

Consolidated description of all active Implementation objectives - Engineering View

Implementation Plan - Edition 2016



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Content of the document

This document contains the consolidated list of Engineering views of all active Implementation Objectives available in the European ATM Master Plan (MP) Level 3 - Implementation Plan 2016, in alphabetical order. It provides the full details of each objective, including the description of the Stakeholders Lines of Action, Supporting Material and Finalisation Criteria.

In order to facilitate the reading, the document contains as well the Applicability List of Airports implementing the relevant Objectives, as included in Annex E of the Implementation Plan 2016.

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Applicability to Airports

Several Implementation Objectives are applicable to specific European airports. For the Objectives related to the PCP, the area of applicability fully includes the list of airports as defined in the PCP Regulation. However, the scope of some of the airport Objectives is substantially broader than the PCP as some airports have committed to implementation even if not explicitly targeted by the PCP Regulation. The applicability area for all airport Objectives is consolidated in the following table:

Legend:

● In the applicability area & Completed ● In the applicability area & Not Completed yet - Not in the applicability area

PCP – Objective linked to a PCP Sub-Functionality

PCP-PR – Objective identified as a predecessor for a PCP Sub-Functionality

PCP-FC – Objective identified as a facilitator for a PCP Sub-Functionality

PCP Airports

State	Airport	ICAO code	AOP04.1 (PCP-PR)	AOP04.2 (PCP-PR)	AOP05 (PCP-PR)	AOP10 (PCP)	AOP11 (PCP)	AOP12 (PCP)	AOP13 (PCP)	ATC07.1 (PCP-FC)	ENV01	ENV02
AT	Vienna	LOWW	●	●	●	●	●	●	●	●	●	●
BE	Brussels	EBBR	●	●	●	-	●	●	●	●	●	●
CH	Zurich	LSZH	●	●	●	●	●	●	●	●	●	●
DE	Berlin Brandenburg	EDDB	●	●	●	-	●	●	●	●	●	●
DE	Frankfurt Main	EDDF	●	●	●	●	●	●	●	●	●	●
DE	Düsseldorf	EDDL	●	●	●	●	●	●	●	●	●	●
DE	Munich	EDDM	●	●	●	●	●	●	●	●	●	●
DK	Copenhagen	EKCH	●	●	●	●	●	●	●	●	●	●
ES	Barcelona	LEBL	●	●	●	-	●	●	●	●	●	●
ES	Madrid Barajas	LEMD	●	●	●	●	●	●	●	●	●	●

State	Airport	ICAO code	AOP04.1 (PCP-PR)	AOP04.2 (PCP-PR)	AOP05 (PCP-PR)	AOP10 (PCP)	AOP11 (PCP)	AOP12 (PCP)	AOP13 (PCP)	ATC07.1 (PCP-FC)	ENV01	ENV02
ES	Palma de Mallorca	LEPA	●	●	●	-	●	●	●	●	●	●
FR	Nice	LFMN	●	●	●	-	●	●	●	●	●	●
FR	Paris, Charles de Gaulle	LFPG	●	●	●	-	●	●	●	●	●	●
FR	Paris, Orly	LFPO	●	●	●	●	●	●	●	●	●	●
IE	Dublin	EIDW	●	●	●	●	●	●	●	●	●	●
IT	Milan Malpensa	LIMC	●	●	●	●	●	●	●	-	●	●
IT	Rome Fiumicino	LIRF	●	●	●	●	●	●	●	-	●	●
NL	Amsterdam Schiphol	EHAM	●	●	●	●	●	●	●	●	●	●
NO	Oslo Gardermoen	ENGM	●	●	●	●	●	●	●	●	●	●
SE	Stockholm Arlanda	ESSA	●	●	●	-	●	●	●	●	●	●
TR	Istanbul Ataturk	LTBA	●	●	●	-	●	●	●	●	●	●
UK	Manchester	EGCC	●	●	●	●	●	●	●	●	●	●
UK	London Gatwick	EGKK	●	●	●	●	●	●	●	●	●	●
UK	London Heathrow	EGLL	●	●	●	●	●	●	●	●	●	●
UK	London Stansted	EGSS	●	●	●	-	●	●	●	●	●	●

Non-PCP Airports

Legend:

● In the applicability area & Completed ● In the applicability area & Not Completed yet - Not in the applicability area

State	Airport	Airport	AOP04.1	AOP04.2	AOP05	AOP10	AOP11	AOP12	AOP13	ATC07.1	ENV01	ENV02
AM	Yerevan	UDYZ	-	-	-	-	-	-	-	-	●	-
BE	Charleroi	EBCI	-	-	-	-	-	-	-	-	●	-
BE	Liege	EBLG	-	-	-	-	-	-	-	-	●	-
BE	Ostende	EBOS	-	-	-	-	-	-	-	-	●	-
BA	Sarajevo	LQSA	-	-	-	-	●	-	-	-	●	●
BG	Sofia	LBSF	●	●	-	-	-	-	-	-	-	-
CH	Geneva	LSGG	●	●	●	-	●	-	-	●	●	●
CZ	Prague	EKPR	●	●	●	-	-	-	-	●	●	●
DE	Hamburg	EDDH	-	-	-	-	●	-	-	-	●	-
DE	Cologne-Bonn	EDDK	-	-	-	-	-	-	-	-	●	-
DE	Nurnberg	EDDN	-	-	-	-	●	-	-	-	●	-
DE	Stuttgart	EDDS	-	-	-	-	●	-	-	-	●	-
DE	Hannover	EDDV	-	-	-	-	●	-	-	-	●	-
EE	Tallinn	EETN	●	●	●	-	-	-	-	-	●	●
FI	Helsinki	EFHK	●	●	●	-	-	-	-	●	●	●
FR	Toulouse	LFBO	●	●	-	-	●	-	-	-	-	●
FR	Lyon	LFLM	●	●	●	-	●	-	-	-	●	●
FR	Marseille	LFML	●	●	-	-	●	-	-	-	●	●

