EUROCONTROL

2019

LSSIP 2019 - FINLAND
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).

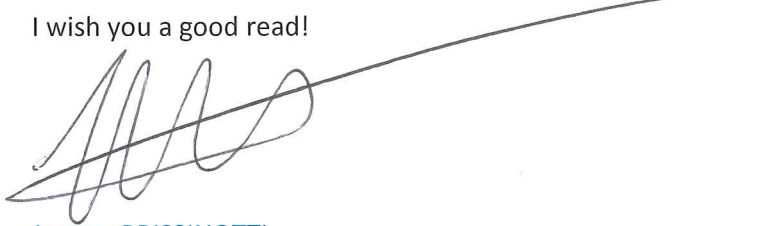
These documents provide an extensive and harmonised picture, for the benefit of the ATM community at large, of how all ECAC States as well as States having a Comprehensive Agreement with EUROCONTROL, and stakeholders concerned, are progressing in planning and deploying the mature elements of the European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



Iacopo PRISSINOTTI
Director NM – Network Manager
EUROCONTROL

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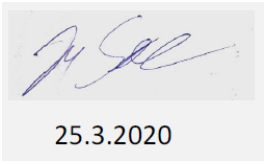
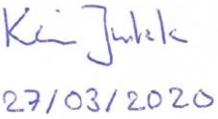
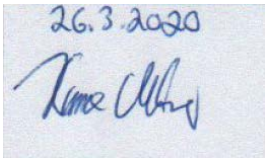
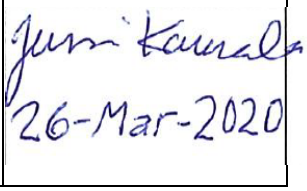
Available in	https://www.eurocontrol.int/service/local-single-sky-implementation-monitoring

Reference Documents	
LSSIP Documents	https://www.eurocontrol.int/service/local-single-sky-implementation-monitoring
Master Plan Level 3 – Plan Edition 2019	https://www.eurocontrol.int/publication/european-atm-master-plan-implementation-plan-level-3-2019
Master Plan Level 3 – Report Year 2019	https://www.eurocontrol.int/publication/european-atm-master-plan-implementation-report-level-3-2019
European ATM Portal	https://www.atmmasterplan.eu/
STATFOR Forecasts	https://www.eurocontrol.int/statfor
National AIP	https://www.ais.fi/en
Performance Plan	https://www.traficom.fi/en/transport/aviation/air-navigation-services-and-airspace

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
Finnish Transport and Communications Agency Traficom	Jarkko SAARIMÄKI	Deputy Director-General	 25.3.2020
Air Navigation Services Finland	Raine LUOJUS	CEO of ANS Finland	
Finnish Military Aviation Authority	Kim JUHALA	Director of MAA	 27/03/2020
Finavia Corporation	Kimmo MÄKI	CEO of Finavia Corporation	 26.3.2020
Finnish Meteorological Institute	Jussi KAUROLA	Director Accountable Manager	 26-Mar-2020

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Executive Summary

National ATM Context

Member State of:

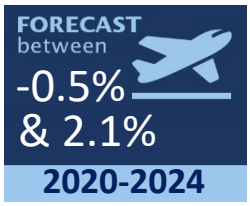
Main national stakeholders:

- Finnish Transport and Communications Agency Traficom – the civil aviation regulatory body and NSA ;
- Air Navigation Services Finland Oy (ANS Finland) – the main ATS-provider in Finland;
- Finavia Corporation – the main airport operator in Finland;
- Finnish Meteorological Institute – designated MET provider;
- City of Mikkeli – operator in Mikkeli airport (EFMI) and AFIS provider;
- Seinäjoki Airport Ltd. – operator in Seinäjoki airport (EFSI) and AFIS provider;
- Lappeenranta Airport Ltd. – operator in Lappeenranta airport (EFLP);
- Military Aviation Authority (MAA) – the military regulatory body;
- Air Force Command Finland;
- Safety Investigation Authority (SIA).

Main airport covered by LSSIP: Helsinki-Vantaa (EFHK)

Traffic and Capacity

Summer Forecast (May to October inclusive)



Per ACC

Finland is part of: NEFAB north european functional airspace block

The North European Functional Airspace Block

Number of national projects: information not available
Number of FAB projects: **4**
Number of multinational projects: **5**

Summary of 2019 developments:

During 2019 Finland has continued good co-operative work in implementing LSSIP objectives and also projects mentioned in chapter 3. Bi-lateral work between EANS and ANS Finland in FINEST programme, mentioned in chapter 4, has taken important steps and FINEST is expected to become operational in 2022.

With regard to Flexible Use of Airspace Finland has continued its ongoing Dynamic AirSpace Management Working Group (DASMWG) efforts. The aim of the DASMWG is to provide both short-term and long-term optimization in the use of airspace, especially airspace used by the military. Short-term benefits have already been realized both in altitude and in the geographical size of reserved areas, as well as along the time axis. Long-term optimization requires changes to regulations and legislation, and includes but is not limited to changes in the airspace structure and revising regulations to allow civilian aircraft to fly through areas reserved by the military under certain circumstances. The primary participants of DASMWG are ANS Finland, Finnish Air Force and Traficom.

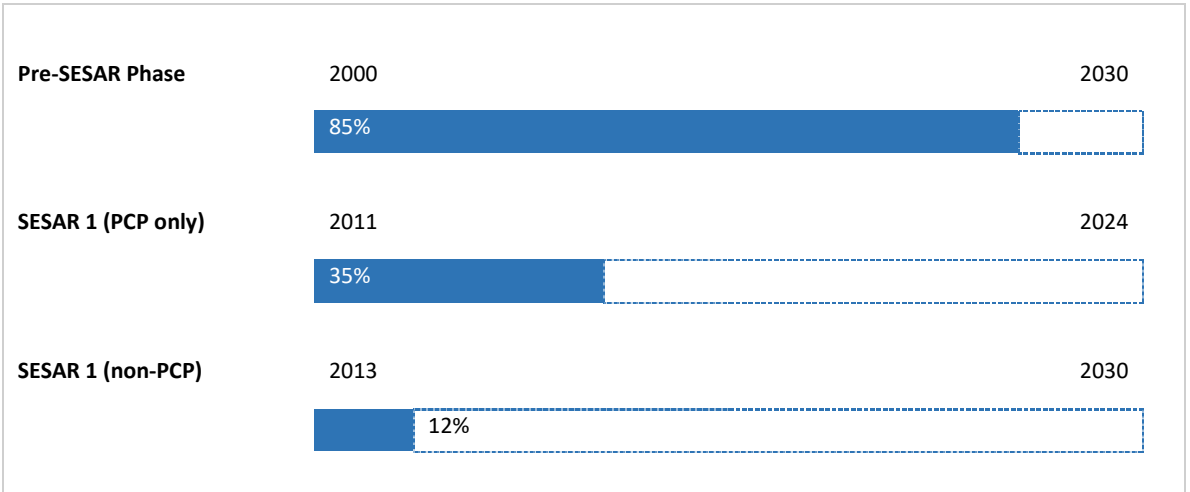
With regard to MET services the Finnish Meteorological Institute has updated all its AWOS (systems providing aerodrome weather observations) during 2018-2019 to be compliant with regulation (EU) 2017/373. AWOS renewal covers 22 Finnish airports, including Helsinki-Vantaa (EFHK).

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.

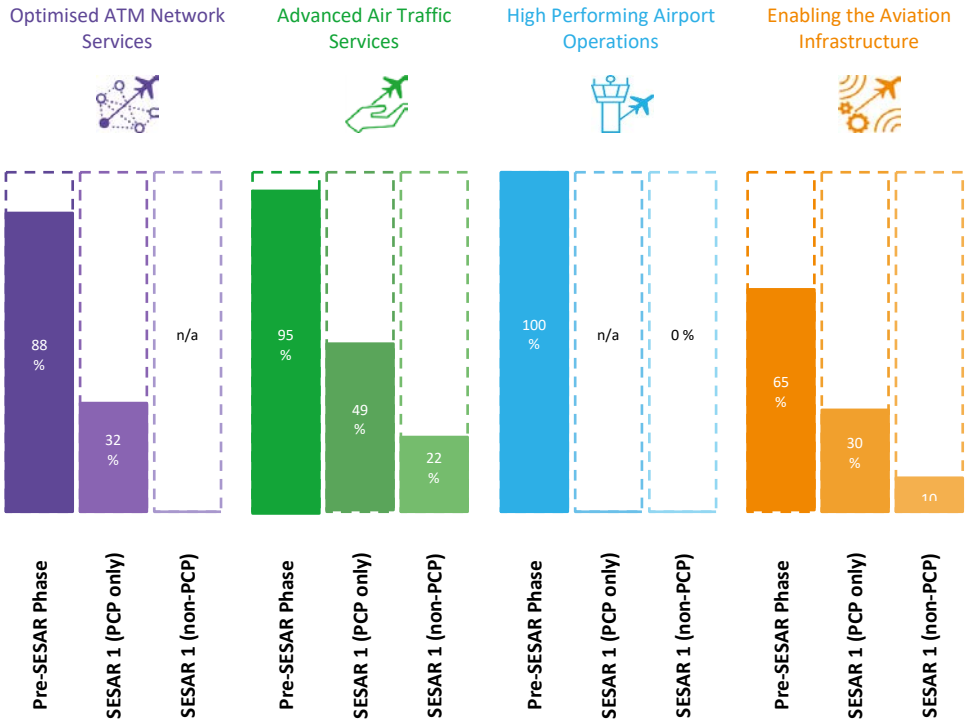
It shows the average implementation progress for all objectives grouped by SESAR Phases, excluding those for which Finland is outside the applicability area as defined on a yearly basis in the European ATM Master Plan (Level 3) 2019, i.e. disregarding the declared “NOT APPLICABLE”.LSSIP progress status.

The SESAR 1 (non-PCP) progress in the graphics below for Finland is based on the following objectives: The SESAR 1 (non-PCP) progress in the graphics below for this State is based on the following objectives: **AOP14** – Remote tower services; **AOP15** – Safety nets for vehicle drivers; **AOP16** – Guidance assistance through airfield ground lighting; **AOP17** – Provision/integration of departure planning information to NMOC; **AOP18** – runway status lights; **ATC02.9** – STCA for TMAs; **ATC18** – Multi sectior planning En-Route; **ATC19** – Enhanced AMAN-DMAN integration; **ATC20** – Enhanced STCA with DAPs via Mode S EHS; **NAV12** – ATS IFR routes for rotorcraft operations; **COM11.2** – VoIP in Airport/Terminal.



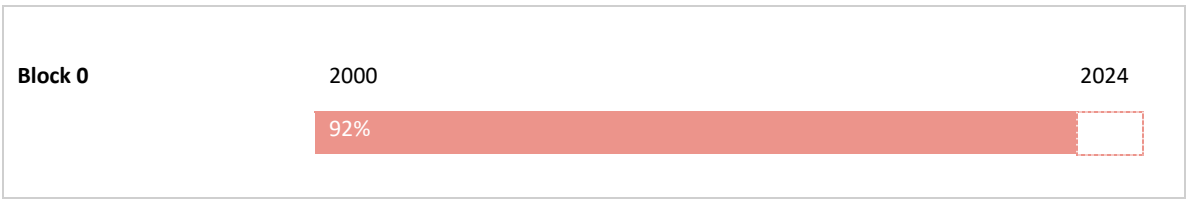
Progress per SESAR Key Feature and Phase

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



ICAO ASBUs Progress Implementation

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



ATM Deployment Outlook

State Objectives

✓ **Deployed in 2018 - 2019**

- Initial ATC Air-Ground Data Link Services
ITY-AGDL - 100 % progress
- New Pan-European Network Service (NewPENS)
COM12 - 100 % progress

By 2020	By 2021	By 2022	By 2023+
- Common Flight Message Transfer Protocol (FMTP) ITY-FMTP - 92 % progress **- Full Rolling ASM/ATFCM Process and ASM Information Sharing** AOM19.3 - 58 % progress **- Aircraft Identification** ITY-ACID - 62 % progress **- Electronic Terrain and Obstacle Data (eTOD)** INF07 - 16 % progress **- Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) Handling** AOM13.1 - 65 % progress **- Short Term Conflict Alert (STCA) for TMAs** ATC02.9 - 80 % progress **- RNAV 1 in TMA Operations** NAV03.1 - 89 % progress **- ASM Management of Real-Time Airspace Data** AOM19.2 - 52 % progress **- ASM Support Tools to Support Advanced FUA (AFUA)** AOM19.1 - 53 % progress **- Ensure Quality of Aeronautical Data and Aeronautical Information** ITY-ADQ - 28 % progress	**- Extended Flight Plan** FCM08 - 10 % progress **- Traffic Complexity Assessment** FCM06 - 10 % progress **- Migrate from AFTN to AMHS** COM10 - 50 % progress **- Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring** ATC12.1 - 48 % progress **- Voice over Internet Protocol (VoIP) in En-Route** COM11.1 - 10 % progress **- Management of Pre-defined Airspace Configurations** AOM19.4 - 10 % progress **- Short Term ATFCM Measures (STAM) - Phase 2** FCM04.2 - 10 % progress **- RNP Approach Procedures to instrument RWY** NAV10 - 78 % progress **- Interactive Rolling NOP** FCM05 - 33 % progress		**- RNP 1 in TMA Operations** NAV03.2 - 00 % progress **- Voice over Internet Protocol (VoIP) in Airport/Terminal** COM11.2 - 10 % progress **- Information Exchanges using the SWIM Yellow TI Profile** INF08.1 - 00 % progress **- 8,33 kHz Air-Ground Voice Channel Spacing below FL195** ITY-AGVCS2 - 72 % progress **- ATS IFR Routes for Rotorcraft Operations** NAV12 - 00 % progress

Airport Objectives - Helsinki Vantaa Airport

✓	**Deployed in 2018 - 2019**	None

By 2020	By 2021	By 2022	By 2023+
		- Continuous Descent Operations (CDO) ENV01 - 82 % progress	

Introduction

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

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

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

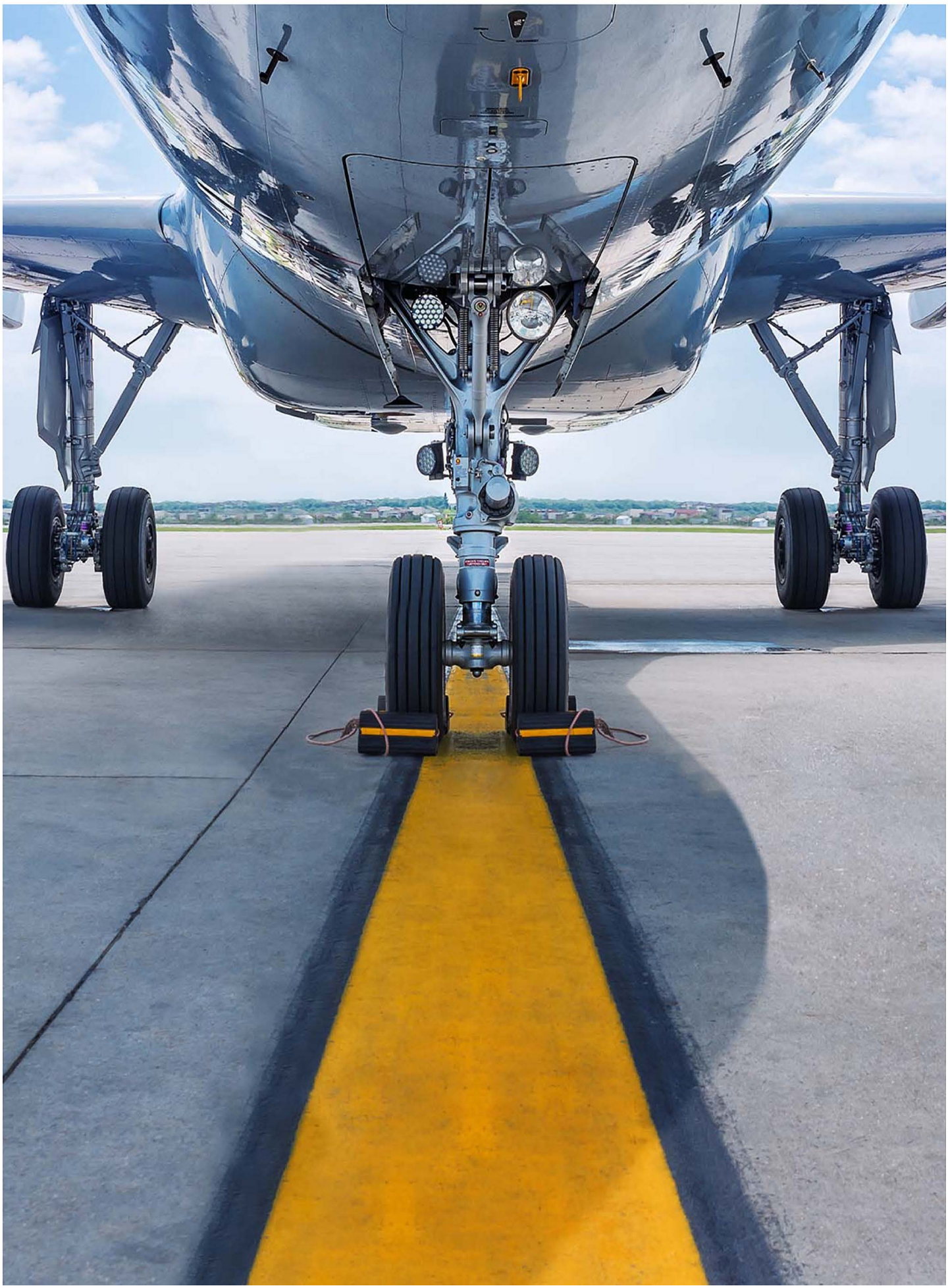
Chapter 3 provides the main Implementation Projects (at national, FAB and multinational level) which contribute directly to the implementation of the MP Operational Improvements and/or Enablers and Implementation Objectives. The Level 1 document covers a high-level list of the projects showing the applicable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

