



# Local Single Sky ImPlementation (LSSIP) BOSNIA AND HERZEGOVINA

Year 2016 - Level 1





# 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), Service Providers and Airport Operators, towards the implementation of the European ATM Master Plan. They provide a comprehensive view, for the benefit of the ATM community at large, of how ECAC States and stakeholders concerned are progressing in planning and deploying the mature elements of the European ATM Master Plan.

The Master Plan Level 3 Implementation Planning and Reporting mechanism (formerly known as ESSIP) and LSSIP are well-established and mature mechanisms, with a long history dating back more than 20 years. They provide a well-recognised stable platform for implementation planning, monitoring and reporting, while continuously adapting to the changing environment.

The constant improvement of the reliability and quality of data provided by national stakeholders allowed, for the fourth consecutive year, to use the LSSIP documents and tools as a support to the Performance Review Body for its capital expenditure analysis.

The LSSIP documents and tools also constitute the sole source of information for the development of the Aviation System Block Upgrades (ASBUs) Implementation Monitoring Report. This work is undertaken for the ECAC States on behalf of ICAO, in accordance with the Global Air Navigation Plan (GANP). This ASBUs Implementation Monitoring Report is now a formal companion document and integral part of the ICAO European Air Navigation Plan.

It is also the fourth year that the LSSIP Expert Group is operational and that has provided an invaluable support to the Agency in various domains like process improvement, upgrade of IT tools and LSSIP Database, enhancement of the methodology on Implementation Objectives progress determination and in particular advising the Agency how best to avoid multiple reporting.

The need for coordination and cooperation between the Agency and the SESAR Deployment Manager (SDM) has been recognised and is currently being addressed through a “Pilot exercise” with SDM and the SESAR Joint Undertaking (SJU) in order to identify a common way to optimise reporting by relevant stakeholders and to avoid unnecessary duplications of work.

I would like again to thank you for the substantial effort spent on your contribution to this LSSIP document. I see this as a proof of your commitment to the principles of transparency and partnership, to the benefit of the entire ATM community!



**Adriaan Heerbaart**

**Director of Directorate Pan European  
Single Sky - EUROCONTROL Agency**




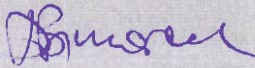
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Reference Documents	
LSSIP Documents	<a href="http://www.eurocontrol.int/articles/lssip">http://www.eurocontrol.int/articles/lssip</a>
LSSIP Guidance Material	<a href="http://www.eurocontrol.int/articles/lssip">http://www.eurocontrol.int/articles/lssip</a>
Master Plan Level 3 – Plan Edition 2016	<a href="http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-plan">http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-plan</a>
Master Plan Level 3 – Report Year 2015	<a href="http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-report">http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-report</a>
European ATM Portal	<a href="https://www.eatmportal.eu">https://www.eatmportal.eu</a> and <a href="http://www.atmmasterplan.eu/">http://www.atmmasterplan.eu/</a>
STATFOR Forecasts	<a href="http://www.eurocontrol.int/statfor">http://www.eurocontrol.int/statfor</a>
Acronyms and abbreviations	<a href="http://www.eurocontrol.int/articles/glossaries">http://www.eurocontrol.int/articles/glossaries</a>
National AIP	<a href="http://www.bhansa.gov.ba">www.bhansa.gov.ba</a>
FAB Performance Plan	<a href="http://www.eusinglesky.eu">www.eusinglesky.eu</a>



# APPROVAL SHEET

The following authorities have approved all parts of the LSSIP Year 2016 document and their signature confirms the correctness of the reported information and reflects their commitment to implement the actions laid down in the European ATM Master Plan Level 3 Implementation Plan – Edition 2016 (also known as the ESSIP Plan).

Stakeholder / Organisation	Name	Position	Signature & date
BHDCA	Đorđe RATKOVICA	Director General	 05.04.2017.
BHANSA	Davorin PRIMORAC	Director of BHANSA	





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# Executive Summary

## National ATM Context

Bosnia and Herzegovina is 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.

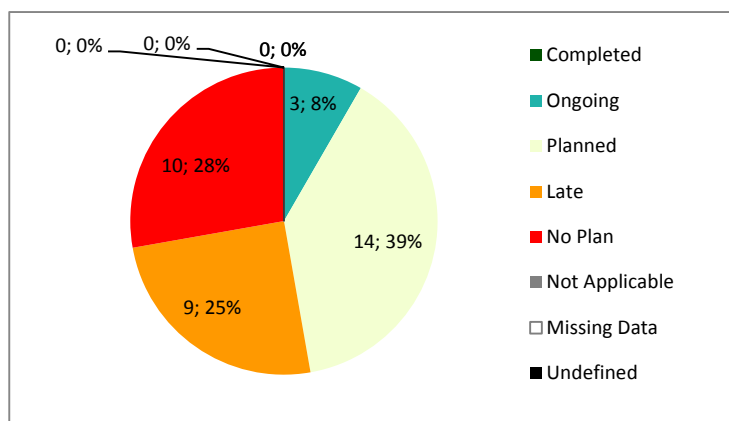
Bosnia and Herzegovina Air Navigation Services Agency (BHANSA) is responsible for the provision of air navigation services in the FIR Sarajevo or in the Area of Responsibility defined by international agreements with neighbouring states.

## Traffic and Capacity

Traffic in Bosnia and Herzegovina increased by **3.3%** during Summer 2016 (May to October inclusive), when compared to the same period during 2015. The EUROCONTROL Seven-Year Forecast predicts an average annual increase between **1.2%** and **5.5%** throughout the planning cycle, with a baseline growth of **3.2%**.

## Implementation Objectives Overview

### Progress distribution for applicable Implementation Objectives



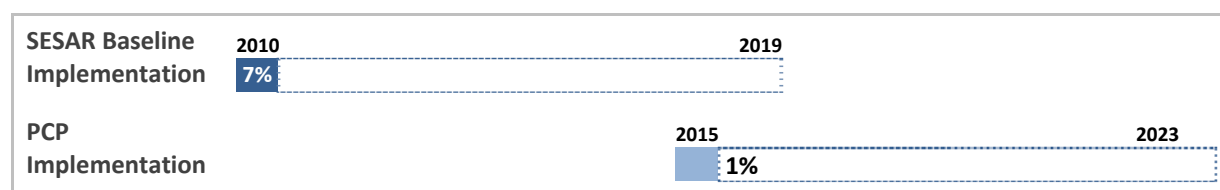
There is generally low level of implementation of the ESSIP Objectives in Bosnia and Herzegovina. The implementation of the Objectives is slower than expected due to the difficulties to get involved of all concerned stakeholders.

Plans for completing Objectives especially those due 2017 and 2018 will be available when we gather all concerned stakeholders.

### Progress per SESAR Phase

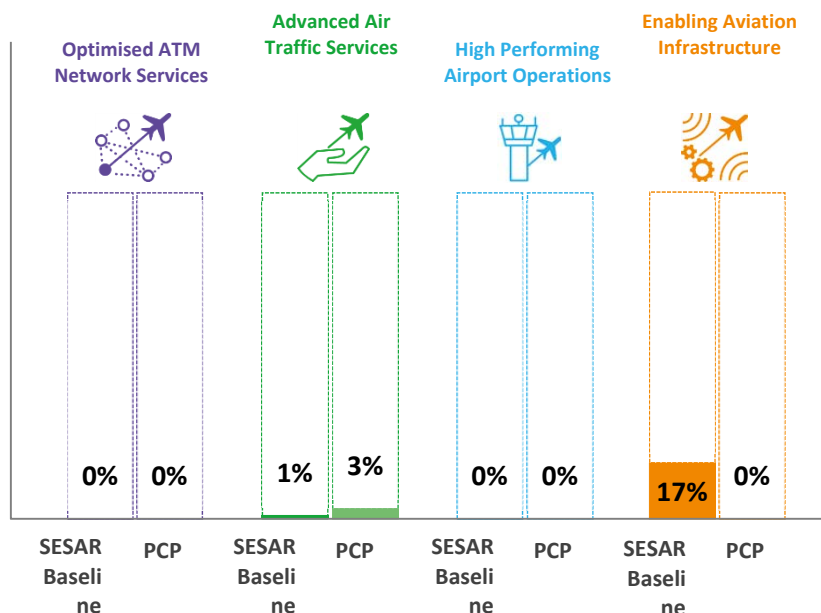
The figure below shows the progress made so far in the implementation of the SESAR baseline and the PCP elements. The percentage is calculated as an average of the relevant objectives as shown in Chapter 6.1.2 (PCP objectives are marked as such, the rest are considered SESAR baseline); note that three objectives – AOM19.1, FCM05 and NAV03 – 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, ESSIP Edition 2011-2015) 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.



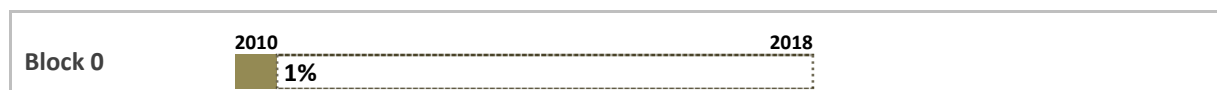
## Progress per SESAR Key Feature and Phase

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 Block 0. The overall percentage is calculated as an average of the relevant Objectives contributing to each of the relevant ASBUs; this is a summary of the table explained in Chapter 6.1.3.





# 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 2016, 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 recommendations extracted from the MP L3 Implementation Report 2015 which are relevant to the state/stakeholders concerned. The State reports how they have handled those recommendations and the actions taken during the year to address the concerns expressed by those recommendations;

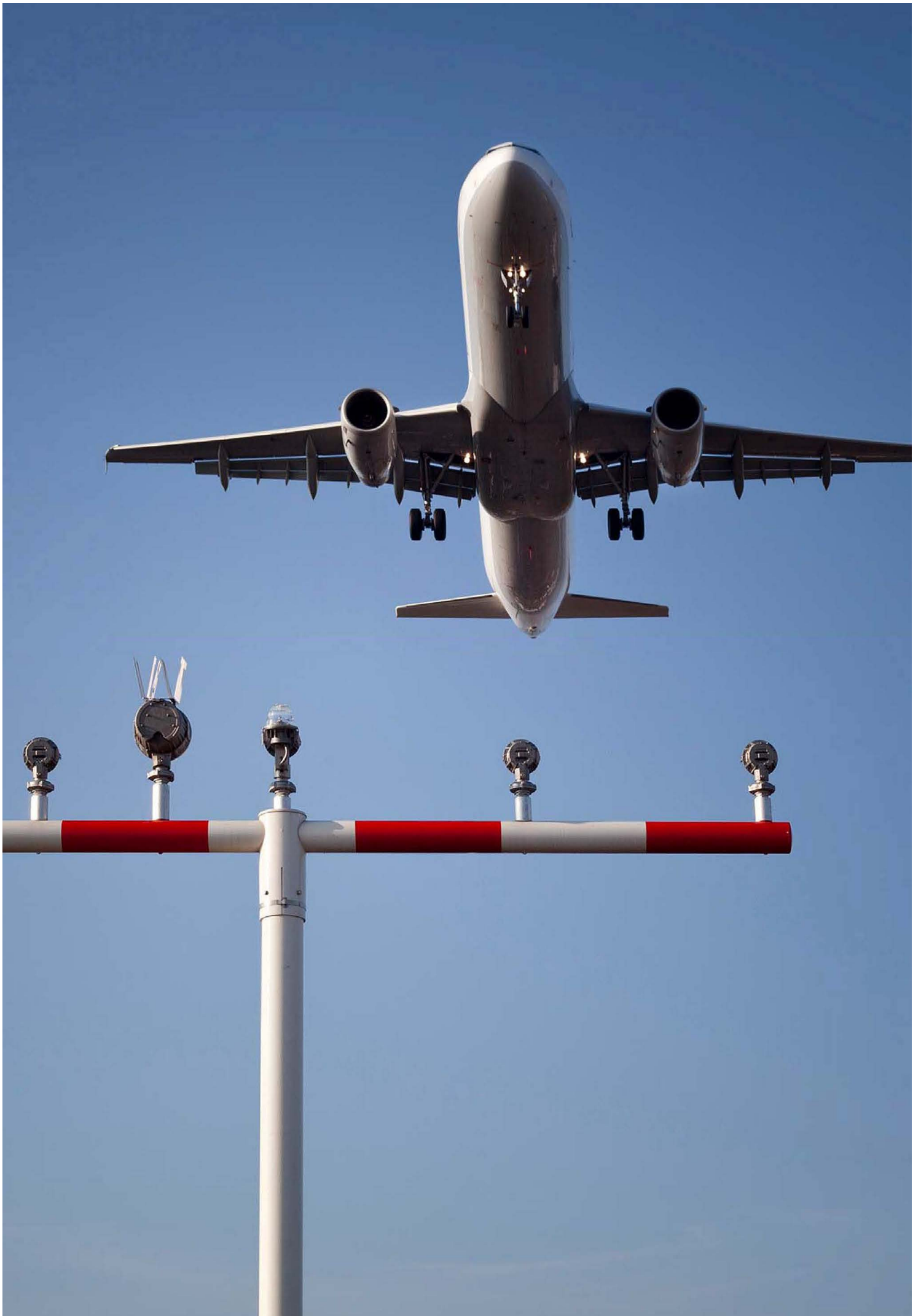
**Chapter 4** provides the main ATM national projects which contribute directly to the implementation of the MP Operational Improvements and/or Enablers and Implementation Objectives. The description, timescale, progress made and expected contribution to the ATM Key Performance Areas are provided by the State per each project included in this chapter;

**Chapter 5** deals with the ATM Regional Coordination. It provides an overview of the FAB cooperation and Projects and also all other regional initiatives and Projects 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.

