EUROCONTROL

LSSIP 2019 - TURKEY
LOCAL SINGLE SKY IMPLEMENTATION

Level 1 - Implementation Overview

FOREWORD

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

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

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

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

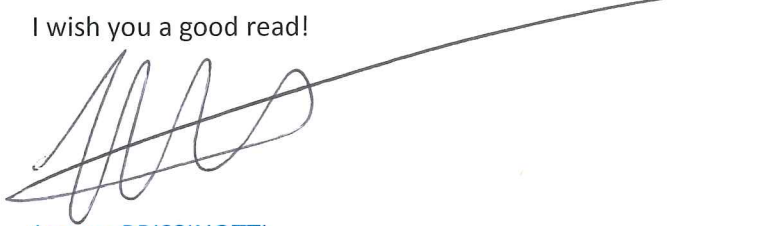
These documents provide an extensive and harmonised picture, for the benefit of the ATM community at large, of how all ECAC States as well as States having a Comprehensive Agreement with EUROCONTROL, and stakeholders concerned, are progressing in planning and deploying the mature elements of the European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

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

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

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

I wish you a good read!



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Director NM – Network Manager
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Reference Documents	
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Master Plan Level 3 – Plan Edition 2019	https://www.eurocontrol.int/publication/european-atm-master-plan-implementation-plan-level-3-2019
Master Plan Level 3 – Report Year 2019	https://www.eurocontrol.int/publication/european-atm-master-plan-implementation-report-level-3-2019
European ATM Portal	https://www.atmmasterplan.eu/
STATFOR Forecasts	https://www.eurocontrol.int/statfor
National AIP	http://ans.dhmi.gov.tr/ANSLogin.aspx

APPROVAL SHEET

The following authorities have approved all parts of the LSSIP Year 2019 document and the signatures confirm the correctness of the reported information and reflect the commitment to implement the actions laid down in the European ATM Master Plan Level 3 (Implementation View) – Edition 2019.

Stakeholder / Organisation	Name	Position	Signature and date
Directorate General of Civil Aviation (DGCA)	Bahri KESİCİ	Director General	
General Directorate of State Airports Authority	Hüseyin KESKİN	Director General	16/04/2020
Turkish Air Force	Brig. Gen. Bekir Erdal ÖZGENÇ	Head of Air Defence and Command-Control Department	27.04.2020

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Executive Summary

National ATM Context

Member State of:

Main national stakeholders:

Civil aviation in Turkey is the responsibility of the Republic of Turkey Ministry of Transport and Infrastructure, which represents Turkey at the EUROCONTROL Commission.

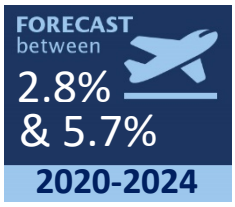
The Directorate General of Civil Aviation (DGCA) is the Turkish Regulatory Authority, which represents Turkey at the EUROCONTROL Provisional Council, and DHMI is the unique civil ANSP in Turkey.

The Military Authority permit some military aerodromes to be used by civil aviation in order to improve air transport links within Turkey.

Main airport covered by LSSIP:

- Istanbul Airport
- Ankara Esenboga Airport
- Antalya Airport

Traffic and Capacity



The delay in Ankara ACC during summer 2019 remained at 0,0 min/flight.

Number of national projects: 6
Number of FAB projects: 0
Number of multinational projects: 1

Summary of 2019 developments:

Infrastructure has adapted for NewPENS in 2019. Testing phase has completed at the end of 2019. Migration of services will be completed in the first quarter of 2020.

All phases of the objectives (ATC15.1, INF07) have been completed.

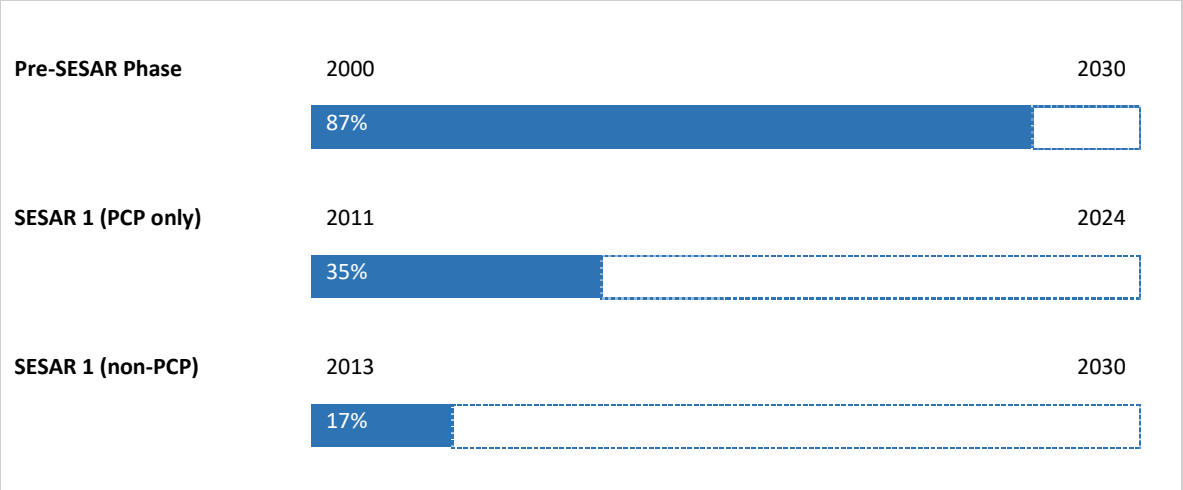
The objective on free route airspace will be finalized in winter2021.

Progress per SESAR Phase

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

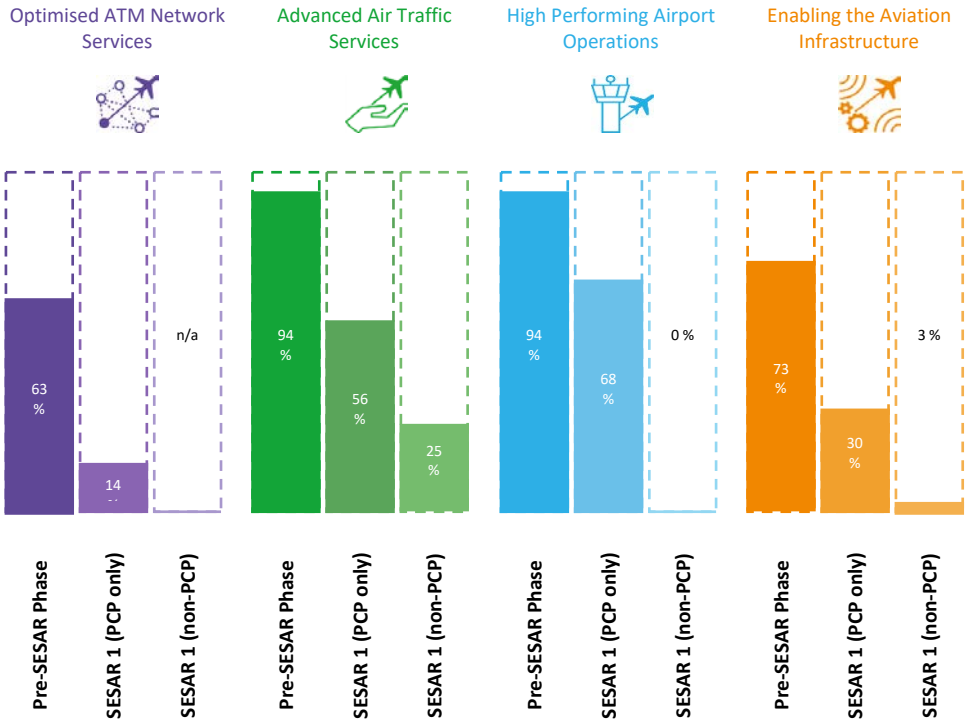
It shows the average implementation progress for all objectives grouped by SESAR Phases, excluding those for which the State is outside the applicability area as defined on a yearly basis in the European ATM Master Plan (Level 3) 2019, i.e. disregarding the declared "NOT APPLICABLE" LSSIP progress status.

The SESAR 1 (non-PCP) progress in the graphics below for this State is based on the following objectives:
AOP14; AOP15; AOP16; AOP17; AOP18; ATC02.9; ATC19; ATC20; COM11.2.



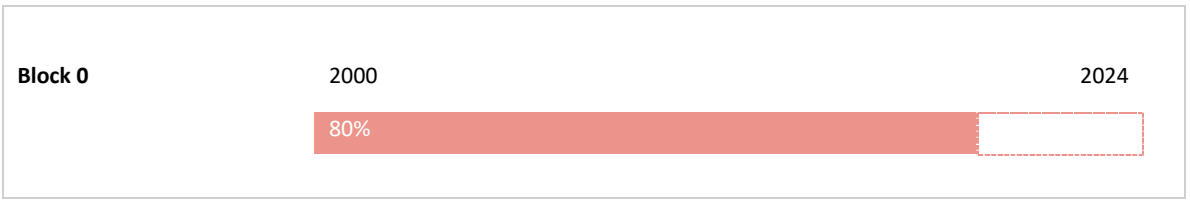
Progress per SESAR Key Feature and Phase

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



ICAO ASBUs Progress Implementation

The figure below shows the progress made so far in the implementation of the ICAO ASBUs Blocks 0 and 1. The overall percentage is calculated as an average of the relevant Objectives contributing to each of the relevant ASBUs; this is a summary of the table explained in Chapter 5.3 – ICAO ASBU Implementation Progress.



ATM Deployment Outlook

State Objectives

✓ **Deployed in 2018 - 2019**

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

By 2020	By 2021	By 2022	By 2023+
- Voice over Internet Protocol (VoIP) in En-Route COM11.1 - 90 % progress **- Implement enhanced tactical flow management services** FCM01 - 89 % progress	**- Free Route Airspace** AOM21.2 - 40 % progress **- Extended Flight Plan** FCM08 - 00 % progress **- New Pan-European Network Service (NewPENS)** COM12 - 28 % progress **- Direct Routing** AOM21.1 - 33 % progress	**- Ensure Quality of Aeronautical Data and Aeronautical Information** ITY-ADQ - 36 % progress **- Implement ACAS II compliant with TCAS II change 7.1** ATC16 - 71 % progress	**- Voice over Internet Protocol (VoIP) in Airport/Terminal** COM11.2 - 03 % progress **- RNP Approach Procedures to instrument RWY** NAV10 - 70 % progress **- Information Exchanges using the SWIM Yellow TI Profile** INF08.1 - 00 % progress **- RNP 1 in TMA Operations** NAV03.2 - 07 % progress

Airport Objectives - Antalya Airport

✓ **Deployed in 2018 - 2019** None

By 2020	By 2021	By 2022	By 2023+
- Airport Collaborative Decision Making (A-CDM) AOP05 - 32 % progress **- Continuous Descent Operations (CDO)** ENV01 - 85 % progress			

Airport Objectives - Istanbul Atatürk Airport

✓ **Deployed in 2018 - 2019** None

By 2020	By 2021	By 2022	By 2023+
- Automated Assistance to Controller for Surface Movement Planning and Routing AOP13 - 36 % progress **- Continuous Descent Operations (CDO)** ENV01 - 95 % progress	**- Time-Based Separation** AOP10 - 00 % progress		

Introduction

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

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

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

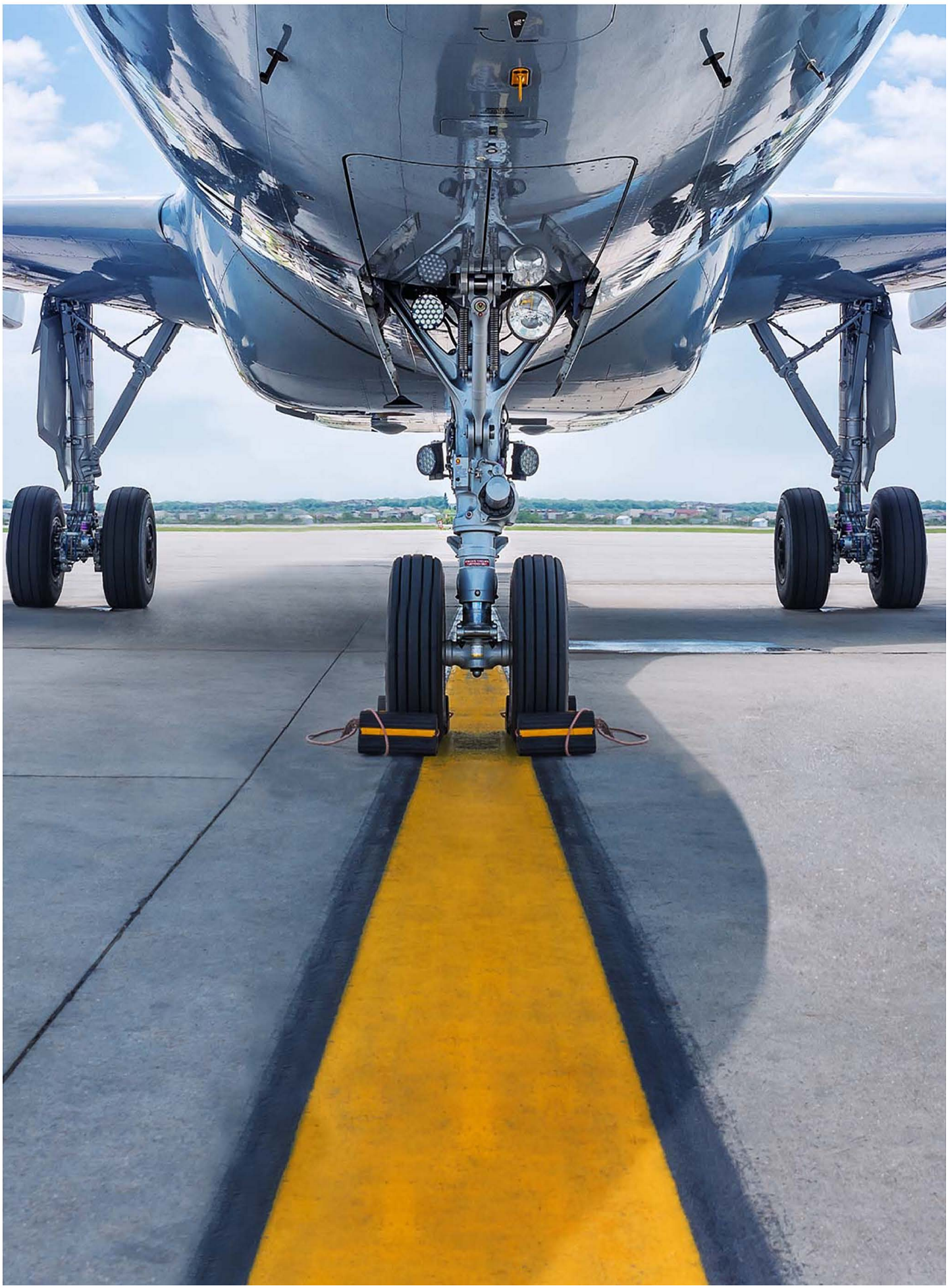
Chapter 3 provides the main Implementation Projects (at national, FAB and multinational level) which contribute directly to the implementation of the MP Operational Improvements and/or Enablers and Implementation Objectives. The Level 1 document covers a high-level list of the projects showing the applicable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

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

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

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

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



1. National ATM Environment

1.1. Geographical Scope

International Membership

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

Organisation		Since
ECAC	✓	1955
EUROCONTROL	✓	1989
European Union		NA
EASA		NA
ICAO	✓	1945
NATO	✓	1952
ITU	✓	1866

Geographical description of the FIR(s)

The geographical scope of this document addresses the Ankara and Istanbul FIRs. There is no separation between the lower and the upper airspace in the Turkish FIRs.

Airspace Classification and Organisation

Turkey is evaluating the implementation of ICAO classification for both present and future systems. Airspace reorganisation as a result of studies is planned. It is not yet possible to predict when this will be completed.