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

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

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

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



1. National ATM Environment

1.1. Geographical Scope

International Membership

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

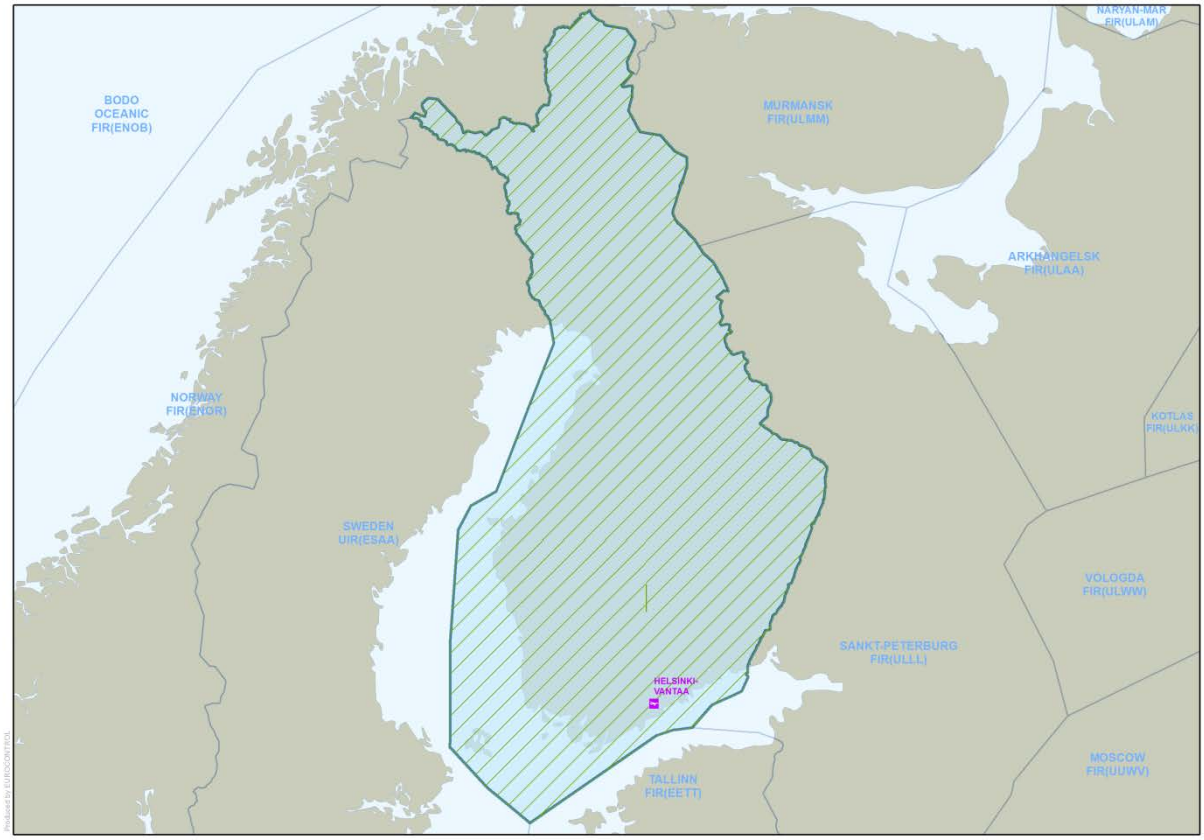
Organisation		Since
ECAC	✓	1955
EUROCONTROL	✓	2001
European Union	✓	1995
EASA	✓	2006
ICAO	✓	1949
NATO	-	-
ITU	✓	1920
EDA	✓	2004

Geographical description of the FIR(s)

The geographical scope of this document addresses the Helsinki FIR (EFIN) former Finland FIR. Flight Information Region (FIR) has been renamed in 2019 to be in compliant with ICAO SARPs.

Helsinki FIR is surrounded by FIRs of 4 States: Norway (Norway FIR/UIR), Sweden (Sweden FIR/UIR), Estonia (Tallinn FIR/UIR) and a non-ECAC State, Russia (St Petersburg FIR and Murmansk FIR).

In order to achieve some of the objectives of the European ATM Master Plan Level 3 Implementation Plan (a.k.a. the ESSIP Plan), Helsinki ACC co-ordinates actions with a number of foreign adjacent ACCs.



Airspace Classification and Organisation

On 27 November 2003, ICAO airspace Class C was implemented above FL 95 and the upper limit of controlled airspace was raised to FL660. AIP Finland is available at: https://www.ais.fi/en

ATC Units

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

ATC Unit	Number of sectors		Associated FIR(s)	Remarks
	En-route	TMA		
Helsinki ACC (EFIN)	13		EFIN	
Helsinki APP		4	EFIN	

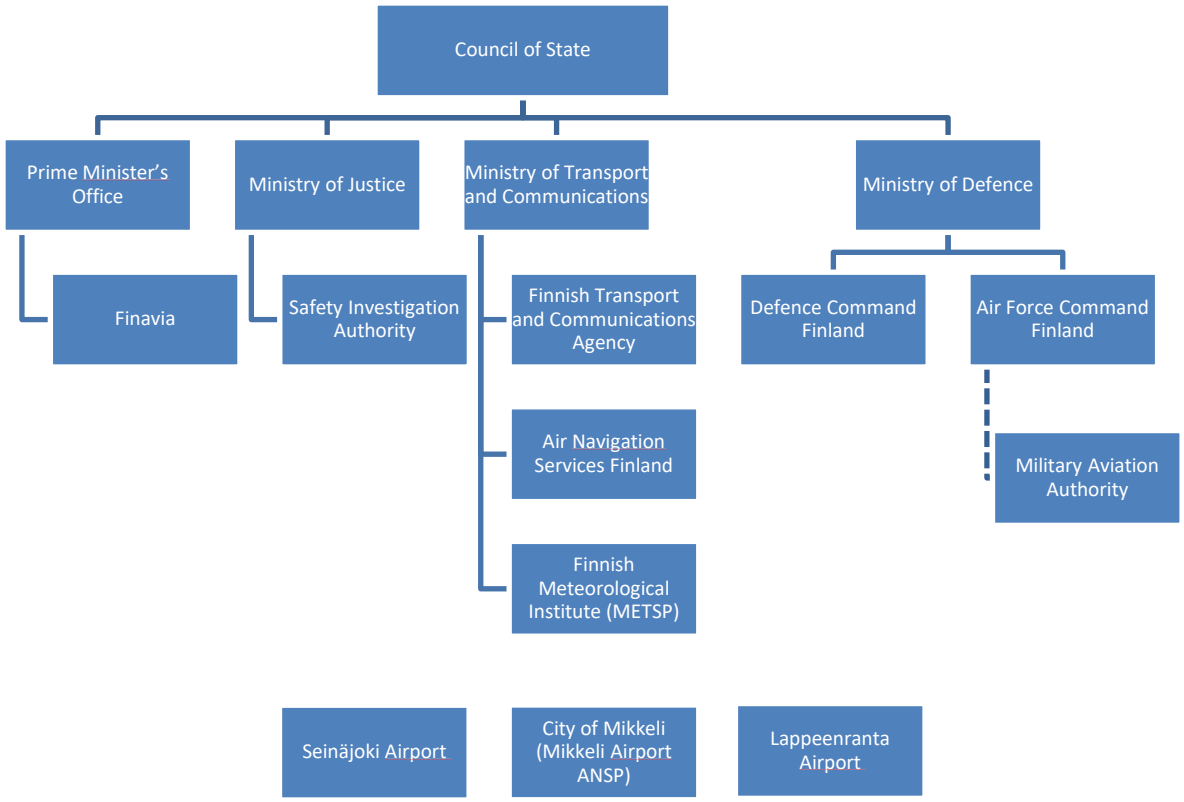
Note: The number of sectors as indicated in this table is the number of technically existing sectors; some of those sectors are operationally used in combined sector formats.

1.2. National Stakeholders

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

- Finnish Transport and Communications Agency Traficom – the civil aviation regulatory body and NSA ;
- Air Navigation Services Finland Oy (ANS Finland) – the main ATS-provider in Finland;
- Finavia Corporation – the main airport operator in Finland;
- Finnish Meteorological Institute – designated MET provider;
- City of Mikkeli – operator in Mikkeli airport (EFMI) and AFIS provider;
- Seinäjoki Airport Ltd. – operator in Seinäjoki airport (EFSI) and AFIS provider;
- Lappeenranta Airport Ltd. – operator in Lappeenranta airport (EFLP);
- Military Aviation Authority (MAA) – the military regulatory body;
- Air Force Command Finland;
- Safety Investigation Authority (SIA).

Their activities are detailed in the following subchapters and their relationships are shown in the diagram below.



Civil Regulator(s)

General Information

Civil Aviation in Finland is the responsibility of the Ministry of Transport and Communications. The different national entities having regulatory responsibilities in ATM are summarised in the table below.

Activity in ATM:	Organisation responsible	Legal Basis
Rule-making	Ministry of Transport and Communications, Finnish Transport and Communications Agency Traficom	Aviation Act (864/2014) and Act on the Finnish Transport and Communications Agency (935/2018)
Safety Oversight	Finnish Transport and Communications Agency Traficom (NSA)	Aviation Act (864/2014) and Act on the Finnish Transport and Communications Agency (935/2018)
Enforcement actions in case of non-compliance with safety regulatory requirements	Finnish Transport and Communications Agency Traficom	Aviation Act (864/2014), Criminal Code (39/1889)
Airspace	Ministry of Transport and Communications, Finnish Transport and Communications Agency Traficom	Aviation Act (864/2014)
Economic	Ministry of Transport and Communications, Finnish Transport and Communications Agency Traficom	Aviation Act (864/2014)
Environment	Environmental permit authority Finnish Transport and Communications Agency Traficom	Permit authority according to Environmental Protection Act 527/2014 and Environmental protection decree 713/2014 grants environmental permits for airports. Finnish Transport and Communications Agency Traficom has regulatory power in some environmental issues according to Aviation Act (864/2014).
Security	Ministry of Transport and Communications, Finnish Transport and Communications Agency Traficom	Aviation Act (864/2014) and Act on the Finnish Transport and Communications Agency (935/2018)
Accident investigation	Ministry of Justice, Safety Investigation Authority	Safety Investigation Act (525/2011)

Finnish Transport and Communications Agency Traficom, the CAA Finland, is further detailed in the following sections.

FINNISH CIVIL AVIATION AUTHORITY

The Finnish Transport and Communications Agency Traficom carry out the civil aviation regulatory tasks. It is an independent agency operating under the Ministry of Transport and Communications (MoTC) and is organisationally separated from the Air Navigation Service Providers.

Annual Report published:	N	Finnish Transport and Communications Agency Traficom doesn't publish an annual report.

The Finnish Transport and Communications Agency Traficom is the **National Supervisory Authority (NSA)** in Finland.

http://www.traficom.fi/en

The current organisation chart is given in Annexes.

Air Navigation Services Finland

Services provided

	Air Navigation Services Finland			
Governance:	State Limited Company		**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			
ATCO training	Y			
Others	Y	ANS technical services		
Additional information:				
Provision of services in other State(s):	N			
Annual Report published:	N	Will be published later 2020		

ANS Finland website can be found at:

https://www.ansfinland.fi/en

ATC systems in use

Main ANSP part of any technology alliance[1]	-	

FDPS

Specify the manufacturer of the ATC system currently in use:	THALES AS
Upgrade[2] of the ATC system is performed or planned?	EFIN 2015, EFHK 2015
Replacement of the ATC system by the new one is planned?	The present Thales TopSky ATM-system is under continuous development.
ATC Unit	EFIN ACC, EFHK TWR/APP, smaller TWR/APP and TWR systems at 21 sites.

SDPS

Specify the manufacturer of the ATC system currently in use:	THALES AS
Upgrade of the ATC system is performed or planned?	EFIN 2017, EFHK 2017
Replacement of the ATC system by the new one is planned?	The present Thales TopSky ATM-system is under continuous development.
ATC Unit	EFIN ACC, EFHK TWR/APP, smaller TWR/APP and TWR systems at 21 sites.

Airports

General information

Finavia Corporation is the main airport operator in Finland, responsible for maintaining 21 airports, of which 19 are involved in regular traffic. Finavia Corporation is 100 % state owned enterprise. Helsinki Airport is the primary airport and the only one being co-ordinated and covered by the LSSIP.

In addition, there are three non-state-owned airports in Finland not managed by Finavia (Lappeenranta, Mikkeli and Seinäjoki).

Airport(s) covered by the LSSIP

Referring to the List of Airports in the European ATM Master Plan Level 3 Implementation Plan Edition 2018 – Annex 2, it is up to the individual State to decide which additional airports will be reported through LSSIP for those Objectives.

According to these criteria, the airport covered in this LSSIP is Helsinki-Vantaa airport.

The EUROCONTROL Public Airport Corner also provides information for Helsinki-Vantaa airport:

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

[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))

Military Authorities

The Military Authorities in Finland are composed of:

- Defence Command Finland;
- Air Force Command Finland;
- Navy Command Finland;
- Army Command Finland;
- Military Aviation Authority (MAA).

They are supervised by the ministry of Defence.

Their regulatory, service provision and user role in ATM are detailed below.

The **Military Aviation Authority (MAA)** carries out its assigned tasks as decreed in the Aviation Act. The MAA is responsible for the safety and monitoring of military aviation and for other tasks that are within the prerogatives of a military aviation authority e.g. certification of military aircraft and equipment, and participation in decision making progress concerning airspace management.

Finland has an **integrated civil-military ATM system** without permanently segregated military airspace. Segregation of airspace for military use is done on basis of actual needs.

Information on the application of FUA is provided at the end of this chapter.

The current organisation chart is given in Annexes.

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?	N/A
Level of such legal provision: 1) Finnish Aviation Act 2) Aviation Regulation-series (issued by FCAA, incl. Rules of the Air) 3) Military Aviation Regulations (issued by MAA, e.g.regulations on Air Traffic Services for military aviation) 4) Military Aviation Regulations (issued by FINAF; e.g. prerogatives)		Level of such legal provision: N/A	
Authority signing such legal provision: 1) Parliament/Head of State (President) 2) Director General of FCAA (DGCA Finland) 3) Director of MAA 4) Commander of Finnish Air Force		Authority signing such legal provision: N/A	
These provisions cover:		These provisions cover:	
Rules of the Air for OAT	Y		
Organisation of military ATS for OAT	Y	Organisation of military ATS for GAT	
OAT/GAT Co-ordination	Y	OAT/GAT Co-ordination	
ATCO Training	Y	ATCO Training	
ATCO Licensing	Y	ATCO Licensing	
ANSP Certification	Y	ANSP Certification	
ANSP Supervision	Y	ANSP Supervision	

Aircrew Training	Y	ESARR applicability	
Aircrew Licensing	Y		
Additional Information: The Finnish Aviation Act is binding for all civil and military aviation in Finland. Based on the Aviation Act the MAA has the right to supplement aviation regulations with official directives to such an extent that is permitted by the applicable regulations.		Additional Information:	
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	N	National AIP	
National Military AIP	N	National Military AIP	
EUROCONTROL eAIP	N	EUROCONTROL eAIP	
Other:		Other:	

Oversight

OAT	GAT
National oversight body for OAT: NSA	NSA (as per SES reg. 550/2004) for GAT services provided by the military: N/A

Service Provision role

OAT			GAT	
Services Provided:			Services Provided:	
En-Route	N	Civil ANSP (ANS Finland)	En-Route	N
Approach/TMA	N	Civil ANSP (ANS Finland)	Approach/TMA	N
Airfield/TWR/GND	N	Civil ANSP (ANS Finland)	Airfield/TWR/GND	N
AIS	N	Civil ANSP (ANS Finland)	AIS	N
MET	N	Finnish Meteorological Institute	MET	N
SAR	N	Civil ANSP (ANS Finland) The Military assists civil ARSC on request	SAR	N
TSA/TRA monitoring	Y		FIS	N
Other:			Other:	N
Additional Information:			Additional Information: No GAT services provided by the Military	

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

User role

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

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

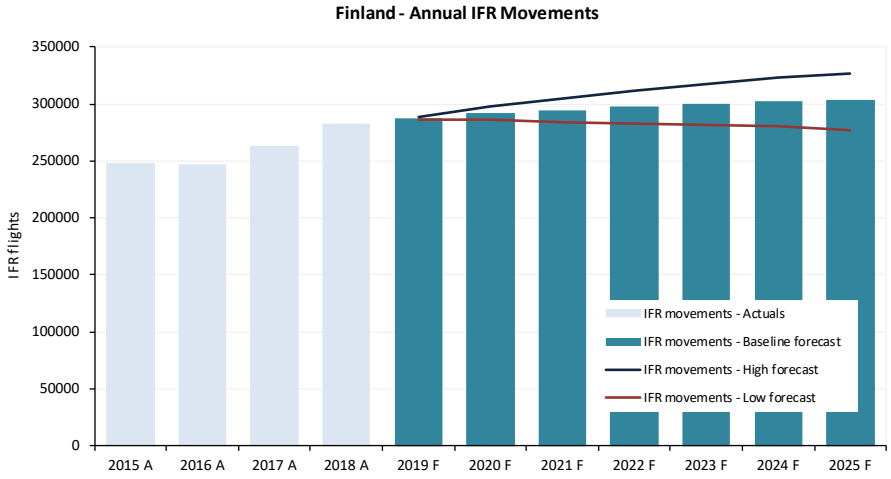
If Military fly GAT-IFR inside controlled airspace, specify existing special arrangements:							
No special arrangements				Exemption from Route Charges			✓
Exemption from flow and capacity (ATFCM) measures		✓		Provision of ATC in UHF			
CNS exemptions:	RVSM	✓	8.33	✓	Mode S		ACAS	✓
Others:	Few Instrument Approach Procedures only for military aviation.						