*Chapter 6.2 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 2016.*

*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.*





# Chapter 1 National ATM Environment

## 1.1. Geographical Scope

### 1.1.1. International Membership

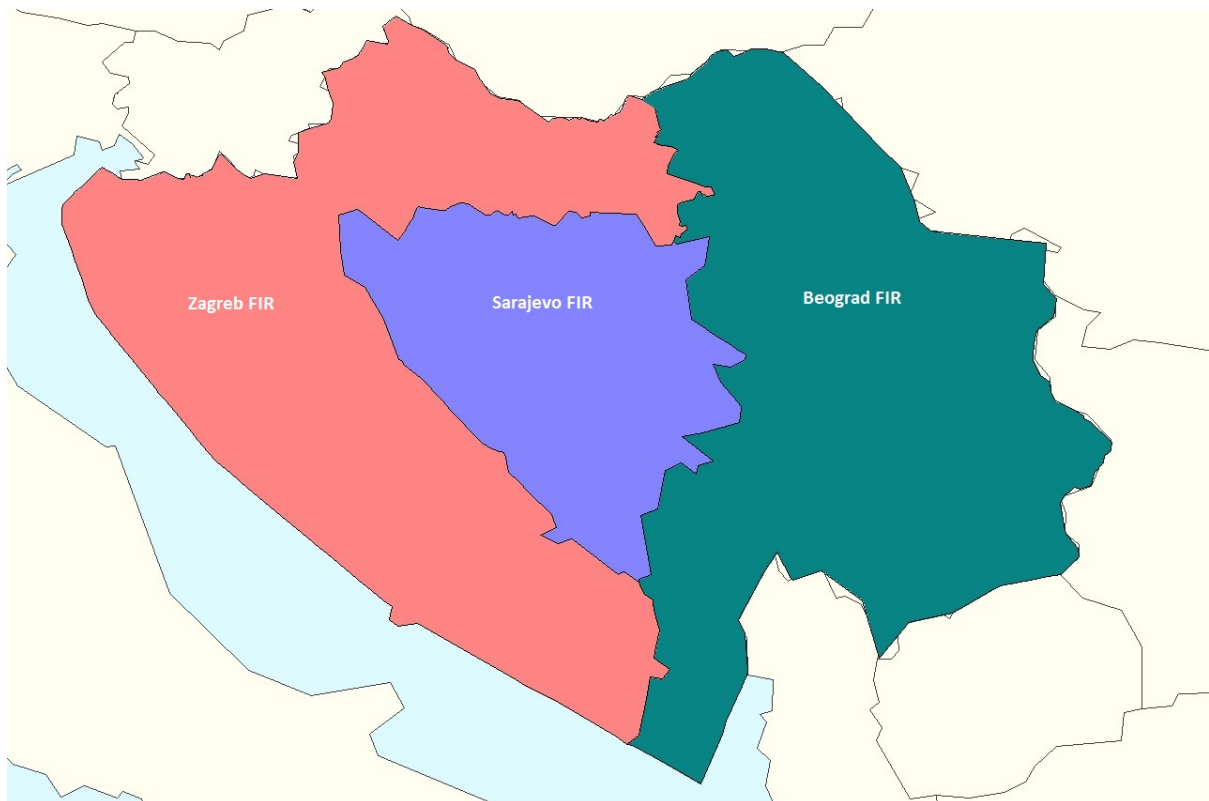
Bosnia and Herzegovina is a Member of the following international organisations in the field of ATM:

Organisation		Since
ECAC	✓	2000
EUROCONTROL	✓	2004
European Union	-	-
EASA	-	-
ICAO	✓	1993
NATO	-	-
ITU	-	-

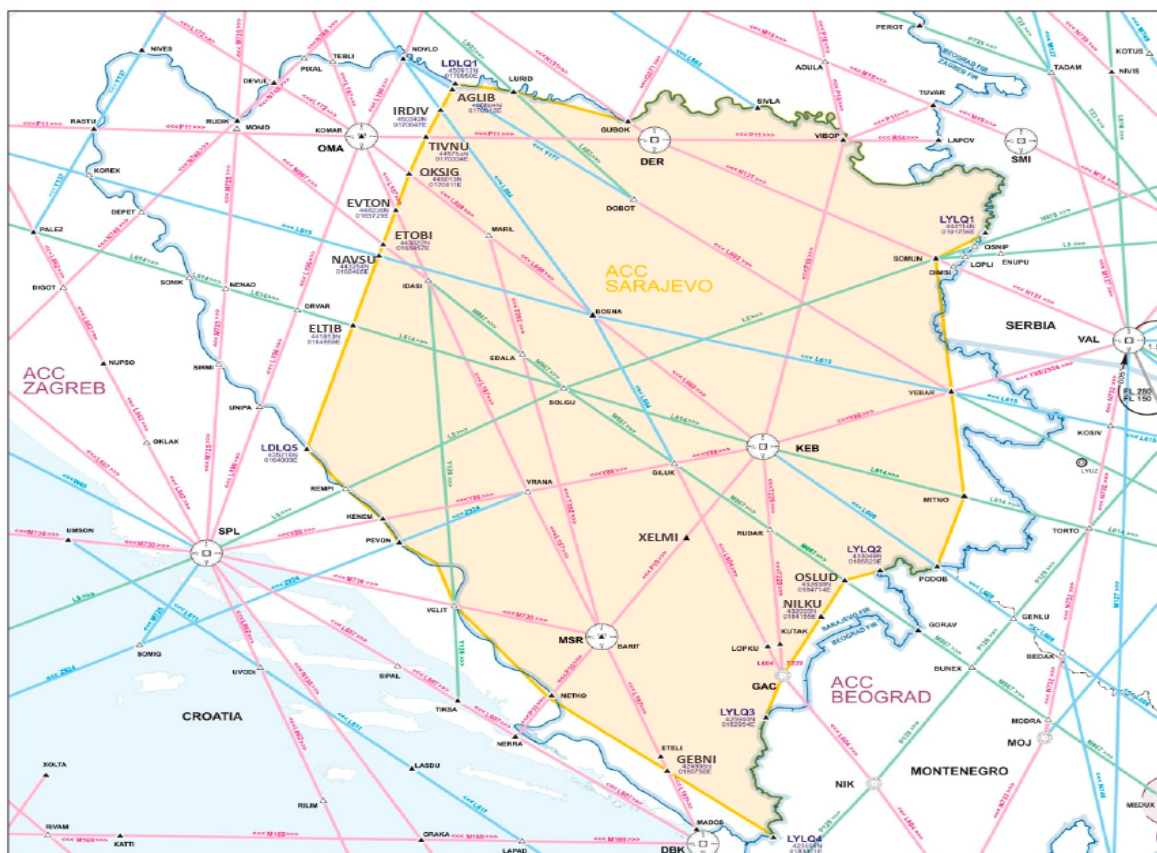
### 1.1.2. Geographical description of the FIR(s)

The geographical scope of this document addresses the Sarajevo FIR.

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

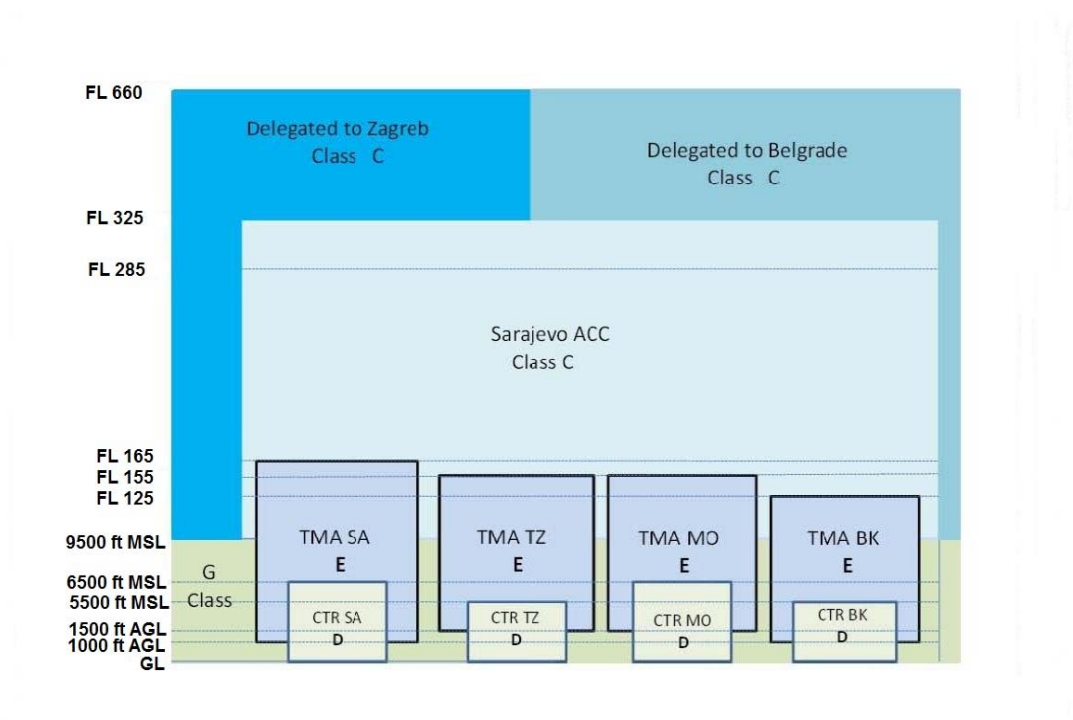


Current en-route BHANSA AoR:



### 1.1.3. Airspace Classification and Organisation

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

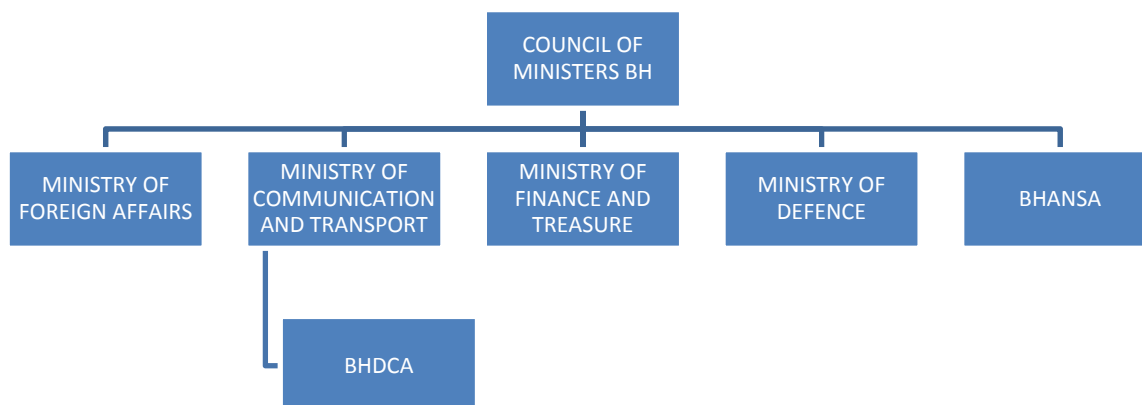


## 1.2. National Stakeholders

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.



### 1.2.1. 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.

Responsibility for provision of Air Navigation Services within TMAs, CTRs and en-route 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 BH" No 39/09)
Safety Oversight	BHDCA	The Aviation Law (Official Gazette of BH" No 39/09)
Enforcement actions in case of non-compliance with safety regulatory requirements	BHDCA	The Aviation Law (Official Gazette of BH" No 39/09)
Airspace	BHDCA	The Aviation Law (Official Gazette of BH" No 39/09)
Economic	BHDCA	The Aviation Law (Official Gazette of BH" No 39/09)
Environment	BHDCA	The Aviation Law (Official Gazette of BH" No 39/09)
Security	BHDCA	The Aviation Law (Official Gazette of BH" No 39/09)
Accident investigation	Ministry of Communication and Transport	The Aviation Law (Official Gazette of BH" No 39/09)

Bosnia and Herzegovina National Supervisory Authority (The NSA Unit) is embedded in the BHDCA. The NSA Unit was established by the *Decision on forming a unit for carrying out the functions and duties of the NSA* by the Director-General in June 2013.

## 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:	N	There is no the Annual report which covering yearly activities of the BHDCA.
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The web site of the BHDCA is: [www.bhdca.gov.ba](http://www.bhdca.gov.ba)

## 1.2.2. BHANSA

### Service 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 centre 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.

<b>Name of the ANSP:</b>	<b>BHANSA</b>		
<b>Governance:</b>	State Ministerial Organs	<b>Ownership:</b>	State
<b>Services provided</b>	<b>Y/N</b>	<b>Comment</b>	
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	Search and Rescue, BHANSA, (Rescue Coordination Centre)	
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	There is no the Annual report which covering yearly activities of the BHANSA.
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The web site of BHANSA is: [www.bhansa.gov.ba](http://www.bhansa.gov.ba)

Additional web addresses of the organizations providing ANS:

[www.crocontrol.hr](http://www.crocontrol.hr)

[www.smatra.rs](http://www.smatra.rs)

### ATC systems in use

Main ANSP part of any technology alliance <sup>1</sup>	N	
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#### FDPS

Specify the manufacturer of the ATC system currently in use:	Indra AIRCON 2100 (DPS)
Upgrade <sup>2</sup> 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 2018-2019 (Full Cross Border FRA support)
ATC Unit	ACC

#### SDPS

Specify the manufacturer of the ATC system currently in use:	Indra SDC 2000 HMI 2000 (VCS)
Upgrade of the ATC system is performed or planned?	Performed in 2015.
Replacement of the ATC system by the new one is planned?	New ARTAS planned for 2017-2018
ATC Unit	ACC

### 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

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

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

### 1.2.3. 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 ESSIP Plan – Part I Section 4, it is up to the individual State to decide which additional airports will be reported through LSSIP for those objectives.

So the following airports are covered in this LSSIP:

Therefore, Sarajevo International Airport (LQSA) is the only airport in Bosnia and Herzegovina covered by the LSSIP Year 2016.

### 1.2.4. Military Authorities

Structure of The Ministry of Defence in Bosnia and Herzegovina is as follows:

- Minister of Defence - Policy and Planning Sector
- Joint Staff
- Operational Command

No Military Aviation Authority has been established yet; Division responsible for the using of airspace, airspace defence, 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.

At Operational Command level there is Air Force Air Defence Brigade HQ.

#### 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	
Authority signing such legal provision: Minister of Defence		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	NA	Organisation of military ATS for GAT	NA
OAT/GAT Coordination	Y	OAT/GAT Coordination	Y



ATCO Training	NA	ATCO Training	NA
ATCO Licensing	NA	ATCO Licensing	NA
ANSP Certification	NA	ANSP Certification	NA
ANSP Supervision	NA	ANSP Supervision	NA
Aircrew Training	Y	ESARR applicability	NA
Aircrew Licensing	NA		
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	Y	EUROCONTROL eAIP	Y
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 N BHANSA is providing service	En-Route N
Approach/TMA N BHANSA is providing service	Approach/TMA N
Airfield/TWR/GND N BHANSA is providing service	Airfield/TWR/GND N
AIS N BHANSA is providing service	AIS N
MET N BHANSA is providing service	MET N
SAR N	SAR N
TSA/TRA monitoring N	FIS N
Other:	Other:
Additional Information:	Additional Information:

Military ANSP providing GAT services SES certified?	N	If YES, since:		Duration of the Certificate:	
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	N		
Within a special OAT route system	N	Under radar advisory service	Y		

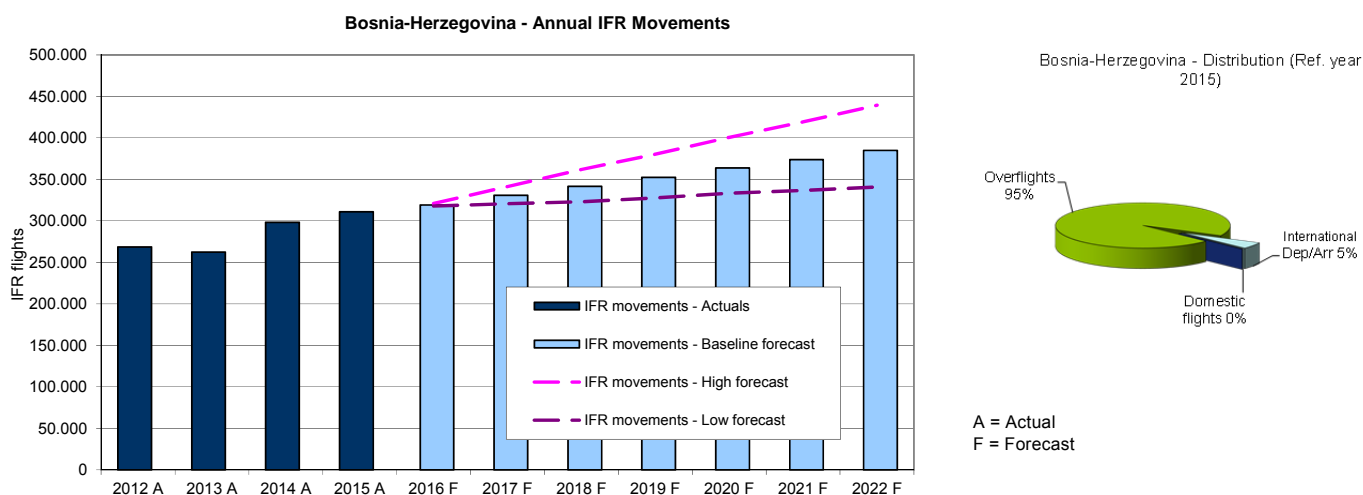
If Military fly GAT-IFR inside controlled airspace, specify existing special arrangements:								
No special arrangements				N	Exemption from Route Charges			N
Exemption from flow and capacity (ATFCM) measures				N/A	Provision of ATC in UHF			N
CNS exemptions:	RVSM	N	8.33	N	Mode S	N	ACAS	N
Others:	-							

