

Local Single Sky ImPlementation LSSIP 2017 - BOSNIA HERZEGOVINA

Level 1 - Implementation Overview



FOREWORD

The Local Single Sky ImPlementation (LSSIP) documents are the yearly expression of commitment of civil and military National Organisations (Regulators and National Supervisory Authorities), 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 all 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 and LSSIP Implementation Planning and Reporting are well-established and mature mechanisms, with a long history dating back 25 years. They continue to provide a well-recognised stable platform for ATM implementation planning, monitoring and reporting, while continuously adapting to the changing environment.

The reliability and quality of data provided by national stakeholders allowed, for the third consecutive year, for the information in the LSSIP documents to constitute the sole source of information for the development of ICAO's Aviation System Block Upgrades (ASBUs) Implementation Monitoring Report. The Agency undertakes this work, on behalf of ICAO, for all ICAO/EUR States in accordance with the Global Air Navigation Plan (GANP). This ASBUs Implementation Monitoring Report is a formal companion document and integral part of the ICAO European Air Navigation Plan.

The Agency continues to ensure to avoid unnecessary duplications of work, hence some parts of the information in the LSSIP documents will be used by the European Defence Agency (EDA) in order to be able to report to the SESAR Deployment Manager (SDM). Also the Agency's cooperation with regard to the ICAO State Letter requesting environment related information on the ASBU Block 1 should be seen in the light of this. And finally, through the NSA Cooperation Platform SESAR Deployment Working Group, further ways will be explored to optimise reporting by relevant stakeholders.

As always, 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


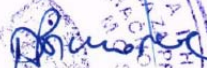

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Sky - EUROCONTROL Agency*


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Reference Documents	
LSSIP Documents	http://www.eurocontrol.int/articles/lssip
LSSIP Guidance Material	http://www.eurocontrol.int/articles/lssip
Master Plan Level 3 – Plan Edition 2017	http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-plan
Master Plan Level 3 – Report Year 2016	http://www.eurocontrol.int/articles/european-atm-master-plan-level-3-implementation-report
European ATM Portal	https://www.eatmportal.eu and http://www.atmmasterplan.eu/
STATFOR Forecasts	http://www.eurocontrol.int/statfor
Acronyms and abbreviations	http://www.eurocontrol.int/articles/glossaries
National AIP	Not available yet.
FAB Performance Plan	Not available yet.

APPROVAL SHEET

The following authorities have approved all parts of the LSSIP Year 2017 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 2017 (also known as the ESSIP Plan).

Stakeholder / Organisation	Name	Position	Signature
BHDCA	Željko TRAVAR	Acting Director General	
BHANSA	Davorin PRIMORAC	Director of BHANSA	
Ministry of Defense of Bosnia and Herzegovina	Marina PENDEŠ	Minister of Defence	



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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 neighboring states.

Traffic and Capacity

Traffic in Bosnia Herzegovina increased by 12.8% during Summer 2017 (May to October inclusive), when compared to Summer 2016.

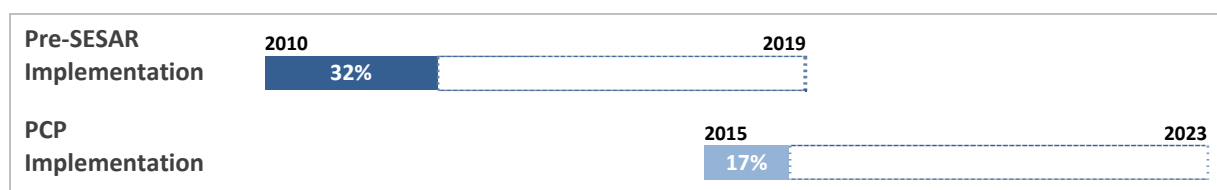
The EUROCONTROL Seven-Year Forecast predicts an average annual increase between 0.6% and 4.5% throughout the planning cycle, with a baseline growth of 2.5%.

Progress per SESAR Phase

The figure below shows the progress made so far in the implementation of the pre-SESAR and 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 except AOP14, ATC02.9, ATC18 and NAV12 are considered pre-SESAR. The four aforementioned objectives are neither pre-SESAR nor PCP and will be part of an overall future indicator covering the SESAR 1 phase.

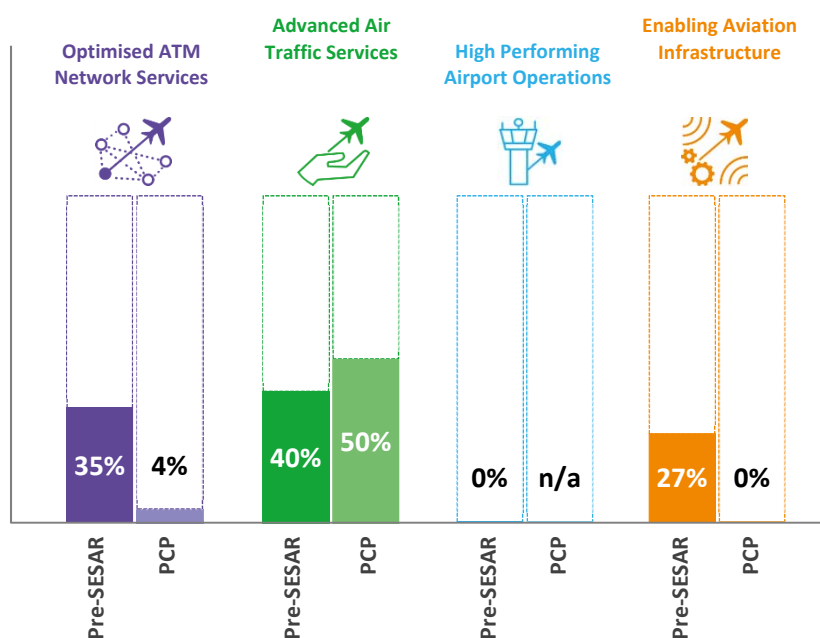
Note that two objectives – AOM19.1 and FCM05 – are considered as both part of the pre-SESAR and PCP so their progress contributes to the percentage of both phases.

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.



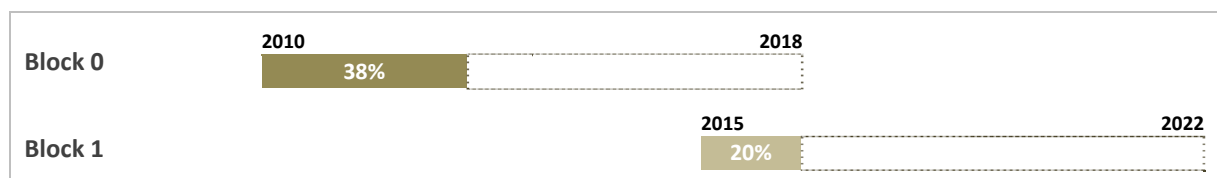
Progress per SESAR Key Feature and Phase

The figure below shows the progress made so far, per SESAR Key Feature, in the implementation of the pre-SESAR 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 both for Block 0 and Block 1. The percentage is calculated as an average of the relevant Objectives contributing to each of the relevant ASBUs; this is explained in Chapter 6.1.3.



ATM Deployment Outlook

• State objectives



Deployed in 2016-2017:

- Collaborative Flight Planning
[FCM03] 100% progress

By 12/2018	By 12/2019	By 12/2020	2021+
<ul style="list-style-type: none"> - Free Route Airspace [AOM21.2] 100% progress - AMHS [COM10] 62% progress - TCAS II v7.1 [ATC16] 40% progress - ETFMS [FCM01] 40% progress - OAT and GAT handling [AOM13.1] 23% progress - ASM Tools [AOM19.1] 10% progress - ASM/ATFCM process [AOM19.3] 10% progress - eTOD [INF07] 5% progress 	<ul style="list-style-type: none"> - Aeronautical Information [ITY-ADQ] 0% progress 	<ul style="list-style-type: none"> - Aircraft Identification [ITY-ACID] 3% progress - Voice over IP [COM11] 0% progress - Runway excursions [SAF11] 0% progress 	<ul style="list-style-type: none"> - STAM Phase 2 [FCM04.2] 7% progress - MTCD & CORA [ATC12.1] 0% progress - Interactive Rolling NOP [FCM05] 0% progress - 8,33 kHz below FL195 [ITY-AGVCS2] 0% progress - Real-Time Airspace Data [AOM19.2] 0% progress - Surveillance Performance & Interoperability [ITY-SPI] 0% progress

Introduction

The Local Single Sky ImPlementation (LSSIP) documents, as an integral part of the Master Plan (MP) Level 3 (L3) / LSSIP mechanism, constitute a short/medium term implementation plan containing ECAC States' actions to achieve the Implementation Objectives as set out by the MP Level 3 and to improve the performance of their national ATM System. This LSSIP document describes the situation in the State at the end of December 2017, together with plans for the next years.

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

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

Chapter 3 provides a set of conclusions extracted from the MP L3 Implementation Report 2016 which are relevant to the State/stakeholders concerned. The State reports how they have handled those conclusions and the actions taken during the year to address the concerns expressed by those conclusions;

Chapter 4 provides the main Implementation Projects (at national, FAB and regional level) which contribute directly to the implementation of the MP Operational Improvements and/or Enablers and Implementation Objectives. Level 1 document covers high level list of the projects showing the applicable links. All other details like description, timescale, progress made and expected contribution to the ATM Key Performance Areas provided by the State per each project are available in Level 2 document;

Chapter 5 deals with other cooperation activities beyond Implementation Projects. It provides an overview of the FAB cooperation and also all other regional initiatives which are out of the FAB scope. The content of this chapter generally is developed and agreed in close cooperation between the States concerned;

Chapter 6 contains aggregated information at State level covering the overall level of implementation, implementation per SESAR Key Feature and implementation of ICAO ASBUs. In addition the high-level information on progress and plans of each Implementation Objective is presented. The information for each Implementation Objective is presented in boxes giving a summary of the progress and plans of implementation for each Stakeholder. The conventions used are presented at the beginning of the section.

Level 1 document is completed with a separate document called LSSIP Level 2. This document consists of a set of tables organised in line with the list of Implementation Objectives. Each table contains all the actions planned by the four national stakeholders to achieve their respective Stakeholder Lines of Action (SLoAs) as established in the European ATM Master Plan L3 Implementation Plan Edition 2017. In addition it covers detailed description of the Implementation Projects for the State as extracted from the LSSIP Data Base.

The information contained in Chapter 6 is deemed sufficient to satisfy State reporting requirements towards ICAO in relation to ASBU (Aviation System Block Upgrades) monitoring.



1. National ATM Environment

1.1. Geographical Scope

International Membership

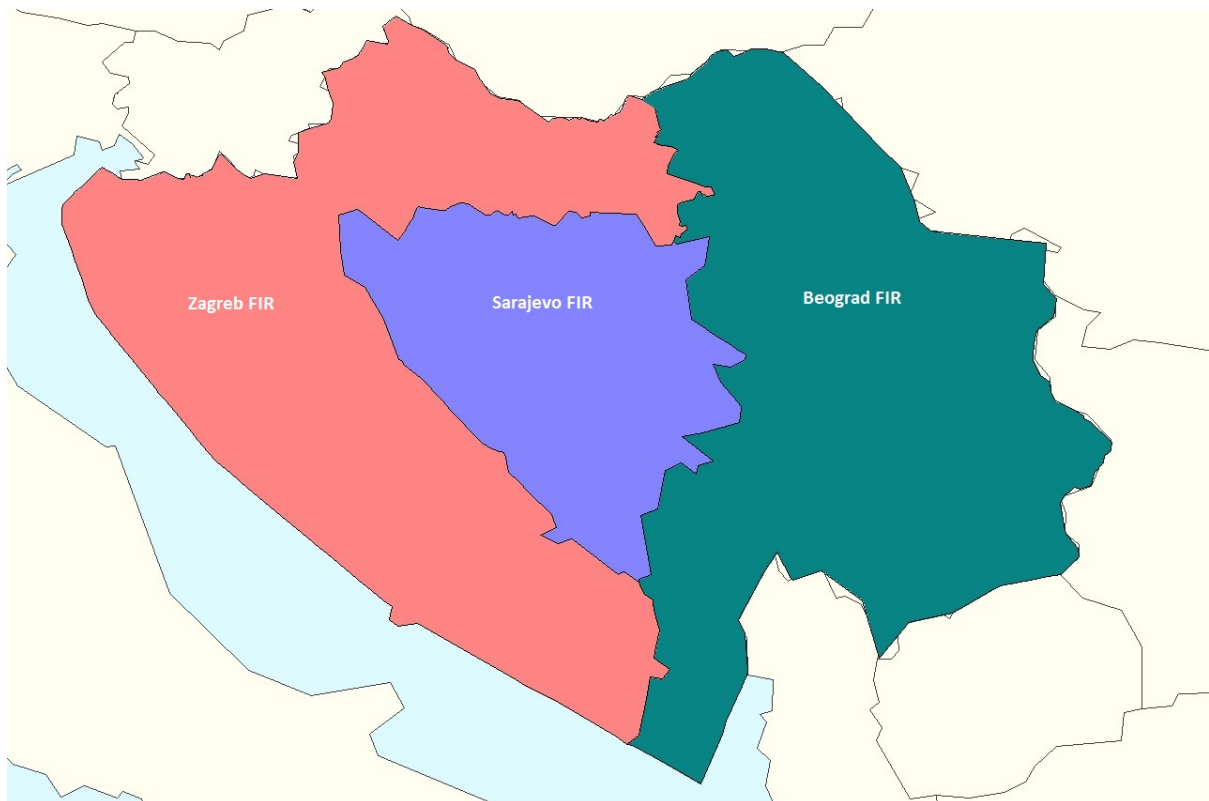
Bosnia is a Member of the following international organisations in the field of ATM:

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

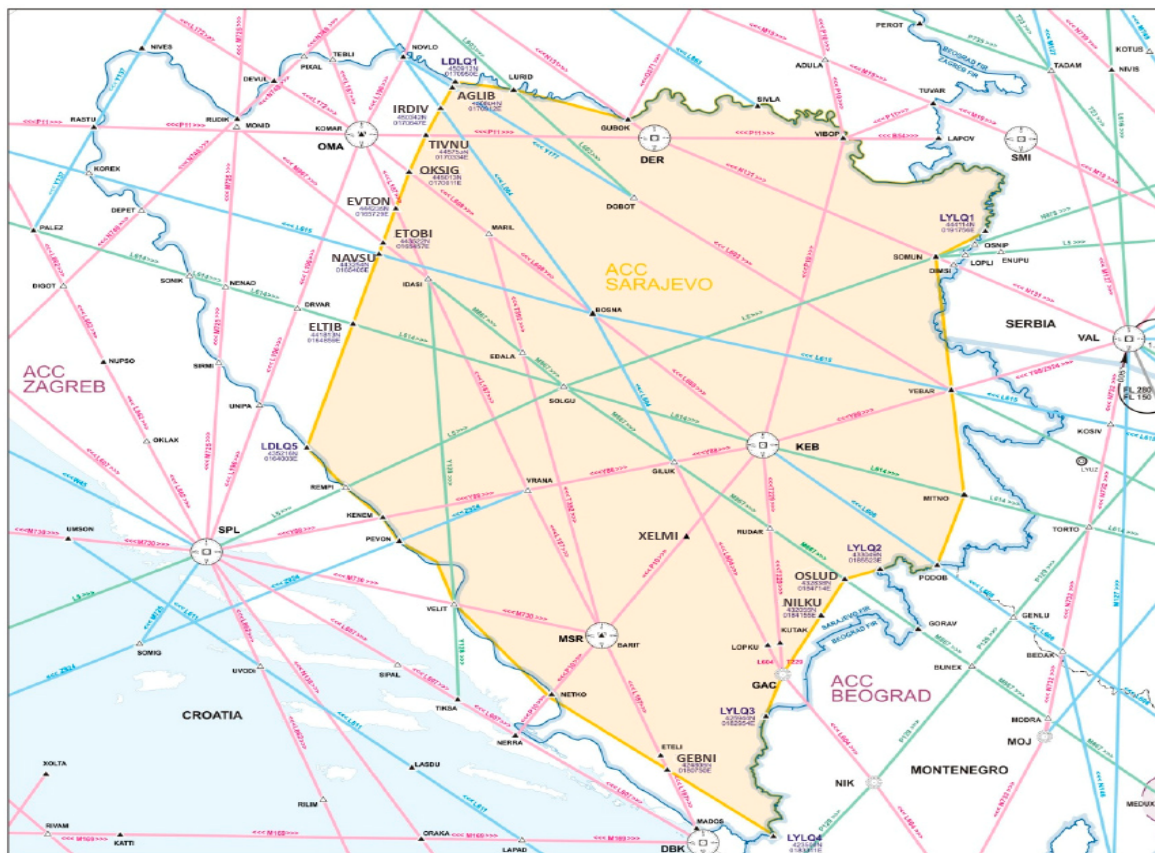
Geographical description of the FIR(s)

The geographical scope of this document addresses the Sarajevo FIR.

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

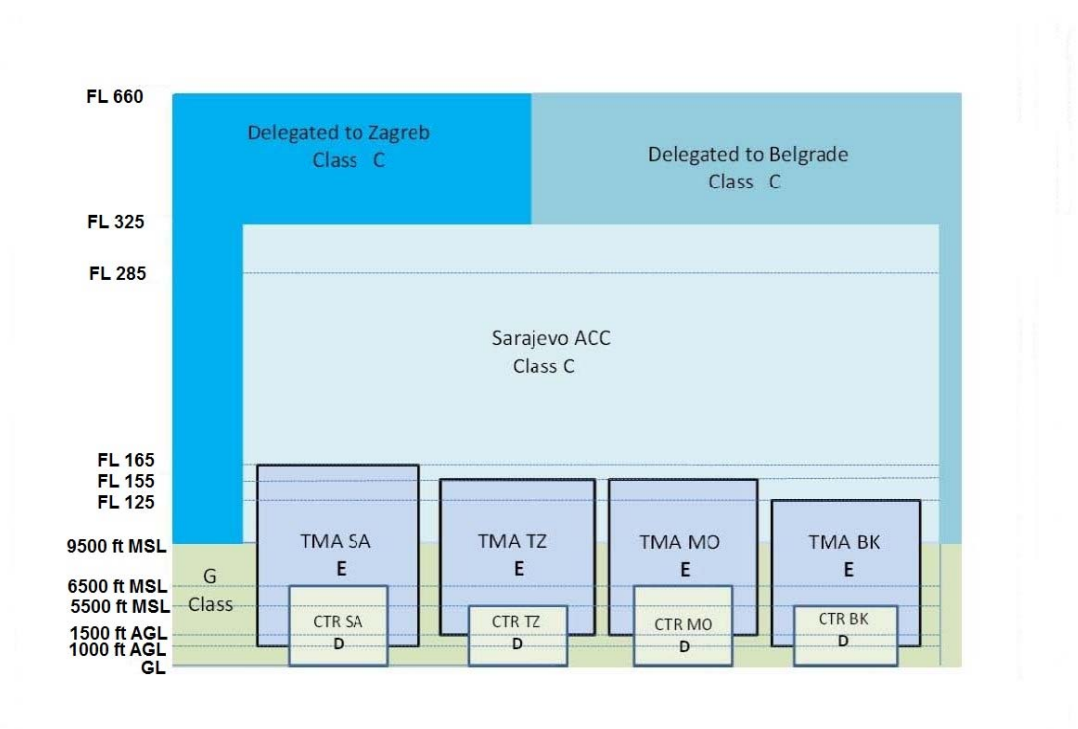


Current en-route BHANSA AoR:



Airspace Classification and Organisation

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

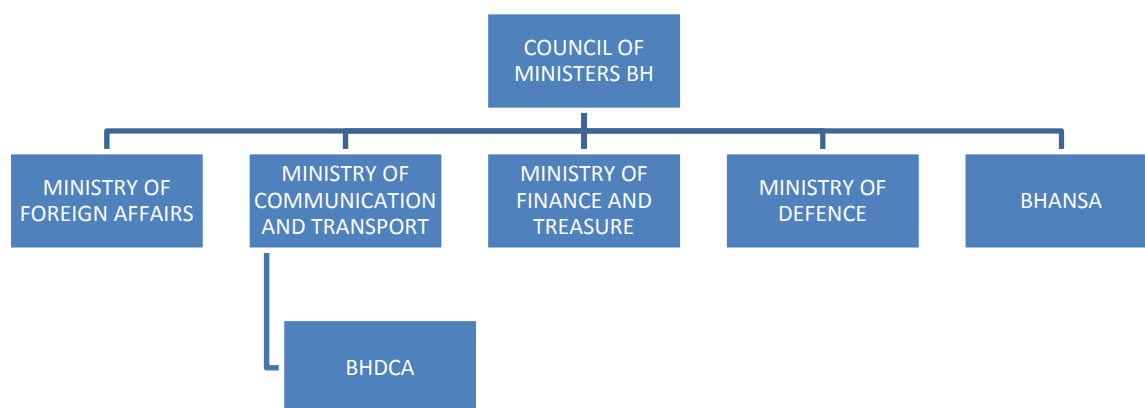


1.2. National Stakeholders

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

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

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



Civil Regulator(s)

General Information

Under the present Aviation Law (“Official Gazette of BH” No 39/09), the Civil Aviation policy is under the authority of the Ministry of Communications and Transport of Bosnia and Herzegovina.

The Bosnia and Herzegovina Directorate of Civil Aviation (BHDCA) performs duties defined in the Aviation Law, and has the authority and responsibility for the execution of the Regulatory function and for oversight in civil aviation and air traffic control.

The BHDCA may delegate the provision of certification of the Service Provider to another institution duly authorized in accordance with international regulations.

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

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

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

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

Activity in ATM:	Organisation responsible	Legal Basis
Rule-making	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09), bylaws and transposed EU Regulation.
Safety Oversight	BHDCA (audit and inspections)	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09); Regulation on requirements for issuing certificate for providing air navigation services (Official Gazette of Bosnia and Herzegovina" No 54/17); Regulation on oversight in civil aviation (Official Gazette of Bosnia and Herzegovina" No 22/16) and other relevant European regulations transposed.
Enforcement actions in case of non-compliance with safety regulatory requirements	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09); Regulation on requirements for issuing certificate for providing air navigation services (Official Gazette of Bosnia and Herzegovina" No 54/17); Regulation on oversight in civil aviation (Official Gazette of Bosnia and Herzegovina" No 22/16).
Airspace	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09); Regulation on transposition EU regulations on flexible use of airspace (Official Gazette of Bosnia and Herzegovina" No 79/10); Regulation of establishment and organisation of Airspace Management Cell (Official Gazette of Bosnia and Herzegovina" No 9/17); Decision on establishing Aviation Committee for airspace management in Bosnia and Herzegovina (Official Gazette of Bosnia and Herzegovina" No 75/16)
Economic	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09); Regulation in the determining of a common scheme for air navigation services (Official Gazette of Bosnia and Herzegovina" No 79/10); Regulation on the method of determining and financing the cost of providing air navigation services in the airspace of Bosnia and Herzegovina (Official Gazette of Bosnia and Herzegovina" No 86/11).
Environment	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09).
Security	BHDCA	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09)
Accident investigation	Ministry of Communication and Transport	The Aviation Law (Official Gazette of Bosnia and Herzegovina" No 39/09); Regulation on Investigation of Aircraft Accidents and Serious Incidents (Official Gazette of Bosnia and Herzegovina" No 30/14).

BHDCA

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

BHDCA has continued the legal continuity of the Bosnia and Herzegovina Directorate of Civil Aviation established by the Aviation Law of Bosnia and Herzegovina (BiH Official Gazette No: 02/04).

The BHDCA is the only civil aviation authority responsible for aircraft registration and issuance, extension and renewal of licences, certificates, endorsements and authorisations in the civil aviation of Bosnia and Herzegovina.

BHDCA performs inspections and controls via authorized inspectors. Inspections and controls may be performed inter alia on aircraft, aerodromes and airfields, air traffic control facilities and air operator certificate holders, aviation and other professional personnel.

The BHDCA, as a designated body of the National Supervisory Authority (NSA) for civil aviation, shall certificate the Service Provider and supervise the provision of air navigation services by the service provider, for the purpose of maintaining safety.

Annual Report published:	Y	Annual report is available on request. Annual Safety Oversight Report Year 2017 is under preparation.
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The web site of the BHDCA is: www.bhdca.gov.ba

BHANSA

Services provided

BHANSA (Bosnia and Herzegovina Air Navigation Services Agency) is established by the Law as the Agency for Air Navigation Services in Bosnia and Herzegovina ("Official Gazette of BH" No 43/09). Under that Law BHANSA is responsible for: the provision of air traffic control services, provision of communication, navigation and surveillance services, provision of aeronautical information services, provision of aeronautical meteorological services, operations of the rescue coordination 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.

Governance:	State Ministerial Organs		Ownership:	State
Services provided	Y/N	Comment		
ATC en-route	Y	BHANSA (Bosnia and Herzegovina Agency for Air Navigation Services) up to FL 325		
ATC approach	Y	BHANSA		
ATC Aerodrome(s)	Y	BHANSA		
AIS	Y	BHANSA		
CNS	Y	BHANSA		
MET	Y	BHANSA		
ATCO training	Y	OJT and continuation training for ACC (Area), Aerodrome and Approach. Other forms of training are provided by external organisations.		
Others	Y	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:	Y	Annual report is available on request. Annual Safety Oversight Report Year 2017 is under preparation		

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

Additional web addresses of the organizations providing ANS:

www.crocontrol.hr

www.smatrs.rs

ATC systems in use

Main ANSP part of any technology alliance ¹	N	
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¹Technology alliance is an alliance with another service provider for joint procurement of technology from a particular supplier (e.g. COOPANS alliance)

FDPS

Specify the manufacturer of the ATC system currently in use:	Indra AIRCON 2100 (DPS)
Upgrade ² of the ATC system is performed or planned?	Performed in 2016
Replacement of the ATC system by the new one is planned?	New DPS SW planned for 2018-2019 (Full Cross Border FRA support)
ATC Unit	ACC

Specify the manufacturer of the ATC system currently in use:	Thales Eurocat-C (DPS)
Upgrade of the ATC system is performed or planned?	
Replacement of the ATC system by the new one is planned?	
ATC Unit	APP Sarajevo

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

Specify the manufacturer of the ATC system currently in use:	Thales Eurocat-C (DPS)
Upgrade of the ATC system is performed or planned?	
Replacement of the ATC system by the new one is planned?	
ATC Unit	APP Sarajevo

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

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

Airports

General information

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

Airport(s) covered by the LSSIP

Referring to the List of Airports in the European ATM Master Plan Level 3 Implementation Plan Edition 2017 – Annex 2, it is up to the individual State to decide which additional airports will be reported through LSSIP for those Objectives.

Therefore, Sarajevo International Airport (LQSA) is the only airport in Bosnia and Herzegovina covered by the LSSIP Year 2017.