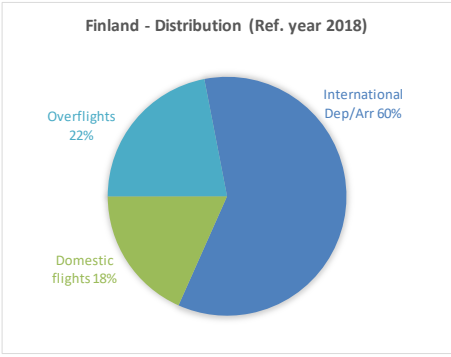
Flexible Use of Airspace (FUA)

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

2. Traffic and Capacity

2.1. Evolution of traffic in Finland





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
Finland	H				1.9%	3.3%	2.4%	2.1%	1.9%	1.7%	1.1%
	B	-0.4%	6.4%	7.7%	1.5%	1.8%	0.7%	1.0%	0.8%	1.0%	0.3%
	L				1.1%	0.1%	-1.0%	-0.4%	-0.5%	-0.3%	-1.0%
ECAC	B	2.8%	4.0%	3.8%	1.1%	2.3%	1.9%	2.2%	1.8%	1.9%	1.4%

2019

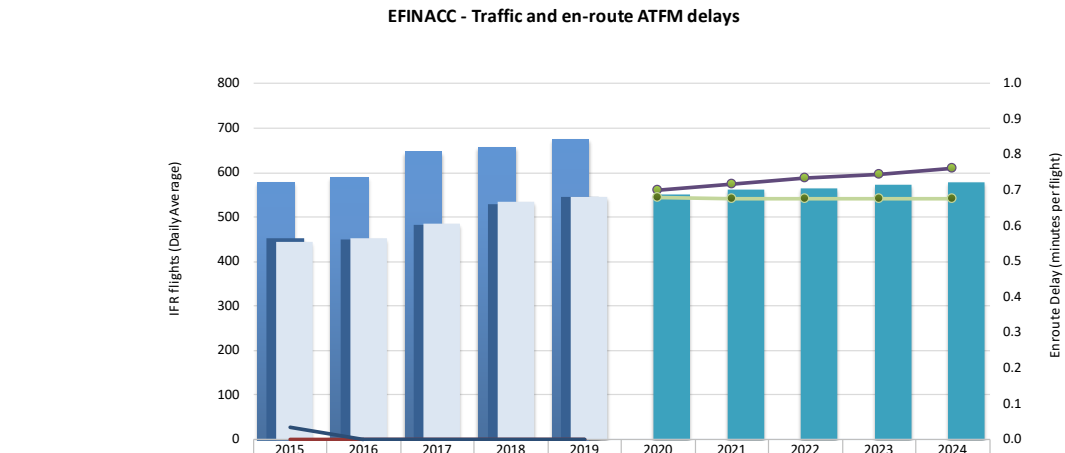
Traffic in Finland increased by 1.4% in 2019 compared to 2018.

2020-2024

The EUROCONTROL Seven-Year forecast predicts an average annual traffic growth between -0.5% and 2.1% throughout the planning cycle, with a baseline growth of 0.9%.

2.2. ACC Helsinki

Traffic and en-route ATFM delays 2015-2024



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	579	590	646	657	675					
Summer Traffic	452	451	483	528	545					
Yearly Traffic	445	451	486	533	546					
Summer Traffic Forecast						552	561	565	573	579
High Traffic Forecast - Summer						560	573	588	597	610
Low Traffic Forecast - Summer						543	541	541	542	542
Summer enroute delay (all causes)	0.00	0.00	0.00	0.00	0.00					
Yearly enroute delay (all causes)	0.03	0.00	0.00	0.00	0.00					

Performance summer 2019

Helsinki 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: 4.3% B: 4.0% L: 2.7%	No significant impact	+2.5%	0.00	0.09			
Summer			+3.2%	0.00		Sufficient	58 (+0%)	No

Summer 2019 performance assessment

The average en-route delay per remained at zero minutes per flight in Summer 2019.

The capacity baseline was estimated at the same level as last year. During the measured period, the average peak 1 hour demand was 49 and the average peak 3 hour demand was 42.

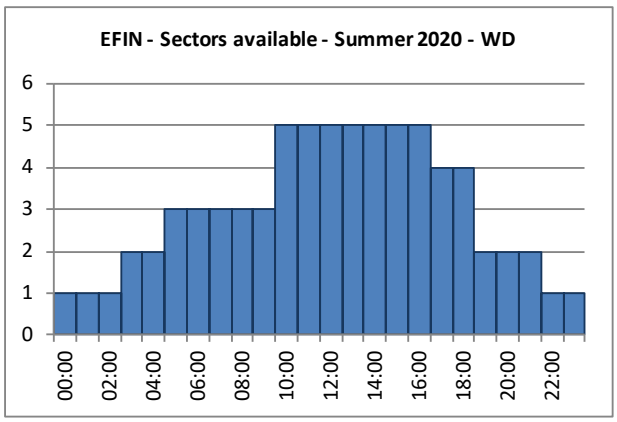
Operational actions	Achieved	Comments
LARA tool planned implementation Apr.2019	No	Implementation April 2020
Airspace re-design AIRAC April 2019, 1 new sector	Yes	Sector V
B2B applications development ongoing	Yes	
DAPS implementation Q2	No	Implementation April 2020 (linked to WAM implementation)
WAM implementation Q3	No	Implementation April 2020 (delay due to change of service provider)
Maximum configuration: 5 sectors	Not required	4 sectors were sufficient

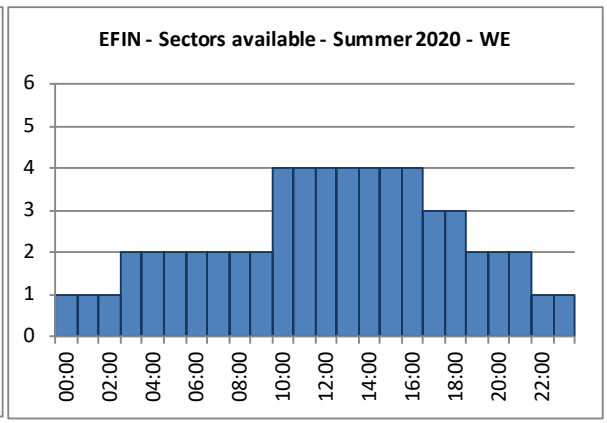
Planning Period 2020-2024

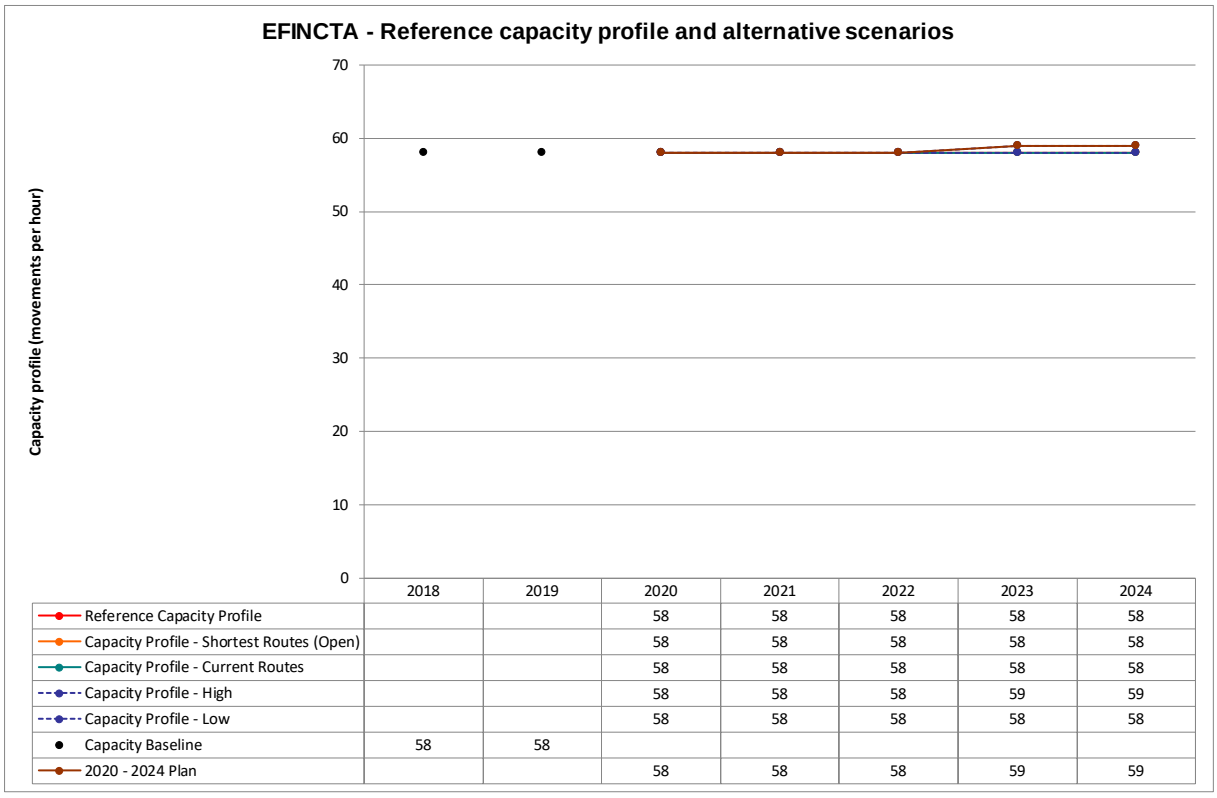
The planning focuses on the Summer season to reflect the most demanding period of the year from a capacity perspective. This approach ensures consistency with the previous planning cycles.

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

Summer Capacity Plan					
	2020	2021	2022	2023	2024
Free Route Airspace	Removal of ATS routes		New connecting routes to EFHK and EETN		
Airspace Management Advanced FUA	LARA implementation	Removal of TSA areas (TRA concept). Re-design of MIL daily operational areas.	FINEST cross border activity with EANS, FINEST LARA		
Airport & TMA Network Integration					
Cooperative Traffic Management			FINEST cross border activity with EANS, FINEST FMP		
Airspace			New sector design to support FINEST cross border sectors (8.33 under review).		
Procedures	DAPS, OLDI update with ULLL FIR (Transfer messages)		Common ATC procedures with EANS, common FINEST FDO procedures		
Staffing			Common rostering with EANS		
Technical	WAM area A, Mode-S, PENS network	VCS update to VoIP, WAM area B, WAM area C	ATM system (TopSky) new software, common FDP with EANS		
Capacity			FINEST capacity		
Significant Events			FINEST implementation (common FDP ANSF and EANS, cross border activity)		
Max Conf	5	5	FINEST project will determine after validation		
Planned Annual Capacity Increase	**Sufficient capacity to meet demand**				
Reference profile Annual % Increase	0%	0%	0%	0%	0%
Difference Capacity Plan v. Reference Profile	**Sufficient capacity to meet demand**				
Annual Reference Value (min)	0.08	0.08	0.07	0.06	0.06
Additional information					







	2018	2019	2020	2021	2022	2023	2024
Reference Capacity Profile			58	58	58	58	58
Capacity Profile - Shortest Routes (Open)			58	58	58	58	58
Capacity Profile - Current Routes			58	58	58	58	58
Capacity Profile - High			58	58	58	59	59
Capacity Profile - Low			58	58	58	58	58
Capacity Baseline	58	58					
2020 - 2024 Plan			58	58	58	59	59

2020-2024 Planning Period Outlook
No problems are foreseen for the ACC during the planning cycle.

3. Implementation Projects

3.1. FAB projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
CNS Infrastructure Rationalisation : Mapping the Situation	ANS Finland (FI), AVINOR AS (NO), EANS (EE), LGS (LV)	2018 - 2020	Work in progress	-
NEFAB FRA	ANS Finland (FI), AVINOR AS (NO), EANS (EE), LGS (LV)	2014 - 2017	Implemented	L3: AOM21.2 L2: AO-0501, AOM-0500 DP: 2015_227_AF3 RP2 PP: N/A
NEFAB Target Concept (Scenario 8)	ANS Finland (FI), Avinor Flysikring AS (NO), EANS (EE), LGS (LV)	Seamless FRA interface between Norway and NEFAB East/DK-SE FAB will be implemented in May 2017. FRA will be implemented in Bodø Oceanic from March 2017. Flight planning shall be done in accordance with ICAO Doc 7030.	Ongoing	L3: AOM21.2 DP: AF - 3.2.4
SMS Harmonisation	ANS Finland (FI), AVINOR AS (NO), EANS (EE), LGS (LV)	2016 - 2020	Work in progress	-

3.2. Multinational projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
Borealis FRA Implementation (Part 2) (2015_227_AF3_A; 2015_227_AF3_B)	ANS Finland (FI), AVINOR AS (NO), EANS (EE), IAA-ATS Provider (IE), LFV (SE), LGS (LV), NATS (UK), Naviair (DK)	15/02/2016 - 31/12/2020	Ongoing, on time, INEA funding granted (Call 2015)	L3: AOM21.2
Borealis FRA Part 2, Phase 1	ANS Finland (FI), Avinor Flysikring AS (NO), EANS (EE), IAA-ATS Provider (IE), LFV (SE), LGS (LV), NATS (UK), Naviair (DK)	31.12.2018	Ongoing, on time	L3: AOM21.2
Borealis FRA Part 2, Phase 2	ANS Finland (FI), Avinor Flysikring AS (NO), EANS (EE), IAA-ATS Provider (IE), LFV (SE), LGS (LV), NATS (UK), Naviair (DK)	31.12.2021	Ongoing, on time	L3: AOM21.2
NEFRA Phase 2	ANS Finland (FI), Avinor Flysikring AS (NO), EANS (EE), LFV (SE), LGS (LV), Naviair (DK)	31.12.2017	Ongoing, on time	L3: AOM21.2
Sub-regional SWIM MET deployment to support NEFRA (A & B) (2015_025_AF5_A)	Danish Meteorological Institute (DK), Finnish Meteorological Institute (FI), Swedish Meteorological and Hydrological Institute (SE)	01/11/2016 - 28/2/2020	Implemented	-

4. Cooperation activities

4.1. FAB Co-ordination

SMS Harmonisation

SMS Harmonisation project was initiated in 2016 with pilot study to specify the concrete proposals, risks and mitigation for areas of possible harmonisation on short and long term.

The overall objective of the SMS Harmonisation is to provide the appropriate support to:

- improve the total efficiency of the Safety Management Systems,
- enable SMS functionalities and processes supporting cross border services,
- enable for improved cost efficiency,
- enable for future integration of SMS functionalities and processes.

The further harmonization process is being aligned with the implementation of the Commission IR (EU) 2017/373.

The NEFAB SMS harmonization is considered to support the FAB-wide safety data exchange, aimed at systematic safety data sharing, processing and disseminating between FAB partners.

FINEST

FINEST programme supports the Single European Sky concept being a bi-lateral cooperation programme between Estonian ANS and ANS Finland with the main aim to provide cross-border services in adjacent airspace, ensuring the business contingency, increasing cost efficiency and sustainability of the services provided.

The prepared during 2017-2018 programme concept of operations, cost-benefit analysis and detailed explanation from EANS and ANS Finland Management Boards gave enough assurance to go further with programme plans. Both EANS Supervisory Board and ANS Finland Board of Directors agree to support the investments needed to be made for the FINEST programme.

