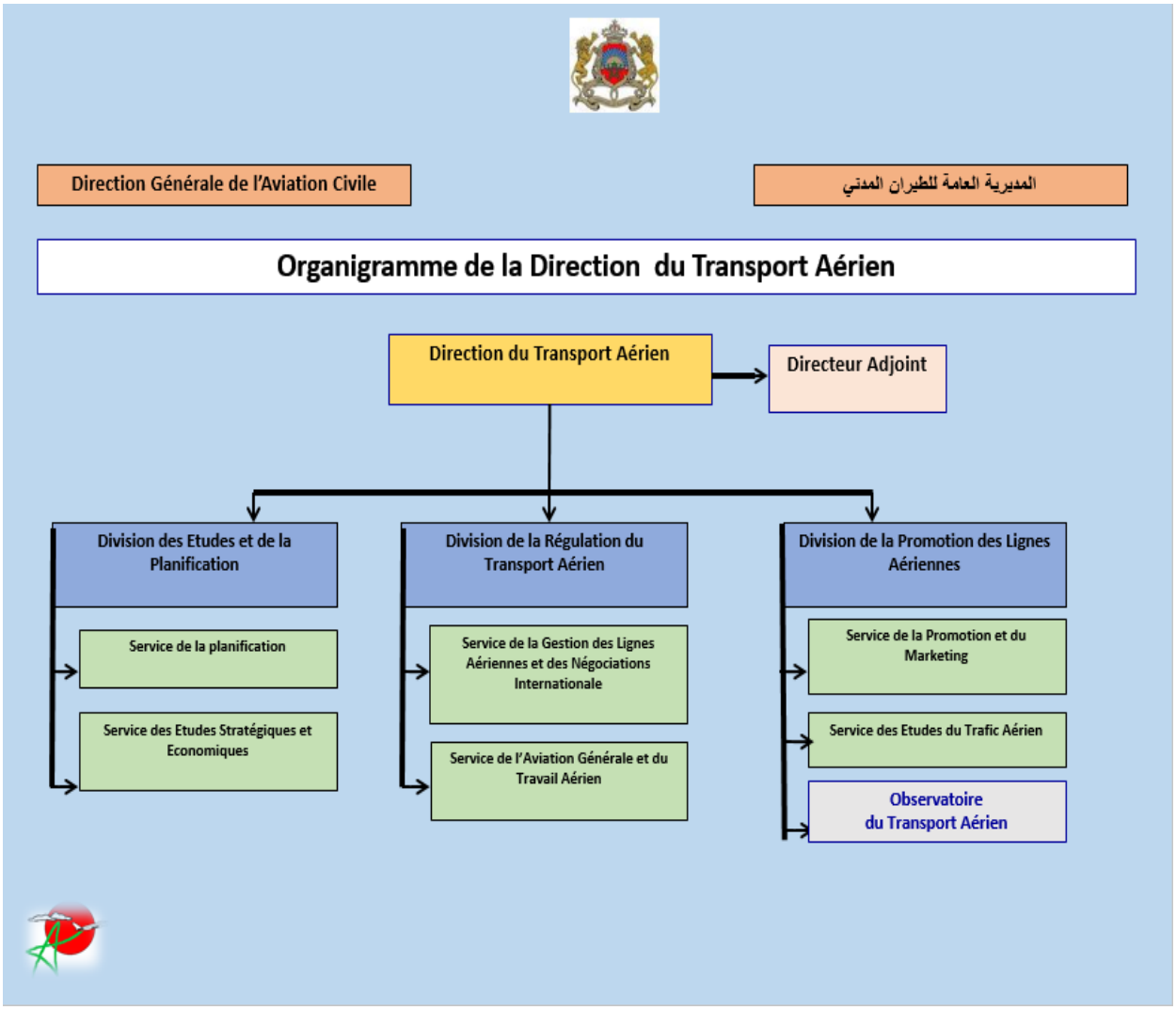
Function	Directorate	Name
LSSIP Coordinator Focal Point	PNA_ONDA	Souheil BAYAHIA
LSSIP AIM Focal Point	PNA_ONDA	Abderrahim ASSOUFI
LSSIP CNS Focal Point	PNA_ONDA	Mohammed BOUAGGAD, Youssef LAZAR and Said JAREK
LSSIP ATS Focal Point	PNA_ONDA	Hassan FAHMI and Younes JANAH