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

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

Military Authorithies

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	
Level of such legal provision: Ministerial Decree, and Air Force Regulation (Standard Operational Procedures)		Authority signing such legal provision: N/A	
These provisions cover:		These provisions cover:	
Rules of the Air for OAT	Y		
Organisation of military ATS for OAT	N/A	Organisation of military ATS for GAT	N/A
OAT/GAT Co-ordination	Y	OAT/GAT Co-ordination	N/A
ATCO Training	N/A	ATCO Training	N/A
ATCO Licensing	N/A	ATCO Licensing	N/A
ANSP Certification	N/A	ANSP Certification	N/A
ANSP Supervision	N/A	ANSP Supervision	N/A
Aircrew Training	Y	ESARR applicability	N/A
Aircrew Licensing	N/A		
Additional Information: -		Additional Information: -	
Means used to inform airspace users (other than military) about these provisions:		Means used to inform airspace users (other than military) about these provisions:	
National AIP	Y	National AIP	Y
National Military AIP	N	National Military AIP	N
EUROCONTROL eAIP	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	FOCA	SAR	N
TSA/TRA monitoring	N	Skyguide	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
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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		

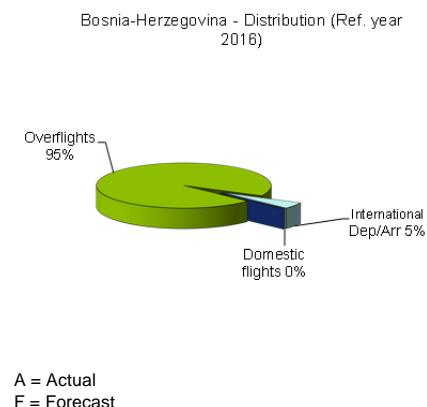
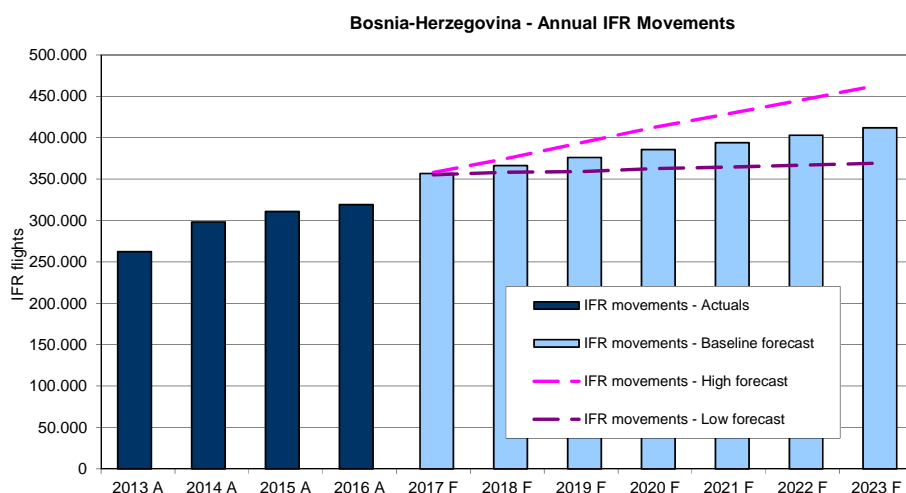
If Military fly GAT-IFR inside controlled airspace, specify existing special arrangements:										
No special arrangements					N	Exemption from Route Charges				N
Exemption from flow and capacity (ATFCM) measures					N/A	Provision of ATC in UHF				N
CNS exemptions:	RVSM	N	8.33		N	Mode S	N	ACAS		N
Others: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

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

2. Traffic and Capacity

2.1. Evolution of traffic in Bosnia and Herzegovina



EUROCONTROL Seven-Year Forecast (September 2017)											
IFR flights yearly growth		2014 A	2015 A	2016 A	2017 F	2018 F	2019 F	2020 F	2021 F	2022 F	2023 F
Bosnia-Herzegovina	H				12.3%	4.7%	5.1%	4.8%	3.9%	4.0%	3.9%
	B	13.7%	4.2%	2.6%	11.8%	2.7%	2.6%	2.6%	2.1%	2.3%	2.3%
	L				11.4%	0.9%	0.2%	1.0%	0.5%	0.6%	0.6%
ECAC	B	1.7%	1.6%	2.8%	4.5%	2.8%	2.1%	1.9%	1.5%	1.7%	1.7%

2017

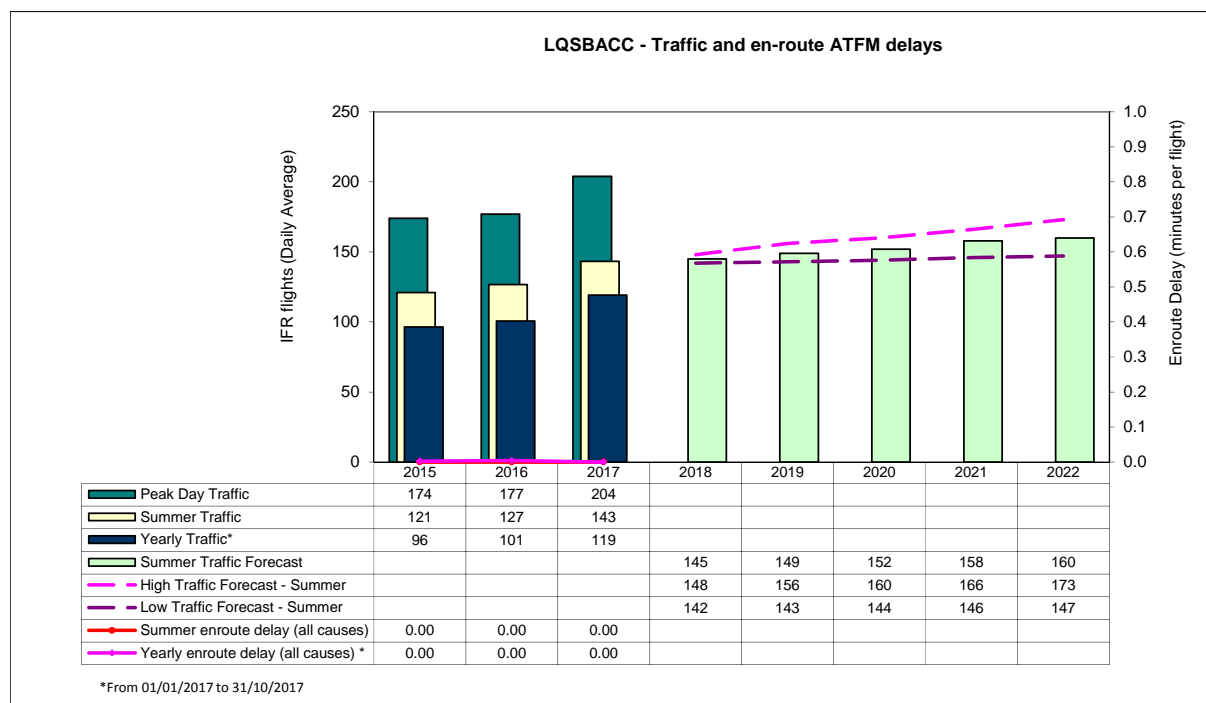
Traffic in Bosnia Herzegovina **increased by 12.8%** during Summer 2017 (May to October inclusive), when compared to Summer 2016.

2018-2022

The EUROCONTROL Seven-Year Forecast predicts an average annual increase between 0.6% and 4.5% throughout the planning cycle, with a baseline growth of 2.5%.

2.2. BHACC

Traffic and en-route ATFM delays 2013-2022



Performance summer 2017

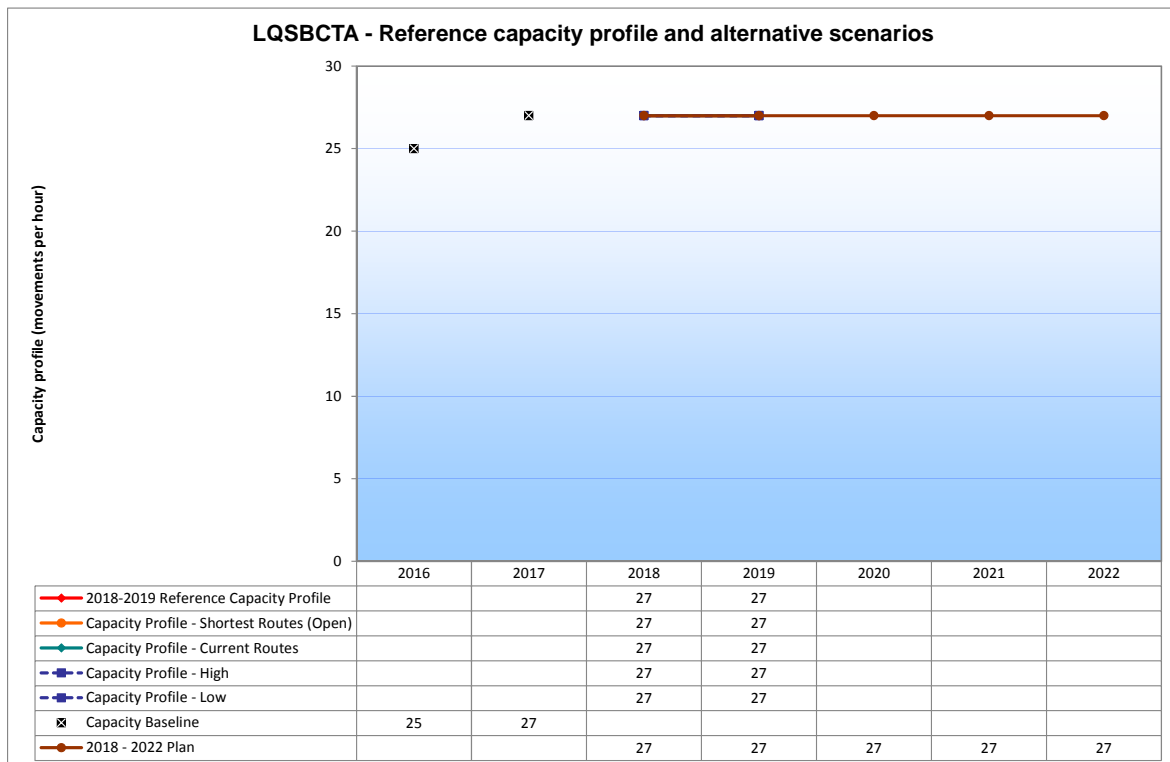
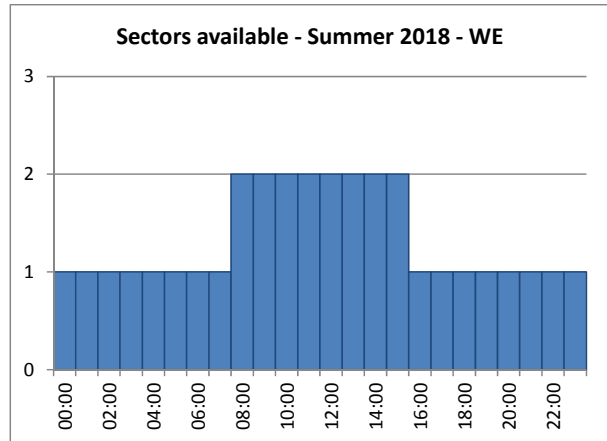
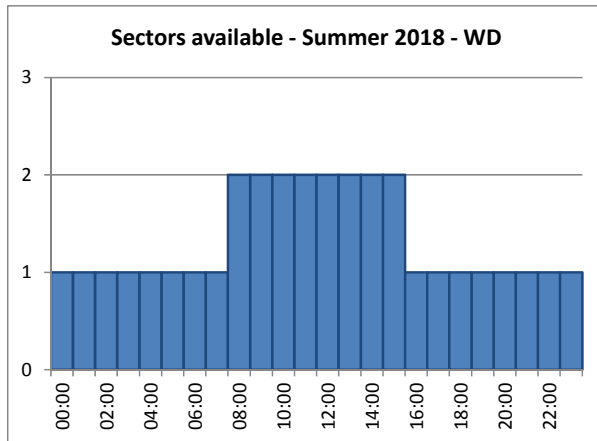
Traffic Evolution	2017 Capacity Baseline	En-route Delay (min/flight) - Summer		Capacity gap
		Ref value	Actual	
+13.1%	27 (+8%)	0.01	0.00	No
The average en-route delay per remained at zero minutes per flight in Summer 2017.				
Capacity Plan: Sufficient capacity to meet demand		Achieved	Comments	
Further cross-border FRA evolutions		Yes		
SEAFRA (H24 FRA Zagreb and Beograd ACC above FL 325)		Yes		
Enhanced ATFM techniques, including STAM		Yes	Measures applied when needed in tactical phase.	
Jahorina Radar upgrade, DPS/TDS and SIM upgrade		Yes		
New VCS procurement and implementation		No	Postponed to 2018/19.	
Maximum configuration: 2 sectors		Yes		
Summer 2017 performance assessment				
The capacity baseline was estimated with ACCESS at 27. During the measured period, the average peak 1 hour demand was 18 and the average peak 3 hour demand was 15.				

Planning Period 2018-2022

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	2017 baseline		Profiles (hourly movements and % increase over previous year)			
			2018		2019	
LQSB	27	H	27	0%	27	0%
		Ref.	27	0%	27	0%
		L	27	0%	27	0%
		Open	27	0%	27	0%
		C/R	27	0%	27	0%

Capacity Plan					
	2018	2019	2020	2021	2022
Free Route Airspace	Further cross-border FRA evolutions				
	SECSI FRA (From FL205)		FAB CE FRA		
Airspace Management Advanced FUA	Establishment of AMC/LARA implementation				
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	New VCS procurement DPS SW Upgrade	New VCS implementation New DPS			
Capacity		CAPAN study			
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	4	5	5	5
Planned Annual Capacity Increase	Sufficient capacity to meet demand		N/A	N/A	N/A
Reference profile Annual % Increase	0%	0%	N/A	N/A	N/A
Difference Capacity Plan v. Reference Profile	Sufficient capacity to meet demand		N/A	N/A	N/A
Annual Reference Value (min)	0.01	0.01	N/A	N/A	N/A
Summer reference value (min)	0.01	0.01	N/A	N/A	N/A
Additional information					



2018-2022 Planning Period Outlook

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

3. Master Plan Level 3 Implementation

Report conclusions

Conclusions issued from the European ATM Master Plan Level 3 Implementation Report 2016 applicable to Bosnia and Herzegovina for all items that require corrective actions and improvements.