FINEST is expected to become operational in 2022.

NEFAB NAV strategy

Based on the NEFAB ANSPs' 5-year strategy, the NEFAB NAV domain mapping was done in 2018, including:

- the brief description of developments and timeline in the national NAV domains;
- the status of national Navigation Strategies and PBN Implementation Plans;
- the estimate on possible areas of cooperation/coordination on FAB level.

The NEFAB Finance and Performance Committee agreed to include harmonisation of CNS/NAV strategies into the NEFAB Strategy Implementation Plan and to recommend the States taking leading role in drafting national NAV strategies and implementing PBN, also governing the implementation in cooperation between all stakeholders.

4.2. Multinational cooperation initiatives

NEFRA

NEFAB has been closely cooperating with DK-SE FAB within an agreed concept to implement a continuous and seamless FRA from a user perspective across the two FABs. The project was named North European Free Route Airspace (NEFRA) Programme.

The NEFRA Programme anticipated the implementation of seamless interface between the two FABs above FL285 (because Danish-Swedish FAB FRA is above FL285). In November 2015 the first milestone of NEFRA Phase 1 was implemented with harmonized FPL rules for FRA operations across the two FABs. First step of cross-border FRA between two FABs was implemented in June 2016 with seamless FRA operations between NEFAB East (Estonia, Finland, Latvia) and DK-SE FAB. Seamless FRA interface with Norway was finalised in May 2017 allowing unrestricted FRA operation across the borders of all six states in both FABs.

FRA was also implemented in Bodø Oceanic from March 2017.Flight planning in Bodø Oceanic is done in accordance with ICAO Doc 7030.

The next NEFRA related activities, if any, have been agreed to be organised under Borealis cooperation.

Borealis FRA

The Borealis Alliance is an industrial partnership between 9 European ANSPs - LFV (Sweden), ANS Finland (Finland), Avinor (Norway), ISAVIA (Iceland), Naviair (Denmark), EANS (Estonia), IAA (Ireland), LGS (Latvia) and NATS (UK). The objective of the Alliance is to enable joint initiatives to improve flight efficiency and reduce environmental impact, delivered across the whole area in a move which will also streamline cost of services and operational/technical infrastructure.

In 2015 the Borealis Alliance initiated the Free Route Airspace (FRA) Programme to create a multi-FAB FRA through the establishment of interfaces between FRA areas in 3 FABs (NEFAB, DK-SE FAB and UK-IRL FAB) and Iceland. The Borealis FRA concept of operation is based on the NEFRA concept, i.e. to connect the FRA volumes of 9 States seamlessly, so that these appear as one continuous FRA to airspace users. In 2019 the Borealis Alliance commenced cross-border FRA between the Maastricht UAC area of responsibility, the DK/SE FAB and the northern part of Germany; and remains open to considering other cross-border proposals should they arise.

NAMCON (Northern Europe Aviation Meteorology Consortium)

National Meteorological Services (NMS) of Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway and Sweden, as the designated MET service providers for aeronautical meteorological forecasts, launched the NAMCON co-operation in 2011 and these equal partners have worked actively together to support SES targets. The consortium co-operates with NEFAB and DK-SE FAB.

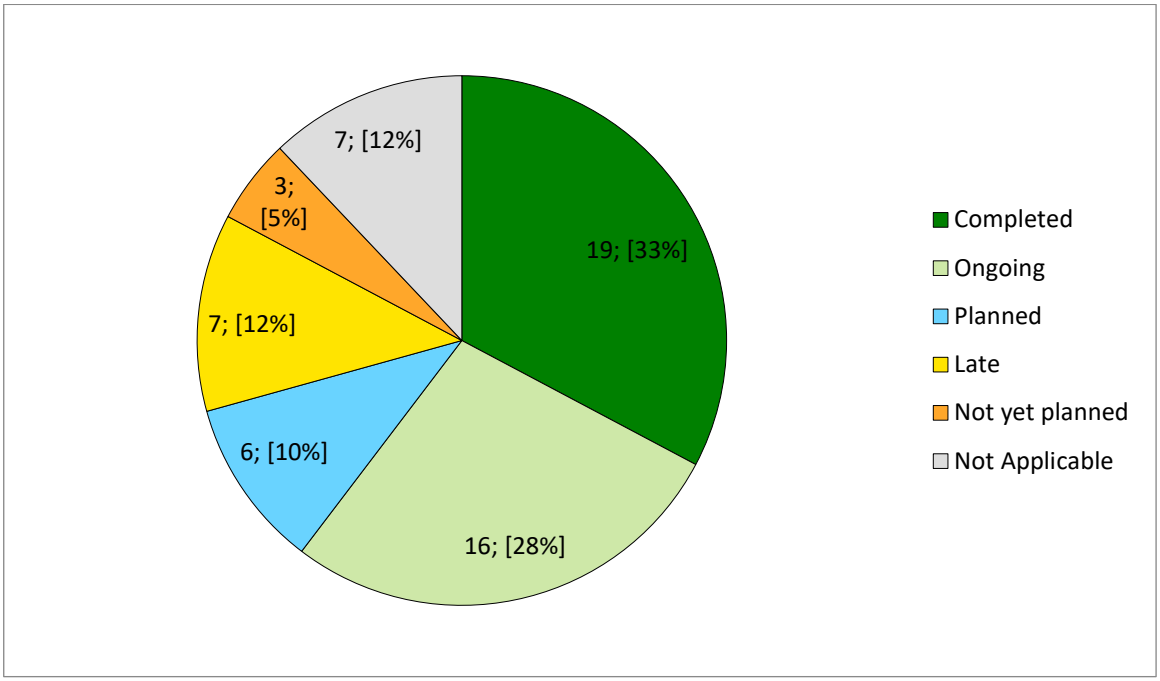
NAMCON's mission since the beginning has been to improve efficiency, reliability and access to aviation weather products and services for airspace users in Northern Europe.

Co-operation inside NAMCON includes e.g. cross-border joint production, shared production systems, harmonized MET products and OPS manuals and consolidated work on research and development to fulfill future user needs. Joint NAMCON work is also ongoing regarding compliance matters.

5. Implementation Objectives Progress

5.1. State View: Overall Objective Implementation Progress

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



Finland is late in implementing Objectives AOM13.1, AOM19.1, COM10, INF07, ITY-ACID, ITY-ADQ and ITY-FMTP. Regarding AOM13.1, implementation is planned for the year 2020. Regarding AOM19.1, existing tool will be replaced by LARA and PRISMIL by the end of March 2020. Regarding COM10, basic AMHS was implemented in 2010 but delays involved in various project phases for extended AMHS have delayed full implementation; full implementation is expected to take place by the end of 2021. Regarding INF07, the planning for provision of electronic terrain and obstacle data is planned for the year 2020. Regarding ITY-ACID, the operational use of ACID is planned to happen countrywide by the end of 2020 when the WAM and Mode-S sensors will cover entire Helsinki FIR. Regarding ITY-ADQ, the national implementation is expected to take place by the end of 2020. Regarding ITY-FMTP, the common flight message transfer protocol is expected to become operational by the end of March 2020.

Other applicable objects are planned to be implemented according to the FOC dates.

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 Finland/Helsinki airport and which are not local objectives.

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

Legend:

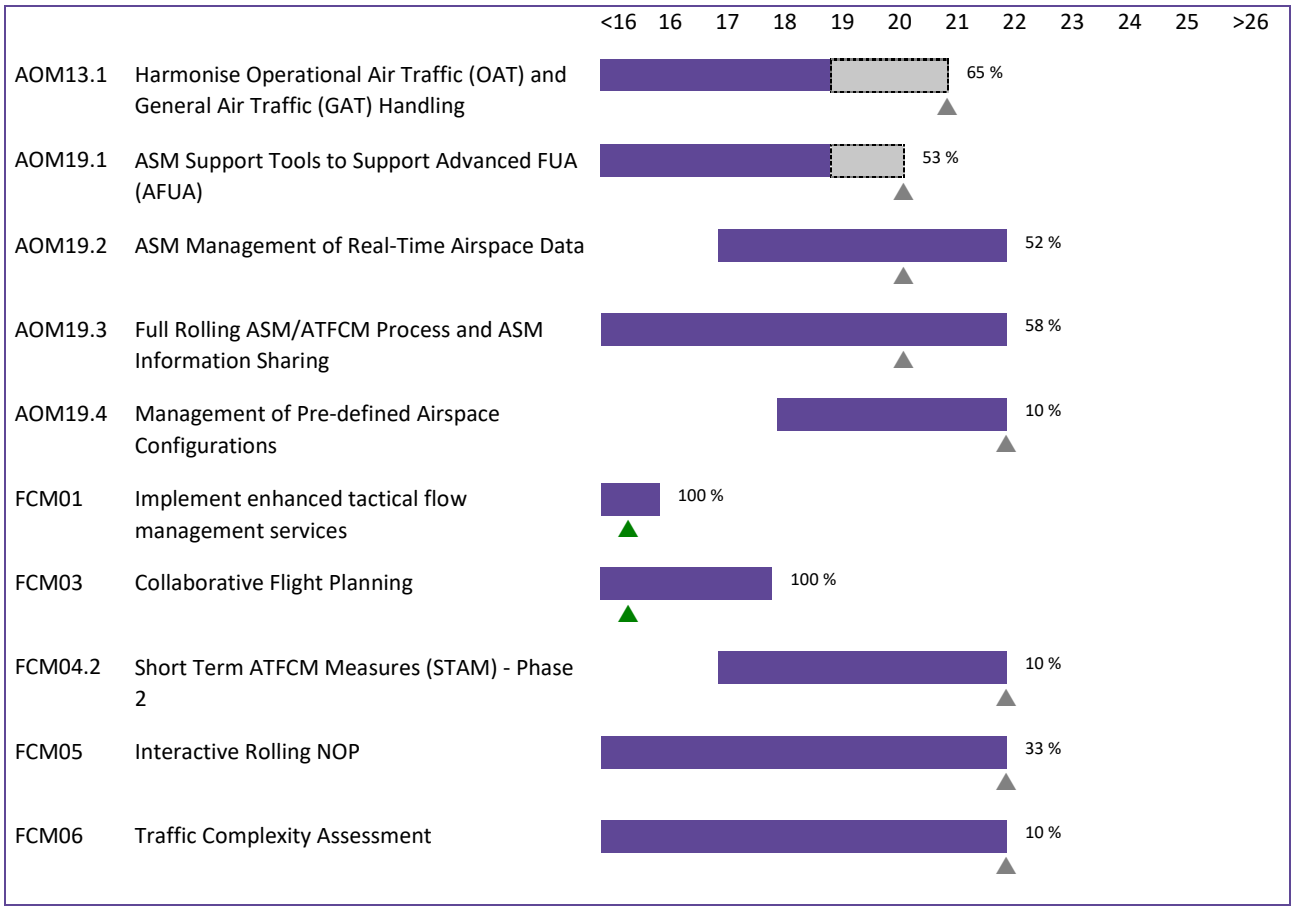
▲ ## % = Expected completion / % Progress

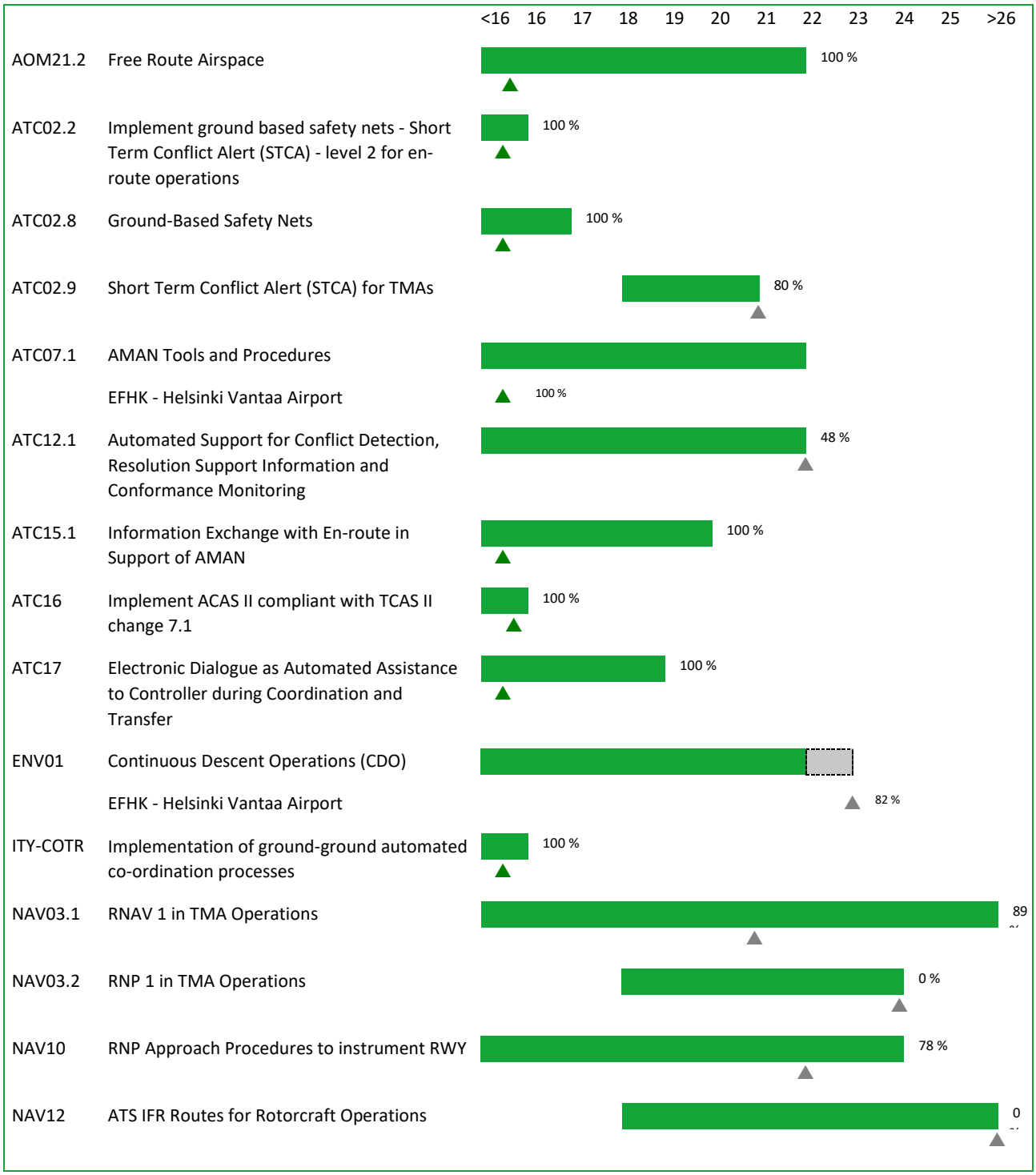
▲ 100% = Objective completed

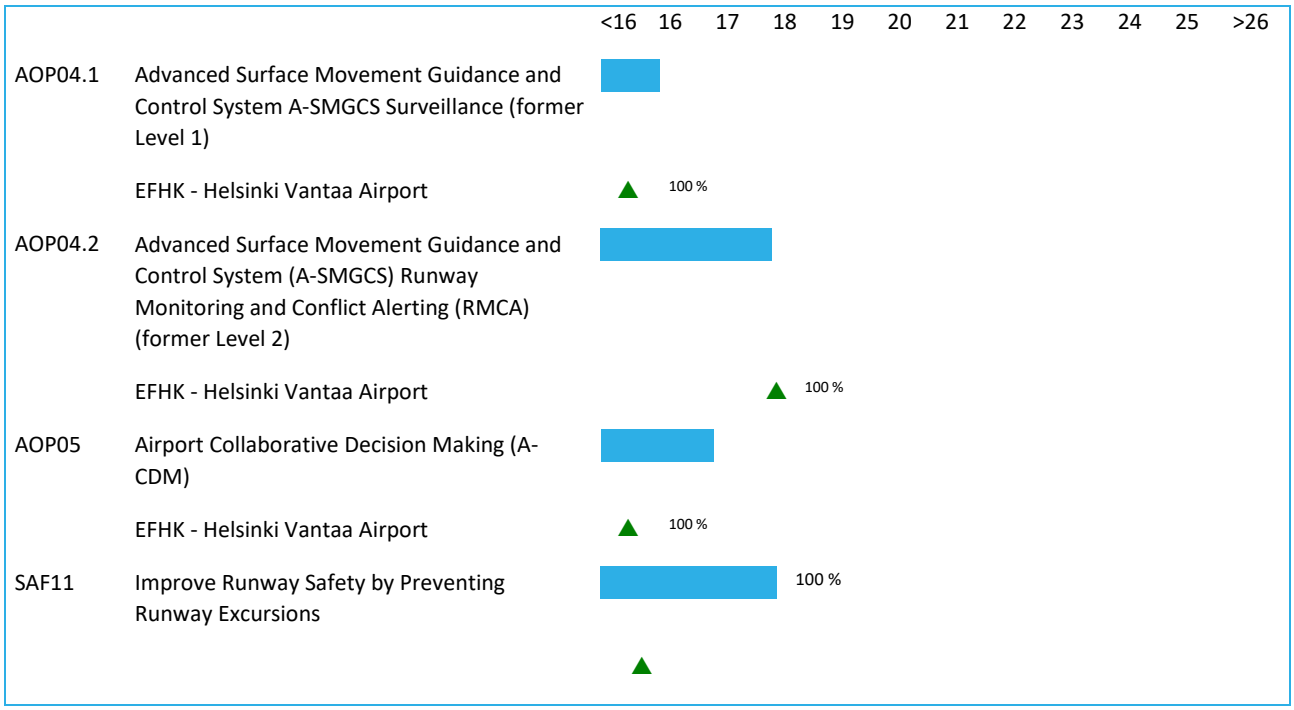
= Implementation Objective timeline (different colour per KF)