## Flexible Use of Airspace (FUA)

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

## Chapter 2 Traffic and Capacity

### 2.1. Evolution of traffic in Bosnia and Herzegovina



EUROCONTROL Seven-Year Forecast (September 2016)											
IFR flights yearly growth		2013 A	2014 A	2015 A	2016 F	2017 F	2018 F	2019 F	2020 F	2021 F	2022 F
Bosnia-Herzegovina	H				3.2%	6.4%	6.0%	5.1%	5.3%	4.6%	4.8%
	B	-2.2%	13.7%	4.2%	2.7%	3.6%	3.2%	3.2%	3.2%	2.8%	3.0%
	L				2.2%	0.9%	0.7%	1.5%	1.8%	1.0%	1.2%
ECAC	B	-1.1%	1.7%	1.6%	2.7%	1.4%	2.1%	2.1%	2.4%	1.9%	2.1%

#### 2016

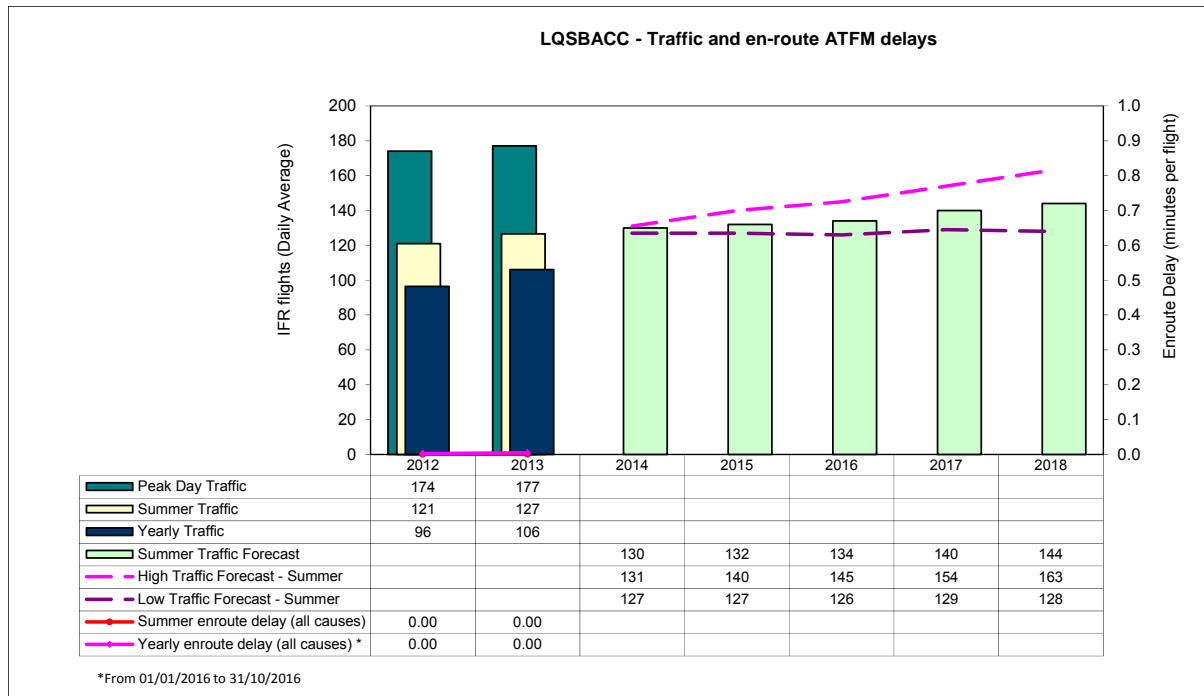
Traffic in Bosnia Herzegovina **increased by 3.3%** during Summer 2016 (May to October inclusive), when compared to Summer 2015.

#### 2017-2021

The EUROCONTROL Seven-Year Forecast predicts an average annual increase between 1.2% and 5.5% throughout the planning cycle, with a baseline growth of 3.2%.

## 2.2. BHACC

### 2.2.1. Traffic and en-route ATFM delays 2012-2021



### 2.2.2. Performance summer 2016

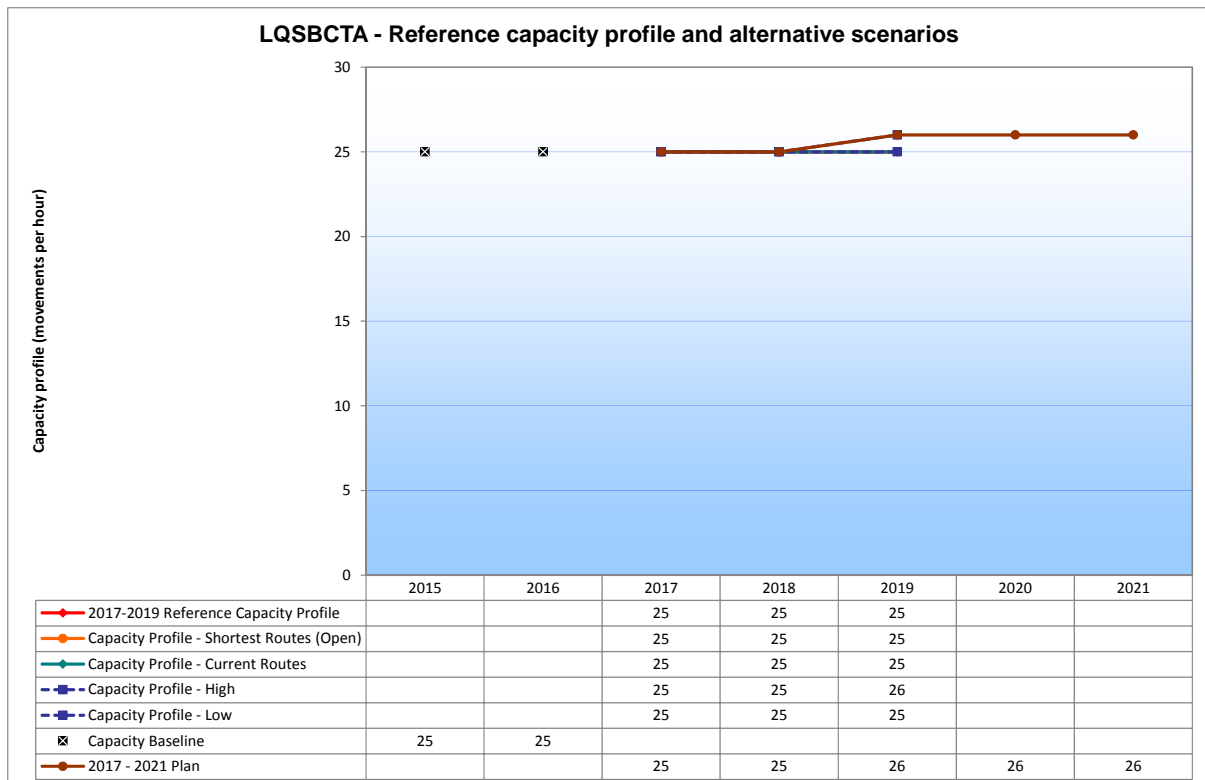
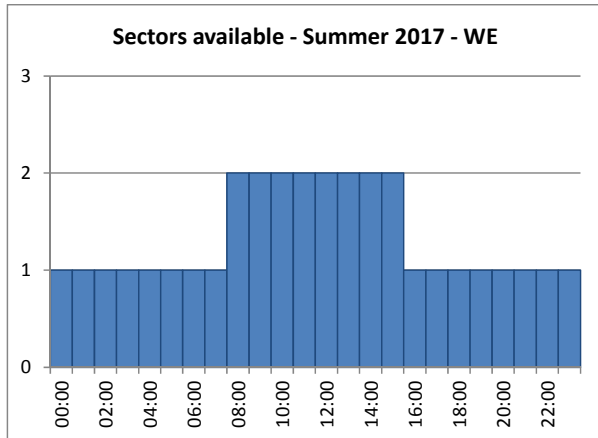
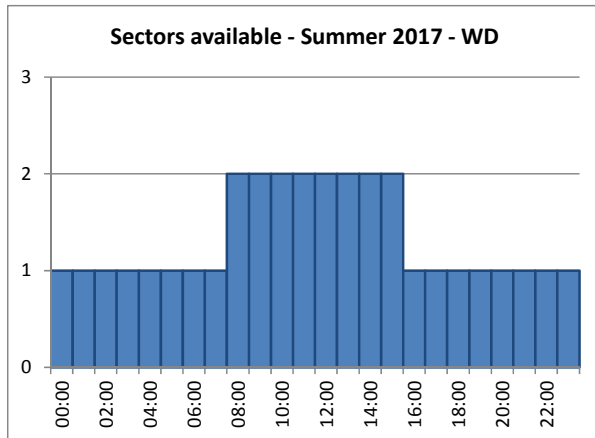
Traffic Evolution	2016 Capacity Baseline	En-route Delay (min/flight) - Summer		Capacity gap
		Ref value	Actual	
+4.7%	25	0.01	0.00	No
The average en-route delay per remained at zero minutes per flight in Summer 2016.				
Capacity Plan: Sufficient capacity to meet demand		Achieved	Comments	
Further cross-border FRA evolutions		Yes	SEA FRA implementation (FRA with neighbouring ACCs: Zagreb and Belgrade above BHACC AoR with time applicability restrictions)	
Enhanced ATFM techniques, including STAM		Yes	Measures applied when needed in tactical phase.	
Minor upgrades to the system		Yes	New hardware, DPS upgrade	
Maximum configuration: 2 sectors		Yes	1 sector was sufficient	
Summer 2016 performance assessment				
The capacity baseline was estimated with ACCESS at 25. During the measured period, the average peak 1 hour demand was 14 and the average peak 3 hour demand was 12.				

### 2.2.3. Planning Period 2017-2021 - 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.

			Capacity Profiles					
ACC	2016 baseline		Profiles (hourly movements and % increase over previous year)					
			2017		2018		2019	
LQSB	25	H	25	0%	25	0%	26	4%
		Ref.	25	0%	25	0%	25	0%
		L	25	0%	25	0%	25	0%
		Open	25	0%	25	0%	25	0%
		C/R	25	0%	25	0%	25	0%

Capacity Plan					
	2017	2018	2019	2020	2021
Free Route Airspace	Further cross-border FRA evolutions				
	SEAFRA (H24 FRA Zagreb and Beograd ACC above FL 325)			FAB CE FRA	
Airspace Management Advanced FUA					
Airport & TMA Network Integration					
Cooperative Traffic Management	Enhanced ATFM techniques, including STAM				
Airspace			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	Jahorina Radar upgrade, DPS/TDS and SIM upgrade				
	New VCS procurement and implementation				
Capacity		CAPAN study needed to determine sector capacity.			
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	2	2	4	5	5
Planned Annual Capacity Increase	Sufficient capacity to meet demand				
Reference profile Annual % Increase	0%	0%	0%	N/A	N/A
Difference Capacity Plan v. Reference Profile	Sufficient capacity to meet demand			N/A	N/A
Annual Reference Value (min)	0.01	0.01	0.01	N/A	N/A
Summer reference value (min)	0.01	0.01	0.01	N/A	N/A
Additional information					



#### 2017-2021 Planning Period Outlook

No capacity problems are foreseen for the ACC during the planning cycle.

## Chapter 3 Master Plan Level 3 Implementation Report recommendations

Recommendations issued from the European ATM Master Plan Level 3 Implementation Report 2015 applicable to Bosnia and Herzegovina for all items that require corrective actions and improvements. These recommendations are extracted from the Executive Summary of the Implementation Report 2015.

Reference number	Recommendation 2015	Ownership
REC-2015/1	Operational stakeholders should ensure that the pace of implementation of pre-SESAR elements is increased, or at least kept at the same level to ensure timely delivery of SESAR baseline.	All operational stakeholders
<b>Corrective actions taken:</b> YES		
<b>Description:</b> Bosnia and Herzegovina has a very low level of reporting. The reason is that we still does not include all stakeholder, in process of reporting. Steps have been taken at the level of management to enhance cooperation. For this edition of LSSIP BA document BHANSA take part in drafting this document. Together we have the task to animating of other stakeholders (International Sarajevo Airport and Ministry of Defense of Bosnia and Herzegovina – for military part of document) regarding LSSIP BA document and reporting process. BHDCA together with BHANSA will initiate internal arrangements to resolve issue of communication with missing stakeholder regarding increasing implementation activities related to pace of implementation of pre-SESAR elements.		
REC-2015/2	Local Stakeholders that declared delays in implementation of AOM19, FCM04, ATC07.1, ATC15, NAV10, ENV01, AOP04.1, ITY-ADQ, ITY-FMTP, INF07, COM10 to take corrective measures to reduce the implementation delays, or at least ensure that these delays are not increased.	Local Stakeholders
<b>Corrective actions taken:</b> NO		
<b>Description:</b>		
REC-2015/7	ANSPs should use the momentum created by PCP funding opportunities to secure and achieve full interoperability in line with Master Plan Level 1 vision.	ANSPs benefiting from EU funding
<b>Corrective actions taken:</b> YES		
<b>Description:</b> The FAB CE countries have jointly submitted a grant application to INEA in 2015 with the objective to develop a detailed study on operational changes and ATM system developments required in order to create a FAB CE Free Route Airspace. After successful application the Grant Agreement has been signed in November 2015.		

## Chapter 4    National Projects

No main projects at National level are currently reported to be ongoing in Bosnia and Herzegovina.

The creation of the future BH ATM system will be the main national project and will be carried out through the implementation of the BH ATM Strategy.



## Chapter 5 Regional Co-ordination

### 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 Project. For this reason the FAB CE Legal Committee and the FAB CE Performance Body (responsible for preparation of FAB CE Performance Plan for RP2) have been established.

FAB CE produced a major update of the existing FAB CE Strategy with the main focus on improved alignment with the European developments and regulatory requirements, especially with those contributing to the deployment of SESAR according to the European ATM Master Plan. Having in mind that the main expected outcome of FAB CE ANSPs is the Free Route environment in the airspace of the FAB CE countries and that this outcome is the main focus of the FAB CE, its strategic objectives were divided into three groups according to their priorities:

1. The strategic objectives of level 1 are directly linked to the overall goal of:
  - Implementation of the Free Route concept;
  - Fulfilling of all performance targets as defined in the FAB CE Performance Plan;
  - Contributing to the goals defined in European ATM Master Plan.
2. The strategic objectives of level 2 represent the facilitating tasks, with a cooperative added value for the whole FAB CE;
3. The strategic objectives of level 3 represent all other, notably “some-in” (i.e. with only a subset of FAB CE States participating) cooperative and local initiatives serving the FAB and the industrial cooperation targets.

The updated FAB CE Strategy has been approved by the CEO Committee in February 2016 and by the FAB CE Council in April 2016.



### Optimised ATM Network Services

- ✓ AOM19.1 - For the time being, only Hungary has a specific ASM support tool (LARA) in operation, Croatia to follow early 2017. All other FABCE ANSPs plan to deploy LARA or an equivalent system by the end of 2018. The real-time management of ASM information (AOM19.2 and AOM19.3) currently sees a variety of intentions, ranging from 'no plan' to 'ongoing'.
- ✓ FCM03 - The implementation of collaborative flight planning messages (APL, ACH, AFP) shows a heterogeneous status, whereas the weakest point turns out to be the full AFP implementation ('no plan' to 'late')
- ✓ FCM04.1 – STAM Phase 1 is planned to go into operation at FABCE level on 27<sup>th</sup> of April 2017 (except SK, BiH). STAM Phase 2 (FCM04.2) is still under discussion.
- ✓ FCM05 (interactive rolling NOP) Implementation of interactive rolling NOP is planned through upgrades of the automated ASM support systems with the capability of AIXM 5.1 B2B data exchange with NM. The objective is considered to become part of a FABCE project.
- ✓ FCM06 (TFC complexity assessment) is tackled at FABCE level within the DAM/STAM study.