B. National stakeholders organisation charts

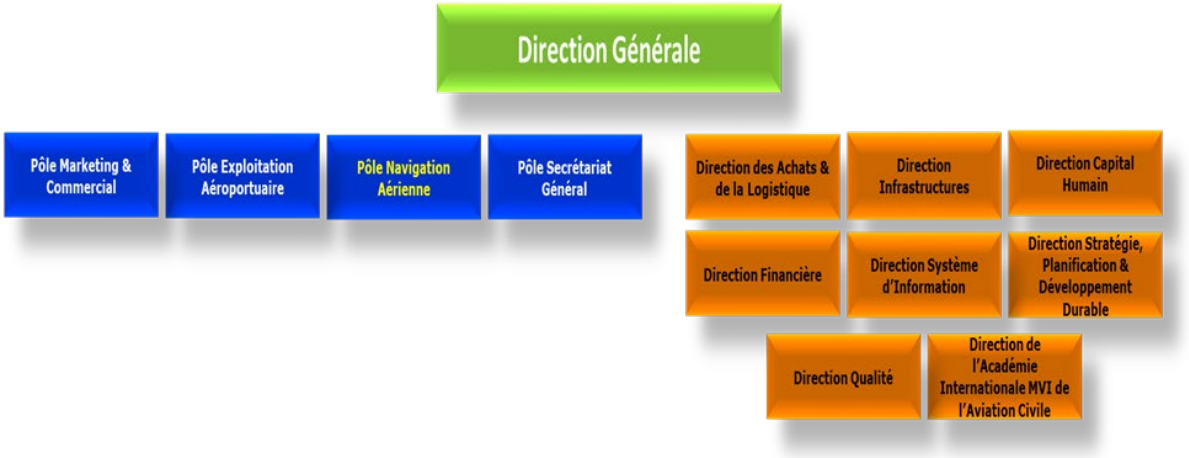
DGAC Chart



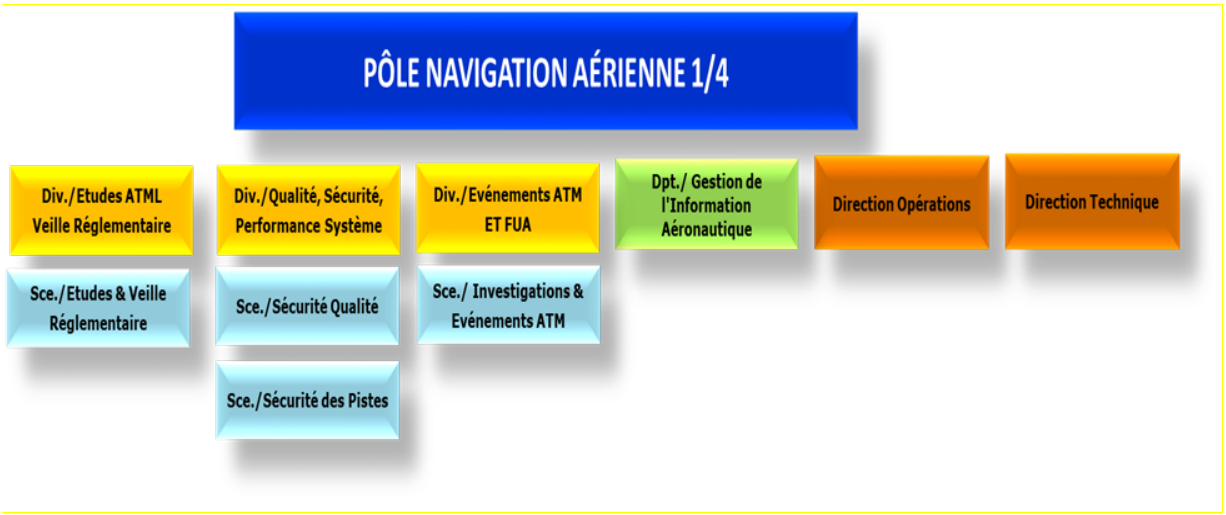
DTA Chart

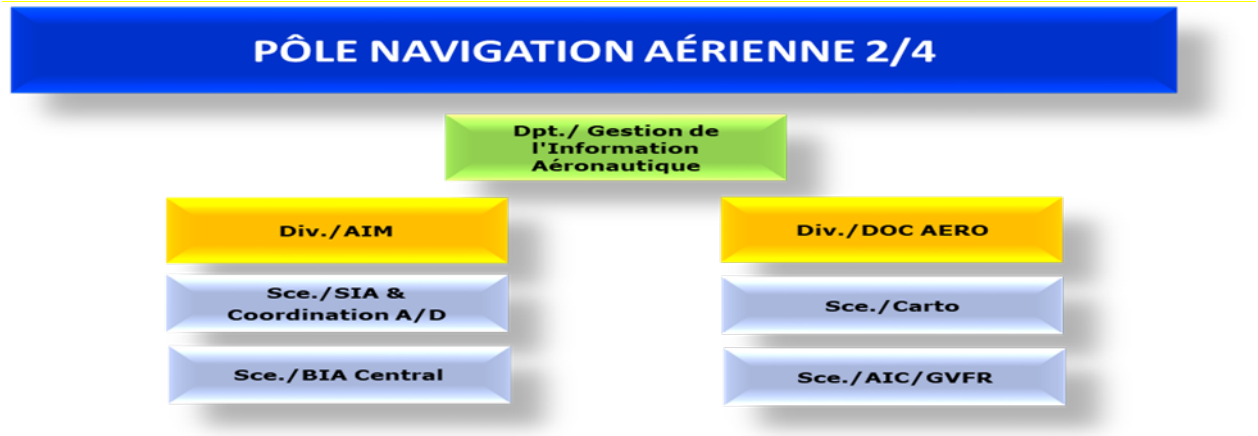

Direction Générale de l'Aviation Civile
المديرية العامة للطيران المدني
Organigramme de la Direction du Transport Aérien
Direction du Transport Aérien
Directeur Adjoint
Division des Etudes et de la Planification
Service de la planification
Service des Etudes Stratégiques et Economiques
Division de la 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