= Completion beyond Implementation Objective timeline

Optimised ATM Network Services




<16
16
17
18
19
20
21
22
23
24
25
>26
AOM21.2
Free Route Airspace
100 %
ATC02.2
Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2 for en-route operations
100 %
ATC02.8
Ground-Based Safety Nets
100 %
ATC02.9
Short Term Conflict Alert (STCA) for TMAs
80 %
ATC07.1
AMAN Tools and Procedures
EFHK - Helsinki Vantaa Airport
100 %
ATC12.1
Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring
48 %
ATC15.1
Information Exchange with En-route in Support of AMAN
100 %
ATC16
Implement ACAS II compliant with TCAS II change 7.1
100 %
ATC17
Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer
100 %
ENV01
Continuous Descent Operations (CDO)
EFHK - Helsinki Vantaa Airport
82 %
ITY-COTR
Implementation of ground-ground automated co-ordination processes
100 %
NAV03.1
RNAV 1 in TMA Operations
89
NAV03.2
RNP 1 in TMA Operations
0 %
NAV10
RNP Approach Procedures to instrument RWY
78 %
NAV12
ATS IFR Routes for Rotorcraft Operations
0


<16
16
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21
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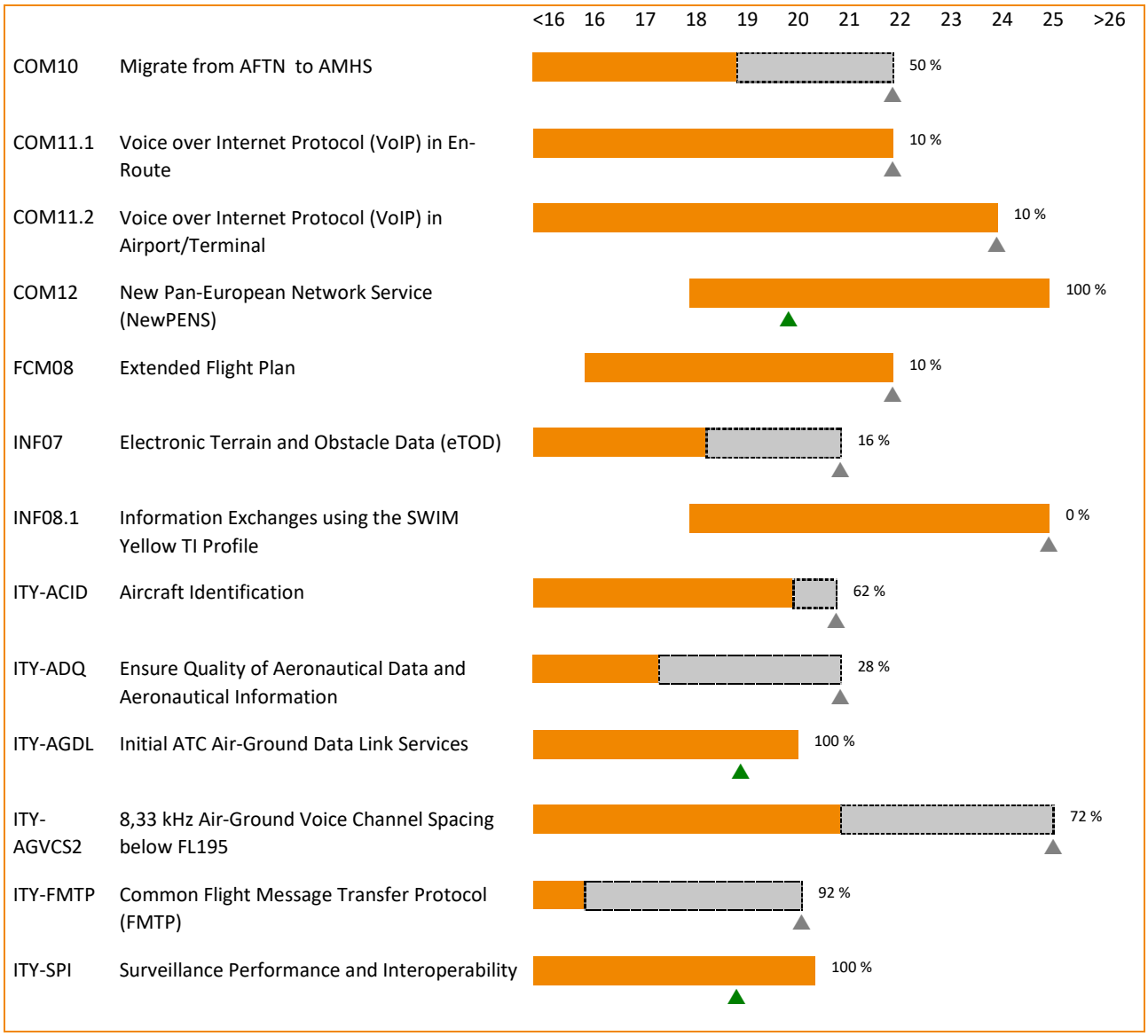
24
25
>26
AOP04.1
Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)
EFHK - Helsinki Vantaa Airport
100 %
AOP04.2
Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)
EFHK - Helsinki Vantaa Airport
100 %
AOP05
Airport Collaborative Decision Making (A-CDM)
EFHK - Helsinki Vantaa Airport
100 %
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
50 %
COM11.1 Voice over Internet Protocol (VoIP) in En-Route
10 %
COM11.2 Voice over Internet Protocol (VoIP) in Airport/Terminal
10 %
COM12 New Pan-European Network Service (NewPENS)
100 %
FCM08 Extended Flight Plan
10 %
INF07 Electronic Terrain and Obstacle Data (eTOD)
16 %
INF08.1 Information Exchanges using the SWIM Yellow TI Profile
0 %
ITY-ACID Aircraft Identification
62 %
ITY-ADQ Ensure Quality of Aeronautical Data and Aeronautical Information
28 %
ITY-AGDL Initial ATC Air-Ground Data Link Services
100 %
ITY-AGVCS2 8,33 kHz Air-Ground Voice Channel Spacing below FL195
72 %
ITY-FMTP Common Flight Message Transfer Protocol (FMTP)
92 %
ITY-SPI Surveillance Performance and Interoperability
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:

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		**65%**	**Late**
Key Feature: Optimised ATM Network Services				
-				
Implementation is planned according to the timeframe.				**31/12/2020**
REG (By:12/2018)				
Military Authority	Implementation will require changes to regulations and/or legislation in co-operation with FCAA.	-	40%	Late 31/12/2020
FCAA	Aviation act revised in November 2014. Conformance analysis as a part of EUROAT implementation has been completed. EUROAT implementation and publication of Country Chapter depends on the military aviation authority's decision to extend the application of the national military aviation regulations to include foreign military aircraft.	-	40%	Late 31/12/2020
ASP (By:12/2018)				
ANS Finland	Implementation and training of staff planned for the year 2019	-	43%	Late 31/12/2020
MIL (By:12/2018)				
Military Authority	Implementation will require changes to regulations and/or legislation possibly in co-operation with FCAA.	-	100%	Completed 31/12/2015

AOM19.1	**ASM Support Tools to Support Advanced FUA (AFUA)** ***Timescales:*** Initial operational capability: 01/01/2011 Full operational capability: 31/12/2018		**53%**	**Late**
Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
Existing tool will be replaced by LARA and PRISMIL by 30/03/2020				**30/03/2020**
ASP (By:12/2018)				
ANS Finland	Existing tool will be replaced by LARA and PRISMIL by 30/03/2020	-	53%	Late 30/03/2020

AOM19.2	**ASM Management of Real-Time Airspace Data** ***Timescales:*** Initial operational capability: 01/01/2017 Full operational capability: 31/12/2021		**52%**	**Ongoing**
Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
LARA & PRISMIL connection to TopSky ATC-system planned by 30/03/2020 FOC				**30/03/2020**
ASP (By:12/2021)				
ANS Finland	LARA & PRISMIL connection to TopSky ATC-system planned by 30/03/2020 FOC	-	52%	Ongoing 30/03/2020

AOM19.3	**Full Rolling ASM/ATFCM Process and ASM Information Sharing** ***Timescales:*** Initial operational capability: 01/01/2014 Full operational capability: 31/12/2021		**58%**	**Ongoing**
Links: B0-FRTO, B1-FRTO, B1-NOPS, B2-NOPS | Key Feature: Optimised ATM Network Services				
-				
LARA connection to TopSky ATC-system and full MIL-connectivity planned by 30/03/2020, enabling AOM19.3 requirements before required FOC date 31/12/2021				**30/03/2020**
ASP (By:12/2021)				
ANS Finland	LARA connection to TopSky ATC-system and full MIL-connectivity planned by 30/03/2020, enabling AOM19.3 requirements	-	58%	Ongoing 30/03/2020

AOM19.4	**Management of Pre-defined Airspace Configurations** ***Timescales:*** Initial operational capability: 01/01/2018 Full operational capability: 31/12/2021		**10%**	**Ongoing**
Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
Heading for FOC 31/12/2021				**31/12/2021**
ASP (By:12/2021)				
ANS Finland	Heading for FOC 31/12/2021	-	10%	Ongoing 31/12/2021

AOM21.2	**Free Route Airspace** ***Timescales:*** Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021		**100%**	**Completed**
Links: B0-FRTO, B1-FRTO | Key Feature: Advanced Air Traffic Services				
-				
NEFAB wide continuous FRA 7/24 was implemented 12th Nov 2015, in the Finnish airspace covering airspace from FL095 to FL660. **Further North European multi FAB FRA Borealis is under construction.**				**12/11/2015**
ASP (By:12/2021)				
ANS Finland	NEFAB wide continous FRA 7/24 was implemented 12th Nov 2015, in the Finnish airspace covering airspace from FL095 to FL660. Further North European multi FAB FRA Borealis is under construction.	Borealis FRA Implementation (Part 2) / Borealis FRA Part 2, Phase 1 / Borealis FRA Part 2, Phase 2 / Borealis Free Route Airspace (Part 1) / NEFAB FRA / NEFAB Target Concept / NEFRA Phase 1 / NEFRA Phase 2	100%	Completed 12/11/2015

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				
EFHK - Helsinki Vantaa Airport				
A-SMGCS Level 1 implemented in 2011.				**31/03/2011**
REG (By:12/2010)				
FCAA	A-SMGCS Level 1 implemented in 2011.	-	100%	Completed 31/03/2011
ASP (By:12/2011)				
ANS Finland	A-SMGCS Level 1 implemented in 2011. Currently EFHK has got A-SMGCS Level 2 with 3 SMR-s and Mode S Multilateration System. Systems fulfill agreed performance specifications and are in operational use	-	100%	Completed 31/03/2011
APO (By:12/2010)				
HELSINKI-VANTAA Airport	A-SMGCS Level 1 implemented in 2011.	-	100%	Completed 31/03/2011

AOP04.2	**Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)** ***Timescales:*** Initial operational capability: 01/01/2007 Full operational capability: 31/12/2017		**100%**	**Completed**
Links: B0-SURF | Key Feature: High Performing Airport Operations				
EFHK - Helsinki Vantaa Airport				
Helsinki-Vantaa Airport A-SMGCS-system fulfills ETSI EN 303 213-1 v1.1.1 and ETSI EN 303 213-1 v1.2.1 specifications being A-SMGCS Level 2 compatible. That includes also runway incursion and monitoring logic which were completed and operational in mid Jan 2018				**15/01/2018**
ASP (By:12/2017)				
ANS Finland	Helsinki-Vantaa Airport A-SMGCS-system fulfills ETSI EN 303 213-1 v1.1.1 and ETSI EN 303 213-1 v1.2.1 specifications being A-SMGCS Level 2 compatible. That includes also runway incursion and monitoring logic which were completed and operational in mid Jan 2018	-	100%	Completed 15/01/2018
APO (By:12/2017)				
HELSINKI-VANTAA Airport	The equipment installed is a Mode S-based vehicle transponder with GPS-receiver	-	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		**100%**	**Completed**
Links: B0-ACDM, B0-RSEQ | Key Feature: High Performing Airport Operations				
EFHK - Helsinki Vantaa Airport				
CDM was implemented at Helsinki-Vantaa in 2012				**31/12/2012**
ASP (By:12/2016)				
ANS Finland	CDM was implemented at Helsinki-Vantaa in 2012	-	100%	Completed 31/12/2012
APO (By:12/2016)				
HELSINKI-VANTAA Airport	CDM was implemented in 2012.	-	100%	Completed 31/12/2012

AOP10	**Time-Based Separation** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B1-RSEQ, B2-WAKE | Key Feature: High Performing Airport Operations				
EFHK - Helsinki Vantaa Airport **(Outside Applicability Area)**				
Not applicable				**-**
REG (By:12/2023)				
ASP (By:12/2023)				

AOP11	Initial Airport Operations Plan *Timescales:* - not applicable -		%	Not Applicable
Links: B1-ACDM | Key Feature: High Performing Airport Operations				
EFHK - Helsinki Vantaa Airport **(Outside Applicability Area)**				
Not applicable				-
ASP (By:12/2021)				
ANS Finland	-	-	%	Not Applicable -
APO (By:12/2021)				
HELSINKI-VANTAA Airport	-	-	%	Not Applicable -

AOP12	Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC) *Timescales:* - not applicable -	%	Not Applicable
Links: B2-SURF | Key Feature: High Performing Airport Operations			
EFHK - Helsinki Vantaa Airport **(Outside Applicability Area)**			
Not applicable			-
ASP (By:12/2020)			
APO (By:12/2020)			

AOP13	Automated Assistance to Controller for Surface Movement Planning and Routing *Timescales:* - not applicable -		%	Not Applicable
Links: B1-ACDM, B1-RSEQ, B2-SURF | Key Feature: High Performing Airport Operations				
EFHK - Helsinki Vantaa Airport **(Outside Applicability Area)**				
EFHK is a non PCP airport				-
REG (By:12/2023)				
FCAA	Applicability Area: 25 PCP Airports	-	%	Not Applicable -
ASP (By:12/2023)				
ANS Finland	-	-	%	Not Applicable -

ATC02.8	**Ground-Based Safety Nets** ***Timescales:*** Initial operational capability: 01/01/2009 Full operational capability: 31/12/2016		**100%**	**Completed**
Links: B0-SNET, B1-SNET | Key Feature: Advanced Air Traffic Services				
-				
Ground systems upgraded to support the APW function. MSAW processing is included in operational systems (EUROCAT). APM was implemented in 2012.				**31/10/2012**
ASP (By:12/2016)				
ANS Finland	Ground systems upgraded to support the APW function. MSAW processing is included in operational systems (EUROCAT). APM was implemented in 2012.	-	100%	Completed 31/10/2012

ATC02.9	**Short Term Conflict Alert (STCA) for TMAs** ***Timescales:*** Initial operational capability: 01/01/2018 Full operational capability: 31/12/2020		**80%**	**Ongoing**
Links: B0-SNET, B1-SNET | Key Feature: Advanced Air Traffic Services				
-				
STCA in use for several years, plans for major changes not foreseen in near future but continuous tuning is done in order to enhance the function				**31/12/2020**
ASP (By:12/2020)				
ANS Finland	-	-	80%	Ongoing 31/12/2020

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				
EFHK - Helsinki Vantaa Airport				
Several versions of arrival Management Tools have been implemented in ACC and APP.				**30/11/2005**
ASP (By:12/2019)				
ANS Finland	Initial arrival management tool functionality is completed since 1999 for Tampere ACC and Helsinki APP, using same equipment (MAESTRO) as in Copenhagen / Malmo. In 2005, an integrated Arrival Manager functionality has been implemented within the adjacent Helsinki / Tallinn TMAs.	-	100%	Completed 30/11/2005

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		**48%**	**Ongoing**
Links: B1-FRTO | Key Feature: Advanced Air Traffic Services				
-				
Original ATC12 Completed, additional ATC12.1 functionality planned and project ongoing according to the ESSIP object, taking into account NEFAB and NEFRA FRA-airspace needs. Implementation in two phases Q1/2019 and Q1/2020.				**31/12/2021**
ASP (By:12/2021)				
ANS Finland	Original ATC12 Completed, additional ATC12.1 functionality planned and project ongoing according to the ESSIP object, taking into account NEFAB and NEFRA FRA-airspace needs. Implementation in two phases Q1/2019 and Q1/2020.	-	48%	Ongoing 31/12/2021