### Advanced Air Traffic Services

- ✓ AOM 21.1/2 (DCT, Free Route Airspace): forming part of a main FABCE project, Free Route Airspace is going to be deployed stepwise within and across FABCE borders. Two main cross-border initiatives have been implemented in 2016, respectively early 2017 at H24 basis: SAXFRA- SLO/AUT and SEENFRA - HUN/ROM/BUL.  
Beside that, national DCT implementations are already in force and are planned to be extended. Likewise, further cross-border FRA applications beyond FABCE are planned for implementation in 2018 (e.g. SECSI FRA, merging SAXFRA and Croatian + Serbian/Montenegrin Airspace).
  - ➔ Moreover, a Gate One Free Route Airspace Operational Framework Study (GO FRA OF Study) has been identified to start off in 2017, including Baltic FAB, Danube FAB, FAB CE, SMATSA and M-NAV.
- ✓ ATC07.1 (ATC15.1, ATC 15.2) – AMAN Vienna is considered as a regional project, but nevertheless, will include and affect the majority of the FABCE states. Planned for implementation by end 2018. Extended AMAN for Vienna is currently scheduled until 2023 at the latest.
- ✓ ATC12.1 - Automated support for conflict detection, resolution support information and conformance monitoring: dependent on the national ATM system development, the MTCD function is considered a prerequisite for Free Route Airspace application. MTCD is already widely implemented; TCT is left to the ANSPs depending on local conditions.
- ✓ ATC17 - Electronic Dialogue as automated assistance to controller during coordination and transfer: Having identified this objective as extremely beneficial for FRA application, the operational deployment is foreseen at those Units, which are capable do so and where relevant, by end 2018.









## High Performing Airport Operations

- ✓ AOP04.2 - ASMGCS Level 2 is implemented in Praha and Vienna. Budapest has implemented Level 1, and Level 2 planned by end 2017. Although not part of the applicability area, Zagreb plans Level 2 before end 2018.
- ✓ AOP05 - A-CDM: implemented in Praha, planned in Budapest by end 2017 and Zagreb (2017/18). Vienna status is locally fully implemented, missing only DPI message transmission, planned for mid 2018.
- ✓ AOP10 - Time Based Separation: Applicable for Vienna; project has started, and in conjunction and based on AMAN implementation, it will be operational by end of 2021.
- ✓ AOP 12/13 - Improve runway and airfield safety with ATC clearances monitoring: planned for Praha and Vienna in time



## Enabling Aviation Infrastructure

- ✓ COM10 - Migration to AMHS: completed in AUT, SLO and SK. Ongoing in HUN, CRO and BiH; late in CZR (2018)
- ✓ COM11 – Voice over IP: all FABCE states are ongoing and plan this objective in time by 2020.
- ✓ FCM08 – Extended Flight Plan: Specifications and requirements for the EFPL / ICAO FF-ICE are locally under discussion. Roadmaps for TOPSKY will foresee a later implementation, e.g. 2024.
- ✓ ITY-AGDL: completed in AUT, CZR and HU. Ongoing CRO and SLO, planned for BiH and late for SK (2019)
- ✓ ITY-ACID - Aircraft ID: Mode S, and partly additionally A-WAM technologies, are applied in all FABCE states. Remaining actions to reach 100% of coverage are conceived until 2019, for BiH in 2020.
- ✓ ITY-AGVCS2 – 8.33 kHz below FL195: All FABCE states do plan the FRQ conversions in time until end of 2018.

<b>Safety</b> 	A safety approach to the Network operations is ensured through the FAB CE Safety Sub-committee and its cross domain Safety activities. The FAB CE Safety Management Roadmap specifies that the FAB CE ANSPs share inter alia experience regarding Just Culture. Just Culture implemented locally, taking into account the national legislation.
<b>Capacity</b> 	In close cooperation with NM, capacity enhancements are permanently identified and implemented. FABCE is going to reach the RP2 targets for ATFM Delays throughout the whole period.
<b>Cost Efficiency</b> 	<p>Shared technical platforms, common use of Networks and maintenance, reduced NAV equipment, and others.</p> <p>➔ X-Bone, common HW Procurement (FAB CE Project 17)  The goal is to upgrade the X-bone routers in accordance with X-bone Annual General Meeting decision GM4-D11, and to accomplish the first FAB CE common procurement and lay down procedural foundations for the further common procurement activities.</p>
<b>Security</b> 	Integration of Security Event Management and Security Information Management into one service providing better quality and security of communication systems and higher resistance against potential threats.
<b>Operational efficiency</b> 	<p>Two main projects of the FABCE Program Management deal actively with operational efficiency:</p> <p>Airspace Planning and Design (FRA) including aligned operational procedures, and Flexible Use of Airspace (ASM / STAM).</p>
<b>Environment</b> 	Flight efficiency through Free Route applications improves steadily, based on the above mentioned ops efficiency projects.

## 5.2. FAB Projects

FAB CE Strategic Operational Planning Project (incl. FAB CE X-Border Free Route Airspace Study) (FAB CE Project 1)			
Organisation(s):	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)		Type of project: FAB
Schedule:	Project 1: Start 3.1.2011, End: Continuous Project 1 FAB CE FRA Study: Start: 1.9.2015, End: 21.4.2017		
Status:	Ongoing activity  Project is on track: - CEF FRA Study RTS CONOPS is delivered - FRA CONOPS available and the review and update will commence in 01/2017 once RTS report is available - ATM System Requirements report is available - Other activities in progress, will be delivered on schedule  - FAB CE Airspace Plan 2016 delivered - FAB CE Network Operations Plan delivered		
Description:	The objective of Project 1 is the optimal use of the airspace within FAB CE, taking into account air traffic flows while ensuring consistency with the wider European network together with the assessment and implementation of the Free Route Airspace concept.  The project will implement the FAB CE X-Border FRA study („Free route airspace from the Black Forest to the Black Sea” project). The key benefit expected from the project is to create a clear definition of the operational end technical pre-conditions for a conceived FAB CE X-Border Free Route Airspace, by creating a study. The study aims at defining the operational end technical pre-conditions to implement the FAB CE Free Route Airspace, including Concept of Operations, the necessary validation exercises thereof and the required development and upgrade requirements of ATM systems of the FAB CE members. Project 1 also includes annual updates of FAB CE Network Operations Plan (FNOP) and FAB CE Airspace Plan.		
Link and references			
ATM MP links:	L3: AOM21.1, AOM21.2		
Other links:	SESAR Key Feature: Advanced air traffic services  DP2016 Families: AF 3.2.1 AF 3.2.3 AF 3.2.4  FAB CE Strategic Objectives: FSO5, target 5.1: Implement Free Route Airspace “Baseline scenario” FSO10, target 10.3: Incorporate actions supporting the SESAR deployment (Deployment Plan / Programme 2015) in the joint FAB CE planning process and planning documentation		
Project included in RP2 Performance Plan:	Y	Name/Code in RP2 Performance Plan:	FAB CE FRA Project (described under NSP actions 'FAB CE Airspace and route structure planning' and 'Free Route Airspace')
Project included in DP2016:	Y	Name/Code in DP2016:	102AF3 – Free route airspace from the Black Forest to the Black Sea

Performance contribution		
<b>Safety:</b>	++	-The baseline assumption is that the potential implementation of GO FRA would be safety neutral or positive, i.e. the level of safety would not degrade due to the introduction of a FAB CE FRA OPS
<b>Environment:</b>	+++	11% saving in horizontal flight efficiency by saving 2.1 km deviations (millions) from GCD and saving 23,000 tonnes of Annual CO2 in 2017.
<b>Capacity:</b>	++	To increase capacity to cope with the increase of around 60% in traffic in 2017 with a maximum delay of 0.28 minutes
<b>Cost-efficiency:</b>	+++	Improvement over 2006 in ATM/CNS costs per flight hour and achieve 469 of economic costs per flight hour in 2017
<b>Operational efficiency:</b>	++	Advanced ATS required for FRA implementation have a positive impact on all aspects of operational efficiency
<b>Cooperation Activities:</b>	-	

Functional integration of ASM/ATFCM processes / FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM (FAB CE Project 3 / DAM/STAM Study)		
<b>Organisation(s):</b>	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)	<b>Type of project:</b> FAB
<b>Schedule:</b>	Project 3: Start: 29.10.2010, End: 2016 DAM/STAM Study: Start: 7.2.2017, End: 31.12.2018	
<b>Status:</b>	Project 3 closed in 2016  Follow-on project 'DAM/STAM Study': Planned Currently under development, the CEF application is being finalised	
<b>Description:</b>	<p>The objective of Project 3 was to optimise the flow of air traffic and the management of airspace within FAB CE, taking into account the FAB CE airspace plan and ensuring consistency with the wider European network operations together with the assessment and implementation of the Rolling ASM/ATFCM Processes and STAM IDP/DM Activity Areas.</p> <p>The project achieved most of its original objectives and was closed in 2016.</p> <p>Project 3 is being followed-up with the new 'FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM' Study Project. The main objective of the DAM/STAM study project is to obtain a key FAB CE high-level document that contains all relevant elements required for a consequent FAB CE wide implementation of DAM and STAM processes. As such the DAM /STAM final report can be seen as an implementation roadmap for all involved FAB CE ANSPs, a FAB CE ASM document that defines the high level operational concept for FAB CE DAM/STAM by describing the collaboration, processes, procedures and tools needed for later implementation.</p> <p>The second main objective of the DAM/STAM study is to provide the involved ANSP with all required information necessary to plan for closing existing gaps to PCP /Deployment Plan on a local level. As a FAB CE wide assessment revealed gaps to the DP 2016 among the ANSP in all the related AF families, the DAM /STAM study is the FAB CE led activity to coordinate the closure of these remaining gaps.</p> <p>Furthermore, it is a stated goal of the DAM/STAM study to describe and prepare the conditions required to allow for a FAB CE wide harmonization of ASM-, FUA-, DAM and STAM processes. The effect of this is seen to be FAB CE wide ASM that will allow to unlock the full operational benefits associated to FAB CE FRA implementation.</p>	

Link and references			
<b>ATM MP links:</b>	L3: AOM19.1, AOM19.2, AOM19.3, FCM04.1, FCM04.2, FCM06		
<b>Other links:</b>	<p>Optimised ATM network services</p> <p>DP2016 Families:  AF 3.1.1  AF 3.1.2  AF 3.1.3  AF 3.1.4  AF 4.1.1  AF 4.1.2  AF 4.4.2</p> <p>FAB CE Strategic Objectives:  FSO10, target 10.3: Incorporate actions supporting the SESAR deployment (Deployment Plan / Programme 2015) in the joint FAB CE planning process and planning documentation</p>		
<b>Project included in RP2 Performance Plan:</b>	Y	<b>Name/Code in RP2 Performance Plan:</b>	Advanced Airspace Management (described under NSP actions)
<b>Project included in DP2016:</b>	N	<b>Name/Code in DP2016:</b>	CEF Application will be submitted as a part of PCP under CEF2016 Call
Performance contribution			
<b>Safety:</b>	+	<p>-Increased situational awareness of FMPs, supervisors and ATCOs. STAM will give more options to avoid overloads.</p> <p>Following FAB CE FRA simulations and GO FRA FTS, the DAM STAM study assess the results in order to quantify the impact on this domain</p>	
<b>Environment:</b>	++	<p>Trajectories are expected to be more efficient due to procedures and processes accommodating short-term changes. Larger selection of airspace configurations/scenarios available to allow for more robust planning.</p> <p>Direct positive impact thanks to shorter and more direct routes whenever possible, which will lead to an optimized fuel usage of the AU.</p> <p>In addition, increased robustness on the overall allocation of airspace will lead to a more appropriate fuel loading of airspace users.</p> <p>Following FAB CE FRA simulations and GO FRA FTS, the DAM STAM study assess the results in order to quantify the impact on this domain</p>	
<b>Capacity:</b>	++	<p>Better usage of available airspace volumes with reduced complexity will lead to higher capacity. Short-term opportunities are effectively and efficiently managed. Overall increase of airspace capacity through optimised utilisation of airspace configurations and scenarios. STAM will give more opportunities to balance traffic demand and available capacity.</p> <p>Following FAB CE FRA simulations and GO FRA FTS, the DAM STAM study assess the results in order to quantify the impact on this domain</p>	
<b>Cost-efficiency:</b>	+	<p>A capacity increase combined with increased situational awareness of the ATCO is enhanced through the introduction of complexity assessments for expected scenarios. Combined this will lead to adjustments of sector monitoring values and ATCO productivity.</p> <p>Following FAB CE FRA simulations and GO FRA FTS, the DAM STAM study assess the results in order to quantify the impact on this domain</p>	
<b>Operational efficiency:</b>	++	<p>The application of the data / information sharing concept among all involved stakeholders will lead to an increased robustness and predictability of the FAB CE managed airspace.</p> <p>Following FAB CE FRA simulations and GO FRA FTS, the DAM STAM study assess the results in order to quantify the impact on this domain</p>	
<b>Cooperation Activities:</b>	-		

Deployment of FAB CE Competence Scheme (FAB CE Project 13)			
Organisation(s):	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)		Type of project: FAB
Schedule:	Start: 1.12.2010		
Status:	Frozen in 2015		
Description:	The objective of the project is to implement the agreed measures described in the FAB CE Competence/Transition Plan to fill in the remaining detected gaps towards full harmonisation of ATCOs competence. It will progressively extend to AMC/FMP Staff and ATSEP, where the level of harmonisation is currently lower. The coordination with NSAs will be the essential part of the project activities. The project was frozen in 2015.		
Link and references			
ATM MP links:	-		
Other links:	FAB CE Strategic Objectives: FSO15, target 15.1: Implementation and monitoring of the commonly approved Common Competence Schemes		
Project included in RP2 Performance Plan:	N	Name/Code in RP2 Performance Plan:	-
Project included in DP2016:	N	Name/Code in DP2016:	-
Performance contribution			
Safety:		-	
Environment:		-	
Capacity:		-	
Cost-efficiency:	+	Cost-efficiency of training	
Operational efficiency:		-	
Cooperation Activities:	-		



Training Facilities (FAB CE Project 14)			
Organisation(s):	ASP ANS CR (CZ), Austrocontrol (AT), BHANSA (BA), CCL Service Provider (HR), Hungarocontrol (HU), Letové prevádzkové slu by Slovenskej republiky, štátny podnik (SK), Slovenia Control (SI)		Type of project: FAB
Schedule:	Start: 3.1.2011		
Status:	Frozen in 2015		
Description:	The objective of the project is to define and fully harmonise the training of ATCOs, AMC/FMP Staff and ATSEP based on the Common Competence Schemes defined by FAB CE P13, focus on achieving an optimal use of ATM staff and higher cost efficiency in training. All above in order to facilitate the development of the same performance standards, interoperability, common licensing and increase in performance and quality by applying best practices and exchanging resources. The project has been frozen in 2015.		
Link and references			
ATM MP links:	-		
Other links:	FAB CE Strategic Objectives: FSO15, target 15.2: Common training of ATCO of two or more ANSPs conducted FSO15, target 15.3: Common training of ATSEP of two or more ANSPs conducted FSO15, target 15.4: Common use of training facilities of two or more ANSPs conducted		
Project included in RP2 Performance Plan:	N	Name/Code in RP2 Performance Plan:	-
Project included in DP2016:	N	Name/Code in DP2016:	-
Performance contribution			
Safety:		-	
Environment:		-	
Capacity:		-	
Cost-efficiency:	+	Contributes to develop the network human capital and improve its flexibility.	
Operational efficiency:		-	
Cooperation Activities:	-		

ANSP Charging (FAB CE P15)			
Organisation(s):	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)		Type of project: FAB
Schedule:	Start: 3.1.2011		
Status:	Frozen in 2015		
Description:	The objective of the project is to identify how the Single Unit Rate or other modification to the charging mechanism can support Free Route Airspace implementation from the point of view of the revenue distribution and capacity utilization of FABCE ANSPs. The project was frozen in 2015.		
Link and references			
ATM MP links:	-		
Other links:	-		
Project included in RP2 Performance Plan:	N	Name/Code in RP2 Performance Plan:	-
Project included in DP2016:	N	Name/Code in DP2016:	-
Performance contribution			
Safety:		-	
Environment:		-	
Capacity:		-	
Cost-efficiency:	+	Improve cost-efficiency, mitigation of financial risks	
Operational efficiency:		-	
Cooperation Activities:	-		

## 5.3. Regional cooperation

### 5.3.1. Regional Cooperation Initiatives

In 2016 a multinational project “SEAFRA” covering cross-border application of the free route airspace concept in the airspace of 4 states: Croatia, Bosnia&Herzegovina, Montenegro and Serbia, on the South-East Axis was successfully implemented and completed. SEAFRA actions were taken in line with the Regulation (EU) No 716/2014, 5 years prior to 1 January 2022 – the date of the planned unlimited free use of airspace at and above FL310 across Europe.