ATC Units

En-route air navigation services throughout Turkish Airspace from one Area Control Center located in Ankara. There are 27 TMAs and 12 MTMAs in Turkish Airspace. Description of the ATC units providing the services and their areas of responsibility; Size of the ATC unit (maximum number of sectors); Service provided (en-route or TMA – no more ref to TWR).

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

ATC Unit	Number of sectors		Associated FIR(s)	Remarks
	En-route	TMA		
Ankara ACC	38	2	Ankara Istanbul	
Istanbul / Yeşilköy APP		14	Istanbul	
Izmir / Menderes APP		4	Istanbul	
Antalya APP		8	Istanbul	
Dalaman APP		3	İstanbul	
Bodrum APP		2	İstanbul	
Trabzon APP		2	Ankara	

1.2. National Stakeholders

The main National Stakeholders involved within ATM in Turkey are the following:

- The Republic of Turkey Ministry of Transport and Infrastructure
- The Directorate General of Civil Aviation – DGCA;
- The Devlet Hava Meydanlari Isletmesi (Directorate General of State Airports (Turkey) – DHMI;
- The Turkish Military Authority (Turkish Air Force); and
- The Turkish State Meteorological Service.

Their activities are detailed in the following subchapters.

Civil aviation in Turkey is the responsibility of the Republic of Turkey Ministry of Transport and Infrastructure, which represents Turkey at the EUROCONTROL Commission. The Directorate General of Civil Aviation (DGCA) is the Turkish Regulatory Authority, which represents Turkey at the EUROCONTROL Provisional Council, and DHMI is the unique civil ANSP in Turkey.

The Military Authority permit some military aerodromes to be used by civil aviation in order to improve air transport links within Turkey.

Civil ATM incidents are investigated by the "Investigation and Assessment Commission" which reports incidents and investigation findings to the DGCA. The commission is formed from experts with sufficient qualifications. Where requested by the DHMI and/or if DGCA consider it necessary, experts from DGCA will also join the commission in accordance with SHY 65-02. For civil or civil/military ATM related incidents occurring within the Military Terminal Area and military joint user airports, the DGCA will receive all documentation/reports concerning the incident from the military authorities and a joint investigation will be carried out.

The Advisory and Steering Committee holds regular (quarterly) meetings with the participation of aviation organisations as coordinated by the DGCA to classify incidents, prepare statistical data, evaluate reports of the "Investigation and Assessment Commission" and to impose actions and/or give recommendations to the aviation community to prevent the re-occurrence of similar incidents. The committee has the authority to include any aviation related issue on its agenda. Members of this Committee are comprised from the following organisations as appropriate:

- DGCA (www.shgm.gov.tr)
- DHMI (www.dhmi.gov.tr)
- Military Authority
- School of Civil Aviation (Aviation Experts)
- Turkish Airline Pilots' Association (TALPA)
- Air Traffic Controllers Association of Turkey
- Other related stakeholders.

Their activities are detailed in the following subchapters.

Civil Regulator(s)

General Information

Civil Aviation in Turkey is the responsibility of the Republic of Turkey Ministry of Transport and Infrastructure. The different national entities having regulatory responsibilities in ATM are summarised in the table overleaf. The DGCA is further detailed in the following sections.

Activity in ATM:	Organisation responsible	Legal Basis
Rule-making	DGCA	The Law No: Presidential decree No: 4 and 5431
Safety Oversight	DGCA	The Law No: Presidential decree No: 4 and 5431
Enforcement actions in case of non-compliance with safety regulatory requirements	DGCA	The Law No: Presidential decree No: 4 and 5431
Airspace	DGCA	The Law No: Presidential decree No: 4 and 5431
Economic	The Republic of Turkey Ministry of Transport and Infrastructure	
Environment	DGCA and Ministry of Environment and Urbanism	
Security	DGCA	The Law No: Presidential decree No: 4 and 5431
Accident investigation	Investigation and Assessment Commission	

DGCA

The Regulator is the Directorate General of Civil Aviation (DGCA). The DGCA is a body within the Republic of Turkey Ministry of Transport and Infrastructure with its own operating budget. The CAA responsibility is processed by DGCA.

The DGCA is responsible for:

- Licensing of Aircrew and Engineers
- Licensing of Air Traffic Controllers
- Licensing of ATSEPs
- Certificate of Airworthiness (CoA) of aircraft
- Approval of all airborne electronic equipment
- Oversight and certification of airports
- Investigation of Incidents by means of participation in Investigation and Assessment Commission and holding Advisory and Steering Committee Meetings.
- Approval and generation of all ATM rules/regulations (including ESARRs) in coordination with stakeholders (DHMI, Turkish Air Force General Staff and other bodies as appropriate).

Economic regulation is carried out by the Republic of Turkey Ministry of Transport and Infrastructure.

Annual Report published:	N	

www.shgm.gov.tr

Organisation chart is shown in Annexes of this document.

ANSP-DHMI

Services provided

Devlet Hava Meydanları Isletmesi (DHMI) Air Navigation Department of Directorate General of State Airports of Turkey (www.dhmi.gov.tr) is the unique Provider of Civil Air Navigation Services for Turkey. DHMI is a 100 % State-owned Governmental department. DHMI provides all the Air Traffic Services within civil airspace (Controlled Airspace, TMA and CTRs).

DHMI cooperates very closely with the DGCA, particularly on safety matters such as the implementation of the ESARRs.

Name of the ANSP:	Devlet Hava Meydanları Isletmesi (DHMI) Air Navigation Department of Directorate General of State Airports of Turkey		
Governance:	Governmental department	**Ownership:**	100% State owned

Services provided	Y/N	Comment
ATC en-route	Y	
ATC approach	Y	
ATC Aerodrome(s)	Y	
AIS	Y	
CNS	Y	
MET	N	Turkish State Meteorological Service
ATCO training	Y	
Others	Y	Airport management
Additional information:		
Provision of services in other State(s):	N	
Annual Report published:	Y	http://www.dhmi.gov.tr/dosyalar/annualreport/2016/DHMI%20Annual%20Report%202016.pdf

www.dhmi.gov.tr

Organisation chart is shown in Annexes.

ATC systems in use

Main ANSP part of any technology alliance[1]	N	

FDPS

Specify the manufacturer of the ATC system currently in use:	SELEX
Upgrade[2] of the ATC system is performed or planned?	2015
Replacement of the ATC system by the new one is planned?	-
ATC Unit	Ankara ACC

SDPS

Specify the manufacturer of the ATC system currently in use:	SELEX
Upgrade of the ATC system is performed or planned?	2015
Replacement of the ATC system by the new one is planned?	-
ATC Unit	Ankara ACC

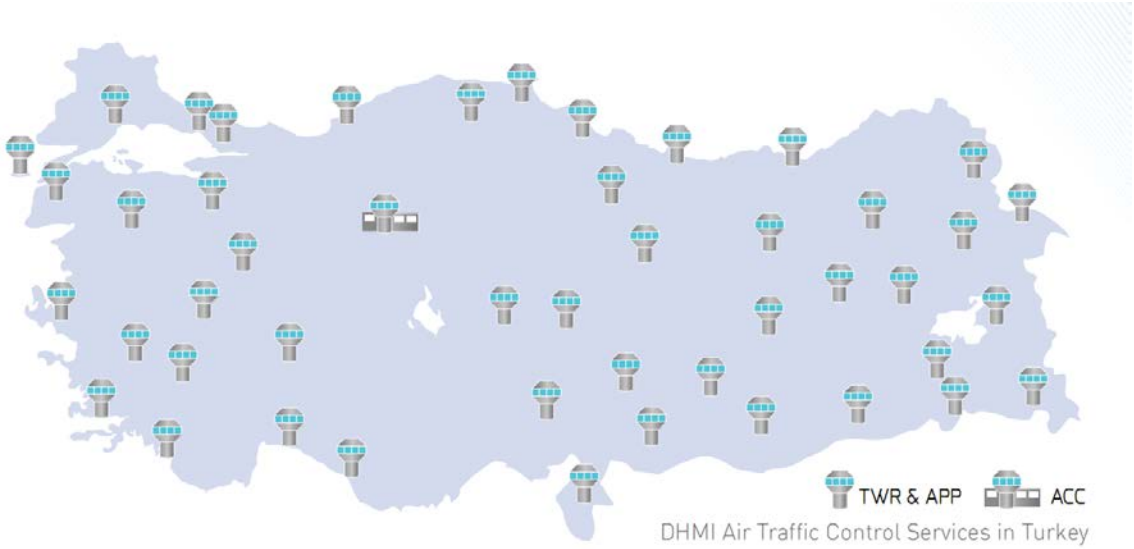
[1] Technology alliance is an alliance with another service provider for joint procurement of technology from a particular supplier (e.g. COOPANS alliance)

[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

Turkey has 58 airports used by GAT. These range from busy international airports to small regional airports with perhaps ten or less movements daily.



Airport(s) covered by the LSSIP

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

The airports covered by this LSSIP document are as follows:

- Istanbul Airport
- Ankara Esenboga Airport
- Antalya Airport

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

https://ext.eurocontrol.int/airport_corner_public/LTBA

https://ext.eurocontrol.int/airport_corner_public/LTAC

https://ext.eurocontrol.int/airport_corner_public/LTAI

Military Authorities

The military authority also plays a major role in managing the Turkish Airspace especially with regard to FUA. Military ATC is entirely separated from Civil ATC, although very good civil/military co-ordination is maintained. Co-ordination between the military authority and the DHMI is ensured through a Civil-Military Co-ordination Group. Some (11) airports/airfields of military origin are jointly used by military and civil aviation. For the eight (8) airports of them, all aircraft are under military ATC control.

Currently, Turkish Military Authority and DHMI have their own alternative FUA concept, which is considered more suitable for the local geo-political situation. In order to increase the capacity of Turkish airspace, with implementation of the SMART system, DHMI and the Military Authority are planning to implement EUROCONTROL Flexible Use of Airspace (FUA) concept to do that necessary legislation has been published at Official Gazette dated 18 April 2014. The studies are going on to establish infrastructure and units. The military regulatory, service provision and user role within ATM is detailed below.

Regulatory role

Regulatory framework and rule-making

OAT		GAT	
OAT and provision of service for OAT governed by national legal provisions?	Y	Provision of service for GAT by the Military governed by national legal provisions?	y
Level of such legal provision: State Law 2920.		Level of such legal provision: State Law 2920	
Authority signing such legal provision: Parliament		Authority signing such legal provision: Parliament	
These provisions cover:		These provisions cover:	
Rules of the Air for OAT	N		
Organisation of military ATS for OAT	Y	Organisation of military ATS for GAT	Y
OAT/GAT Co-ordination	Y	OAT/GAT Co-ordination	Y
ATCO Training	Y	ATCO Training	Y
ATCO Licensing	Y	ATCO Licensing	Y
ANSP Certification	N	ANSP Certification	N
ANSP Supervision	N	ANSP Supervision	N
Aircrew Training	Y	ESARR applicability	N
Aircrew Licensing	N		
Additional Information: Other than the State Law 2920 which grants provision for OAT the Turkish Air Force operate under different State or NATO regulations		Additional Information: There is a protocol between the General Staff and the Republic of Turkey Ministry of Transport and Infrastructure for the use of military airports by civil aircraft.	
Means used to inform airspace users (other than military) about these provisions:		Means used to inform airspace users (other than military) about these provisions:	
National AIP	Y	National AIP	Y
National Military AIP	NA	National Military AIP	N
EUROCONTROL eAIP	N	EUROCONTROL eAIP	N
Other:	NA	Other:	NA

Oversight

OAT	GAT
National oversight body for OAT: Turkish General Staff HQ.	National Supervisory Authority (as per SES reg. 550/2004) for GAT services provided by the military.

Service Provision role

OAT			GAT	
Services Provided:			Services Provided:	
En-Route	NA		En-Route	N
Approach/TMA	Y		Approach/TMA	Y
Airfield/TWR/GND	Y		Airfield/TWR/GND	Y
AIS	Y		AIS	Y
MET	N	Turkish State Meteorological Service	MET	Y (The Turkish State Meteorological Service)
SAR	Y	By the Turkish Air Force for both OAT and GAT	SAR	Y
TSA/TRA monitoring	Y		FIS	Y
Other:		Security Services	Other:	
Additional Information: NIL.			Additional Information: NIL.	

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

User role

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

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

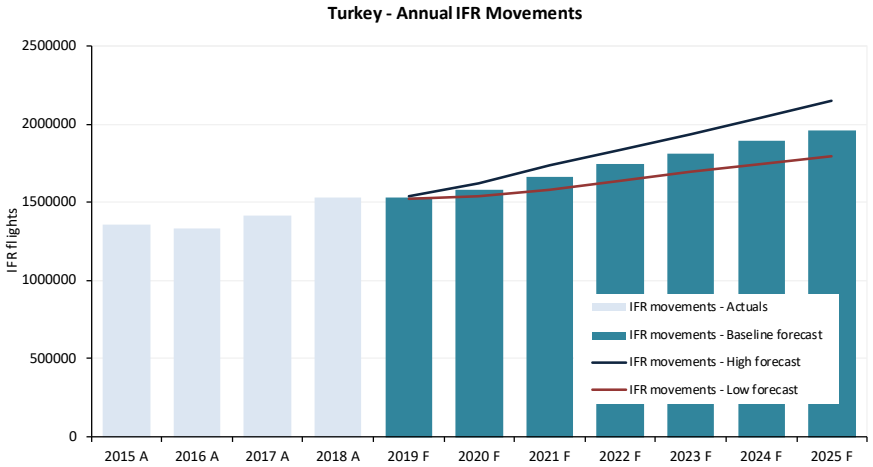
If Military fly GAT-IFR inside controlled airspace, specify existing special arrangements:								
No special arrangements					Exemption from Route Charges			Y
Exemption from flow and capacity (ATFCM) measures				Y	Provision of ATC in UHF			Y
CNS exemptions:	RVSM	Y	8.33	Y	Mode S	Y	ACAS	Y
Others:	The above exemptions do not apply to military heavy transport or VIP aircraft.							

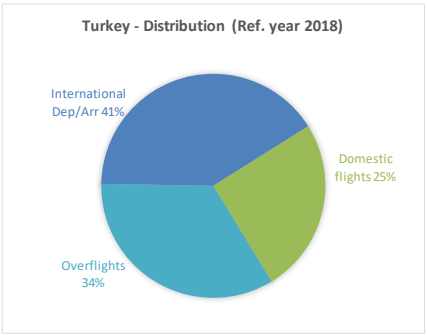
Flexible Use of Airspace (FUA)

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

2. Traffic and Capacity

2.1. Evolution of traffic in Turkey





A = Actual

F = Forecast

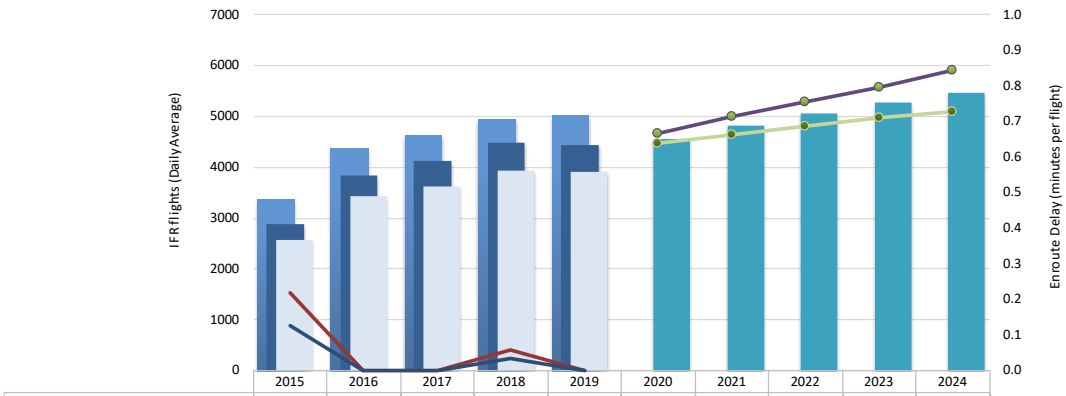
EUROCONTROL Seven-Year Forecast (Autumn 2019)											
IFR flights yearly growth		2016 A	2017 A	2018 A	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F
Turkey	H				0.8%	4.9%	7.2%	5.9%	5.3%	5.7%	5.2%
	B	-1.5%	6.0%	8.2%	0.2%	3.0%	5.0%	5.1%	4.0%	4.4%	3.8%
	L				-0.5%	1.0%	2.8%	3.6%	3.6%	3.0%	2.5%
ECAC	B	2.8%	4.0%	3.8%	1.1%	2.3%	1.9%	2.2%	1.8%	1.9%	1.4%

2020-2024

The EUROCONTROL Seven-Year Forecast predicts an average annual increase between 2.8% and 5.7% for Turkey during the planning cycle, with a baseline growth of 4.2%.

