25 YEARS of ATM Implementation Reporting in Europe

EUROCONTROL

LSSIP 2018
BOSNIA & HERZEGOVINA
Local Single Sky ImPlementation

Level 1 - Implementation Overview

FOREWORD

The Local Single Sky ImPlementation (LSSIP) documents are the yearly expression of 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). They provide an extensive view, 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 European aviation policies.

The Master Plan Level 3 and LSSIP Implementation Planning and Reporting are well-established and mature mechanisms, with a long history dating back more than 25 years. They continue to provide a well-recognised stable platform for ATM implementation planning, monitoring and reporting, while continuously adapting to the changing environment.

The reliability and quality of data provided by national stakeholders allowed, for the fourth 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. The Agency undertakes this work, on behalf of ICAO, for all 55 ICAO/EUR States in accordance with the Global Air Navigation Plan (GANP). This ASBUs Implementation Monitoring Report is a formal companion document and integral part of the ICAO European Air Navigation Plan.

The Agency promotes efficient practices to avoid duplication of work by cooperating with the European Defence Agency (EDA) and collecting information on their behalf through the LSSIP process.

In this light, the Agency is also cooperating with the SESAR Deployment Manager and the European Aviation Safety Agency (EASA).

As always, I would like again to thank all the stakeholders for their 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!

Philippe MERLO
Director
Directorate European Civil-Military Aviation
EUROCONTROL

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Reference Documents	
LSSIP Documents	http://www.eurocontrol.int/articles/lssip
LSSIP Guidance Material	http://www.eurocontrol.int/articles/lssip
Master Plan Level 3 – Plan Edition 2018	http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-plan
Master Plan Level 3 – Report Year 2018	http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-report
European ATM Portal	https://www.eatmportal.eu and http://www.atmmasterplan.eu/
STATFOR Forecasts	http://www.eurocontrol.int/statfor
Acronyms and abbreviations	https://www.eurocontrol.int/sites/default/files/content/documents/official-documents/guidance/Glossaries.pdf

APPROVAL SHEET

The following authorities have approved all parts of the LSSIP Year 2018 document and their signatures confirm the correctness of the reported information and reflect their commitment to implement the actions laid down in the European ATM Master Plan Level 3 Implementation Plan – Edition 2018.

Stakeholder / Organisation	Name	Position	Signature
BHDCA	Željko TRAVAR	Acting Director BHDCA	04.03.2019.
BHANSA	Davorin PRIMORAC	Director of BHANSA	06.03.2019.
MoD	Marina PENDEŠ	Minister of Defence	14 -03- 2019
Airport Sarajevo	Armin KAJMAKOVIĆ	General Manager	18.03.2019.

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Executive Summary

National ATM Context

Bosnia and Herzegovina is an ICAO, ECAC, EUROCONTROL, ECAA and JAA Member State.

Bosnia and Herzegovina ratified the European Common Aviation Area (ECAA) Agreement and signed a working arrangement with EASA thus accepting the obligation to implement European Union regulations in the civil aviation area.

The Bosnia and Herzegovina Directorate of Civil Aviation (BHDCA), as an authority responsible for performing regulatory functions and oversight in the areas of civil aviation and air navigation, was established in 1997. It is only civil aviation authority responsible for registration of aircraft and issuance of certificates, licenses, approval, ratings and endorsements in the area of civil aviation.

Bosnia and Herzegovina National Supervisory Authority (The NSA Unit) is embedded in BHDCA.

BHDCA provides for constant implementation of Standards and Recommended Practice in accordance with ICAO SARPs, with requirements for the European Union, EASA and the European Organization for Safety of Air Navigation – EUROCONTROL – with the objective of continued improvement of safety and security.

BHDCA continuously enhances quality, effectiveness and efficiency of its performance with the view to meet the requirements of all stakeholders and to protect public interests.

Bosnia and Herzegovina Air Navigation Services Agency (BHANSA) is certified by BHDCA, and responsible for the provision of air navigation services in the FIR Sarajevo or in the Area of Responsibility defined by international agreements with neighbouring states.

Traffic and Capacity

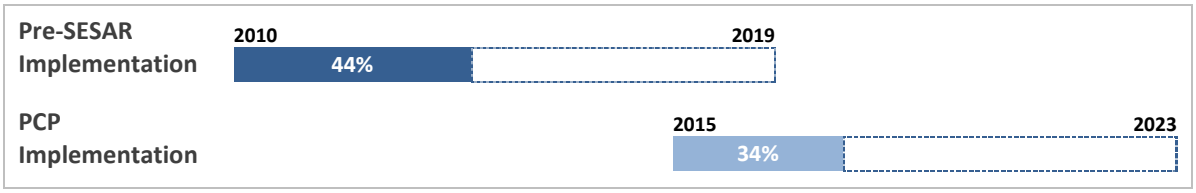
According to EUROCONTROL STATFOR data, traffic in Bosnia and Herzegovina **increased by 9.1%** during Summer 2018 (May to October inclusive), when compared to Summer 2017.

Year Forecast predicts an average annual increase between 1.6% and 5.1% throughout the planning cycle, with a baseline growth of 3.3%.

Progress per SESAR Phase

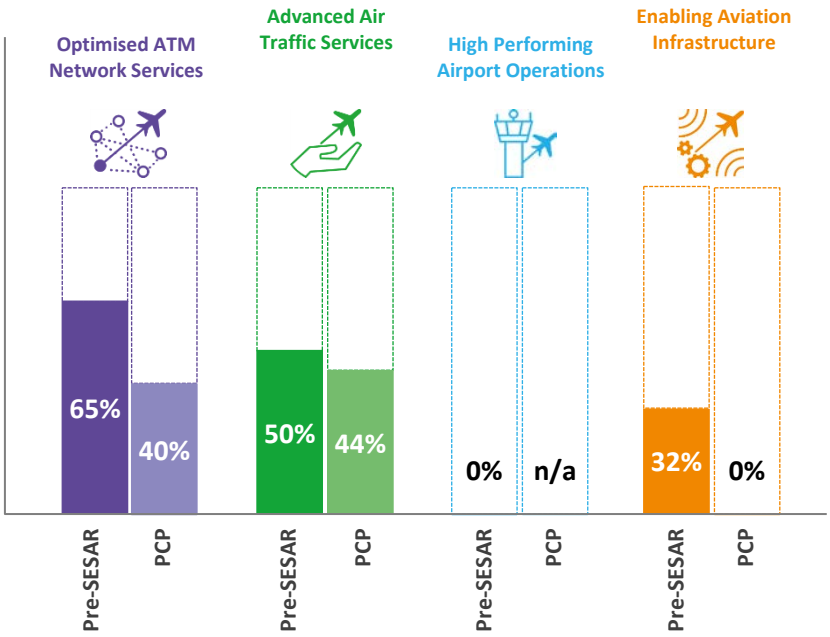
The figure below shows the progress made so far in the implementation of the SESAR baseline and the PCP elements. The percentage is calculated as an average of the relevant objectives as shown in Chapter 6.1 (PCP objectives are marked as such, the rest are considered SESAR baseline); note that two objectives – AOM19.1 and FCM05 – are considered as both part of the SESAR baseline and PCP so their progress contributes to the percentage of both phases.

The objectives declared 'Achieved' in previous editions (up to, and including, ATM MP L3 Edition 2011-2017) are also taken into account for as long as they were linked to the Level 2 of the ATM Master Plan and implemented by the State.



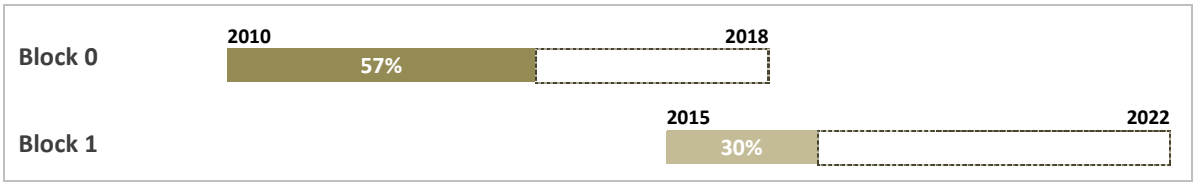
Progress per SESAR Key Feature and Phase

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



ICAO ASBUs Progress Implementation

The figure below shows the progress made so far in the implementation of the ICAO ASBUs Blocks 0 and 1. The overall percentage is calculated as an average of the relevant Objectives contributing to each of the relevant ASBUs; this is a summary of the table explained in Chapter 6.1.



ATM Deployment Outlook

- **State objectives**

Deployed in 2017-2018:

- **Real-Time Airspace Data**
[AOM19.2] 100% progress
- **ASM/ATFCM process**
[AOM19.3] 100% progress
- **Free Route Airspace**
[AOM21.2] 100% progress
- **TCAS II v7.1**
[ATC16] 100% progress
- **Collaborative Flight Planning**
[FCM03] 100% progress
- **STAM Phase 1**
[FCM04.1] 100% progress

By 12/2019	By 12/2020	By 12/2021	2022+
- **ASM Tools** [AOM19.1] 70% progress - **AMHS** [COM10] 62% progress - **Multi Sector Planning En-route** [ATC18] 0% progress	- **OAT and GAT handling** [AOM13.1] 41% progress - **Aircraft Identification** [ITY-ACID] 27% progress - **Surveillance Performance & Interoperability** [ITY-SPI] 20% progress - **Voice over IP** [COM11] 0% progress - **Runway excursions** [SAF11] 0% progress	- **ETFMS** [FCM01] 77% progress - **STAM Phase 2** [FCM04.2] 53% progress - **MTCD & CORA** [ATC12.1] 22% progress - **Interactive Rolling NOP** [FCM05] 0% progress - **Aeronautical Information** [ITY-ADQ] 0% progress	- **FMTP** [ITY-FMTP] 75% progress - **APV Procedures** [NAV10] 3% progress - **eTOD** [INF07] 1% progress - **8,33 kHz below FL195** [ITY-AGVCS2] 0% progress

- **Airport objectives - LQSA - Sarajevo Airport**

Deployed in 2017-2018: /

By 12/2019	By 12/2020	By 12/2021	2022+
			- **CDOs** [ENV01] 2% 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 2018, 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, an overview of the Airspace Organisation and Classification, the ATC Units, the ATM systems operated by the main ANSP are also provided;

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 gives also 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 a set of conclusions extracted from the MP L3 Implementation Report 2018, which are relevant to the State/stakeholders concerned. The State reports how they have handled those conclusions and the actions taken during the year to address the concerns expressed by those conclusions;

Chapter 4 provides the main Implementation Projects (at national, FAB and regional level) which contribute directly to the implementation of the MP Operational Improvements and/or Enablers and Implementation Objectives. Level 1 document covers 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 Level 2 document;

Chapter 5 deals with other cooperation activities beyond Implementation Projects. It provides an overview of the FAB cooperation and also all other regional 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 6 contains aggregated information at State level covering the overall level of implementation, implementation per SESAR Key Feature and implementation of ICAO ASBUs. In addition the high-level information on progress and plans of each Implementation Objective is presented. 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.

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 to achieve their respective Stakeholder Lines of Action (SLoAs) as established in the European ATM Master Plan L3 Implementation Plan Edition 2018. In addition it covers detailed description of the Implementation Projects for the State as extracted from the LSSIP Data Base.

The information contained in Chapter 6 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

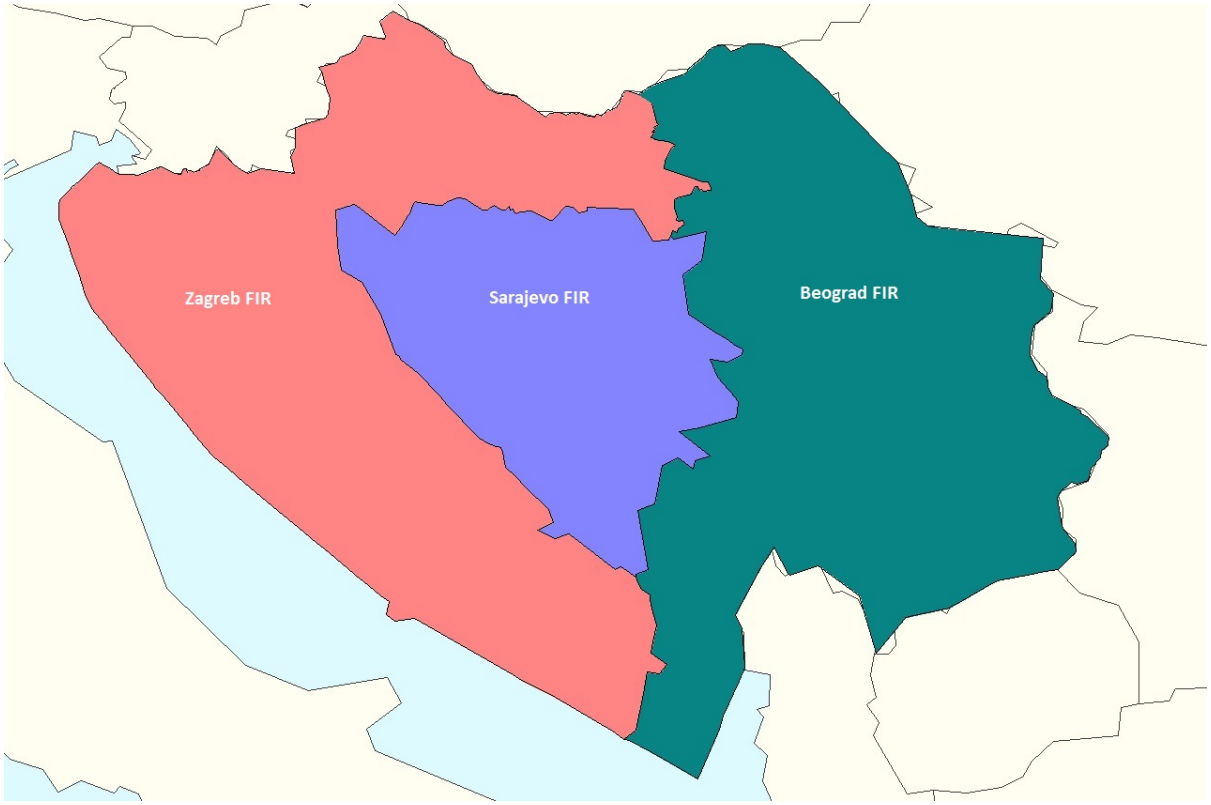
Bosnia is a Member of the following international organisations in the field of ATM:

Organisation		Since
ECAC	✓	2001
EUROCONTROL	✓	2004
European Union	-	-
EASA	-	-
ICAO	✓	1993
NATO	-	-
ITU	-	-
JAA	✓	2008