Conclusion	Applicable to
<p>VERY GOOD PROGRESS IN IMPLEMENTATION OF BOTH FREE ROUTE AND DIRECT ROUTING.</p> <p>THIS MOMENTUM SHOULD BE KEPT AND SUPPORTED BY ALL INVOLVED STAKEHOLDERS. (page 14 of the Report)</p>	<p>All State that are implementing AOM21.1 and AOM21.2</p>
<p>State's action planned for this conclusion: YES</p> <p>Description of the planned action:</p> <p>With the South East Common Sky Initiative Free route airspace (SECSI FRA) from February 1, 2018., Bosnia and Herzegovina already reached the goal related to implementation of Free Route Airspace in FIR Sarajevo. Remaining issue will be solved through DPS upgrade during 2019 so full implementation of FRA in FIR Sarajevo will be achieved in December 2019.</p>	

Conclusion	Applicable to
<p>ADQ IMPLEMENTATION ISSUES HAVE TO BE ADDRESSED AS SOON AS POSSIBLE AS THEY CAN IMPACT ON SWIM IMPLEMENTATION. (page 25 of the Report)</p>	<p>All States + EC</p>
<p>State's action planned for this conclusion: YES</p> <p>Description of the planned action: Bosnia and Herzegovina has transposed the following regulations into its legislation: Commission Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information for the single European sky and Commission Implementing Regulation (EU) No 1029/2014 of 26 September 2014 amending Regulation (EU) 73/2010 laying down requirements on the quality of aeronautical data and aeronautical information form the Single European sky. However, regulation have not yet been implemented. ANSP will upgrade their infrastructure regarding imlementation of ADQ and also to modernisation of aeronautical information management.</p>	

4. Implementation Projects

4.1. National projects

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

Name of project:	Organisation(s):	Schedule:	Status:	ATM MP Links:
New ARTAS system	BHANSAs (BA)	mid-2019	Procurement in progress	L3: ITY-ACID, ITY-SPI
New Radio stations and sites	BHANSAs (BA)	end 2019	Procurement preparation ongoing	L3: ITY-AGVCS2
New VCS	BHANSAs (BA)	end 2019	Procurement preparation in progress	L3: COM11
Upgrade DPS	BHANSAs (BA)	end 2019	Procurement preparation in progress	L3: AOM21.2, ITY-ACID, ITY-SPI

4.2. FAB projects

Name of project:	Organisation(s):	Schedule:	Status:	Links:
FAB CE Strategic Operational Planning Project (incl. FAB CE X-Border Free Route Airspace Study) (FAB CE Project 1)	ASP ANS CR (CZ), Austrocontrol (AT), BHANSAs (BA), CCL Service Provider (HR), Hungarocontrol (HU), Letové prevádzkové služby Slovenskej republiky, štátny podnik (SK), Slovenia Control (SI)	Project 1: Start 3.1.2011, End: Continuous Project 1 FAB CE FRA Study: Start: 1.9.2015, End: 21.4.2017	FAB CE FRA Study is completed Other activities, including monitoring FRA implementation, are ongoing	L3: AOM21.1, AOM21.2 RP2 PP: FAB CE FRA Project (described under NSP actions 'FAB CE Airspace and route structure planning' and 'Free Route Airspace') DP2016: 102AF3 – Free route airspace from the Black Forest to the Black Sea

Name of project:	Organisation(s):	Schedule:	Status:	Links:
FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM (FAB CE DAM/STAM Study)	ASP ANS CR (CZ), Austrocontrol (AT), BHANSA (BA), CCL Service Provider (HR), Hungarocontrol (HU), Letové prevádzkové služby Slovenskej republiky, štátny podnik (SK), Slovenia Control (SI)	DAM/STAM Study: Start: 7.2.2017, End: 31.12.2018	Ongoing	L3: AOM19.1, AOM19.2, AOM19.3, FCM04.1, FCM04.2, FCM05, FCM06 RP2 PP: Advanced Airspace Management (described under NSP actions) DP2016: 2016_075_AF3_A FAB CE wide Study of DAM and STAM (PCP under CEF2016 Call)
Surveillance Infrastructure Optimisation (FAB CE Project 18)	ASP ANS CR (CZ), Austrocontrol (AT), BHANSA (BA), CCL Service Provider (HR), Hungarocontrol (HU), Letové prevádzkové služby Slovenskej republiky, štátny podnik (SK), Slovenia Control (SI)	Start: 6.7.2016, End: 28.2.2018	Ongoing, in the finalization phase	RP2 PP: Optimisation of CNS resources
X-Bone HW Procurement (FAB CE Project 17)	ASP ANS CR (CZ), Austrocontrol (AT), CCL Service Provider (HR), Hungarocontrol (HU), Letové prevádzkové služby Slovenskej republiky, štátny podnik (SK), Slovenia Control (SI)	Start: 19.2.2016, End: 30.4.2018	Common procurement finalized, in the implementation phase	RP2 PP: Optimisation of CNS resources

4.3. Regional projects

Name of project:	Organisation(s):	Schedule:	Status:	ATM MP Links:
Gate One Free Route Airspace Operational Framework Study (GO FRA OF Study)	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)	Start: 1.9.2017, End: 30.11.2019	Planned CEF Application is being finalised under CEF Call 2016	L3: AOM21.1, AOM21.2
eGAFOR (2016-EU-TMC-0075-S)	BHANSA (BA), CCL Service Provider (HR), ROMATSA (RO), SMATSA (BA)	The project is expected to be completed by December 31, 2020.	Ongoing	-

5. Cooperation activities

5.1. FAB Co-ordination

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

The FAB CE States agreed on establishment of the following permanent bodies - the FAB CE Council, NSA Coordination Committee and Joint Civil-Military Airspace Coordination Committee. The FAB CE Council can also establish other bodies necessary for the implementation, operation and further development of the FAB CE 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.

The air navigation service providers of the FAB CE countries established a joint company FABCE Aviation Services, Ltd already in 2014 and the company is responsible for the professional management of various regional air navigation projects. The establishment of this joint venture is not only effectively aiming at the progress of the FAB CE programme, but at the same time the Single European Sky programme of the European Union.

In 2016, there was a major update of the FAB CE Strategy. The FAB CE Strategic Objectives, defined in this version of the Strategy, cover the period until 2020, and address also the FAB CE long term strategic vision. This was followed by the update of the FAB CE High Level Plan which provides the link how the FAB CE intends to achieve full compliance with the Deployment Programme and achievement of all strategic goals through cooperation's, projects and tasks. This is done by assessing existing gaps between the present state of implementation activities and the SESAR DP and by pointing towards activities and initiatives established to close those 'gaps' and reach achievement of all the high-level targets. The High Level Plan is going through regular updates on an annual basis.

In addition to FAB CE projects, the FAB CE ANSPs coordinate also their regional Free Route Airspace initiatives including South Eastern Europe Night Free Route Airspace (SEEN FRA) involving Hungary and DANUBE FAB, SEAFRA (South-East Axis Free Route Airspace) involving Croatia, Bosnia and Herzegovina, Montenegro and Serbia and SAXFRA (Slovenian Austrian Cross Border Free Route Airspace). In 2017, the ANSPs worked hard on merging the SEAFRA and SAXFRA initiatives into the South East Common Sky Initiative Free Route Airspace (SECSI FRA) which has been successfully implemented, with the support of the Network Manager.

FAB CE continues to actively cooperate and share information and lessons learnt with other FABs. In 2017, FAB CE participated in a number of inter-FAB workshops, including Inter-FAB communications workshop in Langen, Inter-FAB Point of Contact (PoC) workshop in Malta and Inter-FAB operational workshop organised by FAB CE in Ljubljana. FAB CE also continues to coordinate its activities with other ANSPs of the Gate One initiative consisting of three FABs (Baltic FAB, DANUBE FAB and FAB CE) and two non-EU ANSPs (MNAV and SMATSA).

5.2. Regional cooperation

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 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.

South East Common Sky Initiative Free Route Airspace (SECSI FRA) successfully implemented.

Just less than a year after signing the memorandum of cooperation aimed towards merging the two Free Route Airspaces SAXFRA (Slovenian Austrian Cross-border Free Route Airspace) and SEAFRA (South-East Axis Free Route Airspace - project of three ANSPs from Bosnia and Herzegovina, Croatia, Serbia and Montenegro) the South East Common Sky Initiative Free Route Airspace (SECSI FRA) has successfully been implemented, with the support of the Network Manager.

On February 1, the SECSI FRA went operational offering airspace users significant benefits along the South East Axis, by delivering the shortest route options from Central Europe to South Eastern Europe. The benefits gained through the SECSI FRA are substantial. Based on the shortest route assignment potential savings per day are up to 1.940 NM in flight distance, 285 minutes in flight time, a reduction in fuel consumption of 8,000 kg and a reduction in CO2 emissions of 25,500kg.

SECSI FRA is expected to deliver potential savings of 600.000-700.000 NM in flight distance per year. It will make more options available when determining the user-preferred trajectory. Full cross-border FRA allows airlines to take better advantage of wind or adapt to network disruptions. The better use of FRA options at flight planning level improve predictability and reduce ATC workload. This initiative not only works towards achieving the goals of the European Commission regarding the implementation of "Free Route" across Europe but also fulfils airspace user's requests for having multiple route options available for the same city-pair.

"This is the next significant milestone towards Free Route airspace across all of Europe – step by step Single European Sky is becoming a reality. The South East Common Sky Initiative Free Route Airspace will benefit airlines, passengers and the environment in reducing fuel consumption, travel time and CO2 emissions.", said Austro Control CEO Heinz Sommerbauer

"It is a major achievement, that five ANSPs closely working together were able to implement SECSI FRA in less than a year. This project will not only make the flow of air traffic through Europe more efficient, but is also a clear sign that significant progress towards achieving the goal of a Single European Sky is being made", said Austro Control COO Thomas Hoffmann.

"BHANSA is pleased to be part of the SECSI FRA project, which, as one of the most complex aviation project in Europe, required cross border cooperation between five air navigation service providers. Implementation of SECSI FRA concept will result in increase of the flexible use of airspace, environmental protection, reducing of fuel consumption and airspace user costs. Therefore, with this project realization, we are very close to achieving the goal for the most efficient use of the airspace based on actual needs and, where possible, to avoid permanent airspace segregation while optimizing the network performance in line with international aviation standards and recommended practices", said BHANSA Director Davorin Primorac.

„The implementation of the South East Common Sky Initiative (SECSI) is a significant achievement in the field of airspace organisation. It is a result of innovative technology and excellent relations built between the ANSPs and the Network Manager, while working on many key projects over the years. This initiative offers significant opportunities for further airspace optimisation. The airspace users will benefit from a shorter flight time, reduced fuel consumption and decreased emissions of CO2 and NOx. The expansion of FRA across several borders moves us all towards achieving the Single European Sky“, said Vlado Bagarić, Director General of Croatia Control.

“SECSI FRA is making the future, today. Its implementation is a demonstration that wide European visions are possible, with ANSPs, States, partners, working together for greater benefits of air traffic and fragile environment, but at the same time retaining identity and sovereignty. Building on experience, expertise and with perfect cooperation between five ANSPs and the EUROCONTROL Network Manager, the future multistate cross-border Free Route Airspace is achievable, and working together we can make it a reality on time“, said Slovenia Control CEO Franc Željko Županič.

“SMATSA considers the SECSI FRA project as extremely important step forward in the field of ATM in South East Europe Region. I am sure that it also presents relevant achievement from the Pan European perspective. This is an example that cross-border projects can be operationalized, if the corporate cooperation between ANSPs is adequately established, the objectives are well set out, project planning and management agile, participants in the project devoted and if the personal relations between experts and managers involved in the project are developed. We must not forget that the project encompassed five ANSPs and the airspaces of six states. There is no doubt that SECSI FRA will prove itself in daily operations and I am looking forward to see its continuation, as a firm basis for a broader and comprehensive cross-border cooperation in the region that will deliver new partnerships and rise the quality of harmonized services provided to our users“, said Predrag Jovanović CEO SMATSA.

“Following the successful implementation of the SAXFRA and SEAFRA initiative, the South East Europe Common Sky Initiative is an excellent example of how cross-border Free Route Airspace implementation progresses in Europe in complex airspace. The detailed and innovative work conducted by the five ANSPs in close coordination with the Network Manager and completed under a year makes this initiative a tangible example of how the European ATM network can be optimised. It opens significant opportunities for further airspace optimisation in Central and South East Europe with similar neighboring initiatives“, said Joe Sultana, Network Manager.

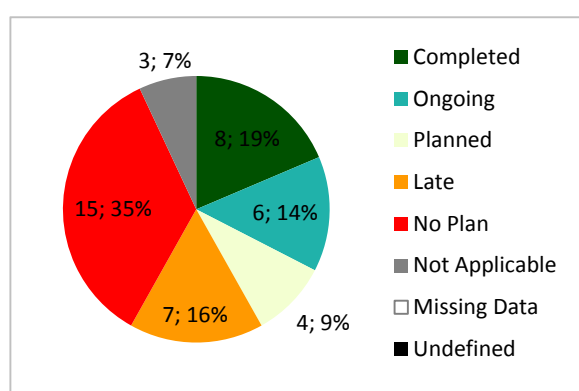
The cooperation of SAXFRA and SEAFRA will produce one of the largest cross-border Free Route airspaces in Europe and is a major step towards achieving a common European Free Route Airspace by 2022

6. Implementation Objectives Progress

6.1. State View

Overall Objective Implementation

Progress distribution for applicable Implementation Objectives



For this edition of the LSSIP BA document, Bosnia and Herzegovina has a better level of reporting. BHANSA took a bigger role in reporting, which is resulted with a better picture of implementation of objectives. More objectives in LSSIP BA document have the status “completed”. For example: AOM21.1 – Direct routing, AOM21.2 - Free Route Airspace, ATC02.8 -Ground-Based Safety Nets, ATC17 – Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer, FCM03 – Collaborative Flight Planning, FCM04.1 – STAM Phase 1, ITY-FMTP – Common Flight Message Transfer Protocol, ATC02.2-Implement ground

based safety nets - Short Term Conflict Alert (STCA) - level 2 for en-route operations, ATC16-Implement ACAS II compliant with TCAS II change 7.1, ITY-COTR -Implementation of ground-ground automated co-ordination processes.

ITY-ADQ – Ensure Quality of Aeronautical Data and Aeronautical Information: BHDCA transposed Regulation 73/2010 into national legislation (Official Gazette of Bosnia and Herzegovina No 61/14) and also transposed Regulation (EU) 1029/14 which amending Regulation 73/2010 (Official Gazette of Bosnia and Herzegovina No 9/18). BHANSA will develop an implementation plan to meet requirements of ADQ Regulation that has been adopted as national rule on aeronautical information services.

SAF11- Improve Runway Safety by Preventing Runway Excursion – Appropriate parts of EAPPRE will be implementing through Regulation on airports (Official Gazette of Bosnia and Herzegovina No 09/11 and 101/15), Regulation on Aircraft Accident and Incident Investigation (Official Gazette of Bosnia and Herzegovina No 30/14), Regulation on Aeronautical Information Services (Official Gazette of Bosnia and Herzegovina No 20/17). BHANSA is conducting activities to meet this objective till 2020. BHDCA will have role of conducting regulatory safety oversight.

ITY-SPI – Surveillance Performance and Interoperability – This objective derived from Regulation 1207/2011, laying down requirements for the performance and interoperability of surveillance for the Single European Sky. Regulation applies to air traffic providers which provide air traffic control services based on surveillance data. BHANSA is conducting activities to meet the requirements for surveillance data. The objective is planned to be completed by the end of 2021.

ITY-AGVSC2 – Common Flight Message Transfer Protocol (FMTP) – Regulation 1079/2012 is not transposed into national legislation. BHANSA will replace all radio stations by the end of 2021.

INF07 – Electronic Terrain and Obstacle Data – BHDCA plans to establish and implement National TOD policy during the 2018. BHANSA will make plans related to objectives when the national policies are created by the State.