State	Airport	Airport	AOP04.1	AOP04.2	AOP05	AOP10	AOP11	AOP12	AOP13	ATC07.1	ENV01	ENV02
GR	Athens	LGAV	●	●	●	-	-	-	-	-	-	●
GR	Iraklion	LGIR	-	-	●	-	-	-	-	-	-	-
GR	Rhodes	LGRP	-	-	●	-	-	-	-	-	-	-
GR	Thessaloniki	LGTS	●	●	-	-	-	-	-	-	-	-
HR	Zagreb	LDZA	-	-	-	-	●	-	-	-	●	-
HU	Budapest	LHBP	●	●	●	-	-	-	-	-	●	●
IT	Bergamo Orio al Serio	LIME	-	-	●	-	-	-	-	-	-	-
IT	Milan Linate	LIML	●	●	●	-	●	-	-	-	-	●
IT	Venezia	LIPZ	●	●	●	-	●	-	-	-	●	●
IT	Napoli Capodichino	LIRN	-	-	●	-	-	-	-	-	-	-
LT	Vilnius	EYVI	●	●	●	-	-	-	-	-	●	●
LV	Riga	EVRA	●	●	-	-	-	-	-	●	-	-
PL	Warsaw	EPWA	●	●	●	-	-	-	-	●	●	●
PT	Lisbon	LPPT	●	●	●	-	●	-	-	●	●	●
RO	Bucharest	LROP	●	●	-	-	●	-	-	●	●	-
RS	Belgrade	LYBE	-	-	-	-	-	-	-	-	●	-
SE	Göteborg	ESGG	-	-	-	-	-	-	-	-	●	-
SE	Malmö-Sturup	ESMS	-	-	-	-	-	-	-	-	●	-
SE	Umea	ESNU	-	-	-	-	-	-	-	-	●	-
TR	Ankara	LTAC	●	●	-	-	-	-	-	-	-	-
TR	Antalya	LTAI	●	●	●	-	-	-	-	-	●	●
UA	Kyiv Boryspil	UKBB	●	●	●	-	-	-	-	●	●	-

State	Airport	Airport	AOP04.1	AOP04.2	AOP05	AOP10	AOP11	AOP12	AOP13	ATC07.1	ENV01	ENV02
UK	Birmingham	EGBB	-	-	●	-	-	-	-	-	●	●
UK	London Luton	EGGW	-	-	●	-	-	-	-	-	●	●
UK	Bristol	EGGD	-	-	-	-	-	-	-	-	●	●
UK	London City	EGLC	-	-	-	-	-	-	-	-	-	●
UK	Newcastle	EGNT	-	-	-	-	-	-	-	-	●	●
UK	Nottingham East Midlands	EGNX	-	-	-	-	-	-	-	-	●	-
UK	Glasgow	EGPF	-	-	-	-	●	-	-	-	●	●
UK	Edinburgh	EGPH	●	●	●	-	-	-	-	-	●	●

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SESAR		Active					ECAC	
AOM13.1		Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Ensure that the principles, rules and procedures for OAT and GAT handling can be commonly applied to the maximum possible extent within ECAC airspace.

The needs of military aviation and ATM support are often beyond the scope of civil aviation and therefore not sufficiently covered by ICAO provisions for General Air Traffic (GAT). This requires the military to use Operational Air Traffic (OAT) as the means to provide the regulatory provisions and ATM arrangements necessary for successful military training and mission accomplishment. However, each State has developed different OAT rules, which need to be harmonised in line with the Functional Airspace Blocks (FAB) principles in order to further enhance civil-military coordination and in particular to progress and implement the interoperability of GAT and OAT structures and operations.

Harmonisation of OAT/GAT handling covers the following main actions:

- Identifying the various types of military operations which cannot be accommodated applying GAT rules and require additional rules and procedures (OAT);
- Defining EUROAT rules and procedures for handling military operations in European Civil Aviation Conference (ECAC) airspace whilst developing common civil military principles for the safe handling of civil and military traffic in one continuum of airspace.
- Harmonisation of military aeronautical information in Europe through European Aeronautical Service (EAD).

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities

Applicability Area(s) & Timescale(s)

Applicability Area		All ECAC States except: Albania, Latvia, Luxembourg, Maastricht UAC, Malta, Moldova		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/01/2012		Applicability Area
Full operational capability			31/12/2018	Applicability Area

References

European ATM Master Plan

OI step -	[AOM-0301]-Harmonised EUROCONTROL ECAC Area Rules for OAT-IFR and GAT Interface							
	Enablers -	PRO-181						
OI step -	- No OI Link -							
	Enablers -	AAMS-10a	AIMS-19b					

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

- Regulation (EU) No 805/2011 laying down detailed rules for air traffic controllers- licences and certain certificates pursuant to Regulation (EC) No 216/2008
- Regulation (EC) No 2150/2005 laying down common rules for the flexible use of airspace

ICAO GANP – ASBUs

- none -	
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Deployment Programme

- none -	
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AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOM13.1-REG01	Revise national legislation as required	01/01/2012	31/12/2018
AOM13.1-ASP01	Apply common principles, rules and procedures for OAT handling and OAT/GAT interface	01/01/2012	31/12/2018
AOM13.1-ASP02	Train staff as necessary	01/01/2012	31/12/2018
AOM13.1-MIL01	Apply common principles, rules and procedures for OAT handling and OAT/GAT interface	01/01/2012	31/12/2018
AOM13.1-MIL02	Provide feedback on result of conformance analysis between national rules to EUROAT	01/01/2011	31/12/2012
AOM13.1-MIL03	Implement a harmonized OAT Flight Plan	DELETED	
AOM13.1-MIL04	Migrate military aeronautical information to EAD	01/01/2010	31/12/2015
AOM13.1-MIL05	Implementing a pan-European OAT-IFR Transit Service (OATTS)	DELETED	

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Less risk of error through the use of common rules and procedures for OAT handling and for OAT/GAT interface.
Capacity:	-
Operational Efficiency:	Increased efficiency of civil-military operations through the use of harmonised procedures at pan-European level.
Cost Efficiency:	-
Environment:	-
Security:	Increased through robust pan-European OAT provisions and structures to effectively support national and multinational military operations.

Detailed SLoA Descriptions

AOM13.1-REG01	Revise national legislation as required	From: 01/01/2012	By: 31/12/2018
Action by:	State Authorities		
Description & purpose:	<p>Enact regulatory material for implementation of new principles, rules and procedures for OAT/GAT handling in a mixed environment.</p> <p>Perform conformance analysis between existing rules and the EUROCONTROL Specification for harmonized Rules for Operational Air Traffic (OAT) under Instrument Flight Rules (IFR) inside controlled Airspace of the ECAC Area (EUROAT). Based on these findings, determine change of regulatory material, if required.</p> <p>Develop Annex with national regulations and rules pertinent to this specification.</p> <p>Upon official reception of the Specification, the States are asked to examine their implementation options and come to a respective decision latest within one year.</p> <p>Following the respective national implementation decision, inform EUROCONTROL about the official national implementation date and provide the additional required information as detailed in Annex 1 of the EUROAT Specification.</p>		
Supporting material(s):	<p>EUROCONTROL - SPEC 135 - EUROCONTROL Specification for Harmonised Rules for Operational Air Traffic (OAT) under Instrument Flight Rules (IFR) inside controlled Airspace of the ECAC Area (EUROAT) - Edition 2.0 / 10/2013</p> <p>Url : http://www.eurocontrol.int/publications/eurocontrol-specification-harmonized-rules-operational-air-traffic-oat</p>		
Finalisation criteria:	<p>1 - National publications have been updated in accordance with EUROAT.</p> <p>2 - Clear identification of pertinent and acknowledged documents stating the implementation of such OAT/GAT interfaces on a regulatory level has been provided.</p> <p>3 - Additionally the evidence of adequate procedures comprising their operational realisation has been provided.</p>		
AOM13.1-ASP01	Apply common principles, rules and procedures for OAT handling and OAT/GAT interface	From: 01/01/2012	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	<p>Apply common principles, rules and procedures for the OAT/GAT interface.</p> <p>Define and develop additional or revised procedures to match local and regional organisation ensuring that they do not conflict with those of adjacent States/Functional Airspace Blocks (FAB).</p>		

AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling		
Supporting material(s):	EUROCONTROL - SPEC 135 - EUROCONTROL Specification for Harmonised Rules for Operational Air Traffic (OAT) under Instrument Flight Rules (IFR) inside controlled Airspace of the ECAC Area (EUROAT) - Edition 2.0 / 10/2013 Url : http://www.eurocontrol.int/publications/eurocontrol-specification-harmonized-rules-operational-air-traffic-oat		
ATM Master Plan relationship:	[AAMS-10a]-Initial airspace management system enhanced with commonly applied GAT/OAT handling [PRO-181]-Procedures related to Rule on OAT handling and OAT-IFR GAT interface		
Finalisation criteria:	1 - Clear identification of pertinent and acknowledged documents stating the implementation of such OAT/GAT interfaces on a regulatory level has been provided.		
AOM13.1-ASP02	Train staff as necessary	From: 01/01/2012	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	Establish the mechanism to ensure pertinent training for competent personnel during all training phases in order to train Air Traffic Services (ATS) personnel in provision of ATS to OAT-IFR flights. Train ATS staff in new procedures that comprise OAT elements.		
Supporting material(s):	EUROCONTROL - Air Traffic Controller Training at Operational Units - Edition 2.0 / 06/1999 Url : https://trainingzone.eurocontrol.int EUROCONTROL - SPEC 113 - EUROCONTROL Specification for ATCO Common Core Content Initial Training (Main document plus 7 Annexes) - Edition 1.0 / 10/2008 Url : http://www.eurocontrol.int/publications/atco-common-core-content-initial-training-specification		
Finalisation criteria:	1 - The mechanism to train competent ATS personnel during all training phases in provision of ATS to OAT-IFR flights has been established. 2 - ATS personnel have been qualified to provide ATS to OAT-IFR flights in accordance with national regulations and has demonstrated equivalence to:- ESARR 5 for non EU member states, or- Commission Regulation (EU) No 805/2011 for EU member states.		
AOM13.1-MIL01	Apply common principles, rules and procedures for OAT handling and OAT/GAT interface	From: 01/01/2012	By: 31/12/2018
Action by:	Military Authorities		
Description & purpose:	Apply common principles, rules and procedures for OAT handling. Define and develop additional or revised procedures to match local and regional organisation, ensuring that they do not conflict with those of adjacent States/FAB.		
Supporting material(s):	EUROCONTROL - SPEC 135 - EUROCONTROL Specification for Harmonised Rules for Operational Air Traffic (OAT) under Instrument Flight Rules (IFR) inside controlled Airspace of the ECAC Area (EUROAT) - Edition 2.0 / 10/2013 Url : http://www.eurocontrol.int/publications/eurocontrol-specification-harmonized-rules-operational-air-traffic-oat		
ATM Master Plan relationship:	[AAMS-10a]-Initial airspace management system enhanced with commonly applied GAT/OAT handling [PRO-181]-Procedures related to Rule on OAT handling and OAT-IFR GAT interface		
Finalisation criteria:	1 - Clear identification of pertinent and acknowledged documents stating the implementation of such OAT/GAT interfaces on a regulatory level has been provided. 2 - Additionally the evidence of adequate procedures comprising their operational realisation has been provided.		
AOM13.1-MIL02	Provide feedback on result of conformance analysis between national rules to EUROAT	From: 01/01/2011	By: 31/12/2012
Action by:	Military Authorities		
Description & purpose:	Provide national Point Of Contact (POC) and distribution list for the dissemination of EUROAT specification. Enhance understanding of the change to EUROAT and its impact to OAT flights in new Single European Sky (SES) environment.		
Supporting material(s):	EUROCONTROL - SPEC 135 - EUROCONTROL Specification for Harmonised Rules for Operational Air Traffic (OAT) under Instrument Flight Rules (IFR) inside controlled Airspace of the ECAC Area (EUROAT) - Edition 2.0 / 10/2013 Url : http://www.eurocontrol.int/publications/eurocontrol-specification-harmonized-rules-operational-air-traffic-oat		
Finalisation criteria:	1 - Civil-Military ATM Coordination Unit (DSS/CMAC) has received national POC and distribution list from the national military authorities.		
AOM13.1-MIL04	Migrate military aeronautical information to EAD	From: 01/01/2010	By: 31/12/2015
Action by:	Military Authorities		
Description & purpose:	Identify Military needs in terms of validated aeronautical data not covered in ICAO AIP. Assess applicability of civil standards (e.g. AIXM) for military aeronautical data. Migrate military aeronautical information to EAD. The implementation to be based on and supported with the following actions by DNM/Network Operations Management: - Organise an EAD awareness campaign for the military stakeholders; - Get commitment of military organisations to migrate to EAD; - Develop customised migration plans for individual military organisations following its commitment to migrate to EAD; - Support & monitor the migration of military organisations to EAD.		

AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling
Supporting material(s):	EUROCONTROL - EAD Safety Case - Edition 2.3 / 09/2009 Url : https://www.eurocontrol.int/articles/adg-library
ATM Master Plan relationship:	[AIMS-19b] -Aeronautical Information system is interfaced to receive and distribute aeronautical information electronically to military systems.
Finalisation criteria:	1 - All Military Authorities responsible for AIS Data have signed a Data Provider Agreement with EUROCONTROL. 2 - All Military Authorities responsible for AIS Data have implemented EAD and maintain the three sets of AIP Data (SDO, INO and PAMS).

PCP		Active					ECAC	
AOM19.1		ASM support tools to support A-FUA						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Deploy Airspace Management (ASM) support systems (LARA or locally developed) and their interoperability with NM systems to manage airspace reservations (ARES) resulting from civil-military co-ordination, more flexibly according to airspace users' needs. The automated ASM support system shall:

- enable the improvement of airspace management processes, including timing dimension by providing mutual visibility on civil and military requirements;
- support a flexible airspace planning taking into account ATS units' airspace management functions and airspace users' requirements, allowing also cross-border and segregated operations with optimized impact;
- support airspace dynamic and flexible sector configurations;
- address strategic, pre-tactical planning and tactical operations;
- be compatible for the sharing of real-time airspace status requirements and possibly provide data for impact assessment of airspace configurations;
- be interoperable with NM systems using AIXM 5.1 (Aeronautical Information Exchange Model);
- include a verification process for automated data exchange.