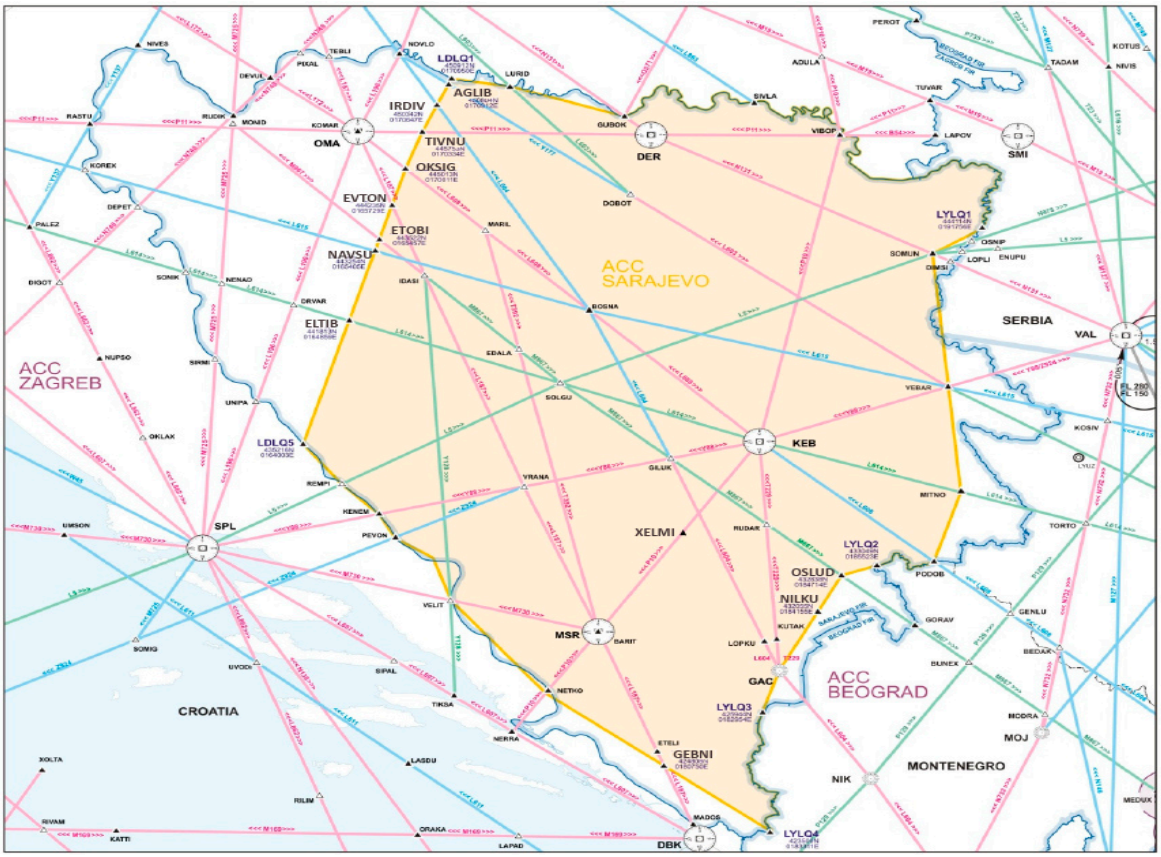
Geographical description of the FIR(s)

The geographical scope of this document addresses the Sarajevo FIR.

Sarajevo FIR is surrounded by FIRs of three States, namely Croatia, Montenegro, and Serbia.

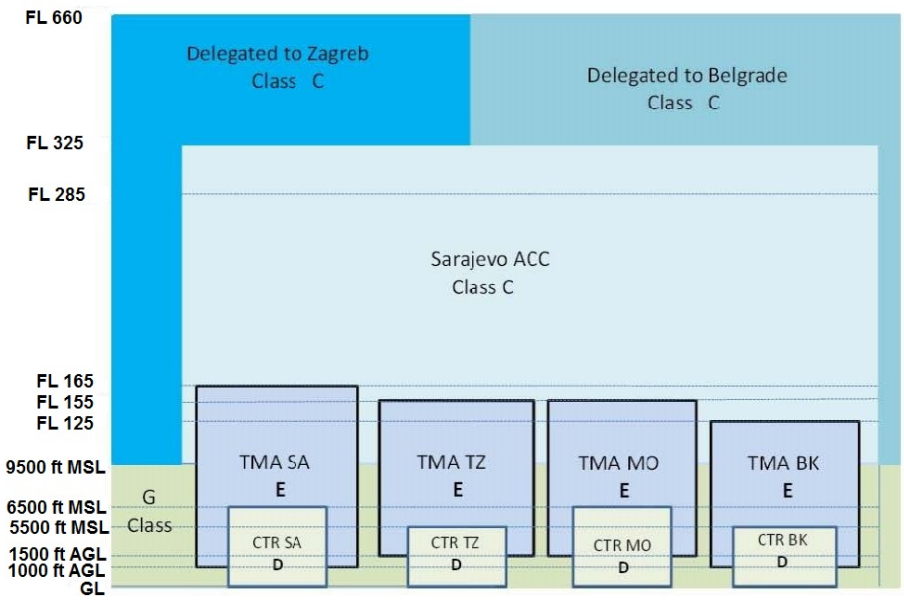


Current en-route BHANSA AoR:



Airspace Classification and Organisation

Bosnia and Herzegovina is following the ICAO airspace classification. The figure below shows the current classification within Sarajevo FIR.



ATC Units

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

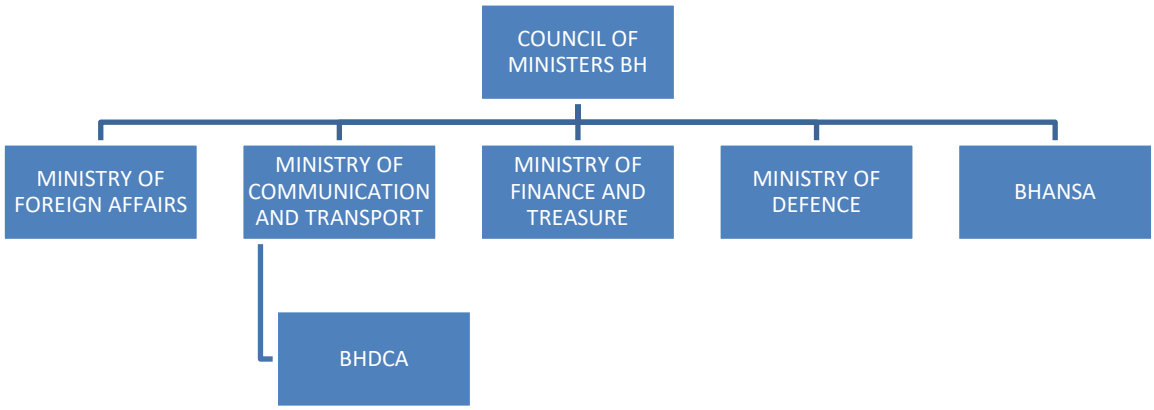
ATC Unit	Number of sectors		Associated FIR(s)	Remarks
	En-route	TMA		
Banja Luka	1	1	Sarajevo FIR	En-route, aerodrome and APP
Mostar	-	1	Sarajevo FIR	Aerodrome and APP
Sarajevo	2	2	Sarajevo FIR	En-route, aerodrome and APP
Tuzla	-	1	Sarajevo FIR	Aerodrome and APP
ACC	3	4	Sarajevo FIR	En-route from 9500 FT AMSL to FL 325 and FIS from GND to 9500 FT AMSL on 13 November 2014

1.2. National Stakeholders

The main National Stakeholders involved in ATM in Bosnia and Herzegovina are the following:

- The Ministry of Defence of Bosnia and Herzegovina;
- The Ministry of Communications and Transport of Bosnia and Herzegovina;
- BHDCA, Bosnia and Herzegovina Directorate of Civil Aviation (the role of NSA);
- BHANSA, Bosnia and Herzegovina Air Navigation Services Agency;
- The Ministry of Transport and Communications of the Republic of Srpska;
- The Ministry of Transport and Communications of the Federation of Bosnia and Herzegovina;

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



Civil Regulator(s)

General Information

Under the present Aviation Law ("Official Gazette of BH" No 39/09), the Civil Aviation policy is under the authority of the Ministry of Communications and Transport of Bosnia and Herzegovina.
The Bosnia and Herzegovina Directorate of Civil Aviation (BHDCA) performs duties defined in the Aviation Law, and has the authority and responsibility for the execution of the Regulatory function and for oversight in civil aviation and air traffic control.
The BHDCA may delegate the provision of certification of the Service Provider to another institution duly authorized in accordance with international regulations.

Air Navigation Services in the airspace over the territory of Bosnia and Herzegovina shall be provided by the Air Navigation Services Agency - BHANSA. The foundation, responsibilities, authorities and management, as well as other issues essential to the establishment of the BHANSA are regulated under the Law on Air Navigation Services Agency of Bosnia and Herzegovina.

Air navigation services providers from other countries may continue to provide ANS within the airspace of Bosnia and Herzegovina if so regulated under an international agreement in which one of the contracting parties is Bosnia and Herzegovina.

The area of responsibility for provision of Air Navigation Services covers the TMAs, CTRs and the en-route airspace up to FL 325.

The different national entities having their own responsibilities in ATM are summarised in the table below. The BHDCA is further detailed in the following section:

Activity in ATM:	Organisation responsible	Legal Basis
Rule-making	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09), bylaws and transposed EU Regulation.
Safety Oversight	BHDCA (audit and inspections)	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09); Regulation on requirements for issuing certificate for providing air navigation services (Official Gazette of Bosnia and Herzegovina" No 54/17); Regulation on oversight in civil aviation (Official Gazette of Bosnia and Herzegovina" No 22/16 and 55/18) and other relevant European regulations transposed.
Enforcement actions in case of non-compliance with safety regulatory requirements	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09); Regulation on requirements for issuing certificate for providing air navigation services (Official Gazette of Bosnia and Herzegovina" No 54/17); Regulation on oversight in civil aviation (Official Gazette of Bosnia and Herzegovina" No 22/16 and 55/18).
Airspace	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09); Regulation on transposition EU regulations on flexible use of airspace (Official Gazette of Bosnia and Herzegovina" No 79/10); Regulation of establishment and organisation of Airspace Management Cell (Official Gazette of Bosnia and Herzegovina" No 9/17); Decision on establishing Aviation Committee for airspace management in Bosnia

		and Herzegovina (Official Gazette of Bosnia and Herzegovina" No 75/16).
Economic	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09); Regulation in the determining of a common scheme for air navigation services (Official Gazette of Bosnia and Herzegovina" No 79/10); Regulation on the method of determining and financing the cost of providing air navigation services in the airspace of Bosnia and Herzegovina (Official Gazette of Bosnia and Herzegovina" No 86/11).
Environment	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09).
Security	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09).
Accident investigation	Ministry of Communication and Transport	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09); Regulation on Investigation of Aircraft Accidents and Serious Incidents (Official Gazette of Bosnia and Herzegovina" No 30/14).

BHDCA

The BHDCA (Bosnia and Herzegovina Directorate of Civil Aviation) is an administrative organization within the Ministry of Communications and Transport of Bosnia and Herzegovina. The seat of the BHDCA is in Banja Luka. The BHDCA has regional offices situated in Sarajevo and Mostar.

BHDCA has continued the legal continuity of the Bosnia and Herzegovina Directorate of Civil Aviation established by the Aviation Law of Bosnia and Herzegovina (BiH Official Gazette No: 02/04).
The BHDCA is the only civil aviation authority responsible for aircraft registration and issuance, extension and renewal of licences, certificates, endorsements and authorisations in the civil aviation of Bosnia and Herzegovina.

BHDCA performs inspections and controls via authorized inspectors. Inspections and controls may be performed inter alia on aircraft, aerodromes and airfields, air traffic control facilities and air operator certificate holders, aviation and other professional personnel.
The BHDCA, as a designated body of the National Supervisory Authority (NSA) for civil aviation, shall certificate the Service Provider and supervise the provision of air navigation services by the service provider, for the purpose of maintaining safety.

Annual Report published:	Y	Annual report is available on request. Annual Safety Oversight Report Year 2018 is under preparation.

The web site of the BHDCA is: www.bhdca.gov.ba

BHANSA

Services provided

BHANSA (Bosnia and Herzegovina Air Navigation Services Agency) is established by the Law as the Agency for Air Navigation Services in Bosnia and Herzegovina ("Official Gazette of BH" No 43/09). Under that Law BHANSA is responsible for: the provision of air traffic control services, provision of communication, navigation and surveillance services, provision of aeronautical information services, provision of aeronautical meteorological services, operations of the rescue coordination center in search and rescue, education and training of air traffic control staff, export and import for the needs of the Agency, other tasks and operations providing for safe air navigation.

The Agency shall provide air navigation services in the airspace of Bosnia and Herzegovina for the Flight Information Region (FIR Sarajevo).

The Agency may also provide air navigation services outside of the airspace of Bosnia and Herzegovina and it should be regulated by an international agreement with Bosnia and Herzegovina being a contracting party therein.

BHANSA shall comprise the organizational units as follows: Main office in Mostar; Area Control Centre (ACC) with operational Air Traffic Control Units in Sarajevo (ATCU I) and Banja Luka (ATCU II); Operational-technical services; Bosnia and Herzegovina Meteorological Watch Office (BiH MET) in Banja Luka, Flight information Service of Bosnia and Herzegovina (FIS) integrated with BHRCC in Banja Luka, Aeronautical Information Services of Bosnia and Herzegovina (AIS BiH) in Mostar; Air Traffic Control Training Centre with ATC simulator in Mostar, International NOTAM office of Bosnia and Herzegovina (BH NOF) in Sarajevo, Approach and Aerodrome Control Units at the controlled airports in Bosnia and Herzegovina: Sarajevo, Banja Luka, Mostar and Tuzla.

BHANSA in cooperation with MoD introduces Airspace Management Cell of Bosnia and Herzegovina – AMC.

Governance:	State Ministerial Organs	**Ownership:**	State
Services provided	**Y/N**	**Comment**	
ATC en-route	Y	BHANSA (Bosnia and Herzegovina Agency for Air Navigation Services) up to FL 325	
ATC approach	Y	BHANSA	
ATC Aerodrome(s)	Y	BHANSA	
AIS	Y	BHANSA	
CNS	Y	BHANSA	
MET	Y	BHANSA	
ATCO training	Y	OJT and continuation training for ACC (Area), Aerodrome and Approach. Other forms of training are provided by external organisations.	
Others	Y Y	Search and Rescue, BHANSA, (Rescue Coordination Centre) Airspace Management Cell, BHANSA	
Additional information:	The Aviation Law (Official Gazette of BH" No 39/09) and the Law on Air Navigation Services Agency of Bosnia and Herzegovina (Official Gazette of BH" No 43/09), guarantee separation of regulatory and ANSP.		
Provision of services in other State(s):	N		
Annual Report published:	N		

The web site of BHANSA is: www.bhansa.gov.ba

Additional web addresses of the organizations providing ANS:
www.crocontrol.hr and www.smatsa.rs.