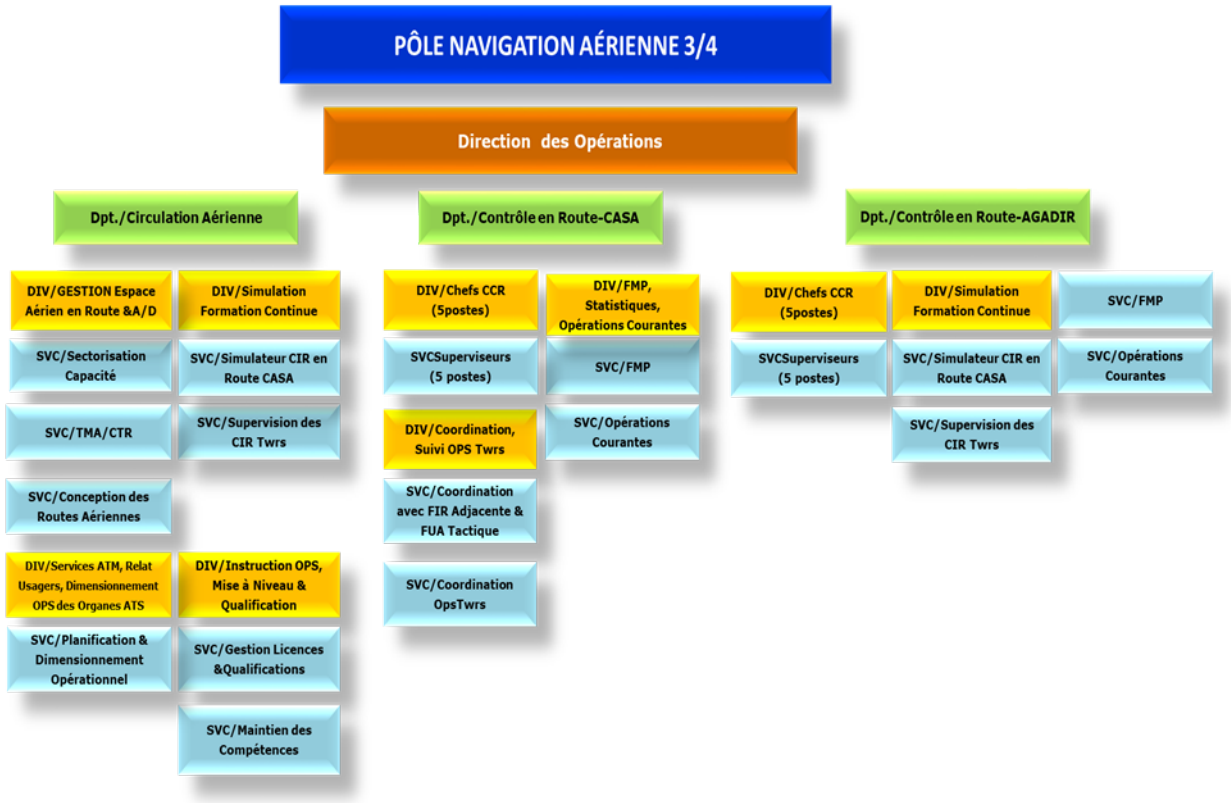


PNA_ONDA Chart





PNA_ONDA Chart



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

The table below (extracted from the MPL3 Progress Plan 2020) shows for each implementation objective, the mapping of the L3 implementation Objectives to the corresponding SESAR Essential Operational Changes, the SESAR Solutions, the Deployment Program families, the ICAO ASBU, the EASA EPAS, the Network Strategy Plan, the Airspace Architecture Study Transition Plan (AAS TP) Milestones and the SESAR Key Features.

EOC	Level 3 Implementation Objectives	SESAR Sol.	DP family	ICAO ASBUs	EPAS	NSP	AAS TP	KF
CNS	ATC21-Composite surveillance ADS-B/WAM	#114	-	ASUR-B0/1 ASUR-B0/2	RMT.0679 RMT.0519	SO8/3 SO8/4	-	EAI
	COM10 - Migration from AFTN to AMHS	-	-	COMI B0/7	-	-	-	EAI
	COM11.1 - Voice over Internet Protocol (VoIP) in En-Route	-	3.1.4 3.2.1	COMI B2/1	-	SO8/4	AM-1.3	EAI
	COM11.2 - Voice over Internet Protocol (VoIP) in Airport/Terminal	-	-	COMI B2/1	-	SO8/4	-	EAI
	ITY-ACID - Aircraft identification	-	-	-	-	SO8/2	-	EAI
	ITY-AGDL - Initial ATC air-ground data link services	-	6.1.1 6.1.3 6.1.4	COMI B0/4 COMI B1/2	RMT.0524	SO4/1 SO8/3	AM-1.1	EAI
	ITY-AGVCS2 – 8.33 kHz Air-Ground Voice Channel Spacing below FL195	-	-	-	-	SO8/1	-	EAI
	ITY-SPI - Surveillance performance and interoperability	-	-	ASUR B0/1 ASUR B0/3	RMT.0679 RMT.0519	SO8/3 SO8/4	-	EAI
	NAV10 - RNP Approach Procedures to instrument RWY	#103	1.2.1 1.2.2	APTA B0/1 APTA B1/1 NAVS B0/2	RMT.0639 RMT.0445	SO6/5	-	AATS
	NAV11 - Precision Approach using GBAS CAT II/III based on GPS L1	#55	-	NAVS B1/1	-	-	-	HPO
iN	AOM13.1 - Harmonise OAT and GAT handling	-	-	-	-	SO6/2	-	OANS
	AOP11 - Initial Airport Operations Plan	#21	2.1.4	NOPS B1/3	-	SO6/2	-	HPAO

