LSSIP 2019 - POLAND
LOCAL SINGLE SKY IMPLEMENTATION

Level 1 - Implementation Overview

EUROCONTROL

FOREWORD

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

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

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

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

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

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

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

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

I wish you a good read!

Iacopo PRISSINOTTI
Director NM – Network Manager
EUROCONTROL

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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://ais.pansa.pl/aip/
FAB Performance Plan	http://www.ulc.gov.pl/_download/wiadomosci/06_2014/Baltic-FAB.pdf

APPROVAL SHEET

The following authorities have approved all parts of the LSSIP Year 2019 document and the signatures confirm the correctness of the reported information and reflect the commitment to implement the actions laid down in the European ATM Master Plan Level 3 (Implementation View) – Edition 2019.
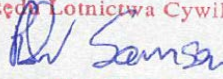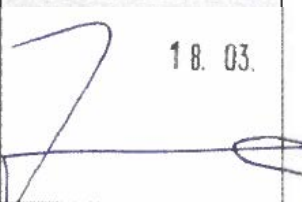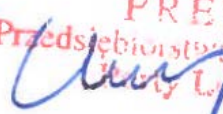
Stakeholder / Organisation	Name	Position	Signature and date
Civil Aviation Authority	Mr Piotr SAMSON	President of Civil Aviation Authority	*PREZES Urzędu Lotnictwa Cywilnego Piotr Samson 24.03.2020*
Polish Air Navigation Services Agency	Mr Janusz JANISZEWSKI	Acting President of Polish Air Navigation Services Agency	*18.03.*
"Polish Airports" State Enterprise – Warsaw Chopin Airport	Mr Mariusz SZPIKOWSKI	CEO of "Polish Airports State Enterprise", Director of Warsaw Chopin Airport	*PREZES Przedsiębiorstwa Państwowego Porty Lotnicze Mariusz Szpikowski*
General Command of Branches of Armed Forces	Brig Gen Jacek PSZCZOŁA	Inspector for Air Force of General Command of Branches of Armed Forces	*INSPEKTOR SIŁ POWIETRZNYCH DOWÓDZTWA GENERALNEGO RSZ 25 MAR. 2020 gen. dyw. pil. Jacek PSZCZOŁA*

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Executive Summary

National ATM Context

Member State of:

As a part of optimisation process of the Polish Airspace, shortening the flight paths, reduction of CO_2 emissions and improvement of the competitiveness offered by the Polish Air Navigation Services Agency for users, the Free Route Airspace (FRA) was implemented in February 2019 (POLFRA). The Free Route Airspace concept enables to plan routes between defined navigation points (entry and exit in certain airspace) outside of the fixed airways, enabling aircrafts to fly more efficient trajectories within FIR, reducing duration of flights and fuel consumption. RAD restrictions are applied in order to stabilize traffic flows, maximize throughput and maintain capacity. PANSA implemented FRA in FIR EPWW above FL095 excluding TMAs. POLFRA applies 24/7. PANSA's future plans are to expand and improve the capability of POLFRA, working together with neighboring ANSPs on the cross-border implementations.

Upgrading local ASM tool, CAT (Common Airspace Tool) in 2019 was an important enabler for the FRA deployment. The new generation CAT supports trajectory-oriented airspace management approach and B2B communication with the systems of Network Manager, improving exchange of information about restricted areas and their buffer zones.

In 2019, the project of implementation of military CTRs and military TMAs has been finalized. All previously published military aerodrome traffic zones has been replaced with controlled airspace – MCTRs and MTMAs classified as airspace class "D" where ATC is provided by military units.

PBN implementation have been continued. Within 2019 it has been focused on implementation PBN terminal SID and STAR flight procedures and RNP-APCH instrument approaches on controlled aerodromes where such procedures have not been implemented so far. In 2019, two more polish airports (EPPO and EPZG) joined the group of 12 from 15 where full set of PBN flight instrument procedures are operational.

At the beginning of 2019, Warsaw and Modlin approach started to use a sequencing tool – AMAN. After successful implementation of AMAN, the internal structure of TMA airspace, as well as SID and STAR procedures, are being redesigned, to fully leverage the potential of the computer supported planning of the arrival sequence. Implementation of new airspace design and new procedures is estimated at the end of 2020.

Polish ATCOs continue to validate software solutions developed within the iTEC collaboration.

The iTEC-based systems incorporate the technologies enabled by the advanced 4D trajectory management model, including the new conflict management tools, and the iTEC cooperation allows the joint implementation of the new technologies such as Flight Object management.

As a part of the development of the air traffic control system, to meet the current operational needs, also the functionality of the existing PEGASUS_21 system is still periodically improved. This process will be continued until the core components are replaced with iTEC-based ones.

The following main functionalities are planned:

• implementation of multilayer vertical split with increased number of ACC sectors open,

• possible activation of larger number of areas and functionalities supporting tactical shortcuts,

• improved activation and visualisation of alerts on ATCO display, following safety recommendations, supporting early conflict detection and resolution,

• support to aircraft identification using Mode-S functionalities,

• integration with TWR systems (electronic strips, remote TWR).

In 2019 PANSA made extensive efforts in order to successfully implement a new TWR dedicated ATM system – The Electronic Flight progrEss Strips System (EFES). Starting early 2020 EFES goes live at PANSA.

EFES is a data hub that not only handles internal system information, required to provide aerodrome traffic control, but also integrates with many external ANSP systems and enables data exchange with airspace users. Linking the surveillance system, AODB system, weather system, DCL system and the Network Manager, EFES offers its users a whole new level of support.

Integrated Web Briefing (IWB) was officially and fully launched in Poland in 2019. The IWB system guarantees the proper presentation of all valuable aero data needed while preparing flight plans. IWB offers many facilitations and cooperates with trusted and diversified data suppliers.

PANSA's strategic objectives are focused on accommodating and supporting the rapid expansion of the drone sector and the safe, efficient integration with existing airspace users. These objectives are supported by the development of Poland's UAVs Traffic Management (UTM) - a system supporting the digital coordination of the UAV flights. The existing ATM systems that focus on conventional manned aviation are considered too expensive to adapt directly to the requirements of the unmanned sector.

PANSA is currently working on the implementation of an initial UTM system for FIR EPWW to accommodate existing demand for unmanned operations

At the end of 2019, the production testing of PansaUTM began, which is the last of the testing phase before operational implementation.

Main national stakeholders:

- The Civil Aviation Authority (CAA), acting as the National Supervisory Authority (NSA) for Poland;
- The Polish Air Navigation Services Agency (PANSA);
- The Polish Air Force (PAF);
- The Military Air Traffic Service Office;
- The Polish Airports State Enterprise, operating the Warsaw Chopin Airport, Zielona Góra/Babimost Airport and Radom/Sadków Airport;
- The State Commission on Aircraft Accident Investigation (SCAAI).

Main airport covered by LSSIP: Warsaw Chopin Airport – EPWA

Traffic and Capacity

Traffic growth in 2019 vs 2018 and Summer Forecast (May to October inclusive) for Poland. The average en-route delay per flight (minutes per flight) decreased at Warsaw ACC.

TRAFFIC GROWTH
+4.5%
2019

FORECAST between
0.7%
& 3.7%
2020-2024

SUMMER EN-ROUTE DELAY
0.40   0.32
2018   2019

Poland is part of:

Baltic FAB
A PART OF SINGLE EUROPEAN SKY

Summary of 2019 developments:

- Number of national projects: <10>
- Number of FAB projects: <3>
- Number of multinational projects: <0>

- important changes in organisational structures within main national stakeholders:

On 27 July 2019, on the basis of Art. 3 para 3 point 4 of the Act of 3rd July 2002 – Aviation Law, the Regulation of the Minister of Infrastructure of 28 June 2019 on the implementation of the EUROCONTROL Specification on harmonised rules for operational air traffic (OAT) in accordance with the provisions for instrument flights (IFR) in ECAC controlled airspace (EUROAT) entered into force.

Progress per SESAR Phase

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

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

The SESAR 1 (non-PCP) progress in the graphics below for this State is based on the following objectives: AOP14, AOP15, AOP16, AOP17, AOP18, ATC02.9, ATC18, ATC19, ATC20, NAV12 and COM11.2.

Pre-SESAR Phase	2000		2030
	85%		

SESAR 1 (PCP only)	2011		2024
	56%		

SESAR 1 (non-PCP)	2013		2030
	39%		

Progress per SESAR Key Feature and Phase

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

Optimised ATM Network Services | Advanced Air Traffic Services | High Performing Airport Operations | Enabling the Aviation Infrastructure

Optimised ATM Network Services:
- Pre-SESAR Phase: 98%
- SESAR 1 (PCP only): 60%
- SESAR 1 (non-PCP): n/a

Advanced Air Traffic Services:
- Pre-SESAR Phase: 96%
- SESAR 1 (PCP only): 78%
- SESAR 1 (non-PCP): 75%

High Performing Airport Operations:
- Pre-SESAR Phase: 62%
- SESAR 1 (PCP only): n/a
- SESAR 1 (non-PCP): 16%

Enabling the Aviation Infrastructure:
- Pre-SESAR Phase: 81%
- SESAR 1 (PCP only): 22%
- SESAR 1 (non-PCP): 13

ICAO ASBUs Progress Implementation

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

Block 0 | 2000 .... 85% 2024

ATM Deployment Outlook

State Objectives

✓ **Deployed in 2018 - 2019**

- Free Route Airspace
AOM21.2 - 100 % progress
- Information Exchange with En-route in Support of AMAN
ATC15.1 - 100 % progress
- Initial ATC Air-Ground Data Link Services
ITY-AGDL - 100 % progress
- Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) Handling
AOM13.1 - 100 % progress
- RNP Approach Procedures to instrument RWY
NAV10 - 100 % progress

By 2020	By 2021	By 2022	By 2023+
- Electronic Terrain and Obstacle Data (eTOD) INF07 - 16 % progress **- Migrate from AFTN to AMHS** COM10 - 90 % progress **- Aircraft Identification** ITY-ACID - 100 % progress **- New Pan-European Network Service (NewPENS)** COM12 - 62 % progress **- 8,33 kHz Air-Ground Voice Channel Spacing below FL195** ITY-AGVCS2 - 84 % progress **- Surveillance Performance and Interoperability** ITY-SPI - 65 % progress **- Implement ACAS II compliant with TCAS II change 7.1** ATC16 - 87 % progress	**- Interactive Rolling NOP** FCM05 - 33 % progress **- Short Term ATFCM Measures (STAM) - Phase 2** FCM04.2 - 75 % progress **- Voice over Internet Protocol (VoIP) in En-Route** COM11.1 - 28 % progress **- ASM Management of Real-Time Airspace Data** AOM19.2 - 40 % progress **- Traffic Complexity Assessment** FCM06 - 60 % progress **- Full Rolling ASM/ATFCM Process and ASM Information Sharing** AOM19.3 - 10 % progress **- Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer** ATC17 - 73 % progress **- Collaborative Flight Planning** FCM03 - 94 % progress	**- Ensure Quality of Aeronautical Data and Aeronautical Information** ITY-ADQ - 92 % progress	**- Voice over Internet Protocol (VoIP) in Airport/Terminal** COM11.2 - 13 % progress **- RNP 1 in TMA Operations** NAV03.2 - 26 % progress **- Arrival Management Extended to En-route Airspace** ATC15.2 - 62 % progress **- Information Exchanges using the SWIM Yellow TI Profile** INF08.1 - 00 % progress

Airport Objectives - Warszawa Airport

✓ **Deployed in 2018 - 2019**

- Continuous Descent Operations (CDO)
ENV01 - 100 % progress
- AMAN Tools and Procedures
ATC07.1 - 100 % progress

By 2020	By 2021	By 2022	By 2023+
- Airport Collaborative Decision Making (A-CDM) AOP05 - 96 % progress			**- Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2)** AOP04.2 - 05 % progress **- Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** AOP04.1 - 09 % 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, the U-Space services supporting drones operations 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;
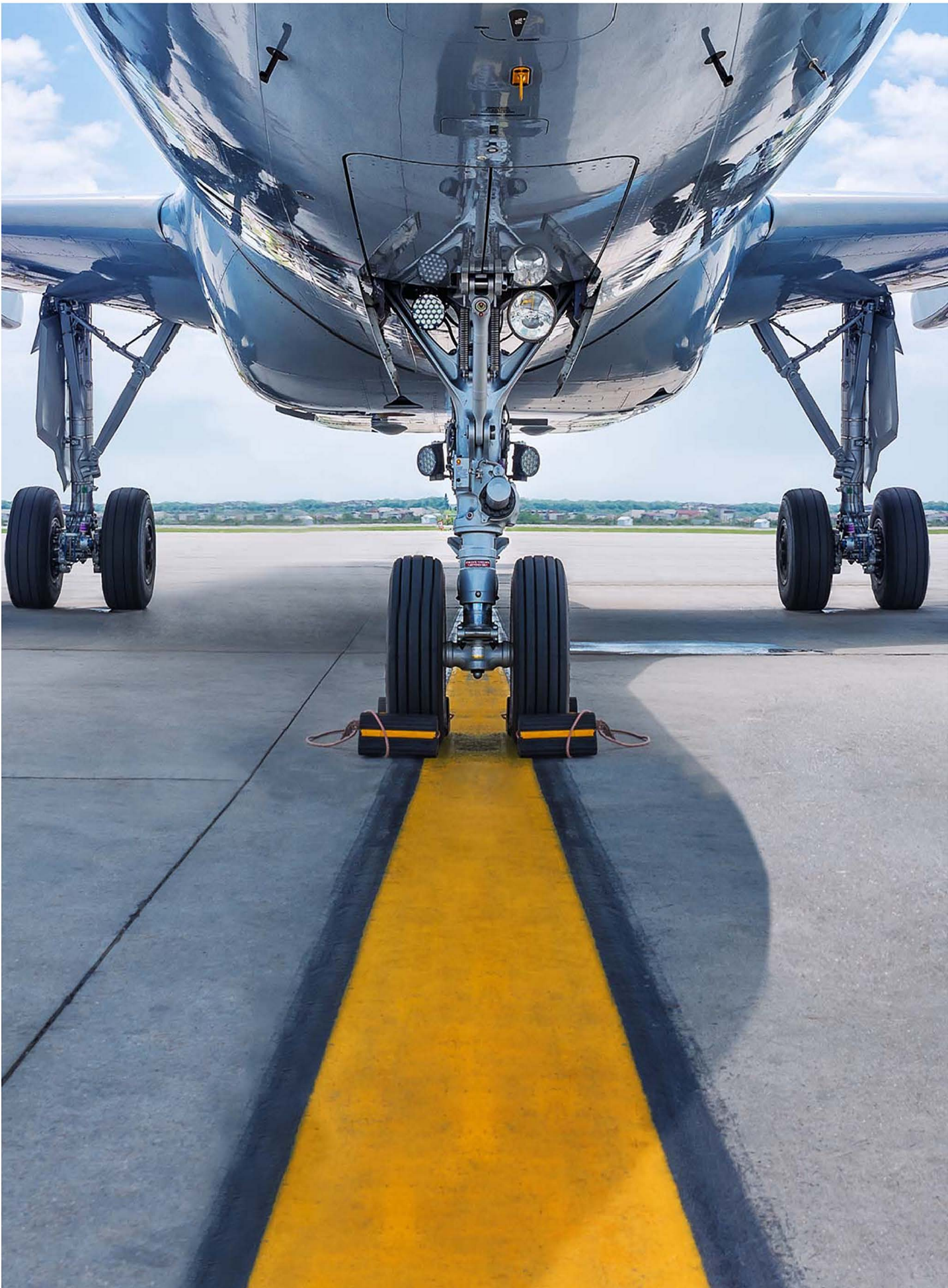
Chapter 3 provides the main Implementation Projects (at national, FAB and multinational level) which contribute directly to the implementation of the MP Operational Improvements and/or Enablers and Implementation Objectives. The Level 1 document covers a high-level list of the projects showing the applicable 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. The chapter also provides an overview of any U-Space demonstration projects currently completed, ongoing and planned to take place in the Country;

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

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

Organisation		Since
ECAC	✓	28th June, 1990
EUROCONTROL	✓	1st September, 2004
European Union	✓	1st May, 2004
EASA	✓	1st May, 2004
ICAO	✓	4th April, 1947
NATO	✓	12th March, 1999
ITU	✓	1st January, 1921
EDA	✓	2004
EUROCAE	✓	2019 PANSA as a Full Member

Geographical description of the FIR(s)

The geographical scope of this document is the Warszawa Flight Information Region (FIR Warszawa). It consists of Polish airspace over the land, internal waters and territorial sea and certain airspace over the open Baltic high sea.

The Polish airspace consists of controlled and uncontrolled airspace.

The controlled airspace consists of:

- CTRs/MCTRs,
- CTA:
    - TMAs/MTMAs above upper limit of CTRs up to FL095,
    - whole airspace between FL095-FL660 (TMAs and en-route airspace).

The uncontrolled airspace is defined as airspace from GND to FL 095 outside controlled airspace and flexible airspace elements, unless they were classified as class G airspace.

There are 12 TMAs within the FIR WARSZAWA at Gdańsk, Kraków, Szczecin, Warszawa, Rzeszów, Łódź, Poznań, Lublin, Bydgoszcz, Zielona Góra, Radom and Olsztyn.

TMA		Lower limit	Upper limit	No of sectors
LTMA/UTMA Gdańsk		1800ft	FL135 (LTMA) FL285 (UTMA)	5
LTMA/UTMA Kraków		2300ft	FL095 (LTMA) FL285 (UTMA)	6
TMA Szczecin		1700ft	FL135	5
TMA Warszawa		1000ft	FL225	7
TMA Rzeszów		1500ft	FL145	5
TMA Łódź		1700ft	FL115	5
TMA Poznań	North	1600ft	FL195	4
	South	2100ft	FL195	7
TMA Lublin		1500ft	FL135	6
TMA		**Lower limit**	**Upper limit**	**No of sectors**
TMA Bydgoszcz		1800ft	FL135	3
TMA Radom		1500ft	FL 115	3
TMA Zielona Góra		1300ft	FL095	1
TMA Olsztyn		1500ft	FL115	4

There are 8 MTMAs within the FIR WARSZAWA at Dęblin, Łask, Malbork, Mińsk Mazowiecki, Mirosławiec, Powidz, Radom, Świdwin.