ATC systems in use

Main ANSP part of any technology alliance[1]	N	

FDPS

Specify the manufacturer of the ATC system currently in use:	Indra AIRCON 2100 (DPS)
Upgrade[2] of the ATC system is performed or planned?	Performed in 2016
Replacement of the ATC system by the new one is planned?	New DPS SW planned for 2019 (Full Cross Border FRA support)
ATC Unit	ACC

Specify the manufacturer of the ATC system currently in use:	Thales Eurocat-C (DPS)
Upgrade of the ATC system is performed or planned?	
Replacement of the ATC system by the new one is planned?	Planned replacement by new Indra AIRCON 2100, as a part of the overall replacement for PHASE II BH ATM
ATC Unit	APP Sarajevo

SDPS

Specify the manufacturer of the ATC system currently in use:	Indra AIRCON 2100 (DPS)
Upgrade of the ATC system is performed or planned?	Performed in 2016
Replacement of the ATC system by the new one is planned?	New DPS SW planned for 2019 (Full Cross Border FRA support)
ATC Unit	ACC

Specify the manufacturer of the ATC system currently in use:	ARTAS
Upgrade of the ATC system is performed or planned?	Performed in 2016
Replacement of the ATC system by the new one is planned?	New ARTAS planned for 2019
ATC Unit	ACC

Specify the manufacturer of the ATC system currently in use:	Thales Eurocat-C (DPS)
Upgrade of the ATC system is performed or planned?	
Replacement of the ATC system by the new one is planned?	Planned replacement by new Indra AIRCON 2100, as a part of the overall replacement for PHASE II BH ATM
ATC Unit	APP Sarajevo

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

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

Airports

General information

There are four airports in Bosnia and Herzegovina, namely Banja Luka/Mahovljani, Mostar/Ortiješ, Sarajevo/Butmir and Tuzla/Dubrave are operated by public enterprises that are responsible only for ground services.

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

Therefore, Sarajevo International Airport (LQSA) is the only airport in Bosnia and Herzegovina covered by the LSSIP Year 2018.

The EUROCONTROL Public Airport Corner also provides information for the following airport(s):
https://ext.eurocontrol.int/airport_corner_public/LQSA

Military Authorities

The organizations and bodies of defense structure of BiH have responsibilities as follow:

The Presidency of Bosnia and Herzegovina has supreme command and control over the Armed Forces of Bosnia and Herzegovina while Parliamentary Assembly of Bosnia and Herzegovina conducts civilian control over the Armed Forces of Bosnia and Herzegovina.

The Ministry of Defense of Bosnia and Herzegovina is in charge of the overall strategy and policy for the defense system of Bosnia and Herzegovina. Airspace Management and Protection Division as a part of Sector for policy and plans is doing tasks related to Military Aviation Authority on behalf of Ministry of Defense.

The Joint Staff of the AF BiH is responsible for planning, organization and implementation of the directive and orders of the Minister of Defense of BiH.

The Operational Command of the AF BiH implements the policies of the Joint Staff of the AF BiH as well as tasks related to air force and air defense while Support Command manages personnel, logistics and training matters.

Air Force and Air Defense Brigade which is consisted of 2 flying squadrons, 1 fix wing sq, air surveillance battalion, air defense battalion, and flight support battalion is subordinated to Operational Command.

Division responsible for the using of airspace, airspace defense, organization, definition of military operational requirements is an integral part of Policy and Planning Sector and does not have any particular role in the provision of ATS.

Regulatory role

Regulatory framework and rule-making

OAT		GAT	
OAT and provision of service for OAT governed by national legal provisions?	Y	Provision of service for GAT by the Military governed by national legal provisions?	N
Level of such legal provision: Ministerial Decree, and Air Force Regulation (Standard Operational Procedures)		Level of such legal provision: N/A	
Level of such legal provision: Ministerial Decree, and Air Force Regulation (Standard Operational Procedures)		Authority signing such legal provision: N/A	
These provisions cover:		These provisions cover:	
Rules of the Air for OAT	Y		
Organisation of military ATS for OAT	N/A	Organisation of military ATS for GAT	N/A
OAT/GAT Co-ordination	Y	OAT/GAT Co-ordination	N/A
ATCO Training	N/A	ATCO Training	N/A
ATCO Licensing	N/A	ATCO Licensing	N/A
ANSP Certification	N/A	ANSP Certification	N/A
ANSP Supervision	N/A	ANSP Supervision	N/A
Aircrew Training	Y	ESARR applicability	N/A
Aircrew Licensing	N/A		
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	Y
National Military AIP	N	National Military AIP	N
EUROCONTROL eAIP	N	EUROCONTROL eAIP	N
Other:	-	Other:	-

Oversight

OAT	GAT
National oversight body for OAT: N/A	NSA (as per SES Regulation 550/2004) for GAT services provided by the military: N/A
Additional information: Inspection established at the level of Air Force Air Defence Brigade	Additional information:

Service Provision role

OAT			GAT	
Services Provided:			Services Provided:	
En-Route	Y	BHANSA is providing service	En-Route	Y
Approach/TMA	Y	BHANSA is providing service	Approach/TMA	Y
Airfield/TWR/GND	Y	BHANSA is providing service	Airfield/TWR/GND	Y
AIS	Y	BHANSA is providing service	AIS	Y
MET	Y	BHANSA is providing service	MET	Y
SAR	Y	BHANSA is providing service	SAR	Y
TSA/TRA monitoring	N	BHANSA	FIS	Y
Other:			Other:	
Additional Information:			Additional Information:	

Military ANSP providing GAT services SES certified?	N	If YES, since:		Duration of the Certificate:	2 years ANS-003 issued 20 April 2017 by BHDCA
Certificate issued by:			If NO, is this fact reported to the EC in accordance with SES regulations?		N/A
Additional Information:					

User role

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

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

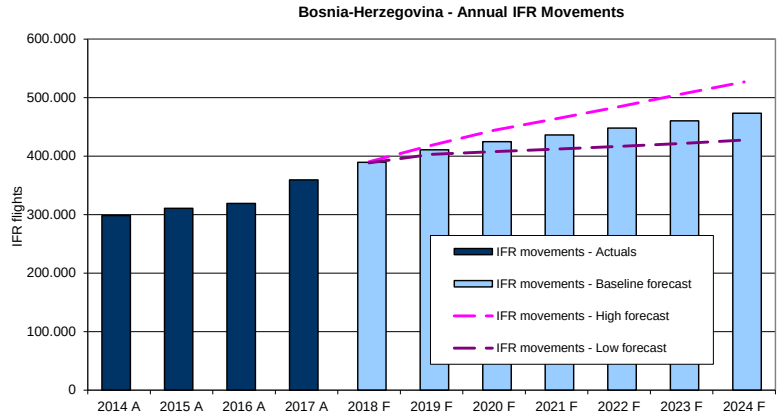
If Military fly GAT-IFR inside controlled airspace, specify existing special arrangements:								
No special arrangements				N	Exemption from Route Charges			Y
Exemption from flow and capacity (ATFCM) measures				N/A	Provision of ATC in UHF			N
CNS exemptions:	RVSM	N	8.33	N	Mode S	N	ACAS	N
Others:	-							

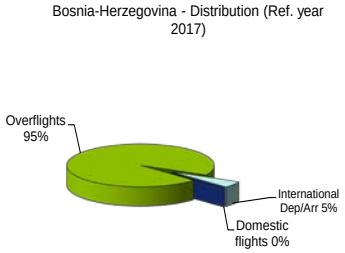
Flexible Use of Airspace (FUA)

Military in Bosnia applies FUA requirements as specified in the Regulation No 2150/2005: Y
FUA Level 1 implemented: Y Airspace Management Committee of Bosnia and Herzegovina since 2016
FUA Level 2 implemented: Y Airspace Management Cell – AMC since 6 December 2018
FUA Level 3 implemented: Y

2. Traffic and Capacity

2.1. Evolution of traffic in Bosnia and Herzegovina





EUROCONTROL Seven-Year Forecast (September 2018)											
IFR flights yearly growth		**2015 A**	**2016 A**	**2017 A**	**2018 F**	**2019 F**	**2020 F**	**2021 F**	**2022 F**	**2023 F**	**2024 F**
Bosnia - Herzegovina	H				8.6%	7.2%	6.2%	4.4%	4.4%	4.5%	4.1%
	B	4.2%	2.6%	12.6%	8.4%	5.5%	3.4%	2.7%	2.7%	2.8%	2.8%
	L				8.1%	3.7%	1.1%	1.1%	1.1%	1.2%	1.4%
ECAC	B	1.6%	2.8%	4.0%	3.7%	3.0%	2.6%	2.1%	1.9%	2.0%	2.1%

2018

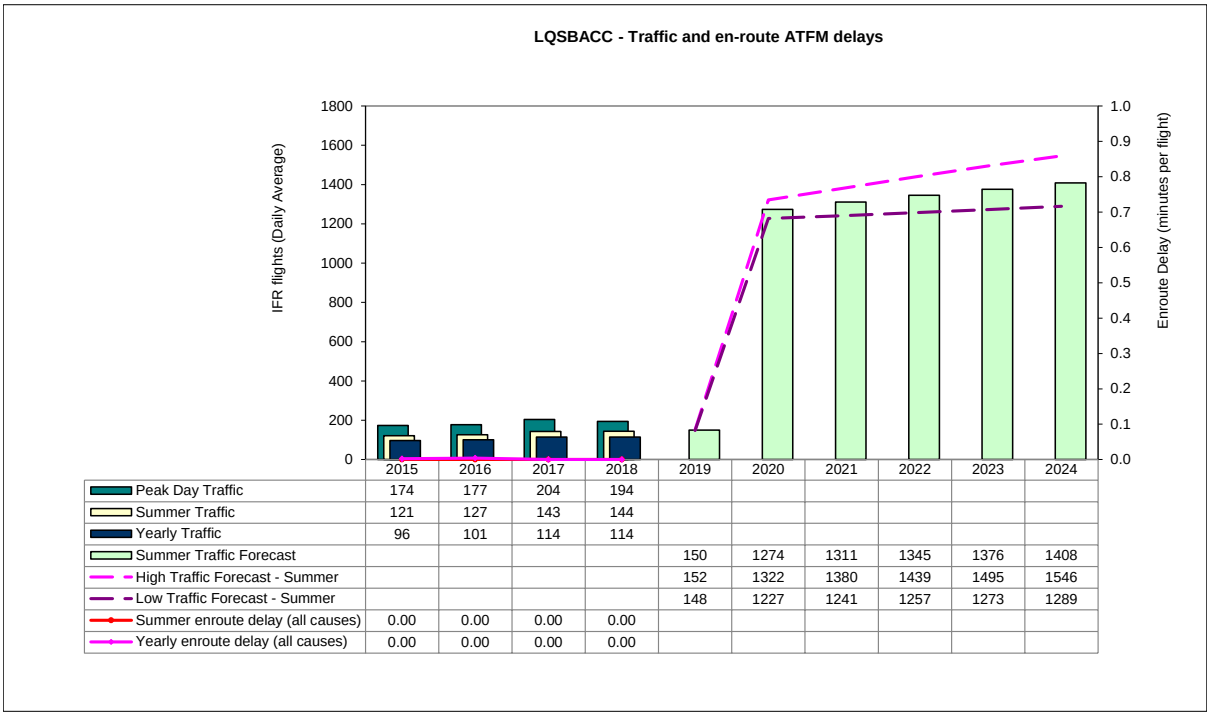
According to EUROCONTROL STATFOR data, traffic in Bosnia and Herzegovina **increased by 9.1%** during Summer 2018 (May to October inclusive), when compared to Summer 2017.

2019-2024

The EUROCONTROL Seven-Year Forecast predicts an average annual increase between 1.6% and 5.1% throughout the planning cycle, with a baseline growth of 3.3%.

2.2. BHACC

Traffic and en-route ATFM delays 2014-2024



	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Peak Day Traffic	174	177	204	194						
Summer Traffic	121	127	143	144						
Yearly Traffic	96	101	114	114						
Summer Traffic Forecast					150	1274	1311	1345	1376	1408
High Traffic Forecast - Summer					152	1322	1380	1439	1495	1546
Low Traffic Forecast - Summer					148	1227	1241	1257	1273	1289
Summer enroute delay (all causes)	0.00	0.00	0.00	0.00						
Yearly enroute delay (all causes)	0.00	0.00	0.00	0.00						

Performance summer 2018

Traffic Evolution	2018 Capacity Baseline	En-route Delay (min/flight) - Summer		Capacity gap
		Ref value	Actual	
+0.3%	27 (0%)	0.01	0.00	No
The average en-route delay per remained at zero minutes per flight in Summer 2018.				

Capacity Plan: Sufficient capacity to meet demand	Achieved	Comments
Further cross-border FRA evolutions	Yes	
SECSI FRA (From FL205)	Yes	
Establishment of AMC/LARA implementation	Yes	
Enhanced ATFM techniques, including STAM	Yes	
New procedures shall be developed after FRA RTS and System upgrade	Yes	Partially, procedures developed to support SESCI FRA. New procedures for phase II shall be developed in 2019.
New VCS procurement	Yes	
DPS SW Upgrade	No	
Maximum configuration: 2 sectors	Yes	
Summer 2018 performance assessment		
The capacity baseline was estimated with ACCESS at 27. During the measured period, the average peak 1 hour demand was 15 and the average peak 3 hour demand was 12.		

Planning Period 2019-2024 – Summer

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

Following the inputs provided by the European Commission at the ad-hoc NMB on 25 October 2018, en-route delay reference values and capacity requirement profiles have been calculated for RP3 (2020-2024) based on the proposal made by the PRB to the European Commission.

NETWORK	En-route ATFM delay breakdown RP2 Reference Values	En-route ATFM delay breakdown PRB proposal RP3 Reference Values				
	2019	2020	2021	2022	2023	2024
Annual	0.5	0.8	0.7	0.6	0.5	0.5

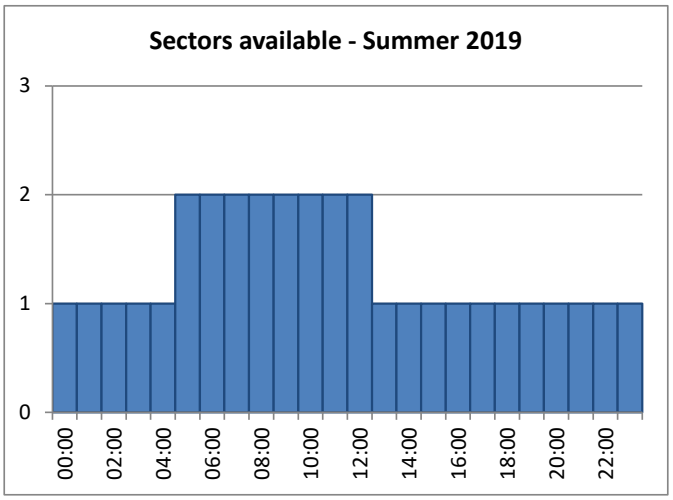
Final en-route delay reference values and capacity requirement profiles will be provided after the final decision on RP3 targets.