By signing of the Memorandum of Cooperation on 18 February 2015 between SMATSA, CCL and BHANSA, BHANSA expressed readiness for mutual cooperation for implementation of the SEAFRA. FREE ROUTE AIRSPACE FIR BELGRADE, SARAJEVO AND ZAGREB FIR, SOUTH-EAST AXIS FRA (SEAFRA) published in the AIP SUP AIP SUP 1/16 and 2/16 describe the space and the time of applicability for Belgrade FIR, FIR Sarajevo and Zagreb FIR, where the FRA concept is implemented. The night SEAFRA was implemented on 30 April 2015.

As from 8 December 2016, three ANSPs – CCL (Croatia Control Ltd), SMATSA (Serbia and Montenegro Air Traffic Services SMATSA LLC), and BHANSA (Bosnia and Herzegovina Air Navigation Services Agency) – have offered the airspace users possibility to plan and conduct flights, free of fragmentation by state or area of responsibility borders, above 9,900 m during whole day. The concept enables the use of airspace free of ATS routes, where airlines may plan their flights directly between entry and exit points of a specified airspace. H24 SEAFRA has been implemented over all 4 involved states – Croatia, Bosnia and Herzegovina, Montenegro and Serbia.

The SEAFRA represents the first cross-border, „beyond-FAB“, voluntary collaboration and is in line with the Single European Sky spirit. Implementation of the project gathered 3 ANSPs covering territory of 4 states and the high-sea, to work together on a voluntary basis, in order to implement a seamless and integrated FRA for the benefit of European air traffic network.

In doing so, SEAFRA made significant contributions to:

- Increasing capacity of ATM system, as aircraft are given best possible trajectory within X-border SEAFRA airspace. Subsequently, there is less communication between controller and pilot since there's less need for issuing direct route clearances and fewer requests from pilots. This results in alleviation of frequency congestion thus increasing sector capacity in the en-route segment. Estimated maximum capacity benefit of up to 10% could be expected in later stages (consolidation phase of the project) after analysis of potential new trajectories and sector configuration adjustments.
- Increasing safety of ATM systems, as planning from entry point A to exit point B normally eliminates the need for intermediate points which were present in the fixed route network planning, creating stable trajectory profiles which correspond to the planned profiles, so safety is increased by introducing new working methods and ATC coordination principles. The accuracy of conflict detection tools (such as MTCD) is enhanced, showing more exact minimum distances between conflicting pairs of aircraft. This enables the controller to rely more on automated tools at his disposal for increasing safety and reliability of the ATM system.
- Improvement of ATM cost-efficiency by working together, as the overall ATM cost for implementing FRA has been significantly lower than it would have been if each ANSP introduced FRA separately. Total operational costs to airspace users are reduced because airlines are enabled to fly shorter. Based on experience gained in SEAFRA implementation as multinational project, all succeeding projects will be planned together or at least coordinated in order to reduce costs and increase efficiency. Moreover, EU/INEA recognized SEAFRA project as the valuable one and co-financed 50% of CCL implementation costs.
- Reducing the impact of air transport on the environment, as one of the key objectives of SEAFRA is to reduce the route length flown in a given volume of airspace. Implementation of H24 SEAFRA will result in significant reductions of flying time and fuel burn. Estimations of the environmental benefits, per annum:
  - Number of IFR GAT flights: 700.000
  - Route length reduction: 1,05 mil NM
  - Reduced fuel consumption: 3,4 million kg
  - Reduced CO2 emission: 11 million kg,
  - Reduced NOx emission: 40.000 kg.

Reaching SEAFRA objectives to increase flight efficiency and reduce pollution in the region (optimal trajectories, shortest route option, reduced fuel burn) should consequently bring benefits for citizens and passengers. Reduced operational costs of each flight passing through SEAFRA may result in lower ticket prices and reduced delays. Reduction in route CO2, NOx and other emissions will help in preserving environment and increase quality of living in 4 states. Benefits for citizens and passengers are made as SEAFRA partners have structured the development and deployment process around joint activities such as common specification, operational harmonization, a common validation. Providers then performed appropriate safety assessments for each Area of Responsibility and undertook appropriate mitigation measures.

SEAFRA serves to promote partnerships as the cross-border cooperation is in line with the SES spirit, involving 4 neighbouring states of Central and South-Eastern Europe, including high-seas:

- 1 state in EU, 3 non-EU states,
- 2 states in FABCE, 2 states neighbouring to FABCE.

All 3 providers could have fully coordinated environment, on benefit for all involved ANSPs and airlines. SEAFRA already showed intention to grow further more e.g. to merge SEAFRA with SAXFRA initiative (consisting of airspaces of Slovenia and Austria) so FRA would involve 6 states, and in participation in FABCE FRA and Gate One FRA projects.

SEAFRA promotes SES and SESAR beyond the Union's boundaries and the SEAFRA partners will continue to work together in other projects (expansion of FRA, GOFRA etc.) which are contributing and simultaneously promoting SES and SESAR.

As a direct result of SEAFRA success, BHANSA, with partner agencies CCL and SMATSA, won the 2017 SES Award for making possible extra-EU cooperation on airspace and providing a concrete example of how this type of cooperation is possible and can benefit all stakeholders. This prestigious award was handed by the European Commission at the World ATM Congress on 7 March 2017.

For the future SEAFRA showed intention to grow further more e.g. to merge SEAFRA with SAXFRA initiative (consisting of airspaces of Slovenia and Austria) which will encompass all of the South-East Axis and integrate it into one big FRA area which will consist of airspace of 6 countries (Austria, Slovenia, Croatia, Bosnia and Herzegovina, Serbia and Montenegro). Memorandum of Cooperation for the new joint Southeast European Cooperative Initiative (SECSI) was signed in Madrid on 8 March 2017 with a view of implementation in February 2018.

## 5.4. Regional Projects

Gate One Free Route Airspace Operational Framework Study (GO FRA OF Study)			
Organisation(s):	ASP ANS CR (CZ), Austrocontrol (AT), BHANSA (BA), BULATSA (BG), CCL Service Provider (HR), Hungarocontrol (HU), Letové prevádzkové slu by Slovenskej republiky, štátny podnik (SK), M-NAV (MK), ORO NAVIGACIJA (LT), PANSA (PL), ROMATSA (RO), SMATSA (RS), Slovenia Control (SI)		Type of project: Regional
Schedule:	Start: 1.9.2017, End: 30.11.2019		
Status:	Planned CEF Application is being finalised under CEF Call 2016		
Description:	GO FRA Study within the Gate One region is expected to: - Evaluate the feasibility of connecting FAB and national level FRA initiatives to a larger common FRA area as a step towards Pan-European FRA deployment; - Expand the application of FRA and cover geographical gaps in FAB-level FRA implementation by the inclusion of non-FAB states to the GO FRA scope; - Facilitate the deployment of FRA in a large multi-FAB/state area by utilising the existing FRA initiatives, lessons learned and individual studies performed by the participating ANSPs in defining the framework for a common GO FRA application within a defined airspace, fully integrated with the FAB/state level FRA initiatives; - Reduce fragmentation and remove overlaps between the currently on-going different national/bi-lateral/FAB-level FRA initiatives; - Enable airspace user benefit realisation with regard to FRA operations in a larger area resulting in improved flight efficiency and reduced environmental impact.		
Link and references			
ATM MP links:	L3: AOM21.1, AOM21.2		
Other links:	Advanced air traffic services  DP2016 Families: AF 3.2.1 AF 3.2.3 AF 3.2.4  FAB CE Strategic Objectives: FSO5, target 5.1: Implement Free Route Airspace “Baseline scenario” FSO10, target 10.3: Incorporate actions supporting the SESAR deployment (Deployment Plan / Programme 2015) in the joint FAB CE planning process and planning documentation		
Project included in RP2 Performance Plan:	N	Name/Code in RP2 Performance Plan:	-
Project included in DP2016:	N	Name/Code in DP2016:	CEF Application will be submitted as a part of PCP under CEF2016 Call

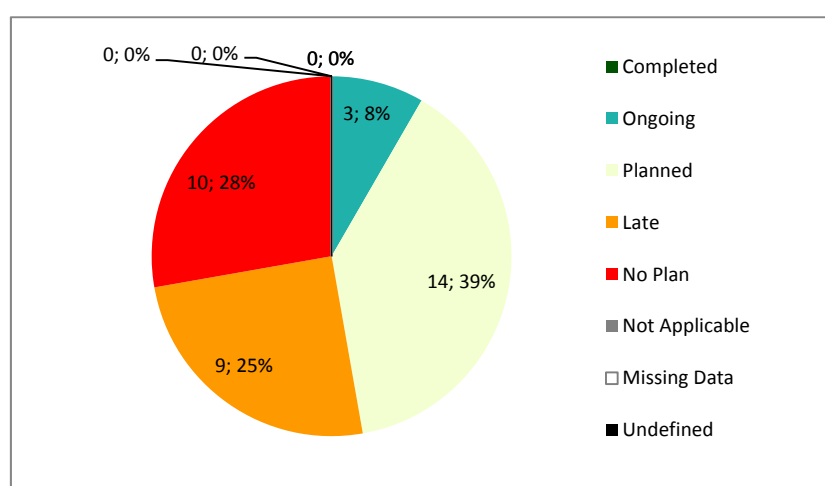
Performance contribution		
<b>Safety:</b>	+	The baseline assumption is that the potential implementation of GO FRA would be safety neutral or positive, i.e. the level of safety would not degrade due to the introduction of a large scale FRA OPS. Occurrences of SAF2, SAF3 and SAF4 KPI's should not increase as a result of the Gate One – wide FRA application. The introduction of multi-FAB/state FRA is expected to introduce improvements in system interoperability, procedures and potentially the use of ground based safety nets and monitoring aids expected to result in improvements to the overall safety in the impacted area.
<b>Environment:</b>	+	The introduction of multi-FAB/state FRA is expected to improve flight efficiency through the availability of user preferred routing and improved network connectivity between the participating FABs/states. Indicative flight efficiency (in time) assessments will be made through macro-level modelling and FTS exercises during Activities 3 and 4.
<b>Capacity:</b>	+	The baseline assumption is that the potential implementation of GO FRA would be capacity neutral or positive, i.e. the participating ANSPs capacities would not degrade (KPI CAP5) due to the introduction of a large scale FRA OPS. The introduction of multi-FAB/state FRA may increase the airspace capacity with the appropriate system support and sector configuration and capacity management procedures. However, this would need to be verified through local/FAB-level RTS simulations and/or live-trials during the potential implementation phase.
<b>Cost-efficiency:</b>	+	Introduction of Gate One FRA is not expected to impact ANS Cost Efficiency KPI COS1. Impact on COS3 is expected to be negligible as ASNP's will be required to implement changes to their ATM systems for FRA compatibility regardless of GO FRA.
<b>Operational efficiency:</b>	+	It is expected that the ATM functionalities required to support flight data sharing in a large-scale FRA environment will improve predictability but this will require validation on local/FAB-level.
<b>Cooperation Activities:</b>	-	

## Chapter 6 Implementation Objectives Progress

### 6.1. State View

#### 6.1.1. Overall Objective Implementation

##### Progress distribution for applicable Implementation Objectives



There is generally low level of implementation of the ESSIP Objectives. The implementation of the objectives (low level of implementation) slower than expected due to the difficulties to get involved of all concerned stakeholders.

## 6.1.2. Objective Progress per SESAR Key Feature

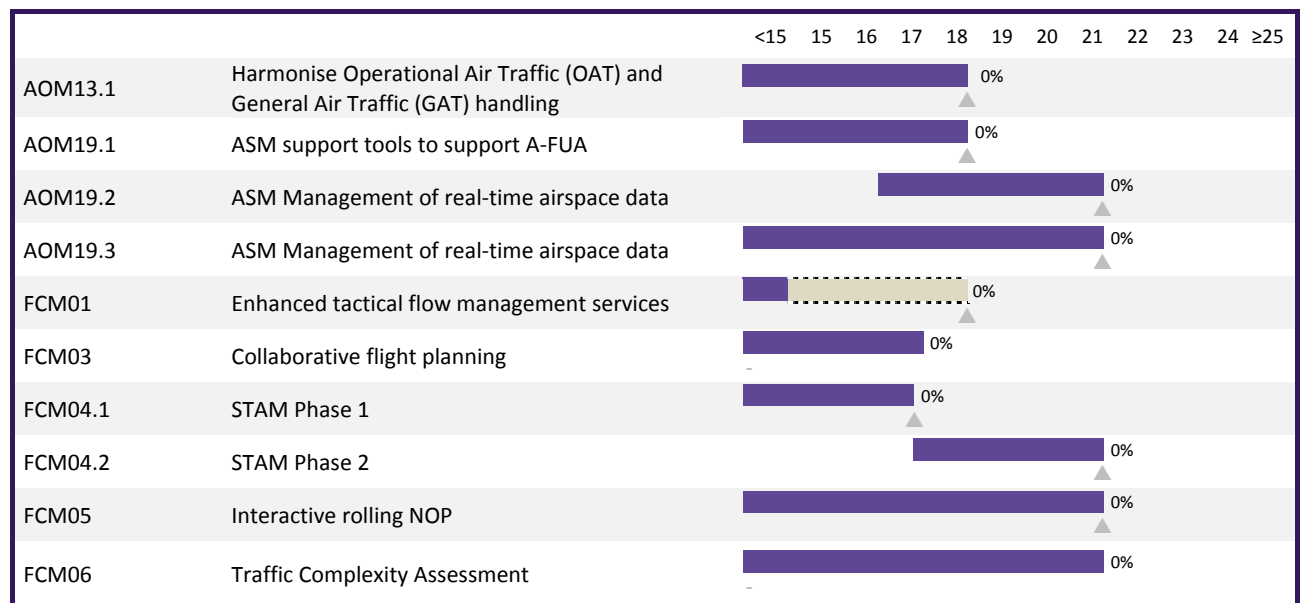
Legend:

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



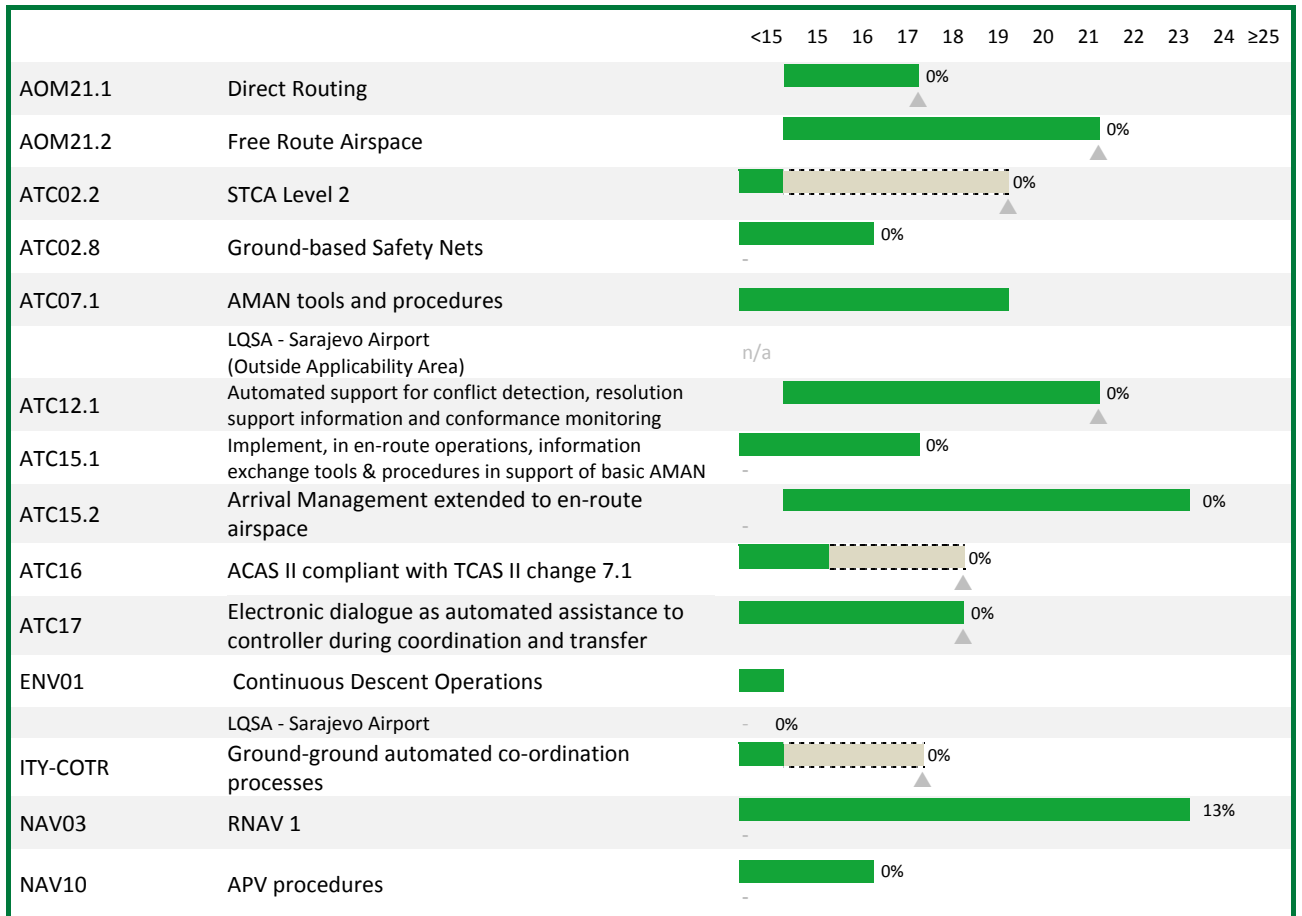
### Optimised ATM Network Services

Average implementation progress: **0%**





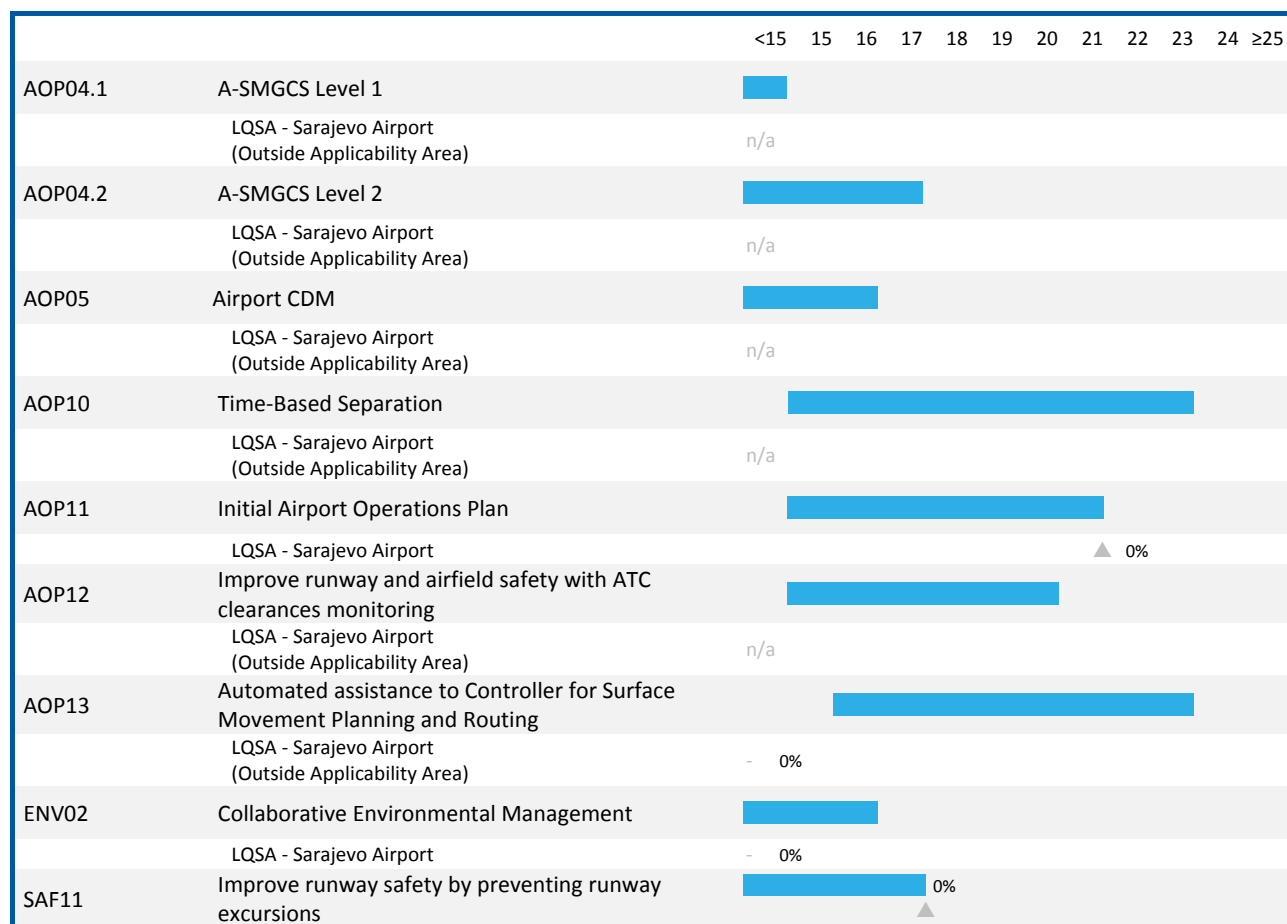
Average implementation progress: **1%**





## High Performing Airport Operations

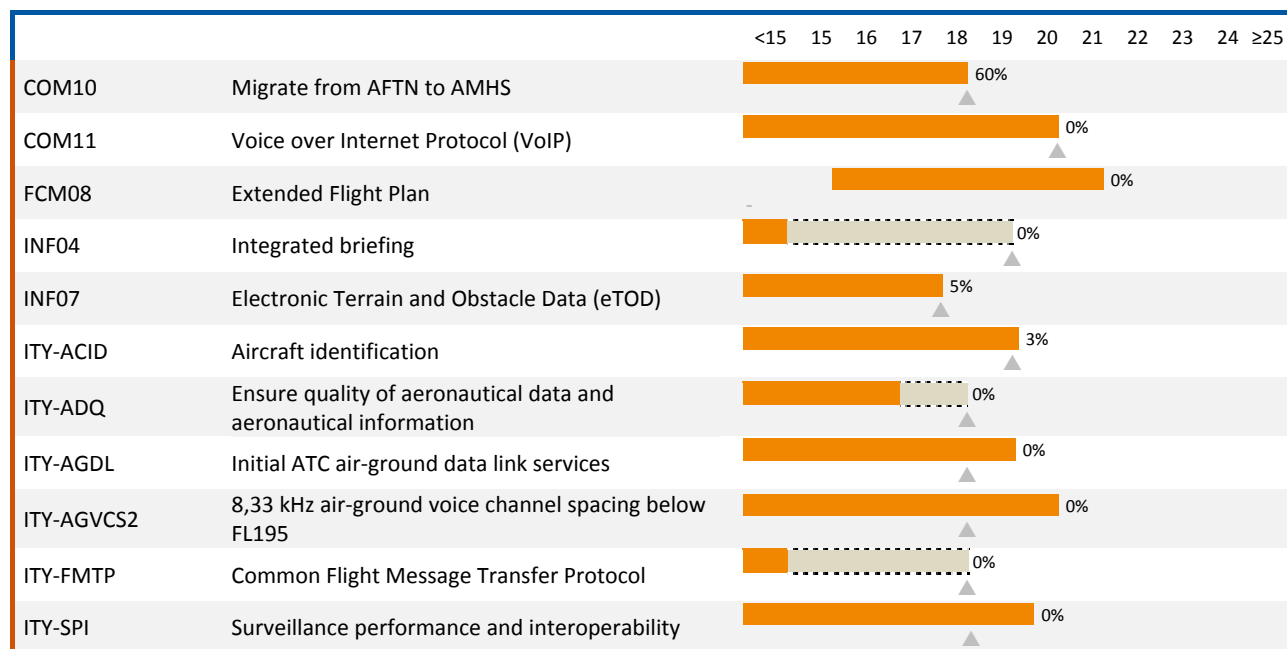
Average implementation progress: **0%**





## Enabling Aviation Infrastructure

Average implementation progress: **6%**





### 6.1.3. ICAO ASBU Implementation


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

These results were determined using the LSSIP Year 2016 declared statuses and progress of the relevant Implementation objectives in accordance with the mapping approved by ICAO EUR EANPG/58 (European Air Navigation Planning Group).























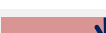

Legend:

 = Completed (during 2016 or before)

 = Progress achieved in 2016

 = 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			100%								
			0%									
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%					
			0%									
B0-DATM	Service Improvement through Digital Aeronautical Information Management						100%					
			0%									
B0-ACAS	ACAS Improvements						100%					
			0%									
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets						100%					
			0%									
B0-ACDM	Improved Airport Operations through											
B0-RSEQ	Improved Traffic flow through Runway sequencing (AMAN/DMAN)			100%								
			0%									
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories						100%					
			38%									
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view						100%					
			0%									
B0-ASUR	Initial capability for ground surveillance						100%					
			0%									
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)			100%								
			6%									
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route						100%					
			0%									

## 6.2. Detailed Objectives Implementation progress

Two colour codes are used for each Implementation Objective 'box':

- a colour code is used to show the Objective **Scope** in the Objective ID cell, and
- another colour code is used to show the Objective **Progress** in the State and for each national stakeholder.

(*) Objective Scope Code:	(**) Objective/Stakeholder Progress Code:			
ECAC	Completed		No Plan	
EU+	Ongoing		Not Applicable	
Multi-N	Planned		Missing Data	
APT	Late			

AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling <u>Timescales:</u> Initial operational capability: 01/01/2012 Full operational capability: 31/12/2018			0%	Planned
-					
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.					31/12/2018
REG (By:12/2018)					
BHDCA	Bosnia and Herzegovina Directorate of Civil Aviation plans to fulfill this objective till 2018.	-	0%	Planned 31/12/2018	
ASP (By:12/2018)					
BHANSA	BHANSA is expected to meet the objective within the targeted timeframe.	-	0%	Planned 31/12/2018	
MIL (By:12/2018)					
Mil. Authority	For this LSSIP edition is no information provided by MoD.	-	0%	Missing Data 31/12/2018	
AOM19.1	ASM support tools to support A-FUA <u>Timescales:</u> Initial operational capability: 01/01/2011 Full operational capability: 31/12/2018			0%	Planned
-					
The objective is planned for implementation by its end date.					31/12/2018
Objective is linked with one of the FAB CE projects - see details in Chapter 5 of Level 1 document.					
ASP (By:12/2018)					
BHANSA	BHANSA, once it starts with the operations, will meet all the requirements towards the full implementation of the objective.	-	0%	Planned 31/12/2018	

AOM19.2	ASM Management of Real-Time Airspace Data <u>Timescales:</u> Initial operational capability: 01/01/2017 Full operational capability: 31/12/2021			0%	Planned
-					
Objective is linked with one of the FAB CE projects - see details in Chapter 5 of Level 1 document.					31/12/2021
ASP (By:12/2021)					
BHANSa	BHANSa is expected to meet the objective within the targeted timeframe	-	0%	Planned	31/12/2021
AOM19.3	Full rolling ASM/ATFCM process and ASM information sharing <u>Timescales:</u> Initial operational capability: 01/01/2014 Full operational capability: 31/12/2021			0%	Planned
-					
AOM19.3 - Objective is linked with one of the FAB CE projects - see details in Chapter 5 of Level 1 document.					31/12/2021
ASP (By:12/2021)					
BHANSa	BHANSa is expected to meet the objective within the targeted timeframe	-	0%	Planned	31/12/2021
AOM21.1	Direct Routing <u>Timescales:</u> Initial Operational Capability: 01/01/2015 Full Operational Capability: 31/12/2017			0%	Planned
-					
This objective is functionally related to ATM Functionality 3 of Commission Regulation (EU) No 716/2014 on establishment of the Pilot Common Project, however Bosnia and Herzegovina has not yet transpose this Commission Regulation into domestic legislation.					31/12/2017
Objective is linked with one of the FAB CE projects - see details in Chapter 5 of Level 1 document.					
ASP (By:12/2017)					
BHANSa	BHANSa is one of the partners in Gate One Free Route Airspace Operational Framework Study	Gate One Free Route Airspace Operational Framework Study	0%	Planned	31/12/2017

AOM21.2	Free Route Airspace <u>Timescales:</u> Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021			0%	Planned
-					
Fully or partially implementation of Free Route Airspace with further phased implementation planned by FAB/ANSPs.					31/12/2021
Objective is linked with one of the FAB CE projects - see details in Chapter 5 of Level 1 document.					
ASP (By:12/2021)					
BHANSA	Implement procedures and processes, locally and FAB level.	FAB CE Strategic Operational Planning Project (incl. FAB CE X-Border Free Route Airspace Study) / Gate One Free Route Airspace Operational Framework Study	0%	Planned	31/12/2021