2.2. Ankara ACC

Traffic and en-route ATFM delays 2015-2024



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	3370	4377	4629	4949	5019					
Summer Traffic	2893	3842	4128	4476	4429					
Yearly Traffic	2574	3443	3631	3940	3911					
Summer Traffic Forecast						4568	4816	5065	5263	5473
High Traffic Forecast - Summer						4655	5007	5297	5583	5897
Low Traffic Forecast - Summer						4482	4629	4801	4970	5104
Summer enroute delay (all causes)	0.22	0.00	0.00	0.06	0.00					
Yearly enroute delay (all causes)	0.12	0.00	0.00	0.03	0.00					

Performance summer 2019

Ankara ACC	Traffic evolution (2019 vs 2018)			En-route Delay (min. per flight)		Capacity (2019 vs 2018)		
	Traffic Forecast		Actual Traffic	All reasons	ACC Reference Value	Planned	Achieved	Capacity gap?
	Current Routes	Shortest Routes						
Year	**H:** 3.8% **B:** 2.1% **L:** -1.0%	+4%	-0.7%	0.00	0.15			
Summer			-1.1%	0.00		288 (+15%)	250 (+0%)	No

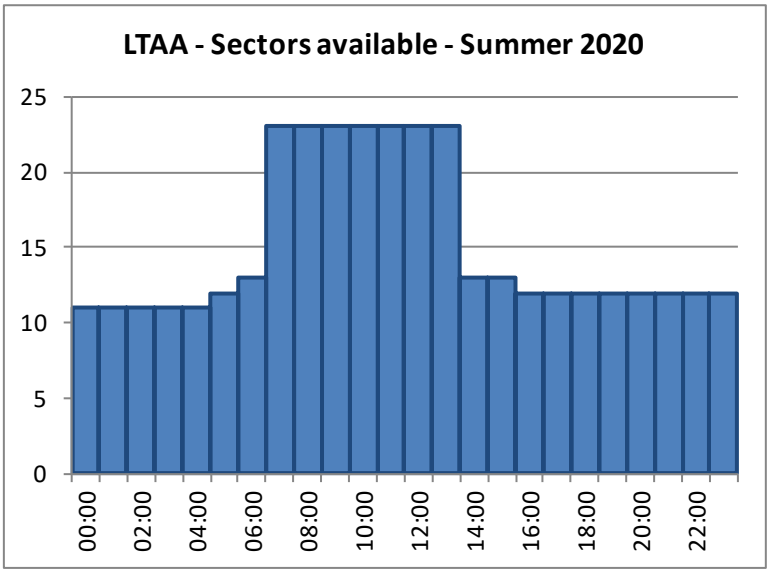
Summer 2019 performance assessment		
There were no en-route delays in Ankara ACC in 2019. The capacity baseline of 250 was calculated with ACCESS. During the same period, the average peak 1 hour demand was 234 and the peak 3 hour demand was 223. The capacity provided during Summer 2019 was sufficient to cope with the traffic demand.		
Operational actions	**Achieved**	**Comments**
Stepped implementation of free route operations above FL290	On going	Implementation of night free route operations will start in 2021; airspace design on-going
Improved civil/military coordination	Yes	
Istanbul area ATC/TMA Center	Yes	Completed in October 2018. Full operation foreseen in 2019
Improved ATFCM, including STAM	Yes	
ATS route structure development	Yes	
Additional controllers (45 per year for en-route)	Yes	
New airport in Istanbul from beginning 2019 phase 1B	Yes	
Independent parallel runway and new ground infrastructure at LTFJ	On-going	Start of parallel runway operations in November 2020
Maximum configuration: 38 sectors, 23 sectors open foreseen to be sufficient for Summer 2019	Yes	19 sectors were sufficient

Planning Period 2020-2024 – summer

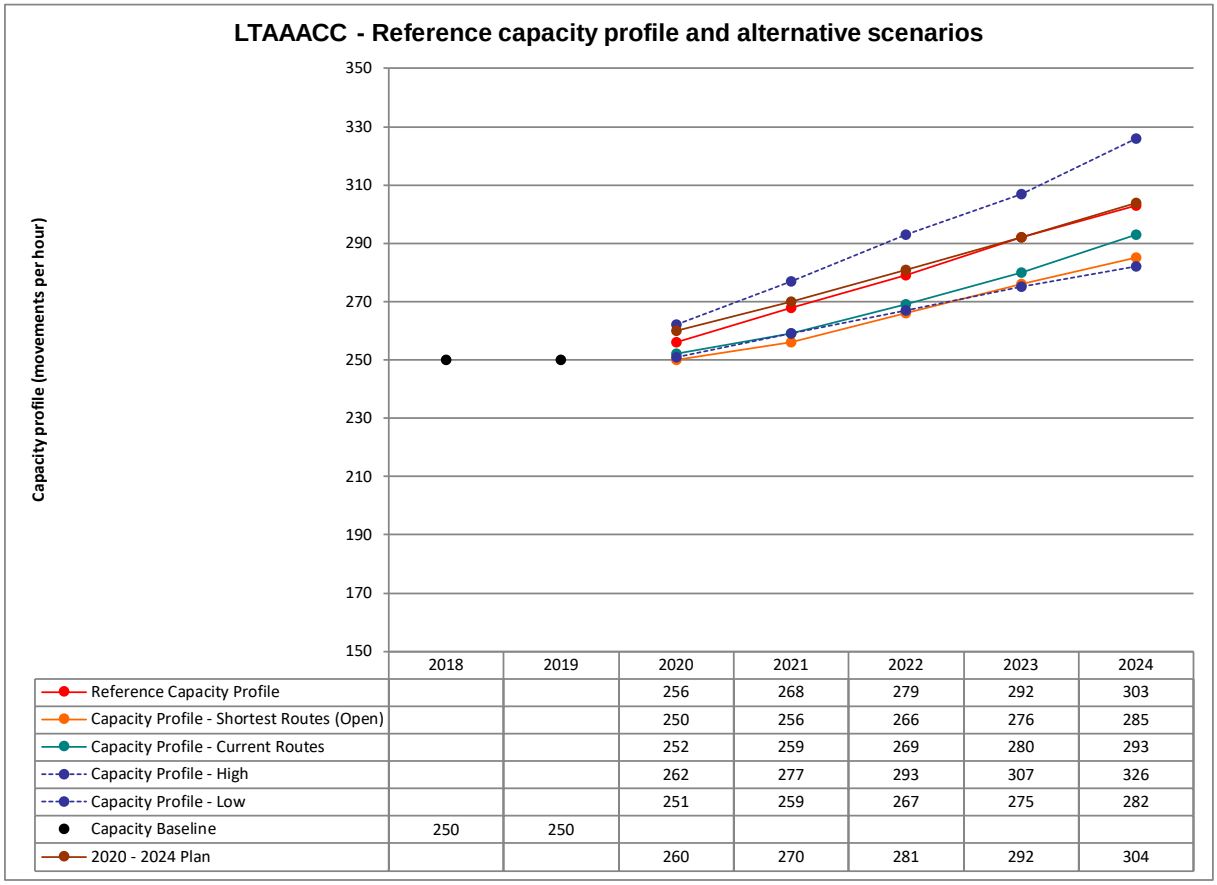
The planning focuses on the summer season to reflect the most demanding period of the year from a capacity perspective. This approach ensures consistency with the previous planning cycles.

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

Summer Capacity Plan					
	2020	2021	2022	2023	2024
Free Route Airspace		Stepped implementation of free route operations above FL290			
Airspace Management Advanced FUA	Improved civil/military coordination				
Airport & TMA Network Integration	Third runway operations at new Istanbul airport June 2020	Independent parallel operations at LTFJ			
Cooperative Traffic Management	Improved ATFCM, including STAM				
Airspace	ATS route structure development				
		New sectorisation at Ankara ACC to support FRA			
Procedures					
Staffing	Additional controllers (45 per year for en-route)				
Technical					
Capacity		Capacity Assessment through a CAPAN study			
Significant Events	New airport in Istanbul phase 1B				
	Independent parallel runway and new ground infrastructure at LTFJ				
	New airport in Istanbul 3 additional phases (depending on capacity triggers)				
Max sectors	38	38	38	38	38
Planned Annual Capacity Increase	4%	4%	4%	4%	4%
Reference profile Annual % Increase	2%	5%	4%	5%	4%
Difference Capacity Plan v. Reference Profile	1.6%	0.7%	0.7%	0.0%	0.3%
Annual Reference Value (min)	0.18	0.18	0.13	0.09	0.09
Additional information					



Based on the expected traffic evolution in summer 2019, a maximum of 23 sectors should be sufficient to handle traffic demand. However, as stated in the above plan, up to 38 sectors can be opened if required.



	2018	2019	2020	2021	2022	2023	2024
Reference Capacity Profile			256	268	279	292	303
Capacity Profile - Shortest Routes (Open)			250	256	266	276	285
Capacity Profile - Current Routes			252	259	269	280	293
Capacity Profile - High			262	277	293	307	326
Capacity Profile - Low			251	259	267	275	282
Capacity Baseline	250	250					
2020 - 2024 Plan			260	270	281	292	304

2020-2024 Planning Period Outlook
DHMI is planning sufficient capacity to cope with expected demand. However, some delays and restrictions might be necessary if crisis situation in neighbouring states arises resulting in shifting and concentrating traffic flows in some sectors of Ankara ACC.

3. Implementation Projects

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

3.1. National projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
AMAN/DMAN (Arrival Manager/Departure Manager) Extension at Istanbul Ataturk Airport	DHMI (TR)	2018-2019	Completed	-
MINI Project (MINI_TR)	DHMI (TR)	2019	Completed	-
Milli ATC	DHMI (TR)	2019-2023	defining requirements phase	-
Procurement and Installation of VCS-VRS (LTCI-LTCB-LTCU-LTCV-LTCM-LTBD-LTAL)	DHMI (TR)	2018-2020	Ongoing	-
Renovation of Dalaman SSR System and Supply and Installation of PSR / Mode-S SSR System to Istanbul New Airport	DHMI (TR)	2017-2019	Completed	-
WAM Development	DHMI (TR)	2019-2023	defining requirements phase	-

3.2. Multinational projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
Extended AMAN Project (EXT-AMAN)	DHMI (TR)	Target date for this project is second quarter of 2019.	Completed	L3: ATC15.1, ATC15.2

4. Cooperation activities

4.1. Multinational cooperation initiatives

It is to be noted that Turkey maintains very close cooperation/co-ordination with all neighbouring states.

Turkey has taken on responsibility of some transition tasks in the area and arranging air traffic flow to / from Europe. Turkey is co-operating with neighbouring states such as Greece and Bulgaria to optimise the performance of Ground-Ground Networks and data exchange.

It is also considered that, collaborating as closely as we can with our neighbouring civil air navigation service providers has a paramount importance in order to optimise the airspace design and management and increase the regional capacity, safety and quality. Therefore, Turkey undertakes initiatives and efforts to ensure the application of same concepts, standards and projects under the EUROCONTROL framework.

On 16 May 2012, a Memorandum of Co-operation (MoC) was signed between DHMI and Bulgarian Air Traffic Services Authority (BULATSA) in Ankara. The MoC aimed at common understanding or adoption of ICAO, EUROCONTROL and other international requirements relevant for the ATM domain and cooperation for operational area. In the framework of this MoC, the delegations of the DHMI and BULATSA discussed the main aspects of future co-operation, such as ensuring an effective route network, common operational and technical projects, etc.

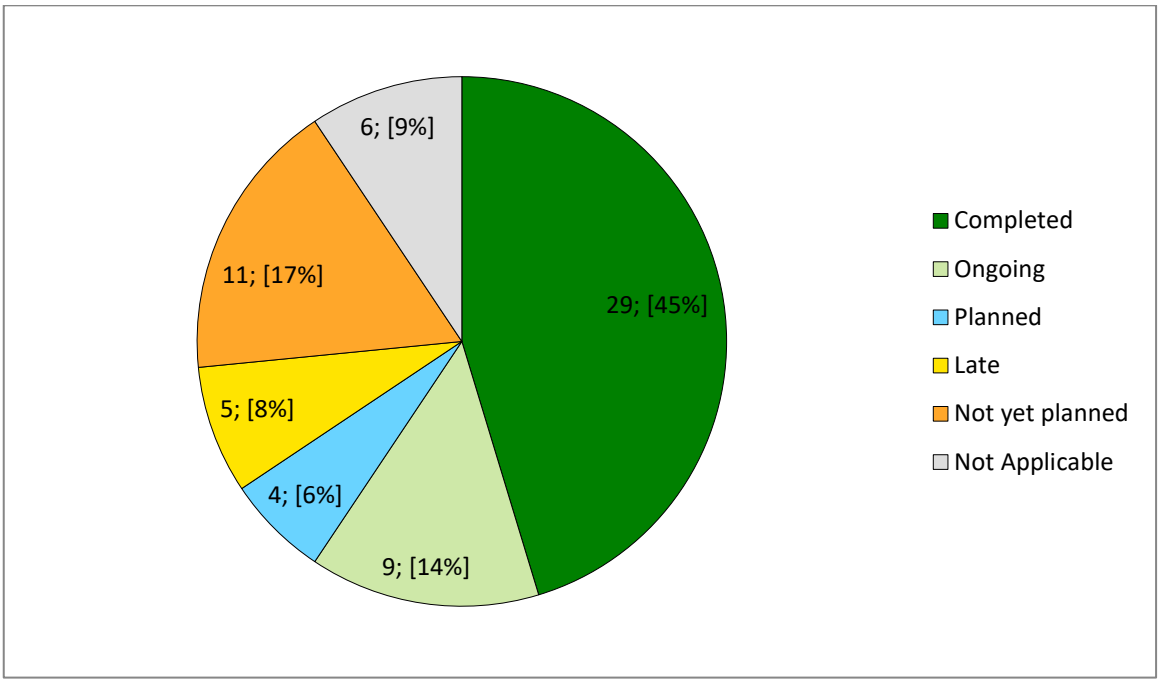
On 20 June 2012 Ukrainian State Air Traffic Service Enterprise (UkSATSE) and DHMI signed a MOU in Ukraine which aims the development of regional cooperation between UkSATSE and DHMI. It was also agreed that working groups on air traffic management, communication, navigation and surveillance, economic and financial support will further negotiate the related issues.

Regarding with the enhancement of traffic flow between airspaces of Turkey and her neighbouring countries, DHMI has been co-operated with ANSPs to implement airspace changes (new COPs and routes) at the Bulgarian, Georgian, Iranian and Iraq interfaces. As a result of this co-operation, DHMI has completely changed the routes on main axes for traffic between Europe and Mid-East / Gulf Area / Asia / Far-East.

In addition, together with her neighbouring ANSPs and EUROCONTROL, DHMI completed the working on the airspace changes that are required to facilitate the traffic flow for Istanbul Airport.