MTMA	Lower limit	Upper limit	No of sectors
MTMA Dęblin	2000ft	FL095	1
MTMA Łask	2500ft	FL095	2
MTMA Malbork	2000ft	FL095	2
MTMA Mińsk Maz.	2000ft	FL095	3
MTMA Mirosławiec	1500ft	FL095	1
MTMA Powidz	1500ft	FL095	4
MTMA Radom	1500ft	FL095	3
MTMA Świdwin	1500ft	FL095	2

The lateral dimensions of all TMAs are described in the Polish AIP starts from section ENR 2.1.

Airspace Classification and Organisation

Since 18 March 2004 Airspace ICAO class C has been applied from FL 095 to FL 660 except Airspace ICAO class G that has been applied from SFC/GND to FL 095 in non-controlled airspace.

Class D has been implemented in following CTRs and TMAs:

- Civil: CTR and TMA Lublin up to FL095; CTR and TMA Zielona Góra up to FL095; CTR and TMA Radom up to FL095; CTR and TMA Olsztyn up to FL095; CTR EPWA; CTR and TMA Łódź up to 5500 ft AMSL; CTR and TMA Rzeszów up to FL 095; CTR EPBY; CTR EPMO, sector Heringsdorf in TMA Szczecin. Further implementation is planned systematically within another TMA's and CTR's.
- Military: CTR and TMA Świdwin up to FL095; CTR and TMA Mirosławiec up to FL095; CTR and TMA Malbork up to FL095; CTR and TMA Powidz up to FL095; CTR and TMA Łask up to FL095; CTR and TMA Mińsk Mazowiecki up to FL095; CTR and TMA Dęblin up to FL095; CTR and TMA Radom up to FL095; CTR Darłowo; CTR Cewice; CTR Oksywie; CTR Pruszcz Gdański; CTR Inowrocław; CTR Łęczyca; CTR Tomaszów Mazowiecki.

At present, the situation is as follows:

FL or Alt Band	Poland	
Upper Limit		
FL 095-FL 660	C	
GND-FL 095 Outside CTRs/MCTRs and TMAs/MTMAs	G	
Major TMA	C	
Minor TMA/MTMA	C	D Up to FL095
CTA/AWY	C	
CTR/MCTR	C	D

Legend	A	B	C	D	E	F	G	Unclassified or N/A	No Reply

ATC Units

The following Table lists the ACC sectors and TMAs in the Polish airspace, which are of concern to this LSSIP

ATC Unit	Number of sectors*		Associated FIR(s)	Remarks
	En-route	TMA		
Warszawa ACC	- 17* (24) GAT ACC - 3* (6) OAT ACC		FIR WARSZAWA (CTA)	Warszawa ACC provides Radar Services for all aircraft in assigned airspace. ATC sectors are opened, closed and combined according to predicted traffic demand. Flexibility of airspace management was enhanced in 2016 by vertical split of sectors into two layers, and in 2017 by defining offsets between layers ("balconies"), as well as increasing the number of valid combinations.
Warszawa APP		3* (17)	FIR WARSZAWA (TMA Warszawa)	APP collocated with ACC and utilizes the same ATM system.
Gdańsk APP		2* (2)	FIR WARSZAWA (LTMA Gdańsk, UTMA Gdańsk)	APP collocated with TWR. Gdańsk APP utilizes the same ATM system as ACC Warszawa. Local ATM system is available as a contingency.
Kraków APP		5* (4)	FIR WARSZAWA (UTMA Kraków, LTMA Kraków Sector A EPKK, LTMA Kraków Sector A EPKT)	APP collocated with TWR. Kraków APP utilizes the same ATM system as ACC Warszawa. Local ATM system is available as a contingency.
Poznań APP		3* (2)	FIR WARSZAWA (TMA Poznań North, TMA Poznań South)	APP collocated with TWR. Poznań APP utilizes the same ATM system as ACC Warszawa. Local ATM system is available as a contingency.

* The first value represents the number of physical sectors available in given location, called UCS. Each UCS consists of one or two controller working positions. The value in brackets shows the number of logical sectors, which can be assigned to physical sectors in different combinations, depending on traffic load and configuration of runways. In the locations where the number of physical sectors exceeds the number of logical sectors, the extra positions are used for contingency purposes.

U-Space services

An overview of the current implementation progress and short to medium term planning information on the main elements underlying the provision of the U-Space services enabling Very Low Level drones operations is provided in Annex to this document.

U-Space demonstration projects information are also included in section 3.4.

The following table contains a list of the 16 services expected to be available in phases U1 (2019) to U3 (2025), as described in the European ATM Master Plan add-on: Roadmap for the safe integration of drones into all classes of airspace.

Phase		Service	
U1	Foundation Services	U1.1	e-Registration
		U1.2	e-Identification
		U1.3	Pre-tactical Geo-fencing
U2	Initial Services	U2.1	Tactical Geo-fencing
		U2.2	Flight Planning Management
		U2.3	Weather Information
		U2.4	Tracking
		U2.5	Monitoring
		U2.6	Drone Aeronautical Information Management
		U2.7	Procedural Interface with ATC
		U2.8	Emergency Management
		U2.9	Strategic De-confliction
U3	Advanced Services	U3.1	Dynamic Geo-fencing
		U3.2	Collaborative Interface with ATC
		U3.3	Tactical De-confliction
		U3.4	Dynamic Capacity Management

1.2. National Stakeholders

The main National Stakeholders important for efficient ATM operations in POLAND are the following:
- The Civil Aviation Authority (CAA), acting as the National Supervisory Authority (NSA) for Poland;
- The Polish Air Navigation Services Agency (PANSA);
- The Polish Air Force (PAF);
- The Military Air Traffic Service Office;
- The Polish Airports State Enterprise, operating the Warsaw Chopin Airport, Zielona Góra/Babimost Airport and Radom/Sadków Airport;
- The State Commission on Aircraft Accident Investigation (SCAAI).

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

Civil Regulator(s)

General Information

The Ministry of Infrastructure is responsible for civil aviation in Poland. The different national entities, having regulatory responsibilities in ATM, are summarised in the table below. The CAA is further detailed in the following sections

Activity in ATM:	Organisation responsible	Legal Basis
Rule-making	The Ministry of Infrastructure The Civil Aviation Authority (CAA)	Polish Aviation Law of 3 July 2002 with further amendments
Safety Oversight	The Civil Aviation Authority (CAA)	Regulation (EU) No 1034/2011 Regulation (EU) No 1035/2011 Polish Aviation Law of 3 July 2002 with further amendments
Enforcement actions in case of non-compliance with safety regulatory requirements	The Civil Aviation Authority (CAA)	Polish Aviation Law of 3 July 2002 with further amendments (articles: 27, 161 and 162 of and Annex III) Regulation of the Minister of Infrastructure and Construction on the certification of civil aviation (§ 47, § 48, § 49)
Airspace	The Civil Aviation Authority (CAA)	Regulation (EU) No 970/2014 Regulation (EU) No 255/2010 Polish Aviation Law of 3 July 2002 with further amendments
Economic	The Civil Aviation Authority (CAA) The Ministry of Infrastructure	Regulation (EU) No. 390/2013 Regulation (EU) No. 391/2013 Polish Aviation Law of 3 July 2002 with further amendments
Environment	The Ministry of Environment	Regulation (EC) No 335/2007 Annex 16 ICAO
Security	The Ministry of Internal Affairs and Administration The Civil Aviation Authority (CAA)	Regulation (EU) No 2015/1998 MoIAaA general rules CAA approval of "Security Programme for aerodromes and conducting of security inspections, oversight"
Accident investigation	State Commission on Aircraft Accidents Investigation (SCAAI)	Convention on International Civil Aviation signed on 7 Dec1944 Polish Aviation Law of 3 July 2002 with further amendments

The Civil Aviation Authority (CAA)

The President of the Civil Aviation Authority performs functions of aviation administration and aviation supervisory authority in the following main areas: compliance with legal provisions relating to the civil aviation, operation of aircraft and certification of entities conducting activity in civil aviation, airworthiness of aeronautical equipment and competency of flight personnel, registers of aircraft, aerodromes, aviation ground facilities, flight personnel and landing areas, flight safety in civil aviation, including examination and evaluation of safety levels in civil aviation, application of civil aviation regulations, approving boundaries of manoeuvring area of the aerodrome.

Polish Aviation Law act of 3 July 2002 provides main basis upon which the Polish aviation regulatory framework is being developed.

IAW Aviation Law, the Civil Aviation Authority is in charge of ATM safety regulation and has been nominated as the National Supervisory Authority (as per SES Regulations). As the National Supervisory Authority, the CAA is independent from the Polish Air Navigation Services Agency. The independence is thus achieved at institutional level.

Rulemaking, Safety Oversight and Safety Performance Monitoring have been entrusted to the safety regulatory function (CAA). ATM safety occurrence analyses have been entrusted to CAA together with SCAAI and PANSA. In the flight safety domain the CAA covers following areas:

- evaluation of principles for creating methods leading to organising flight safety and prevention activities;
- safety oversight and inspection of ATM services and aircraft;
- cooperation with the State Commission on Aircraft Accidents Investigation – evaluation and analysis of accident causes;
- conclusions and, after accident recommendations, supervision and control of their implementation;
- managing the accident and aviation incidents' database;
- preparation of annual and immediate after-flight damage reports;
- consultation of draft aviation regulations;
- preparation of Annual Summary Template.

| Annual Report published: | Y | ANNUAL SAFETY OVERSIGHT REPORT. The document is published on the official CAA website: http://www.ulc.gov.pl/pl/zegluga-powietrzna/atm-ans-zarzadzanie-ruchem-lotniczym-sluzby-zeglugi-powietrznej/2134-raport-z-nadzoru-nad-bezpieczestwem?highlight=WyJyYXBvcnQiLCJ6Iiwibmffkem9ydSIsInJhcG9ydCB6Iiwicmfwb3J0IHogbmFfkem9ydSIsInogbmafkem9ydSJd Additionally, second document (Baltic FAB monitoring Report) which also provides annual CAA PL activities is available on PRB website. |

The address of NSA website: www.ulc.gov.pl

The Air Navigation Service Provider - PANSA

Service provided

The Polish Air Navigation Services Agency (PANSA) was set up on 1 April 2007 and replaced the Polish Air Traffic Agency (PATA), which as a state body was responsible for air traffic over Poland. PANSA is responsible for guaranteeing safe, continuous, fluent and efficient air traffic. It is a state body (acting as a legal entity with an autonomous budget) responsible for air traffic management within Polish airspace in accordance with ICAO rules, except at military airports.

Governance:	Independent Agency		Ownership:	State-owned
Services provided	**Y/N**	**Comment**		
ATC en-route	Y			
ATC approach	Y			
ATC Aerodrome(s)	Y			
AIS	Y			
CNS	Y			
MET	N	• Institute of Meteorology and Water Management-National Research Institute(IMGW-PIB) • Warmia i Mazury Sp. z o.o. • Radom Meteo Sp. z o. o		
ATCO training	Y			
Others	Y	Flight Safety Inspection (NAV&SUR test flights, and control flight of the procedures).		
Additional information:				
Provision of services in other State(s):	Y	Special designated areas where ATS are provided by one of the agreed States.		
Annual Report published:	Y	PANSA publishes an Annual Report every year. Address of ANSP website: www.pansa.pl.		

ATC Systems in use

Main ANSP part of any technology alliance[1]	Y	iTEC system

FDPS

Specify the manufacturer of the ATC system currently in use:	Indra Sistemas S.A. (PEGASUS_21 FDPS)
Upgrade[2] of the ATC system is performed or planned?	Planned: Current batch of changes was already finalized in 2019. There is a roadmap for the last set of improvements of the existing system (2020-2022).
Replacement of the ATC system by the new one is planned?	The system components will be replaced for iTEC-compliant solution after 2025, after initial deployed in the new contingency centre ahead of this date. Starting from 2020 its TWR components are being replaced by dedicated TWR system - 2019-2020.
ATC Unit	Warszawa ACC, Gdańsk APP, Kraków APP, Poznań APP, Warszawa APP, TWR units.

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[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))

Specify the manufacturer of the ATC system currently in use:	Indra Sistemas S.A. (PEGASUS_21 local contingency FDPS)
Upgrade[3] of the ATC system is performed or planned?	No
Replacement of the ATC system by the new one is planned?	No
ATC Unit	Gdańsk APP, Kraków APP, Poznań APP

SDPS

Specify the manufacturer of the ATC system currently in use:	Indra Sistemas S.A. (PEGASUS_21 primary SDPS)
Upgrade of the ATC system is performed or planned?	No
Replacement of the ATC system by the new one is planned?	No
ATC Unit	Warszawa ACC, Gdańsk APP, Kraków APP, Poznań APP, Warszawa APP

Specify the manufacturer of the ATC system currently in use:	Comsoft Gmbh (PEGASUS_21 secondary SDPS – ARTAS)
Upgrade of the ATC system is performed or planned?	Yes
Replacement of the ATC system by the new one is planned?	No
ATC Unit	Warszawa ACC, Gdańsk APP, Kraków APP, Poznań APP, Warszawa APP

Specify the manufacturer of the ATC system currently in use:	Indra Sistemas S.A. (PEGASUS_21 local contingency SDPS)
Upgrade of the ATC system is performed or planned?	No
Replacement of the ATC system by the new one is planned?	No
ATC Unit	Gdańsk APP, Kraków APP, Poznań APP

Airports

General information

Polish Airports State Enterprise (PPL) is an active and leading stakeholder of the strategic transport infrastructure development and deployment for Poland.

PPL owns the Chopin Airport in Warsaw (EPWA) which is the largest for Poland and one of the largest in Central-East Europe. Warsaw Chopin Airport provides international services, allowing participant and providers use it as a gateway between Europe and East. It continuous to operate for providers who offer passengers long distance travel services. Chopin Airport is the home base for the national provider PLL LOT.

Two of the currently functioning Polish Airports: Warsaw Chopin Airport and ZIELONA GÓRA/Babimost are operated by PPL. Radom-Sadków airport managed as well by PPL has been closed to civil aircraft since 2019 due to modernization works. Other regional airports: Gdańsk-Lech Wałęsa, Katowice-Pyrzowice, Wrocław-Strachowice, Kraków-Balice, Szczecin-Goleniów, Poznań-Ławica, Łódź-Lublinek, Rzeszów-Jasionka, Bydgoszcz-Szwederowo, Warszawa-Modlin, Lublin, Olsztyn-Mazury have been transformed into commercial companies with ownership shared by State Treasury, PPL, local authorities and private sector.

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

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.

So the following airports are covered in this LSSIP:
Warsaw Chopin Airport, which is the main national airport of Poland, is covered in this LSSIP and it is part of airports listed in the 'APT' related list of airports.
The EUROCONTROL Public Airport Corner also provides information for the following airport(s):
https://ext.eurocontrol.int/airport_corner_public/EPWA

Military Authorities

The Military Authorities responsible for air traffic management for military aircraft in POLAND are the Armed Forces General Command, and the Military Air Traffic Service Office (MATSO) of Polish Forces.

They report to the Ministry of Defence through the Chief of General Staff.

In peacetime, the management of Polish airspace functions is carried out by the Minister for Transport. During wartime or a state of emergency, upon the Polish Aviation Law of 3 July 2002, the Minister of Infrastructure and the Minister of Defence, by means of regulations, define the rules for handling the functions to the Minister of Defence, considering the rules of cooperation between national air traffic management authority with relevant military services. All responsibilities relating to state security are realised by the Minister of Defence through appropriate executive bodies.

On the basis of legal documents, on the 1st January 2002, the Military Air Traffic Service Office (MATSO) of Polish Armed Forces was established. Being the main military authority subordinate to the Armed Forces General Commander, MATSO holds the position of the central management and supervision body over the military air traffic service in Polish Armed Forces. MATSO accomplishes the tasks on the operational management level and its area of responsibility comprises the general supervision over military air traffic services at military air bases as well as coordination between civil and military services.

Additionally its area of responsibility includes the implementation of unified procedures, norms, and standards of technical equipment, and unification of ATS personnel qualifications in integrated air traffic management system.

MATSO cooperates with the Polish Air Navigation Services Agency (PANSA) and other Polish civil aviation organisations. The main objective of this cooperation is the delegation of air traffic management authority to MATSO in times of war or crisis.

Polish military authorities set objectives for adoption of NATO standards and procedures under the guidelines of NATO Air Traffic Management Committee (NATMC). This led to the integrated ATM system.

The Polish Aviation Law of 3 July 2002 allows Military to provide ATC services at military aerodromes. In July 2017, IAW UE 550/2004, CAA allowed Armed Forced to provide air navigation services in airspace delegated under military authority. Military Air Traffic Control Service (aerodrome control, approach control) is provided to all aircraft (civil/military) performing flights in MCTRs/MTMAs designed for every military airport. In MCTRs and MTMAs class D is applied. It means that by internal regulation all services are provided in accordance with CAA regulations with exceptions (for military users) described in ATC Local Operational Procedures and MIL AIP.

The military provides military ATS at military aerodromes, except SAR service, which is provided in the whole FIR Warszawa (MET can be provided by separate organisation according to regulations; some services can be provided by MIL MET, but not all).

The level of integration between civil and military is realised through the ASM specialists (MATSO officers at AMC Poland in the Polish Air Navigation Services Agency).

The Military regulatory, service provision and user role in ATM are recalled in a synthetic way in the chart below.