This objective is an enabler for its successors AOM19.2, AOM19.3 and AOM19.4 and, in turn, for ATM sub-functionality 3.1 (Airspace Management and Advanced Flexible Use of Airspace) of the PCP Regulation.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	All ECAC States except: Armenia, Luxembourg, Malta, Moldova, The former Yugoslav Republic of Macedonia		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2011		Applicability Area
Full operational capability		31/12/2018	Applicability Area

References

European ATM Master Plan

Ol step -	[AOM-0202]-Enhanced Real-time Civil-Military Coordination of Airspace Utilisation								
	Enablers -	AAMS-06a	AAMS-08	AAMS-09	AAMS-10a AOM13.1	AAMS-15 FCM05	AIMS-06	AIMS-21 FCM05	AIMS-22
		GGSWIM-49	PRO-184 AOM19.3						
Ol step -	[AOM-0202-A]-Automated Support for strategic, pre-tactical and tactical Civil-Military Coordination in Airspace Management (ASM).								
	Enablers -	AAMS-06b	AAMS-09a	AAMS-11 AOM19.2, AOM19.3	AIMS-06	ER APP ATC 77 AOM19.2	MIL-0502 INF08.1	NIMS-42 AOM19.2, AOM19.3	PRO-011 AOM19.2, AOM19.3
		PRO-024 AOM19.2, AOM19.3	SWIM-APS- 02a INF08.1	SWIM-APS- 03a INF08.1, INF08.2	SWIM-INFR- 05a INF08.1, INF08.2	SWIM-NET- 01a INF08.1, INF08.2			
Legend:	WXYZ-001	Covered by SLoA(s) in this objective		WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler		WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

- Regulation (EC) No 2150/2005 of 23 December 2005 on Implementation and Application of the Flexible Use of Airspace
- Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B0-FRTO	Improved Operations through Enhanced En-Route Trajectories.
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AOM19.1	ASM support tools to support A-FUA
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B1-FRTO	Improved Operations through Optimized ATS Routing
B1-NOPS	Enhanced Flow Performance through Network Operational Planning

Deployment Programme

3.1.1	ASM Tool to support AFUA
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Stakeholder Lines of Action (SLOAs)

SloA ref.	Title	From	By
AOM19.1-ASP01	Deploy automated ASM support systems	01/01/2011	31/12/2018
AOM19.1-ASP02	Implement interoperability of local ASM support system with NM system	01/01/2011	31/12/2018
AOM19.1-ASP03	Improve planning and allocation of airspace booking	01/01/2011	31/12/2018
AOM19.1-NM01	Integrate local ASM support systems with NM system	01/01/2011	31/12/2018

Description of finalised and deleted SLOAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Improved through better co-ordination of civil and military airspace needs at the European Network level and through a shared real-time airspace status display and enhanced, common situational awareness of all players.
Capacity:	Increased through better awareness and utilization of airspace resources within and across airspace boundaries leading to reduction of flight delays.
Operational Efficiency:	Increased through the availability of more optimum routes/trajectories allowing lower fuel burn.
Cost Efficiency:	-
Environment:	Emissions reduced through the use of more optimum routes/trajectories.
Security:	-

Detailed SLOA Descriptions

AOM19.1-ASP01	Deploy automated ASM support systems	From: 01/01/2011	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	Deploy Airspace Management (ASM) support systems (LARA or locally developed ones) to support the local or sub-regional airspace planning and allocation (without AIXM 5.1 interface - covered by ASP02).		
Supporting material(s):	EUROCONTROL - LARA (Local and sub-Regional Airspace Management Support System) Url : http://www.eurocontrol.int/publications/lara-brochure EUROCONTROL - LARA (Local and sub-Regional Airspace Management Support System) - User Operator Manual - V.3 EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification		
ATM Master Plan relationship:	[AAMS-08]-Airspace management system enhanced to support improved collaborative airspace planning [AAMS-09]-Airspace management system enhanced to support the integrated European airspace planning process		
Finalisation criteria:	1 - Local ASM systems supporting the airspace planning and allocation have been deployed (without AIXM 5.1 interface).		

AOM19.1-ASP02	Implement interoperability of local ASM support system with NM system	From: 01/01/2011	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	Implement interoperability of local ASM support system with NM system comprising the following: - Adapt local ASM support systems to make them interoperable with NM system (AIXM 5.1 interface);		

AOM19.1	ASM support tools to support A-FUA
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	- Conclude LoA with NM.
Supporting material(s):	<p>EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf</p> <p>EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf</p> <p>EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification</p> <p>EUROCONTROL - LARA (Local and sub-Regional Airspace Management Support System) Url : http://www.eurocontrol.int/publications/lara-brochure</p> <p>EUROCONTROL - LARA (Local and sub-Regional Airspace Management Support System) - User Operator Manual - V.3</p> <p>EUROCONTROL - NM B2B Airspace Services Reference Manual Url : http://www.eurocontrol.int/services/nm-b2b-web-services#field-tabs-tab-3</p> <p>EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year</p>
ATM Master Plan relationship:	[AAMS-06b]-ASM support systems enhanced to exchange static data and airspace usage data with NM systems in AIXM format
Finalisation criteria:	1 - Local ASM support systems have been adapted to be interoperable with NM systems (AIXM5.1). 2 - LoA has been concluded with NM.

AOM19.1-ASP03	Improve planning and allocation of airspace booking	From: 01/01/2011	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	<p>Improve planning and allocation of reserved/segregated airspace at pre-tactical ASM level 2 by:</p> <ul style="list-style-type: none"> - Planning reserved/segregated airspace utilization in accordance with actual need. - Releasing reserved/segregated non used airspace as soon as activity stops. - Utilizing reserved/segregated airspace that has not been planned in AUP (ad-hoc allocation - Procedure 3 as defined in the ERNIP Part 3 -ASM Handbook) <p>This should be enabled by the measurement of FUA Indicators, described in detail in Section 7 of the EUROCONTROL Handbook for Airspace Management, using PRISMIL (Pan-European Repository of Information Supporting Military) or a similar tool providing the required functionality.</p> <p>The measurement of FUA performance is required by Article 4(1)(m-n) of the FUA Regulation (Regulation (EC) No 2150/2005) and by the SES Performance Scheme (Regulation (EU) No 390/2013).</p>		
Supporting material(s):	<p>EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification</p> <p>EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf</p> <p>EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf</p> <p>EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year</p> <p>EUROCONTROL - Civil-military ATM Performance Framework - V1.0 Url : http://www.eurocontrol.int/publications/civil-military-atm-performance-framework</p>		
Finalisation criteria:	1 - Reserved/segregated airspace has been used in accordance with actual need (military Key Performance Indicators measured with PRISMIL, or equivalent tool)		