5. Implementation Objectives Progress

5.1. State View: Overall Objective Implementation Progress



All phases of the objectives (ATC15.1, INF07) have been completed.

Infrastructure has adapted for NewPENS in 2019. Testing phase has completed at the end of 2019. Migration of services will be completed in the first quarter of 2020.

The objective on free route airspace will be finalized in winter2021.

5.2. Objective Progress per SESAR Key Feature

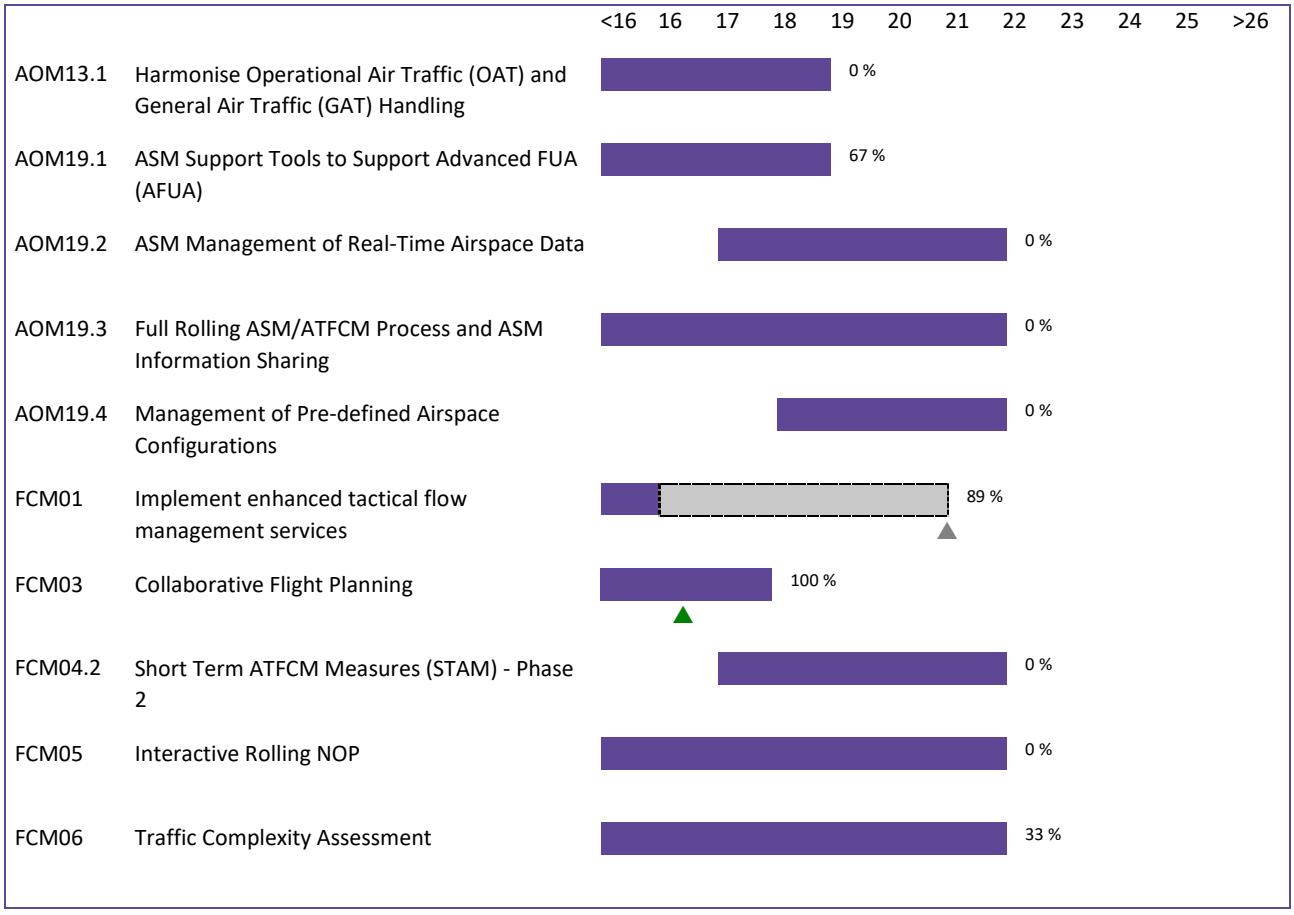
The Implementation objectives progress charts per Key Feature below show progress only for Implementation Objectives applicable to the State/airport and which are not local objectives.

Note: The detailed table of links between Implementation Objectives and SESAR Key Features is available in Annex C: Implementation Objectives' links with SESAR, ICAO and DP.

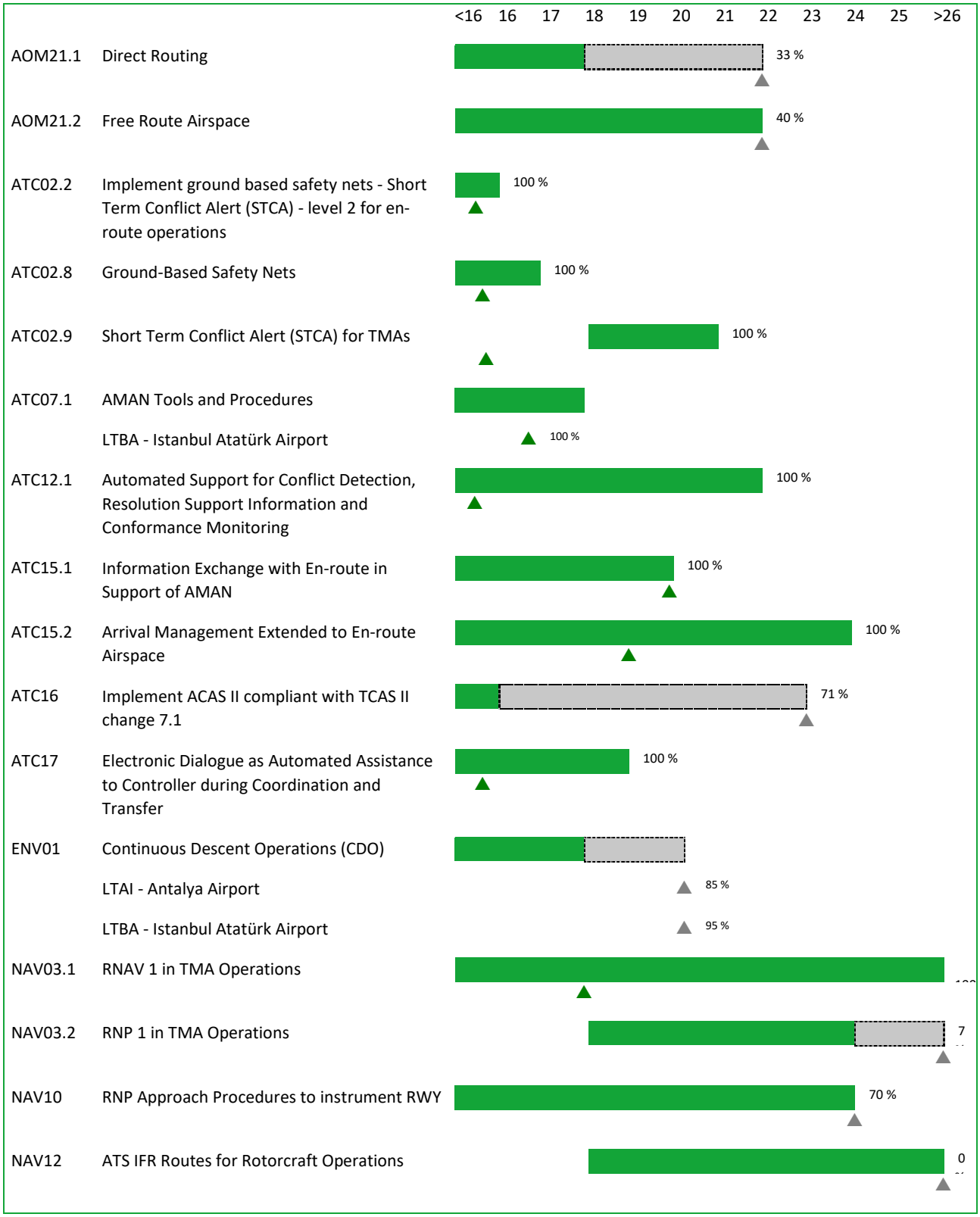
Legend:

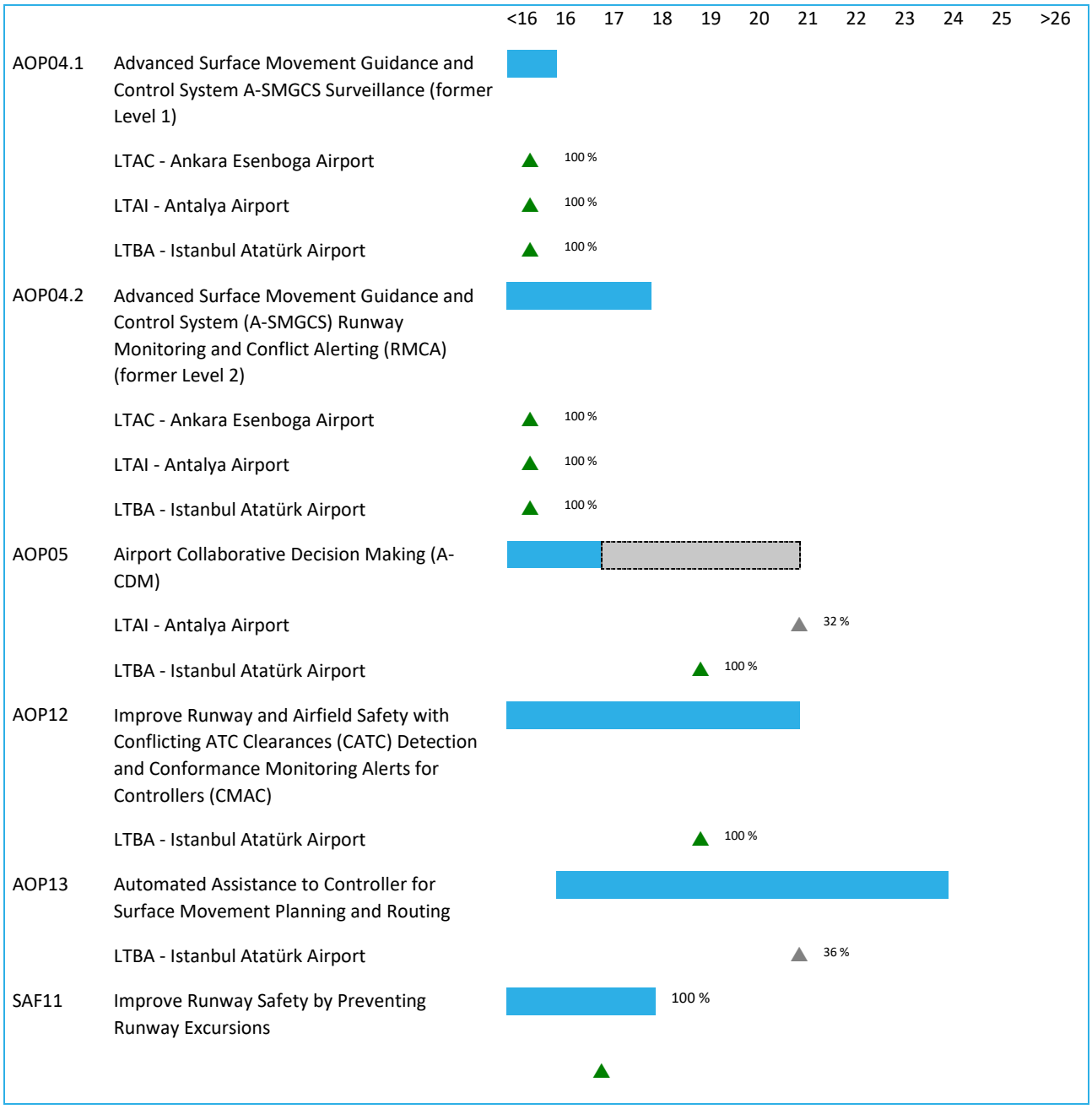
- ## % = Expected completion / % Progress
- 100% = Objective completed
- = Implementation Objective timeline (different colour per KF)
- = Completion beyond Implementation Objective timeline

Optimised ATM Network Services



Advanced Air Traffic Services

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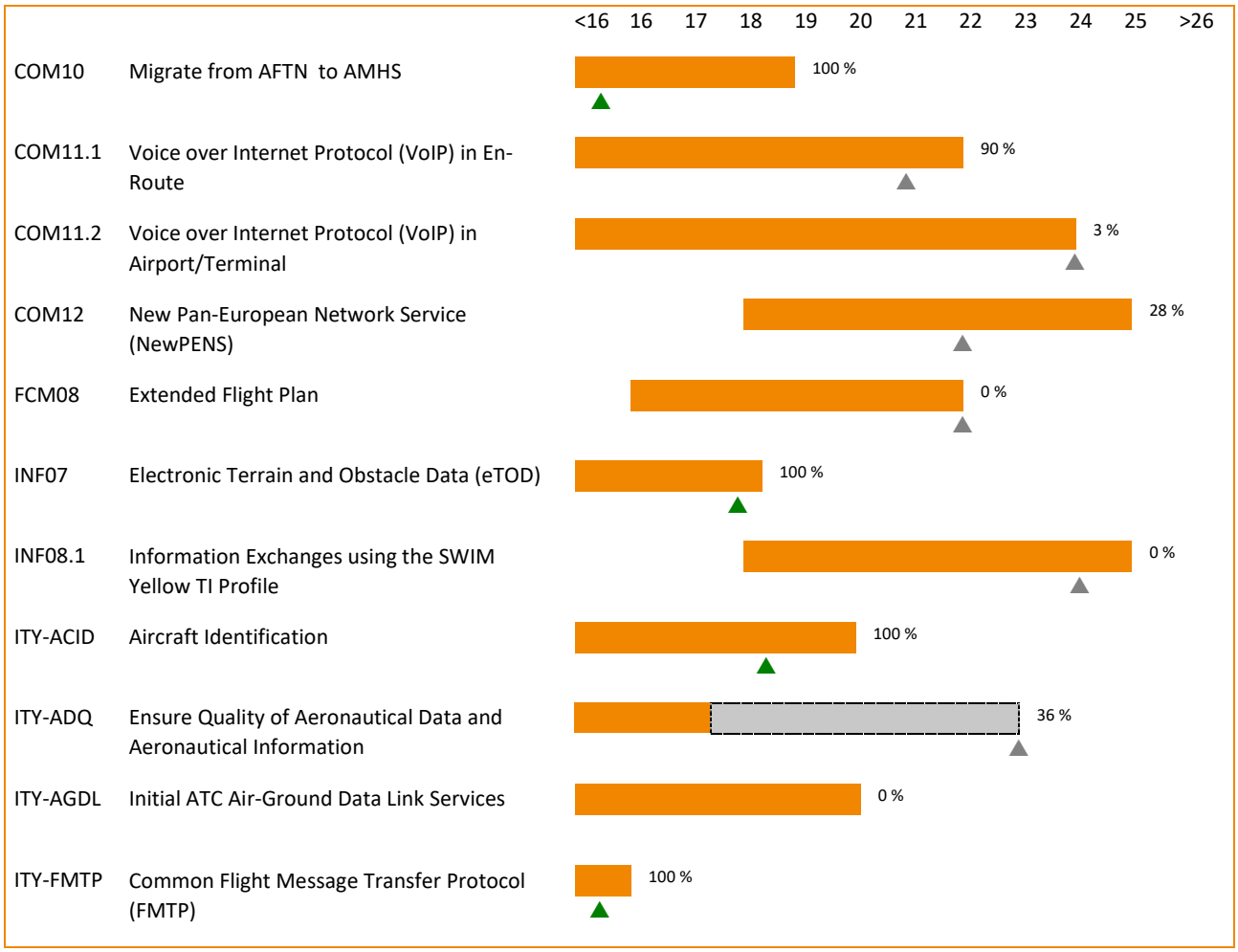
AOP04.1
Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)
LTAC - Ankara Esenboga Airport
100 %
LTAI - Antalya Airport
100 %
LTBA - Istanbul Atatürk Airport
100 %
AOP04.2
Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)
LTAC - Ankara Esenboga Airport
100 %
LTAI - Antalya Airport
100 %
LTBA - Istanbul Atatürk Airport
100 %
AOP05
Airport Collaborative Decision Making (A-CDM)
LTAI - Antalya Airport
32 %
LTBA - Istanbul Atatürk Airport
100 %
AOP12
Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)
LTBA - Istanbul Atatürk Airport
100 %
AOP13
Automated Assistance to Controller for Surface Movement Planning and Routing
LTBA - Istanbul Atatürk Airport
36 %
SAF11
Improve Runway Safety by Preventing Runway Excursions
100 %