Regulatory role

Regulatory framework and rule making

OAT		GAT	
OAT and provision of service for OAT governed by national legal provisions?	Y	Provision of service for GAT by the Military governed by national legal provisions?	Y
Level of such legal provision: State Law		Level of such legal provision Civil-Military agreement	
Authority signing such legal provision: Minister of Infrastructure>		Authority signing such legal provision: President of PL CAA and Commander of the Polish Armed Forces	
These provisions cover:		These provisions cover:	
Rules of the Air for OAT	Y		
Organisation of military ATS for OAT	N	Organisation of military ATS for GAT	Y
OAT/GAT Coordination	Y	OAT/GAT Co-ordination	Y
ATCO Training	N	ATCO Training	Y
ATCO Licensing	N	ATCO Licensing	Y
ANSP Certification	N	ANSP Certification	N
ANSP Supervision	N	ANSP Supervision	N
Aircrew Training	N	ESARR applicability	N/A
Aircrew Licensing	N		
Additional Information:		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	Y	National AIP	N
National Military AIP	Y	National Military AIP	Y
EUROCONTROL eAIP	N	EUROCONTROL eAIP	N
Other:	Sent to Eurocontrol via e-mail	Other:	

Oversight

OAT	GAT
National oversight body for OAT: Y	NSA (as per SES reg. 550/2004) for GAT services provided by the military: declaration of 5 July 2016
Additional information: <…>	Additional information: <…>

Service Provision role

OAT			GAT		
Services Provided:			**Services Provided:**		
	En-Route	PANSA		En-Route	PANSA
	Approach/TMA	PANSA in TMA Poznań		Approach/TMA	PANSA
	Airfield/TWR/GND	AFGC		Airfield/TWR/GND	PANSA
	AIS	AFGC		AIS	PANSA
	MET	AFGC		MET	MET office
	SAR	AFGC, PANSA – coordination		SAR	PANSA – coordination
	TSA/TRA monitoring	AFGC, PANSA		FIS	PANSA
Other:			Other:		
Additional Information:			**Additional Information:**		

Military ANSP providing GAT services SES certified?	N	If YES, since:	-	Duration of the Certificate:	-
Certificate issued by:	N/A		If NO, is this fact reported to the EC in accordance with SES regulations?		N
Additional Information: Military ANSP is not certified, however CAA – IAW Art. 7, par 5 reg. 550/2004, allowed Armed Forces for ANS provision in airspace under military supervision (MCTR's, MTMA's, TRA (D class airspace).					

User role

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

If Military fly OAT-IFR inside controlled airspace, specify the available options:				
Free Routing	Y	Within specific corridors only	
Within the regular (GAT) national route network	Y	Under radar control	Y
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	X		Exemption from Route Charges			X
Exemption from flow and capacity (ATFCM) measures			Provision of ATC in UHF			
CNS exemptions:	RVSM	X	8.33	X	Mode S		ACAS	X
Others:	<Specify>					

Flexible Use of Airspace (FUA)

Military in Poland 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 Poland

Poland - Annual IFR Movements

Poland - Distribution (Ref. year 2018)

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
Poland	H				4.6%	5.9%	4.2%	3.0%	2.6%	2.6%	2.2%
	B	7.9%	5.0%	10.0%	4.3%	4.1%	2.0%	2.2%	2.0%	2.0%	1.2%
	L				3.9%	2.1%	-0.1%	0.5%	0.5%	0.7%	0.1%
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 Poland increased by 4.5% in 2019 compared to 2018.

2020-2024

The EUROCONTROL Seven-Year Forecast predicts an average annual increase between 0.7% (Low) and 3.7% (High) during the planning cycle, with a baseline growth of 2.4%.

2.2. ACC Warsaw

Traffic and en-route ATFM delays 2015-2024

EPWWACC - Traffic and en-route ATFM delays

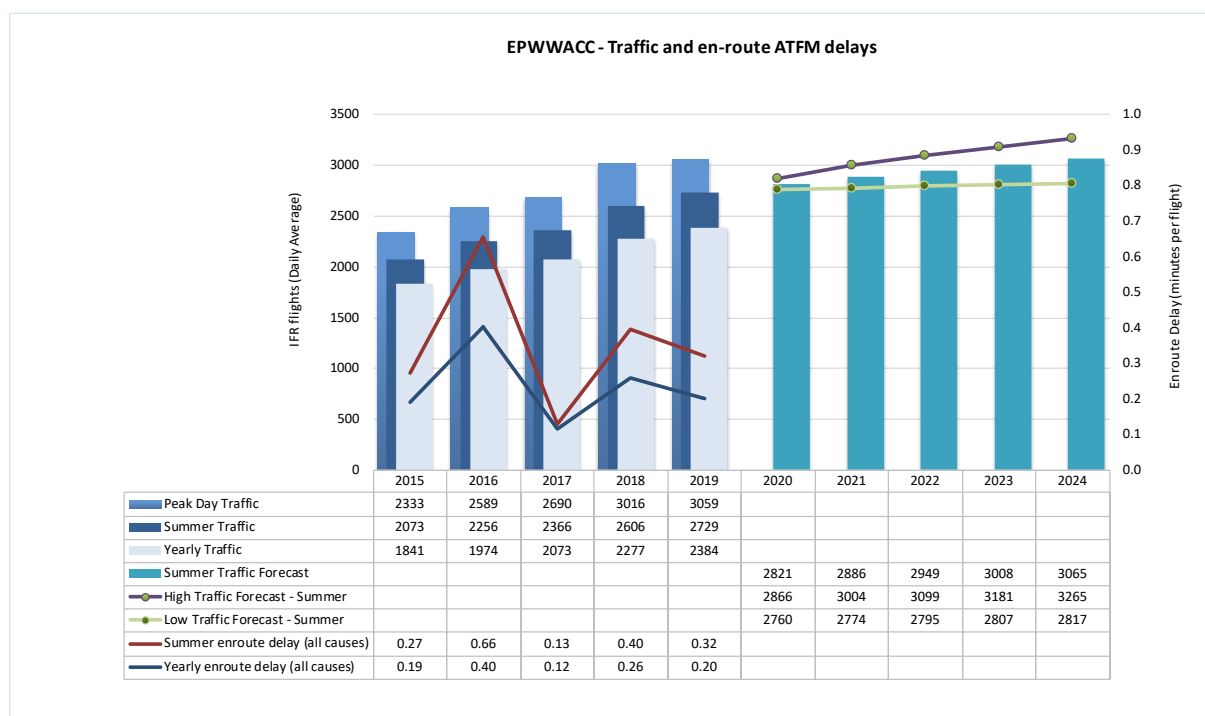|	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	2333	2589	2690	3016	3059					
Summer Traffic	2073	2256	2366	2606	2729					
Yearly Traffic	1841	1974	2073	2277	2384					
Summer Traffic Forecast						2821	2886	2949	3008	3065
High Traffic Forecast - Summer						2866	3004	3099	3181	3265
Low Traffic Forecast - Summer						2760	2774	2795	2807	2817
Summer enroute delay (all causes)	0.27	0.66	0.13	0.40	0.32					
Yearly enroute delay (all causes)	0.19	0.40	0.12	0.26	0.20					

Performance summer 2019

Warsaw ACC	Traffic evolution (2019 vs 2018)			En-route Delay (min. per flight)		Capacity (2019 vs 2018)		
	Traffic Forecast		Actual Traffic	All reasons	ACC Reference Value			
	Current Routes	Shortest Routes				Planned	Achieved	Capacity gap?
Year	H: 6.7%	-7%	+4.7%	0.20	0.23			
Summer	B: 6.2% L: 4.2%		+4.7%	0.32		191 (+4%)	191 (+4%)	No

Summer 2019 performance assessment
The average en-route delay per flight decreased from 0.40 minutes per flight in summer 2018 to 0.32 minutes per flight in summer 2019.
65% of the Summer delays were for the reason ATC Capacity, 26% for ATC Staffing, 8% for Weather, and 1% for Equipment.
The ACC capacity baseline was measured with ACCESS/Reverse CASA at 191, 4% higher than in 2018. During the measured period, the average peak 1 hour demand was 186 and the average peak 3 hour demand was 176.
Approximately 50% of total delay was attributed to the eNM measures and will be reattributed to DFS.

Operational actions	Achieved	Comments
Full implementation of FRA in Baltic FAB	Yes	
Evolutionary ASM Tool to support Advanced FUA	Yes	
Full operation of A-CDM at Warsaw Chopin airport	Yes	Technical implementation finalised, ops tests ongoing for the final steps
Advanced ATFCM techniques, including STAM, workload and complexity estimation, and improved predictability	Yes	
Polish 2010+ airspace project	Yes	
Re-sectorisation of R and J low	Yes	
Full benefits of 5NM longitudinal separation	Yes	

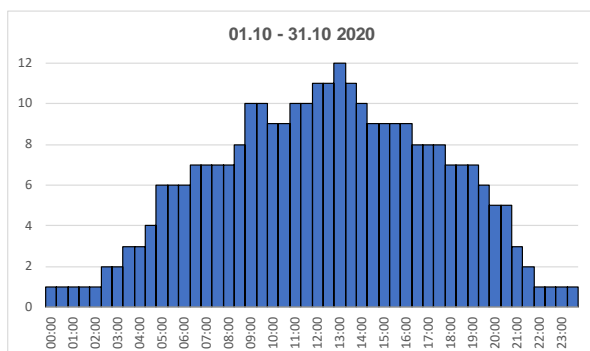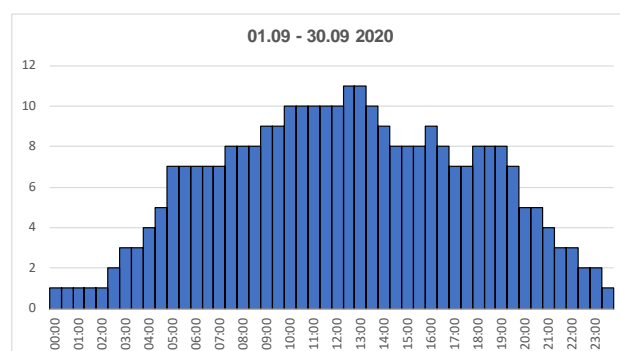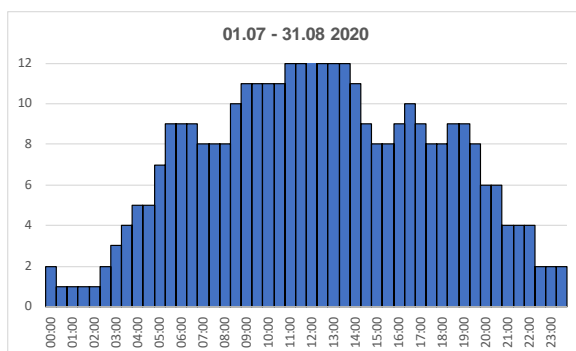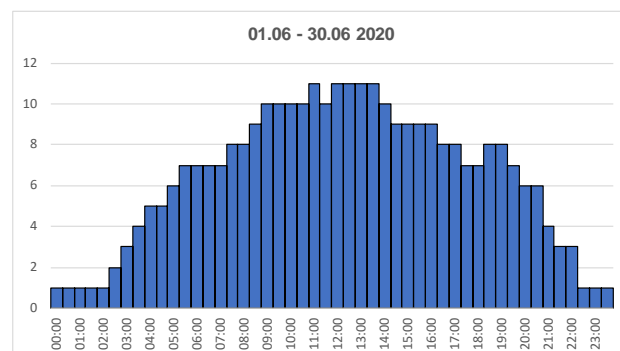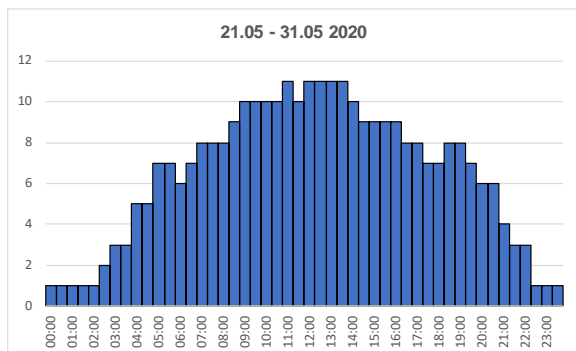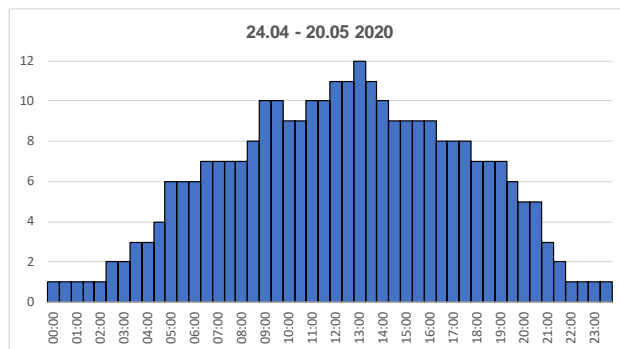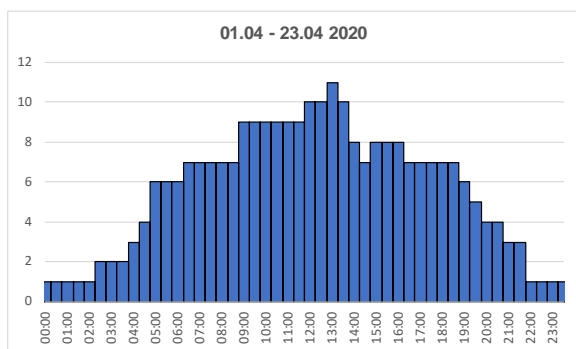| Additional controllers	Yes	
Additional benefits ATC air-ground data link services above FL-285	Yes	
TCT training and tests	Yes	On-going
Continuous development of sector configurations and management	Yes	
Maximum configuration: 12 sectors	Yes	13 sectors opened

Planning Period 2019-2024

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			Stepped Cross-Border FRA Implementation according to the airspace restructuring project		
Airspace Management Advanced FUA	Evolutionary ASM Tool to support for Advanced FUA				
Airport & TMA Network Integration	Redesign of all TMAs in Warsaw FIR				
Cooperative Traffic Management	Advanced ATFCM techniques, including STAM, workload and complexity estimation, and improved predictability				
Airspace		Additional layer			
Procedures					
Staffing	Additional controllers				
Technical					
Capacity	TCT implementation				
	Continuous development of sector configurations and management				
Significant Events					
Max sectors	12/13*	13	13/14*	14	14/15*
Planned Annual Capacity Increase	2%	2%	4%	2%	4%
Reference Profile Annual % Increase	0%	1%	1%	2%	1%
Current Routes Profile % Increase	4%	2%	3%	3%	2%
Difference Capacity Plan v. Reference Profile	2,1%	3,6%	6,7%	6,6%	9,5%
Difference Capacity Plan v. Current routes Profile	-1,5%	-1,5%	-0,5%	-1,4%	0,5%
Annual Reference Value (min)	0.30	0.30	0.23	0.18	0.18
Additional information	* Only if traffic requires. Achievement feasible to cope with the expected traffic demand and support to other capacity critical areas in Europe, but depending on the traffic increase and the financial resources available.				

The graphs bellow show an outline of available sector configurations for the summer season 2020

01.04 - 23.04 2020

24.04 - 20.05 2020

21.05 - 31.05 2020

01.06 - 30.06 2020

01.07 - 31.08 2020

01.09 - 30.09 2020

01.10 - 31.10 2020

EPWWCTA - Reference capacity profile and alternative scenarios

	2018	2019	2020	2021	2022	2023	2024
Reference Capacity Profile			191	192	194	198	200
Capacity Profile - Shortest Routes (Open)			192	195	199	204	208
Capacity Profile - Current Routes			198	202	208	214	218
Capacity Profile - High			191	194	199	206	213
Capacity Profile - Low			191	191	191	191	191
Capacity Baseline	184	191					
2020 - 2024 Plan			195	199	207	211	219

2020-2024 Planning Period Outlook

No capacity gap is expected over the planning period.

3. Implementation Projects

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

3.1. National projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
A-CDM Airport Collaborative Decision Making (PR-55 A-CDM)	PANSA (PL), PPL - Warszawa Airport (PL)	2010-2020	Final stage	L3: AOP05
Ensuring the continuity of air navigation services based on infrastructure solutions (Pg18)	PANSA (PL)	2017-2024	In scope of schedule	RP2 PP: Ensuring the continuity of air navigation services based on infrastructure solutions Pg18
Establishment of a Free Route Airspace (Free Route Airspace)	PANSA (PL)	2013-2019	Implemented.	L3: AOM21.2
Implement Advanced Surface Movement Guidance and Control System - A-SMGCS system for Warsaw airport (Pr-12 A-SMGCS)	PANSA (PL)	2013-2023	Extending the scope and introducing an advanced traffic management system in EPWA to ensure an adequate level of safety.	L3: AOP04.1, AOP04.2 RP2 PP: Pr-12 A-SMGCS
MLAT System for FIR Warsaw (PR70)	PANSA (PL)	2015-2026	Ongoing	L3: ITY-ACID
Modernisation of ATM System (Code is not assigned yet)	PANSA (PL)	2014-2022	Change of conception. A contract was signed for iTEC Tests, Validations and Planning (iTEC-TVP). i-TEC public procurement announced.	L3: FCM05 DP: AF3 Sub. AF3.2 Project Family 3.2.1. RP2 PP: Modernisation of PEGASUS_21
Remote TWR (Pr-73)	PANSA (PL)	2014-2022	Implementation in stages.	L3: AOP14 RP2 PP: Remote TWR
SUR Infrastructure (PR-65)	PANSA (PL)	2014-2020	In scope of schedule	L3: ITY-ACID
WAM/ADS-B System for Warsaw FIR (Poznan, Wroclaw, Kraków, Katowice, Warszawa) (Pr-70)	PANSA (PL)	2015-2022	Project planning	L3: ITY-ACID RP2 PP: System MLAT FIR Wwa
Warszawa TWR	PANSA (PL)	2019-2024	Ongoing	-

3.2. FAB projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
Enhancement of inter-FAB cooperation and cooperation with non-EU countries (PROJECT 3.1)	Lithuanian Transport Competence Agency (TKA) (LT), Mil. Authority (PL), Military Authority (LT), ORO NAVIGACIJA (LT), PANSA (PL), Reg. Authority (PL)	Continuous activity	Outcome of Baltic FAB Implementation Programme Closing Report dated 29 November 2016 states: "Implementation phase is closed. – Baltic FAB ANSPs will continue to seek for further possibilities of common actions in international environment in accordance with Baltic FAB Development Strategy." Project is a continuous activity.	L3: AOM21.2, ATC02.8, ATC07.1, ATC12.1, ATC15.1, ATC15.2, ATC17
Local Traffic Complexity Management	Lithuanian Airports (LT), Mil. Authority (PL), Military Authority (LT), ORO NAVIGACIJA (LT), PANSA (PL), PPL - Warszawa Airport (PL)	2018-2022	In accordance with the PCP IR (EU 716/2014) and the Deployment Programme, ATM Functionality # 4 (Network Collaborative Management), including the Project Family 4.4.2 (Traffic Complexity tools), is required to be deployed in the European Air Traffic Management Network (EATMN). Project is in implementation stage. PANSA/Poland and Oro Navigacija/Lithuania submitted project application in 2018 Q1, which was approved in November 2018. project Grant Agreement was signed in December 2018. At the end of November 2018 the project Kick-off meeting was organized in Vilnius in order to discuss project plan, tasks, responsibilities, etc.	L3: ATC12.1 DP: DP2017: Family 4.4.2 - Traffic Complexity tools
iTEC/Convergence of ATM systems in the Baltic FAB ACCs and Cross Borders Service provision with Joint Contingency Service Provision	ORO NAVIGACIJA (LT), PANSA (PL)	2013-2022	Outcome of Baltic FAB Implementation Programme Closing Report dated 29 November 2016 states: "Implementation phase is closed, technical solution has been agreed upon, public procurement announced, contracts signed, implementation procedure started"	L3: ATC02.8, ATC12.1, ATC17, ITY-AGDL, ITY-AGVCS2, ITY-FMTP RP2 PP: Modernisation of ATM System

3.3. Multinational projects

There is no regional project reported.