AOM19.1-NM01	Integrate local ASM support systems with NM system	From: 01/01/2011	By: 31/12/2018
Action by:	NM		
Description & purpose:	<ul style="list-style-type: none"> - Integrate the local automated ASM support systems using AIXM 5.1 B2B services with NM systems. - Conclude LoA with ANS Providers. 		
Supporting material(s):	<p>EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf</p> <p>EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf</p> <p>EUROCONTROL - LARA (Local and sub-Regional Airspace Management Support System) Url : http://www.eurocontrol.int/publications/lara-brochure</p>		

AOM19.1	ASM support tools to support A-FUA
	<p>EUROCONTROL - LARA (Local and sub-Regional Airspace Management Support System) - User Operator Manual - V.3</p> <p>EUROCONTROL - Network Operations Handbook</p> <p>Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year</p>
ATM Master Plan relationship:	<p>[AAMS-09a]-NM systems enhanced to exchange static data and airspace usage data with ASM support systems in AIXM format</p> <p>[AIMS-22]-Airspace management functions enhanced to provide airspace status information</p>
Finalisation criteria:	<p>1 - ASM support system testing with NM has been performed</p> <p>2 - Local ASM system integrated with NM system using AIXM 5.1 format</p> <p>3 - LoA with ANSPs concluded</p>

PCP		Active					ECAC	
AOM19.2		ASM Management of Real-Time Airspace Data						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Implement enhanced Airspace Management (ASM) by automated exchange services of ASM data during the tactical phase continuously in real time. ASM information (real-time Airspace Reservation (ARES) status) is shared between ASM systems, civil and military ATS units/systems and needs to be communicated to NM in the tactical phase. The data shared with NM is mostly related to the early airspace release pertinent to the possibility that the released airspace could be plannable by IFPS. These data, consisting of pre-notification of activation, notification of activation, de-activation, modification and release of airspace are collected, saved and processed in order to be exchanged between ASM stakeholders and be made available to ATM actors; while some airspace users are not directly involved in ASM process, they will be notified by the Network Manager.

The scope of this objective encompasses:

- Procedural and system upgrades (ASM, ATM, NM and AU systems (Computer Flight Plan Software Providers (CFSP)) for exchange of real time airspace status data;
- Integration and management of ASM real-time data into ANSPs' ATM systems and into AUs' (CFSPs) flight planning systems;
- Full sharing of real-time airspace status updates in order to take early advantage of possible opportunities and/or to achieve real-time awareness of airspace situation;
- Network impact assessment of the changes resulting of the application of the above processes.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	All ECAC States		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2017		Applicability Area
Full operational capability		31/12/2021	Applicability Area

References

European ATM Master Plan

Ol step -	[AOM-0202-A]-Automated Support for strategic, pre-tactical and tactical Civil-Military Coordination in Airspace Management (ASM).								
Enablers -	AAMS-06b AOM19.1, INF08.1	AAMS-09a AOM19.1	AAMS-11	AIMS-06	ER APP ATC 77	MIL-0502 INF08.1	NIMS-42	PRO-011	
	PRO-024	SWIM-APS- 02a INF08.1	SWIM-APS- 03a INF08.1, INF08.2	SWIM-INFR- 05a INF08.1, INF08.2	SWIM-NET- 01a INF08.1, INF08.2				

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

- Regulation (EC) No 2150/2005 of 23 December 2005 on Implementation and Application of the Flexible Use of Airspace
- Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B1-FRTO	Improved Operations through Optimized ATS Routing
B1-NOPS	Enhanced Flow Performance through Network Operational Planning

Deployment Programme

3.1.2	ASM management of real time airspace data
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AOM19.2	ASM Management of Real-Time Airspace Data
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOM19.2-ASP01	Adapt ATM systems for real-time ASM data exchanges	01/01/2017	31/12/2021
AOM19.2-ASP02	Adapt local ASM support system for real-time ASM data exchanges with NM systems	01/01/2017	31/12/2021
AOM19.2-ASP03	Implement procedures related to real-time (tactical) ASM level III information exchange	01/01/2017	31/12/2021
AOM19.2-USE01	Adapt airspace users systems for real-time ASM data exchanges with NM	01/01/2017	31/12/2021
AOM19.2-NM01	Adapt NM systems for real-time ASM data exchanges	01/01/2017	31/12/2021
AOM19.2-NM02	Implement procedures related to real-time (tactical) ASM level III information exchange	01/01/2017	31/12/2021

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Improved through better co-ordination of civil and military airspace needs at the European Network level. Potential gains through more efficient airspace allocation and better knowledge of traffic environment, common situational awareness, and some enhancement through reduction in controller workload.
Capacity:	Increased through better utilization of airspace resources within and across airspace boundaries leading to reduction of flight delays.
Operational Efficiency:	Increased through the availability of more optimum routes/trajectories allowing lower fuel burn.
Cost Efficiency:	-
Environment:	Emissions reduced through the use of more optimum routes/trajectories.
Security:	-

Detailed SLoA Descriptions

AOM19.2-ASP01	Adapt ATM systems for real-time ASM data exchanges	From: 01/01/2017	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Adapt ATM systems to exchange airspace reservation (ARES) messages containing real time (tactical) activation status of predefined airspace structures with local ASM support systems and to display airspace status data at the CWP.		
Supporting material(s):	EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value]=year		
ATM Master Plan relationship:	[ER APP ATC 77]-ATC Systems enhanced to exchange real-time (tactical) airspace status data with ASM support system		
Finalisation criteria:	1 - ATM systems have been adapted to enable real-time ASM data exchanges with local ASM support systems.		

AOM19.2-ASP02	Adapt local ASM support system for real-time ASM data exchanges with NM systems	From: 01/01/2017	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Adapt local ASM support system to provide NM systems real time airspace status updates through the exchange of ASM data. These data consist of pre-notification of activation, notification of activation, de-activation, modification and release of airspace.		
Supporting material(s):	EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014		

AOM19.2	ASM Management of Real-Time Airspace Data
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	<p>Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification EUROCONTROL - LARA (Local and sub-Regional Airspace Management Support System) Url : http://www.eurocontrol.int/publications/lara-brochure EUROCONTROL - LARA (Local and sub-Regional Airspace Management Support System) - User Operator Manual - V.3 EUROCONTROL - NM B2B Airspace Services Reference Manual Url : http://www.eurocontrol.int/services/nm-b2b-web-services#field-tabs-tab-3 EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year SJU - SESAR 07.05.04-D49 - SESAR Real Time Status Airspace - Technical Specification (TS) Url : https://extranet.sesarju.eu/WP_07/Project_07.05.04/Project%20Plan/STEP%201/Technical%20Specification/07.05.04-D49%20Real%20Time%20Status%20Airspace%20TS.doc</p>
ATM Master Plan relationship:	[AAMS-11]-ASM support systems enhanced to exchange real-time airspace status updates
Finalisation criteria:	1 - ASM support systems have been adapted to enable real-time ASM data exchanges with NM.