ATC15.1	**Information Exchange with En-route in Support of AMAN** ***Timescales:*** Initial operational capability: 01/01/2012 Full operational capability: 31/12/2019		**100%**	**Completed**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
Completed in the year 2000, this feature is included in the Helsinki-Vantaa Maestro system.				**31/12/2000**
ASP (By:12/2019)				
ANS Finland	Completed in the year 2000, this feature is included in the Helsinki-Vantaa Maestro system.	-	100%	Completed 31/12/2000

ATC15.2	**Arrival Management Extended to En-route Airspace** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
There is no such airport in Finland which would require extended AMAN for surrounding ACC(s). **Finland FIR belongs in the affected airspace from the point of Stockholm Arlanda airport. No initiative has been raised by Arlanda towards Finland FIR and thus Finland has no plan for this issue.**				**-**
ASP (By:12/2023)				
ANS Finland	There is no such airport in Finland which would require extended AMAN for surrounding ACC(s). Finland FIR belongs in the affected airspace from the point of Stockholm Arlanda airport. No initiative has been raised by Arlanda towards Finland FIR and thus Finland has no plan for this issue.	-	%	Not Applicable -

ATC17	**Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 31/12/2018		**100%**	**Completed**
Key Feature: Advanced Air Traffic Services				
-				
Fully completed and operational between Finland-Estonia 6/2014				**30/06/2014**
ASP (By:12/2018)				
ANS Finland	Fully completed and operational between Finland-Estonia 6/2014	-	100%	Completed 30/06/2014

COM10	**Migrate from AFTN to AMHS** ***Timescales:*** Initial operational capability: 01/12/2011 Full operational capability: 31/12/2018		**50%**	**Late**
Key Feature: Enabling the Aviation Infrastructure				
-				
Basic AMHS implemented in 2010 but delays involved in various project phases for extended AMHS				**31/12/2021**
ASP (By:12/2018)				
ANS Finland	Basic AMHS implemented in 2010 but delays involved in various project phases for extended AMHS	-	50%	Late 31/12/2021

COM11.1	**Voice over Internet Protocol (VoIP) in En-Route** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 31/12/2021		**10%**	**Ongoing**
Key Feature: Enabling the Aviation Infrastructure				
-				
This objective is expected to be implemented within the given time frame though schedule-risks has been risen due to commercial complaints against selected manufacturer and a new tendering process is now needed				**30/12/2021**
ASP (By:12/2021)				
ANS Finland	This objective is expected to be implemented by Q2/2021	-	10%	Ongoing 30/12/2021

COM11.2	**Voice over Internet Protocol (VoIP) in Airport/Terminal** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 31/12/2023		**10%**	**Ongoing**
Key Feature: Enabling the Aviation Infrastructure				
-				
-				**31/12/2023**
ASP (By:12/2023)				
ANS Finland	Planned FoC 31.12.2023 for all airports, however, Helsinki-Vantaa as for en-route FoC 30/05/2021	-	10%	Ongoing 31/12/2023

COM12	**New Pan-European Network Service (NewPENS)** ***Timescales:*** Initial operational capability: 01/01/2018 Full operational capability (33 ANSPs): 31/12/2020		**100%**	**Completed**
Links: B1-SWIM | Key Feature: Enabling the Aviation Infrastructure				
-				
-				**31/12/2019**
ASP (By:12/2024)				
ANS Finland	All connections except EAD has been connected through NewPENS. EAD planned Q1/2020, so the task is classified as completed.	-	100%	Completed 31/12/2019
APO (By:12/2024)				
HELSINKI-VANTAA Airport	ANS Finland is representing Helsinki-Vantaa Airport.	-	%	Not Applicable -

ENV01	**Continuous Descent Operations (CDO)** ***Timescales:*** Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023		**82%**	**Ongoing**
Links: B0-CDO, B1-CDO | Key Feature: Advanced Air Traffic Services				
EFHK - Helsinki Vantaa Airport				
The CDA procedures are in use. Their usage is continuously monitored by the Environmental Unit of Finavia.				**31/12/2022**
ASP (By:12/2023)				
ANS Finland	The CDA procedures are in use. Their usage is continuously monitored by the Environmental Unit of Finavia.	-	78%	Ongoing 31/12/2022
APO (By:12/2023)				
HELSINKI-VANTAA Airport	The CDA procedures are in use. Their usage is continuously monitored by the Environmental Unit of Finavia.	-	100%	Completed 31/12/2009

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				
-				
Functionality installed and available BUT problems so far at NM within automatically processing and firmly specifying the use of AFP-messages in the Free Route Airspace environment causes that full FoC implementation of collaborative flight planning is estimated to take place not before year 2020. **Though all functionality has been installed according to spec, the interoperability between Thales TopSky and NM system has not been achieved due to complicated FRA operations environment, not fully covered at NM.**				**31/12/2012**
ASP (By:12/2017)				
ANS Finland	Functionality installed and available BUT problems so far at NM within automatically processing and firmly specifying the use of AFP-messages in the Free Route Airspace environment causes that full FoC implementation of collaborative flight planning is estimated to take place not before year 2020. Though all functionality has been installed according to spec, the interoperability between Thales TopSky and NM system has not been achieved due to complicated FRA operations environment, not fully covered at NM.	-	100%	Completed 31/12/2012

FCM04.2	**Short Term ATFCM Measures (STAM) - Phase 2** ***Timescales:*** Initial operational capability: 01/11/2017 Full operational capability: 31/12/2021		**10%**	**Ongoing**
Key Feature: Optimised ATM Network Services				
-				
STAM2 will be based on NM services.				**31/12/2021**
ASP (By:12/2021)				
ANS Finland	STAM2 will be based on NM services.	-	10%	Ongoing 31/12/2021

FCM05	**Interactive Rolling NOP** ***Timescales:*** Initial operational capability: 01/09/2013 Full operational capability: 31/12/2021		**33%**	**Ongoing**
Links: B1-ACDM, B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
Project exist to implement the interactive rolling NOP. INEA funding is under progress, within the scope of SESAR Deployment Programme 2015.				**31/12/2021**
ASP (By:12/2021)				
ANS Finland	Plans exist to implement the rolling NOP. Intention is to implement the full integration of AOP with the NOP by 31/12/2021	-	10%	Ongoing 31/12/2021
APO (By:12/2021)				
HELSINKI-VANTAA Airport	Plans exist to implement the rolling NOP. Intention is to implement the full integration of AOP with the NOP by 31/12/2021	-	55%	Ongoing 31/12/2021

FCM06	**Traffic Complexity Assessment** ***Timescales:*** Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021		**10%**	**Ongoing**
Links: B1-NOPS | Key Feature: Optimised ATM Network Services				
-				
Planned according to objective FOC.				**31/12/2021**
ASP (By:12/2021)				
ANS Finland	Initial research launched.	-	10%	Ongoing 31/12/2021

FCM08	**Extended Flight Plan** ***Timescales:*** Initial operational capability: 01/01/2016 Full operational capability: 31/12/2021		**10%**	**Ongoing**
Links: B1-FICE | Key Feature: Enabling the Aviation Infrastructure				
-				
Project started, FOC planned Q4/2021				**30/12/2021**
ASP (By:12/2021)				
ANS Finland	Project started, FOC planned Q4/2021	-	10%	Ongoing 30/12/2021

INF07	**Electronic Terrain and Obstacle Data (eTOD)** ***Timescales:*** Initial operational capability: 01/11/2014 Full operational capability: 31/05/2018		**16%**	**Late**
Key Feature: Enabling the Aviation Infrastructure				
-				
Planning in progress. The objective is expected to be completed by the end of 2020.				**31/12/2020**
REG (By:05/2018)				
FCAA	A project group consisting of all relevant stakeholders has been established to create the National TOD Policy and implementation programme. Drafting of implementation programme is in progress.	-	23%	Late 31/12/2020
ASP (By:05/2018)				
ANS Finland	Project in progress	-	10%	Late 31/12/2020
APO (By:05/2018)				
HELSINKI-VANTAA Airport	Planning in progress	-	10%	Late 31/12/2020

INF08.1	**Information Exchanges using the SWIM Yellow TI Profile** ***Timescales:*** Initial operational capability: 01/01/2018 Full operational capability: 31/12/2024		**0%**	**Planned**
Links: B1-DATM, B1-SWIM | Key Feature: Enabling the Aviation Infrastructure				
-				
Planned FOC by 31/12/2024				**31/12/2024**
ASP (By:12/2024)				
ANS Finland	Planned FOC by 31/12/2024	-	0%	Planned 31/12/2024
Finnish Meteorological Institute	Planned FOC by 31/12/2024	-	0%	Planned 31/12/2024
MIL (By:12/2024)				
Military Authority	MIL has no ANSP/AIS -role.	-	%	Not Applicable -
APO (By:12/2024)				
HELSINKI-VANTAA Airport	Planned FOC by 31/12/2024	-	0%	Planned 31/12/2024

ITY-ACID	**Aircraft Identification** ***Timescales:*** Entry into force of the Regulation: 13/12/2011 System capability: 02/01/2020		**62%**	**Late**
Key Feature: Enabling the Aviation Infrastructure				
-				
Planning in progress, see ASP comment.				**30/11/2020**
ASP (By:01/2020)				
ANS Finland	Project in progress, the A/C link and ACID capability is technically ready (DAPS, Downlinked Aircraft ParameterS) for ATM-system TopSky. The operational use of ACID is planned to happen country wide by 31/11/2020 when the WAM and Mode-S sensors will cover entire Finland FIR. With WAM system there has been delays due to financial problems of the system provider. Now the Q2/2020first part of WAM is planned to become operational Q2/2020.	-	62%	Late 30/11/2020

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		**28%**	**Late**
Links: B0-DATM | Key Feature: Enabling the Aviation Infrastructure				
-				
The requirements of this objective have been postponed until forecasted FoC 12/2020				**31/12/2020**
REG (By:06/2017)				
FCAA	The requirements of this objective have been extremely challenging to meet, it is estimated that implementation will not take place until 12/2020.	-	62%	Late 31/12/2020
ASP (By:06/2017)				
ANS Finland	ANS Finland has started FAIMS project, covering the ITY-ADQ requirements, planned implementation by Q4/2020. System fulfills ADQ requirements for aeronautical information management and production of AIP. It also provides data origination tools for other parties. However, the other parties are not directly involved in the FAIMS project.	-	27%	Late 31/12/2020
APO (By:06/2017)				
HELSINKI-VANTAA Airport	-	-	10%	Late 30/12/2020

ITY-AGDL	**Initial ATC Air-Ground Data Link Services** ***Timescales:*** Entry into force: 06/02/2009 ATS unit operational capability: 05/02/2018 Aircraft capability: 05/02/2020		**100%**	**Completed**
Links: B0-TBO | Key Feature: Enabling the Aviation Infrastructure				
-				
ANS Finland has informed 24.11.2017 delays to SESAR Deployment Manager (SDM) concerning the installation time and the reasons of delays. Due to delivery time of needed systems and busy with other customers both of the Telecommunication (Datalink) service providers were not able to deliver needed systems during the required time frame. ANS Finland is aware of this regulation and actions have been planned to fulfill the regulation requirements. Relevant information in the national aeronautical information publication will be published by ANS Finland. ARINC-services are believed to become available not before than Q2/2020.				**01/01/2019**
REG (By:02/2018)				
FCAA	ANS Finland has informed 24.11.2017 delays to SESAR Deployment Manager (SDM) concerning the installation delays. Relevant information in the national aeronautical information publication will be published by ANS Finland.	-	100%	Completed 31/12/2018
ASP (By:02/2018)				
ANS Finland	The A/G radiolink service, has been hired from SITA and is running, ARINC service available likely Q2/2020 as earliest.	-	100%	Completed 31/12/2018
MIL (By:01/2019)				
Military Authority	25% of transport-type State aircraft have been equipped. No intention/plan for further updates.	-	100%	Completed 01/01/2019

ITY-AGVCS2	**8,33 kHz Air-Ground Voice Channel Spacing below FL195** ***Timescales:*** Entry into force: 07/12/2012 New and upgraded radio equipment: 17/11/2013 New or upgraded radios on State aircraft: 01/01/2014 Interim target for freq. conversions: 31/12/2014 All radio equipment: 31/12/2017 All frequencies converted: 31/12/2018 State aircraft equipped, except those notified to EC: 31/12/2018 State aircraft equipped, except those exempted [Art 9(11)]: 31/12/2020		**72%**	**Completed**
Key Feature: Enabling the Aviation Infrastructure				
-				
Finland has notified the European Commission of temporary derogations from Commission Implementing Regulation (EU) No 1079/2012 on 12.12.2016. The Finnish Transport Safety Agency grants exemptions from the requirements in Articles 4(5) 31.12.2027, 5(4) 1.1.2028 and 6(10) 31.12.2028. Approval of derogations from commission by letter received 08/08/2018.				**31/12/2027**
REG (By:12/2018)				
FCAA	The requirements have been implemented within the timeframe of the notification to the EC.	-	100%	Completed 31/12/2018
ASP (By:12/2018)				
ANS Finland	ITY-AGVCS2: 8,33 kHz radio-ready 100 % at Q1/2019, FOC gradually by 12/2027 as granted by Regulator.	-	78%	Completed 31/12/2027
MIL (By:12/2020)				
Military Authority	All aircraft that will be in use after implementation date are equipped with 8,33kHz radios.	-	100%	Completed 31/12/2017
APO (By:12/2018)				
HELSINKI-VANTAA Airport	ITY-AGVCS2: 8,33 kHz radio-ready 100 % at Q1/2019, FOC gradually by 12/2027 as granted by Regulator.	-	5%	Completed 31/12/2027

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		**92%**	**Late**
Links: B0-FICE, B1-FICE | Key Feature: Enabling the Aviation Infrastructure				
-				
Planned operational by 30 Jun 2019, delayed due to lack of resources.				**30/03/2020**
ASP (By:12/2014)				
ANS Finland	Planned operational by 30 Jun 2019, delayed due to lack of resources.	-	92%	Late 30/03/2020
MIL (By:12/2014)				
Military Authority	Integrated civil-military airspace. Military has no service provision role in Finnish aviation.	-	%	Not Applicable -

ITY-SPI	**Surveillance Performance and Interoperability** ***Timescales:*** Entry into force of regulation: 13/12/2011 ATS unit operational capability: 12/12/2013 EHS and ADS-B Out in transport-type State aircraft : 07/06/2020 ELS in transport-type State aircraft : 07/06/2020 Ensure training of MIL personnel: 07/06/2020 Retrofit aircraft capability: 07/06/2020		**100%**	**Completed**
Links: B0-ASUR | Key Feature: Enabling the Aviation Infrastructure				
-				
The existing surveillance chain has been operational for years and the safety assessment have been completed. All REG and ASP SloAs are completed. Remaining SloAs will be completed within the timeframe of the regulation.				**31/12/2018**
REG (By:02/2015)				
FCAA	The existing surveillance chain has been operational for years and the safety assessment have been completed.	-	100%	Completed 31/12/2014
ASP (By:02/2015)				
ANS Finland	The existing surveillance chain has been operational for years and the safety assessment have been completed. (In the preceding LSSIPs there were texts about plans to introduce WAM-systems but due to various technical and commercial problems, the plans have been halted so far)	-	100%	Completed 31/12/2014
MIL (By:06/2020)				
Military Authority	MIL has no role in ANSP/surveillance capability issues. All transport type aircraft have MODE S and ADS-B OUT -capabilities.	-	100%	Completed 31/12/2018

NAV03.1	**RNAV 1 in TMA Operations** ***Timescales:*** Initial operational capability: 01/01/2001 One SID and STAR per instrument RWY, where established: 25/01/2024 All SIDs and STARs per instrument RWY, where established: 06/06/2030		**89%**	**Ongoing**
Links: B0-CCO, B0-CDO, B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
RNAV 1 SIDs and STARs procedures have been implemented in most airports in Helsinki FIR.				**30/11/2020**
REG (By:06/2030)				
FCAA	Traficom published national navigation and surveillance strategy 2019-2030 which include PBN. ANSP is currently preparing PBN-transition plan and implementation plan. Target date for authority approval of the PBN-transition plan is end of November 2020.	-	10%	Ongoing 30/11/2020
ASP (By:06/2030)				
ANS Finland	All published TMA RNAV SID and RNAV STAR procedures are according to RNAV 1 DME/DME or GNSS for Helsinki-Vantaa TMA, GNSS only for others	-	100%	Completed 31/12/2019

NAV03.2	**RNP 1 in TMA Operations** ***Timescales:*** Start: 07/08/2018 All SIDs and STARs per instrument RWY, at PCP airports: 25/01/2024 One SID and STAR per instrument RWY, where established: 25/01/2024 All SIDs and STARs per instrument RWY, where established: 06/06/2030		**0%**	**Planned**
Links: B1-RSEQ | Key Feature: Advanced Air Traffic Services				
-				
-				**31/12/2023**
REG (By:06/2030)				
FCAA	-	-	0%	Planned 31/12/2022
ASP (By:06/2030)				
ANS Finland	Planned but FoC date is not known.	-	0%	Planned 31/12/2023