3.4. U-Space demonstration projects

The following table provides an overview of the U-Space demonstration projects currently completed, ongoing and planned to take place in Poland.

Project ID	Title	Status	Start Date	End Date	Countries	Leaders	Description	Services	Funding Sources
PANSA - UAV tracking deployment	PANSA - UAV tracking deployment	Ongoing	01-01-2019	31-12-2024	Poland	PANSA	The project is focused on development and testing ADS-B/LTE/5G infrastructure dedicated to UAVs. The infrastructure consists of miniature ADS-B/LTE/5G transceivers installed on board UAVs and ground based receivers. The project includes few phases. The phase 1 is already completed - acquiring the ADS-B infrastructure and integrating it with PansaUTM.	Air situation monitoring capability available (depending on the level of tracking available. See U2 Tracking capabilities), Non-cooperative UAS tracking capabilities available (e.g. at airports; high value assets), Real-time tracking capabilities available (e.g. location reports; data fusion from multiple sources), Surveillance data exchange interface available (i.e. capability to exchange data among the tracking service and other services/systems), Tracking data recording capability implemented	

Project ID	Title	Status	Start Date	End Date	Countries	Leaders	Description	Services	Funding Sources
PansaUTM - digitalised UAV flights coordination	PansaUTM - digitalised UAV flights coordination	Completed	01-01-2018	28-02-2020	Poland	PANSA	PansaUTM - digitalised UAV flights coordination between drone operators and ATC and advanced flight plans management. The system is partly delivered by the technology partners HAWK-E and DroneRadar. The Demonstration was focused to assess the capabilities of the system. The system obtained the positive decision of CAA Poland for operational use in ATC environment in Poland from 2 March 2020.	ATC alert notification implemented, Airspace authorisation and flight planning approval processes available, Authority in charge of issuing and managing identification numbers (i.e. code allocation and coordination) established, Pre-tactical controlled airspace access coordination processes available	
CEDD – Central European Drone Demonstrator	CEDD – Central European Drone Demonstrator	Ongoing	12-09-2018	31-12-2022	Poland		CEDD - an umbrella initiative concentrating testing, demonstration and pilot projects based on advanced UAV flights (including BVLOS, autonomous and automatic). CEDD test beds are located in Upper Silesian-Zaglebie Metropolis and in Port of Gdynia (Poland). In 2019 CEDD tested less complex projects on reducing environmental risks (low emission) crisis management.	Automated flight plan validation capability available, de-confliction management information transition in real-time	

Project ID	Title	Status	Start Date	End Date	Countries	Leaders	Description	Services	Funding Sources
Droniada 2019 - 5th Edition	Droniada 2019 - 5th Edition	Completed	05-06-2019	08-06-2019	Poland		Annual Demonstration project which is focused on testing different advanced solutions for UAV operations. Droniada 2019 was focused on anti-collision protocols, autonomous flights testing and de-confliction solutions in UTM and U-Space environment. Demonstration included i.e.: drone flight applications for crisis management, infrastructure inspection and cargo transport.	Geo-awareness information available (e.g. geofence and flight restriction information provided up to the moment of take-off), Manned-unmanned aircraft deconfliction capability available, Real-time tracking capabilities available (e.g. location reports; data fusion from multiple sources)	

4. Cooperation activities

4.1. FAB Co-ordination

Baltic Functional Airspace Block.

The Polish ANSP PANSA and Lithuanian SE "Oro Navigacija" have been applying provisions of the Single European Sky initiative consistently. We began our active participation in the multi-annual SESAR 2020 Programme coordinated by the European Union and continued our successful collaboration in the Baltic Functional Airspace Block.

Based on the outcomes of the Baltic FAB Implementation Programme Closing Report dated November 29 2016, majority of the projects presented in the previous versions of the LSSIP document were closed due to their completion. Currently, Baltic FAB States, Lithuania and Poland, conduct three main projects. Projects are being a part of the Action Plan to the Baltic FAB Development Strategy 2025.

In 2019 FAB works were continued. In June, 6th meeting of the Baltic FAB Board was held in Vilnius. The board is responsible for management and development of the Baltic FAB. The meeting was chaired by Ministry of Transport officials. The main areas covered during this meeting were: the preparation of Performance Plans for RP3, common operational projects and future cooperation.

In February, July and November the meetings of the Baltic FAB ANSPs CEOs were held. Meetings were dedicated to the oversight of Baltic FAB Action Plan realization, current operational and technical activities and bilateral common areas of interest.

 In parallel, Baltic FAB actively participated in following Inter-FAB cooperation platforms: Performance, Communication and Point of Contacts meetings.

4.2. Multinational cooperation initiatives

B4 Consortium

B4 Consortium was set up formally on 8 September 2014 by:
PANSA, Polish ANSP
ANS CR, the Czech Republic ANSP
LPS SR, š.p., the Slovak Republic ANSP
SE "Oro navigacija", Lithuanian ANSP

representing small and medium-sized European Air Navigation Service Providers and their 3rd linked parties from research (universities, research centres, consultancy) and industry (equipment manufacturers) community.
PANSA (Poland) and SE "Oro navigacija" (Lithuania) compose Baltic FAB. ANS CR (Czech Republic) and LPS (Slovakia) belongs to neighbouring FAB CE. All 4 ANSPs are the members of GATE ONE.
B4 Consortium is a member of A6 Alliance on SESAR 2020 Programme content.
In February 2017, preparation of comprehensive Consortium Agreement was concluded. The signed Agreement establishes the principles of cooperation between the consortium members, the governance structure of the consortium and defines the responsibilities of members and the principles related to intellectual property rights.

During 2019, B4 Members actively participated in the research and innovations activities in 29 SESAR 2020 Solutions under 14 Industrial Research projects and in works in Transversal and Demonstration projects, thus fulfilling their obligations set out in respective Grant Agreements. The work performed by B4 Members staff included development of innovative operational and technological concepts, execution and participation in execution of validations of new technological and operational solutions as well as contribution to all contractual and projects deliverables. As part of the project activities, B4 Partners also perform various project roles. The most important one is leadership of two SESAR 2020 Solutions: PJ.02-06 "Improved access into secondary airports in LVC" and PJ.06-02 "Management of Performance Based Free Routing in Lower Airspace".
At the end of 2019, B4 Members signed the 12 new grant agreements for the SESAR 2020 Wave 2.

A6 Alliance

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

In 2015, PANSA became a full member of the A6 Alliance. At the same time the COOPANS consortium replaced NORACON in all A6 activities and the B4 Consortium joined A6 in the area of SESAR 2020.
The A6 Alliance has also concluded a collaboration agreement with Skyguide in relation to SESAR 2020 R&D activities, as well as with ROMATSA and HungaroControl in relation to SESAR Deployment Manager.

The A6 Alliance plays a significant role in Research & Development through active participation in the SESAR Programme.
The A6 partners participate in 68 of the 80 ATM-solution projects, leading 30 of them. Furthermore, the A6 partners hold an active role in transversal activities including the Masterplan and in Very Large Scale Demonstrations.

Since the launch of SESAR 1, members of the A6 Alliance have achieved significant results together with other SJU partners (development of 63 successfully completed SESAR solutions).
The members of the A6 Alliance controls more than 80 % of EU air traffic. They are responsible for more than 70 % of the investment in the future air traffic management infrastructure.

Areas of PANSA involvement in 2019:
a) preparation of positions regarding operational/technical, policy and legal regulations proposals prepared or led by the EU institutions/bodies together with other partners (Airspace Architecture Study, Wise Persons Group, U-Space etc.);
b) participation in the SESAR Joint Undertaking (mainly focusing on a successful closing of Wave 1 and preparing the call for Wave 2 of SESAR 2020 Programme), SESAR Deployment Manager and initiatives/projects financed by INEA (SWIM, DLS, etc.);
c) A6 activities: develop proposals for improvement of the ATM system in Europe and drive their implementation (e.g. SESAR Digital Backbone).

During 2019, PANSA led the works of A6 Strategy Board, responsible for preparation of guidelines for A6 Strategies, coordination of the working groups and task forces, communication activities and broad support to A6 Steering Board.

In December 2019, PANSA CEO took over the chairmanship in A6 Steering Board, the highest decision-making body of the alliance responsible for providing strategic directions and decisions, approving the strategies and verification of the achievement of A6 goals.

Gate One

Gate One is a bottom up regional ANSP initiative established in 2013. The purpose of the coordination platform, is to promote the efficiency of European Air Traffic Management through enhanced cooperation among the participating service providers, as well as to ensure a more powerful and coordinated advocacy of the region in the European decision-making processes.

Gate One covers 3 existing Functional Airspace Blocks – FABs (Baltic FAB, Danube FAB and FAB CE) and 2 non-EU Flight Information Regions (Belgrade and Skopje)

The members of the Gate One initiative, which is one of the largest regional ANSP platforms in Europe, agreed to play a more active role to explore potential for future inter-FAB cooperation.

The airspace between the Baltic Sea and the Black Sea is one of the most important gateways of the European continent: this region handles air traffic in the directions of North and South, East and West, sustaining links between the central and Nordic countries of the European Union as well as with the continent of Asia and the region of the Middle East.

The actual developments of the European Air Traffic Management industry point towards the assumption that the air navigation service providers of the region, operating under similar conditions, can only be efficient in attaining their interests in case they create a closer cooperation in the coordination of strategic issues (and the operative issues being meaningful at the regional level). Furthermore, they need to strive towards representing a consolidated position concerning common technical and economic issues affecting the region and vital to the Union-wide picture of the Air Traffic Management.

European iTEC (Interoperability Through European Collaboration) Alliance

European iTEC Alliance was founded in 2007 by three ANSPs: DFS (Germany), ENAIRE (Spain) and NATS (UK) with Indra as a technology partner. Later on, in 2011, LVNL (Netherlands) joined iTEC Alliance followed by Avinor (Norway) in 2016. The Lithuanian ANSP SE "Oro Navigacija" and the Polish ANSP PANSA officially joined the European iTEC alliance in 2017.

iTEC Alliance provides a platform for synergies and thus cost reductions, helping to realise the vision of a Single European Sky (SES) with greater efficiencies and service standards for Europe's airspace users. The goal of the collaboration is to develop a high-end air traffic management system for busy and complex airspace that meets the Single European Sky ATM Research requirements and enables significant steps towards its productivity. The members of the iTEC alliance can benefit from sharing of best practices, reduced operational expenditures by sharing development costs and knowledge of risks as well as from enabling accelerated deployment of enhanced systems and future operational concepts.

During 2018-2019 (with planned continuation in 2020) BALTIC FAB ANSPs implemented a joint iTEC Tests, Validations and Planning (iTEC-TVP) project. The iTEC Test, Validation and Planning project concerns the second phase of the PANSA migration to the iTEC-based ATM system. Oro Navigacija is contributing to the project, especially in the matter of cross-border DCT and FRA concept. Baltic FAB ANSPs experts keep working together to achieve sufficient level of cooperation between both ATM Systems: future iTEC Based PANSA System and Oro Navigacija iTEC System, improving interoperability.

5. Implementation Objectives Progress

5.1. State View: Overall Objective Implementation Progress

The large majority of LSSIP objectives, with a network or local effect, are either completed or ongoing within schedule as shown in the graph below. In detail, 16 out of 43 reported objectives are completed. In addition, there are another 13 objectives in an ongoing status.

The 2019 implementation progress is going steady with good established cooperation with all stakeholders.

For the comparison with the LSSIP cycle 2018 it has to be kept in mind that the amount of Ongoing projects has been reduced from 20 to 13 and similar trend is observed within Late status from 10 to 8 objectives.

Seven objectives has been fully completed in 2019:

AOM13.1 Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) Handling

AOM21.2 Free Route Airspace

ATC07.1 AMAN Tools and Procedures

ATC 15.1 Information Exchange with En-route in Support of AMAN

ITY-ACID Aircraft Identification

ITY-AGDL Initial ATC Air-Ground Data Link Services

NAV 10 RNP Approach Procedures to instrument RWY

National Progress compared to previous year

Category	2019	2018
Not planned	4	3
Not applicable	2	4
Late	8	10
Ongoing	13	20
Completed	16	15

■ 2019 ■ 2018

5.2. Objective Progress per SESAR Key Feature

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

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

Legend:

▲ ## % = Expected completion / % Progress

▲ 100% = Objective completed

= Implementation Objective timeline (different colour per KF)

= Completion beyond Implementation Objective timeline

Optimised ATM Network Services

Advanced Air Traffic Services

		<16	16	17	18	19	20	21	22	23	24	25	>26
AOM21.1	Direct Routing					100 %							
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					100 %							
ATC07.1	AMAN Tools and Procedures												
	EPWA - Warszawa Airport				100 %								
ATC12.1	Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring								100 %				
ATC15.1	Information Exchange with En-route in Support of AMAN					100 %							
ATC15.2	Arrival Management Extended to En-route Airspace										62 %		
ATC16	Implement ACAS II compliant with TCAS II change 7.1							87 %					
ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer					73 %							
ENV01	Continuous Descent Operations (CDO)												
	EPWA - Warszawa Airport				100 %								
ITY-COTR	Implementation of ground-ground automated co-ordination processes		100 %										
NAV03.1	RNAV 1 in TMA Operations												100
NAV03.2	RNP 1 in TMA Operations							26 %					
NAV10	RNP Approach Procedures to instrument RWY									100 %			
NAV12	ATS IFR Routes for Rotorcraft Operations												0

High Performing Airport Operations

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

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

EPWA - Warszawa Airport   ▲ 9 %

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

EPWA - Warszawa Airport   ▲ 5 %

AOP05   Airport Collaborative Decision Making (A-CDM)

EPWA - Warszawa Airport   ▲ 96 %

SAF11   Improve Runway Safety by Preventing Runway Excursions   100 %

▲

Enabling Aviation Infrastructure

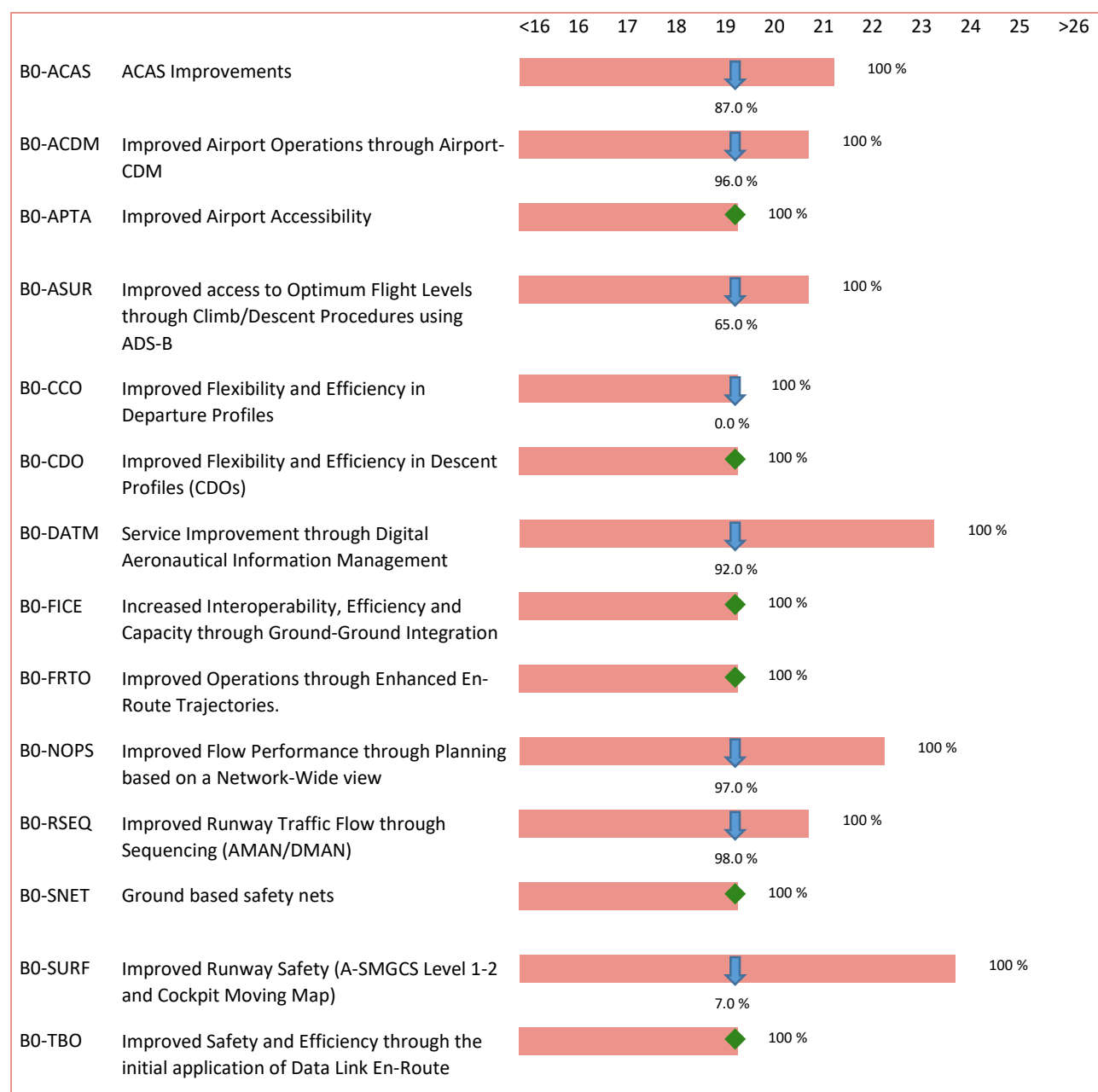|		<16	16	17	18	19	20	21	22	23	24	25	>26	
COM10	Migrate from AFTN to AMHS													90 %
COM11.1	Voice over Internet Protocol (VoIP) in En-Route													28 %
COM11.2	Voice over Internet Protocol (VoIP) in Airport/Terminal													13 %
COM12	New Pan-European Network Service (NewPENS)													62 %
FCM08	Extended Flight Plan													0 %
INF07	Electronic Terrain and Obstacle Data (eTOD)													16 %
INF08.1	Information Exchanges using the SWIM Yellow TI Profile													0 %
ITY-ACID	Aircraft Identification													100 %
ITY-ADQ	Ensure Quality of Aeronautical Data and Aeronautical Information													92 %
ITY-AGDL	Initial ATC Air-Ground Data Link Services													100 %
ITY-AGVCS2	8,33 kHz Air-Ground Voice Channel Spacing below FL195													84 %
ITY-FMTP	Common Flight Message Transfer Protocol (FMTP)													100 %
ITY-SPI	Surveillance Performance and Interoperability													65 %