AOM19.2-ASP03	Implement procedures related to real-time (tactical) ASM level III information exchange	From: 01/01/2017	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Develop and implement the ASM/ATFCM and ATC procedures for ASM real time data exchanges with different actors and systems (NM, Military authorities, AMC, ATC).		
Supporting material(s):	<p>EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year EUROCONTROL - NOP Portal User Guide - Edition 20.0-111 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf</p>		
ATM Master Plan relationship:	<p>[PRO-011]-ASM Procedures to ensure that the change in airspace availability is promulgated through SWIM and reflected in the NOP [PRO-024]-ASM Procedures related to real-time (tactical) ASM level III information exchange</p>		
Finalisation criteria:	1 - Procedures related to real-time (tactical) ASM level III information exchange implemented.		

AOM19.2-USE01	Adapt airspace users systems for real-time ASM data exchanges with NM	From: 01/01/2017	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	Adapt airspace users' systems (Computer Flight Plan Software Providers (CFSP) for real-time ASM data exchanges.		
Supporting material(s):	<p>EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification EUROCONTROL - NOP Portal User Guide - Edition 20.0-111 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-</p>		

AOM19.2	ASM Management of Real-Time Airspace Data		
	library?title=&field_term_publication_type_tid=255&year[value][year]		
Finalisation criteria:	1 - Systems have been adapted for real-time ASM data exchanges with NM.		
AOM19.2-NM01	Adapt NM systems for real-time ASM data exchanges	From: 01/01/2017	By: 31/12/2021
Action by:	NM		
Description & purpose:	NM systems should be enhanced to receive and process and display real-time airspace activation, de-activation and modification of ARES using standard format and protocols and include this information in the NOP. NM system should be enhanced to perform the Network impact assessment of the airspace changes resulting of the real-time airspace data exchanges.		
Supporting material(s):	EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year]		
ATM Master Plan relationship:	[NIMS-42]-NM systems enhanced to receive, process and display real-time tactical (ASM level III) airspace usage information		
Finalisation criteria:	1 - NM systems adapted for real-time ASM data exchanges.		
AOM19.2-NM02	Implement procedures related to real-time (tactical) ASM level III information exchange	From: 01/01/2017	By: 31/12/2021
Action by:	NM		
Description & purpose:	Develop and implement the ASM/ATFCM procedures for ASM real time data exchanges with different actors and systems (NM, Military authorities, CFSPs, ATC, AMC), including a Network impact assessment of the airspace changes resulting of the real-time airspace data exchanges.		
Supporting material(s):	EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - NOP Portal User Guide - Edition 20.0-111 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year]		
ATM Master Plan relationship:	[PRO-011]-ASM Procedures to ensure that the change in airspace availability is promulgated through SWIM and reflected in the NOP [PRO-024]-ASM Procedures related to real-time (tactical) ASM level III information exchange		
Finalisation criteria:	1 - Procedures related to real-time (tactical) ASM level III information exchange implemented.		

PCP		Active					ECAC	
AOM19.3		Full rolling ASM/ATFCM process and ASM information sharing						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

The full rolling ASM/ATFCM process focuses on improving airspace planning. It shall ensure a continuous, seamless and reiterative airspace planning and allocation based on airspace requests at any time period within strategic (level1), pre-tactical (level 2) and tactical (level 3) ASM levels; the process will also support the deployment of Airspace Configurations (as described in objective AOM19.4). It will result in a rolling process, supporting the enhancement of the daily Network Operations Plan (NOP). This will allow airspace users to better benefit from changes in airspace structures in real-time.

This rolling process will be supported by the sharing of civil-military airspace data and by continuously updating Airspace Reservation (ARES) information with other civil demand information among the authorized operational stakeholders and Approved Agencies in order to enhance the coordination of Cross-Border Operations and/or Cross-Border Areas, and to optimise the whole network operations based on the mature and most correct information.

ASM information sharing addresses the required system support improvements able to ensure a seamless and consistent data flow and their management in the frame of the enhanced collaborative decision making (CDM) process. It includes requirements aiming to improve the notification to airspace users based on automated data exchange processes.

ASM procedures and data-sharing shall enable dynamic management of airspace both in a free and fixed route environment.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All ECAC States		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/01/2014		Applicability Area
Full operational capability			31/12/2021	Applicability Area

References

European ATM Master Plan

OI step -		[AOM-0202]-Enhanced Real-time Civil-Military Coordination of Airspace Utilisation							
	Enablers -	AAMS-06a	AAMS-08 AOM19.1	AAMS-09 AOM19.1	AAMS-10a AOM13.1	AAMS-15 FCM05	AIMS-06	AIMS-21 FCM05	AIMS-22 AOM19.1
		GGSWIM-49	PRO-184						
OI step -		[AOM-0202-A]-Automated Support for strategic, pre-tactical and tactical Civil-Military Coordination in Airspace Management (ASM).							
	Enablers -	AAMS-06b AOM19.1, INF08.1	AAMS-09a AOM19.1	AAMS-11	AIMS-06	ER APP ATC 77 AOM19.2	MIL-0502 INF08.1	NIMS-42	PRO-011
		PRO-024	SWIM-APS- 02a INF08.1	SWIM-APS- 03a INF08.1, INF08.2	SWIM-INFR- 05a INF08.1, INF08.2	SWIM-NET- 01a INF08.1, INF08.2			
Legend:	WXYZ-001	Covered by SLoA(s) in this objective		WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler		WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

- Regulation (EC) No 2150/2005 of 23 December 2005 on Implementation and Application of the Flexible Use of Airspace
- Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B0-FRTO	Improved Operations through Enhanced En-Route Trajectories.
B1-FRTO	Improved Operations through Optimized ATS Routing
B1-NOPS	Enhanced Flow Performance through Network Operational Planning

AOM19.3	Full rolling ASM/ATFCM process and ASM information sharing
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Deployment Programme

3.1.3	Full rolling ASM/ATFCM process and ASM information sharing
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOM19.3-ASP01	Adapt ASM systems to support a full rolling ASM/ATFCM process	01/01/2014	31/12/2021
AOM19.3-ASP02	Implement procedures and processes for a full rolling ASM/ATFCM process	01/01/2014	31/12/2021
AOM19.3-USE01	Adapt airspace users systems to improve ASM notification process	01/01/2014	31/12/2021
AOM19.3-USE02	Implement procedures in support of an improved ASM notification process	01/01/2014	31/12/2021
AOM19.3-NM01	Adapt NM systems to support a full rolling ASM/ATFCM process	01/01/2014	31/12/2021
AOM19.3-NM02	Implement procedures and processes for a full rolling ASM/ATFCM process	01/01/2014	31/12/2021
AOM19.3-NM03	Improve ASM notification process	01/01/2014	31/12/2021

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Improved through better co-ordination of civil and military airspace needs at the European Network level. Potential gains through more efficient airspace allocation and better knowledge of traffic environment, common situational awareness, and some enhancement through reduction in controller workload.
Capacity:	Increased through better utilization of airspace resources within and across airspace boundaries leading to reduction of flight delays.
Operational Efficiency:	Increased through the availability of more optimum routes/trajectories allowing lower fuel burn.
Cost Efficiency:	-
Environment:	Emissions reduced through the use of more optimum routes/trajectories.
Security:	-