AOP04.1	Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1 <u>Timescales:</u> - 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) Level 2 <u>Timescales:</u> - 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 (CDM) <u>Timescales:</u> - not applicable -			%	Not Applicable
LQSA - Sarajevo Airport (Outside Applicability Area)					
Not applicable to Sarajevo airport-					-
ASP (By:12/2016)					
BHANSА	Not applicable to Sarajevo airport-	-	%	Not Applicable -	
APO (By:12/2016)					
AOP10	Time Based Separation <u>Timescales:</u> - 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)					
BHANSА	LQSA not PCP airport	-	%	Not Applicable -	
AOP11	Initial Airport Operations Plan <u>Timescales:</u> Initial Operational Capability: 01/01/2015 Full Operational Capability: 31/12/2021			0%	Planned
LQSA - Sarajevo Airport					
Will be implemented within the given time frame.					31/12/2021
ASP (By:12/2021)					
BHANSА	Will be implemented in the given time frame.	-	0%	Planned 31/12/2021	
APO (By:12/2021)					
SARAJEVO Airport	For this LSSIP edition LQSA did not provide information, with regard to the implementation date of this line of action progress will be planned.	-	0%	Planned 31/12/2021	
AOP12	Improve runway and airfield safety with ATC clearances monitoring <u>Timescales:</u> - not applicable -			%	Not Applicable
LQSA - Sarajevo Airport (Outside Applicability Area)					
Not applicable.					-
ASP (By:12/2020)					
BHANSА	-	-	%	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 <u>Timescales:</u> - not applicable -			0%	No Plan
LQSA - Sarajevo Airport (Outside Applicability Area)					
No plan					-
REG (By:12/2023)					
BHDCA	No plan.	-	0%	No Plan	-
ASP (By:12/2023)					
BHANSA	-	-	0%	No Plan	-
ATC02.8	Ground-based Safety Nets <u>Timescales:</u> Initial operational capability: 01/01/2009 Full operational capability: 31/12/2016			0%	No Plan
-					
No plan.					-
ASP (By:12/2016)					
BHANSA	Necessary system updates will be made upon the installation of a new ATM system.	-	0%	No Plan	-
ATC07.1	AMAN tools and procedures <u>Timescales:</u> - 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 <u>Timescales:</u> Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021			0%	Planned
-					
This objective is functionally related to ATM Functionality 3 of Commission Regulation (EU) No 714/2014 on the establishment of the Pilot Common Project. Bosnia and Herzegovina has not yet transposed the relevant Regulation.					31/12/2021
ASP (By:12/2021)					
BHANSA	BHANSA is expected to meet the objective within the targeted timeframe	-	0%	Planned	31/12/2021

ATC15.1	Implement, in en-route operations, information exchange mechanisms, tools and procedures in support of basic AMAN <u>Timescales:</u> Initial operational capability: 01/01/2012 Full operational capability: 31/12/2017		0%	No Plan
-				
No plan at present.				-
ASP (By:12/2017)				
BHANSa	No plan at present. Its possible implementation will be assessed in 2017	-	0%	No Plan -
ATC15.2	Arrival Management extended to en-route Airspace <u>Timescales:</u> Initial operational capability: 01/01/2015 Full operational capability: 31/12/2023		0%	No Plan
-				
No plan at present.				-
ASP (By:12/2023)				
BHANSa	Not planned	-	0%	No Plan -
ATC17	Electronic Dialogue as automated assistance to controller during coordination and transfer <u>Timescales:</u> Initial operational capability: 01/01/2013 Full operational capability: 31/12/2018		0%	Planned
-				
In respect of ANSP requirements.				31/12/2018
ASP (By:12/2018)				
BHANSa	In respect of ANSP requirements.	-	0%	Planned 31/12/2018
COM10	Migrate from AFTN to AMHS <u>Timescales:</u> Initial operational capability: 01/12/2011 Full operational capability: 31/12/2018		60%	Ongoing
-				
Will be completed end of 2018.				31/12/2018
ASP (By:12/2018)				
BHANSa	Will be completed in end of 2018.	-	60%	Ongoing 31/12/2018
COM11	Voice over Internet Protocol (VoIP) <u>Timescales:</u> Initial operational capability: 01/01/2013 Full operational capability: 31/12/2020		0%	Planned
-				
BHANSa plans to implement VoIP by 2020.				31/12/2020
ASP (By:12/2020)				
BHANSa	BHANSa plans to implement VoIP by 2020	-	0%	Planned 31/12/2020

ENV01	Continuous Descent Operations (CDO)			0%	No Plan
	Timescales:				
	Initial operational capability: 01/07/2007				
	Full operational capability: 31/12/2013				
LQSA - Sarajevo Airport					
No plan at present.					-
ASP (By:12/2013)					
BHANSa	No plan	-	0%	No Plan	-
APO (By:12/2013)					
SARAJEVO Airport	-	-	0%	No Plan	-
ENV02	Airport Collaborative Environmental Management			0%	No Plan
	Timescales:				
	Initial operational capability: 01/09/2004				
	Full operational capability: 31/12/2016				
LQSA - Sarajevo Airport					
No plan.					-
ASP (By:12/2016)					
BHANSa	No plan	-	0%	No Plan	-
APO (By:12/2016)					
SARAJEVO Airport	Sarajevo Airport did not provide information regarding this issue for this LSSIP edition.	-	0%	Missing Data	31/12/2016
FCM03	Collaborative flight planning			0%	No Plan
	Timescales:				
	Initial operational capability: 01/01/2000				
	Full operational capability: 31/12/2017				
-					
No plan at present.					-
ASP (By:12/2017)					
BHANSa	No plan	-	0%	No Plan	-
FCM04.1	Short Term ATFCM Measures (STAM) - phase 1			0%	Planned
	(Outside Applicability Area)				
	Timescales:				
	- not applicable -				
-					
Outside applicability area.					31/10/2017
Although FAB CE States are not in the initial applicability area for STAM Phase 1 implementation, FAB CE STAM Working Group was formed as part of FAB CE P3 and tasked with a STAM Live Trial, which was executed in September 2015. Live Trial was used to explore and verify the possibility to introduce the application of STAM Phase 1 in FABCE area.					
After assessing the results and recommendations coming from the FAB CE STAM LT, FAB CE OPS SC has decided to proceed with STAM Phase 1 implementation in FABCE.					
ASP (By:10/2017)					
BHANSa	Planned	-	0%	Planned	31/10/2017

FCM04.2	Short Term ATFCM Measures (STAM) - phase 2 <u>Timescales:</u> Initial operational capability: 01/11/2017 Full operational capability: 31/12/2021			0%	Planned
	-				
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 2018. Objective is linked with one of the FAB CE projects - see details in Chapter 5 of Level 1 document.					31/12/2021
ASP (By:12/2021)					
BHANSa	BHANSa is expected to meet the objective within the targeted timeframe	-	0%	Planned	31/12/2021
FCM05	Interactive rolling NOP <u>Timescales:</u> 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. Objective is linked with one of the FAB CE projects - see details in Chapter 5 of Level 1 document.					31/12/2021
ASP (By:12/2021)					
BHANSa	BHANSa is expected to meet the objective within the targeted timeframe	-	0%	Planned	31/12/2021
APO (By:12/2021)					
SARAJEVO Airport	Sarajevo Airport did not provide information for this objective.	-	0%	Missing Data	31/12/2021
FCM06	Traffic complexity assessment <u>Timescales:</u> Initial operational capability: 01/01/2015 Full operational capability: 31/12/2021			0%	No Plan
	-				
No plan at present.					-
ASP (By:12/2021)					
BHANSa	No plan at present.	-	0%	No Plan	-
FCM08	Extended Flight Plan <u>Timescales:</u> Initial operational capability: 01/01/2016 Full operational capability: 31/12/2021			0%	No Plan
	-				
No plan at present.					-
ASP (By:12/2021)					
BHANSa	No Plan	-	0%	No Plan	-

INF07	<b>Electronic Terrain and Obstacle Data (eTOD)</b> <u>Timescales:</u> Initial operational capability: 01/11/2014 Full operational capability: 31/05/2018			5%	Ongoing
	-				
Directorate of Civil Aviation of Bosnia and Herzegovina (BHDCA) plans to implement and establish National TOD policy during 2018.					31/05/2018
REG (By:05/2018)					
BHDCA	Directorate of Civil Aviation of Bosnia and Herzegovina (BHDCA) plans to establish and implement National TOD policy during 2018.	-	10%	Ongoing	31/05/2018
ASP (By:05/2018)					
BHANSA	Planned	-	0%	Planned	31/05/2018
APO (By:05/2018)					
SARAJEVO Airport	Sarajevo Airport did not provided information regarding this objective for LSSIP edition 2016.	-	0%	Missing Data	31/05/2018
ITY-ACID	<b>Aircraft identification</b> <u>Timescales:</u> Entry into force of the Regulation: 13/12/2011 System capability: 02/01/2020			3%	Ongoing
	-				
Bosnia and Herzegovina has not transposed Implementing Regulation (EU) 1206/2011 of 22 November 2011 (laying down requirements on aircraft identification for surveillance for the single European sky. Line of action will be in accordance with time frame.					02/01/2020
ASP (By:01/2020)					
BHANSA	Line of action will be in accordance with the time frame (till 2020)	-	3%	Ongoing	02/01/2020
ITY-ADQ	<b>Ensure quality of aeronautical data and aeronautical information</b> <u>Timescales:</u> 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 transposed in national legislation, but not implemented yet.					31/12/2018
REG (By:06/2017)					
BHDCA	Regulation (EU) 73/2010 has transposed in national legislation. Complete implementation plan depends on the prerequisites stated under implementation issues. Upon preconditions fulfilled, BHANSA would need to adjust its plans and actions. The identified implementation issues: - national legal framework/ policy/guidance,	-	0%	Late	31/12/2018
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	31/12/2018
APO (By:06/2017)					
SARAJEVO Airport	There is no information regarding this objectives from Sarajevo Airport.	-	0%	Missing Data	31/12/2016

ITY-AGDL	Initial ATC air-ground data link services <u>Timescales:</u> Entry into force: 06/02/2009 ATS unit operational capability: 05/02/2018 Aircraft capability: 05/02/2020			0%	Planned
-					
Bosnia and Herzegovina does not yet transposed Commission Implementing Regulation (EU) 2015/310 which amending Regulation (EC) No 29/2009 and repealing Implementing Regulation (EU) No 441/2014.					
31/12/2018					
REG (By:02/2018)					
BHDCA	Bosnia and Herzegovina does not transposed Commission Implementing Regulation (EU) 2015/310 which amending Regulation (EC) No 29/2009 and repealing Implementing Regulation (EU) No 441/2014.	-	0%	Late	
				31/12/2018	
ASP (By:02/2018)					
BHANSA	Depend on BHANSA activities and Plan	-	0%	Planned 05/02/2018	
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 <u>Timescales:</u> 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%	Planned
-					
Regulation (EU) No 1079/2012 is not transposed in BH legislation.					
31/12/2018					
REG (By:12/2018)					
BHDCA	Will folow national and regional Plan. Regulation (EU) No 1079/2012 is not transposed in BH legislation.	-	0%	Planned	
				31/12/2018	
ASP (By:12/2018)					
BHANSA	BHANSA will develop implementation Plan and dinamic.	-	0%	Planned 31/12/2018	
MIL (By:12/2020)					
Mil. Authority	n/a	-	%	Not Applicable -	
APO (By:12/2018)					
SARAJEVO Airport	Missing data	-	0%	Missing Data	
				31/12/2018	

ITY-FMTP	Common Flight Message Transfer Protocol (FMTP) <u>Timescales:</u> 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			0%	Late
	-				
	ATM system in Bosnia and Herzegovina is due to be installed in 2012. The objective will be met by the end of 2018.				
	ASP (By:12/2014)				
	BHANSА	The implementation is planned during the process of development of the new ATS system. A concrete plan is dependant on regional coordination.	-	0%	Late 31/12/2018
MIL (By:12/2014)					
Mil. Authority	Military do no provide ATC service to civil flights	-	%	Not Applicable -	
ITY-SPI	Surveillance performance and interoperability <u>Timescales:</u> Entry into force of regulation: 13/12/2011 ATS unit operational capability: 12/12/2013 New aircraft capability: 08/06/2016 ELS in transport-type State aircraft : 07/12/2017 EHS and ADS-B Out in transport-type State aircraft : 07/06/2020 Ensure training of MIL personnel: 07/06/2020 Retrofit aircraft capability: 07/06/2020			0%	Late
	-				
	Objective is under review, Commission Implementing Regulation (EU) 1207/2011 laying down requirements for the performance and the interoperability of surveillance for the Single European Sky has not been transposed in Bosnia and Herzegovina legislation.				
	REG (By:02/2015)				
	BHDCA	Objective is under review, Commission Implementing Regulation (EU) 1207/2011 laying down requirements for the performance and the interoperability of surveillance for the Single European Sky has not been transposed in Bosnia and Herzegovina legislation.	-	0%	Late 31/01/2019
ASP (By:02/2015)					
BHANSА	Bosnia and Herzegovina Air Navigation Services Provider will develop implementation Plan and dynamic.	-	0%	Late 31/01/2019	
MIL (By:06/2020)					
Mil. Authority	n/a	-	%	Not Applicable -	
NAV03	RNAV 1 <u>Timescales:</u> Initial operational capability: 01/01/2001 Full operational capability: 31/12/2023			0%	No Plan
	-				
	There is no stable plan to implement PRNAV in BH at this stage.				
	ASP (By:12/2023)				
	BHANSА	No plan	-	0%	No Plan -

NAV10	APV procedures <u>Timescales:</u> Initial operational capability: 01/06/2011 Full operational capability: 31/12/2016			0%	No Plan
	-				
	No plans at present.				-
	REG (By:04/2016)				
BHDCA	No plans at present.	-	0%	No Plan	
-					
ASP (By:12/2016)					
BHANSA	No plan	-	0%	No Plan	
-					
SAF11	Improve runway safety by preventing runway excursions <u>Timescales:</u> Initial operational capability: 01/09/2013 Full operational capability: 31/01/2018			0%	Late
	-				
	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions, planned in 2018.				31/01/2018
	REG (By:01/2018)				
BHDCA	Established the oversight activities, planed in 2018.	-	0%	Late	
31/01/2018					
ASP (By:12/2014)					
BHANSA	Implementation of the applicable measures, planned in 2018.	-	0%	Late	
31/01/2018					
APO (By:12/2014)					
SARAJEVO Airport	Missing data for this LSSIP edition.	-	0%	Missing Data	
31/12/2016					



### 6.3. Detailed Objectives Implementation progress – Additional Objectives for ICAO ASBU Monitoring

ATC02.2	Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2 <u>Timescales:</u> Initial operational capability: 01/01/2008 Full operational capability: 31/01/2013			0%	Late
-					
The objective will be met with the implementation of the new ATM system.					31/12/2019
ASP (By:01/2013)					
BHANSА	The objective will be met with the implementation of the new ATM system in 2019.	-	0%	Late	31/12/2019
ATC16	Implement ACAS II compliant with TCAS II change 7.1 <u>Timescales:</u> Initial operational capability: 01/03/2012 Full operational capability: 31/12/2015			0%	Late
-					
Planned to be implemented in due time					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.	-	0%	Late	31/12/2018
ASP (By:03/2012)					
BHANSА	Planned to be implemented.	-	0%	Late	31/12/2018
MIL (By:12/2015)					
Mil. Authority	n/a	-	%	Not Applicable	-
FCM01	Implement enhanced tactical flow management services <u>Timescales:</u> Initial operational capability: 01/08/2001 Full operational capability: 31/12/2006			0%	Late
-					
For this edition of LSSIP document Bosnia and Herzegovina Air Navigation Services Provider did not provide data/information regarding implementation of enhanced tactical flow management services.					31/12/2018
ASP (By:07/2014)					
BHANSА	Planned with new DPS upgrade.	-	0%	Late	31/12/2018
INF04	Implement integrated briefing <u>Timescales:</u> Initial operational capability: 01/07/2002 Full operational capability: 31/12/2012			0%	Late
-					
The implementation of flexible provision and presentation of data which are required during the pre-flight phase for the preparation and execution of a flight is planned for 2019. The new BH ATM System will enable implementation.					31/12/2019
ASP (By:12/2012)					
BHANSА	The implementation of flexible provision and presentation of data which are required during the pre-flight phase for the preparation and execution of a flight is planned for 2019. The new BH ATM System will enable implementation.	-	0%	Late	31/12/2019