5.3. ICAO ASBU Implementation Progress

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

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

Legend:

   ◆ = Completed (during 2019 or before)

   ⬇ = Progress achieved in 2019

   🟥 = Missing planning date

   ⬜ = Not applicable

		<16	16	17	18	19	20	21	22	23	24	25	>26	
B0-ACAS	ACAS Improvements					⬇								100 %
						87.0 %								
B0-ACDM	Improved Airport Operations through Airport-CDM					⬇								100 %
						96.0 %								
B0-APTA	Improved Airport Accessibility					◆								100 %
B0-ASUR	Improved access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B					⬇								100 %
						65.0 %								
B0-CCO	Improved Flexibility and Efficiency in Departure Profiles					⬇								100 %
						0.0 %								
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDOs)					◆								100 %
B0-DATM	Service Improvement through Digital Aeronautical Information Management					⬇								100 %
						92.0 %								
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration					◆								100 %
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories.					◆								100 %
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view					⬇								100 %
						97.0 %								
B0-RSEQ	Improved Runway Traffic Flow through Sequencing (AMAN/DMAN)					⬇								100 %
						98.0 %								
B0-SNET	Ground based safety nets					◆								100 %
B0-SURF	Improved Runway Safety (A-SMGCS Level 1-2 and Cockpit Moving Map)					⬇								100 %
						7.0 %								
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route					◆								100 %

5.4. Detailed Objectives Implementation progress

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

Main Objectives

AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) Handling _Timescales:_ Initial operational capability: 01/01/2012 Full operational capability: 31/12/2018	100%	Completed
Key Feature: Optimised ATM Network Services			
AAMS-10a(EN), AIMS-19b(EN), AOM-0301(OI), AOM-0303(OI) [E]			
In accordance with OAT/GAT harmonisation, PANSA has implemented new coordination procedures between ACC GAT and ACC OAT. The Regulation of the Minister of Infrastructure of 28 June 2019 on the implementation of the EUROCONTROL Specification on harmonised rules for operational air traffic (OAT) in accordance with the provisions for instrument flights (IFR) in ECAC controlled airspace (EUROAT) entered into force on 27 July 2019. The EUROCONTROL was informed about the official national implementation date on 13 September 2019.			13/09/2019

REG (By:12/2018)				
Reg. Authority	The Regulation of the Minister of Infrastructure of 28 June 2019 on the implementation of the EUROCONTROL Specification on harmonised rules for operational air traffic (OAT) in accordance with the provisions for instrument flights (IFR) in ECAC controlled airspace (EUROAT) entered into force on 27 July 2019. The EUROCONTROL was informed about the official national implementation date on 13 September 2019.	-	100%	Completed 27/07/2019
ASP (By:12/2018)				
PANSA	PANSA and the MATSO (Military Air Traffic Service Office) have finished to work on the OAT/GAT harmonization process. LoA regarding OAT between PANSA and MATSO has been signed in 2015. In accordance with OAT/GAT harmonization, PANSA have implemented new coordination procedures between ACC GAT and ACC OAT.	-	100%	Completed 31/12/2017
MIL (By:12/2018)				
Mil. Authority	PANSA and the Polish Air Force have finished the OAT/GAT harmonization process. Military have no EAD terminal but have access to EAD through an agreement with PANSA at national level (Notam by MIL are fed to civil AIS and thus available through EAD). Common AIP covers the Military aspects and needs based on the AIRAC cycle.	-	100%	Completed 13/09/2019

AOM19.1	**ASM Support Tools to Support Advanced FUA (AFUA)** *Timescales:* Initial operational capability: 01/01/2011 Full operational capability: 31/12/2018	100%	**Completed**

Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services			
AOM-0202(OI), AOM-0202-A(OI) [E]			
-			
Adapted local systems to make them interoperable with ADR (AIXM interface). Provided relevant Aeronautical information required to implement dynamic ASM/ATFCM process. Use ADR in accordance with LoA with CNMF. Deployed Rolling Airspace Update Process by using ADR facilities, providing for airspace update reflecting any change in airspace use planning as described in the ASM Handbook. Local ASM system is developed to provide data as described above.			10/12/2018
ASP (By:12/2018)			
PANSA	Adapt local systems to make them interoperable with ADR (AIXM interface) 10/12/2018 Conclude LoA with CNMF (10/12/2018). Provide relevant Aeronautical information required to implement dynamic ASM/ATFCM process (10/12/2018). Use ADR in accordance with LoA with CNMF (10/12/2018). Deploy Rolling Airspace Update Process by using ADR facilities, providing for airspace update reflecting any change in airspace use planning as described in the ASM Handbook (10/12/2018). Local ASM system is being developed to provide data as described above.	-	100%	Completed 10/12/2018

AOM19.2	**ASM Management of Real-Time Airspace Data** *Timescales:* Initial operational capability: 01/01/2017 Full operational capability: 31/12/2021	40%	**Ongoing**

Links: B1-FRTO, B1-NOPS | Key Feature: Optimised ATM Network Services			
AOM-0202-A(OI) [E], AOM-0206-A(OI) [E]			
-			
UUP is exchanged in 30 minutes intervals. The local ASM system deployed in 2018 has a technical capability of immediate update of changes.			**31/12/2021**
ASP (By:12/2021)			
PANSA	UUP is exchanged in 30 minutes intervals. The local ASM system deployed in 2018 has a technical capability of immediate update of changes.	-	40%	Ongoing 31/12/2021

AOM19.3	**Full Rolling ASM/ATFCM Process and ASM Information Sharing** *Timescales:* Initial operational capability: 01/01/2014 Full operational capability: 31/12/2021	10%	**Ongoing**

Links: B0-FRTO, B1-FRTO, B1-NOPS, B2-NOPS | Key Feature: Optimised ATM Network Services			
AOM-0202(OI), AOM-0202-A(OI) [E]			
-			
Local systems and procedures under development.			**31/12/2021**
ASP (By:12/2021)			
PANSA	Local systems and procedures under development.	-	10%	Ongoing 31/12/2021

AOM19.4	**Management of Pre-defined Airspace Configurations** _Timescales:_ Initial operational capability: 01/01/2018 Full operational capability: 31/12/2021	100%	**Completed**
Links: B1-FRTO, B1-NOPS	Key Feature: Optimised ATM Network Services			
-			
ATM system supports up to 500 predefined configurations. The system has been recently (in 2018), upgraded and developed into functionality that enables loading of any combination of sectors from external sources that opens the platform interoperability			23/11/2016
ASP (By:12/2021)			
PANSA	-	-	100%	Completed 23/11/2016

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			
AOM-0401(OI), AOM-0402(OI), AOM-0501(OI) [E], AOM-0505(OI) [E], CM-0102-A(OI) [E]			
-			
Implementation of Free Route Airspace in FIR Warszawa was divided into several steps. First step of FRA implementation namely Direct Routing (Ref to AOM21.1) was completed in 10/12/2015 Second phase – FRA implementation - was implemented on AIRAC 28/02/2019.			28/02/2019
ASP (By:12/2021)			
PANSA	Implementation of Free Route Airspace in FIR Warszawa was divided into several steps. First step of FRA implementation namely Direct Routing (Ref to AOM21.1) was completed in 10/12/2015 Second phase – FRA implementation - was implemented on AIRAC 28/02/2019.	Enhancement of inter-FAB cooperation and cooperation with non-EU countries / Establishment of a Free Route Airspace (Free Route Airspace)	100%	Completed 28/02/2019

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	**9%**	**Late**

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

AO-0201(OI), AO-0201-A(OI), CTE-S02b(EN), CTE-S03b(EN), CTE-S04b(EN)

EPWA - Warszawa Airport	
The A-SMGCS system will be implemented at Chopin Airport (EPWA) in cooperation of PANSA and PPL. The project will cover installation of A-SMGCS including surveillance and airport safety support services.	**15/05/2023**

REG (By:12/2010)				
Reg. Authority	A SMGCS project has started in PANSA for the Warsaw Airport, with appropriate working group arrangements and cooperation with PPL.	-	3%	Late
				15/05/2023

ASP (By:12/2011)				
PANSA	A SMGCS project has started in PANSA for the Warsaw Chopin Airport, with appropriate working group arrangements and cooperation with PPL. Other stakeholders company might be associated to adequate project activities. At present work is focused on the tender process (competitive dialogue) currently in progress.	Implement Advanced Surface Movement Guidance and Control System - A-SMGCS system for Warsaw airport	3%	Late
				15/05/2023

APO (By:12/2010)				
PPL - Warszawa Airport	According agreement signed related to cooperation in A-SMGCS system implementation, General Director of Polish Airports State Enterprise appointed a task force to cooperate with PANSA. PPL's experts were involved in creation Operational Concept Document for A-SMGCS for Chopin Airport.	-	20%	Late
				12/05/2023

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	5%	Late

Links: B0-SURF | Key Feature: High Performing Airport Operations
AO-0102(OI), AO-0201(OI), CTE-S02b(EN), CTE-S03b(EN), CTE-S04b(EN)
EPWA - Warszawa Airport

The A-SMGCS system will be implemented at Chopin Airport (EPWA) in cooperation of PANSA and PPL. The project will cover installation of A-SMGCS including airport safety support functionality.	**15/05/2023**

ASP (By:12/2017)				
PANSA	A SMGCS project has started in PANSA for the Warsaw Chopin Airport, with appropriate working group arrangements and cooperation with PPL. Other stakeholders company might be associated to adequate project activities. At present work is focused on the tender (competitive dialogue) which has been published on 21/07/2016 and is currently in progress.	Implement Advanced Surface Movement Guidance and Control System - A-SMGCS system for Warsaw airport	3%	Late
				15/05/2023

APO (By:12/2017)				
PPL - Warszawa Airport	On 26/10/2015 PANSA and PPL signed an agreement related to cooperation in A-SMGCS system implementation. According agreement General Director of Polish Airports State Enterprise appointed a task force to cooperate with PANSA. PPL experts were involved in creation Operational Concept Document for A-SMGCS for Chopin Airport.	-	10%	Late
				15/05/2023

AOP05	**Airport Collaborative Decision Making (A-CDM)** *Timescales:* Initial operational capability: 01/01/2004 Full operational capability: 31/12/2016		96%	**Late**
Links: B0-ACDM, B0-RSEQ | Key Feature: High Performing Airport Operations				
AO-0501(OI), AO-0601(OI), AO-0602(OI) [E], AO-0603(OI), TS-0201(OI) [E]				
EPWA - Warszawa Airport				
A-CDM EPWA has been finished and is now awaiting NM acceptance during operational test procedure. PANSA, PPL and LOT together with ground handling services react to NM comments and suggestions. There are no significant updates of A-CDM algorithm, only small patches in case of errors detected applied. Full implementation and operations is foreseen for 2Q2020.				30/06/2020
ASP (By:12/2016)				
PANSA	A-CDM EPWA has been finished and is now awaiting NM acceptance during operational test procedure. PANSA, PPL and LOT together with ground handling services react to NM comments and suggestions. There are no significant updates of A-CDM algorithm, only small patches in case of errors detected applied.	A-CDM Airport Collaborative Decision Making	100%	Completed 30/06/2019
APO (By:12/2016)				
PPL - Warszawa Airport	The project organisation comprises already a Steering Committee and focal points in the various stakeholders represented PANSA, Warsaw Chopin Airport authorities, LOT and handling agents. A gap analysis were performed in April 2008. MoU was agreed and signed in March 2009 and updated in 2010 by all involved partners. Full implementation and operations is foreseen for 2Q2020. The relevant Airport and ATC Staff took part in the general CDM training organized by IANS (APT ACDM).	A-CDM Airport Collaborative Decision Making	92%	Late 30/06/2020

AOP10	**Time-Based Separation** *Timescales:* - not applicable -		0%	**Not yet planned**
Links: B1-RSEQ, B2-WAKE | Key Feature: High Performing Airport Operations				
AO-0303(OI) [E]				
EPWA - Warszawa Airport **(Outside Applicability Area)**				
Objective not applicable to the EPWA airport.				-
REG (By:12/2023)				
Reg. Authority	-	-	%	Not Applicable -
ASP (By:12/2023)				
PANSA	-	-	0%	Not yet planned -

AOP11	**Initial Airport Operations Plan** *Timescales:* - not applicable -		%	**Not Applicable**
Links: B1-ACDM | Key Feature: High Performing Airport Operations				
AO-0801-A(OI) [E]				
EPWA - Warszawa Airport **(Outside Applicability Area)**				
No airports have expressed a commitment yet.				-
ASP (By:12/2021)				
PANSA	No airports have expressed a commitment yet	-	%	Not Applicable -
APO (By:12/2021)				

AOP12	**Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)** *Timescales:* - not applicable -	%	**Not Applicable**
Links: B2-SURF	Key Feature: High Performing Airport Operations			
AERODROME-ATC-36(EN), AO-0104-A(OI) [E]			

EPWA - Warszawa Airport **(Outside Applicability Area)**			
Objective not applicable to the EPWA airport			-

ASP (By:12/2020)

PANSA	-	-	%	Not Applicable
				-

APO (By:12/2020)

PPL - Warszawa Airport	-	-	%	Not Applicable
				-

AOP13	**Automated Assistance to Controller for Surface Movement Planning and Routing** *Timescales:* - not applicable -	0%	**Not yet planned**
Links: B1-ACDM, B1-RSEQ, B2-SURF	Key Feature: High Performing Airport Operations			
AO-0205(OI) [E], TS-0202(OI)			

EPWA - Warszawa Airport **(Outside Applicability Area)**			
Objective not applicable to the EPWA airport			-

REG (By:12/2023)

Reg. Authority	Objective not applicable to the EPWA airport.	-	%	Not yet planned
				-

ASP (By:12/2023)

PANSA	Objective not applicable to the EPWA airport	-	0%	Not yet planned
				-

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					
CM-0801(OI)					
-					
New ATM system with enhanced safety-nets capabilities is running since November 2013. PANSA developed company policy for safety nets and assigned staff responsible for its maintenance and improvement (completed 30/06/2014). PANSA developed company policy for safety nets and assigned staff responsible for its maintenance and improvement (continuous process). APM is a functional element of MSAW.					**31/12/2016**
ASP (By:12/2016)					
PANSA	New ATM system with enhanced safety-nets capabilities is running since November 2013. PANSA developed company policy for safety nets and assigned staff responsible for its maintenance and improvement (completed 30/06/2014). PANSA developed company policy for safety nets and assigned staff responsible for its maintenance and improvement (continuous process). APM is a functional element of MSAW.	Enhancement of inter-FAB cooperation and cooperation with non-EU countries / iTEC/Convergence of ATM systems in the Baltic FAB ACCs and Cross Borders Service provision with Joint Contingency Service Provision		100%	Completed 31/12/2016

ATC02.9	**Short Term Conflict Alert (STCA) for TMAs** *Timescales:* Initial operational capability: 01/01/2018 Full operational capability: 31/12/2020			100%	**Completed**
Links: B0-SNET, B1-SNET | Key Feature: Advanced Air Traffic Services					
CM-0801(OI), CM-0811(OI)					
-					
STCA function for TMA was deployed at the end of 2013. STCA prediction and violation thresholds for TMA are configured differently than in en-route airspace. Selected Altitude is used to decide if CFL can be used in the STCA prediction algorithm in given case. Further improvement proposals have been identified that can be deployed in the future upgrades. STCA is not using the Multi-Hypothesis STCA Algorithm functionality.					**30/11/2013**
ASP (By:12/2020)					
PANSA	STCA function for TMA was deployed at the end of 2013. STCA prediction and violation thresholds for TMA are configured differently than in en-route airspace. Selected Altitude is used to decide if CFL can be used in the STCA prediction algorithm in given case. Further improvement proposals have been identified that can be deployed in the future upgrades.	-	100%	Completed 30/11/2013

ATC07.1	**AMAN Tools and Procedures** *Timescales:* Initial operational capability: 01/01/2007 Full operational capability: 31/12/2019	100%	Completed