NAV10	**RNP Approach Procedures to instrument RWY** ***Timescales:*** Initial operational capability: 01/06/2011 Instrument RWY ends without precision approach in EU SES States, at Non-PCP airports: 03/12/2020 Instrument RWY ends served by precision approach (including PCP airports): 25/01/2024 Instrument RWY ends without precision approach in EU SES States, at PCP airports: 25/01/2024		**78%**	**Ongoing**
Links: B0-APTA | Key Feature: Advanced Air Traffic Services				
-				
-				**31/12/2021**
REG (By:01/2024)				
FCAA	Finland applies criteria published by EASA. Specifically, AMC 20-26 and AMC 20-27. Traficom published national navigation and surveillance strategy 2019-2030 which include PBN. ANSP is currently preparing PBN-transition plan and implementation plan. Target date for authority approval of the PBN-transition plan is end of November 2020.	-	55%	Ongoing 30/11/2020
ASP (By:01/2024)				
ANS Finland	LNAV minimas have been published for all instrument runway ends LNAV/VNAV minimas have been published for 92% of instrument runway ends, 100% by 2021 LPV minimas have been for 38% of instrument runway ends, 100 % by 2021	-	85%	Ongoing 31/12/2021

NAV12	**ATS IFR Routes for Rotorcraft Operations** ***Timescales:*** Rotorcraft RNP0.3, RNP1 or RNAV1 ATS routes above FL150, where established.: 03/12/2020 One rotorcraft RNP0.3, RNP01 or RNAV1 SID and STAR per instrument RWY, where established.: 25/01/2024 Rotorcraft RNP0.3, RNP1 or RNAV1 ATS routes below FL150, where established.: 25/01/2024 All rotorcraft RNP0.3, RNP01 or RNAV1 SIDs and STARs per instrument RWY, where established.: 06/06/2030		**0%**	**Planned**
Links: B1-APTA | Key Feature: Advanced Air Traffic Services				
-				
National planning should start by Q4/2020				**06/06/2030**
REG (By:06/2030)				
FCAA	National planning should start by Q4/2020	-	0%	Planned 25/01/2024
ASP (By:06/2030)				
ANS Finland	National planning should start by Q4/2020	-	0%	Planned 06/06/2030

SAF11	**Improve Runway Safety by Preventing Runway Excursions** ***Timescales:*** Initial operational capability: 01/09/2013 Full operational capability: 31/01/2018		**100%**	**Completed**
Key Feature: High Performing Airport Operations				
-				
Finland is compliant with the relevant parts of EAPPRE.				**31/12/2015**
REG (By:01/2018)				
FCAA	The appropriate parts of the European Action Plan for the Prevention of Runway Excursions have been implemented utilising the Finnish Aviation Safety Plan.	-	100%	Completed 31/12/2015
ASP (By:12/2014)				
ANS Finland	Requirements fulfilled during 2014.	-	100%	Completed 31/12/2014
APO (By:12/2014)				
HELSINKI-VANTAA Airport	Requirements fulfilled during 2014.	-	100%	Completed 31/12/2014
Military Authority	MIL has no service provision/APO role. Applicable measures of the action plan concerning aircraft operators have been implemented.	-	100%	Completed 31/12/2014

Additional Objectives for ICAO ASBU Monitoring

AOM21.1	**Direct Routing** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
Links: B0-FRTO, B1-FRTO | Key Feature: Advanced Air Traffic Services				
-				
NEFAB wide continues FRA 7/24 was implemented 12th Nov 2015, in the Finnish airspace covering airspace from FL95 to FL660.				-
ASP (By:12/2017)				
ANS Finland	-	-	%	Not Applicable -

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				
-				
Implemented in 2012.				**30/04/2012**
ASP (By:01/2013)				
ANS Finland	Implemented in 2012	-	100%	Completed 30/04/2012

ATC16	**Implement ACAS II compliant with TCAS II change 7.1** ***Timescales:*** Initial operational capability: 01/03/2012 Full operational capability: 31/12/2015		**100%**	**Completed**
Links: B0-ACAS | Key Feature: Advanced Air Traffic Services				
-				
The requirements stemming from Regulation (EU) No 1332/2011 of 16 December 2011 laying down common airspace usage requirements and operating procedures for airborne collision avoidance have been implemented in Finland.				**31/12/2015**
REG (By:12/2015)				
FCAA	All REG SloA's are completed.	-	100%	Completed 31/12/2015
ASP (By:03/2012)				
ANS Finland	Training completed in 2012. ACAS performance monitoring has been in place since 2008.	-	100%	Completed 31/05/2012
MIL (By:12/2015)				
Military Authority	Transport type -aircraft equipped with TCAS II 7.0 or TCAS I. No update planned. ACAS II functionalities are trained during flight cadets training for tactical aircraft.	-	100%	Completed 31/03/2012

FCM01	**Implement enhanced tactical flow management services** ***Timescales:*** Initial operational capability: 01/08/2001 Full operational capability: 31/12/2006		**100%**	**Completed**
Links: B0-NOPS | Key Feature: Optimised ATM Network Services				
-				
Objective has been completed.				**30/11/2010**
ASP (By:07/2014)				
ANS Finland	Completed 2010	-	100%	Completed 30/11/2010

ITY-COTR	**Implementation of ground-ground automated co-ordination processes** ***Timescales:*** Entry into force of Regulation: 27/07/2006 For putting into service of EATMN systems in respect of notification and initial coordination processes: 27/07/2006 For putting into service of EATMN systems in respect of Revision of Coordination, Abrogation of Coordination, Basic Flight Data and Change to Basic Flight Data: 01/01/2009 To all EATMN systems in operation by 12/2012: 31/12/2012		**100%**	**Completed**
Links: B0-FICE | Key Feature: Advanced Air Traffic Services				
-				
The system requirements derived from the regulations 1032/2006 and 30/2009 are expected to be finalized within the timeframe of the regulations.				**30/12/2012**
ASP (By:12/2012)				
ANS Finland	Planned according to the regulations (1032/2006 , 29/2009 and 30/2009).	-	100%	Completed 30/12/2012
MIL (By:12/2012)				
Military Authority	Integrated civil-military airspace. Military has no service provision role in Finnish aviation.	-	%	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***	**%**	**Planned**
Links: B1-RATS | Key Feature: High Performing Airport Operations			
EFKE - KEMI-TORNIO			
The possibility to implement remote aerodrome ATS in some of the small aerodromes will be investigated further, KEMI-TORNIO just mentioned as one candidate.			**31/12/2022**

AOP15	**Enhanced traffic situational awareness and airport safety nets for the vehicle drivers** ***Applicability and timescale: Local***	**%**	**Planned**
Links: B2-SURF | Key Feature: High Performing Airport Operations			
EFVA - VAASA			
EFVA is only an example and this item will be implemented to several or all network airports in Finland. One version is on test in Vaasa Airport.			**31/12/2024**

AOP16	**Guidance assistance through airfield ground lighting** ***Applicability and timescale: Local***	**%**	**Not yet planned**
Links: B1-RSEQ, B2-SURF | Key Feature: High Performing Airport Operations			
EFHK - Helsinki Vantaa Airport			
On consideration, but no plan yet.			**-**

AOP17	**Provision/integration of departure planning information to NMOC** ***Applicability and timescale: Local***	**%**	**Not Applicable**
Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations			
EFHK - Helsinki Vantaa Airport			
Level 2 A-CDM completed 2012.			**-**

AOP18	**Runway Status Lights (RWSL)** ***Applicability and timescale: Local***	**%**	**Not yet planned**
Links: B2-SURF | Key Feature: High Performing Airport Operations			
EFHK - Helsinki Vantaa Airport			
On consideration, but not yet planned.			**-**

ATC18	**Multi-Sector Planning En-route - 1P2T** ***Applicability and timescale: Local***	**%**	**Planned**
Key Feature: Advanced Air Traffic Services			
-			
Under investigation, feasibility study ongoing whether a project should be initiated			**31/12/2023**

ATC19	**Enhanced AMAN-DMAN integration** ***Applicability and timescale: Local***	**%**	**Not yet planned**
Links: B2-RSEQ | Key Feature: Advanced Air Traffic Services			
-			
No actual plan so far			**-**

ATC20	**Enhanced STCA with down-linked parameters via Mode S EHS** ***Applicability and timescale: Local***	**30%**	**Ongoing**
Links: B1-SNET | Key Feature: Advanced Air Traffic Services			
-			
WAM area A will be operational Q2/2020, B and C areas by Q1/2021			**30/01/2021**

ENV02	Airport Collaborative Environmental Management *Applicability and timescale: Local*	%	Completed
Key Feature: High Performing Airport Operations			
EFHK - Helsinki Vantaa Airport			
Finavia's co-operation with operators is continuous. Procedures are planned according to environmental etc. demands.			31/12/2012

ENV03	Continuous Climb Operations (CCO) *Applicability and timescale: Local*	70%	Ongoing
Links: B0-CCO | Key Feature: Advanced Air Traffic Services			
EFHK - Helsinki Vantaa Airport			
Approximately 70% of departures are CCO			31/12/2020

6. Annexes

A. Specialists involved in the ATM implementation reporting for Finland

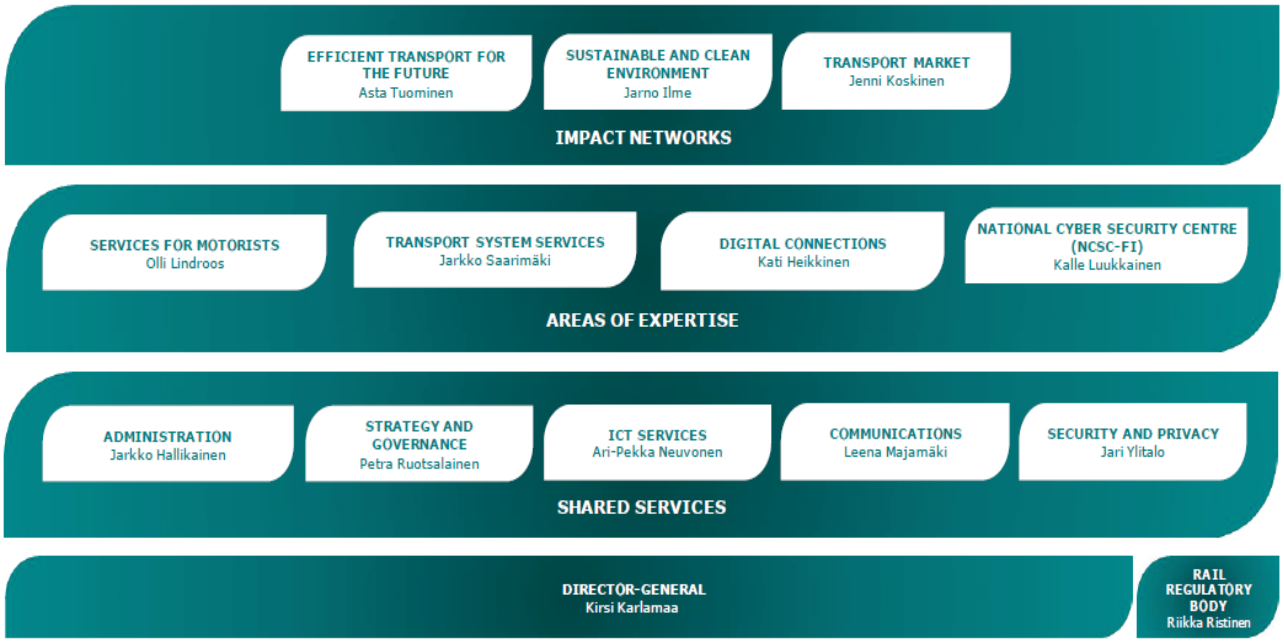
LSSIP Co-ordination

LSSIP Focal Points	Organisation	Name
LSSIP National Focal Point	Finnish Transport and Communications Agency Traficom	Jouko RANTA
LSSIP Focal Point for NSA/CAA	Finnish Transport and Communications Agency Traficom	Jouko RANTA
LSSIP Focal Point for ANSP	Air Navigation Services Finland	Pekka VIRTANEN
LSSIP Focal Point for Airport	Finavia Corporation	Heikki ISOMAA
LSSIP Focal Point for Military	Military Aviation Authority	Heikki KUORELAHTI and Timo VÄHÄMÄKI
LSSIP Focal Point for MET SP	Finnish Meteorological Institute	Jaakko NUOTTOKARI and Terhi NIKKANEN

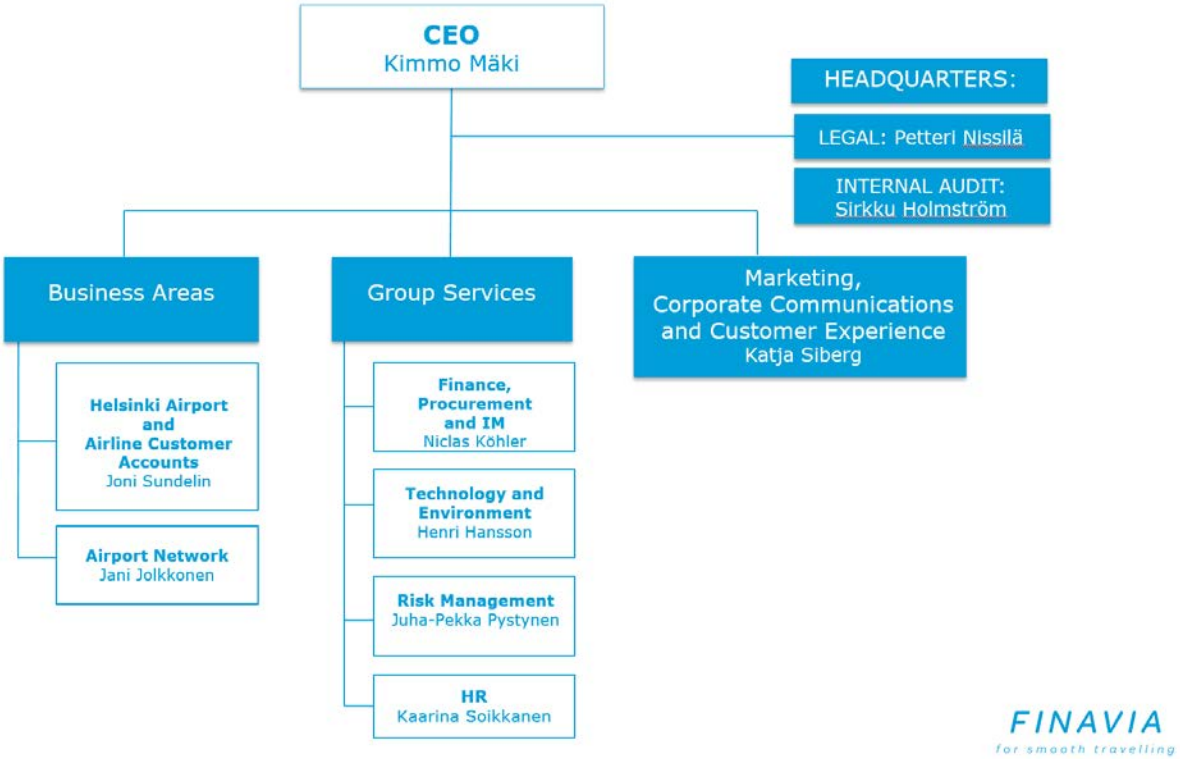
Other Focal Points	Organisation	Name
Focal Point for U-space	Finnish Transport and Communications Agency Traficom	Patrik SÖDERSTRÖM
Focal Point for NETSYS	Air Navigation Services Finland	Jari TOIVONEN
EASA - EPAS Focal Point	Finnish Transport and Communications Agency Traficom	Heli KOIVU
EDA Focal Point	Air Force Command Finland	Janne MÄYRÄ
Performance Focal Point	Finnish Transport and Communications Agency Traficom	Päivi PALOKANGAS
ICAO Focal Point	Finnish Transport and Communications Agency Traficom	Jani LUIRO
SDM Focal Point	Air Navigation Services Finland	Pekka VIRTANEN