	AOP17 – Provision/integration of DPI to NMOC	#61	-	NOPS B0/4	-	-	-	HPAO
	COM12 - NewPENS	-	5.1.2 5.2.1	COMI B1/1	-	SO2/3 SO2/4 SO8/3 SO8/4	-	EAI
	FCM03 - Collaborative flight planning	-	4.2.3	NOPS B0/2	-	SO4/2 SO5/1 SO5/6	AM-1.14	OANS
	FCM04.2 - STAM phase 2	#17	4.1.2	NOPS B1/1	-	SO4/3 SO5/4	AM-1.11	OANS
	FCM05 - Interactive rolling NOP	#20, #21	4.2.2 4.2.4	NOPS B1/2	-	SO2/1 SO2/2 SO2/3 SO2/4	AM-1.12	OANS
	FCM06 - Traffic Complexity Assessment	#19	4.4.2	NOPS B1/4	-	SO4/3 SO5/4	AM-1.13	OANS
	FCM09 - Enhanced ATFM Slot swapping	#56	-	NOPS B1/7	-	SO6/1	-	OANS
	INF08.1 - Information Exchanges using the SWIM Yellow TI Profile	#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	AMET B2/4 DAIM B2/1 SWIM B3/1	-	SO2/4 SO2/5 SO5/2 SO5/5	AM-1.5	EAI
	INF08.2 - Information Exchanges using the SWIM Blue TI Profile	#28, #46	5.1.3, 5.1.4, 5.2.1, 5.2.2, 5.2.3, 5.6.2	SWIM B3/1, TBO B3/1	-	SO5/2SO5/5	AM-9.1	EAI
dS	INF07 - Electronic Terrain and Obstacle Data (e-TOD)	-	1.2.2	DAIM B1/4 DAIM B1/4	RMT.0703 RMT.0722	SO2/5	-	EAI
	INF09 - Digital Integrated Briefing	#34		DAIM B1/7, AMET B1/4	-	SO2/5	-	EAI
	ITY-ADQ - Ensure quality of aeronautical data and aeronautical information	-	1.2.2	-	RMT.0722 RMT.0477	SO2/5	-	EAI
U-S	-	-	-	-	-	-	-	-

vS	AOP14 – Remote Tower Services	#12, #71, #52, #13	-	RATS B1/1	RMT.0624	-	-	HPAO
ATp	AOP04.1 - A-SMGCS Surveillance (former Level 1)	#70	2.2.1	SURF B0/2	MST.029	SO6/6	-	HPAO
	AOP04.2 - A-SMGCS RMCA (former Level 2)	-	2.2.1	SURF B0/3	MST.029	SO6/6	-	HPAO
	AOP05 - Airport CDM	#106	2.1.1 2.1.3	ACDM B0/2 NOPS B0/4 RSEQ B0/2	-	SO6/4	-	HPAO
	AOP10 - Time Based Separation	#64	2.3.1	WAKE B2/7	-	SO6/5	-	HPAO
	AOP12 - Improve RWY and Airfield safety with CATC detection and CMAC	#02	2.1.2 2.5.1	SURF B1/3	MST.029	SP6/6	-	HPAO
	AOP13 - Automated assistance to Controller for Surface Movement planning and routing	#22 #53	2.4.1	SURF B1/4	MST.029	SO6/6	-	HPAO
	AOP15 - Safety Nets for vehicle drivers	#04	-	SURF B2/2	MST.029	-	-	HPAO
	AOP16 - Guidance assistance through airfield lighting	#47	-	SURF B1/1	MST.029	-	-	HPAO
	AOP18 - Runway Status Lights	#01	-	SURF B2/2	MST.029	-	-	HPAO
	ATC07.1 - Arrival management tools	-	1.1.1	RSEQ B0/1	-	SO4/1	-	AATS
	ATC19 - Enhanced AMAN-DMAN integration	#54	-	RSEQ B2/1	-	SO6/5 SO4/1	-	AATS
	ENV01 – Continuous Descent Operations	-	-	APTA B0/4	-	SO6/5	-	AATS
	ENV02 – Airport Collaborative Environmental Management	-	-	-	-	-	-	HPAO
	ENV03 – Continuous Climb Operations	-	-	APTA B0/5	-	SO6/5	-	AATS
	NAV03.1 – RNAV1 in TMA Operations	#62	-	APTA B0/2	RMT.0639 RMT.0445	SO6/5	-	AATS