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

TS-0102(OI)

EPWA - Warszawa Airport

AMAN for Warsaw and Modlin airport pair, together with the integration of the tool in the PEGASUS_21 ATM system, as well as the capability of receiving inputs from external AMAN systems is completed.	17/01/2019

ASP (By:12/2019)

PANSA	AMAN for Warsaw and Modlin airport pair, together with the integration of the tool in the PEGASUS_21 ATM system, as well as the capability of receiving inputs from external AMAN systems is completed.	Enhancement of inter-FAB cooperation and cooperation with non-EU countries	100%	Completed
				17/01/2019

ATC12.1	**Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring** *Timescales:* Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021	100%	Completed

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

CM-0202(OI), CM-0203(OI), CM-0205(OI), CM-0207-A(OI)

-

MTCD implemented and in use since operational of PEGASUS_21 at the end of 2013. Functional upgrade and further finetuning of the algorithm is ongoing (continuous improvement process). MTCD does not provide any resolution proposal.	31/12/2016

ASP (By:12/2021)

PANSA	MTCD implemented and in use since operational of PEGASUS_21 at the end of 2013. Functional upgrade and further finetuning of the algorithm is ongoing (continuous improvement process).	Enhancement of inter-FAB cooperation and cooperation with non-EU countries / Local Traffic Complexity Management / iTEC/Convergence of ATM systems in the Baltic FAB ACCs and Cross Borders Service provision with Joint Contingency Service Provision	100%	Completed
				31/12/2016

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

TS-0305(OI)

-

Internally basic AMAN implementation is completed for Warsaw and Modlin airport pair. The project includes capability of receiving input from external AMAN systems. Actual operational deployment will depend on demand from adjacent centers.	17/01/2019

ASP (By:12/2019)

PANSA	Internally basic AMAN implementation is completed for Warsaw and Modlin airport pair. The project includes capability of receiving input from external AMAN systems. Actual operational deployment will depend on demand from adjacent centers.	Enhancement of inter-FAB cooperation and cooperation with non-EU countries	100%	Completed
				17/01/2019

ATC15.2	**Arrival Management Extended to En-route Airspace** *Timescales:* Initial operational capability: 01/01/2015 Full operational capability: 31/12/2023	**62%**	**Ongoing**

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

TS-0305-A(OI) [E]

-

Extended AMAN is a part of ACC support for AMAN designed for Warsaw. The data exchange between Warsaw AMAN and Warsaw ACC can be used also with other stakeholders.	**31/12/2023**

ASP (By:12/2023)

PANSA	Extended AMAN is discussed to be included as a part of ACC support for AMAN designed for Warsaw.	Enhancement of inter-FAB cooperation and cooperation with non-EU countries	62%	Ongoing
				31/12/2023

ATC17	**Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer** *Timescales:* Initial operational capability: 01/01/2013 Full operational capability: 31/12/2018	**73%**	**Late**

Key Feature: Advanced Air Traffic Services

CM-0201(OI)

-

Technically the messages are available. Operationally COF and MAS are planned to be exchanged with adjacent ACCs, and the more extensive set of messages is planned to be exchanged between current ACC/APP system and the new local TWR system, which is now being deployed. The appropriate safety assessment is performed each time when the new message type is deployed.	**31/12/2021**

ASP (By:12/2018)

PANSA	Technically the messages are available. Operationally COF and MAS are planned to be exchanged with adjacent ACCs, and the more extensive set of messages is planned to be exchanged between current ACC/APP system and the new local TWR system, which is now being deployed. The appropriate safety assessment is performed each time when the new message type is deployed.	Enhancement of inter-FAB cooperation and cooperation with non-EU countries / iTEC/Convergence of ATM systems in the Baltic FAB ACCs and Cross Borders Service provision with Joint Contingency Service Provision	73%	Late
				31/12/2021

COM10	**Migrate from AFTN to AMHS** *Timescales:* Initial operational capability: 01/12/2011 Full operational capability: 31/12/2018	**90%**	**Late**

Key Feature: Enabling the Aviation Infrastructure

CTE-C06c(EN)

-

The implementation was started in 2010 and was finished in 2014 (for Basic ATSMHS). Upgrade the AMHS capability in existing COM centres to provide the Extended ATSMHS in accordance with the profile specified in the AMHS Community Specification. Due to the need the ASP procurement repetition implementation date is postponed to 30/06/2020.	**30/06/2020**

ASP (By:12/2018)

PANSA	AMHS capability and gateway facilities to AFTN are a function of the new AMHS/AFTN system. Due to the need the ASP procurement repetition implementation date is postponed to 30/06/2020.	-	90%	Late
				30/06/2020
Mil. Authority	Military is ready to be connected with AMHS COM centres. Due to the need the ASP procurement repetition implementation date is postponed to 30/06/2020.	-	85%	Late
				30/06/2020

COM11.1	**Voice over Internet Protocol (VoIP) in En-Route** *Timescales:* Initial operational capability: 01/01/2013 Full operational capability: 31/12/2021	28%	**Ongoing**

Key Feature: Enabling the Aviation Infrastructure

CTE-C05a(EN), CTE-C05b(EN)

-

PANSA is going to implement VoIP technology in the different components of the ATM COM domain (Ground radio stations - VCS and VCS - VCS). The implementation is foreseen based on EUROCAE standards.	**31/12/2021**

ASP (By:12/2021)

PANSA	PANSA is going to implement VoIP technology in the different components of the ATM COM domain (Ground radio stations - VCS and VCS - VCS). The implementation is foreseen based on EUROCAE standards. CAO acquainted with the PANSA-s Strategic plan. Additional investment plan which is the basis for long-term PANSA-s Plan, are associated with the implementation of ESSIP objectives. Implementation of the investment for which procurement procedure are carried out, will provide VoIP for EPWA	-	28%	Ongoing 31/12/2021

COM11.2	**Voice over Internet Protocol (VoIP) in Airport/Terminal** *Timescales:* Initial operational capability: 01/01/2013 Full operational capability: 31/12/2023	13%	**Ongoing**

Key Feature: Enabling the Aviation Infrastructure

CTE-C05a(EN), CTE-C05b(EN)

-

PANSA is focused on Voice over Internet Protocol inter-centre telephony (ground communication).	**31/12/2023**

ASP (By:12/2023)

PANSA	-	-	13%	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	62%	**Ongoing**

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

CTE-C06b(EN)

-

Activity started. PANSA signed New PENS contract 17/04/2018. **TWG - Transition Working Group has been created. Migration process is ongoing.**	**31/12/2020**

ASP (By:12/2024)

PANSA	Activity started. PANSA signed New PENS contract 17/04/2018. TWG - Transition Working Group has been created. Migration process is ongoing.	-	88%	Ongoing 31/12/2020

APO (By:12/2024)

PPL - Warszawa Airport	-	-	10%	Ongoing 31/12/2020

ENV01	**Continuous Descent Operations (CDO)** *Timescales:* Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023	100%	Completed

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

AOM-0701(OI), AOM-0702-A(OI)

EPWA - Warszawa Airport

CDA is implemented in P-RNAVs and the operational implementation took place on the 22 of October 2009 for the Warsaw TMA. Operational implementation of the STAR P-RNAV procedures took place on the 17 of December 2009. Objective implemented in 10 out of 15 airports. Publication: EPGD i EPPO – 18 OCT 2012; EPKK i EPKT – 02 JUN 2011; EPMO – 28 JUN 2012; EPWA – 22 OCT 2009; EPWR – 30 MAY 2013; EPLB – 27 APR 2017; EPLL – 05 FEB 2015; EPRZ – 26 APR 2018 AIRAC Cycle.	01/01/2019

ASP (By:12/2023)			
PANSA	Implemented in 10 out of 15 airports. Publication: EPGD i EPPO – 18 OCT 2012; EPKK i EPKT – 02 JUN 2011; EPMO – 28 JUN 2012; EPWA – 22 OCT 2009; EPWR – 30 MAY 2013; EPLB – 27 APR 2017; EPLL – 05 FEB 2015; EPRZ – 26 APR 2018 AIRAC Cycle.	-	100%	Completed 01/01/2019

APO (By:12/2023)			
PPL - Warszawa Airport	Implemented in 2009 for night time traffic and during the day if the traffic patterns allow it.	-	100%	Completed 31/12/2009

FCM03	**Collaborative Flight Planning** *Timescales:* Initial operational capability: 01/01/2000 Full operational capability: 31/12/2017	94%	Late

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

IS-0102(OI)

-

ADEXP processing is implemented in the new ATM system, although supplementary software might still need upgrades before operational implementation of ADEXP. Switchover from ICAO to ADEXP format is postponed, as there is no operational benefit expected from this action.	31/12/2021

ASP (By:12/2017)			
PANSA	ADEXP processing is implemented in the new ATM system, although supplementary software might still need upgrades before operational implementation of ADEXP. Switchover from ICAO to ADEXP format is postponed, as there is no operational benefit expected from this action. Automated AFP messages are supported, but to avoid propagating errors, they are sent automatically only for specific triggers.	-	94%	Late 31/12/2021

FCM04.2	**Short Term ATFCM Measures (STAM) - Phase 2** *Timescales:* Initial operational capability: 01/11/2017 Full operational capability: 31/12/2021		**75%**	**Ongoing**
Key Feature: Optimised ATM Network Services				
DCB-0308(OI) [E], ER APP ATC 17(EN)				
-				
PANSA implemented resectorization of airspace in 2019. FMP development - practical and tactical support to ATFM managed by Senior Controllers and Traffic Managers of ACC, generation of ACC Slot improvement and Slot Exclusions possibility, Resectorization of airspace, additional layer planned in 2021.				**31/12/2021**
ASP (By:12/2021)				
PANSA	Resectorization of airspace, additional layer planned in 2021. Our interpretation was that for the moment we use NM STAM p2 (ASP02), so it's 100%. At the same time we're implementing our local ATFCM tool which will be used also for STAMs and is not yet fully developed. In case those ASPs are mutually exclusive we agree that ASP02 is not applicable for us. As for ASP03 – training will be conducted after implementation of our ATFCM tool. What we have declared was for ASP02 training.	-	75%	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**					
DCB-0102(OI), DCB-0103-A(OI) [E]					
-					
Internal PANSA consultations on the proper implementation are ongoing. Online training from actual NOP functionalities has been provided to FMP Staff.					**31/12/2021**
ASP (By:12/2021)					
PANSA	Internal PANSA consultations on the proper implementation are ongoing. Online training from actual NOP functionalities has been provided to FMP Staff	Modernisation of ATM System	0%	Planned 31/12/2021
APO (By:12/2021)					
PPL - Warszawa Airport	EUCAC database is filled with data on the Warsaw Chopin Airport, where the data is transferred to the EUROCONTROL within the DDR project.	-	100%	Completed -

FCM06	**Traffic Complexity Assessment** *Timescales:* Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021		**60%**	**Ongoing**
**Links: B1-NOPS	Key Feature: Optimised ATM Network Services**				
CM-0101(OI), CM-0103-A(OI) [E], NIMS-20(EN)				
-				
PANSA developed and introduced in 2011 Dynamic Capacity Management . **The number of operational tools and procedures related to predicted and current traffic situations are used along with excellent cooperation with NMOC Eurocontrol. Local traffic complexity tool (TCT) was tested in 2019. Operational implementation is planned in 2020.**				**31/12/2021**
ASP (By:12/2021)				
PANSA	PANSA developed and introduced in 2011 Dynamic Capacity Management . The number of operational tools and procedures related to predicted and current traffic situations are used along with excellent cooperation with NMOC Eurocontrol.	-	60%	Ongoing 31/12/2021

FCM08	**Extended Flight Plan** *Timescales:* Initial operational capability: 01/01/2016 Full operational capability: 31/12/2021		0%	**Not yet planned**
Links: B1-FICE | Key Feature: Enabling the Aviation Infrastructure				
AUO-0203(OI) [E]				
-				
The concept is still very generic in respect to the ANSP part. At current maturity level of Extended Flight Plan applications, PANSA is waiting for more guidance material to be available.				-
ASP (By:12/2021)				
PANSA	The concept is still very generic in respect to the ANSP part. At current maturity level of Extended Flight Plan applications, PANSA is waiting for more guidance material to be available.	-	0%	Not yet planned -

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				
AIMS-16(EN)				
-				
There is no national TOD implementation program. However PANSA publishes obstacle data set for Area 1 according to Annex 15 specification. There is also the plan for collecting obstacles for Area 2, 3 and 4 from Airport Authorities with close cooperation with CAA PANSA already is collecting, managing and providing obstacle data sets for all of areas . The terrain data will be managed and provided by Polish Head Office of Geodesy and Cartography.				31/12/2020
REG (By:05/2018)				
Reg. Authority	The Polish CAA has taken several activities regarding the TOD INF07 objective. Since 2006 CAA specialists have been participating in the eTOD WG meetings in Eurocontrol. The eTOD area 1 obstacle dataset for Poland is available already. For the last four years several national ADQ and eTOD Implementation WG meetings, attended by CAA, AD and geodetic companies representatives, have taken place. The Polish CAA is working together with the Polish Head Office of Land Surveying and Cartography in order to make terrain dataset available within the framework of licence contracts. Concerning obstacles, the Polish CAA is also in close cooperation with MIL Authorities.	-	25%	Late 31/12/2020
ASP (By:05/2018)				
PANSA	Currently PANSA does not have a plan or roadmap of implementation of TOD within Poland. There is no national TOD implementation program. However PANSA publishes obstacle data set for Area 1 according to Annex 15 specification. There is also the plan for collecting obstacles for Area 2, 3 and 4 from Airport Authorities with close cooperation with CAA PANSA already is collecting, managing and providing obstacle data sets for all of areas . The terrain data will be managed and provided by Polish Head Office of Geodesy and Cartography	-	10%	Late 31/12/2020
APO (By:05/2018)				
PPL - Warszawa Airport	EPWA activities with respect to e-TOD: - in zone 2a and 2b air obstacles are systematically monitored (measured) and data about such obstacles are collected, - - PPL has bought from Geodetic and Cartographic Documentation Center data of zones 3, 2a, 2b and 2c, which fulfill e-TOD standards. - zone 3 is optional, no e-TOD data acquired for EPWA, - e-TOD for zone 4 is ready and submitted to CAA All data concerning e-TOD both in discrete (point) and map form are updated and archived on an ongoing basis.	-	5%	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
IS-0901-A(OI) [E], MET-0101(OI) [E]
-

PANSA has deployed Web Services for publishing AUP/UUP (Airspace Usage Plans – ASM level 2 and 3) for internal purposes. Technology used: REST, AMQP, json, geojson. The interface type is WS Light with high compliance with the SWIM TI YP Specification. **PANSA is in the process of implementing a tool enabling the exchange of NM B2B data.**	**31/12/2024**

ASP (By:12/2024)

PANSA	PANSA has deployed Web Services for publishing AUP/UUP (Airspace Usage Plans – ASM level 2 and 3) for internal purposes. Technology used: REST, AMQP, json, geojson. The interface type is WS Light with high compliance with the SWIM TI YP Specification. PANSA is in the process of implementing a tool enabling the exchange of NM B2B data such as: • ATFCM pre-tactical and tactical plans (regulations, re-routings, sector configurations, runway updates, monitoring values, capacities, traffic volume activations, scenarios, etc.), • Short term ATFCM measures, • Restrictions.	-	0%	Planned 31/12/2024

MIL (By:12/2024)

Mil. Authority	Currently not planned - waiting for the transition concept to SWIM.	-	%	Not yet planned -

APO (By:12/2024)

PPL - Warszawa Airport	Currently not planned - waiting for the transition concept to SWIM.	-	%	Not yet planned -

ITY-ACID	**Aircraft Identification** *Timescales:* Entry into force of the Regulation: 13/12/2011 System capability: 02/01/2020	100%	**Completed**

Key Feature: Enabling the Aviation Infrastructure
GSURV-0101(EN)
-

PANSA defined plans and executed process to implement new radars and WAM systems providing FIR Warsaw mode S coverage. Required operational and technical training and documentation provided in due time as well as safety related activities required as part of the functional changes implementation were under supervision of CAA. Further activity is ongoing to increase number of coverage layers.	**02/01/2020**

ASP (By:01/2020)

PANSA	PANSA defined plans and executed process to implement new radars and WAM systems providing FIR Warsaw mode S coverage. Required operational and technical training and documentation provided in due time as well as safety related activities required as part of the functional changes implementation were under supervision of CAA. Further activity is ongoing to increase number of coverage layers.	MLAT System for FIR Warsaw / SUR Infrastructure / WAM/ADS-B System for Warsaw FIR (Poznan, Wroclaw, Kraków, Katowice, Warszawa)	100%	Completed 02/01/2020

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	**92%**	**Late**

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

IS-0202(OI), IS-0204(OI)

-

Operationally, AIS Poland uses AIXM 5.1 format (ADQ compliant), but EAD and other users prefer data in AIXM 4.5 format (not ADQ compliant). Data made available by AIS are not accompanied by ADQ compliant metadata. PANSA instruction for AIM needs to be updated with more transparent description of procedures for manual or semi-automated data processes as well as error reporting and rectification. The existing formal arrangements regarding the co-operation between AIS and other services provided by PANSA (ASM, ATFM, ATS, CNS, IFP) have proved to be insufficient and do not guarantee that all stakeholders are clearly defined and aware of their responsibilities.	**31/12/2022**

REG (By:06/2017)				
Reg. Authority	Taking into consideration the importance of the ITY-ADQ objective implementation and in order to monitor and stimulate implementation of EU IR 73/2010, in 2011 the CAA PL formed an ADQ Implementation WG, consisting of CAA, ADs and geodetic companies representatives. Awareness campaign ended in 2013.	-	92%	Late
				01/09/2020