Objective Progress per SESAR Key Feature

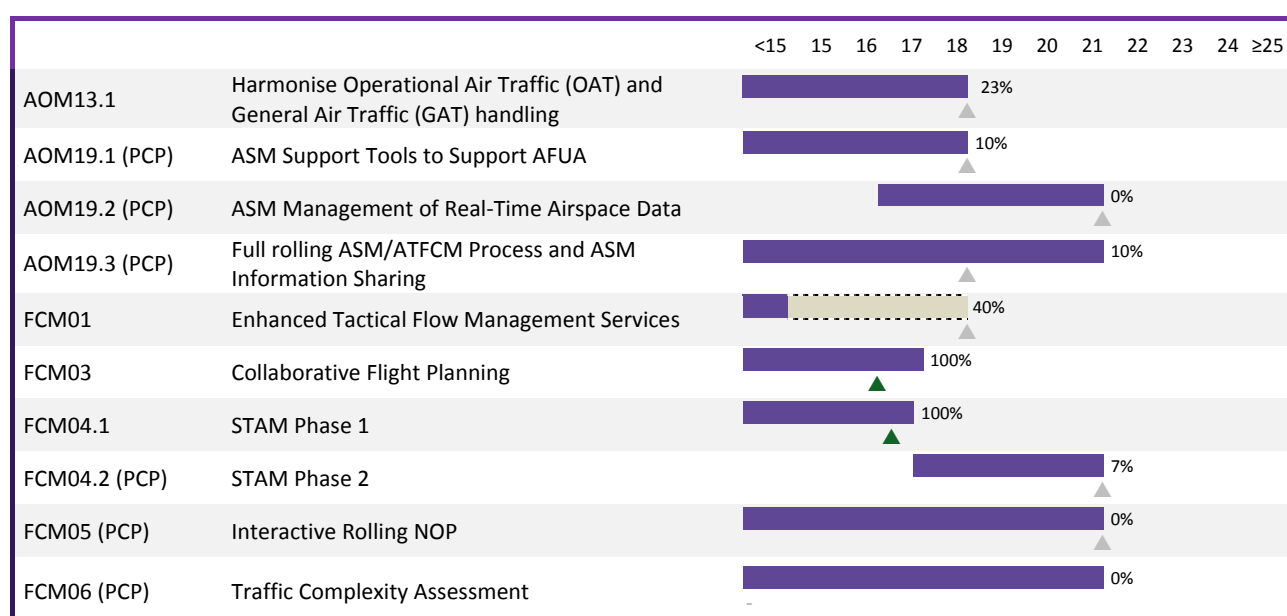
Note: The detailed table of links between Implementation Objectives and SESAR Key Features is available in Annex C.

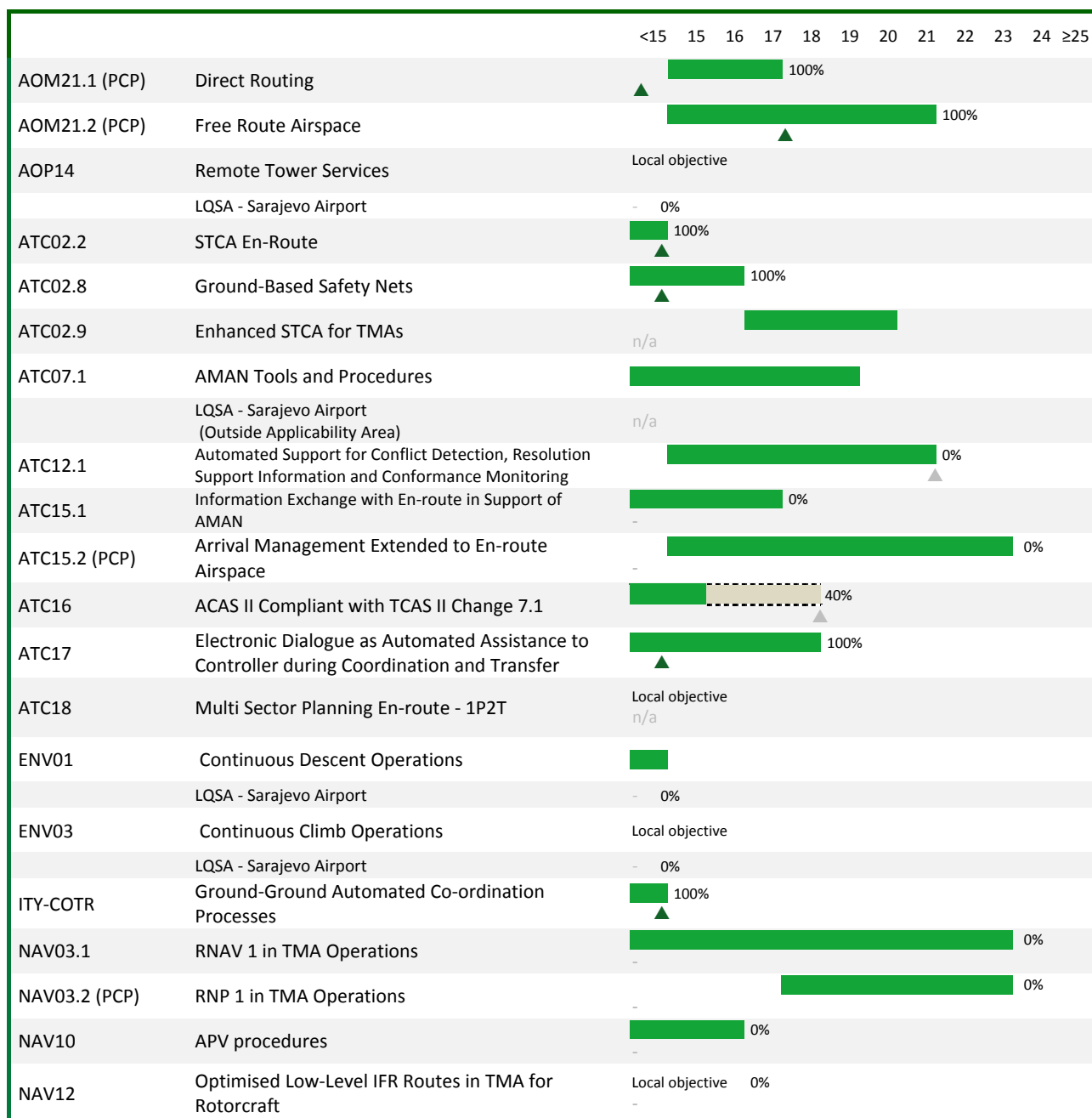
Legend:

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



Optimised ATM Network Services





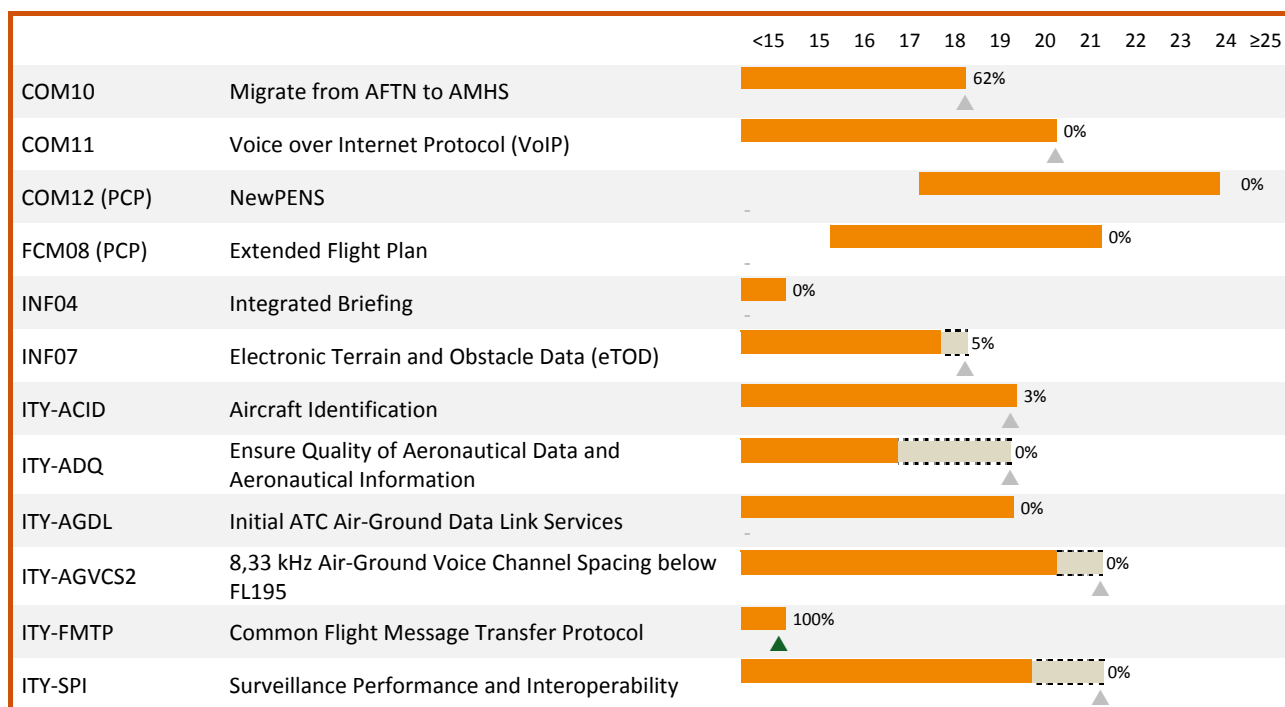


High Performing Airport Operations

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



Enabling Aviation Infrastructure





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 2017 declared statuses and progress of the relevant Implementation objectives in accordance with the mapping approved by ICAO EUR EANPG/59 (European Air Navigation Planning Group).




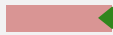



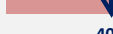




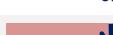

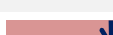









Legend:

 = Completed (during 2017 or before)

 = Progress achieved in 2017









 = 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%								
B0-DATM	Service Improvement through Digital Aeronautical Information Management						100%					
			0%									
B0-ACAS	ACAS Improvements						100%					
			40%									
B0-SNET	Increased Effectiveness of Ground-Based Safety Nets			100%								
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%					
			70%									
B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view						100%					
			70%									
B0-ASUR	Initial capability for ground surveillance									100%		
			0%									
B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDO)			100%								
			0%									
B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route			100%								
			0%									

6.2. Detailed Objectives Implementation progress

Note: The detailed table of applicability area for the Implementation Objectives is available in Annex C.

Objective/Stakeholder Progress Code:			
Completed		No Plan	
Ongoing		Not Applicable	
Planned		Missing Data	
Late			

Main Objectives

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		23%	Ongoing
-				
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.	-	10%	Ongoing 31/12/2018
ASP (By:12/2018)				
BHANSA	BHANSA is expected to meet the objective within the targeted timeframe. Training of staff has started and will be completed by the target implementation completion date	-	45%	Ongoing 31/12/2018
MIL (By:12/2018)				
Mil. Authority	-	-	13%	Missing Data 31/12/2018
AOM19.1 (PCP)	ASM Support Tools to Support Advanced FUA (AFUA) <u>Timescales:</u> Initial operational capability: 01/01/2011 Full operational capability: 31/12/2018		10%	Ongoing
-				
LARA agreement signed in early 2018, procurement and validation will take place in 2018				31/12/2018
ASP (By:12/2018)				
BHANSA	LARA agreement signed in early 2018, procurement and validation will take place in 2018	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	10%	Ongoing 31/12/2018

AOM19.2 (PCP)	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	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	0%	Planned	
				31/12/2021	

AOM19.3 (PCP)	Full Rolling ASM/ATFCM Process and ASM Information Sharing <u>Timescales:</u> Initial operational capability: 01/01/2014 Full operational capability: 31/12/2021			10%	Ongoing
-					
Alignment with the AMC implementation and LARA tool.					31/12/2018
ASP (By:12/2021)					
BHANSA	Alignment with the AMC implementation and LARA tool.	FAB CE-wide Study of Dynamic Airspace Managemen t (DAM) and STAM	10%	Ongoing	
				31/12/2018	

AOM21.1 (PCP)	Direct Routing <u>Timescales:</u> Initial Operational Capability: 01/01/2015 Full Operational Capability: 31/12/2017			100%	Completed
-					
Direct routing has been completely implemented in the Sarajevo FIR and BHANSA AoR					15/04/2014
ASP (By:12/2017)					
BHANSA	Direct routing has been completely implemented in the Sarajevo FIR and BHANSA AoR	FAB CE Strategic Operational Planning Project (incl. FAB CE X-Border Free Route Airspace Study) / Gate One Free Route Airspace Operational Framework Study	100%	Completed	15/04/2014

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

AOP04.1	Advanced Surface Movement Guidance and Control System A-SMGCS Surveillance (former Level 1) <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) Runway Monitoring and Conflict Alerting (RMCA) (former 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 (A-CDM) <u>Timescales:</u> - not applicable -		%	Not Applicable
LQSA - Sarajevo Airport (Outside Applicability Area)				
Not applicable to Sarajevo airport-				-
ASP (By:12/2016)				
BHANSA	Not applicable to Sarajevo airport-	-	%	Not Applicable
APO (By:12/2016)				

AOP10 (PCP)	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)				
BHANSA	LQSA not PCP airport	-	%	Not Applicable
				-

AOP11 (PCP)	Initial Airport Operations Plan <u>Timescales:</u> Initial Operational Capability: 01/01/2015 Full Operational Capability: 31/12/2021		%	Not Applicable
LQSA - Sarajevo Airport				
Not applicable to Sarajevo airport-				-
ASP (By:12/2021)				
BHANSA	Not applicable to Sarajevo airport-	-	%	Not Applicable
				-
APO (By:12/2021)				
SARAJEVO Airport	Not applicable to Sarajevo airport-	-	%	Not Applicable
				-

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

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

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

ATC02.9	Enhanced Short Term Conflict Alert (STCA) for TMAs <u>Timescales:</u> Initial operational capability: 01/01/2018 Full operational capability: 31/12/2020		%	Not Applicable
-				
All TMAs in SARAJEVO FIR are class E, and this objective is not relevant for implementation				-
ASP (By:12/2020)				
BHANSA	All TMAs in SARAJEVO FIR are class E, and this objective is not relevant for implementation	-	%	Not Applicable
				-

ATC07.1	AMAN Tools and Procedures <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
-			
According to plans, FDPS system is expected to be updated by 2019, and MTCD function is one of the requirement			31/12/2021
ASP (By:12/2021)			
BHANSa	According to plans, FDPS system is expected to be updated by 2019, and MTCD function is one of the requirement	-	0%
			Planned
			31/12/2021

ATC15.1	Information Exchange with En-route in Support of AMAN <u>Timescales:</u> Initial operational capability: 01/01/2012 Full operational capability: 31/12/2017	0%	No Plan
-			
No plan at present due to lack of needs from adjacent ATSUs.			-
ASP (By:12/2017)			
BHANSa	No plan at present due to lack of needs from adjacent ATSUs. Its possible implementation will be periodically assessed	-	0%
			No Plan
			-