	NAV03.2 – RNP1 in TMA Operations	#09, #51	1.2.3 1.2.4	APTA B1/2	RMT.0639 RMT.0445	SO6/5	-	AATS
	SAF11 - Improve runway safety by preventing runway excursions	-	-	-	MST.007 RMT.0570 RMT.0703	-	-	HPAO
dA	AOM19.1 - ASM tools to support A-FUA	#31	3.1.1	FRTO B0/2	-	SO3/2 SO3/3	AM-1.8	OANS
	AOM19.2 - ASM management of real-time airspace data	#31	3.1.2	FRTO B1/3 NOPS B1/5	-	SO3/2 SO3/3	AM-1.8	OANS
	AOM19.3 - Full rolling ASM/ATFCM process and ASM information sharing	#31	3.1.3	NOPS B1/5 FRTO B1/3	-	SO3/2 SO3/3	AM-1.8	OANS
	AOM19.4 – Management of Pre-defined Airspace Configurations	#31	3.1.4	NOPS B1/6 FRTO B1/4	-	SO3/2 SO3/3	-	OANS
	AOM21.2 - Free Route Airspace	#33, #66	3.2.1 3.2.4	FRTO B1/1	-	SO3/1 SO3/4	AM-1.6 AM-1.10 AM-5.1	AATS
	ATC12.1 - MONA, TCT and MTCD	#27, #104	3.2.1	FRTO B1/5	-	SO3/1 SO4/1	AM-1.15 AM-5.1	AATS
	ATC15.1 - Initial extension of AMAN to En-route	-	1.1.2	-	-	SO4/1	-	AATS
	ATC15.2 - Extension of AMAN to En-route	#05	1.1.2	RSEQ B1/1 NOPS B1/8	-	SO4/1	AM-1.3	AATS
	ATC17 - Electronic Dialog supporting COTR	-	3.2.1	-	-	SO3/1 SO4/1	AM-1.3	AATS
	ATC18 - Multi Sector Planning En-route – 1P2T	#63	-	FRTO B1/6	-	SO4/1	AM-4.3 AM-5.1	AATS
	ITY-FMTP - Apply a common flight message transfer protocol (FMTP)	-	-	-	-	SO8/3	AM-1.3	EAI
TBO	ATC02.8 - Ground based safety nets	-	3.2.1	SNET B0/1 SNET B0/2 SNET B0/3 SNET B0/4	-	SO4/1	-	AATS

	ATC02.9 - Enhanced STCA for TMAs	#60	-	SNET B1/2	MST.030	SO4/1	-	AATS
	ATC20 – Enhanced STCA with DAP via Mode S EHS	#60	-	SNET B1/1	-	SO7/2	-	AATS
M3	NAV12 – ATS IFR Routes for Rotorcraft Operations	#113	-	APTA B0/6	MST.031	SO6/5	-	AATS

D. SESAR Solutions implemented in a voluntary way[5]

This annex is considered as not applicable for Morocco.

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

E. Surveillance (SUR)

European ATM Surveillance data are captured to enable Network performance improvements and ensure global interoperability.
This Annex includes Surveillance implementation information related to projects, sensors and data integration.
The objective for the inclusion of this information in LSSIP is to consolidate the data collection process and increase efficiency by avoiding parallel surveys.
The corresponding tables have been prefilled with information already available from recent surveys within the surveillance area.

For practical reasons to harmonise the reporting, since the LSSIP 2020 cycle the questionnaire is included in the LSSIP Annex.

Surveillance Projects

This section includes Surveillance system projects covering the full chain from Sensor to Surveillance data integration into SDPS and CWP.

Activity Description Area / Airspace	System Description	Expected contribution to the Key Performance[6] Areas	Schedule
Area/Name **Objective:** e.g. SUR Coverage **Airspace**: CTR/TMA/ENR **Service**: ATC, separation 3NM TMA and 5NM ENR **Density**: High (TMA and ENR) **Traffic**: General	**WAM with ADS-B capability** **Sensor/Sites**: Dakhla **Provider**: INDRA **Coverage: 250Nm**	**Capacity:** **Operational-Efficiency:** **Safety:** **Security:** **Environment:** **RF/Spectrum:** **Cost-Efficiency:**	**Sensor installation date:2011** **Operational date:** **ADS-B operational integration date (ATCO CWP) where applicable:** **Estimated End of Life:2025**

Activity Description Area / Airspace	System Description	Expected contribution to the Key Performance[7] Areas	Schedule
Area/Name **Objective:** e.g. SUR Coverage **Airspace**: CTR/TMA/ENR **Service**: ATC, separation 3NM TMA and 5NM ENR **Density**: High (TMA and ENR) **Traffic**: General	**WAM with ADS-B capability** **Sensor/Sites**: Laayoune **Provider**: INDRA **Coverage: 250 Nm**	**Capacity:** **Operational-Efficiency:** **Safety:** **Security:** **Environment:** **RF/Spectrum:** **Cost-Efficiency:**	**Sensor installation date:2011** **Operational date:** **ADS-B operational integration date (ATCO CWP) where applicable:** **Estimated End of Life:2025**

[6]Check NOP for better KPI and link to performance improvements.

[7]Check NOP for better KPI and link to performance improvements.