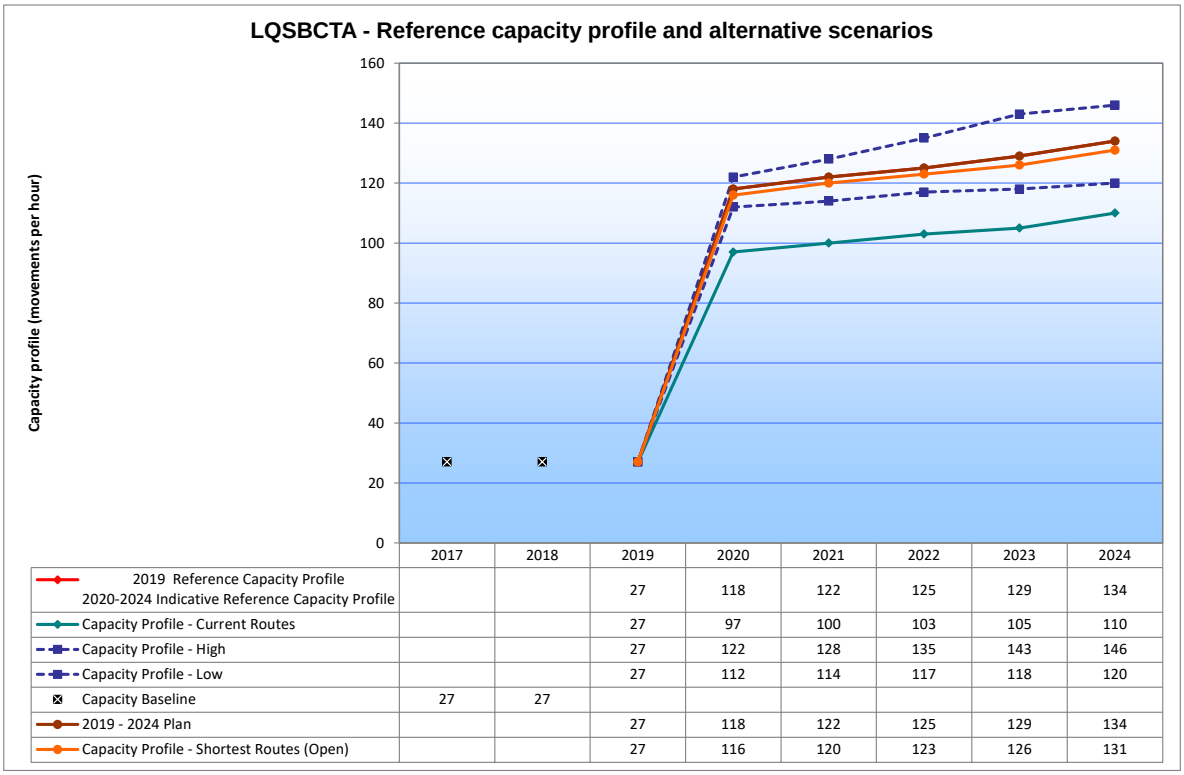
			RP2 Capacity Profiles		RP3 Indicative Capacity Profiles									
ACC	2018 baseline		Profiles (hourly movements and % increase over previous year)											
			2019		2020		2021		2022		2023		2024	
LQSB	27	H	27	0%	122	352%	128	5%	135	5%	143	6%	146	2%
		Ref.	27	0%	118	337%	122	3%	125	2%	129	3%	134	4%
		L	27	0%	112	315%	114	2%	117	3%	118	1%	120	2%
		Open	27	0%	116	330%	120	3%	123	2%	126	2%	131	4%
		C/R	27	0%	97	259%	100	3%	103	3%	105	2%	110	5%

Summer Capacity Plan						
	2019	2020	2021	2022	2023	2024
Free Route Airspace		FAB CE FRA				
Airspace Management Advanced FUA						
Airport & TMA Network Integration	Implementation of 2 PBN procedures for TMA Mostar and Banja Luka					
Cooperative Traffic Management	Enhanced ATFM techniques, including STAM					
Dodao Vlado Jurić	Changes of areas of responsibility between Zagreb, Beograd and BH ACCs (Phase 2 BHANSA). New ATCC sectorization					
Procedures	New procedures shall be developed after FRA RTS and System upgrade					
Staffing	NEW ATCOs					
Technical	New VCS implementation DPS Upgrade					
Capacity	CAPAN study New and flexible sectorization and sector capacities					
Significant Events	BH ACC For the airspace above FL325, a detailed transition plan will be developed with CCL and SMATSA with cooperation of NM					
Max sectors	4	5	5	5	5	5

Planned Annual Capacity Increase	0%	337%	3%	2%	3%	4%
Reference profile Annual % Increase	0%	337%	3%	2%	3%	4%
Difference Capacity Plan v. Reference Profile	0%	0%	0%	0%	0%	0%
Annual Reference Value (min)	0.01	0.12	0.11	0.10	0.10	0.10
Summer reference value (min)	0.00	0.14	0.14	0.14	0.10	0.10
Additional information						

2020-2024: Indicative RP3 Reference Values





	2017	2018	2019	2020	2021	2022	2023	2024
2019 Reference Capacity Profile 2020-2024 Indicative Reference Capacity Profile			27	118	122	125	129	134
Capacity Profile - Current Routes			27	97	100	103	105	110
Capacity Profile - High			27	122	128	135	143	146
Capacity Profile - Low			27	112	114	117	118	120
Capacity Baseline	27	27						
2019 - 2024 Plan			27	118	122	125	129	134
Capacity Profile - Shortest Routes (Open)			27	116	120	123	126	131

2019-2024 Planning Period Outlook
No capacity problems are foreseen for the ACC during the planning cycle.

3. Master Plan Level 3 Implementation Report conclusions

Conclusion	Applicable to
COLLABORATIVE FLIGHT PLANNING IMPLEMENTATION DELAYS SHOULD BE ADDRESSED AND SUPPORT FOR IMPLEMENTATION FROM NM GIVEN TO THE LOCAL STAKEHOLDERS. (page 10 of the Report)	All States with delays in implementation of FCM03
State's action planned for this conclusion: The "NM Agreement" between BHANSA and EUCROCONTROL was concluded on 24.11.2014. **Description of the planned action:** completed	

Conclusion	Applicable to
AS THE ASM TOOLS AIMING FOR A FULL ROLLING ASM/ATFCM PROCESS ARE ON THE CRITICAL PATH FOR THE TRANSITION TOWARDS TRAJECTORY-BASED OPERATIONS, ALL CONCERNED STAKEHOLDERS SHOULD ACTIVATE AND/OR INVIGORATE THEIR IMPLEMENTATION PLANS SO AS TO ENSURE THAT THE DEADLINES FOR IMPLEMENTATION WILL BE MET AS APPROPRIATE.	All States with delays in implementation of AOM19.1, AOM19.2 and AOM19.3
State's action planned for this conclusion: LARA Agreement signed in 2018, completed. **Description of the planned action:** AOM19.2 and AOM 19.3 completed, AOM 19.1 late	

Conclusion	Applicable to
IMPLEMENTATION OF FRA IS VERY MUCH ENCOURAGED BELOW FL310 AND IN CROSS-BORDER AIRSPACE. (page 19 of the Report)	ECAC States
State's action planned for this conclusion: Implemented above FL 205 within SECSI FRA project (Austria, Slovenia, Croatia, Bosnia and Herzegovina, Serbia and Montenegro). ANSPS are Austrocontrol, Sloveniacontrol, Crocontrol, BHANSA and SMATSA, completed **Description of the planned action: Completed**	

Conclusion	Applicable to
DELAYS IN IMPLEMENTATION OF A-SMGCS SURVEILLANCE CAN POTENTIALLY IMPACT THE TIMELY IMPLEMENTATION OF OTHER SUBSEQUENT A-SMGCS FUNCTIONALITIES.	All Airports with delays in implementation of AOP04.1 and AOP04.2 and in particular the PCP airports
State's action planned for this conclusion: - **Description of the planned action:** STAM PHASE 1 completed, STAM PHASE 2 planned.	

4. Implementation Projects

The table below presents the high-level information about the main projects currently ongoing in Bosnia and Herzegovina. The details of each project are available in Chapter 2 of the Level 2 Document - Detailed Implementation Status.

4.1. National projects

The main projects currently ongoing in Bosnia and Herzegovina are depicted in the table below.

Name of project:	Organisation(s):	Schedule:	Status:	Links:
New ARTAS system	BHANSA (BA)	first quarter 2019	Procurement in progress	L3: ITY-ACID, ITY-SPI
New Radio stations (phase 1)	BHANSA (BA)	end 2019	Procurement preparation ongoing	L3: ITY-AGVCS2
New VCS	BHANSA (BA)	first quarter 2019	Procurement preparation in progress	L3: COM11
Upgrade DPS	BHANSA (BA)	first quarter 2019	Procurement preparation in progress	L3: AOM21.2, ITY-ACID, ITY-SPI
New AMHS	BHANSA (BA)	end 2019	Procurement preparation in progress	L3: COM10
New MET	BHANSA (BA)	mid 2020	Procurement preparation in progress	ICAO Annex 3
New Military Radio stations	MoD (BA)	Mid 2019	Procurement preparation in progress	L3: ITY-AGVCS2

4.2. FAB projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
DEVOPS: FABCE Development of Operational Performance and ATM Strategies (previously Project 1) (DEVOPS)	ASP ANS CR (CZ), Austrocontrol (AT), BHANSA (BA), CCL Service Provider (HR), HungaroControl (HU), Letové prevádzkové služby Slovenskej republiky, štátny podnik (SK), Slovenia Control (SI)	Project 1: Start 3.1.2011, End: Continuous	FAB CE FRA Study was completed in 2017 Other activities described below are ongoing	L3: AOM21.2 DP: 102AF3 Free route airspace from the Black Forest to the Black Sea RP2 PP: FAB CE FRA Project (described under NSP actions 'FAB CE Airspace and route structure planning' and 'Free Route Airspace')
FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM (FAB CE DAM/STAM Study)	ASP ANS CR (CZ), Austrocontrol (AT), BHANSA (BA), CCL Service Provider (HR), HungaroControl (HU), Letové prevádzkové služby Slovenskej republiky, štátny podnik (SK), Slovenia Control (SI)	DAM/STAM Study: Start: 7.2.2017, End: 31.12.2018	Completed in 2018	L3: AOM19.1, AOM19.2, AOM19.3, FCM04.1, FCM04.2, FCM05, FCM06 DP: 2016_075_AF3_A FAB CE wide Study of DAM and STAM (PCP under CEF2016 Call) RP2 PP: Advanced Airspace Management (described under NSP actions)
Navigation infrastructure optimization project	ASP ANS CR (CZ), Austrocontrol (AT), BHANSA (BA), CCL Service Provider (HR), HungaroControl (HU), Letové prevádzkové služby Slovenskej republiky, štátny podnik (SK), Slovenia Control (SI)	Start: April 2018, End: April 2019	On-going	-

Name of project:	Organisation(s):	Schedule:	Status:	Links:
Surveillance Infrastructure Optimisation (FAB CE Project 18)	ASP ANS CR (CZ), Austrocontrol (AT), BHANSA (BA), CCL Service Provider (HR), HungaroControl (HU), Letové prevádzkové služby Slovenskej republiky, štátny podnik (SK), Slovenia Control (SI)	Start: 6.7.2016, End: End of 2018	Completed in 2018	RP2 PP: Optimisation of CNS resources
X-Bone HW Procurement (FAB CE Project 17)	ASP ANS CR (CZ), Austrocontrol (AT), CCL Service Provider (HR), HungaroControl (HU), Letové prevádzkové služby Slovenskej republiky, štátny podnik (SK), Slovenia Control (SI)	Start: 19.2.2016, End: 30.4.2018	Completed in 2018	RP2 PP: Optimisation of CNS resources

5. Cooperation activities

5.1. FAB Co-ordination

Having signed and ratified the Agreement on the Establishment of Functional Airspace Block Central Europe, Austria, Bosnia and Herzegovina, Croatia, the Czech Republic, Hungary, Slovakia and Slovenia are part of FAB CE.

The FAB CE States agreed on establishment of the following permanent bodies - the FAB CE Council, NSA Coordination Committee and Joint Civil-Military Airspace Coordination Committee. The FAB CE Council can also establish other bodies necessary for the implementation, operation and further development of the FAB CE Programme. At the ANSP level, the FAB CE is directed and steered by the CEO Committee and Steering Committee. Specialised SubCommittees have been established for operational, technical, safety, financial, HR and legal domains.

The air navigation service providers of the FAB CE countries established a joint company **FABCE Aviation Services, Ltd** (FCE) already in 2014 and the company is responsible for the professional management of various regional air navigation projects. The establishment of this joint venture is not only effectively aiming at the progress of the FAB CE programme, but at the same time the Single European Sky programme of the European Union. In 2018, the ANSPs decided to modify the FCE Memorandum of Association and Shareholders Agreement which now allows technical and operational projects to be launched by a group of FAB CE partners focused on a specific area of air traffic management performance improvement. Not all FAB CE ANSPs share the same operational, traffic load and equipment priorities, but until now there was a need for the consent of all partners to proceed. This new agreement will allow FAB CE partners with a focus on a specific area of performance improvement to form new collaborative agreements. This will address specific customer requirements while increasing the overall effectiveness of the FAB CE work programme. Planning and implementing FAB CE common operational and procurement programmes should therefore move ahead more swiftly in the future.

There have been a number of important achievements in 2018 focusing on several key areas. The following bullets summarise the most important activities delivering the benefits to airspace users:

- Airspace planning and network development activities focusing on continuous improvements to enable optimum use of airspace, taking into account air traffic flows are the top priority for FAB CE. The FAB CE ANSPs have transformed themselves into a 'FAB CE Airspace Alliance' and are currently defining options for further airspace defragmentation to unlock additional capacity and flight efficiency benefits for airspace users. After the completion of the FAB CE FRA Study, the DEVOPS project (FAB CE Development of Operational Performance and ATM Strategies, previously known as FAB CE Project 1 incl. FAB CE FRA Study) was considerably revised and it now includes annual updates of FAB CE Network Operations Plan (FNOP), FAB CE Airspace Plan and ATM Manual. Additional tasks were launched at the end of 2017 focusing on coordination and monitoring of the regional FRA initiatives in which FAB CE ANSPs participate.

  Two additional new activities were assigned to the DEVOPS project in 2018:

  - 'FAB CE Capacity and flow improvements' activity contains a set of tasks performed with the aim of improving FAB CE network performance;
  - 'FAB CE cross-border airspace improvements' contains a set of tasks aimed at improving FAB CE airspace cross-border functionality and seamless operations in FAB CE airspace. The associated tasks are related to static cross-border improvements.