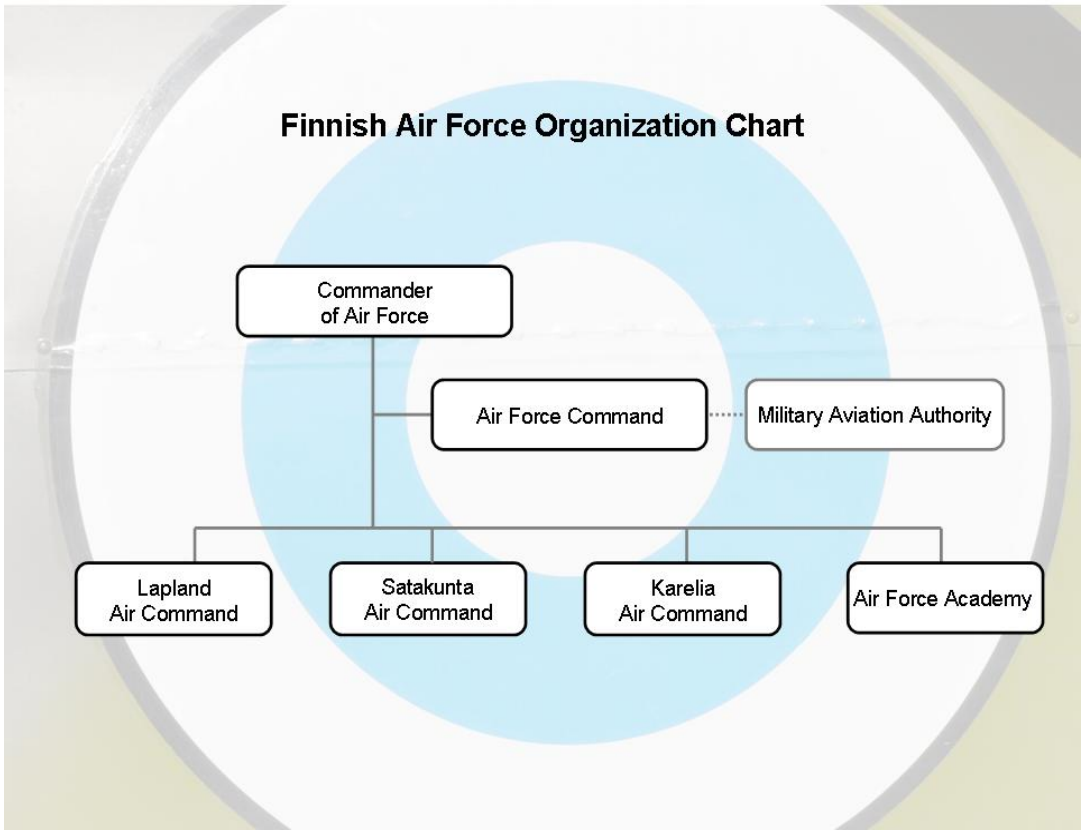
B. National stakeholders organisation charts

Finnish Transport and Communications Agency Traficom

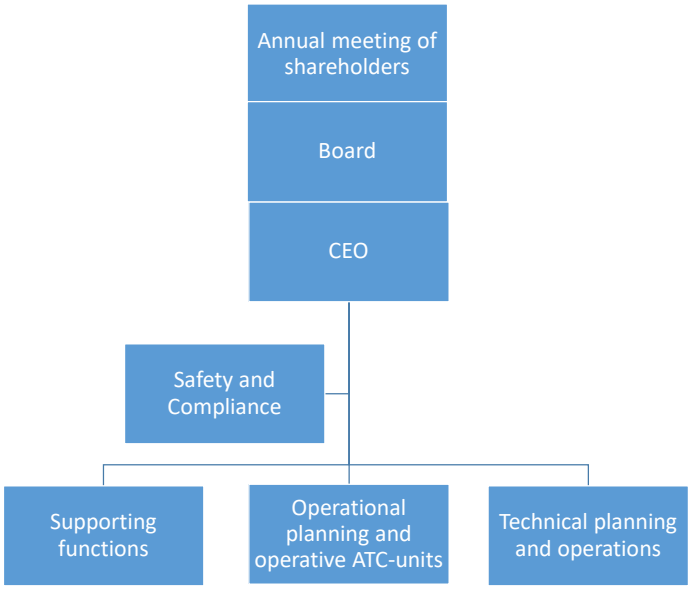


Finavia Corporation




Finnish Air Force Organization Chart
Commander of Air Force
Air Force Command
Military Aviation Authority
Lapland Air Command
Satakunta Air Command
Karelia Air Command
Air Force Academy

Air Navigation Services Finland



Finnish Meteorological Institute

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

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

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

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

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

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

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

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

Legend:

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

D. Implementation of U-Space Services

This annex is considered as not applicable for Finland.

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

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

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

A facilitated questionnaire using the existing ATM MP L3 / LSSIP methodology is added to capture information on non-committed SESAR solutions. For practical reasons, since the LSSIP 2017 cycle the questionnaire is included in the LSSIP Annex.

SESAR Solution Code	SESAR Solution Title	Solution Description	Has the SESAR Solution been implemented in your State? (Y-N) - if "Yes" please report where	Are there implementation plans in your State for the SESAR Solution? (Y-N-N/A) - If "Yes" please report when and where implementation is planned - If "N/A" please provide justification
		High Performing Airport Operations		
#23	D-TAXI service for controller-pilot datalink communications (CPDLC) application	Use of data link communications between the Tower Controllers and the flight crew during surface movement. It is based on the D-TAXI service from the CPDLC application, as standardised by RTCA SC214/EUROCAE WG78 (DO-350 & DO-351). It also includes the access to this service for end users, through the Tower CWP for the ATCO and through the aircraft DCDU for the flight crew.	N	N
#48	Virtual block control in low visibility procedures (LVPs)	In low visibility conditions, the tower controller working positions are provided with Virtual Stop Bars (VSB) to improve low visibility operations and enhance controllers¿ situational awareness. Virtual Stop Bars can be used by the controller to reduce block-sizes once procedural control applies. Additional controller safety nets will be available to indicate violations of Stop Bars (including Virtual Stop Bars) and to monitor aircraft for any kind of unauthorised movement (Watch Dog).	N	N

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

SESAR Solution Code	SESAR Solution Title	Solution Description	Has the SESAR Solution been implemented in your State? (Y-N) - if "Yes" please report where	Are there implementation plans in your State for the SESAR Solution? (Y-N-N/A) - If "Yes" please report when and where implementation is planned - If "N/A" please provide justification
#116	De-icing management tool	The solution increases the accuracy of information related to when the procedure is going to take place, how long it will take and when the aircraft will be ready to taxi for departure, which is currently calculated by predetermined estimates. The solution means that air traffic controllers no longer need to work without situational awareness of de-icing activities and needing to make their own estimates of when aircraft are ready for departure. The solution envisages that de-icing operations are no longer characterised by the A-CDM concept as 'adverse conditions', i.e. a state that is in need of collaborative recovery procedures, but rather a part of normal operations in the winter period. The DIMT allows for the scheduling and monitoring of de-icing operations. It is an internet browser-based tool that addresses three distinct procedures for de-icing: - Remote de-icing, which occurs at a specific location on the airport away from the parking stand; - On-stand de-icing, which occurs just before the aircraft leaves its stand; and - After-push de-icing, which occurs after the aircraft has pushed back from the stand and is positioned to start taxiing after de-icing.	N	N
#117	Reducing Landing Minima in Low Visibility Conditions using Enhanced Flight Vision Systems (EFVS)	The SESAR Solution "Reducing landing minima in low visibility conditions using enhanced Flight vision systems (EFVS)" is intended for flight crews, and corresponds to the use of EFVS visual based technologies displayed in HUD or an equivalent display system. The objective is to provide operational credit in approach as permitted per EASA EU 965/2012 and its coming amendments (NPA 2018-06 AWO) to face to Low visibility conditions. Enabling EFVS operations with operational credits provides a greater availability of suitable destination and alternate aerodromes during periods of reduced visibility. This effectively reduces the number of weather-related delays, cancellations or diversions of flights to CAT II/III		

SESAR Solution Code	SESAR Solution Title	Solution Description	Has the SESAR Solution been implemented in your State? (Y-N) - if "Yes" please report where	Are there implementation plans in your State for the SESAR Solution? (Y-N-N/A) - If "Yes" please report when and where implementation is planned - If "N/A" please provide justification
		aerodromes, permits shorter routings and reduced fuel costs, a faster return to scheduled operations, and less passenger inconveniences. A unique advantage of the EFVS on board solution is that it is mainly supported by the aircraft system instead of airports and the need of complex and costly ground infrastructures as those implemented in CATII/III airports. From a global ATM network standpoint, the EFVS operation allows to retain traffic at most of secondary aerodromes by providing operational credit at most of runway ends with precision or non-precision landing minima (LPV, LNAV/ VNAV, ILS CAT1,…). The operational credit provided by EFVS is particularly important regarding secondary aerodromes because they usually have CAT1 or higher than CAT 1 RVR ¿ DA/DH minima and are therefore potentially more frequently impacted by adverse weather conditions. In addition, EFVS capability is a key operational advantage more especially for the business aviation community that is mainly composed of small/ medium operators with limited resources and operating frequently at small/ medium airports. Beyond operational credit, the Vision Systems such as the EFVS improves situational awareness in all weather conditions for all operators at all airports contributing supporting decision-making and increasing safety margin all the time.		
		**Advanced Air Traffic Services**		
#06	Controlled time of arrival (CTA) in medium-density/ medium-complexity environments	The CTA (Controlled Time of Arrival) is an ATM imposed time constraint on a defined point associated with an arrival runway, using airborne capabilities to improve arrival management. When a time constraint is needed for a flight, the ground system may calculate a CTA as part of the arrival management process, and then it may be proposed to the flight	Y . The de-icing management tool is in use at Helsinki-Vantaa airport only. There are no plans to convert the present tool	N

SESAR Solution Code	SESAR Solution Title	Solution Description	Has the SESAR Solution been implemented in your State? (Y-N) - if "Yes" please report where	Are there implementation plans in your State for the SESAR Solution? (Y-N-N/A) - If "Yes" please report when and where implementation is planned - If "N/A" please provide justification
		for achievement by avionics within required accuracy. Airborne information may be used by the ground system in determining the CTA (e.g. ETA min/max) and in monitoring the implementation of the CTA.	to run over internet with Web-browser.	
#08	Arrival management into multiple airports	The system provides support to coordination of traffic flows into multiple airports to enable a smooth delivery to the runways. The 'Center Manager' (CMAN) which accompanies the AMANs of the airports generates a combined planning for several arrival streams into different airports by calculating the sequence of aircraft flying towards an area where their routes intersect. By imposing an adequate spacing of the aircraft in that area, a Time To Lose (TTL) for the appropriate upstream E-TMA sector is calculated to meet this constraint. Both AMAN-TTL for the runway and TTL for the E-TMA sector are superimposed and presented to the upstream en-route sector controllers.	N	N
#10	Optimised route network using advanced RNP	Based on Advanced-RNP navigation specification, design of optimised routes e.g. spaced parallel routes, Fixed Radius Transition (FRT) and Tactical Parallel Offset (TPO) further enhanced by onboard performance monitoring and alerting and the execution of more predictable aircraft behaviour	N	N
#11	Continuous descent operations (CDO) using point merge	Progressive implementation of procedures for Continuous Descent Operations (CDO) and Continuous Climb Operations (CCO) in higher density traffic or to higher levels, optimised for each airport arrival/departure procedure	N	N
#105	Enhanced airborne collision avoidance system (ACAS) operations using the autoflight system	New altitude capture laws aim to reduce unnecessary ACAS alarms and reduce the risk of mid-air or near mid-air collisions between aircraft as a last-resort safety net, by automatically reducing the vertical rate at the approach of the selected flight level (only when a Traffic Advisories-TA occurs), leading to less traffic perturbation, while not increasing flight crew workload.	N	N

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#107	Point merge in complex terminal airspace	This new procedure design builds upon precision navigation technology (P-RNAV concept) for merging traffic into a single entry point, which allows efficient integration and sequencing of inbound traffic together with Continuous Descent Approaches (CDA).	N	N
#108	Arrival Management (AMAN) and Point Merge	Point Merge in high density environment and complex Extended TMA (E-TMA) sectors replaces radar vectoring with a more efficient and simplified traffic synchronisation mechanism that reduces communication workload and increases collective traffic predictability.	N	N
#118	Basic EAP (Extended ATC Planning) function	The basic Extended ATC Planner aims at bridging the gap between Air Traffic Flow and Capacity Management (ATFCM) and Air Traffic Control (ATC) providing real-time and fine-tuning measures to solve ATFCM hotspots, and to perform early measures to alleviate complexity closest to ATC activities. The solution consists of an automated tool and associated procedures supporting the basic communication between the Local DCB position and the Controllers' Work Positions allowing the EAP and the ATC team in identifying, assessing and resolving local complexity situations. The basic EAP relies on a real time integrated process for managing the complexity of the traffic with capability to reduce traffic peaks through early implementation of fine-tuned solutions to solve workload imbalances at the local level, compatible with the short-term timeframe of execution phase of the flights.		
		**Optimised ATM Network Services**		
#57	User-driven prioritisation process (UDPP) departure	Airspace Users are allowed to change among themselves (via the pre-departure management process in CDM airports) the priority order of flights in the pre-departure sequence. The departure time will be automatically communicated/coordinated with the Network Management Function (NMF) via the DPI message as described in the A-CDM concept.	N	N

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		Enabling Aviation Infrastructure		
#67	AOC data increasing trajectory prediction accuracy	Europe's vision to achieve high-performing aviation by 2035 builds on the idea of trajectory-based operations – meaning that aircraft can fly their preferred trajectory while minimising constraints due to airspace and service configurations. SESAR has introduced an early version, which makes use of flight planning data sourced from airline operational control (AOC) to help controllers optimise aircraft flight paths. This solution represents an initial step towards the extended flight plan solution and flight and flow information for a collaborative environment (FF-ICE).	N	N
#100	ACAS Ground Monitoring and Presentation System	The ACAS provides resolution advisories (RAs) to pilots in order to avoid collisions. Controllers rely on pilots to report RAs by radio as they occur in accordance with ICAO regulations. However these reports can come late, incomplete or are, absent in some instances. This solution consists of a set of monitoring stations and a server system, which enable the continuous monitoring and analysis of ACAS RAs and coordination messages between airborne units from the ground.	N	N
#101	Extended hybrid surveillance	This solution consists of an enhanced TCAS capability, adding passive surveillance methods and reducing the need for active Mode-S interrogations. By making fewer active interrogations, this solution allows the aircraft to significantly reduce the usage of the 1090 MHz frequency.	N	N
#102	Aeronautical mobile airport communi-cation system (AeroMACS)	The aeronautical mobile airport communication system (AeroMACS) offers a solution to offload the saturated VHF datalink communications in the airport environment and support new services. The technical solution AeroMACS is based on commercial 4G technology and uses the IEEE 802.16 (WiMAX) standard. Designed to operate in reserved (aeronautical) frequency bands, AeroMACS can be used for ANSPs, airspace users and airport authority communications, in compliance with SESAR's future communication infrastructure (FCI) concept. AeroMACS is	N	N

SESAR Solution Code	SESAR Solution Title	Solution Description	Has the SESAR Solution been implemented in your State? (Y-N) - if "Yes" please report where	Are there implementation plans in your State for the SESAR Solution? (Y-N-N/A) - If "Yes" please report when and where implementation is planned - If "N/A" please provide justification
		an international standard and supports globally harmonised and available capabilities according to ICAO Global Air Navigation Plan (GANP).		
#109	Air traffic services (ATS) datalink using Iris Precursor	The Iris Precursor offers a viable option for ATS datalink using existing satellite technology systems to support initial four-dimensional (i4D) datalink capability. The technology can be used to provide end-to-end air–ground communications for i4D operations, connecting aircraft and air traffic management ground systems.	N	N (ADS-B implementation palnned but without adional functionalities in specification)
#110	ADS-B surveillance of aircraft in flight and on the surface	The SESAR solution consists of the ADS-B ground station and the surveillance data processing and distribution (SDPD) functionality. The solution also offers mitigation techniques against deliberate spoofing of the ground system by outside agents. These techniques can also be used to cope with malfunctioning of avionics equipment. SESAR has contributed to the relevant standards, such as EUROCAE technical specifications, incorporating new functionalities developed for the ADS-B ground station, ASTERIX interface specifications as well as to the SDPD specifications.	N	N (but under study)
#114	Composite Surveillance ADS-B / WAM	By allowing the use of ADS-B data that has been validated against data derived in parallel by a WAM system, the system can help to reduce the number of interrogations and number of replies and therefore reduce the 1030/1090 MHz RF load and improve spectrum efficiency. It achieves this through the integration of validated data items into the WAM channel, thereby preventing a need to re-interrogate the data item. Since the two surveillance layers share hardware components, the system offers improved cost efficiency. Furthermore, the use of the system contributes to an improved security by successfully mitigating associated ADS-B threats. SESAR has contributed to the relevant standards, such as EUROCAE technical	N	N

SESAR Solution Code	SESAR Solution Title	Solution Description	Has the SESAR Solution been implemented in your State? (Y-N) - if "Yes" please report where	Are there implementation plans in your State for the SESAR Solution? (Y-N-N/A) - If "Yes" please report when and where implementation is planned - If "N/A" please provide justification
		specifications for WAM and ADS-B that are implementing this "composite" concept.		

F. Military Organisations Infrastructure

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

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

G. Glossary of abbreviations

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

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
NEFAB	North European Functional Airspace Block
NEFRA	North European Free Route Airspace
NSA	National Supervisory Authority
S-AF	Sub ATM Functionality
SIA	Safety Investigation Authority
SNAB	Strategic Nordic Military ATM Board