<16 16 17 18 19 20 21 22 23 24 25 >26
COM10 Migrate from AFTN to AMHS
100 %
COM11.1 Voice over Internet Protocol (VoIP) in En-Route
90 %
COM11.2 Voice over Internet Protocol (VoIP) in Airport/Terminal
3 %
COM12 New Pan-European Network Service (NewPENS)
28 %
FCM08 Extended Flight Plan
0 %
INF07 Electronic Terrain and Obstacle Data (eTOD)
100 %
INF08.1 Information Exchanges using the SWIM Yellow TI Profile
0 %
ITY-ACID Aircraft Identification
100 %
ITY-ADQ Ensure Quality of Aeronautical Data and Aeronautical Information
36 %
ITY-AGDL Initial ATC Air-Ground Data Link Services
0 %
ITY-FMTP Common Flight Message Transfer Protocol (FMTP)
100 %

5.3. ICAO ASBU Implementation Progress

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

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

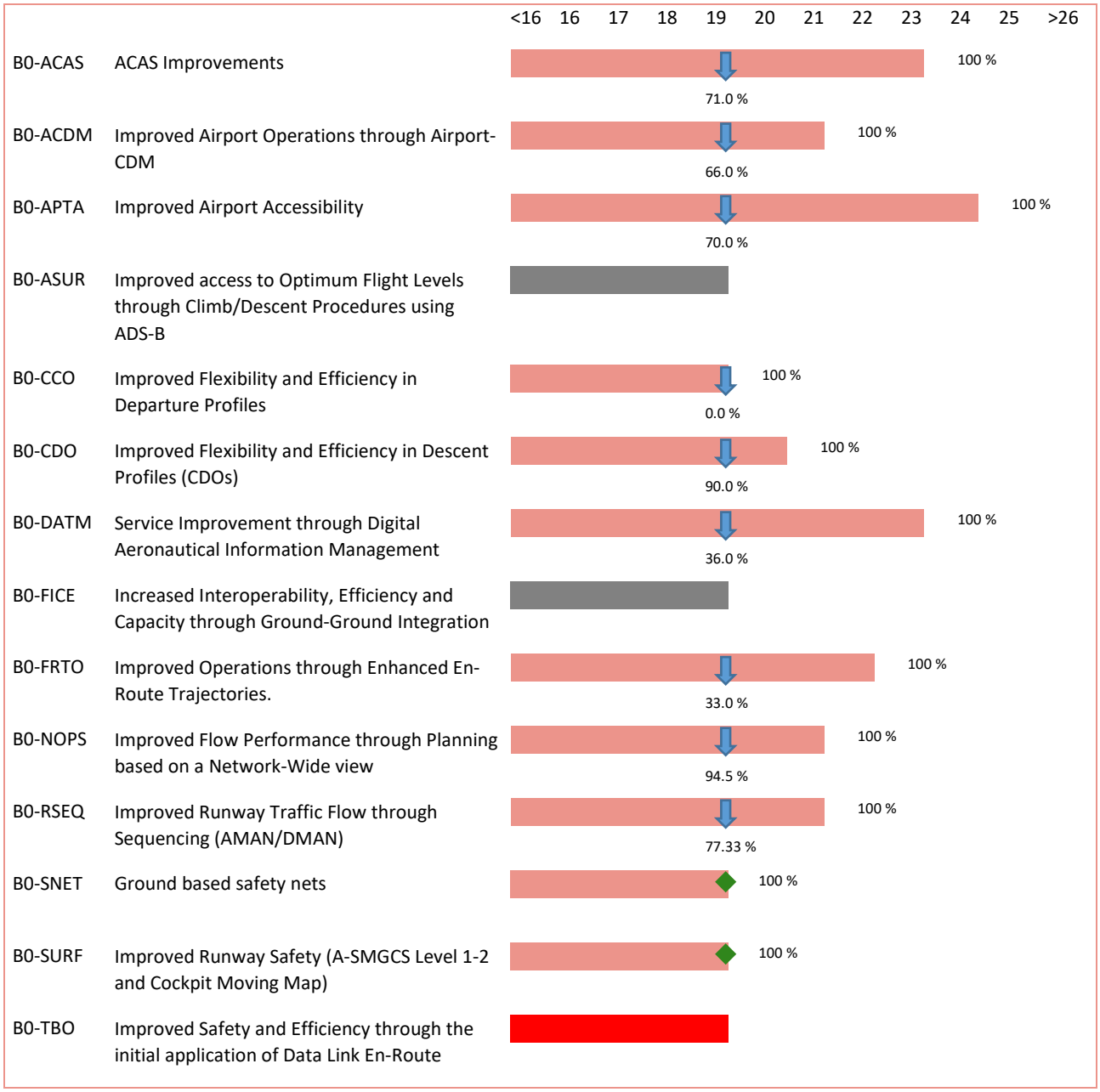
Legend:

= Completed (during 2019 or before)

= Progress achieved in 2019

= Missing planning date

= Not applicable



5.4. Detailed Objectives Implementation progress

Objective/Stakeholder Progress Code:			
Completed		Not yet planned	
Ongoing		Not Applicable	
Planned		Missing Data	
Late			

Main Objectives

AOM13.1	**Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) Handling** ***Timescales:*** Initial operational capability: 01/01/2012 Full operational capability: 31/12/2018		**0%**	**Not yet planned**
Key Feature: Optimised ATM Network Services				
-				
Amendment of existing legislation is required. Target date has not defined yet.				-
REG (By:12/2018)				
DGCA	No current plan until appropriate legislation is passed.	-	0%	Not yet planned -
ASP (By:12/2018)				
DHMI	Amendment of existing legislation is required. Target date has not defined yet.	-	0%	Not yet planned -
MIL (By:12/2018)				
Mil. Authority	Waiting to be coordinated	-	0%	Not yet planned -

AOM19.1	**ASM Support Tools to Support Advanced FUA (AFUA)** ***Timescales:*** Initial operational capability: 01/01/2011 Full operational capability: 31/12/2018		**67%**	**Not yet planned**
Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
LARA Application has been installed at AMC. Establishment of TSA and TRA awaited for the AUP integration with NMOC. This objective will be re-evaluated for the next LSSIP cycles.				-
ASP (By:12/2018)				
DHMI	LARA Application has been installed at AMC. Establishment of TSA and TRA awaited for the AUP integration with NMOC. . This objective will be re-evaluated for the next LSSIP cycles.	-	67%	Not yet planned -

AOM19.2	**ASM Management of Real-Time Airspace Data** ***Timescales:*** Initial operational capability: 01/01/2017 Full operational capability: 31/12/2021		**0%**	**Not yet planned**
Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
No plan				**-**
ASP (By:12/2021)				
DHMI	-	-	0%	Not yet planned -

AOM19.3	**Full Rolling ASM/ATFCM Process and ASM Information Sharing** ***Timescales:*** Initial operational capability: 01/01/2014 Full operational capability: 31/12/2021		**0%**	**Not yet planned**
Links: B0-FRTO, B1-FRTO, B1-NOPS, B2-NOPS | Key Feature: Optimised ATM Network Services				
-				
No plan				**-**
ASP (By:12/2021)				
DHMI	-	-	0%	Not yet planned -

AOM19.4	**Management of Pre-defined Airspace Configurations** ***Timescales:*** Initial operational capability: 01/01/2018 Full operational capability: 31/12/2021		**0%**	**Not yet planned**
Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
No plan				**-**
ASP (By:12/2021)				
DHMI	No plan	-	0%	Not yet planned -

AOM21.2	**Free Route Airspace** ***Timescales:*** Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021		**40%**	**Ongoing**
Links: B0-FRTO, B1-FRTO | Key Feature: Advanced Air Traffic Services				
-				
Implementation of free route airspace is planned in winter 2021.				**31/12/2021**
ASP (By:12/2021)				
DHMI	Implementation of free route airspace is planned in winter 2021.	-	40%	Ongoing 31/12/2021

AOP04.1	**Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** ***Timescales:*** Initial operational capability: 01/01/2007 Full operational capability: 31/12/2011		**100%**	**Completed**
Links: B0-SURF | Key Feature: High Performing Airport Operations				
LTAC - Ankara Esenboga Airport				
Ankara implemented A-SMGS Level 1 and 2 in June 2010.				**30/06/2010**
REG (By:12/2010)				
DGCA	Ankara implemented A-SMGS Level 1 and 2 in June 2010.	-	100%	Completed -
ASP (By:12/2011)				
DHMI	Ankara implemented A-SMGS Level 1 and 2 in June 2010.	A-SMGCS Level I and II	100%	Completed 30/06/2010
APO (By:12/2010)				
ANKARA Esenboga Airport	Drivers have received instruction on the system.	-	100%	Completed 30/06/2010

AOP04.1	**Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** ***Timescales:*** Initial operational capability: 01/01/2007 Full operational capability: 31/12/2011		**100%**	**Completed**
Links: B0-SURF | Key Feature: High Performing Airport Operations				
LTAI - Antalya Airport				
Antalya implemented A-SMGCS Level 1 and 2 in June 2010.				**30/06/2010**
REG (By:12/2010)				
DGCA	Antalya implemented A-SMGCS Level 1 and 2 in June 2010.	-	100%	Completed -
ASP (By:12/2011)				
DHMI	Antalya implemented A-SMGS Level 1 and 2 in June 2010. All training and development of procedures has been completed.	A-SMGCS Level I and II	100%	Completed 30/06/2010
APO (By:12/2010)				
ANTALYA Airport	Drivers have received instruction on the system	-	100%	Completed 30/06/2010

AOP04.1	**Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** ***Timescales:*** Initial operational capability: 01/01/2007 Full operational capability: 31/12/2011		**100%**	**Completed**
Links: B0-SURF | Key Feature: High Performing Airport Operations				
LTBA - Istanbul Atatürk Airport				
Istanbul implemented A-SMGCS Level 1 and 2 in June 2010.				**30/06/2010**
REG (By:12/2010)				
DGCA	Istanbul Atatürk implemented A-SMGCS Level 1 and 2 in June 2010.	-	100%	Completed -
ASP (By:12/2011)				
DHMI	Istanbul implemented A-SMGCS Level 1 and 2 in June 2010. All training and development of procedures has been completed.	A-SMGCS Level I and II	100%	Completed 30/06/2010
APO (By:12/2010)				
ISTANBUL Atatürk Airport	Drivers have received instruction on the system.	-	100%	Completed 30/06/2010

AOP04.2	**Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)** ***Timescales:*** Initial operational capability: 01/01/2007 Full operational capability: 31/12/2017		**100%**	**Completed**
Links: B0-SURF | Key Feature: High Performing Airport Operations				
LTAC - Ankara Esenboga Airport				
Ankara implemented A-SMGS Level 1 and 2 in June 2010.				**30/06/2010**
ASP (By:12/2017)				
DHMI	Ankara implemented A-SMGS Level 1 and 2 in June 2010.	A-SMGCS Level I and II	100%	Completed 30/06/2010
APO (By:12/2017)				
ANKARA Esenboga Airport	Drivers have received instruction on the system.	-	100%	Completed 30/06/2010

AOP04.2	**Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)** ***Timescales:*** Initial operational capability: 01/01/2007 Full operational capability: 31/12/2017		**100%**	**Completed**
Links: B0-SURF | Key Feature: High Performing Airport Operations				
LTAI - Antalya Airport				
Antalya implemented A-SMGS Level 1 and 2 in June 2010.				**30/06/2010**
ASP (By:12/2017)				
DHMI	Antalya implemented A-SMGS Level 1 and 2 in June 2010.	A-SMGCS Level I and II	100%	Completed 30/06/2010
APO (By:12/2017)				
ANTALYA Airport	Drivers have received instruction on the system.	-	100%	Completed 30/06/2010

AOP04.2	**Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)** ***Timescales:*** Initial operational capability: 01/01/2007 Full operational capability: 31/12/2017		**100%**	**Completed**
Links: B0-SURF | Key Feature: High Performing Airport Operations				
LTBA - Istanbul Atatürk Airport				
Istanbul implemented A-SMGS Level 1 and 2 in June 2010.				**30/06/2010**
ASP (By:12/2017)				
DHMI	Istanbul implemented A-SMGS Level 1 and 2 in June 2010.	A-SMGCS Level I and II	100%	Completed 30/06/2010
APO (By:12/2017)				
ISTANBUL Atatürk Airport	Drivers have received instruction on the system.	-	100%	Completed 30/06/2010

AOP05	**Airport Collaborative Decision Making (A-CDM)** ***Timescales:*** Initial operational capability: 01/01/2004 Full operational capability: 31/12/2016		**32%**	**Late**
Links: B0-ACDM, B0-RSEQ | Key Feature: High Performing Airport Operations				
LTAI - Antalya Airport				
A draft MoU has been circulated to key stakeholders. Studies for Antalya are going on.				**31/12/2020**
ASP (By:12/2016)				
DHMI	DHMI has initiated action to implement this objective. A draft MoU has been developed and circulated to key stakeholders.	-	37%	Late 31/12/2020
APO (By:12/2016)				
ANTALYA Airport	DHMI has initiated action to implement this objective. A draft MoU has been developed and circulated to key stakeholders	-	27%	Late 31/12/2020

AOP05	**Airport Collaborative Decision Making (A-CDM)** ***Timescales:*** Initial operational capability: 01/01/2004 Full operational capability: 31/12/2016		**100%**	**Completed**
Links: B0-ACDM, B0-RSEQ | Key Feature: High Performing Airport Operations				
LTBA - Istanbul Atatürk Airport				
A MoU has been agreed and signed. Working groups have been formed. CDM platform has been established and tests have been completed.				**31/12/2018**
ASP (By:12/2016)				
DHMI	A MoU has been agreed and signed. Working groups have been formed. CDM platform has been established and tests have been completed.	-	100%	Completed 31/12/2018
APO (By:12/2016)				
ISTANBUL Atatürk Airport	A MoU has been agreed and signed. Working groups have been formed. CDM platform has been established. The exchange of messages will be implemented.	-	100%	Completed 31/12/2018

AOP10	**Time-Based Separation** ***Timescales:*** - not applicable -		**0%**	**Planned**
Links: B1-RSEQ, B2-WAKE | Key Feature: High Performing Airport Operations				
LTBA - Istanbul Atatürk Airport **(Outside Applicability Area)**				
The implementation of TBS is planned for Istanbul Airport (LTFM) in 2021.				**31/12/2021**
REG (By:12/2023)				
DGCA	Necessary actions will be taken before the implementation date.	-	0%	Planned 31/12/2021
ASP (By:12/2023)				
DHMI	The implementation of TBS is planned for Istanbul Airport (LTFM) in 2021.	-	0%	Planned 31/12/2021