  Both new activities are expected to be launched in Q1 2019 in alignment and coordination with the NM. The project's scope is now, however, under evaluation taking into account the available draft results of the Airspace Architecture Study to make sure that the project is aligned with the upcoming NM/SJU activities.
- The FAB CE states, together with their neighbouring partners, are at the frontline of the Free Route Airspace (FRA) implementation in the region. In just less than a year after signing the memorandum of

cooperation aimed towards merging the two Free Route Airspaces SAXFRA (Slovenian Austrian Cross-border Free Route Airspace) and SEAFRA (South-East Axis Free Route Airspace - project of three ANSPs from Bosnia and Herzegovina, Croatia, Serbia and Montenegro), the South East Common Sky Initiative Free Route Airspace (SECSI FRA) has successfully been implemented, with the support of the Network Manager. In addition, LPS SR, Slovakia's air navigation service provider (ANSP), has joined the SEEN FRA (South East Europe Night Free Route Airspace) initiative of three ANSPs - BULATSA, HungaroControl and ROMATSA. SEEN FRA is a volume of European airspace where aircraft operators can file flight plans without having to follow prescribed air traffic service (ATS) routes (or "airways") during night times, between midnight and 0600.

Coordination of the FAB aspects and monitoring of all regional FRA initiatives in which FAB CE ANSPs participate are done at the FAB CE level through the DEVOPS project. For FAB CE, the success of these initiatives is also an important step towards establishing Free Route airspace across FAB CE and also to Non-EU airspace.

- FAB CE has completed the 'FAB CE-wide implementation of DAM and STAM' study in 2018 aimed at the following goals:
  - Enable equitable treatment of all airspace users in the allocation of airspace and required trajectories on short notice and increased flexibility in dealing with short-term adjustments of airspace configurations (achieved through data-sharing and collaboration mechanisms);
  - Provide proactive route/trajectory activation/airspace reservation or restriction allocation through a collaborative (cross-border) decision-making process to accommodate short-term changes;
  - Provide supporting processes and tools (requirements) that allow for the FAB CE FRA to achieve optimal operational efficiency;
  - Overall increase of airspace capacity through optimized utilization of airspace configurations and scenarios, as STAM will provide more opportunities to balance demand and available capacity;
  - More robust and reliable planning for the airspace users through a common view amongst all stakeholders on the availability of airspace and a larger selection of airspace configurations tailored towards different scenarios;
  - Enable airspace users to make informed decisions and to increase their benefits by offering a larger choice of possible routeing and (until full FRA implementation is completed) airspace options.
- FAB CE ANSPs have completed Phase I of an activity to develop a joint contingency concept in cooperation with the Network Manager. Phase I resulted in commonly agreed concept, procedures and technical enablers for the management of short- and medium-term (less than 2 hours) contingency event. FAB CE is now initiating Phase II which will address management of long-term contingency events (beyond 2 hours duration) and will provide for a common coordination platform for coordinating and monitoring the implementation activities of Phase I.
- FAB CE ANSPs completed a comprehensive review of its Concept of Seamless Operations in 2018. This document summarizes the ATM functionalities (Pilot Common Project - PCP and New Essential Operational Capabilities – NEOC) which, when implemented on FAB CE-wide level in a harmonised manner, establish an operational environment enabling seamless operations. The CSO concept described in this document assesses the whole ATM service chain from pre-departure to landing with reference to the on-going developments within SESAR, EUROCONTROL and EC Regulations while taking into consideration other on-going activities within FAB CE. CSO therefore also outlines the FAB CE Operational Concept in OPS and TEC domains for the coming years.
- A pilot project for common procurement of FAB CE CNS covering an upgrade of the cross-border telecommunications network (X-bone) hardware has been successfully completed in 2018. The procurement was managed by FAB CE ANSPs' joint venture FABCE Aviation Services, Ltd., which is used as a FAB CE outsourcing platform for ATM/CNS infrastructure. Six air navigation service providers (ANSPs) purchased CISCO routers based on a common specification and tender to benefit from lower procurement costs and economies of scale. Following the successful conclusion of this project, the FAB CE CEO Committee has agreed to apply these same procedures for future smart procurement initiatives.

- FAB CE ANSPs have also made a significant progress in terms of developing processes for planning and operations of the surveillance infrastructure. The 'Surveillance infrastructure optimisation' project has been successfully completed in 2018. The processes for surveillance infrastructure planning, surveillance maintenance planning, maintenance of SUR database and sharing the specifications were developed and are now in the process of implementation. The project also proposed a number of overall SUR service quality improvements and developed a feasibility study for the regional tracker. Due to the negative CBA, the regional tracker project will be not further pursued.
- The NAVAID optimisation project which will improve interoperability and data-sharing through the optimisation of navigational aid (NAVAID) infrastructure, reducing duplication and unnecessary complexity has been started in 2018. This project will meet the accuracy, integrity and continuity requirements for proposed operations in FAB CE airspace by aligning NAVAID operating and purchasing policies among the seven FABEC ANSPs, reducing purchasing, implementation, operational and maintenance costs. The project group will first develop a process for coordinated NAVAID infrastructure and preventive maintenance planning and information-sharing where operational dependencies are evident. The second part of the project is focusing on an analysis of NAVAID infrastructure and coverage - including those of neighbouring countries. The team will identify potential areas for improvement, including operational interdependencies and requirements. The third part is focusing on solving operational issues – namely, assessing vulnerabilities within the global navigation satellite system (GNSS) network. This will require addressing signal monitoring and interference issues while assessing how free route airspace will influence the requirements for ground-based NAVAIDs in this new era of area navigation operations.
- FAB CE progressed with the development of the ATSEP Competence Scheme in order to close the gaps with respect to requirements of the Commission Regulation (EU) 373/2017 in the coordinated way.

The FAB CE Programme is continuously updated by the FAB CE bodies under management of the FAB CE Programme Manager with the support of the FAB CE Programme Support Office and there are a number of pending projects focusing on delivering additional benefits to airspace users that will be implemented in the near future.

5.2. Regional cooperation

Regional cooperation initiatives

South East Europe Common Sky Initiative (SECSI FRA)

Following the successful implementation of the SAXFRA (Slovenian Austrian Cross-border Free Route Airspace) and SEAFRA (South-East Axis Free Route Airspace - project of three ANSPs from Bosnia and Herzegovina, Croatia, Serbia and Montenegro) initiatives in 2016, both initiatives have been in 2017 merged into the South East Europe Common Sky Initiative (SECSI FRA) creating a large cross-border FRA block including Austria, Bosnia and Herzegovina, Croatia, Serbia and Slovenia.

The SECSI FRA went operational on the 1st of February2018 offering airspace users significant benefits along the South East Axis, by delivering the shortest route options from Central Europe to South Eastern Europe. The benefits gained through the SECSI FRA are substantial. Based on the shortest route assignment potential savings per day are up to 1.940 NM in flight distance, 285 minutes in flight time, a reduction in fuel consumption of 8,000 kg and a reduction in CO2 emissions of 25.500 kg.

The SECSI FRA will make more options available when determining the user-preferred trajectory. Full cross-border FRA allows airlines to take better advantage of wind or adapt to network disruptions. The better use of FRA options at flight planning level improve predictability and reduce ATC workload. This initiative not only works towards achieving the goals of the European Commission regarding the implementation of "Free Route" across Europe but also fulfils airspace user´s requests for having multiple route options available for the same city-pair.

South East Europe Night Free Route Airspace (SEEN FRA)

On the 30th March 2017, the DANUBE FAB (Romania and Bulgaria) and Hungary introduced SEEN FRA by bridging the airspace between the two Functional Airspace Blocks of the DANUBE FAB and FAB CE during the time period 2300-0500 (2200 - 0400) UTC. At the end of 2018, the initiative was expanded by the airspace of Slovakia. From the 6th December 2018, aircraft operators are thus able to plan their flights freely across the airspace of four States covering parts of two FABs without having to take into account the limitations imposed by geographical borders. The new flight planning rules significantly optimize flight trajectories to provide the shortest possible connections and the most effective routings when changes to the flight plan – to avoid adverse weather, for example – are required. According to simulations of the airspace change the synergistic effect of all improvements could reduce trajectories by a daily average of 3.200 NM, which equates to 15 tonnes of fuel and 49 tonnes of CO2 emissions.

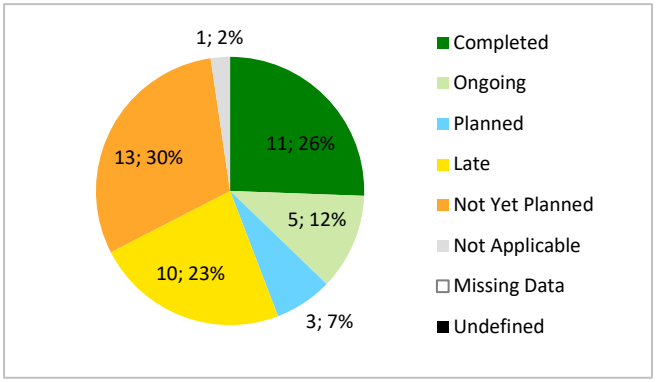
Further improvements to Central and South-Eastern European airspace configurations will take place in 2019. From April 2019, 24-hour FRA will be implemented within Slovakian airspace and during summer 2019 LPS SR will consider extending SEEN FRA availability for longer periods of the day. From 7 November 2019 the three countries initiating the SEEN FRA programme (Bulgaria, Hungary and Romania) will extend the availability of cross-border FRA operations across the entire day with the introduction of the South East Europe Free Route Airspace (SEE FRA) project.

6. Implementation Objectives Progress

6.1. State View

Overall Objective Implementation

Progress distribution for applicable Implementation Objectives



For this edition of the LSSIP BA document, Bosnia and Herzegovina has a better level of reporting. BHANSA, MoD and Airport Sarajevo took a bigger role in reporting, which is resulted with a better picture of implementation of objectives. More objectives in LSSIP BA document have the status “completed”. For example:

AOM19.2 -ASM Management of Real-Time Airspace Dana

AOM19.3 - Full Rolling ASM/ATFCM Process and ASM Information Sharing

ATC16 - Implement ACAS II compliant with TCAS II change 7.1

Bosnia and Herzegovina is late in implementing Objectives:

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

AOM19. - ASM Support Tools to Support Advanced FUA (AFUA)

AOP05 (LQSA) - Airport Collaborative Decision Making (A-CDM)

COM10 - Migrate from AFTN to AMHS

INF07- Electronic Terrain and Obstacle Data (eTOD)

ITY-ADQ - Ensure Quality of Aeronautical Data and Aeronautical Information

ITY-AGVCS2 - 8,33 kHz Air-Ground Voice Channel Spacing below FL195

ITY-FMTP - Common Flight Message Transfer Protocol (FMTP)

ITY-SPI - Surveillance Performance and Interoperability

SAF11 - Improve Runway Safety by Preventing Runway Excursions

FCM01- Implement enhanced tactical flow management services

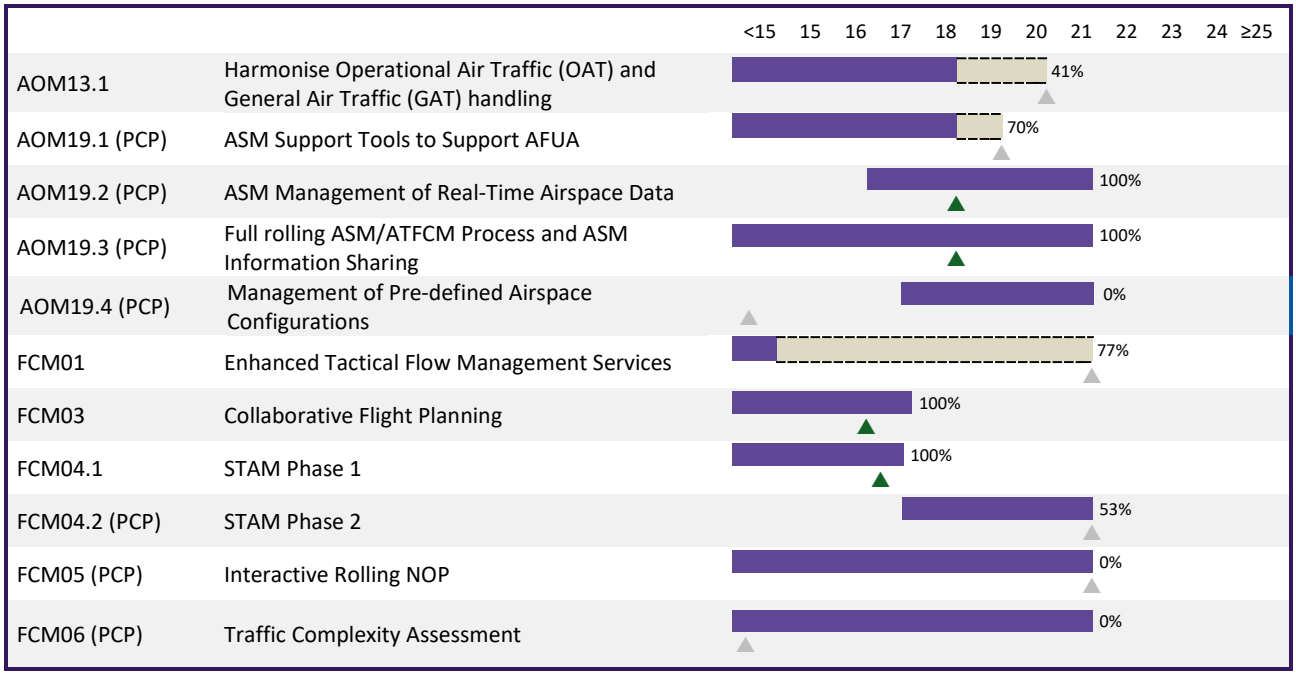
Objective Progress per SESAR Key Feature

Note: The detailed table of links between Implementation Objectives and SESAR Key Features is available in Annexes.