Activity Description Area / Airspace	System Description	Expected contribution to the Key Performance[8] Areas	Schedule
Area/Name **Objective:** e.g. SUR Coverage **Airspace**: CTR/TMA/ENR **Service**: ATC, separation 3NM TMA and 5NM ENR **Density**: High (TMA and ENR) **Traffic**: General	**WAM with ADS-B capability** **Sensor/Sites**: Essmara **Provider**: INDRA **Coverage: 250 Nm**	**Capacity:** **Operational-Efficiency:** **Safety:** **Security:** **Environment:** **RF/Spectrum:** **Cost-Efficiency:**	**Sensor installation date:2011** **Operational date:** **ADS-B operational integration date (ATCO CWP) where applicable:** **Estimated End of Life:2025**

Activity Description Area / Airspace	System Description	Expected contribution to the Key Performance[9] Areas	Schedule
Area/Name **Objective:** e.g. SUR Coverage **Airspace**: CTR/TMA/ENR **Service**: ATC, separation 3NM TMA and 5NM ENR **Density**: High (TMA and ENR) **Traffic**: General	**WAM with ADS-B capability** **Sensor/Sites**: Agadir **Provider**: INDRA **Coverage: 250 Nm**	**Capacity:** **Operational-Efficiency:** **Safety:** **Security:** **Environment:** **RF/Spectrum:** **Cost-Efficiency:**	**Sensor installation date:2019** **Operational date:2019** **ADS-B operational integration date (ATCO CWP) where applicable:** **Estimated End of Life:**

Activity Description Area / Airspace	System Description	Expected contribution to the Key Performance[10] Areas	Schedule
Area/Name **Objective:** e.g. SUR Coverage **Airspace**: CTR/TMA/ENR **Service**: ATC, separation 3NM TMA and 5NM ENR **Density**: High (TMA and ENR) **Traffic**: General	**WAM with ADS-B capability** **Sensor/Sites**: Marrakech **Provider**: INDRA **Coverage: 250 Nm**	**Capacity:** **Operational-Efficiency:** **Safety:** **Security:** **Environment:** **RF/Spectrum:** **Cost-Efficiency:**	**Sensor installation date:2019** **Operational date:** **ADS-B operational integration date (ATCO CWP) where applicable:** **Estimated End of Life:**

[8]Check NOP for better KPI and link to performance improvements.

[9]Check NOP for better KPI and link to performance improvements.

[10]Check NOP for better KPI and link to performance improvements.

Activity Description Area / Airspace	System Description	Expected contribution to the Key Performance[11] Areas	Schedule
Area/Name **Objective:** e.g. SUR Coverage **Airspace**: CTR/TMA/ENR **Service**: ATC, separation 3NM TMA and 5NM ENR **Density**: High (TMA and ENR) **Traffic**: General	**WAM with ADS-B capability** **Sensor/Sites**: Fes **Provider**: INDRA **Coverage: 250 Nm**	**Capacity:** **Operational-Efficiency:** **Safety:** **Security:** **Environment:** **RF/Spectrum:** **Cost-Efficiency:**	**Sensor installation date:2019** **Operational date:** **ADS-B operational integration date (ATCO CWP) where applicable:** **Estimated End of Life:**

Activity Description Area / Airspace	System Description	Expected contribution to the Key Performance[12] Areas	Schedule
Area/Name **Objective:** e.g. SUR Coverage **Airspace**: CTR/TMA/ENR **Service**: ATC, separation 3NM TMA and 5NM ENR **Density**: High (TMA and ENR) **Traffic**: General	**WAM with ADS-B capability** **Sensor/Sites**: Tanger **Provider**: INDRA **Coverage: 250 Nm**	**Capacity:** **Operational-Efficiency:** **Safety:** **Security:** **Environment:** **RF/Spectrum:** **Cost-Efficiency:**	**Sensor installation date:2019** **Operational date:** **ADS-B operational integration date (ATCO CWP) where applicable:** **Estimated End of Life:**

Activity Description Area / Airspace	System Description	Expected contribution to the Key Performance[13] Areas	Schedule
Area/Name **Objective:** e.g. SUR Coverage **Airspace**: CTR/TMA/ENR **Service**: ATC, separation 3NM TMA and 5NM ENR **Density**: High (TMA and ENR) **Traffic**: General	**WAM with ADS-B capability** **Sensor/Sites**: Oujda **Provider**: INDRA **Coverage: 250 Nm**	**Capacity:** **Operational-Efficiency:** **Safety:** **Security:** **Environment:** **RF/Spectrum:** **Cost-Efficiency:**	**Sensor installation date:2019** **Operational date:** **ADS-B operational integration date (ATCO CWP) where applicable:** **Estimated End of Life:**

[11]Check NOP for better KPI and link to performance improvements.