AOP11	**Initial Airport Operations Plan** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B1-ACDM | Key Feature: High Performing Airport Operations				
LTBA - Istanbul Atatürk Airport **(Outside Applicability Area)**				
All information effecting the air traffic flow for airports has been published via AIP, EAD, NOTAMs and airport corner web site.				**-**
ASP (By:12/2021)				
DHMI	All information effecting the air traffic flow for airports has been published via AIP, EAD, NOTAMs and airport corner web site.	-	%	Not Applicable -
APO (By:12/2021)				

AOP12	**Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)** ***Timescales:*** Initial operational capability: 01/01/2015 Full operational capability: 31/12/2020		**100%**	**Completed**
Links: B2-SURF | Key Feature: High Performing Airport Operations				
LTBA - Istanbul Atatürk Airport				
The installation of the electronic flight strips with DCL function have been implemented for Istanbul Airport (LTFM), which is fully integrated with A-SMGCS system. A-SMGCS&DCL/EFS system has the functionality of ATC clearances monitoring tools.				**31/12/2018**
ASP (By:12/2020)				
DHMI	The installation of the electronic flight strips with DCL function have been implemented for Istanbul Airport (LTFM), which is fully integrated with A-SMGCS system. A-SMGCS&DCL/EFS system has the functionality of ATC clearances monitoring tools.	-	100%	Completed 31/12/2018
APO (By:12/2020)				
ISTANBUL Atatürk Airport	The installation of the electronic flight strips with DCL function have been implemented for Istanbul Airport (LTFM), which is fully integrated with A-SMGCS system. A-SMGCS&DCL/EFS system has the functionality of ATC clearances monitoring tools.	-	100%	Completed 31/12/2018

AOP13	**Automated Assistance to Controller for Surface Movement Planning and Routing** ***Timescales:*** Initial operational capability: 01/01/2016 Full operational capability: 31/12/2023		**36%**	**Ongoing**
Links: B1-ACDM, B1-RSEQ, B2-SURF | Key Feature: High Performing Airport Operations				
LTBA - Istanbul Atatürk Airport				
These functions will be available for Istanbul Airport (LTFM).				**31/12/2020**
REG (By:12/2023)				
DGCA	All actions will be taken before implementation date.	-	13%	Ongoing 31/12/2020
ASP (By:12/2023)				
DHMI	These functions will be available for Istanbul Airport (LTFM).	-	40%	Ongoing 31/12/2020

ATC02.8	**Ground-Based Safety Nets** ***Timescales:*** Initial operational capability: 01/01/2009 Full operational capability: 31/12/2016		**100%**	**Completed**
Links: B0-SNET, B1-SNET | Key Feature: Advanced Air Traffic Services				
-				
All functions implemented.				**18/11/2015**
ASP (By:12/2016)				
DHMI	APW level 2 has been implemented with the SMART project, which was completed 11/2015. MSAW has been implemented with the SMART system. APM, in line with EUROCONTROL specifications, has been implemented at Istanbul, Esenboga, Antalya, Dalaman, Bodrum and Izmir airports in parallel with SMART.	-	100%	Completed 18/11/2015
Mil. Authority	Military units have APM functionality but due to the dynamic nature of OAT operations, this functionality is only enabled at airports that serve GAT.	-	100%	Completed 31/12/2008

ATC02.9	**Short Term Conflict Alert (STCA) for TMAs** ***Timescales:*** Initial operational capability: 01/01/2018 Full operational capability: 31/12/2020		**100%**	**Completed**
Links: B0-SNET, B1-SNET | Key Feature: Advanced Air Traffic Services				
-				
Implementation of Multi-Hypothesis STCA function in TMA's has already adapted to major TMAs like Istanbul, Ankara, Antalya, Izmir, Dalaman, Bodrum and Trabzon.				**31/12/2015**
ASP (By:12/2020)				
DHMI	Implementation of STCA function in TMA has already adapted to major TMAs like Istanbul, Ankara, Antalya, Izmir; Dalaman, Bodrum and Trabzon.	-	100%	Completed 31/12/2015

ATC07.1	**AMAN Tools and Procedures** ***Timescales:*** Initial operational capability: 01/01/2007 Full operational capability: 31/12/2019		**100%**	**Completed**
Links: B0-RSEQ | Key Feature: Advanced Air Traffic Services				
LTBA - Istanbul Atatürk Airport				
Tender and acceptance of AMAN has already been done for Atatürk and S.Gölçen Airports. AMAN has been operational since last quarter of 2016 and at the first quarter of 2019, İstanbul Airport (LTFM) have been joined into AMAN system.				**30/09/2016**
ASP (By:12/2019)				
DHMI	Tender and acceptance of AMAN has already been done for Atatürk and S.Gölçen Airports. AMAN has been operational since last quarter of 2016 and at the first quarter of 2019, İstanbul Airport (LTFM) have been joined into AMAN system.	AMAN	100%	Completed 30/09/2016

ATC12.1	**Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring** ***Timescales:*** Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021		**100%**	**Completed**
Links: B1-FRTO | Key Feature: Advanced Air Traffic Services				
-				
MONA functions has been implemented. ATCO training on MONA has been conducted.				**07/07/2015**
ASP (By:12/2021)				
DHMI	MONA functions has been implemented. ATCO training on MONA has been conducted.	-	100%	Completed 07/07/2015

ATC15.1	**Information Exchange with En-route in Support of AMAN** ***Timescales:*** Initial operational capability: 01/01/2012 Full operational capability: 31/12/2019		**100%**	**Completed**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
AMAN is operational for Istanbul, İstanbul Atatürk and S.Gökçen Airports. Adjacent ACC sectors within SMART project have been equipped with AMAN supporting systems, including monitors and software. Beside this related ACC sectors of Sofia ACC have been equipped with AMAN supporting systems, including monitors and software. Also SMART ATC System will be upgraded to handle AMA OLDI messages by mid of 2021.				**30/11/2019**
ASP (By:12/2019)				
DHMI	AMAN is operational for Istanbul, İstanbul Atatürk and S.Gökçen Airports. Adjacent ACC sectors within SMART project have been equipped with AMAN supporting systems, including monitors and software. Besides this related ACC sectors of Sofia ACC have been equipped with AMAN supporting systems, including monitors and software. Also SMART ATC System will be upgraded to handle AMA OLDI messages by mid of 2021.	Extended AMAN Project	100%	Completed 30/11/2019

ATC15.2	**Arrival Management Extended to En-route Airspace** ***Timescales:*** Full operational capability: 31/12/2023		**100%**	**Completed**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
Extended AMAN project for Istanbul TMA and related ACC sectors including Sofia ACC has been completed.				**31/12/2018**
ASP (By:12/2023)				
DHMI	Extended AMAN project for Istanbul TMA and related ACC sectors including Sofia ACC has been completed.	Extended AMAN Project	100%	Completed 31/12/2018

ATC17	**Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 31/12/2018		**100%**	**Completed**
Key Feature: Advanced Air Traffic Services				
-				
OLDI messages in the scope of this objective are supported.				**18/11/2015**
ASP (By:12/2018)				
DHMI	OLDI messages in the scope of this objective are supported.	Project SMART implementation	100%	Completed 18/11/2015
Mil. Authority	-	-	%	Not Applicable -

COM10	**Migrate from AFTN to AMHS** ***Timescales:*** Initial operational capability: 01/12/2011 Full operational capability: 31/12/2018		**100%**	**Completed**
Key Feature: Enabling the Aviation Infrastructure				
-				
The AMHS/AFTN/CIDIN system is active now. The existing system is making data exchange. There is no need to Implement gateway between national non-AMHS network (other than AFTN) and AMHS at the moment. **Military have their own communication network for OAT message purposes. The system is fully interoperable with the ANSP.**				**31/12/2014**
ASP (By:12/2018)				
Mil. Authority	The AMHS/AFTN/CIDIN system is active now. The existing system is making data exchange. There is no need to Implement gateway between national non-AMHS network (other than AFTN) and AMHS at the moment. Military have their own communication network for OAT message purposes. The system is fully interoperable with the ANSP.	-	100%	Completed 31/12/2014
DHMI	-	-	100%	Completed 31/10/2014

COM11.1	**Voice over Internet Protocol (VoIP) in En-Route** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 31/12/2021		**90%**	**Ongoing**
Key Feature: Enabling the Aviation Infrastructure				
-				
Turkey has implemented VoIP based network in en-route by 2019. Upgrade or new Voice communication in military system tested, validated and will be in operation by 31/12/2020.				**31/12/2020**
ASP (By:12/2021)				
DHMI	Turkey has implemented VoIP based network in en-route by 2019.	-	100%	Completed 01/07/2015
Mil. Authority	-	-	70%	Ongoing 31/12/2020

COM11.2	**Voice over Internet Protocol (VoIP) in Airport/Terminal** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 31/12/2023		**3%**	**Ongoing**
Key Feature: Enabling the Aviation Infrastructure				
-				
The project to install VoIP based VCS for Adana (LTAF), Gaziantep (LTAJ), Muş (LTCK) and Siirt (LTCL) airports has been started by 2015. **The project to install VoIP based VCS for Van (LTCI), Ordu-Giresun (LTCB), Kastamonu (LTAL), Bingöl (LTCU), Şırnak (LTCV), Aydın Çıldır (LTBD), Sinop (LTCM) airports has been started by 2018.** **The process of procurement VoIP based VCS for other airports is ongoing.**				**31/12/2023**
ASP (By:12/2023)				
DHMI	The project to install VoIP based VCS for Adana (LTAF), Gaziantep (LTAJ), Muş (LTCK) and Siirt (LTCL) airports has been started by 2015. The project to install VoIP based VCS for Van (LTCI), Ordu-Giresun (LTCB), Kastamonu (LTAL), Bingöl (LTCU), Şırnak (LTCV), Aydın Çıldır (LTBD), Sinop (LTCM) airports has been started by 2018. The process of procurement VoIP based VCS for other airports is ongoing.	-	3%	Ongoing 31/12/2023

COM12	**New Pan-European Network Service (NewPENS)** ***Timescales:*** Initial operational capability: 01/01/2018 Full operational capability (Other stakeholders): 31/12/2024		**28%**	**Ongoing**
Links: B1-SWIM | Key Feature: Enabling the Aviation Infrastructure				
-				
Contract has signed in 2018. Infrastructure has adapted for NewPENS in 2019. Testing phase is ongoing. Migration of services will be done until end of 2021.				**31/12/2021**
ASP (By:12/2024)				
DHMI	Contract has signed in 2018. Infrastructure has adapted for NewPENS in 2019. Testing phase is ongoing. Migration of services will be done until end of 2021.	-	38%	Ongoing 31/12/2021
APO (By:12/2024)				
DHMI	-	-	10%	Ongoing 31/12/2021

ENV01	**Continuous Descent Operations (CDO)** ***Timescales:*** Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023		**85%**	**Ongoing**
Links: B0-CDO, B1-CDO | Key Feature: Advanced Air Traffic Services				
LTAI - Antalya Airport				
CDO are tactically executed whenever possible by controllers. Also PBN procedures are in line with CDO/CDA criteria.				**26/03/2020**
ASP (By:12/2023)				
DHMI	CDO are tactically executed whenever possible by controllers.	-	81%	Ongoing 26/03/2020
APO (By:12/2023)				
ANTALYA Airport	CDO are tactically executed whenever possible by controllers.	-	100%	Completed 09/02/2010

ENV01	**Continuous Descent Operations (CDO)** ***Timescales:*** Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023		**95%**	**Ongoing**
Links: B0-CDO, B1-CDO | Key Feature: Advanced Air Traffic Services				
LTBA - Istanbul Atatürk Airport				
CDO are tactically executed whenever possible by controllers. Also PBN procedures are in line with CDO/CDA criteria.				**26/03/2020**
ASP (By:12/2023)				
DHMI	CDO are tactically executed whenever possible by controllers. Also PBN procedures are in line with CDO/CDA criteria.	-	94%	Ongoing 26/03/2020
APO (By:12/2023)				
ISTANBUL Atatürk Airport	CDO are tactically executed whenever possible by controllers. Also PBN procedures are in line with CDO/CDA criteria.	-	100%	Completed 09/02/2010

FCM03	**Collaborative Flight Planning** ***Timescales:*** Initial operational capability: 01/01/2000 Full operational capability: 31/12/2017		**100%**	**Completed**
Links: B0-NOPS | Key Feature: Optimised ATM Network Services				
-				
The SMART system is capable of compliance with all SLoAs other than ASP09. The other remaining objectives are in use.				**01/06/2016**
ASP (By:12/2017)				
DHMI	The SMART system is capable of compliance with all SLoAs other than ASP09. The other remaining objectives are in use.	Project SMART implementation	100%	Completed 01/06/2016

FCM04.2	**Short Term ATFCM Measures (STAM) - Phase 2** ***Timescales:*** Full operational capability: 31/12/2021		**0%**	**Not yet planned**
Key Feature: Optimised ATM Network Services				
-				
Not yet planned.				**-**
ASP (By:12/2021)				
DHMI	-	-	0%	Not yet planned -

FCM05	**Interactive Rolling NOP** ***Timescales:*** Initial operational capability: 01/09/2013 Full operational capability: 31/12/2021		**0%**	**Not yet planned**
Links: B1-ACDM, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
The decision to implementation of interactive rolling NOP has not been taken yet.				**-**
ASP (By:12/2021)				
DHMI	-	-	0%	Not yet planned -
APO (By:12/2021)				
DHMI	No plan.	-	0%	Not yet planned -

FCM06	**Traffic Complexity Assessment** ***Timescales:*** Full operational capability: 31/12/2021		**33%**	**Not yet planned**
Links: B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
Not yet planned.				**-**
ASP (By:12/2021)				
DHMI	-	-	33%	Not yet planned -

FCM08	**Extended Flight Plan** ***Timescales:*** Initial operational capability: 01/01/2016 Full operational capability: 31/12/2021		**0%**	**Planned**
Links: B1-FICE | Key Feature: Enabling the Aviation Infrastructure				
-				
The infrastructure and operational functions will be prepared until 2021.				**31/12/2021**
ASP (By:12/2021)				
DHMI	The infrastructure and operational functions will be prepared until 2021.	-	0%	Planned 31/12/2021

INF07	**Electronic Terrain and Obstacle Data (eTOD)** ***Timescales:*** Initial operational capability: 01/11/2014 Full operational capability: 31/05/2018		**100%**	**Completed**
Key Feature: Enabling the Aviation Infrastructure				
-				
National law has been published to enable the provision of electronic terrain and obstacle data for Area 1. **Area 4 terrain and obstacle data sets have been completed for all CAT II/III aerodromes.** **Area 2a terrain and obstacle data sets have been completed for all major international aerodromes.** **Area 3 terrain and obstacle data sets have been completed for some international aerodromes.** **List of aerodromes which have eTOD is available at AIP Turkey GEN 3.1.6.** **Terrain and obstacle data sets for mandatory areas of eTOD have been completed.**				**31/12/2017**
REG (By:05/2018)				
DGCA	National law has been published to enable the provision of electronic terrain and obstacle data for Area 1. Area 4 terrain and obstacle data sets have been completed for all CAT II/III aerodromes. Area 2a terrain and obstacle data sets have been completed for all major international aerodromes. Area 3 terrain and obstacle data sets have been completed for some international aerodromes. List of aerodromes which have eTOD is available at AIP Turkey GEN 3.1.6. Terrain and obstacle data sets for mandatory areas of eTOD have been completed. .	-	100%	Completed 31/12/2017
ASP (By:05/2018)				
DHMI	National law has been published to enable the provision of electronic terrain and obstacle data for Area 1. Area 4 terrain and obstacle data sets have been completed for all CAT II/III aerodromes. Area 2a terrain and obstacle data sets have been completed for all major international aerodromes. Area 3 terrain and obstacle data sets have been completed for some international aerodromes. List of aerodromes which have eTOD is available at AIP Turkey GEN 3.1.6. Terrain and obstacle data sets for mandatory areas of eTOD have been completed.	-	100%	Completed 31/12/2017
APO (By:05/2018)				
DHMI	All actions have been completed in accordance with national TOD regulations.	-	100%	Completed 31/12/2017