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

		<15 15 16 17 18 19 20 21 22 23 24 ≥25
AOM21.1 (PCP)	Direct Routing	100%
AOM21.2 (PCP)	Free Route Airspace	100%
ATC02.2	STCA En-Route	100%
ATC02.8	Ground-Based Safety Nets	100%
ATC02.9	Enhanced STCA for TMAs	n/a
ATC07.1	AMAN Tools and Procedures	
	LQSA - Sarajevo Airport (Outside Applicability Area)	n/a
ATC12.1	Automated Support for Conflict Detection, Resolution Support Information and Conformance Monitoring	22%
ATC15.1	Information Exchange with En-route in Support of AMAN	0%
ATC15.2 (PCP)	Arrival Management Extended to En-route Airspace	0%
ATC16	ACAS II Compliant with TCAS II Change 7.1	100%
ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer	100%
ATC18	Multi Sector Planning En-route - 1P2T	Local objective 0%
ENV01	Continuous Descent Operations	
	LQSA - Sarajevo Airport	2%
ENV03	Continuous Climb Operations	Local objective
	LQSA - Sarajevo Airport	0%
ITY-COTR	Ground-Ground Automated Co-ordination Processes	100%
NAV03.1	RNAV 1 in TMA Operations	0%
NAV03.2 (PCP)	RNP 1 in TMA Operations	0%
NAV10	APV procedures	3%
NAV12	Optimised Low-Level IFR Routes in TMA for Rotorcraft	Local objective 0%

High Performing Airport Operations

		<15	15	16	17	18	19	20	21	22	23	24	≥25
AOP04.1	A-SMGCS Level 1												
	LQSA - Sarajevo Airport (Outside Applicability Area)	n/a											
AOP04.2	A-SMGCS Level 2												
	LQSA - Sarajevo Airport (Outside Applicability Area)	n/a											
AOP05	Airport CDM												
	LQSA - Sarajevo Airport (Outside Applicability Area)								0%				
AOP10 (PCP)	Time-Based Separation												
	LQSA - Sarajevo Airport (Outside Applicability Area)	n/a											
AOP11 (PCP)	Initial Airport Operations Plan												
	LQSA - Sarajevo Airport (Outside Applicability Area)		0%										
AOP12 (PCP)	Improve Runway and Airfield Safety with ATC Clearances Monitoring												
	LQSA - Sarajevo Airport (Outside Applicability Area)	n/a											
AOP13 (PCP)	Automated Assistance to Controller for Surface Movement Planning and Routing												
	LQSA - Sarajevo Airport (Outside Applicability Area)	n/a											
AOP14	Remote Tower Services	Local objective											
	LQSA - Sarajevo Airport	n/a											
ENV02	Collaborative Environmental Management	Local objective											
	LQSA - Sarajevo Airport		0%										
SAF11	Improve Runway Safety by Preventing Runway Excursions									0%			

Enabling Aviation Infrastructure

		<15 15 16 17 18 19 20 21 22 23 24 ≥25
COM10	Migrate from AFTN to AMHS	62%
COM11	Voice over Internet Protocol (VoIP)	0%
COM12 (PCP)	NewPENS	0%
FCM08 (PCP)	Extended Flight Plan	0%
INF07	Electronic Terrain and Obstacle Data (eTOD)	1%
INF08.1 (PCP)	Information Exchanges using the SWIM Yellow TI Profile	0%
ITY-ACID	Aircraft Identification	27%
ITY-ADQ	Ensure Quality of Aeronautical Data and Aeronautical Information	0%
ITY-AGDL	Initial ATC Air-Ground Data Link Services	0%
ITY-AGVCS2	8,33 kHz Air-Ground Voice Channel Spacing below FL195	0%
ITY-FMTP	Common Flight Message Transfer Protocol	75%
ITY-SPI	Surveillance Performance and Interoperability	20%

ICAO ASBU Implementation

The following table shows, for each of the ASBU Block 0 module, 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 2018 declared statuses and progress of the relevant Implementation objectives in accordance with the mapping approved by ICAO EUR EANPG/60 (European Air Navigation Planning Group).

Legend:

= Completed (during 2018 or before)

= Progress achieved in 2018

= Missing planning date

= Not applicable

		<16	16	17	18	19	20	21	22	23	24	≥25
B0-APTA	Optimization of Approach Procedures including vertical guidance					3%					100%	
B0-SURF	Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)											
B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration					100%						
B0-DATM	Service Improvement through Digital Aeronautical Information Management					0%				100%		
B0-ACAS	ACAS Improvements					100%						
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets					100%						
B0-ACDM	Improved Airport Operations through					0%				100%		
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)											
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories					100%						
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view					88%				100%		
B0-ASUR	Initial capability for ground surveillance					20%			100%			
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)					2%					100%	
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route					0%				100%		

6.2. 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		**41%**	**Late**
-				
Even though the military arial activities are limited to the helicopter flights, BH intends to harmonise OAT and GAT handling. The full implementation is foreseen for the end of the objective deployment date allowing newly established BHANSA to become fully capacitated for the implementation.				**31/12/2020**
REG (By:12/2018)				
BHDCA	late	-	3%	Late 31/12/2019
ASP (By:12/2018)				
BHANSA	BHANSA completed objective	-	100%	Completed 31/12/2018
MIL (By:12/2018)				
Mil. Authority	MoD and BHANSA signed an agreement with seven annexes on 27 January 2016 in order to Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) Handling	-	13%	Late 31/12/2020

AOM19.1	**ASM Support Tools to Support Advanced FUA (AFUA)** ***Timescales:*** Initial operational capability: 01/01/2011 Full operational capability: 31/12/2018		**70%**	**Late**
-				
LARA agreement signed in early 2018, procurement and validation took place in 2018				**31/12/2019**
ASP (By:12/2018)				
BHANSA	LARA agreement signed in early 2018, implemented	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	70%	Late 31/12/2019

AOM19.2	**ASM Management of Real-Time Airspace Data** ***Timescales:*** Initial operational capability: 01/01/2017 Full operational capability: 31/12/2021	**100%**	**Completed**
-			
-			**31/12/2018**
ASP (By:12/2021)			
BHANSA	completed	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	100%	Completed 31/12/2018

AOM19.3	**Full Rolling ASM/ATFCM Process and ASM Information Sharing** ***Timescales:*** Initial operational capability: 01/01/2014 Full operational capability: 31/12/2021	**100%**	**Completed**
-			
Alignment with the AMC implementation and LARA tool.			**31/12/2018**
ASP (By:12/2021)			
BHANSA	Alignment with the AMC implementation and LARA tool.	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	100%	Completed 31/12/2018

AOM19.4	**Management of Pre-defined Airspace Configurations** ***Timescales:*** Initial operational capability: 01/01/2018 Full operational capability: 31/12/2021	**0%**	**Not yet planned**
-			
Not yet planned			**-**
ASP (By:12/2021)			
BHANSA	Not yet planned	-	0%	Not yet planned -

AOM21.2	**Free Route Airspace** ***Timescales:*** Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021		**100%**	**Completed**
-				
BHANSA is part of SEAFRA, FRA environment consisting of airspace of 4 states (Croatia, Bosnia and Herzegovina, Serbia and Montenegro) and 3 ANSP (CROCONTROL, BHANSA and SMATSA) Following SEAFRA H24 implementation by 08/12/2016 for all traffic above FL 325 (above the FIR Sarajevo), the FRA operations were extended down to above FL 205 inside the FIR Sarajevo from 01/02/2018. SEAFRA is also now co-operated with SAXFRA from other FAB CE States (Austria, Slovenia).				**01/02/2018**
ASP (By:12/2021)				
BHANSA	BHANSA is part of SEAFRA, FRA environment consisting of airspace of 4 states (Croatia, Bosnia and Herzegovina, Serbia and Montenegro) and 3 ANSP (CROCONTROL, BHANSA and SMATSA) Following SEAFRA H24 implementation by 08/12/2016 for all traffic above FL 325 (above the FIR Sarajevo), the FRA operations were extended down to above FL 205 inside the FIR Sarajevo from 01/02/2018. SEAFRA is also now co-operated with SAXFRA from other FAB CE States (Austria, Slovenia)	DEVOPS: FABCE Development of Operational Performance and ATM Strategies (previously Project 1) / Upgrade DPS	100%	Completed 01/02/2018

AOP04.1	**Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
LQSA - Sarajevo Airport **(Outside Applicability Area)**				
Not applicable to LQSA				**-**
REG (By:12/2010)				
BHDCA	Not applicable to Sarajevo airport-	-	%	Not Applicable -
ASP (By:12/2011)				
BHANSA	Not applicable to Sarajevo airport-	-	%	Not Applicable -
APO (By:12/2010)				

AOP04.2	Advanced Surface Movement Guidance and Control System (A-SMGCS) Runway Monitoring and Conflict Alerting (RMCA) (former Level 2) ***Timescales:*** - not applicable -		%	Not Applicable
LQSA - Sarajevo Airport **(Outside Applicability Area)**				
Not applicable to Sarajevo airport-				**-**
ASP (By:12/2017)				
BHANSA	Not applicable to Sarajevo airport-	-	%	Not Applicable -
APO (By:12/2017)				

AOP05	Airport Collaborative Decision Making (A-CDM) ***Timescales:*** - not applicable -		0%	Late
LQSA - Sarajevo Airport **(Outside Applicability Area)**				
Not applicable to Sarajevo airport-				**31/12/2021**
ASP (By:12/2016)				
BHANSA	-	-	0%	Late 31/12/2021
APO (By:12/2016)				
SARAJEVO Airport	-	-	0%	Late 31/12/2021

AOP10	Time-Based Separation ***Timescales:*** - not applicable -		%	Not Applicable
LQSA - Sarajevo Airport **(Outside Applicability Area)**				
Not applicable to Sarajevo airport.(LQSA not PCP airport)				**-**
REG (By:12/2023)				
BHDCA	LQSA not PCP airport	-	%	Not Applicable -
ASP (By:12/2023)				
BHANSA	LQSA not PCP airport	-	%	Not Applicable -

AOP11	**Initial Airport Operations Plan** ***Timescales:*** - not applicable -		**0%**	**Not yet planned**
LQSA - Sarajevo Airport **(Outside Applicability Area)**				
-				**-**
ASP (By:12/2021)				
BHANSA	Not applicable to Sarajevo airport-	-	%	Not Applicable -
APO (By:12/2021)				
SARAJEVO Airport	Not applicable to Sarajevo airport-	-	0%	Not yet planned -

AOP12	**Improve Runway and Airfield Safety with Conflicting ATC Clearances (CATC) Detection and Conformance Monitoring Alerts for Controllers (CMAC)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
LQSA - Sarajevo Airport **(Outside Applicability Area)**				
Not applicable.				**-**
ASP (By:12/2020)				
BHANSA	-	-	%	Not Applicable -
SARAJEVO Airport	N/A	-	%	Not Applicable -
APO (By:12/2020)				
SARAJEVO Airport	N/A	-	%	Not Applicable -

AOP13	**Automated Assistance to Controller for Surface Movement Planning and Routing** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
LQSA - Sarajevo Airport **(Outside Applicability Area)**				
Not applicable				**-**
REG (By:12/2023)				
BHDCA	Not applicable	-	%	Not Applicable -
ASP (By:12/2023)				
BHANSA	-	-	%	Not Applicable -

ATC02.8	**Ground-Based Safety Nets** ***Timescales:*** Initial operational capability: 01/01/2009 Full operational capability: 31/12/2016		**100%**	**Completed**
		-		
APW function is implemented in the ATC system, and is operationally used. **APM implemented at Sarajevo APP and in operations** **Currently there is no need (and plan) to implement MSAW**				**13/11/2014**
ASP (By:12/2016)				
BHANSA	APW function is implemented in the ATC system, and is operationally used. APM implemented at Sarajevo APP and in operations Currently there is no need (and plan) to implement MSAW	-	100%	Completed 13/11/2014

ATC02.9	**Enhanced Short Term Conflict Alert (STCA) for TMAs** **(Outside Applicability Area)** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
		-		
All TMAs in SARAJEVO FIR are class E, and this objective is not relevant for implementation				**-**
ASP (By:12/2020)				
BHANSA	All TMAs in SARAJEVO FIR are class E, and this objective is not relevant for implementation	-	%	Not Applicable -

ATC07.1	**AMAN Tools and Procedures** ***Timescales:*** - not applicable -		**%**	**Not Applicable**
		LQSA - Sarajevo Airport **(Outside Applicability Area)**		
Bosnia and Herzegovina is outside the applicability area. At this stage there is no plan to implement arrival tools. The main complexity with Sarajevo airport is the interaction between arrival and departure traffic flows. There is no operational justification for the implementation of this objective.				**-**
ASP (By:12/2019)				
BHANSA	At this stage there is no plan to implement arrival tools. The main complexity with Sarajevo airport is the interaction between arrival and departure traffic flows. There is no operational justification for the implementation of this objective.	-	%	Not Applicable -

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		**22%**	**Ongoing**
		-		
According to plans, FDPS system is expected to be updated by 2019, and MTCD function is one of the requirement				**31/12/2021**
ASP (By:12/2021)				
BHANSA	According to plans, FDPS system is expected to be updated by 2019, and MTCD function is one of the requirement	-	22%	Ongoing 31/12/2021

ATC15.1	**Information Exchange with En-route in Support of AMAN** ***Timescales:*** Initial operational capability: 01/01/2012 Full operational capability: 31/12/2019		**0%**	**Not yet planned**
		-		
No plan at present due to lack of needs from adjacent ATSUs.				**-**
ASP (By:12/2019)				
BHANSA	No plan at present due to lack of needs from adjacent ATSUs. Its possible implementation will be periodically assessed	-	0%	Not yet planned -

ATC15.2	**Arrival Management Extended to En-route Airspace** ***Timescales:*** Full operational capability: 31/12/2023		**0%**	**Not yet planned**
		-		
No plan at present due to lack of needs from adjacent ATSUs.				**-**
ASP (By:12/2023)				
BHANSA	No plan at present due to lack of needs from adjacent ATSUs.	-	0%	Not yet planned -

ATC17	**Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 31/12/2018		**100%**	**Completed**
		-		
OLDI function is implemented in the ATC system, supporting electronic coordination and transfer				**13/11/2014**
ASP (By:12/2018)				
BHANSA	OLDI function is implemented in the ATC system, supporting electronic coordination and transfer	-	100%	Completed 13/11/2014

COM10	**Migrate from AFTN to AMHS** ***Timescales:*** Initial operational capability: 01/12/2011 Full operational capability: 31/12/2018		**62%**	**Late**
-				
Will be completed by the end of 2018.				**31/12/2019**
ASP (By:12/2018)				
BHANSA	Will be completed in end of 2019	New AMHS	62%	Late 31/12/2019

COM11	**Voice over Internet Protocol (VoIP)** ***Timescales:*** Initial operational capability: 01/01/2013 Full operational capability: 31/12/2020		**0%**	**Planned**
-				
New VCS system being commissioned may support future implementation of VoIP technology BHANSA plans to partly implement VoIP ground-ground communication by the end of 2020.				**31/12/2020**
ASP (By:12/2020)				
BHANSA	New VCS system being commissioned may support future implementation of VoIP technology BHANSA plans to partly implement VoIP ground-ground communication by the end of 2020.	New VCS	0%	Planned 31/12/2020

COM12	**New Pan-European Network Service (NewPENS)** ***Timescales:*** Initial operational capability: 01/01/2018 Full operational capability (33 ANSPs): 31/12/2020		**0%**	**Not yet planned**
-				
BHANSA has no plan for implementation at the moment.				**-**
ASP (By:12/2024)				
BHANSA	BHANSA has no plan for implementation at the moment.	-	0%	Not yet planned -
APO (By:12/2024)				
SARAJEVO Airport	-	-	0%	Not yet planned -

ENV01	**Continuous Descent Operations (CDO)** ***Timescales:*** Initial operational capability: 01/07/2007 Full operational capability: 31/12/2023		**2%**	**Ongoing**
LQSA - Sarajevo Airport				
Initial CDO implementation activities took place back to 2013. There is at the moment no further plan to develop and finalize CDO implementation at Sarajevo airport. Airspace constraints are also limiting to scope of CDO operations.				**31/12/2023**
ASP (By:12/2023)				
BHANSA	Initial CDO implementation activities took place back to 2013. There is at the moment no further plan to develop and finalize CDO implementation at Sarajevo airport. Airspace constraints are also limiting to scope of CDO operations.	-	3%	Ongoing 31/12/2023
APO (By:12/2023)				
SARAJEVO Airport	-	-	0%	Not yet planned -