ATC15.2 (PCP)	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 due to lack of needs from adjacent ATSUs.			-
ASP (By:12/2023)			
BHANSa	No plan at present due to lack of needs from adjacent ATSUs.	-	0%
			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		100%	Completed
-				
OLDI function is implemented in the ATC system, supporting electronic coordination and transfer				13/11/2014
ASP (By:12/2018)				
BHANSА	OLDI function is implemented in the ATC system, supporting electronic coordination and transfer	-	100%	Completed 13/11/2014

COM10	Migrate from AFTN to AMHS <u>Timescales:</u> Initial operational capability: 01/12/2011 Full operational capability: 31/12/2018		62%	Ongoing
-				
Will be completed by the end of 2018.				31/12/2018
ASP (By:12/2018)				
BHANSА	Will be completed in end of 2018.	-	62%	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
-				
New VCS system being commissioned may support future implementation of VoIP technology BHANSА plans to partly implement VoIP ground-ground communication by the end of 2020.				31/12/2020
ASP (By:12/2020)				
BHANSА	New VCS system being commissioned may support future implementation of VoIP technology BHANSА plans to partly implement VoIP ground-ground communication by the end of 2020.	New VCS	0%	Planned 31/12/2020

COM12 (PCP)	New Pan-European Network Service (NewPENS) <u>Timescales:</u> Initial operational capability: 01/01/2018 Full operational capability (33 ANSPs): 31/12/2020		0%	No Plan
-				
BHANSА has no plan for implementation at the moment.				-
ASP (By:12/2024)				
BHANSА	BHANSА has no plan for implementation at the moment.	-	0%	No Plan -
APO (By:12/2024)				
SARAJEVO Airport	-	-	0%	Missing Data -

ENV01	Continuous Descent Operations (CDO) <u>Timescales:</u> Initial operational capability: 01/07/2007 Full operational capability: 31/12/2013	0%	No Plan	
LQSA - Sarajevo Airport				
Initial CDO implementation activities took place back to 2013. There is at the moment no further plan to develop and finalize CDO implementation at Sarajevo airport. Airspace constraints are also limiting to scope of CDO operations.			-	
ASP (By:12/2013)				
BHANSA	Initial CDO implementation activities took place back to 2013. There is at the moment no further plan to develop and finalize CDO implementation at Sarajevo airport. Airspace constraints are also limiting to scope of CDO operations.	-	0%	No Plan
APO (By:12/2013)				
SARAJEVO Airport	-	-	0%	Missing Data

ENV02	Airport Collaborative Environmental Management <u>Timescales:</u> Initial operational capability: 01/09/2004 Full operational capability: 31/12/2016		0%	No Plan
LQSA - Sarajevo Airport				
There is no implementation plan at the moment				-
ASP (By:12/2016)				
BHANSA	There is no implementation plan at the moment	-	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 <u>Timescales:</u> Initial operational capability: 01/01/2000 Full operational capability: 31/12/2017			100%	Completed
-					
Objective implemented.					01/01/2017
ASP (By:12/2017)					
BHANSA	Objective implemented.		-	100%	Completed 01/01/2017

FCM04.1	Short Term ATFCM Measures (STAM) - Phase 1			100%	Completed
	(Outside Applicability Area)				
	<u>Timescales:</u>				
	- not applicable -				
-					
The activity was conducted as part of FAB CE framework.					27/04/2017
ASP (By:10/2017)					
BHANSA	The activity was conducted as part of FAB CE framework.		FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	100%	Completed
					27/04/2017

FCM04.2 (PCP)	Short Term ATFCM Measures (STAM) - Phase 2 <u>Timescales:</u> Initial operational capability: 01/11/2017 Full operational capability: 31/12/2021			7%	Ongoing
-					
Initial actions have started as part of FAB CE DAM/STAM Project (ex. P3). It is likely that STAM phase 2 will be implemented with the availability of this function in the N-connect Tool, planned for implementation end of 2021. 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	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	7%	Ongoing	31/12/2021

FCM05 (PCP)	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	FAB CE-wide Study of Dynamic Airspace Management (DAM) and STAM	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 (PCP)	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.		FAB CE-wide Study of Dynamic Airspace Managemen t (DAM) and STAM	0%	No Plan
					-

FCM08 (PCP)	Extended Flight Plan			0%	No Plan
	<u>Timescales:</u>				
	Initial operational capability: 01/01/2016				
	Full operational capability: 31/12/2021				
-					
No plan at present.					-
ASP (By:12/2021)					
BHANSA	No Plan		-	0%	No Plan
					-

INF07	Electronic Terrain and Obstacle Data (eTOD) <u>Timescales:</u> Initial operational capability: 01/11/2014 Full operational capability: 31/05/2018		5%	Late
-				
Directorate of Civil Aviation of Bosnia and Herzegovina (BHDCA) plans to implement and establish National TOD policy during 2018.				31/12/2018
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%	Late 31/12/2018
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	-	0%	Missing Data 31/05/2018

ITY-ACID	Aircraft Identification <u>Timescales:</u> Entry into force of the Regulation: 13/12/2011 System capability: 02/01/2020			3%	Ongoing
-					
Line of action will be in accordance with the time frame (till 2020).					02/01/2020
ASP (By:01/2020)					
BHANSa	Line of action will be in accordance with the time frame (till 2020)	New ARTAS system / Surveillance Infrastructure Optimisation / Upgrade DPS	3%	Ongoing	
				02/01/2020	

ITY-ADQ	Ensure Quality of Aeronautical Data and Aeronautical Information <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 been transposed in national legislation (published in Official Gazette of Bosnia and Herzegovina under the number 61/14), but not implemented yet. BHDCA has drafted Regulation (EU) 1029/2014 which amending regulation 73/2010 which will also be transposed into domestic legislation. Publication in the Official Gazette of Regulation (EU) 1029/2014 which amending regulation 73/2010 is expected in the current year. Complete implementation plan depends on the prerequisites stated under implementation issues.				31/12/2019
REG (By:06/2017)				
BHDCA	Regulation (EU) 73/2010 has been transposed in national legislation (published in Official Gazette of Bosnia and Herzegovina under the number 61/14), but not implemented yet. BHDCA has drafted Regulation (EU) 1029/2014 which amending regulation 73/2010 which will also be transposed into domestic legislation. Publication in the Official Gazette of Regulation (EU) 1029/2014 which amending regulation 73/2010 is expected in the current year.	-	0%	Late 31/12/2018
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 31/12/2019
APO (By:06/2017)				
SARAJEVO Airport	There is no inforamtion regarding this objectives from Sarajevo Airport.	-	0%	Missing Data 31/12/2018

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%	No Plan
	-				
	No plan at the moment.				
	REG (By:02/2018)				
BHDCA	No plan at the moment.	-	0%	No Plan	
-					
ASP (By:02/2018)					
BHANSA	No plan at the moment	-	0%	No Plan	
-					
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			0%	Late
	<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					
-					
Radio stations will be replaced by the end of 2021.				31/12/2021	
REG (By:12/2018)					
BHDCA	Regulation (EU) No 1079/2012 is not transposed in BH legislation.	-	0%	Late	
	Radio stations will be replaced by the end of 2021.			31/12/2021	
ASP (By:12/2018)					
BHANSA	BHANSA will replace radio stations by the end of 2021.	New Radio stations and sites	0%	Late	
				31/12/2021	
MIL (By:12/2020)					
Mil. Authority	n/a	-	%	Not Applicable	
				-	
APO (By:12/2018)					
SARAJEVO Airport	Missing data	-	0%	Missing Data	
				31/12/2018	

ITY-FMTP	Common Flight Message Transfer Protocol (FMTP)			100%	Completed
	<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					
-					
FMTP was implemented in November2014.					13/11/2014
ASP (By:12/2014)					
BHANSA	FMTP was implemented in November2014.	-	100%	Completed	13/11/2014
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 EHS and ADS-B Out in transport-type State aircraft : 07/06/2020 ELS in transport-type State aircraft : 07/06/2020 Ensure training of MIL personnel: 07/06/2020 Retrofit aircraft capability: 07/06/2020			0%	Late
	-				
	The objective is planned to be completed by end of 2021.				
	REG (By:02/2015)				
	BHDCA	The objective is planned to be completed by end of 2021.	-	0%	Late 31/12/2021
ASP (By:02/2015)					
BHANSA	The objective is planned to be completed by end of 2021.	New ARTAS system / Surveillance Infrastructure Optimisation / Upgrade DPS	0%	Late 31/12/2021	
MIL (By:06/2020)					
Mil. Authority	Military do not provide ATC service to civil flights	-	%	Not Applicable -	

NAV03.1	RNAV 1 in TMA Operations <u>Timescales:</u> Initial operational capability: 01/01/2001 Full operational capability: 31/12/2023			0%	No Plan
	-				
No plan.					-
ASP (By:12/2023)					
BHANSA	No plan		-	0%	No Plan
					-

NAV03.2 (PCP)	RNP 1 in TMA Operations <u>Timescales:</u> Initial operational capability: 01/01/2018 Full operational capability: 31/12/2023			0%	No Plan
	-				
No plan.					-
ASP (By:12/2023)					
BHANSA	No plan.		-	0%	No Plan
					-

NAV10	APV Procedures Timescales: 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 Timescales: Initial operational capability: 01/09/2013 Full operational capability: 31/01/2018		0%	Late
-				
The implementation of the European Action Plan for the Prevention of Runway Excursions is planned by 2020.				31/12/2020
REG (By:01/2018)				
BHDCA	Established the oversight activities, planned by 2020.	-	0%	Late
31/12/2020				
ASP (By:12/2014)				
BHANSA	Implementation of the applicable measures, planned by 2020.	-	0%	Late
31/12/2020				
APO (By:12/2014)				
SARAJEVO Airport	Missing data for this LSSIP edition.	-	0%	Missing Data
-				

Additional Objectives for ICAO ASBU Monitoring

ATC02.2	Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2 for en-route operations <u>Timescales:</u> Initial operational capability: 01/01/2008 Full operational capability: 31/01/2013		100%	Completed
-				
STCA function available in ATC system and operationally used				13/11/2014
ASP (By:01/2013)				
BHANSa	STCA function available in ATC system and operationally used	-	100%	Completed 13/11/2014
ATC16	Implement ACAS II compliant with TCAS II change 7.1 <u>Timescales:</u> Initial operational capability: 01/03/2012 Full operational capability: 31/12/2015		40%	Late
-				
The performance monitoring of ACAS in the ATC environment is part of the incident occurrence reporting, investigation and analysis process established by BHANSa.				31/12/2018
REG (By:12/2015)				
BHDCA	EU regulation 1332/2011 is not transposed in B&H legislation, not implemented in Bosnia and Herzegovina yet.	-	0%	Late 31/12/2018
ASP (By:03/2012)				
BHANSa	The performance monitoring of ACAS in the ATC environment is part of the incident occurrence reporting, investigation and analysis process established.	-	100%	Completed 31/12/2017
MIL (By:12/2015)				
Mil. Authority	n/a	-	%	Not Applicable -
FCM01	Implement enhanced tactical flow management services <u>Timescales:</u> Initial operational capability: 01/08/2001 Full operational capability: 31/12/2006		40%	Late
-				
Planned by end 2018, system is under test phase				31/12/2018
ASP (By:07/2014)				
BHANSa	Planned by end 2018, following system validation	-	40%	Late 31/12/2018

INF04	Implement integrated briefing <u>Timescales:</u> Initial operational capability: 01/07/2002 Full operational capability: 31/12/2012		0%	No Plan
-				
There is no plan for implementation of integrated flight briefing at the moment.				-
ASP (By:12/2012)				
BHANSА	There is no plan for implementation of integrated flight briefing at the moment.	-	0%	No Plan
-				

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		100%	Completed
-				
OLDI function is implemented in the ATC system, supporting ground-ground coordination and transfer processes				13/11/2014
ASP (By:12/2012)				
BHANSА	OLDI function is implemented in the ATC system, supporting ground-ground coordination and transfer processes	-	100%	Completed
13/11/2014				
MIL (By:12/2012)				
Mil. Authority	Military do not provide ATC service to civil flights	-	%	Not Applicable
-				

Local Objectives

Note: Local Objectives are addressing solutions that are considered beneficial for specific operating environments, therefore for which a clear widespread commitment has not been expressed yet. They are characterised with no deadline and voluntary applicability area.

AOP14	Remote Tower Services <i><u>Applicability and timescale: Local</u></i>	%	No Plan
LQSA - Sarajevo Airport			
No plan at the moment.			-

ATC18	Multi-Sector Planning En-route - 1P2T <i><u>Applicability and timescale: Local</u></i>	%	Not Applicable
-			
Not applicable			-

ENV03	Continuous Climb Operations (CCO) <i><u>Applicability and timescale: Local</u></i>	%	No Plan
LQSA - Sarajevo Airport			
No plan at the moment.			-

NAV12	Optimised Low-Level IFR Routes in TMA for Rotorcraft <i><u>Applicability and timescale: Local</u></i>	%	No Plan
-			
No plan at the moment.			-

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. Slavenko Buha Mr. Ivica Primorac Mrs. Zorica Stanković Mr. Dalibor Ninković Mr. Nedžad Tinjak Mr. Aleksandar Škondrić Mr. Mirsad Hadžialić Mr. Arpad Salai Mr. Muhamed Hodžić Mr. Slavoljub Stanišić
LSSIP Focal Point for Airport	-	
LSSIP Focal Point for Military	Ministry of Defense of Bosnia and Herzegovina	Mr. Dževad Burić