INF08.1	**Information Exchanges using the SWIM Yellow TI Profile** ***Timescales:*** - not applicable -		**%**	**Planned**
Links: B1-DATM, B1-SWIM | Key Feature: Enabling the Aviation Infrastructure				
-				
Studies are in progress.				**01/01/2024**
ASP (By:12/2024)				
DHMI	-	-	%	Planned 01/01/2024
MIL (By:12/2024)				
Mil. Authority	-	-	%	Not yet planned -
APO (By:12/2024)				
DHMI	-	-	%	Planned 01/01/2024

ITY-ACID	**Aircraft Identification** ***Timescales:*** Entry into force of the Regulation: 13/12/2011 System capability: 02/01/2020		**100%**	**Completed**
Key Feature: Enabling the Aviation Infrastructure				
-				
Transition into Mode-S to be decided by DHMI. If implemented, DHMI will keep the enhanced ORCAM in place along with Mode-S. Ready to implement but awaiting implementation of Mode-S at neighboring countries.				**01/06/2018**
ASP (By:01/2020)				
DHMI	Transition into Mode-S to be decided by DHMI. If implemented, DHMI will keep the enhanced ORCAM in place along with Mode-S. Ready to implement but awaiting implementation of Mode-S at neighboring countries.	-	100%	Completed 01/06/2018

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		**36%**	**Late**
Links: B0-DATM | Key Feature: Enabling the Aviation Infrastructure				
-				
Data quality and digital exchange format requirements have been implemented. The other actions will be completed before implementation date.				**31/12/2022**
REG (By:06/2017)				
DGCA	Verification processes will be completed before the implementation date.	-	0%	Late 31/12/2022
ASP (By:06/2017)				
DHMI	Data quality and digital exchange format requirements have been implemented. The other actions will be completed before implementation date.	-	40%	Late 31/12/2022
APO (By:06/2017)				
DHMI	Data quality and digital exchange format requirements have been implemented. The other actions will be completed before implementation date.	-	52%	Late 31/12/2022

ITY-AGDL	**Initial ATC Air-Ground Data Link Services** ***Timescales:*** ATS unit operational capability: 05/02/2018 Aircraft capability: 05/02/2020		**0%**	**Not yet planned**
Links: B0-TBO | Key Feature: Enabling the Aviation Infrastructure				
-				
Not yet planned				**-**
REG (By:02/2018)				
DGCA	-	-	0%	Not yet planned -
ASP (By:02/2018)				
DHMI	-	-	0%	Not yet planned -
MIL (By:01/2019)				
Mil. Authority	-	-	%	Not yet planned -

ITY-AGVCS2	**8,33 kHz Air-Ground Voice Channel Spacing below FL195** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Key Feature: Enabling the Aviation Infrastructure				
-				
TR is not in the applicability area.				**-**
REG (By:12/2018)				
DGCA	-	-	%	Not Applicable -
ASP (By:12/2018)				
DHMI	-	-	%	Not Applicable -
MIL (By:12/2020)				
Mil. Authority	-	-	%	Not Applicable -
APO (By:12/2018)				

ITY-FMTP	**Common Flight Message Transfer Protocol (FMTP)** ***Timescales:*** Entry into force of regulation: 28/06/2007 All EATMN systems put into service after 01/01/09: 01/01/2009 All EATMN systems in operation by 20/04/11: 20/04/2011 Transitional arrangements: 31/12/2012 Transitional arrangements when bilaterally agreed between ANSPs: 31/12/2014		**100%**	**Completed**
Links: B0-FICE, B1-FICE | Key Feature: Enabling the Aviation Infrastructure				
-				
The common flight message transfer protocol has been introduced with the SMART system.				**31/05/2015**
ASP (By:12/2014)				
Mil. Authority	Military has its own network between military sites and there is no plan to upgrade this system. The interface between military/civil sites has been completed. Current interface is limited for monitoring the selected flights.	-	100%	Completed 31/05/2015
DHMI	The common flight message transfer protocol has been introduced with the SMART system.	-	100%	Completed 31/05/2015
MIL (By:12/2014)				
Mil. Authority	Military has its own network between military sites and there is no plan to upgrade this system. The interface between military/civil sites has been completed.	-	100%	Completed 31/05/2015

ITY-SPI	**Surveillance Performance and Interoperability** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B0-ASUR | Key Feature: Enabling the Aviation Infrastructure				
-				
Turkey is not an EU+ State.				**-**
REG (By:02/2015)				
DGCA	Turkey is not EU+ State.	-	%	Not Applicable -
ASP (By:02/2015)				
DHMI	Turkey is not EU+ State.	ARTAS / Radars replacement	%	Not Applicable -
MIL (By:06/2020)				
Mil. Authority	Turkey is not EU+ State.	-	%	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		**100%**	**Completed**
Links: B0-CCO, B0-CDO, B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
RNAV1 SIDs and STARs have been implemented at Istanbul, S.Gökçen, Antalya, Esenboga, Dalaman, Bodrum and Trabzon Airports. Implementation at other airports will continue in due course.				**31/12/2017**
REG (By:06/2030)				
DGCA	RNAV1 SIDs and STARS have been implemented at Istanbul, S.Gökçen, Antalya, Esenboga, Dalaman, Bodrum and Trabzon Airports. Implementation at other airports will continue in due course.	-	100%	Completed -
ASP (By:06/2030)				
DHMI	RNAV1 SIDs and STARS have been implemented at Istanbul, S.Gökçen, Antalya, Esenboga, Dalaman and Bodrum Airports. Implementation at other airports will continue in due course.	-	100%	Completed 31/12/2017

NAV03.2	**RNP 1 in TMA Operations** ***Timescales:*** Start: 07/08/2018 Locally determined number of RNP1 SID/STAR, where established.: 06/06/2030		**7%**	**Ongoing**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
Design of RNP 1 SID&STAR procedures is going on and target date to have procedures implemented for all airports in Turkey is 25.01.2024 (PBN IR 2018/1048)				**06/06/2030**
REG (By:06/2030)				
DGCA	Design of RNP 1 SID&STAR procedures is going on and target date to have procedures implemented for all airports in Turkey is 25.01.2024 (PBN IR 2018/1048)	-	%	Ongoing 25/01/2024
ASP (By:06/2030)				
DHMI	Design of RNP 1 SID&STAR procedures is going on and target date to have procedures implemented for all airports in Turkey is 25.01.2024 (PBN IR 2018/1048)	-	7%	Ongoing 06/06/2030

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		**70%**	**Ongoing**
Links: B0-APTA | Key Feature: Advanced Air Traffic Services				
-				
Regulation for RNP Approach Operations including APV BARO -VNAV operations has been published. APV BARO-VNAV procedures for some airports have been published. Studies to design new procedures are going on for the rest of airports in Turkey.				**25/01/2024**
REG (By:01/2024)				
DGCA	Regulation for RNP Approach Operations including APV BARO -VNAV operations has been published.	-	100%	Completed 31/12/2015
ASP (By:01/2024)				
DHMI	Regulation for RNP Approach Operations including APV BARO -VNAV operations has been published. APV BARO-VNAV procedures for some airports have been published. Studies to design new procedures are going on for the rest of airports in Turkey.	-	66%	Ongoing 25/01/2024

NAV12	**ATS IFR Routes for Rotorcraft Operations** ***Timescales:*** IFR ATS route above/below FL150, SID and STAR for Rotorcraft Operations, where established: 06/06/2030		**%**	**Not Applicable**
Links: B1-APTA | Key Feature: Advanced Air Traffic Services				
-				
Considered as not applicable in TR.				**-**
REG (By:06/2030)				
DGCA	-	-	%	Not Applicable -
ASP (By:06/2030)				
DHMI	-	-	%	Not Applicable -

SAF11	**Improve Runway Safety by Preventing Runway Excursions** ***Timescales:*** Initial operational capability: 01/09/2013 Full operational capability: 31/01/2018		**100%**	**Completed**
Key Feature: High Performing Airport Operations				
		-		
Local runway safety teams have been established for each aerodromes. These teams are responsible for runway excursions.				**31/12/2016**
REG (By:01/2018)				
DGCA	Necessary actions have been handled.	-	100%	Completed 31/12/2016
Mil. Authority	Necessary actions have been handled.	-	100%	Completed -
ASP (By:12/2014)				
DHMI	Local runway safety teams have been established for each aerodromes. These teams are responsible for runway excursions.	-	100%	Completed 31/12/2016
APO (By:12/2014)				
ISTANBUL Atatürk Airport	Local runway safety teams have been established for each aerodromes. These teams are responsible for runway excursions.	-	100%	Completed 31/12/2015

Additional Objectives for ICAO ASBU Monitoring

AOM21.1	**Direct Routing** ***Timescales:*** Initial Operational Capability: 01/01/2015 Full Operational Capability: 31/12/2017		**33%**	**Late**
Links: B0-FRTO, B1-FRTO | Key Feature: Advanced Air Traffic Services				
-				
Implementation of direct routing planned and necessary activities will be completed before 31/12/2021.				**31/12/2021**
ASP (By:12/2017)				
DHMI	Implementation of direct routing planned and necessary activities will be completed before 31/12/2021.	-	33%	Late 31/12/2021

ATC02.2	**Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2 for en-route operations** ***Timescales:*** Initial operational capability: 01/01/2008 Full operational capability: 31/01/2013		**100%**	**Completed**
Links: B0-SNET | Key Feature: Advanced Air Traffic Services				
-				
Completed				**30/09/2008**
ASP (By:01/2013)				
DHMI	-	-	100%	Completed 30/09/2008

ATC16	**Implement ACAS II compliant with TCAS II change 7.1** ***Timescales:*** Initial operational capability: 01/03/2012 Full operational capability: 31/12/2015		**71%**	**Late**
Links: B0-ACAS | Key Feature: Advanced Air Traffic Services				
-				
The training plan for ACAS II version 7.1 has been developed. ATC units have been monitoring the warnings of ACAS. Regulation on ACAS II version 7.1 has been published on 06 November 2015. Certain type of the military transport aircraft have been equipped with ACAS.				**31/12/2022**
REG (By:12/2015)				
DGCA	Regulation on ACAS II version 7.1 has been published on 06 November 2015.	-	100%	Completed 01/12/2015
ASP (By:03/2012)				
DHMI	The training plan for ACAS II version 7.1 has been developed. ATC units have been monitoring the warnings of ACAS.	-	100%	Completed 31/03/2012
MIL (By:12/2015)				
Mil. Authority	Certain type of the transport aircraft have been equipped with ACAS. The training has been completed. All the transport type A/C with ACAS II is planned to be equipped.	-	0%	Late 31/12/2022

FCM01	**Implement enhanced tactical flow management services** ***Timescales:*** Initial operational capability: 01/08/2001 Full operational capability: 31/12/2006		**89%**	**Late**
Links: B0-NOPS | Key Feature: Optimised ATM Network Services				
-				
Some system modifications are still required.				**31/12/2020**
ASP (By:07/2014)				
DHMI	SLoA FCM01-ASP08 will be in SMART phase so date of 12/2016 is the planned completion date. The other remaining SLoAs are ready and FSA messages for Ankara/Istanbul systems have been tested with CFMU, approved, and are currently in operational use.	-	89%	Late 31/12/2020

ITY-COTR	**Implementation of ground-ground automated co-ordination processes** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B0-FICE | Key Feature: Advanced Air Traffic Services				
-				
Turkey is not within the area of applicability of this objective.				**-**
ASP (By:12/2012)				
DHMI	-	-	%	Not Applicable -
MIL (By:12/2012)				
Mil. Authority	-	-	%	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*	0%	Planned
Links: B1-RATS | Key Feature: High Performing Airport Operations			
LTCO - AGRI			
Remote tower services planned end of 2021.			31/12/2021

AOP15	Enhanced traffic situational awareness and airport safety nets for the vehicle drivers *Applicability and timescale: Local*	%	Not yet planned
Links: B2-SURF | Key Feature: High Performing Airport Operations			
LTFM - ISTANBUL AIRPORT			
No plans regarding the implementation of Enhanced traffic situational awareness and airport safety nets for the vehicle drivers.			-

AOP16	Guidance assistance through airfield ground lighting *Applicability and timescale: Local*	%	Planned
Links: B1-RSEQ, B2-SURF | Key Feature: High Performing Airport Operations			
LTFM - ISTANBUL AIRPORT			
Planned for İstanbul Airport (LTFM) for all runways (16R/34L, 17R-L/35L-R).			-

AOP17	Provision/integration of departure planning information to NMOC *Applicability and timescale: Local*	%	Not yet planned
Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations			
LTFM - ISTANBUL AIRPORT			
No plans for the implementation of provision/integration of departure planning information to NMOC.			-

AOP18	Runway Status Lights (RWSL) *Applicability and timescale: Local*	%	Planned
Links: B2-SURF | Key Feature: High Performing Airport Operations			
LTFM - ISTANBUL AIRPORT			
Planned for İstanbul Airport (LTFM) for runways 18/36 and Sabiha GÖKÇEN airport (LTFJ) for the new runway.			-

ATC18	Multi-Sector Planning En-route - 1P2T *Applicability and timescale: Local*	%	Not Applicable
Key Feature: Advanced Air Traffic Services			
-			
Considered as not applicable in TR.			-

ATC19	Enhanced AMAN-DMAN integration *Applicability and timescale: Local*	0%	Not yet planned
Links: B2-RSEQ | Key Feature: Advanced Air Traffic Services			
-			
Not yet planned			-

ATC20	Enhanced STCA with down-linked parameters via Mode S EHS *Applicability and timescale: Local*	0%	Not yet planned
Links: B1-SNET | Key Feature: Advanced Air Traffic Services			
-			
Not yet planned			-

ENV02	Airport Collaborative Environmental Management *Applicability and timescale: Local*	100%	Completed
Key Feature: High Performing Airport Operations			
LTAI - Antalya Airport			
SIDs have been designed to provide noise abatement over the most congested areas. Noise monitors have been established and data is being analysed in a noise map pilot project. There is legislation regarding maximum noise levels generated by aircraft but no system of enforcement/punitive measures has been developed yet. Local traffic regulations have been developed in coordination with airport and airline operators in 2014 and implemented at first half of 2015.			30/04/2015

ENV02	Airport Collaborative Environmental Management *Applicability and timescale: Local*	100%	Completed
Key Feature: High Performing Airport Operations			
LTBA - Istanbul Atatürk Airport			
SIDs have been designed to provide noise abatement over the most congested areas. Noise monitors have been established and data is being analysed in a noise map pilot project. There is legislation regarding maximum noise levels generated by aircraft but no system of enforcement/punitive measures has been developed yet.			31/12/2014

ENV03	Continuous Climb Operations (CCO) *Applicability and timescale: Local*	100%	Completed
Links: B0-CCO | Key Feature: Advanced Air Traffic Services			
LTAI - Antalya Airport			
PBN SIDs have been developed and implemented for Antalya Airport. These SIDs are designed to provide optimised vertical profile and short track and to avoid the conflict btn. STARs and SIDs as possible. Also, CCO techniques are implemented by ATC as tactically for stated airports now. The necessary notification in AIP will be issued in short term.			01/06/2016

ENV03	Continuous Climb Operations (CCO) *Applicability and timescale: Local*	100%	Completed
Links: B0-CCO | Key Feature: Advanced Air Traffic Services			
LTBA - Istanbul Atatürk Airport			
PBN SIDs have been developed and implemented for Istanbul Atatürk. These SIDs are designed to provide optimised vertical profile and short track and to avoid the conflict btn. STARs and SIDs as possible. Also, CCO techniques are implemented by ATC as tactically for stated airports now. The necessary notification in AIP will be issued in short term.			01/06/2016