Detailed SLoA Descriptions

AOM19.3-ASP01	Adapt ASM systems to support a full rolling ASM/ATFCM process	From: 01/01/2014	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Implement the following actions supporting a full rolling ASM/ATFM process: - System improvements supporting sharing of information of airspace configuration via AUP/UUP (Airspace Use Plan / Updated Airspace Use Plan); - System improvements related to new AUP template; - System changes for a full management of airspace structure via AUP/UUP; - System changes for initial CDM.		
Supporting material(s):	EUROCONTROL - LARA (Local and sub-Regional Airspace Management Support System) Url : http://www.eurocontrol.int/publications/lara-brochure EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year EUROCONTROL - NOP Portal User Guide - Edition 20.0-111 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf		
ATM Master Plan relationship:	[AAMS-11]-ASM support systems enhanced to exchange real-time airspace status updates		

AOM19.3	Full rolling ASM/ATFCM process and ASM information sharing
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Finalisation criteria:	1 - ASM systems have been adapted.
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AOM19.3-ASP02	Implement procedures and processes for a full rolling ASM/ATFCM process	From: 01/01/2014	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Develop and implement the following processes supporting a full rolling and dynamic ASM/ATFCM process: - Process for a full management of airspace structure via AUP/UUP; - Process for initial CDM; - Process supporting sharing of information of airspace configurations via AUP/UUP.		
Supporting material(s):	EUROCONTROL - LARA (Local and sub-Regional Airspace Management Support System) - User Operator Manual - V.3 EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification EUROCONTROL - NOP Portal User Guide - Edition 20.0-111 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year		
ATM Master Plan relationship:	[PRO-011]-ASM Procedures to ensure that the change in airspace availability is promulgated through SWIM and reflected in the NOP [PRO-024]-ASM Procedures related to real-time (tactical) ASM level III information exchange		
Finalisation criteria:	1 - Processes have been implemented		

AOM19.3-USE01	Adapt airspace users systems to improve ASM notification process	From: 01/01/2014	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	Implement the following actions at airspace users' operations centers to enable an improved ASM notification process: - System improvements supporting sharing of information of airspace configuration via AUP/UUP; - System changes for full management Airspace structure AUP/UUP; - System changes for initial CDM.		
Supporting material(s):	EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification EUROCONTROL - NOP Portal User Guide - Edition 20.0-111 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year		
Finalisation criteria:	1 - Systems have been adapted to enable an improved ASM notification process.		

AOM19.3-USE02	Implement procedures in support of an improved ASM notification process	From: 01/01/2014	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	Develop and implement procedures in support of an improved ASM notification process.		
Supporting material(s):	EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009		

AOM19.3	Full rolling ASM/ATFCM process and ASM information sharing
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	<p>Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification EUROCONTROL - NOP Portal User Guide - Edition 20.0-111</p> <p>Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf EUROCONTROL - Network Operations Handbook</p> <p>Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year</p>
Finalisation criteria:	1 - Procedures in support of an improved ASM notification process have been implemented.

AOM19.3-NM01	Adapt NM systems to support a full rolling ASM/ATFCM process	From: 01/01/2014	By: 31/12/2021
Action by:	NM		
Description & purpose:	<p>The following system upgrades supporting a full rolling ASM/ATFM process to be performed by the Network Manager:</p> <ul style="list-style-type: none"> - System upgrade supporting a full rolling ASM/ATFCM and dynamic ASM/ATFCM process; - System changes supporting rolling AUP; - Full implementation of new AUP template; - Rolling UUP for Procedure 3 (ad-hoc allocation - Procedure 3 as defined in the ATFM Operations Manual of the Network Operations Handbook); - System changes for initial implementation of FUA/EU restriction and FPL Buffer Zone (FBZ); - System changes for a full management of airspace structure AUP/UUP; - System changes for initial CDM; - System changes relevant to CDM for FRA (Free Route Airspace) impact assessment on network; - System improvements supporting sharing of information of airspace configuration via AUP/UUP; - ASM systems adapted to continuously exchange ASM information; - Improve NM system allowing interoperability with stakeholders systems via B2B. 		
Supporting material(s):	<p>EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014</p> <p>Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf</p> <p>EUROCONTROL - Advanced FUA Concept - Edition 1.0</p> <p>Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf</p> <p>EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009</p> <p>Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification</p> <p>EUROCONTROL - Network Operations Handbook</p> <p>Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year</p> <p>EUROCONTROL - NOP Portal User Guide - Edition 20.0-111</p> <p>Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf</p>		
ATM Master Plan relationship:	[NIMS-42]-NM systems enhanced to receive, process and display real-time tactical (ASM level III) airspace usage information		
Finalisation criteria:	1 - NM systems have been adapted .		

AOM19.3-NM02	Implement procedures and processes for a full rolling ASM/ATFCM process	From: 01/01/2014	By: 31/12/2021
Action by:	NM		
Description & purpose:	<p>The following processes to be developed and implemented by the Network Manager in coordination with the concerned stakeholders:</p> <ul style="list-style-type: none"> - Process supporting a full rolling ASM/ATFCM and dynamic ASM/ATFCM process; - Process for initial implementation of FUA/EU restriction and FPL Buffer Zone (FBZ) in NM system and local/sub-regional ASM support systems; - Process for a full management of airspace structure AUP/UUP; - Process for initial CDM; - Process relevant to CDM for FRA impact assessment on network; - Process supporting sharing of information of airspace configuration via AUP/UUP. 		
Supporting material(s):	<p>EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014</p> <p>Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf</p> <p>EUROCONTROL - Advanced FUA Concept - Edition 1.0</p> <p>Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf</p> <p>EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 01/2009</p> <p>Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification</p> <p>EUROCONTROL - NOP Portal User Guide - Edition 20.0-111</p> <p>Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf</p>		

AOM19.3	Full rolling ASM/ATFCM process and ASM information sharing
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	EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year
ATM Master Plan relationship:	[PRO-011]-ASM Procedures to ensure that the change in airspace availability is promulgated through SWIM and reflected in the NOP [PRO-024]-ASM Procedures related to real-time (tactical) ASM level III information exchange [PRO-184]-ASM Procedures related to Dynamic co-operative management of the airspace
Finalisation criteria:	1 - Processes have been implemented by NM in coordination with concerned stakeholders.