EUROCONTROL LSSIP Support

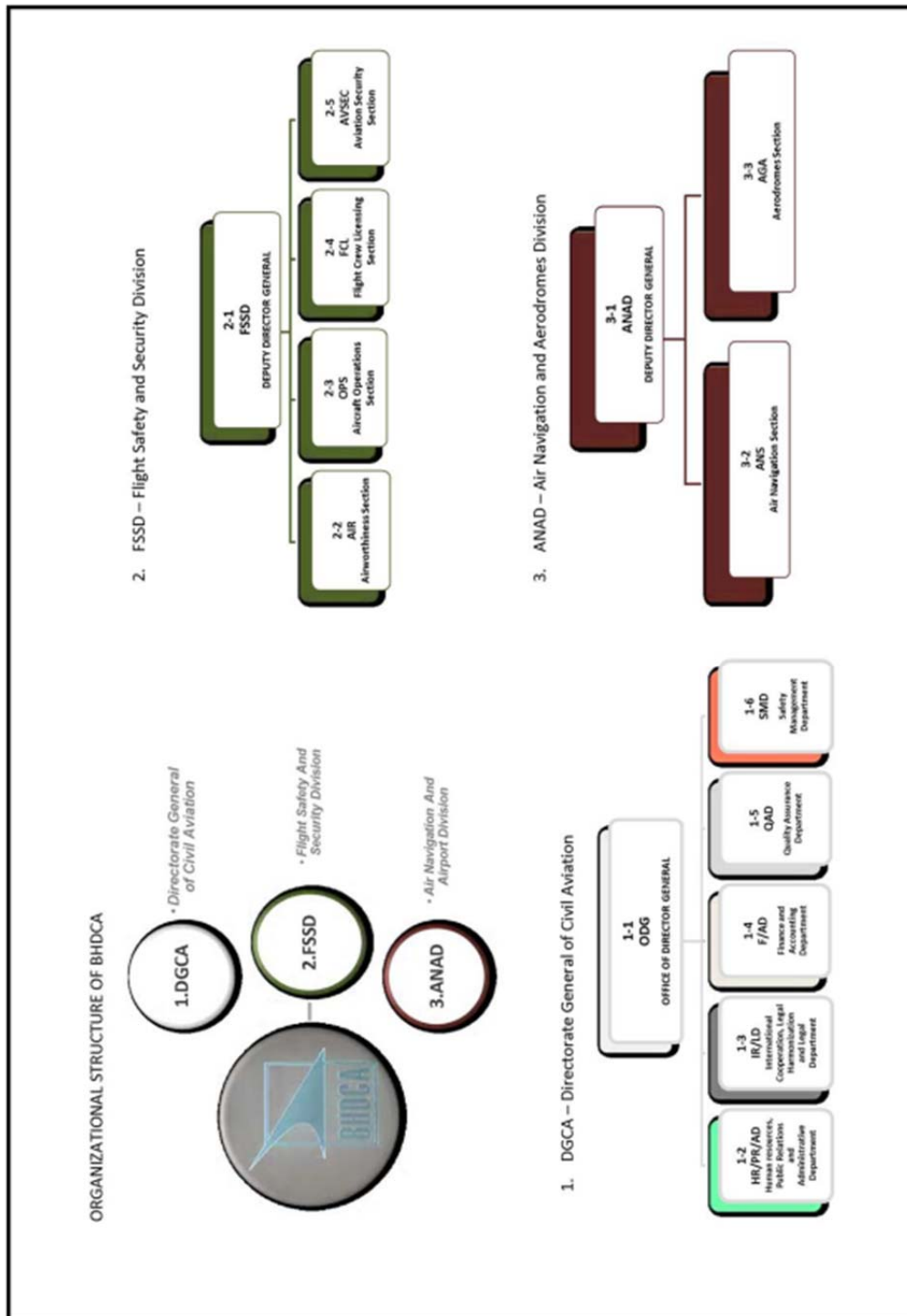
Function	Directorate	Name
LSSIP Contact Persons for Bosnia and Herzegovina	DPS/PEPR	Mr. Frédéric Rooseleer

Implementation Objectives

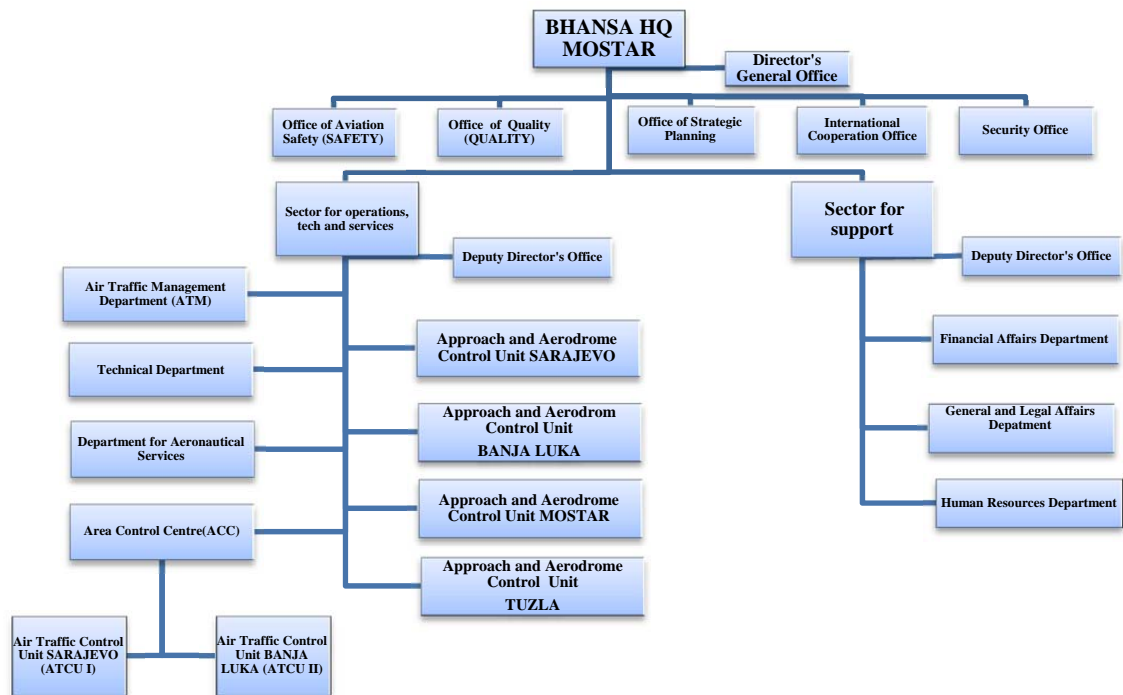
Implementation Objective	EUROCONTROL PEPR Objective Coordinator	EUROCONTROL Objective Owners	National Stakeholder Specialist
AOM13.1	A. DYBOWSKA	O. MROWICKI/ C. LUCCIOLI	BHDCA/BHANSA
AOM19.1	O. ALFARO	G. ACAMPORA / O. MROWICKI	BHDCA/BHANSA
AOM19.2	O. ALFARO	G. ACAMPORA / O. MROWICKI	BHDCA/BHANSA
AOM19.3	O. ALFARO	G. ACAMPORA / O. MROWICKI	BHDCA/BHANSA
AOM21.1	A. DYBOWSKA	C. BRAIN	BHDCA/BHANSA
AOM21.2	A. DYBOWSKA	C. BRAIN	BHDCA/BHANSA
AOP04.1	P. VRANJKOVIC	R. GRAHAM	BHDCA/BHANSA
AOP04.2	P. VRANJKOVIC	R. GRAHAM	BHDCA/BHANSA
AOP05	F. ROOSELEER	M. BIRENHEIDE	BHDCA/BHANSA
AOP10	F. ROOSELEER	R. GRAHAM	BHDCA/BHANSA
AOP11	F. ROOSELEER	M. BIRENHEIDE	BHDCA/BHANSA
AOP12	P. VRANJKOVIC	R. GRAHAM	BHDCA/BHANSA
AOP13	P. VRANJKOVIC	R. GRAHAM	BHDCA/BHANSA
AOP14	A. DYBOWSKA	R. GRAHAM / G. ASSIRE	BHDCA/BHANSA
ATC02.8	F. ROOSELEER	S. DROZDOWSKI	BHDCA/BHANSA
ATC02.9	F. ROOSELEER	S. DROZDOWSKI	BHDCA/BHANSA
ATC07.1	L. DELL'ORTO	pending	BHDCA/BHANSA
ATC12.1	L. DELL'ORTO	pending	BHDCA/BHANSA
ATC15.1	L. DELL'ORTO	pending	BHDCA/BHANSA
ATC15.2	L. DELL'ORTO	P. HOP	BHDCA/BHANSA
ATC17	L. DELL'ORTO	S. MORTON	BHDCA/BHANSA
ATC18	L. DELL'ORTO	I. PENDACHANSKI	BHDCA/BHANSA
COM10	J. PINTO	Y. EYUBOGLU	BHDCA/BHANSA
COM11	J. PINTO	L. POPESCU	BHDCA/BHANSA
COM12	J. PINTO	W. JANSSENS	BHDCA/BHANSA
ENV01	B. HILL	D. BRAIN	BHDCA/BHANSA
ENV02	B. HILL	S. MAHONY	BHDCA/BHANSA
ENV03	A-P. FRANGOLHO	D. BRAIN	BHDCA/BHANSA
FCM03	O. CIOARA	C. BOUMAN/I. PENDACHANSKI	BHDCA/BHANSA
FCM04.1	I. MARCETIC	P. HOP/I. PENDACHANSKI	BHDCA/BHANSA
FCM04.2	I. MARCETIC	P. HOP/I. PENDACHANSKI	BHDCA/BHANSA
FCM05	O. CIOARA	I. MENDES VIDEIRA/I. PENDACHANSKI	BHDCA/BHANSA
FCM06	F. ROOSELEER	P. HOP/I. PENDACHANSKI	BHDCA/BHANSA

FCM08	O. CIOARA	K. BREIVIK/I. PENDACHANSKI	BHDCA/BHANSA
INF07	A-P. FRANGOLHO	A. PETROVSKY	BHDCA/BHANSA
ITY-ACID	O. CIOARA	pending	BHDCA/BHANSA
ITY-ADQ	A-P. FRANGOLHO	M. UNTERREINER	BHDCA/BHANSA
ITY-AGDL	B. HILL	D. ISAAC	BHDCA/BHANSA
ATY-AGVCS2	B. HILL	J. POUZET	BHDCA/BHANSA
ITY-FMTP	O. ALFARO	L. POPESCU	BHDCA/BHANSA
ITY-SPI	O. CIOARA	M. BORELY	BHDCA/BHANSA
NAV03.1	I. MARCETIC	F. PAVLICEVIC	BHDCA/BHANSA
NAV03.2	I. MARCETIC	F. PAVLICEVIC	BHDCA/BHANSA
NAV10	I. MARCETIC	R. FARNWORTH	BHDCA/BHANSA
NAV12	I. MARCETIC	B. RABILLER / F. RIQUET	BHDCA/BHANSA
SAF11	F. ROOSELEER	pending	BHDCA/BHANSA



























ANNEX B - National Stakeholders Organisation charts
































BHANSA Organisation Chart:







ANNEX C – Implementation Objectives’ Applicability

Objective	SESAR Key Feature	ICAO ASBU B0	European ATM Masterplan Level 3 Applicability area
AOM13.1		-	All ECAC States except Albania, Latvia, Luxembourg, Maastricht UAC and Moldova.
AOM19.1		B0-FRTO	All ECAC States except Armenia, FYROM, Malta, Luxembourg, and Moldova
AOM19.2		-	All ECAC States except Armenia, Luxembourg and Moldova
AOM19.3		-	All ECAC States except Armenia, Luxembourg and Moldova
AOM21.1		B0-FRTO	25 ECAC States
AOM21.2		-	All ECAC States except Azerbaijan, Belgium, Luxembourg and the Netherlands
AOP04.1		B0-SURF	25 PCP airports, 22 non-PCP airports
AOP04.2		B0-SURF	25 PCP airports, 22 non-PCP airports
AOP05		B0-ACDM	25 PCP airports, 21 non-PCP airports
AOP10		-	16 PCP Airports
AOP11		-	24 PCP airports, 15 non-PCP airports
AOP12		-	25 PCP airports
AOP13		-	25 PCP airports
AOP14		-	Local: Low to medium complexity aerodromes, subject to local needs
ATC02.2		B0-SNET	Additional for ICAO ASBU monitoring: applicable all ECAC States that did not yet implement it
ATC02.8		B0-SNET	All ECAC States except the Netherlands
ATC02.9		B0-SNET	TMA, according to local business needs
ATC07.1		B0-RSEQ	23 PCP Airports, 8 non-PCP airports
ATC12.1		-	All ECAC States except Luxembourg
ATC15.1		B0-RSEQ	EU States except Cyprus, Greece, Lithuania, Luxembourg, Malta, Slovak Republic, Slovenia. Plus: Bosnia and Herzegovina, Maastricht UAC, Norway, Switzerland, Turkey
ATC15.2		-	ACCs within the extended AMAN horizon, including those adjacent to TMAs serving/associated to PCP airports
ATC16		B0-ACAS	Additional for ICAO ASBU monitoring: applicable to all ECAC States that did not yet implement it
ATC17		B0-FICE	All ECAC States except Ireland, Slovak Republic and Ukraine
ATC18		-	Local: Subject to local needs and complexity
COM10		-	All ECAC States
COM11		-	All ECAC States

COM12		-	- Area 1 (ANSPs signatories of the NewPENS Common Procurement Agreement): 33 ANSPs - Area 2 (Other stakeholders): Stakeholders from all ECAC States not part of Area 1
ENV01		B0-CDO	59 Airports
ENV02		-	47 Airports
ENV03		B0-CCO	Local: Aerodromes subject to local needs and complexity
FCM01		B0-NOPS	Additional for ICAO ASBU monitoring: applicable to all ECAC States that did not yet implement it
FCM03		B0-NOPS	All ECAC States
FCM04.1		B0-NOPS	Austria, Belgium, Croatia, Czech Republic, France, Germany, Italy, Poland, Spain, Switzerland
FCM04.2		B0-NOPS	All EU+ States
FCM05		B0-NOPS	All ECAC States except Armenia, FYROM, Luxembourg, Maastricht UAC and Moldova
FCM06		B0-NOPS	All EU+ States
FCM07		-	All EU+ States
FCM08		-	All ECAC States
FCM09		-	All ECAC States
INF04		B0-DATM	Additional for ICAO ASBU monitoring: applicable to all ECAC States that did not yet implement it
INF07		-	All ECAC States except Maastricht UAC
INF08.1		-	All EU+ States
INF08.2		-	All EU+ States
ITY-ACID		-	All EU+ States
ITY-ADQ		B0-DATM	All EU+ States except FYROM, Georgia and Maastricht UAC
ITY-AGDL		B0-TBO	All EU+ States except Georgia, Luxembourg and Netherlands
ITY-AGVCS2		-	All EU+ States except Georgia and Moldova
ITY-COTR		B0-FICE	Additional for ICAO ASBU monitoring: applicable all EU+ States that did not yet implement it
ITY-FMTP		B0-FICE	All ECAC States
ITY-SPI		B0-ASUR	All EU+ States
NAV03.1		B0-CDO, B0-CCO	All ECAC States except Luxembourg, Maastricht UAC and Slovak Republic
NAV03.2		-	Mandatory for TMAs listed in section 1.2.1 of the Annex of the PCP Regulation. For all other ECAC TMAs, according to local business needs
NAV10		B0-APTA	All ECAC States except Maastricht UAC
NAV12		-	Local: TMAs subject to local needs and complexity
SAF11		-	All ECAC States except Malta

Legend:

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

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

ANNEX E - Questionnaire for States Military Organisations on infrastructure

The questionnaire below was added as requested by EDA, NATO and EUROCONTROL, to capture information on military infrastructure. For practical reasons, for the 2017 cycle the questionnaire is included in this Annex. This Annex is NOT required to be included in the published (and public) version of the document. However, it is considered an integral part of the LSSIP 2017 cycle and fully covered in the remit of the States' authority(ies) signature. A full rationale for this request is provided below by EDA, NATO and EUROCONTROL.