ENV03	Continuous Climb Operations (CCO) *Applicability and timescale: Local*	100%	Completed
Links: B0-CCO | Key Feature: Advanced Air Traffic Services			
LTBS - MUGLA/DALAMAN (MIL.CIV.)			
PBN SIDs have been developed and implemented for Dalaman Airport. These SIDs are designed to provide optimised vertical profile and short track and to avoid the conflict btn. STARs and SIDs as possible. Also, CCO techniques are implemented by ATC as tactically for stated airports now. The necessary notification in AIP will be issued in short term.			01/06/2016

ENV03	Continuous Climb Operations (CCO) *Applicability and timescale: Local*	100%	Completed
Links: B0-CCO | Key Feature: Advanced Air Traffic Services			
LTFE - MILAS/BODRUM			
PBN SIDs have been developed and implemented for Milas Bodrum Airport. These SIDs are designed to provide optimised vertical profile and short track and to avoid the conflict btn. STARs and SIDs as possible. Also, CCO techniques are implemented by ATC as tactically for stated airports now. The necessary notification in AIP will be issued in short term.			01/06/2016

6. Annexes

A. Specialists involved in the ATM implementation reporting for Turkey

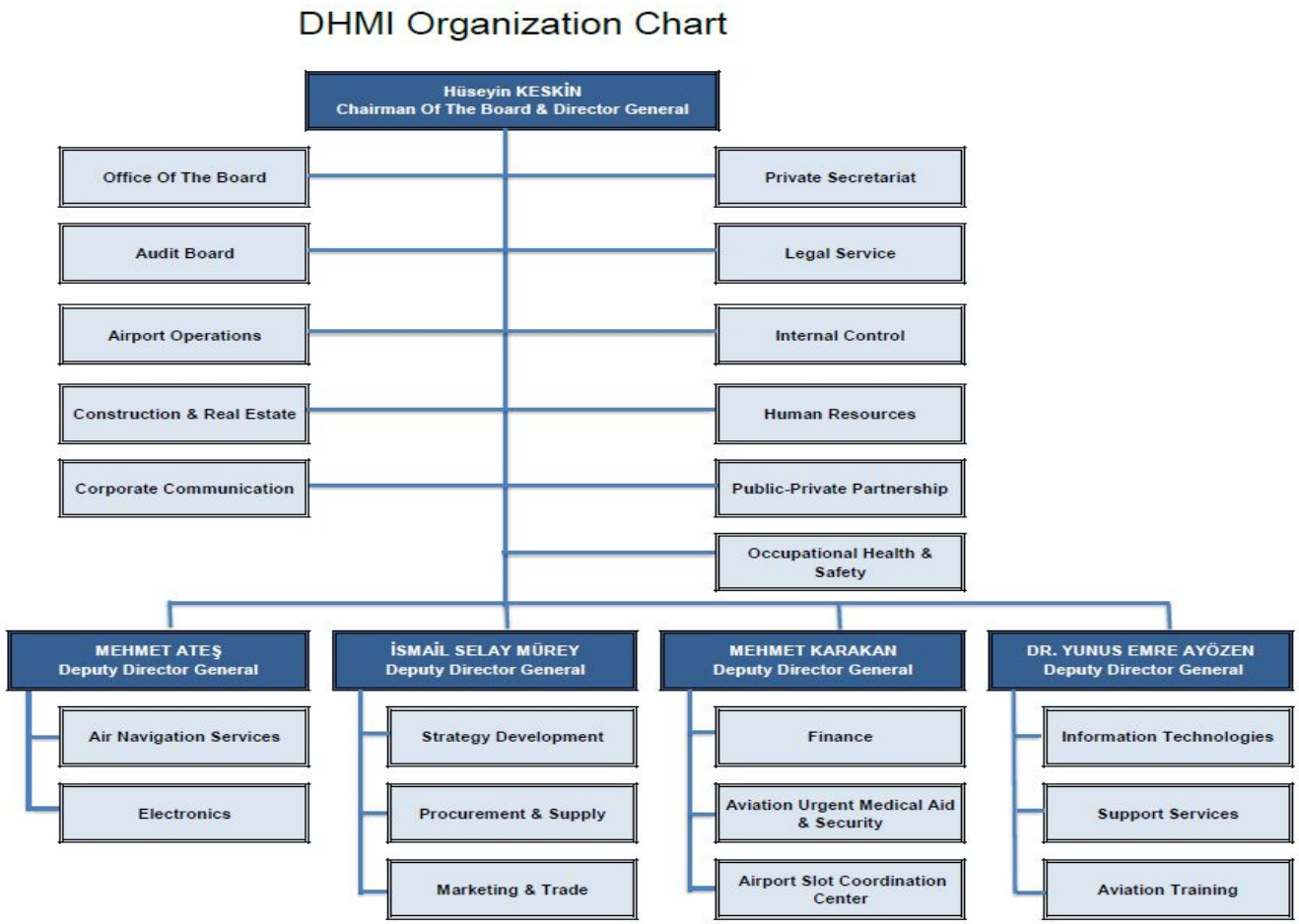
LSSIP Co-ordination

LSSIP Focal Points	Organisation	Name
LSSIP National Focal Point	DHMI	Serdar GENÇ

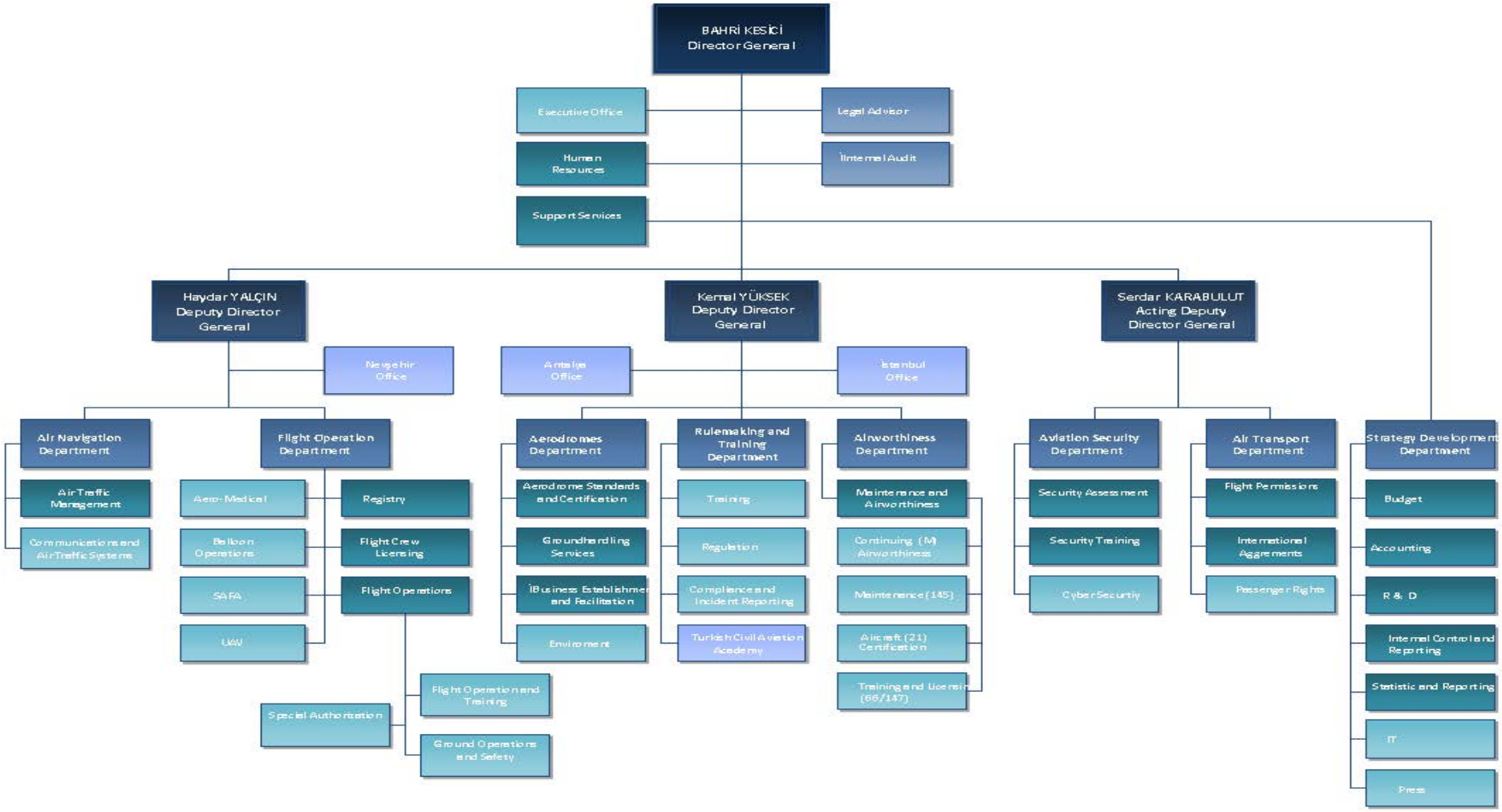
Other Focal Points	Organisation	Name
Focal Point for U-space	-	-
Focal Point for NETSYS	DHMI	Fatih AKSOY
Focal Point for NETSYS	DHMI	A. Eren BELLIKLI

B. National stakeholders organisation charts

DHMI Organisational Chart



DGCA Organisational chart



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

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

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

*AOM21.1 - Direct Routing		Free Route	#32	3.2.1 3.2.3	B0-FRTO B1-FRTO	-	-
AOM21.2 - Free Route Airspace		Free route	#33, #66	3.2.1 3.2.4	B1-FRTO	-	AM-1.6 AM-1.10 AM-5.1
ATC02.8 - Ground based safety nets		ATM Systems	-	3.2.1	B0-SNET B1-SNET	-	-
ATC02.9 – Enhanced STCA for TMAs		ATM Systems	#60	-	B0-SNET B1-SNET	MST.030	-
ATC07.1 - Arrival management tools		Enhanced Arrival Seq	-	1.1.1	B0-RSEQ	-	-
ATC12.1 - MONA, TCT and MTCD		ATM Systems	#27, #104	3.2.1	B1-FRTO	-	AM-1.15 AM-5.1
ATC15.1 – Initial extension of AMAN to En-route		Enhanced Arrival Seq	-	1.1.2	B1-RSEQ	-	-
ATC15.2 - Extension of AMAN to En-route		Enhanced Arrival Seq	#05	1.1.2	B1-RSEQ	-	AM-1.3
ATC17 - Electronic Dialog supporting COTR		Free Route	-	3.2.1	-	-	AM-1.3
ATC18 – Multi Sector Planning En-route – 1P2T		Free Route	#63	-	-	-	AM-4.3 AM-5.1
ATC19 - Enhanced AMAN-DMAN integration		Enhanced Arrival Seq	#54	-	B2-RSEQ	-	-
ATC20- Enhanced STCA with down-linked parameters via Mode S EHS		ATM Systems	#69	-	B1-SNET	-	-
ENV01 – Continuous Descent Operations		PBN	-	-	B0-CDO B1-CDO	-	-
ENV03 – Continuous Climb Operations		PBN	-	-	B0-CCO	-	-
NAV03.1 – RNAV1 in TMA Operations		PBN	#62	-	B0-CDO B0-CCO B1-RSEQ	RMT.0639 RMT.0445	-
NAV03.2 – RNP1 in TMA Operations		PBN	#09, #51	1.2.3 1.2.4	B1-RSEQ	RMT.0639 RMT.0445	-

NAV10 - RNP Approach Procedures to instrument RWY		PBN	#103	1.2.1 1.2.2	B0-APTA	RMT.0639 RMT.0445 RMT.0643	-
NAV12 – ATS IFR Routes for Rotorcraft Operations		PBN	#113	-	B1-APTA	MST.031	-
AOP04.1 - A-SMGCS Surveillance (former Level 1)		Surface mgt	#70	2.2.1	B0-SURF	-	-
AOP04.2 - A-SMGCS RMCA (former Level 2)		Surface mgt	-	2.2.1	B0-SURF	-	-
AOP05 - Airport CDM		Collaborative Apt	#106	2.1.1 2.1.3	B0-ACDM B0-RSEQ	-	-
AOP10 - Time Based Separation		Enhanced ops in vicinity of rwy	#64	2.3.1	B1-RSEQ B2-WAKE	-	-
AOP11 - Initial Airport Operations Plan		Collaborative Apt	#21	2.1.4	B1-ACDM	-	-
AOP12 - Improve RWY and Airfield safety with CATC detection and CMAC		Surface mgt	#02	2.1.2 2.5.1	B2-SURF	-	-
AOP13 – Automated assistance to Controller for Surface Movement planning and routing		Surface mgt	#22 #53	2.4.1	B1-ACDM B1-RSEQ B2-SURF	-	-
AOP14 – Remote Tower Services		Remote Tower	#12, #71, #52, #13	-	B1-RATS	RMT.0624	-
AOP15 - Enhanced traffic situational awareness and airport SNET for the vehicle drivers		Surface mgt	#04	-	B2-SURF	-	-
AOP16 - Guidance assistance through airfield ground lighting		Surface mgt	#47	-	B1-RSEQ B2-DURF	-	-
AOP17 - Provision/integration of departure planning information to NMOC		Collaborative Apt	#61	-	B1-ACDM B1-NOPS	-	-
AOP18 - Runway Status Lights (RWSL)		Surface mgt	#01	-	B2-SURF	-	-
ENV02 – Airport Collaborative Environmental Management		Collaborative Apt	-	-	-	-	-

NAV11 - Implement precision approach using GBAS CAT II/III based on GPS L1		Enhanced ops in vicinity of rwy	#55	-	B1-APTA	-	-
SAF11 - Improve runway safety by preventing runway excursions		Surface mgt	-	-	-	MST.007 RMT.0570 RMT.0703	-
COM10 - Migration from AFTN to AMHS		CNS rat.	-	-	-	-	-
COM11.1 - Voice over Internet Protocol (VoIP) in En-Route		CNS rat.	-	3.1.4	-	-	AM-1.3
COM11.2 - Voice over Internet Protocol (VoIP) in Airport/Terminal		CNS rat.	-	-	-	-	-
COM12 - NewPENS		Pre-SWIM & SWIM	-	5.1.2 5.2.1	B1-SWIM	-	-
FCM08 – Extended Flight Plan		Pre-SWIM & SWIM	#37	4.2.3	B1-FICE	-	AM-1.4
INF07 - Electronic Terrain and Obstacle Data (e-TOD)		Pre-SWIM & SWIM	-	1.2.2	-	RMT.0703 RMT.0704 RMT.0722	-
INF08.1 - Information Exchanges using the SWIM Yellow TI Profile		Pre-SWIM & SWIM	#35, #46	5.1.3, 5.1.4, 5.2.1, 5.2.2, 5.2.3, 5.3.1, 5.4.1, 5.5.1, 5.6.1	B1-DATM B1-SWIM	-	AM-1.5

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

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

Legend:

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

D. SESAR Solutions implemented in a voluntary way[3]

This annex is considered as not applicable for Turkey.

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

E. Military Organisations Infrastructure

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

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

F. Glossary of abbreviations

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

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

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

Term	Description
AF	ATM Functionality
FT	Fast Track
PCP	Pilot Common Project
PDP	Preliminary Deployment Programme
S-AF	Sub ATM Functionality
ACAS	Airborne Collision Avoidance System
ACC	Area Control Centre
AF	ATM Functionality
AIS	Aeronautical Information Services
AMC	Acceptable means of Compliance
ANS	Air Navigation Services
ANSP	ANS Provider
AOP	Airports Operations (Domain)
APV	Approach with Vertical Guidance
ARN	ATS Route Network
ATC	Air Traffic Control
ATCO	Air Traffic Controller
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATS	Air Traffic Services
CAD	Civil Aviation Department
CDM	Collaborative Decision Making
CEATS	Central European Air Traffic Services
CFMU	Central Flow Management Unit
CNS	Communications, Navigation and Surveillance
COM	Communications
CTR	Control Zone
DFL	Division Flight Level
EAD	European AIS Database
eAIP	European Aeronautical Information Publication
EATM	European Air Traffic Management