ASP (By:06/2017)				
PANSA	Operationally, AIS Poland uses AIXM 5.1 format (ADQ compliant), but EAD and other users prefer data in AIXM 4.5 format (not ADQ compliant). Data made available by AIS are not accompanied by ADQ compliant metadata. PANSA instruction for AIM needs to be updated with more transparent description of procedures for manual or semi-automated data processes as well as error reporting and rectification. The existing formal arrangements regarding the co-operation between AIS and other services provided by PANSA (ASM, ATFM, ATS, CNS, IFP) have proved to be insufficient and do not guarantee that all stakeholders are clearly defined and aware of their responsibilities.	-	80%	Late
				31/12/2022
Mil. Authority	Data quality requirements has been fulfilled by ASP. All electronic data is compliant to all requirements and a statement of compliance has been provided to the NSA (30/06/2017).	-	93%	Late
				31/12/2022

APO (By:06/2017)				
PPL - Warszawa Airport	The regulations implementing ADQ (Eurocontrol specifications) have been issued and apply; the employees authorised to enter data are both trained in the knowledge of ADQ (PANSA) and have authorizations to enter data through a relevant IT application, also have access to PLX.	-	100%	Completed
				31/10/2019

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					
AUO-0301(OI)					
		-			
PANSA has implemented Initial ATC Air-Ground Data Link Services.					**31/10/2019**
REG (By:02/2018)					
Reg. Authority	Poland has implemented Commission Regulation (EC) No 29/2009 amended by the Regulation 310/2015. Requirements contained in AGDL regulation, related to implementation of the data links, will be checked during the process of air-ground data link services approvals.	-		100%	Completed 01/03/2018
ASP (By:02/2018)					
PANSA	PANSA has implemented Initial ATC Air-Ground Data Link Services	iTEC/Convergence of ATM systems in the Baltic FAB ACCs and Cross Borders Service provision with Joint Contingency Service Provision		100%	Completed 31/10/2019
MIL (By:01/2019)					
Mil. Authority	Polish Air Force does not have plans to install data link equipment on state transport aircrafts.	-		%	Not Applicable -

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	**84%**	**Ongoing**

Key Feature: Enabling the Aviation Infrastructure			
CTE-C01a(EN)			
-			
Poland has implemented Regulation 1079/2012 ensuring compliance with the requirements on 8.33 kHz frequency conversions. In 2016 PANSA finalised exchanging of all the radio communication equipment used for APP, TWR and ATIS. Frequency conversions and operational implementation is completed. List of State aircraft that can not be equipped with 8.33 kHz radios has been communicated to the Commission. 85% of concerned State aircraft equipped..85% of concerned State aircraft equipped.			**31/12/2020**

REG (By:12/2018)				
Reg. Authority	Poland has implemented Regulation 1079/2012 ensuring compliance with the requirements on 8.33 kHz frequency conversions.	-	100%	Completed 31/12/2018

ASP (By:12/2018)				
PANSA	In 2016 PANSA finalised exchanging of all the radio communication equipment used for APP, TWR and ATIS. Frequency conversions and operational implementation is completed.	iTEC/Convergence of ATM systems in the Baltic FAB ACCs and Cross Borders Service provision with Joint Contingency Service Provision	100%	Completed 08/11/2018

MIL (By:12/2020)				
Mil. Authority	List of State aircraft that can not be equipped with 8.33 kHz radios has been communicated to the Commission. 85% of concerned State aircraft equipped.	-	30%	Ongoing 31/12/2020

APO (By:12/2018)			

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

Links: B0-FICE, B1-FICE | Key Feature: Enabling the Aviation Infrastructure

CTE-C06(EN)			
There is an agreed Communication strategy for PANSA. The objective is well planned but linked to the implementation of the new ATM system (Pegasus 21), which is scheduled past the objective deadline date. PANSA has implemented TCP/IP interfaces to support flight data exchange in the new ATMC system. At this moment operational IPv6 connections are utilised with DFS, LFV and ANS CR.			**31/12/2013**

ASP (By:12/2014)				
PANSA	There is an agreed Communication strategy for PANSA. The objective is well planned but linked to the implementation of the new ATMC system (Pegasus 21), which is scheduled past the objective deadline date. PANSA has implemented TCP/IP interfaces to support flight data exchange in the new ATMC system. At this moment operational IPv6 connections are utilised with DFS, LFV and ANS CR.	iTEC/Convergence of ATM systems in the Baltic FAB ACCs and Cross Borders Service provision with Joint Contingency Service Provision	100%	Completed 31/12/2013

MIL (By:12/2014)				
Mil. Authority	Military do not provide ATC service to civil flights	-	%	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	65%	**Ongoing**

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

GSURV-0101(EN)			
The requirements are already implemented in cases when surveillance data is transferred to other ANSP and will as well be implemented in case of new surveillance data exchange. New military aircrafts are equipped with Mode S Surveillance equipment. Plans for remaining aircrafts to equip them with Mode S Elementary Surveillance equipment are accepted			**07/06/2020**

REG (By:02/2015)				
Reg. Authority	The CAA verification of the necessary safety assessments for systems identified in Regulation 1207/2011 Art. 2.1 (b), (c), (d) are conducted as a constant process before their acceptance. The decisions are communicated to ANSP concerned.	-	100%	Completed 31/05/2015

ASP (By:02/2015)				
PANSA	The requirements are implemented in cases when surveillance data is transferred to other ANSP and will as well be implemented in case of new surveillance data exchange	-	100%	Completed 31/05/2016

MIL (By:06/2020)				
Mil. Authority	New aircrafts are equipped with Mode S Surveillance equipment. Plans for remaining aircrafts to equip them with Mode S Elementary Surveillance equipment are accepted.	-	7%	Ongoing 07/06/2020

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	100%	Completed

Links: B0-CCO, B0-CDO, B1-RSEQ | Key Feature: Advanced Air Traffic Services

AOM-0601(OI), CTE-N08(EN)

-

100% planed RNAV1 SID and STAR is implemented ("PBN Implementation Plan and PANSA "Airspace Strategy " grant that All instrument RWYs ends will be provided with SIDs & STARs RNAV1-radar TMA or RNP1-non radar TMA)	31/12/2009

REG (By:06/2030)				
Reg. Authority	As a part of the implementation of the "PBN Implementation Plan in Poland", Polish CAA receives notifications of changes in the functional system – RNP flight procedures, GNSS, etc. – which are then verified and approved. There is no separate verification of the mentioned Plan as such.	-	100%	Completed 31/12/2009

ASP (By:06/2030)				
PANSA	100% planed RNAV1 SID and STAR is implemented ("PBN Implementation Plan and PANSA "Airspace Strategy " grant that All instrument RWYs ends will be provided with SIDs & STARs RNAV1-radar TMA or RNP1-non radar TMA)	-	100%	Completed 31/12/2009

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	26%	Ongoing

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

AOM-0603(OI) [E], AOM-0605(OI) [E]

-

RNP-1 are already implemented for EPBY, EPRA, EPRZ, EPLL, EPSY,EPZG (DEP & ARR) On the basis PANSA's analysis, due to terrain structure, there is no operational need to implement RNP 1 arrival and departure procedures with Radius to Fix (RF).	31/12/2023

REG (By:06/2030)				
Reg. Authority	As a part of the implementation of the "PBN Implementation Plan in Poland", Polish CAA receives notifications of changes in the functional system – RNP flight procedures, GNSS, etc. – which are then verified and approved. There is no separate verification of the mentioned Plan as such.	-	100%	Completed -

ASP (By:06/2030)				
PANSA	RNP-1 are already implemented for EPBY, EPRA, EPRZ, EPLL, EPSY,EPZG (DEP & ARR) On the basis PANSA's analysis, due to terrain structure, there is no operational need to implement RNP 1 arrival and departure procedures with Radius to Fix (RF).	-	16%	Ongoing 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	**100%**	**Completed**

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

AOM-0602(OI), AOM-0604(OI), CTE-N06a(EN), CTE-N06b(EN)

-

PANSA Implemented APV procedures for the Airport in Katowice, Gdansk, Kraków, Wroclaw, Rzeszów, Szczecin, Bydgoszcz, Olsztyn-Mazury, Modlin, Łódź, Lublin. **PANSA develops safety assessment (FHA, PSSA and SSA) for each implemented procedures including APV Baro and APV SBAS approaches.** **To the end of 2020 PANSA will publish procedures for all applicable airports with IFR runways.**	**31/12/2019**

REG (By:01/2024)

Reg. Authority	The EASA AMC 20-27 was translated and published on CAA website. EASA AMC 20-28 is still under development.	-	100%	Completed 31/12/2013

ASP (By:01/2024)

PANSA	PANSA Implemented APV procedures for the Airport in Katowice, Gdansk, Kraków, Wroclaw, Rzeszów, Szczecin, Bydgoszcz, Olsztyn-Mazury, Modlin, Łódź, Lublin PANSA develops safety assessment (FHA,PSSA and SSA) for each implemented procedures including APV Baro and APV SBAS approaches. To the end of 2020 PANSA is aspiring to complete this step and to publish procedures for all applicable airports with IFR runways.	-	100%	Completed 31/12/2019

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%**	**Not yet planned**

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

AOM-0810(OI)

-

PANSA is ready to proceed with implementation as soon as Airspace Users will request	-

REG (By:06/2030)

Reg. Authority	-	-	%	Not yet planned -

ASP (By:06/2030)

PANSA	-	-	%	Not yet planned -

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			
PRO-006a(EN)			
-			
In particular at the main Polish Airport - Warsaw Chopin Airport The Safety Committee was established to share best practices of runway excursion among the other things. Members of the Safety Committee represent main stakeholders at Warsaw Airport, including Polish Air Navigation Services Agency (PANSA). CAA will exercise its role according to the foreseen timetable on the basis of information from stakeholders.			**01/09/2017**

REG (By:01/2018)				
Reg. Authority	CAA will exercise its role according to the foreseen timetable on the basis of information from stakeholders.	-	100%	Completed 01/09/2017

ASP (By:12/2014)				
PANSA	Dedicated teams for prevention of runway excursions as well as runway incursion were established in the following Polish airports: Warszawa, Katowice, Krakow, Poznan, Wroclaw, Gdansk, Szczecin, Zielona Gora, Rzeszow, Lodz and Bydgoszcz. The one of the main activity of those teams is to implement recommendations of European Action Plan for the Prevention of Runway Excursion. In particular at the main Polish Airport - Warsaw Chopin Airport The Safety Committee was established to share best practices of runway excursion among the other things. Members of the Safety Committee represent main stakeholders at Warsaw Airport, including Polish Air Navigation Services Agency (PANSA).	-	100%	Completed 31/12/2014

APO (By:12/2014)				
PPL - Warszawa Airport	-	-	100%	Completed 30/09/2014

Additional Objectives for ICAO ASBU Monitoring

AOM21.1	**Direct Routing** *Timescales:* Initial Operational Capability: 01/01/2015 Full Operational Capability: 31/12/2017	100%	**Completed**
Links: B0-FRTO, B1-FRTO | Key Feature: Advanced Air Traffic Services			
AOM-0401(OI), AOM-0402(OI), AOM-0500(OI) [E]			
-			
Implementation of Direct Routing (FRA like) in FIR Warszawa is one of the phases of Free Route Airspace Implementation. This phase is already implemented, however it is still under continues development.			10/12/2015
ASP (By:12/2017)			
PANSA	The last phase of FRA like in FIR EPWW next package of DCT routes has been implemented from 10.12.2015.	-	100%	Completed 10/12/2015

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			
CM-0801(OI)			
-			
The CAA approved EUROCONTROL STCA Specifications New ATM system with enhanced safety-nets capabilities is running since November 2013. PANSA developed company policy for safety nets and assigned staff responsible for its maintenance and improvement.			-
ASP (By:01/2013)			
PANSA	STCA capabilities in the new system are upgraded compared to the old one. Initial training of ATCOs completed before operational start-up of the new ATM system in November 2013.	-	100%	Completed -

ATC16	**Implement ACAS II compliant with TCAS II change 7.1** *Timescales:* Initial operational capability: 01/03/2012 Full operational capability: 31/12/2015	87%	**Late**
Links: B0-ACAS | Key Feature: Advanced Air Traffic Services			
PRO-AC-21(EN)			
-			
Planned for its timely implementation. No specific training package was developed but all requirements arising from software changes ver 7.0 vs. ver 7.1 are in place in existing training plans and refreshment courses for ATCO. At present the possibility of equipment transport-type aircraft is under review			30/12/2020
REG (By:12/2015)			
Reg. Authority	Planned for its timely implementation.	-	100%	Completed -
ASP (By:03/2012)			
PANSA	No specific training package was developed but all requirements arising from software changes ver 7.0 vs. ver 7.1 are in place in existing training plans and refreshment courses for ATCO	-	100%	Completed -
MIL (By:12/2015)			
Mil. Authority	At present the possibility of equipment transport-type aircraft is under review	-	55%	Late 30/12/2020

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			
IS-0102(OI)			
-			
PANSA is equipped with CFMU terminals. Provision of flight activations to CFMU is implemented. Supply ETFMS with Standard Correlated Position is planned using Entry Nodes .as function of the new ATM system . MIL has no Service provision role. MIL does not currently have CFMU terminals			-
ASP (By:07/2014)			
PANSA	PANSA is equipped with CFMU terminals. Provision of flight activations to CFMU is implemented. Supply ETFMS with Standard Correlated Position is planned as function of the new ATM system using Entry Nodes . There is no plan for the implementation of other functions.	-	100%	Completed —

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			
CM-0201(OI)			
-			
In the current system Basic OLDI messages are implemented with basic messages being exchanged with all neighbouring ACC at the exception of Kaliningrad. In the new Pegasus system is ready to exchange also other all OLDI messages (not yet operationally used with any partner) will be implemented. Military have one civil working position directly connected to the civil control centre			-
ASP (By:12/2012)			
PANSA	In the current system OLDI is implemented with basic messages being exchanged with all neighbouring ACC at the exception of Kaliningrad. In the new ATM system is ready to support more advanced features, although the scope of possible enhancements is yet to be confirmed by surrounding partners. Pegasus system all OLDI messages will be implemented.	-	100%	Completed —
MIL (By:12/2012)			
Mil. Authority	Military have one civil working position directly connected to the civil control centre	-	%	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*	60%	Ongoing
Links: B1-RATS | Key Feature: High Performing Airport Operations				
SDM-0201(OI), SDM-0204(OI), SDM-0205(OI)				
EPLB - LUBLIN				
Remote service will be provided in Lublin from Rzeszow. Remote Tower for normal service provision.			**31/12/2022**

AOP15	Enhanced traffic situational awareness and airport safety nets for the vehicle drivers *Applicability and timescale: Local*	%	Not yet planned
Links: B2-SURF | Key Feature: High Performing Airport Operations				
AO-0105(OI), AO-0204(OI)				
EPWA - Warszawa Airport				
Not yet planned.			-

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				
AO-0222-A(OI) [E]				
EPWA - Warszawa Airport				
No interest to any airport so far.			-

AOP17	Provision/integration of departure planning information to NMOC *Applicability and timescale: Local*	20%	Ongoing
Links: B1-ACDM, B1-NOPS | Key Feature: High Performing Airport Operations				
DCB-0304(OI) [E]				
EPWA - Warszawa Airport				
All EPWW airports will be equipped with PANSA 'Terminus' A-CDM & Advanced ATM Tower software. Small and medium airports will stay on its Advanced ATM Tower level that will send DPI messages applicable for AOP17 requirements.			**31/12/2026**

AOP18	Runway Status Lights (RWSL) *Applicability and timescale: Local*	%	Not yet planned
Links: B2-SURF | Key Feature: High Performing Airport Operations				
AO-0209(OI)				
EPWA - Warszawa Airport				
Not yet planned.			-

ATC18	Multi-Sector Planning En-route - 1P2T *Applicability and timescale: Local*	%	Completed
Key Feature: Advanced Air Traffic Services				
CM-0301(OI) [E]				
-				
The ATM system functionality of having one planner position for two executive positions was technically completed at the beginning of 2017, and now it is being validated by operational staff. Operationally it is used only by FIS and APP (some specific configurations). In ACC the concept of multiplanner was implemented for OAT sectors only.			**08/11/2018**

ATC19	Enhanced AMAN-DMAN integration *Applicability and timescale: Local*	%	**Planned**
Links: B2-RSEQ | Key Feature: Advanced Air Traffic Services
TS-0308(OI) [E]
-
\multicolumn{3}{l}{Planned after Advanced Tower installation.}	**31/12/2025**

ATC20	Enhanced STCA with down-linked parameters via Mode S EHS *Applicability and timescale: Local*	100%	**Completed**
Links: B1-SNET | Key Feature: Advanced Air Traffic Services
CM-0807-A(OI)
-
\multicolumn{3}{l}{Technically available form 2018. All ASP SLoAs completed.}	**25/10/2018**

ENV02	Airport Collaborative Environmental Management *Applicability and timescale: Local*	100%	**Completed**
Key Feature: High Performing Airport Operations
AO-0703(OI), AO-0705(OI), AO-0706(OI)
EPWA - Warszawa Airport
\multicolumn{3}{l}{Basic noise instrumentation exists. PPL and PANSA collaborate together in process of optimization SID and STAR procedures in order to minimization impact of noise.}	**31/12/2016**

ENV03	Continuous Climb Operations (CCO) *Applicability and timescale: Local*	80%	**Ongoing**
Links: B0-CCO | Key Feature: Advanced Air Traffic Services
AOM-0703(OI)
EPWA - Warszawa Airport
\multicolumn{3}{l}{SID Procedures designed according to ICAO's PBN Concept using RNP-1 navigation specification in TMA environment. Around 80% CCO, depending on arrival operations on EPWA Airport and departure/arrival traffic on EPMO Airport. It is important that it is not possible to achieve 100% feasibility of a CCO operation at EPWA. There are too many factors that must occur simultaneously for such an operation to take place (traffic volume, design of inbound and outbound procedures, crew cooperation, meteorological conditions). The feasibility rate will always fluctuate around 80%, but it will never stabilize at 100%. We can talk about ATCO readiness and ATCO training in CCO that is already taking place in basic training, but that's all we can guarantee at 100% level.}	**31/12/2020**

6. Annexes

A.   Specialists involved in the ATM implementation reporting for Poland

LSSIP Co-ordination

LSSIP Focal Points	Organisation	Name
LSSIP National Focal Point	POLISH AIR NAVIGATION SERVICES AGENCY	Mrs Jolanta WAKULICZ
LSSIP Focal Point for PANSA	POLISH AIR NAVIGATION SERVICES AGENCY	Mrs Dorota USZLIŃSKA
LSSIP Focal Point for NSA/CAA	CIVIL AVIATION AUTHORITY	Mrs Ewa GÓRECKA-CISZEWSKA
LSSIP Focal Point for Airport	POLISH AIRPORTS STATE ENTERPRISE	Mr Sławomir LORENT
LSSIP Focal Point for Military	POLISH AIR FORCE	Maj. Marcin ZAŁĘSKI

Other Focal Points	Organisation	Name
Focal Point for U-space	POLISH AIR NAVIGATION SERVICES AGENCY	Mr Mateusz KOTLIŃSKI
Focal Point for NETSYS	POLISH AIR NAVIGATION SERVICES AGENCY	Mr Michał MURAWSKI Mr Maciej DĄBROWSKI
SDM Focal Point	CAA/PANSA	Dariusz Wojtasik/Jakub Kępa

B. National stakeholders organisation charts

Organisational Structure of Civil Aviation Authority

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                        PRESIDENT
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President's Bureau — Team for Protection of Classified Information and Personal Data

Vice President For Air Transport
- Air Transport Department
- International Affairs Department
- Legal Department
- Commission on Passengers Rights

Vice President for Aviation Infrastructure
- Air Navigation Department
- Civil Aviation Security Department
- Aerodromes Department
- Unmanned Aircraft Department

Vice President for Aviation Standards
- Aviation Technical Department
- Flight Operations Department
- Safety Management Bureau
- Personnel Licensing Department

Director General
- Director General's Office
- Internal Audit Post
- Plenipotentiary for Quality Management System
- Health and Safety and Fire Protection Post

PANSA

Polish Air Navigation Services Agency was set up under the Act of 8 December 2006 and started its activity on the 1st of April 2007. Agency's ongoing activity is supervised by the President of the Civil Aviation Authority under the provision of the Act of 3 July 2002 – the Aviation Law. PANSA performs its functions under the authority of the Minister of Infrastructure.