Rationale

SESAR in Europe as well as NEXTGEN in the USA represent the largest initiatives currently in place aimed at modernising globally the ATM system. These programmes expect the involvement of a massive number of stakeholders like the Air Navigation Service Providers (ANSP), the Airspace Users (AU), the Airports Operators (AO), the supply industry and the States civil and military authorities. For the latter, in particular, is of utmost importance to be aware of the potential impacts stemming from the implementation of those programmes either on military aircraft fleets or on the ATM/CNS ground infrastructures in order to safeguard and mitigate potential interoperability issues.

To do that, it would be worth to rationalise and harmonise the initiatives at the moment steered separately by the most important organisations dealing with SES/SESAR ATM matters – EDA – NATO and EUROCONTROL in order to facilitate the contribution of the states military authorities in building a common set of data on ATM/CNS capabilities to be used for different purposes. This will avoid the risk to duplicate the efforts already in place and for which the military community have committed to contribute.

The information collected and stored will be key to understanding the system/interoperability requirements identified in ATM modernization and deployment programmes. Examples of the need for data capturing are:

- Understanding ATM innovation programs (Deployment Program implementation) ;
- The projects which will be put at front by the Deployment Manager;
- Air Traffic Management Master Plan Updates;
- Operational and financial impact analyses.

There is a need for engagement with the States military organisations in order to obtain the input information necessary to derive better validated cost estimates: their understanding of their State's current military ATM/CNS architecture, and of its military operational imperatives and policy regarding, for instance, SESAR participation. Composition of the current fleets with in and out of service dates and equipment level, dual-use aerodromes with relevant civilian traffic indicative numbers, number of ATM/CNS and AD systems, also the NATO and USAFE assets should be known to complete the picture.

A facilitated questionnaire, through the existing ESSIP/LSSIP methodology seems to be an appropriate way forward. The questions are built in close cooperation between EUROCONTROL, NATO and EDA, in order to get a comprehensive picture of military ATM/CNS airborne and ground capabilities currently available to allow nations to provide Air Navigation Services (ANS) in the airspace of own responsibility.

The results of previous questionnaires have been inserted in this annex. The National answers will be used to feed the three organisations (EDA, NATO and EUROCONTROL) to facilitate e.g.:

- a) Business View and Cost Benefit Analysis (impact) of Master Plan updates;
- b) ATM/CNS Systems database repository (NATO);
- c) Assessment on Performance Based Certification for ATM/CNS avionics;
- d) CNS interoperability and rationalisation opportunities;
- e) Assessment of the deployment opportunities.

Air Navigation Services (ANS³) and Air Defence (AD) ground infrastructure questionnaire

1. Military En-route Area Control Centers (ACCs)

1.1	How many military en-route ACCs are there in your State?	N/A
1.1.1	Additional Info	-

1.2	How many of the military en-route ACCs are:	
1.2.1	Integrated on the same ATM ⁴ system as Civil ANSP?	N/A
1.2.2	Co-located with and on the same ATM system as the Civil ANSP?	N/A
1.2.3	Co-located with and with a different ATM system than the Civil ANSP?	N/A
1.2.4	Separated but on the same ATM system as the Civil ANSP?	N/A
1.2.5	Separated and with a different ATM system than the Civil ANSP?	N/A
1.2.6	Additional Info	-

1.3	How many of the military en-route ACCs are providing ANS to:	
1.3.1	<u>Primarily</u> to General Air Traffic (GAT)?	N/A
1.3.2	Operational Air Traffic (OAT) + GAT <u>frequently</u> ?	N/A
1.3.3	OAT + GAT <u>occasionally</u> ?	N/A
1.3.4	OAT only?	N/A
1.3.5	Additional Info	-

1.4	If there is more than one military en-route ACC, are there different ATM systems for ATM provision?	N/A
1.4.1	Additional Info	-

1.5	Are any of the military en-route ACCs currently using any of the following COM systems?		
1.5.1	Connection to civil Aeronautical Messaging Handling System (AMHS)	Y/N/ N/A	N/A
1.5.2	Connection to Pan European Network Service (PENS) (through civil ANSP or direct to the backbone)	Y/N/ N/A	N/A
1.5.3	Voice over IP (VoIP) for inter-center coordination	Y/N/ N/A	N/A
1.5.4	VHF 8.33 ground radio infrastructure	Y/N/ N/A	N/A
1.5.5	UHF at all sectors	Y/N/ N/A	N/A
1.5.6	Additional Info	-	

³ Air Traffic Management and Communication, Navigation & Surveillance related infrastructure.

⁴ All ATM systems operated in the Centre

1.6	Are any of the military en-route ACCs currently relying on conventional NAV ⁵ systems?	N/A
1.6.1	Additional Info	-

1.7	Are any of the military en-route ACCs currently using any of the following SUR systems?	
1.7.1	Secondary Surveillance Radar (SSR) Mode S (Selective). If so, are they clustered with civil radars.	Y/N/ N/A
1.7.2	Primary Surveillance Radar	Y/N/ N/A
1.7.3	Plot/track data derived or received from civil Centers.	Y/N/ N/A
1.7.4	Multi-Lateration (MLAT)	Y/N/ N/A
1.7.5	Automatic Dependent Surveillance – Broadcast (ADS-B)	Y/N/ N/A
1.7.6	Additional Info	-

2. Military Approach Centers (APPs) for Terminal Approach Areas (TMA)

2.1	How many military APPs are there in your State?	N/A
2.1.1	Additional Info	-

2.2	Do you have centralised approaches serving multiple airfields?	N/A
2.2.1	Additional Info	

2.3	How many of the military APPs are providing ANS to:	
2.3.1	<u>Primarily</u> to GAT?	N/A
2.3.2	OAT + GAT <u>frequently</u> ?	N/A
2.3.3	OAT + GAT <u>occasionally</u> ?	N/A
2.3.4	OAT only?	N/A
2.3.5	How many military APPs are providing ANS to GAT (e.g. feeding an Aerodrome) to a...	
2.3.5.1	- High level of interaction ⁶ TMA?	N/A
2.3.5.2	- Medium level of interaction TMA?	N/A
2.3.5.3	- Low level of interaction TMA?	N/A
2.3.6	Additional Info	-

2.4	Do you have common ATM systems at ACC - APP level?	N/A
2.4.1	Additional Info	Missing data

⁵ NDB, VOR, DME, TACAN.

⁶ As used in the document 'Military Impact assessment of ATM Master Plan Deployment Packages and Deployment Scenarios' @ <http://www.eurocontrol.int/sites/default/files/content/documents/civil-military/2015-military-impact-assessment-v1.0.pdf>

2.5	How many of the military APPs are:	
2.5.1	Integrated on the same ATM system as Civil ANSP?	N/A
2.5.2	Co-located with and on the same ATM system as the Civil ANSP?	N/A
2.5.3	Co-located with and with a different ATM system than the Civil ANSP?	N/A
2.5.4	Separated but on the same ATM system as the Civil ANSP?	N/A
2.5.5	Additional Info	-

2.6	If there is more than one military APP, are there <u>different</u> APP systems for ANS provision?	N/A
2.6.1	If yes, how many different APP systems?	N/A
2.6.2	Additional Info	-

2.7	Are any of the military APPs currently using any of the following COM systems?	
2.7.1	Connection to civil AMHS (replacing AFTN)?	Y/N/ N/A
2.7.2	Connection to PENS	Y/N/ N/A
2.7.3	Voice over IP (VoIP)	Y/N/ N/A
2.7.4	VHF 8.33	Y/N/ N/A
2.7.5	UHF	Y/N/ N/A
2.7.6	Additional Info	-

2.8	Are any of the military APPs currently using conventional NAV ⁷ systems?	Y/N/ N/A
2.8.1	If developing RNAV and RNP approaches, please state.	Y/N/ N/A
2.8.2	Additional Info	-

2.9	Are any of the military APPs currently using any of the following SUR systems?	
2.9.1	SSR Mode S	Y/N/ N/A
2.9.2	Primary Surveillance Radar	Y/N/ N/A
2.9.3	Plot/track data derived or received from civil Centers.	Y/N/ N/A
2.9.4	Multiple radars tracking	Y/N/ N/A
2.9.5	MLAT	Y/N/ N/A
2.9.6	ADS-B	Y/N/ N/A

⁷ NDB, VOR, DME, TACAN.

3. Military Airbases (TWR, Wing Operation Centre (WOC)⁸)

3.1	How many airbases in your State are under the Military jurisdiction?	3 bases
3.1.1	At how many airbases are ANS provided by the Military?	N/A
3.1.2	At how many airbases does your State provide ANS to GAT (Aerodromes open to the Public)?	N/A
3.1.3	Additional Info	-

3.2	Are these airbases operating different ATM systems for ANS provision?	N/A
3.2.1	Additional Info	

3.3	Are any of these airbases currently using any of the following COM systems?		
3.3.1	Connection to civil AMHS (replacing AFTN)	Y/N/ N/A	N/A
3.3.2	Connection to PENS	Y/N/ N/A	N/A
3.3.3	Voice over IP (VoIP)	Y/N/ N/A	N/A
3.3.4	VHF 8.33	Y/N/ N/A	N/A
3.3.5	UHF	Y/N/ N/A	N/A
3.3.6	Remote Tower	Y/N/ N/A	N/A
3.3.7	Additional Info	-	

3.4	Are these airbases currently using any of the following systems for Precision Approach Landing operations?		
3.4.1	Instrument Landing System	Y/N/ N/A	Y
3.4.2	Microwave Landing System	Y/N/ N/A	N
3.4.3	Precision Approach Radar / Ground Control Approach	Y/N/ N/A	N
3.4.4	Ground Based Augmentation System	Y/N/ N/A	N
3.4.5	Non precision approach systems	Y/N/ N/A	Y
3.4.6	Additional Info	-	

⁸ Unclassified WOC information is requested and is related to the ability to interact with MIL/CIV ANSP.

3.5	Are these airbases currently using any SUR Systems?	N
3.5.1	Additional Info	N/A

3.6	How many WOC's (functionality) do you operate?	N/A
3.6.1	How many different WOC systems relevant to ATM do you operate?	N/A
3.6.2	Additional Info	-

4. Air Defence (AD⁹) systems

4.1	How many AD centers are there in your State? If you have more than one,	N/A
4.1.1	How many <u>different</u> AD systems do you operate to provide AD?	Two types of GBAD systems
4.1.2	How many <u>different</u> ATS systems do you operate to provide AD?	Two
4.1.3	Are you planning to transition to the NATO ACCS AD system?	Y
4.1.4	Additional Info	-

5. EUROAT

5.1	Has EUROAT been implemented by the National Military in your State? If yes,	N/A
5.1.1	Specify the method of publishing EUROAT?	N/A
5.1.2	If there are deviations from EUROAT, are they published in the national aeronautical publications?	N/A
5.1.3	Is the civil ANSP taking into account EUROAT for ANS provision?	N/A
5.1.3.1	If yes, is EUROAT included in the recurrent training of the civil ATCOs?	N/A
5.2	Which sources of ATM terminology do you use in ATM related matters?	ICAO, EUROCONTROL, NATO
5.3	What kind of phraseology do you use while rendering ATS to OAT flights?	English

⁹ Unclassified AD information is requested and is related to the ability to interact with MIL/CIV ANSP.

6. Flight planning

6.1	Do you file flight plans for the OAT IFR flights conducted in controlled airspace outside reserved/restricted airspace?	Y
6.2	Do you file a flight plan for OAT IFR flights conducting cross-border operations?	Y
6.3	Do you have a dedicated flight plan filing system in your MIL organisation?	N
6.3.1	If no, specify the means to file flight plans:	Through BHASA
6.4	Do you have a MIL Flight Data Processing System (FDPS) inside your en-route ATC System?	N
6.5	Do you exchange FPL data between CIV and MIL ATSUs? If yes,	N
6.5.1	What type of communication means do you usually use to share the filed FPS with the concerned addresses?	N/A
6.5.2	The exchange of FPL data is:	N/A
6.5.3	Besides the initial FPL data, do you exchange also CPL (Current Flight Plan) or ATC FPL data between CIV and MIL ATSUs?	N
6.5.3.1	If yes, indicate also the direction of the exchange (e.g. from CIV to MIL only)	N/A
6.6	What kind of flight plan format do you use for filing the flight plans for the OAT IFR flights?	N/A

7. Aeronautical Information Services

7.1	Do you have an OAT route network implemented in your FIR(s)?	N/A
7.1.1	If yes, specify what type of NAVAID(s) were considered for the design of the OAT route network:	N/A
7.1.2	Who is providing AIS services for OAT in your State?	BHANSa
7.2	In terms of aeronautical publications, your country has:	N/A
7.2.1	Is your MIL AIP on-line?	N/A
7.3	Has your MIL AIS Database migrated to EAD?	N/A
7.4	Do you consume data from EAD?	N
7.5	Do you have bi/multi-lateral LoAs with your neighbouring States in terms of OAT cross-border operations?	N
7.5.1	If yes, which are these States?	N/A

8. CNS Services

8.1	In your State, the COM services (G/G, A/G) for OAT flights are provided by:	BHANSА
8.1.1	Do the CIV and MIL COM services share infrastructure resources and/or equipment?	Partially

8.2	In your State, the NAV facilities and services for OAT flights are provided by:	BHANSА
8.2.1	Are the facilities and services used for air navigation in your State shared or operated in common by the CIV and MIL?	Y

8.3	In your State, the SUR facilities and services for OAT flights are provided by:	N/A
8.3.1	Do you exchange surveillance data between CIV and MIL?	N

9. MET Services

9.1	Who is providing MET services for OAT en-route flights in your State?	BHANSА
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10. Mission Support Services (MSS)

10.1	Which of the following MSS can be provided in your State to OAT flights and by whom?		
10.1.1	Search And Rescue (SAR)	Y/N	Y
10.1.2	Air-to-Air Refuelling (AAR)	Y/N	N
10.1.3	Diplomatic Clearance	Y/N	Y
10.1.4	Air Defence Control and Surveillance	Y/N	N