[12]Check NOP for better KPI and link to performance improvements.

[13]Check NOP for better KPI and link to performance improvements.

Activity Description Area / Airspace	System Description	Expected contribution to the Key Performance[14] Areas	Schedule
Area/Name **Objective:** e.g. SUR Coverage **Airspace**: CTR/TMA/ENR **Service**: ATC, separation 3NM TMA and 5NM ENR **Density**: High (TMA and ENR) **Traffic**: General	**WAM with ADS-B capability** **Sensor/Sites**: **Provider**: **Coverage:**	**Capacity:** **Operational-Efficiency:** **Safety:** **Security:** **Environment:** **RF/Spectrum:** **Cost-Efficiency:**	**Sensor installation date:** **Operational date:** **ADS-B operational integration date (ATCO CWP) where applicable:** **Estimated End of Life:**

Surveillance sensors (just numbers, no technical/ops details)

This section summarises the number of Surveillance sensors per state. This covers all current and planned sensors intended for operational use.

Note: Please only count each sensor once even if it is part of combined systems. A combined PSR and Mode S SSR is only counted once in the row for CMB PSR Mode S (and consequently not counted in the PSR nor in the Mode S rows). Similarly, for a multilateration system, providing coverage both on the airport surface and in the CTR or TMA the individual sensor can be allocated to one or the other but each sensor must only be counted once, either in one of the MLAT/WAM rows or in one of the Airport MLAT/LAM rows.

Sensor Type	2020	2021	2022	2023	2024	2025
Mode A/C						
CMB PSR Mode A/C						
Mode S	ELJADIDA-SAFI- OUJDA TANTAN IFRANE					
CMB PSR Mode S	TANGER FES CASABLANCA MARRAKECH AGADIR	DAKHLA LAAYOUNE ESSEMARA				
PSR stand alone	OUJDA					
WAM Sensors						
ADS-B stand alone	8					

[14]Check NOP for better KPI and link to performance improvements.

Sensor Type	2020	2021	2022	2023	2024	2025
Surface Movement Radar (SMR)						
Airport MLAT Sensors						
ADS-B equipped Vehicles						

Sensor Type	2020	2021	2022	2023	2024	2025
Mode A/C	-	-	-	-	-	-
CMB PSR Mode A/C	-	-	-	-	-	-
Mode S	-	-	-	-	-	-
CMB PSR Mode S	-	-	-	-	-	-
PSR stand alone	-	-	-	-	-	-
WAM Sensors	-	-	-	-	-	-
ADS-B stand alone	-	-	-	-	-	-
Surface Movement Radar (SMR)	-	-	-	-	-	-
Airport MLAT Sensors	-	-	-	-	-	-
ADS-B equipped Vehicles	-	-	-	-	-	-

Surveillance Data Use

This section provides and overview of the use of Surveillance data per state. This includes usage of Downlinked Aircraft derived Parameters (DAP) / Aircraft Derived Data (ADD) and ADS-B data.

ADD/DAP data usage

ATCO, System, Tools (which tool)

ADD/DAP data usage	Operational or planned ops date	Usage (ATCO, system, tools, etc.)
Selected Altitude	-	-
Barometric pressure setting	-	-
Roll angle	-	-
True track angle	-	-
Ground speed	-	-
Track angle rate	-	-
Magnetic heading	-	-
Indicated airspeed	-	-
Mach No	-	-

ADD/DAP data usage	Operational or planned ops date	Usage (ATCO, system, tools, etc.)
Vertical rate (Baro, Inertial)	-	-

ADS-B integration

ADS-B use case and integration date	Operational or planned ops date	Sites
ACC ATC integration ENR	-	-
ACC ATC integration TMA	-	-
ATC integration TWR CTR/TMA	-	-
Flight Information Service	-	-
ATCO Traffic Awareness	-	-
Traffic planning e.g. Arrival Manager	-	-
Conflict Alerting, e.g. STCA	-	-
Airport surveillance e.g. Traffic awareness, Target identification support	-	-
Other:	-	-

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