FCM03	**Collaborative Flight Planning** ***Timescales:*** Initial operational capability: 01/01/2000 Full operational capability: 31/12/2017		**100%**	**Completed**
-				
Objective implemented.				**01/01/2017**
ASP (By:12/2017)				
BHANSA	Objective implemented.	-	100%	Completed 01/01/2017

FCM04.1	**Short Term ATFCM Measures (STAM) - Phase 1** ***Timescales:*** Initial operational capability: 01/09/2013 Full operational capability: 31/10/2017		**100%**	**Completed**
-				
The activity was conducted as part of FAB CE framework.				**27/04/2017**
ASP (By:10/2017)				
BHANSA	The activity was conducted as part of FAB CE framework.	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	100%	Completed 27/04/2017

FCM04.2	**Short Term ATFCM Measures (STAM) - Phase 2** ***Timescales:*** Full operational capability: 31/12/2021		**53%**	**Ongoing**
-				
Initial actions have started as part of FAB CE DAM/STAM Project (ex. P3). It is likely that STAM phase 2 will be implemented with the availability of this function in the N-connect Tool, planned for implementation end of 2021.				**31/12/2021**
ASP (By:12/2021)				
BHANSA	BHANSA is expected to meet the objective within the targeted timeframe	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	53%	Ongoing 31/12/2021

FCM05	**Interactive Rolling NOP** ***Timescales:*** Initial operational capability: 01/09/2013 Full operational capability: 31/12/2021		**0%**	**Planned**
-				
The elements and formats of the NOP will be established taking into account the requirements of the users. **Implementation of interactive rolling NOP is planned through upgrade of the automated ASM support system with the capability of AIXM 5.1 B2B data exchange with NM and Perform an integration of the automated ASM support systems with the Network. All these projects will be fulfilled in accordance with the NM support, the guidance and the relevant provisions of the NM B2B Reference Manuals.**				**31/12/2021**
ASP (By:12/2021)				
BHANSA	BHANSA is expected to meet the objective within the targeted timeframe	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	0%	Planned 31/12/2021
APO (By:12/2021)				
SARAJEVO Airport	-	-	0%	Not yet planned -

FCM06	**Traffic Complexity Assessment** ***Timescales:*** Full operational capability: 31/12/2021		**0%**	**Not yet planned**
		-		
No plan at present.				-
ASP (By:12/2021)				
BHANSA	No plan at present.	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	0%	Not yet planned -

FCM08	**Extended Flight Plan** ***Timescales:*** Initial operational capability: 01/01/2016 Full operational capability: 31/12/2021		**0%**	**Not yet planned**
		-		
No plan at present.				-
ASP (By:12/2021)				
BHANSA	No Plan	-	0%	Not yet planned -

INF07	**Electronic Terrain and Obstacle Data (eTOD)** ***Timescales:*** Initial operational capability: 01/11/2014 Full operational capability: 31/05/2018		**1%**	**Late**
		-		
Directorate of Civil Aviation of Bosnia and Herzegovina (BHDCA) plans to implement and establish National TOD policy during 2018.				**31/12/2023**
REG (By:05/2018)				
BHDCA	Directorate of Civil Aviation of Bosnia and Herzegovina (BHDCA) plans to establish and implement National TOD policy during 2019 Draft of the National TOD Policy has been made in 2018.	-	0%	Late 31/12/2023
ASP (By:05/2018)				
BHANSA	planned	-	5%	Late 31/12/2023
APO (By:05/2018)				
SARAJEVO Airport	Sarajevo Airport did not provided information regarding this objective	-	0%	Late 31/12/2023

INF08.1	**Information Exchanges using the SWIM Yellow TI Profile** ***Timescales:*** Full operational capability: 31/12/2024		**0%**	**Not yet planned**
-				
Not yet planned.				**-**
ASP (By:12/2024)				
BHANSA	Not yet planned.	-	0%	Not yet planned -
MIL (By:12/2024)				
Mil. Authority	Not yet planned.	-	0%	Not yet planned -
APO (By:12/2024)				
SARAJEVO Airport	-	-	0%	Not yet planned -

ITY-ACID	**Aircraft Identification** ***Timescales:*** Entry into force of the Regulation: 13/12/2011 System capability: 02/01/2020		**27%**	**Ongoing**
-				
Line of action will be in accordance with the time frame (till 2020).				**02/01/2020**
ASP (By:01/2020)				
BHANSA	Line of action will be in accordance with the time frame (till 2020)	New ARTAS system / Upgrade DPS	27%	Ongoing 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		**0%**	**Late**
-				
Regulation (EU) 73/2010 has been transposed in national legislation (published in Official Gazette of Bosnia and Herzegovina under the number 61/14), but not implemented yet. BHDCA has drafted Regulation (EU) 1029/2014 which amending regulation 73/2010 which will also be transposed into domestic legislation. Publication in the Official Gazette of Regulation (EU) 1029/2014 which amending regulation 73/2010 is expected in the current year. Complete implementation plan depends on the prerequisites stated under implementation issues.				**31/12/2021**
REG (By:06/2017)				
BHDCA	Regulation (EU) 73/2010 has been transposed in national legislation (published in Official Gazette of Bosnia and Herzegovina under the number 61/14), but not implemented yet. BHDCA has drafted Regulation (EU) 1029/2014 which amending regulation 73/2010 which will also be transposed into domestic legislation. Publication in the Official Gazette of Regulation (EU) 1029/2014 which amending regulation 73/2010 is expected in the current year.	-	0%	Late 31/12/2021
ASP (By:06/2017)				
BHANSA	Implementation planned. Complete implementation plan depends on the prerequisites stated under implementation issues. BHANSA would need to adjust its plans and actions.	-	0%	Late 31/12/2021
APO (By:06/2017)				
SARAJEVO Airport	-	-	0%	Late 31/12/2021

ITY-AGDL	**Initial ATC Air-Ground Data Link Services** ***Timescales:*** ATS unit operational capability: 05/02/2018 Aircraft capability: 05/02/2020		**0%**	**Not yet planned**
-				
No plan at the moment.				**-**
REG (By:02/2018)				
BHDCA	No plan at the moment.	-	0%	Not yet planned -
ASP (By:02/2018)				
BHANSA	No plan at the moment	-	0%	Not yet planned -
MIL (By:01/2019)				
Mil. Authority	Military do no provide ATC service to civil flights	-	%	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		**0%**	**Late**
	-			
Radio stations will be replaced by the end of 2021.				**31/12/2023**
REG (By:12/2018)				
BHDCA	Regulation (EU) No 1079/2012 is not transposed in BH legislation. Radio stations will be replaced by the end of 2021.	-	0%	Late 31/12/2021
ASP (By:12/2018)				
BHANSA	BHANSA will replace radio stations by the end of 2021.	New Radio stations and sites	0%	Late 31/12/2021
MIL (By:12/2020)				
Mil. Authority	n/a	New Military Radio stations	%	Not Applicable -
APO (By:12/2018)				
SARAJEVO Airport	-	-	0%	Not yet planned -

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		**75%**	**Late**
	-			
FMTP was implemented in November2014.				**31/12/2023**
ASP (By:12/2014)				
BHANSA	FMTP was implemented in November2014.	-	100%	Completed 31/12/2014
MIL (By:12/2014)				
Mil. Authority	Military do no provide ATC service to civil flights	-	0%	Not yet planned -

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		**20%**	**Late**
-				
The objective is planned to be completed by end of 2020.				**07/06/2020**
REG (By:02/2015)				
BHDCA	The objective is planned to be completed by end of 2020.	-	40%	Late 07/06/2020
ASP (By:02/2015)				
BHANSA	The objective is planned to be completed by end of 2020.	New ARTAS system / Upgrade DPS	15%	Late 07/06/2020
MIL (By:06/2020)				
Mil. Authority	Military do no provide ATC service to civil flights	-	%	Not Applicable -

NAV03.1	**RNAV 1 in TMA Operations** ***Timescales:*** Initial operational capability: 01/01/2001 Full operational capability: 31/12/2023		**0%**	**Not yet planned**
-				
No plan.				**-**
ASP (By:12/2023)				
BHANSA	No plan	-	0%	Not yet planned -

NAV03.2	**RNP 1 in TMA Operations** ***Timescales:*** Initial operational capability: 01/01/2018 Full operational capability: 31/12/2023		**0%**	**Not yet planned**
-				
No plan.				**-**
ASP (By:12/2023)				
BHANSA	No plan.	-	0%	Not yet planned -

NAV10	**RNP Approach Procedures with Vertical Guidance** ***Timescales:*** Initial operational capability: 01/06/2011 Full operational capability: 31/12/2023		**3%**	**Ongoing**
		-		
No plans at present.				**31/12/2023**
REG (By:12/2023)				
BHDCA	No plans at present.	-	0%	Ongoing 31/12/2023
ASP (By:12/2023)				
BHANSA	No plan	-	3%	Ongoing 31/12/2023

SAF11	**Improve Runway Safety by Preventing Runway Excursions** ***Timescales:*** Initial operational capability: 01/09/2013 Full operational capability: 31/01/2018		**0%**	**Late**
		-		
The implementation of the European Action Plan for the Prevention of Runway Excursions is planned by 2020.				**31/12/2020**
REG (By:01/2018)				
BHDCA	Established the oversight activities, planned by 2020.	-	0%	Late 31/12/2020
ASP (By:12/2014)				
BHANSA	Implementation of the applicable measures, planned by 2020.	-	0%	Late 31/12/2020
APO (By:12/2014)				
SARAJEVO Airport	Missing data for this LSSIP edition.	-	0%	Missing Data -

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**
	-		
Direct routing has been completely implemented in the Sarajevo FIR and BHANSA AoR			**15/04/2014**
ASP (By:12/2017)			
BHANSA	Direct routing has been completely implemented in the Sarajevo FIR and BHANSA AoR	-	100%	Completed 15/04/2014

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**
	-		
STCA function available in ATC system and operationally used			**13/11/2014**
ASP (By:01/2013)			
BHANSA	STCA function available in ATC system and operationally used	-	100%	Completed 13/11/2014

ATC16	**Implement ACAS II compliant with TCAS II change 7.1** ***Timescales:*** Initial operational capability: 01/03/2012 Full operational capability: 31/12/2015	**100%**	**Completed**
	-		
The performance monitoring of ACAS in the ATC environment is part of the incident occurrence reporting, investigation and analysis process established by BHANSA.			**31/12/2018**
REG (By:12/2015)			
BHDCA	EU regulation 1332/2011 is not transposed in B&H legislation, not implemented in Bosnia and Herzegovina yet.	-	100%	Completed 31/12/2018
ASP (By:03/2012)			
BHANSA	The performance monitoring of ACAS in the ATC environment is part of the incident occurrence reporting, investigation and analysis process established.	-	100%	Completed 31/12/2017
MIL (By:12/2015)			
Mil. Authority	n/a	-	%	Not Applicable -

FCM01	**Implement enhanced tactical flow management services** ***Timescales:*** Initial operational capability: 01/08/2001 Full operational capability: 31/12/2006		**77%**	**Late**
	-			
Planned by end 2018, system is under test phase				**31/12/2021**
ASP (By:07/2014)				
BHANSA	Planned by end 2018, following system validation	-	77%	Late 31/12/2021

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**
	-			
OLDI function is implemented in the ATC system, supporting ground-ground coordination and transfer processes				**13/11/2014**
ASP (By:12/2012)				
BHANSA	OLDI function is implemented in the ATC system, supporting ground-ground coordination and transfer processes	-	100%	Completed 13/11/2014
MIL (By:12/2012)				
Mil. Authority	Military do no provide ATC service to civil flights	-	%	Not Applicable -

Local Objectives

AOP14	Remote Tower Services *Applicability and timescale: Local*	%	Not Applicable
LQSA - Sarajevo Airport			
No plan at the moment.			-

ATC18	Multi-Sector Planning En-route - 1P2T *Applicability and timescale: Local*	%	Planned
-			
Implementation planned with ATM System Upgrade - 25.04.2019.			25/04/2019

ENV02	Airport Collaborative Environmental Management *Applicability and timescale: Local*	%	Not yet planned
LQSA - Sarajevo Airport			
Workshop completed in April 2019.			-

ENV03	Continuous Climb Operations (CCO) *Applicability and timescale: Local*	%	Not yet planned
LQSA - Sarajevo Airport			
Workshop completed in April 2019.			-

NAV12	Optimised Low-Level IFR Routes in TMA for Rotorcraft *Applicability and timescale: Local*	%	Not yet planned
-			
No plan at the moment.			-

ANNEXES

Specialists involved in the ATM implementation reporting for Bosnia and Herzegovina