ITY-COTR	Implementation of ground-ground automated co-ordination processes <u>Timescales:</u> 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			0%	Late
	-				
	Bosnia and Herzegovina is due to install their new ATM system, and will be ready for gradual implementation.			05/02/2018	
	ASP (By:12/2012)				
	BHANSA	A new ATM system, due to be installed in 2014 will cater for the implementation of the objective.	-	0%	
MIL (By:12/2012)					
Mil. Authority	Military do no provide ATC service to civil flights	-	%	Not Applicable	

# ANNEXES

## Annex A - Specialists involved in the LSSIP Process

### LSSIP Co-ordination

LSSIP Focal Points	Organisation	Name
LSSIP Focal Point for Bosnia and Herzegovina	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. Zoran Borenović Mr. Ivica Primorac Mrs. Zorica Stanković Mr. Damir Čopić Mr. Nedžad Tinjak Mr. Aleksandar Škondrić Mr. Mirsad Hadžialić Mr. Arpad Salai Mr. Muhamed Hodžić Mr. Slavoljub Stanišić
LSSIP Focal Point for Airport	-	Mr. Nermin Zijadić Mr. Vahidin Zukanović
LSSIP Focal Point for Military	Ministry of Defense of Bosnia and Herzegovina	Mr. Vlado Gvozden

### EUROCONTROL LSSIP Support

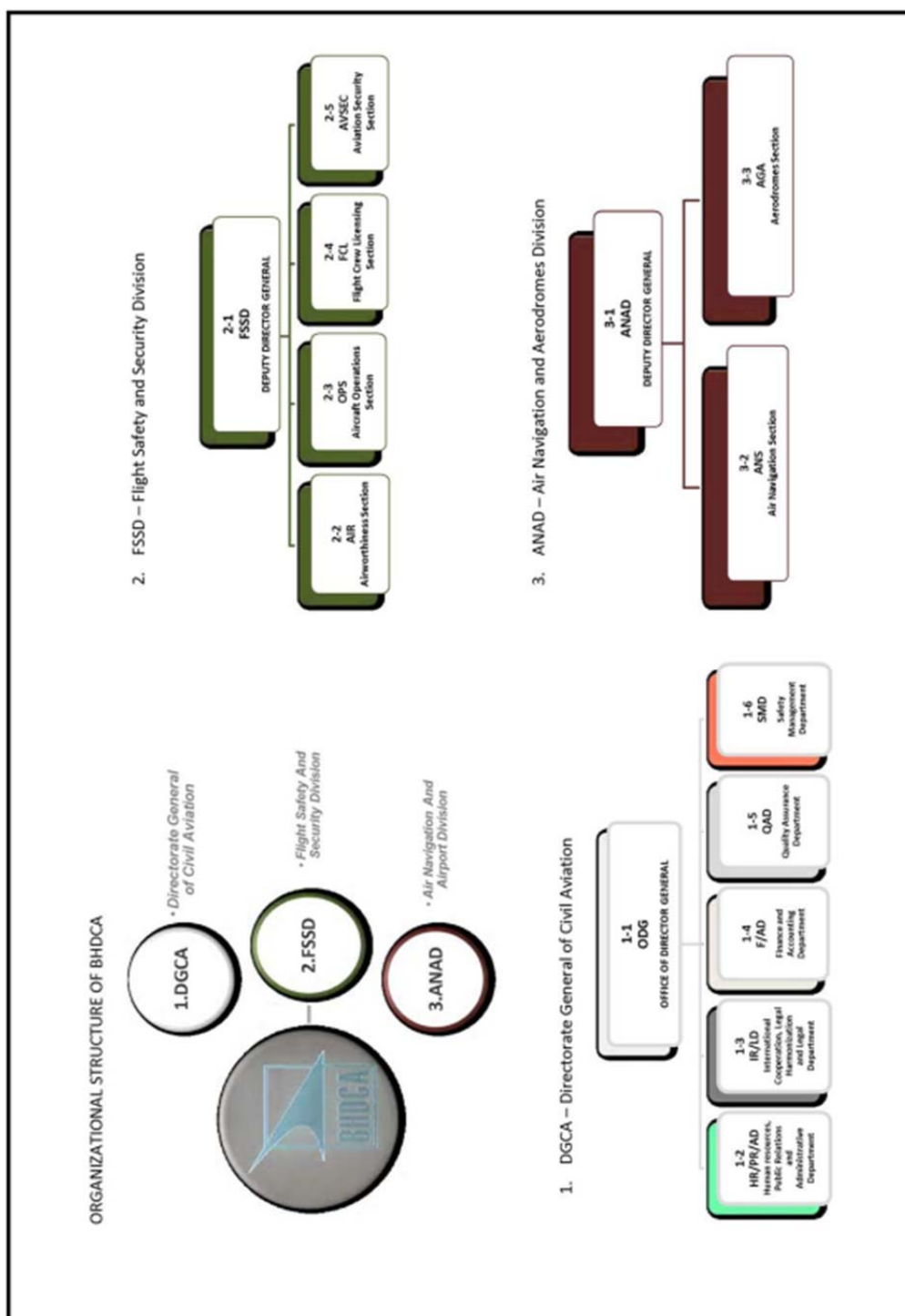
Function	Directorate	Name
LSSIP Contact Persons for Bosnia and Herzegovina	DPS/PEPR	Mrs. Ingrid FEJIT Mr. Frédéric ROOSELEER

## Implementation Objectives

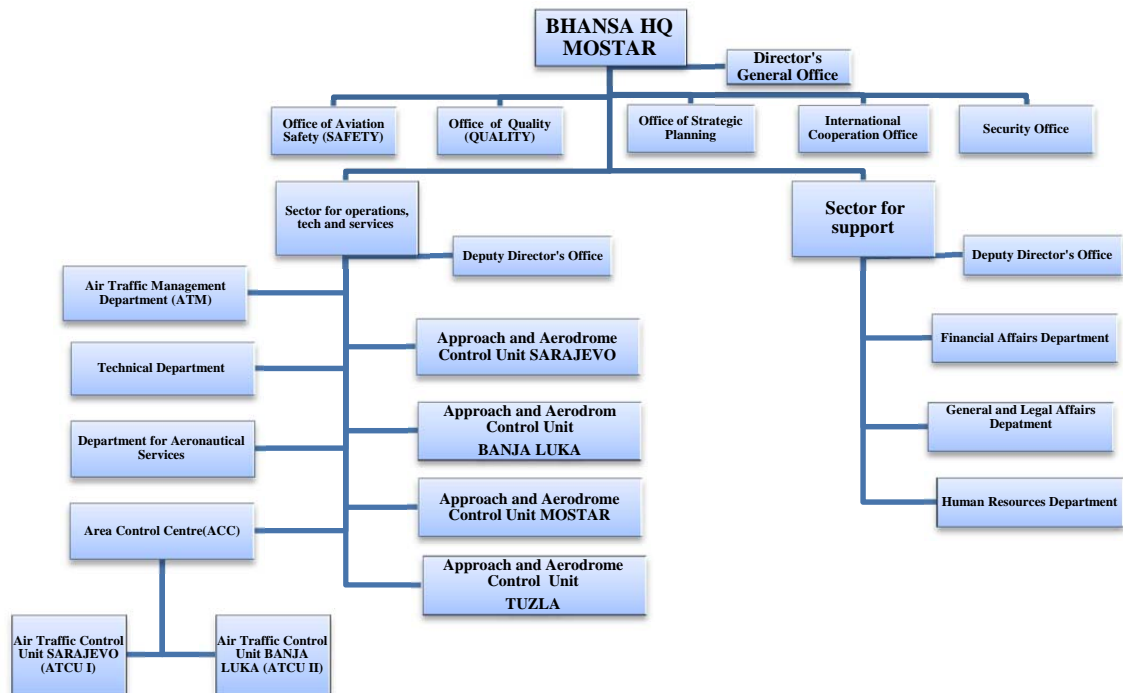
Implementation Objective	EUROCONTROL Objective Owners	EUROCONTROL PEPR Objective Coordinator	National Stakeholder Specialist
AOM13.1	O. MROWICKI	A. DYBOWSKA	BHDCA/BHANSA
AOM19.1	G. ACAMPORA	O. ALFARO	BHDCA/BHANSA
AOM19.2	G. ACAMPORA	O. ALFARO	BHDCA/BHANSA
AOM19.3	G. ACAMPORA	O. ALFARO	BHDCA/BHANSA
AOM21.1	C. BRAIN	A. DYBOWSKA	BHDCA/BHANSA
AOM21.2	C. BRAIN	A. DYBOWSKA	BHDCA/BHANSA
AOP04.1	M. BIRENHEIDE	P. VRANJKOVIC	BHDCA/BHANSA
AOP04.2	M. BIRENHEIDE	P. VRANJKOVIC	BHDCA/BHANSA
AOP05	M. BIRENHEIDE	F. ROOSELEER	BHDCA/BHANSA
AOP10	M. BIRENHEIDE	F. ROOSELEER	BHDCA/BHANSA
AOP11	M. BIRENHEIDE	L. DELL'ORTO	BHDCA/BHANSA
AOP12	M. BIRENHEIDE	P. VRANJKOVIC	BHDCA/BHANSA
AOP13	M. BIRENHEIDE	P. VRANJKOVIC	BHDCA/BHANSA
ATC02.8	B. BAKKER	F. ROOSELEER	BHDCA/BHANSA
ATC07.1	P. TERZIOSKI	L. DELL'ORTO	BHDCA/BHANSA
ATC12.1	P. TERZIOSKI	L. DELL'ORTO	BHDCA/BHANSA
ATC15.1	P. CONROY	L. DELL'ORTO	BHDCA/BHANSA
ATC15.2	P. HOP	L. DELL'ORTO	BHDCA/BHANSA
ATC17	S. MORTON	L. DELL'ORTO	BHDCA/BHANSA
COM10	Y. EYUBOGLU	J. PINTO	BHDCA/BHANSA
COM11	L. POPESCU	J. PINTO	BHDCA/BHANSA
COM12	W. JANSSENS	J. PINTO	BHDCA/BHANSA
ENV01	M. BIRENHEIDE	B. HILL	BHDCA/BHANSA
ENV02	S. MAHONY	B. HILL	BHDCA/BHANSA
FCM03	C. BOUMAN	O. CIOARA	BHDCA/BHANSA
FCM04.1	P. HOP	O. CIOARA	BHDCA/BHANSA
FCM04.2	P. HOP	O. CIOARA	BHDCA/BHANSA
FCM05	I. MENDES VIDEIRA	O. CIOARA	BHDCA/BHANSA
FCM06	P. HOP	F. ROOSELEER	BHDCA/BHANSA
FCM07	C. BOUMAN	O. ALFARO	BHDCA/BHANSA
FCM08	K. BREIVIK	O. CIOARA	BHDCA/BHANSA
FCM09	R. STEVENS	O. CIOARA	BHDCA/BHANSA
INF07	A. PETROVSKY	A-P. FRANGOLHO	BHDCA/BHANSA
INF08.1	I. MENDES VIDEIRA	A-P. FRANGOLHO	BHDCA/BHANSA
INF08.2	I. MENDES VIDEIRA	A-P. FRANGOLHO	BHDCA/BHANSA
ITY-ADQ	M. UNTERREINER	A-P. FRANGOLHO	BHDCA/BHANSA

ITY-AGVCS2	J. POUZET	B. HILL	BHDCA/BHANSA
ITY-FMTP	L. POPESCU	O. ALFARO	BHDCA/BHANSA
ITY-ACID	A. DESMOND-KENNEDY	O. CIOARA	BHDCA/BHANSA
ITY-SPI	M. BORELY	O. CIOARA	BHDCA/BHANSA
ITY-AGDL	S. DISSING	B. HILL	BHDCA/BHANSA
NAV03	F. PAVLICEVIC	P. VRANJKOVIC	BHDCA/BHANSA
NAV10	R. FARNWORTH	P. VRANJKOVIC	BHDCA/BHANSA
SAF11	S. LAWRENCE	F. ROOSELEER	BHDCA/BHANSA

## Annex B - National Stakeholders Organisation charts



## BHANSA Organisation Chart:



## Annex C - 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 <http://www.eurocontrol.int/articles/glossaries>.

Term	Description
<b>ACAS</b>	Airborne Collision Avoidance System
<b>ACC</b>	Area Control Centre
<b>AIC</b>	Aeronautical Information Circular
<b>AIS</b>	Aeronautical Information Services
<b>ANS</b>	Air Navigation Services
<b>ANSP</b>	ANS Provider
<b>AOM</b>	Airspace Organisation and Management
<b>AOP</b>	Airports Operations (Domain)
<b>APP</b>	Approach
<b>ATFCM</b>	Air Traffic Flow and Capacity Management
<b>ATC</b>	Air Traffic Control
<b>ATFM</b>	Air Traffic Flow Management
<b>ATM</b>	Air Traffic Management
<b>ATS</b>	Air Traffic Services
<b>BH</b>	Bosnia and Herzegovina
<b>BHDCA</b>	Bosnia and Herzegovina Directorate of Civil Aviation
<b>BHANSNA</b>	Bosnia and Herzegovina Agency for Air Navigation Services
<b>FAB-CE</b>	Central European Functional Airspace Block
<b>CCL</b>	Croatia Control Ltd.
<b>CFIT</b>	Controlled Flight In Terrain
<b>CNS</b>	Communications, Navigation and Surveillance
<b>CP</b>	Contact Person
<b>COM</b>	Communications
<b>CTR</b>	Control Zone
<b>DPS</b>	Data Processing Systems
<b>EAD</b>	European AIS Database
<b>ECAC</b>	European Civil Aviation Conference
<b>ESSIP</b>	European Single Sky Implementation Plan
<b>FAB</b>	Functional Airspace Block
<b>FCM</b>	Flow Control Management
<b>FDPS</b>	Flight Data Processing System
<b>FED CAD</b>	Federal Civil Aviation Directorate
<b>FIR</b>	Flight Information Region



<b>FL</b>	Flight Level
<b>FMP</b>	Flow Management Position
<b>FP</b>	Focal Point
<b>GAT</b>	General Air Traffic
<b>ISIS Programme</b>	Implementation of Single European Sky In South East Europe
<b>LSSIP</b>	Local Single Sky Implementation Plan
<b>MN</b>	Multi National
<b>MoD BH</b>	Ministry of Defence of BH
<b>MSSR</b>	Monopulse Secondary Surveillance Radar
<b>NAV</b>	Navigation
<b>NSA</b>	National Supervisory Authority
<b>OAT</b>	Operational Air Traffic
<b>REG</b>	Regulatory Authorities
<b>RS CAD</b>	Civil Aviation Directorate of Republic of Srpska
<b>RVSM</b>	Reduced Vertical Separation Minimum
<b>SAF</b>	Safety
<b>SARPs</b>	Standards and Recommended Practices (ICAO)
<b>SEP team</b>	Team for separation of regulatory and the service provision functions
<b>SES</b>	Single European Sky
<b>SEE FABA</b>	South East Europe Functional Airspace Block Approach
<b>SMATSA</b>	Serbia and Montenegro Air Traffic Service Agency
<b>SQS</b>	Safety, Quality Management & Standardisation Unit
<b>TMA</b>	Terminal Controlled Area
<b>UIR</b>	Upper Information Region