Organizational Structure of Polish Air Navigation Services Agency

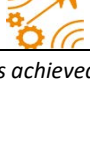## C.   Implementation Objectives' links with SESAR KF, ASBU blocks and more

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

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
INF08.2 - Information Exchanges using the SWIM Blue TI Profile		Pre-SWIM & SWIM	#28, #46	5.1.3, 5.1.4,	B1-SWIM B1-DATM	-	AM-9.1

Level 3 Implementation Objectives	SESAR Key Feature	Major ATM change	SESAR Solution	DP family	ICAO ASBU B0, B1, B2	EPAS	AAS TP
				5.2.1, 5.2.2, 5.2.3, 5.6.2			
INF09 - Digital Integrated Briefing		Pre-SWIM & SWIM	#34	-	B1-SWIM B1-DATM	-	-
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 provides an overview of the current implementation progress and short to medium term planning information on the main elements underlying the provision of the 16 U-Space services enabling Very Low Level drones operations. Those elements are expected to be available in phases U1 (2019) to U3 (2025) as described in the European ATM Master Plan add-on: Roadmap for the safe integration of drones into all classes of airspace.

Phase	Service	Service Element	Progress	Implementation Date	Comment
U1	e-Registration	Registration enforcement implemented	Completed	31-01-2019	Registration is mandatory for UAVs weighing more than 25 kg and all UAVs, which are meant to be used in BVLOS operations. All UAVs registered in the Polish CAA get registration marks on basis of state regulation.
U1	e-Registration	Remote Identification system add-on registration service available (i.e. device physical serial number)	Ongoing	31-12-2020	Procedural via PansaUTM and mobile application (DroneRadar). The information on certain drone flying with use of the UTM is available. No remote identification, which needs additional device to be installed on UAVs due to lack of industry and manufactures standard. It will be implemented, as soon it is available.
U1	e-Registration	UA online registration service available	Ongoing	01-07-2020	UA online registration already available. It will be implemented as obligatory from 1 July 2020.
U1	e-Registration	UAS operator online registration service available	Ongoing	01-07-2020	UAS operator online registration already available. It will be implemented as obligatory from 1 July 2020.
U1	e-Registration	UAS operator registration procedure implemented (e.g. national registration number)	Completed	01-02-2019	Already implemented. All UAVs registered in the Polish CAA get registration marks on basis of state regulation.

Phase	Service	Service Element	Progress	Implementation Date	Comment
U1	e-Identification	Authority in charge of issuing and managing identification numbers (i.e. code allocation and coordination) established	Completed	17-01-2019	CAA of Poland
U1	e-Identification	E-identification enforcement implemented	Completed	02-03-2020	Procedural via PansaUTM and mobile application (DroneRadar). The information on certain drone flying with use of the UTM is available. No remote identification which needs additional device to be installed on UAVs due to lack of industry and manufactures standard. It will be implemented as soon it is available.
U1	e-Identification	The identification service includes the localisation of the drones (i.e. position and time stamp)	Completed	02-03-2020	Procedural identification service via PansaUTM and mobile application (DroneRadar). The information on position and time stamp of certain drone flying with use of the UTM is available. Live tracking available for UAVs equipped with ADS-B transceivers.
U1	Pre-tactical geo-fencing	Geo-limitation database available	Completed	02-03-2020	Available in operational PansaUTM system and mobile application (DroneRadar).
U1	Pre-tactical geo-fencing	Pre-defined restricted areas implementation	Completed	02-03-2020	Available in operational PansaUTM system and mobile application (DroneRadar).

Phase	Service	Service Element	Progress	Implementation Date	Comment
U1	Pre-tactical geo-fencing	User access to AIP and NOTAM provided (i.e. to feed drones embedded geofencing features)	Completed	02-03-2020	Visualisation of elements of the airspace structures issued in AIP or NOTAM. Available in operational PansaUTM system and mobile application (DroneRadar). Feed drones embedded geofencing features not implemented, however there is a technical possibility - it requires willingness to enable cooperation from drone manufacturers.
U2	Tactical geo-fencing	Geo-awareness information available (e.g. geofence and flight restriction information provided up to the moment of take-off)	Completed	02-03-2020	Data available in operational Pansautm system and mobile app (DroneRadar).
U2	Tactical geo-fencing	Real-time pre-defined restricted areas information data feed available	Completed	02-03-2020	Flexible Use of Airspace implemented in PansaUTM. Activation and deactivation of permanent and temporary elements of airspace is automatically presented via dedicated API using AUP/ UUP. UTM system supports UAV related airspace structures published by NOTAMs. UTM supports possibility to create restricted areas through PansaUTM by Air Traffic Controllers via ATC interface module (dATS).
U2	Tactical geo-fencing	Restricted area infringement notification implemented (based on ownship data)	Completed	02-03-2020	Partially completed. Information on flights via UTM. If UAV uses tracking device (ADS-B) based - possibility to log infringement.
U2	Flight planning management	Airspace authorisation and flight planning approval processes available	Completed	02-03-2020	Airspace authorisation and flight planning approval processes available via operational Pansautm and DroneRadar mobile app.

Phase	Service	Service Element	Progress	Implementation Date	Comment
U2	Flight planning management	Automated flight plan validation capability available	Completed	02-03-2020	Automated flight plan validation supported via PansaUTM.
U2	Flight planning management	Digital notification (i.e. digital NOTAM) capability available	Completed	02-03-2020	Supported via PansaUTM and DroneRadar mobile app. If the new airspace structure created by NOTAM is uploaded to the PansaUTM system - it is instantly visible at the system and integrated mobile app - DroneRadar.
U2	Flight planning management	Flight plan preparation/optimisation capabilities available	Completed	02-03-2020	Supported through PansaUTM and DroneRadar mobile app.
U2	Flight planning management	Flight planning support publications available (e.g. obstacles maps; population density maps; risk reduction)	Ongoing	31-03-2021	Obstacle map available at CAA website. Population density map planned. Project dedicated creation of 3D modelling of terrain in progress.
U2	Weather information	Collection of weather information from different stakeholders implemented (including return of weather info drone to UTM)	Ongoing	31-03-2021	PansaUTM supports weather information (KP index) via DroneRadar APP. More weather sources will be implemented in the future. It requires availability of weather data trimmed for UAV purposes by weather information providers.
U2	Weather information	Hyperlocal weather information available	Planned	31-03-2021	Planned to be implemented into the existing UTM system.
U2	Weather information	Low-altitude wind forecasting information available	Planned	31-03-2021	Planned to be implemented into the existing UTM system.
U2	Weather information	Predictive weather hazard alerts at planned drone mission sites available	Completed	02-03-2020	PansaUTM supports weather information (KP index) via DroneRadar APP. Implementation of other alerts in progress.

Phase	Service	Service Element	Progress	Implementation Date	Comment
U2	Weather information	Real-time low-altitude wind actual information available	Planned	31-03-2021	Planned to be implemented into the existing UTM system.
U2	Tracking	Cooperative UAS positioning infrastructure available	Completed	02-03-2020	ADS-B infrastructure acquired. Cooperative UAS equipped in ADS-B transceivers are visible in operational PansaUTM system.
U2	Tracking	Non-cooperative UAS tracking capabilities available (e.g. at airports; high value assets)	Ongoing	31-12-2020	Ongoing process of purchase of dedicated infrastructure to track non-cooperative UAVs.
U2	Tracking	Real-time tracking capabilities available (e.g. location reports; data fusion from multiple sources)	Completed	02-03-2020	Real time tracking capabilities implemented in operational PansaUTM system (ADS-B, FLARM, LTE, IRIDIUM (used by HEMS).
U2	Tracking	Surveillance data exchange interface available (i.e. capability to exchange data among the tracking service and other services/systems)	Completed	02-03-2020	Capability to feed data from different sources (Iridum, Asterix, ADS-B exchange, other sources).
U2	Tracking	Tracking data recording capability implemented	Completed	02-03-2020	Recording of tracking implemented in operational PansaUTM system.
U2	Monitoring	Air situation monitoring capability available (depending on the level of tracking available. See U2 Tracking capabilities)	Completed	02-03-2020	Available in operational PansaUTM system.

Phase	Service	Service Element	Progress	Implementation Date	Comment
U2	Monitoring	Alert/Report line available	Completed	02-03-2020	Available in operational PansaUTM system.
U2	Monitoring	Flight non-conformance detection capability available	Completed	02-03-2020	Completed in opposite way - PansaUTM system and integrated application (DroneRadar) shows collaborative drones. If the drone is spotted and the flight is not visible in the system - it might preclude to be non conformant flight.
U2	Monitoring	Non-cooperative drones identification capability available to law enforcement, regulatory authority and service providers	Completed	02-03-2020	Completed in opposite way - PansaUTM system and integrated application (DroneRadar) shows collaborative drones. If the drone is spotted and the flight is not visible in the system - it might preclude to be non conformant flight.
U2	Monitoring	Provision of traffic information to UAS operators implemented	Completed	02-03-2020	Information on different UAS traffic available via PansaTUM (integrated mobile app DroneRadar). Information on other traffic (manned traffic) currently not planned but technically possible and could be implemented if there is a demand and use case for that.
U2	Monitoring	Restricted area infringement detection capability available (based on surveillance data)	Completed	02-03-2020	Completed, however requires from the UAV to have a supported tracking method in use.
U2	Drone aeronautical information management	UTM-relevant dynamic aeronautical data available (i.e. provision of information to geofencing and mission planning services)	Completed	02-03-2020	Available in operational PansaUTM system. System fully supports visualisation of dynamic aeronautical data.

Phase	Service	Service Element	Progress	Implementation Date	Comment
U2	Drone aeronautical information management	UTM-relevant static aeronautical data available	Completed	02-03-2020	Available in operational PansaUTM system. System fully supports visualisation of static aeronautical data.
U2	Procedural interface with ATC	ATC/UAS coordination procedures defined according to airspace classification	Completed	02-03-2020	Available in operational PansaUTM system.
U2	Procedural interface with ATC	Emergency and contingency procedures implemented	Completed	02-03-2020	Emergency procedures available in operational PansaUTM system (Reporting lost control of a drone, dynamic geofencing and ordering to land by ATC). Contingency procedure in case of system failure (manual/ paper coordination with PANSA and coordination via phone with ATC).
U2	Procedural interface with ATC	Flight notification procedures to nearby airports operators (i.e. AFIS; ATC; FIS) implemented	Completed	02-03-2020	Available in operational PansaUTM system.
U2	Procedural interface with ATC	Pre-tactical controlled airspace access coordination processes available	Completed	02-03-2020	Available in operational PansaUTM system. The process was available by manual coordination since 2013 before implementation of operational system.
U2	Procedural interface with ATC	Rules awareness service adapted to specific areas, time, type of operations	Completed	02-03-2020	PansaUTM and integrated mobile app (DroneRadar) provide data on rules concerning approval to fly in each airspace structure.
U2	Procedural interface with ATC	UAS access conditions prescription (for specific volumes of airspace) implemented	Completed	02-03-2020	Implemented in operational PansaUTM system. The system distinguish type of UAS and could allow or restrict the flight depending on the weight of the UAV.

Phase	Service	Service Element	Progress	Implementation Date	Comment
U2	Emergency management	Emergency alert line available	Completed	02-03-2020	Implemented in the system. The user can call the TWR based on information in the system/ mobile app. The ATC could call the UAV pilot (the phone number is always available on the flight strip).
U2	Emergency management	Provision of assistance information to UAS operator in case of emergency implemented	Completed	02-03-2020	Implemented in the system. The user can call the TWR based on the information in the system/ mobile app. The ATC could call the UAV pilot (the phone number is always available on the flight strip).
U2	Strategic de-confliction	Manned-unmanned aircraft deconfliction capability available	Completed	02-03-2020	Procedural deconfliction implemented (in CTRs).
U2	Strategic de-confliction	Pre-flight information provision involving de-confliction management function	Completed	02-03-2020	Procedural deconfliction implemented (in CTRs).
U2	Strategic de-confliction	Strategic de-confliction capabilities based on mission plans analysis (e.g. conflicts identification; solution proposal) available	Completed	02-03-2020	Procedural deconfliction implemented (in CTRs). In class G, reducing the BVLOS flights in unsegregated airspace to 120 m AGL and visualisation of the routes in the PansaUTM system (procedural deconfliction).
U3	Dynamic geo-fencing	Datalink connectivity to geofencing function implemented (e.g. through dedicated web service)	Completed	02-03-2020	Available in the operational PansaUTM system. Dynamic geofencing function ordering UAVs to land implemented.

Phase	Service	Service Element	Progress	Implementation Date	Comment
U3	Dynamic geo-fencing	Live dynamic restricted areas information data feed available for real-time flight path adjustments	Completed	02-03-2020	Information to drone operator is provided dynamically after creation of the dynamic geofence.
U3	Dynamic geo-fencing	Up-to-date guidance information including safety concerns (e.g. forest fires; major events; VIP travel) provided	Completed	02-03-2020	Possibility of creation U-space dedicated elements of airspace restricting drone operations (not yet based on regulations). Available types of airspace: Drone Airspace Restriction (DRAR), Drone Airspace Information (DRAI), Drone Airspace Prohibition (DRAP).
U3	Collaborative Interface with ATC	ATC alert notification implemented	Completed	02-03-2020	Available in the operational PansaUTM system. Dynamic geofencing function ordering UAVs to land by ATC implemented. Drone operators could alert ATC on lost control with the drone.
U3	Collaborative Interface with ATC	Global air situation monitoring capabilities available	Completed	02-03-2020	All reported drones by the APP are visible for the ATC.
U3	Tactical de-confliction	de-confliction management information transmition from the USSP to the UAS	Planned	31-03-2022	Requires cooperation with the UAS manufacturers. Testing capabilities during different demonstrations.
U3	Tactical de-confliction	de-confliction management information transmition in real-time	Planned	31-03-2021	Testing capabilities during different demonstrations. Planned for implementation.
U3	Dynamic capacity management	Airspace capacity monitoring capability available	Completed	02-03-2020	Airspace capacity and automatic capacity management implemented in the PansaUTM system.

Phase	Service	Service Element	Progress	Implementation Date	Comment
U3	Dynamic capacity management	Management for capacity due to non-nominal occurrences, such as weather hazards or emergency situations	Completed	02-03-2020	Airspace capacity and automatic capacity management implemented in the PansaUTM system. Possibility to reduce capacity real time.
U3	Dynamic capacity management	UAS traffic complexity assessment capability available	Planned	31-03-2021	Testing capabilities during different demonstrations. Planned for implementation.
U3	Dynamic capacity management	demand and capacity management implemented	Completed	02-03-2020	Airspace capacity and automatic capacity management implemented in the PansaUTM system. Possibility to reduce capacity in CTRs depending on the time of the day.
U3	Dynamic capacity management	near-real-time flight authorization capability available	Completed	02-03-2020	Available in the operational PansaUTM system. Near real time flight authorisation in CTRs available since 2013 by manual coordination. From 2 March 2020 available digitally via PansaUTM system.

E.   Military Organisations Infrastructure

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

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

F. Glossary of abbreviations

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

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

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

Term	Description
ACSS	Air Control Surveillance Service of Lower Airspace (SNRLs - Pol).
AF	ATM Functionality
BALTINT	Baltic Integration Project
BANC	Baltic Air Navigation Committee
CAA	Civil Aviation Authority
FT	Fast Track
IMGW	Institute of Meteorology and Water Management
MATSO	Military Air Traffic Service Office of Polish Armed Forces
MATZ	Military Aerodrome Traffic Zones
MoD	Ministry of Defence
NSA	National Supervisory Authority
OH&S	Occupational Health and Safety
PAF	Polish Air Forces
PAFFSO	Polish Armed Forces Flight Safety Office
PANSA	Polish Air Navigation Services Agency
PCP	Pilot Common Project
PDP	Preliminary Deployment Programme
PPL	"Polish Airports" State Enterprise – Warsaw Chopin Airport
PRANET	PANSA RAdar NETwork
S-AF	Sub ATM Functionality
SCAAI	State Commission of Aircraft Accident Investigation