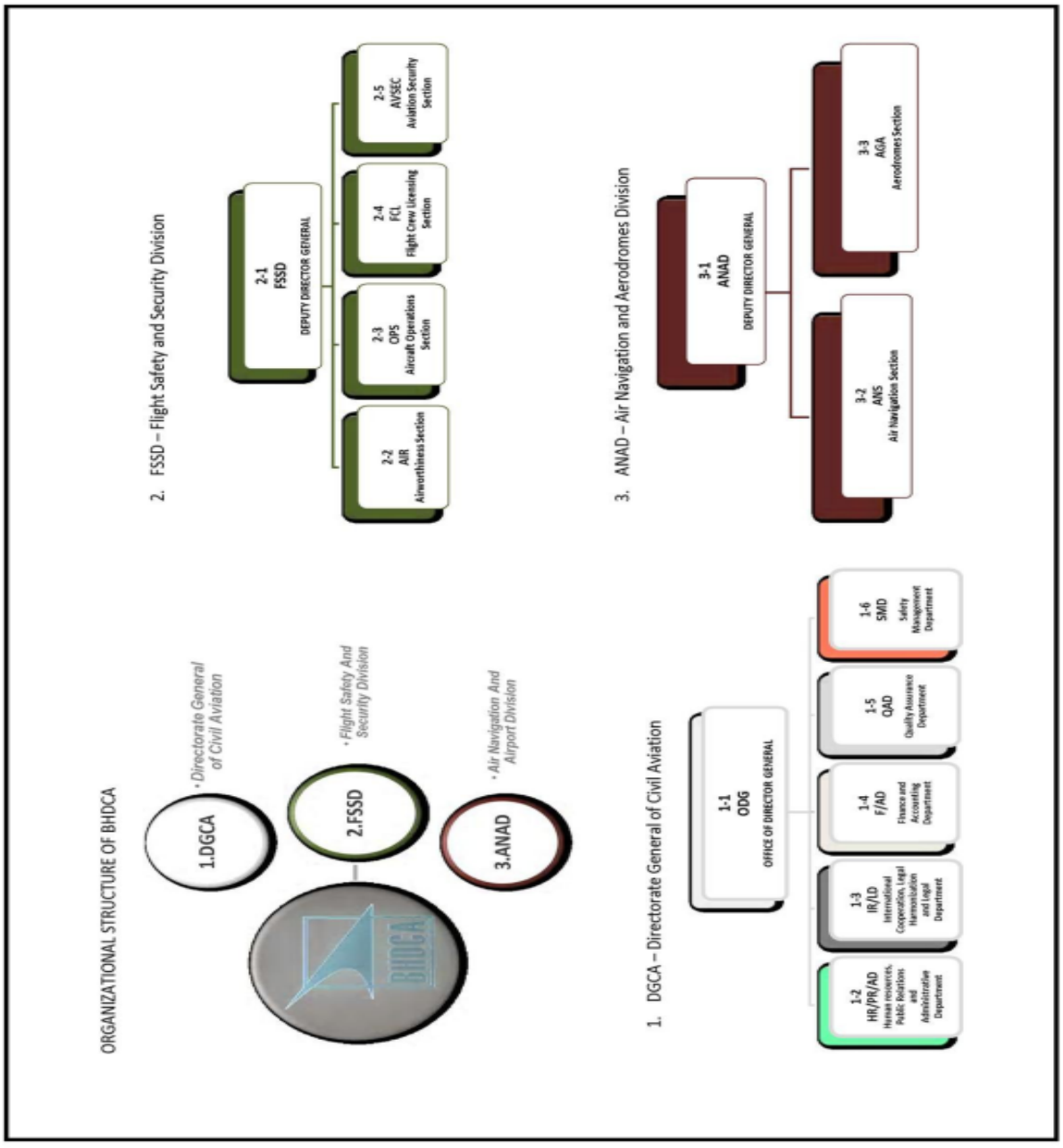
LSSIP Co-ordination

LSSIP Focal Points	Organisation	Name
LSSIP National Focal Point	BHDCA	Mr. Radomir Gavrić
LSSIP Focal Point for NSA/CAA	-	Mrs. Biljana Blagojević
LSSIP Focal Point for ANSP	-	Mr. Zoran Blažević Mr. Vlado Jurić Mr. Darijo Stojkić Mrs. Sanela Zekić Mr. Slavenko Buha Mr. Ivica Primorac Mrs. Zorica Stanković Mr. Dalibor Ninković Mr. Adnan Hurtić Mr. Aleksandar Škondrić Mr. Mirsad Hadžialić Mr. Davor Rotim Mr. Muhamed Hodžić Mr. Slavoljub Stanišić
LSSIP Focal Point for Airport	Airport Sarajevo	Mr.Nermin Zijadić
LSSIP Focal Point for Military	Ministry of Defense of Bosnia and Herzegovina	Mr. Alem Kaplan Mr. Vladimir Grujić

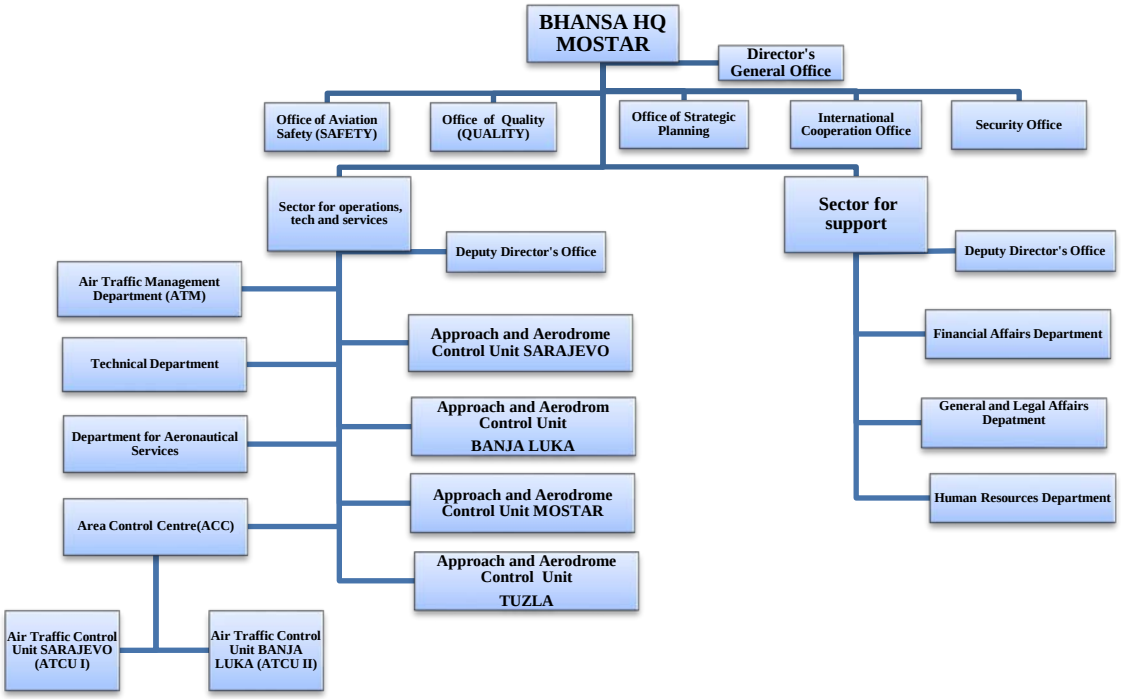
EUROCONTROL LSSIP Support

Function	Directorate	Name
LSSIP Contact Person	DECMA/ACS/SAS	Herman Nijhuis

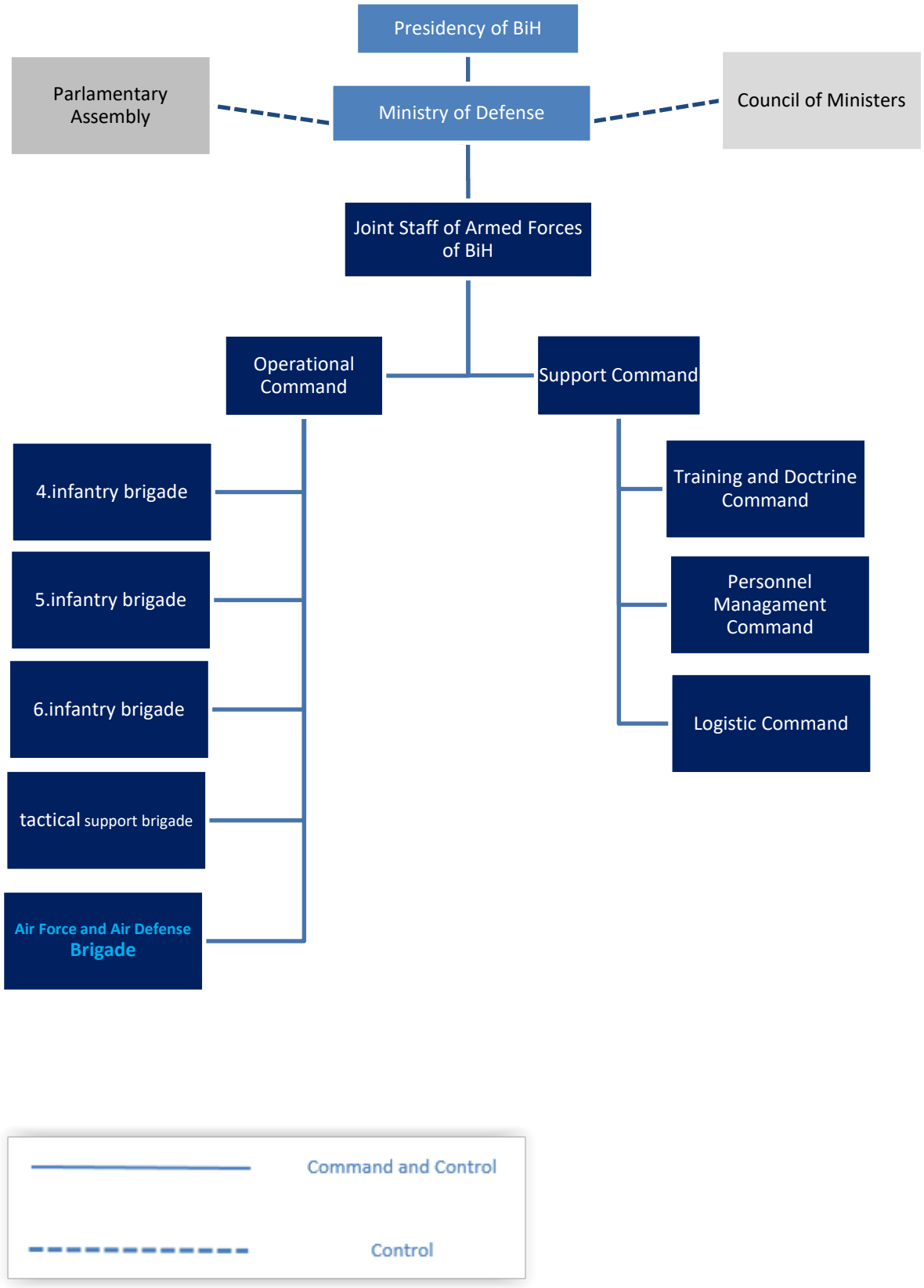
National stakeholders' organisation charts



BHANSA Organisation Chart:



Defense organization in BiH



Implementation Objectives' links with SESAR, ICAO and DP

Objective	SESAR Key Feature	ICAO ASBU B0 and B1	DP Family
AOM13.1		-	-
AOM19.1		B1-FRTO B1-NOPS	3.1.1 ASM Tool to support AFUA
AOM19.2		B1-FRTO B1-NOPS	3.1.2 ASM management of real time airspace data
AOM19.3		B1-FRTO B1-NOPS	3.1.3 Full rolling ASM/ATFCM process and ASM information sharing
AOM19.4		B1-FRTO B1-NOPS	3.1.4 Management of dynamic airspace configurations
AOM21.1		B0-FRTO	-
AOM21.2		B1-FRTO	3.2.1 Upgrade of ATM systems to support Direct Routing and Free Routing 3.2.4 Implement Free Route Airspace
AOP04.1		B0-SURF	2.2.1 A-SMGCS level 1 and 2
AOP04.2		B0-SURF	2.2.1 A-SMGCS level 1 and 2
AOP05		B0-ACDM B0-RSEQ	2.1.1 Initial DMAN 2.1.3 Basic A-CDM
AOP10		B1-RSEQ	2.3.1 Time Based Separation (TBS)
AOP11		B1-ACDM	2.1.4 Initial Airport Operations Plan (AOP)
AOP12		-	2.1.2 Electronic Flight Strips (EFS) 2.5.1 Airport Safety Nets associated with A-SMGCS level 2 2.5.2
AOP13		B1-ACDM B1-RSEQ	2.4.1 A-SMGCS Routing and Planning Functions
AOP14		B1-RATS	-
ATC02.2		B0-SNET	-
ATC02.8		B0-SNET B1-SNET	3.2.1 Upgrade of ATM systems to support Direct Routing and Free Routing
ATC02.9		B0-SNET B1-SNET	-
ATC07.1		B0-RSEQ	1.1.1 Basic AMAN
ATC12.1		B1-FRTO	3.2.1 Upgrade of ATM systems to support Direct Routing and Free Routing
ATC15.1		B1-RSEQ	1.1.2 AMAN upgrade to include Extended Horizon function
ATC15.2		B1-RSEQ	1.1.2 AMAN upgrade to include Extended Horizon function
ATC16		B0-ACAS	-
ATC17		-	3.2.1 Upgrade of ATM systems to support Direct Routing and Free Routing

ATC18		-	No direct link, although implementation is recommended in Family 3.2.1
COM10		-	-
COM11		-	3.1.4 Management of Dynamic Airspace Configurations 3.2.1 Upgrade of systems (NM, ANSPs, AUs) to support Direct Routings (DCTs) and Free Routing Airspace (FRA)
COM12		B1-SWIM	5.1.2 NewPENS: New Pan-European Network Service 5.2.1 Stakeholders Internet Protocol Compliance
ENV01		B0-CDO B1-CDO	-
ENV02		-	-
ENV03		B0-CCO	-
FCM01		B0-NOPS	-
FCM03		B0-NOPS	4.2.3 Interface ATM systems to NM systems
FCM04.1		-	4.1.1 STAM phase 1
FCM04.2		B0-NOPS	4.1.2 STAM phase 2
FCM05		B1-ACDM B1-NOPS	4.2.2 Interactive Rolling NOP 4.2.4 AOP/NOP Information Sharing
FCM06		B1-NOPS	4.4.2 Traffic Complexity tools
FCM07		B1-NOPS	4.3.1 - Target Time for ATFCM purposes 4.3.2 - Reconciled target times for ATFCM and arrival sequencing
FCM08		B1-FICE	4.2.3 Interface ATM systems to NM systems
FCM09		B1-NOPS	-
INF04		B0-DATM	-
INF07		-	1.2.2 Geographical database for procedure design
INF08.1		B1-DATM B1-SWIM	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
INF08.2		B1-DATM B1-SWIM	5.1.3, 5.1.4, 5.2.1, 5.2.2, 5.2.3, 5.6.2
ITY-ACID		-	-
ITY-ADQ		B0-DATM	1.2.2 Geographical database for procedure design
ITY-AGDL		B0-TBO	6.1.1 ATN B1 based services in ATSP domain 6.1.3 A/G and G/G Multi Frequency DL Network in defined European Service Areas 6.1.4 ATN B1 capability in Multi Frequency environment in Aircraft Domain
ITY-AGVCS2		-	-
ITY-COTR		B0-FICE	-
ITY-FMTP		B0-FICE B1-FICE	-
ITY-SPI		B0-ASUR	-

NAV03.1		B0-CDO B0-CCO B1-RSEQ	-
NAV03.2		B1-RSEQ	1.2.3 RNP 1 Operations in high density TMAs (ground capabilities) 1.2.4 RNP 1 Operations (aircraft capabilities)
NAV10		B0-APTA	1.2.1 RNP APCH with vertical guidance 1.2.2 Geographic Database for procedure design
NAV12		B1-APTA	-
SAF11		-	-

Legend:

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

Glossary of abbreviations

This Annex mostly shows only the Abbreviations that are specific to the LSSIP Bosnia and Herzegovina.

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

https://www.eurocontrol.int/sites/default/files/content/documents/official-documents/guidance/Glossaries.pdf

Term	Description
BH	Bosnia and Herzegovina
BHDCA	Bosnia and Herzegovina Directorate of Civil Aviation
BHANSA	Bosnia and Herzegovina Agency for Air Navigation Services
FAB-CE	Central European Functional Airspace Block
CCL	Croatia Control Ltd.
DPS	Data Processing Systems
FED CAD	Federal Civil Aviation Directorate
ISIS Programme	Implementation of Single European Sky In South East Europe
MoD BH	Ministry of Defence of BH
RS CAD	Civil Aviation Directorate of Republic of Srpska
SEP team	Team for separation of regulatory and the service provision functions
SES	Single European Sky
SEE FABA	South East Europe Functional Airspace Block Approach
SMATSA	Serbia and Montenegro Air Traffic Service Agency