AOM19.3-NM03	Improve ASM notification process	From: 01/01/2014	By: 31/12/2021
Action by:	NM		
Description & purpose:	The following actions supporting an improved ASM notification process to be taken by the Network Manager: - Improvements to the European AUP/UUP and updates (EAUP/EUUP) including: . Harmonisation of areas notifications; . Harmonise cross border CDRs (Conditional Routes) notifications. - Graphical display of AUP/UUP on NOP Portal.		
Supporting material(s):	EUROCONTROL - ERNIP Part 3 - Handbook for Airspace Management - Guidelines for Airspace Management 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - Advanced FUA Concept - Edition 1.0 Url : http://www.eurocontrol.int/sites/default/files/publication/files/advanced-fua-concept-v1.0-sept-2015.pdf EUROCONTROL - Network Operations Handbook Url : http://www.eurocontrol.int/lists/publications/network-operations-library?title=&field_term_publication_type_tid=255&year[value][year EUROCONTROL - NOP Portal User Guide - Edition 20.0-111 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf		
Finalisation criteria:	1 - Processes have been implemented by NM.		

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PCP		Active					Multi-N	
AOM21.1		Direct Routing						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Direct Routing Airspace is described as an airspace defined laterally and vertically with a set of entry/exit conditions where published direct routings are available. Direct Routing aims at offering additional route options to the airspace users while maintaining the same level of safety. It offers flexibility and brings more predictability to the system; it is foreseen as an intermediate step towards Free Route Airspace (FRA).

The Direct Routing implementation is coordinated through the NM European Route Network Improvement Plan (ERNIP) and the Network Operations Plan following the Strategic Objectives and Targets set in the Network Strategic Plan and in the Network Manager Performance Plan.

The geographical scope for Direct Routing is defined by PCP IR as the airspace for which the Member States are responsible at and above flight level 310 in the ICAO EUR Region.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area (All ECAC States, at and above FL310 (not applicable for those States that have already implement FRA or planned to deploy FRA at and above FL310 before 1 January 2018))		All EU States except: Bulgaria, Czech Republic, Estonia, Finland, Hungary, Latvia, Luxembourg, Netherlands, Portugal, Romania. Plus: Albania, Azerbaijan, Bosnia and Herzegovina, Maastricht UAC, Switzerland, The former Yugoslav Republic of Macedonia, Turkey		
Timescales:		From:	By:	Applicable to:
Initial Operational Capability		01/01/2015		Applicability Area
Full Operational Capability			31/12/2017	Applicability Area

References

European ATM Master Plan

OI step -	[AOM-0401]-Multiple Route Options & Airspace Organisation Scenarios								
	Enablers -								
OI step -	[AOM-0402]-Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routing Options								
	Enablers -								
OI step -	[AOM-0500]-Direct Routing for flights both in cruise and vertically evolving for cross ACC borders and in high complexity environments.								
	Enablers -	AAMS-06c	AAMS-09a AOM19.1	AAMS-11 AOM19.2, AOM19.3	AAMS-16a	ER APP ATC 129 ATC12.1	ER APP ATC 75	ER ATC 91 ATC12.1	NIMS-21a FCM06, FCM07, FCM08
		NIMS-29	NIMS-42 AOM19.2, AOM19.3	STD-033 FCM08	STD-061	STD-062	STD-063	STD-064	

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

- Regulation (EU) No 677/2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010
- Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B0-FRTO	Improved Operations through Enhanced En-Route Trajectories.
B1-FRTO	Improved Operations through Optimized ATS Routing

AOM21.1	Direct Routing
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Deployment Programme

3.2.1	Upgrade of ATM systems (NM, ANSPs, Aus) to support Direct Routings (DCTs) and Free Routing Airspace (FRA)
3.2.3	Implement Published Direct Routings (DCTs)

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOM21.1-ASP01	Implement procedures and processes in support of the network dimension	01/01/2015	31/12/2017
AOM21.1-ASP02	Implement system improvements	01/01/2015	31/12/2017
AOM21.1-ASP03	Implement procedures and processes in support of the local dimension	01/01/2015	31/12/2017
AOM21.1-ASP04	Implement transversal activities (verification at local/regional level, safety case and training)	01/01/2015	31/12/2017
AOM21.1-NM01	Implement system improvements		
AOM21.1-NM02	Implement procedures and processes	01/01/2015	31/12/2017

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Although the main benefits are expected in the area of environment and operational efficiency Direct Routing implementation has the ambition to at least maintain the current level of safety.
Capacity:	-
Operational Efficiency:	Savings in route distances and fuel efficiency through increased use of preferred flight profiles and improved sectorisation.
Cost Efficiency:	-
Environment:	Reductions in emissions through use of more optimal routes.
Security:	-

Detailed SLoA Descriptions

AOM21.1-ASP01	Implement procedures and processes in support of the network dimension	From: 01/01/2015	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Take the following actions: -Identify the Direct Routing airspace volume (Lateral and Vertical) and applicable time -Direct Routings co-Exists with ATS route structure -Identify Direct Routing entry and exit points -Adapt Airspace design and ensure DIRECT ROUTING horizontal and vertical connectivity -Validate airspace design with NM -ATFCM Direct Routing procedures -Adapt RAD applicability -Validate RAD with NM		
Finalisation criteria:	1 - The DIRECT ROUTING airspace has been identified in coordination with the Network and FAB partners and the RAD has been updated accordingly. 2 - The local ATFCM procedures have been updated in cooperation with the network to take on board the Direct Routing impact.		

AOM21.1-ASP02	Implement system improvements	From: 01/01/2015	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Take the following actions: - Upgrades FDP and CWP, if required, related to: - Direct Routing clearances; - Rerouting capabilities in cases the Direct Routing traversed the military airspace; - Differentiation between different traffic type airspaces; - Direct route beyond AoR; - Calculation of 4D trajectory with AoI;		

AOM21.1	Direct Routing
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	- Editing function for 4D trajectories.
	Note :Additional System improvement which might be required for Direct Routings are covered by other ESSIP Objectives like ATC 12.1 (MTCD, conflict resolution support information and MONA), ITY-COTR (OLDI), ATC17 (SYSCO) and ATC02.5 (APW). Note: No supporting material defined (subject to stakeholder analysis of the local needs)
ATM Master Plan relationship:	[AAMS-16a]-Airspace management functions equipped with tools able to deal with free-routing [ER APP ATC 15]-Flight Data Processing: support Dynamic Sectorisation and Dynamic Constraint Management. [ER APP ATC 75]-Enhance FDP for Direct Route and Free Route Operations
Finalisation criteria:	1 - The ANSP system has been upgraded according to the specifications representing the identified necessary changes

AOM21.1-ASP03	Implement procedures and processes in support of the local dimension	From: 01/01/2015	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Take the following actions: -Adapt the LoA with adjacent ATS units -Publish relevant data for Direct Routing in AIP -Charts for Direct Routing operations -Airspace management procedure for the implementation of Direct Routings -ASM Procedures for identifying and promulgating Direct Routing areas -ATC procedures to cover Direct Routing co-ordination and transfer of control, trajectory change in Direct Routing environment, conflict detection -Validate airspace design, RAD and ASM procedures with NM.		
Supporting material(s):	EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 - Free Route Airspace Concept 06/2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf		
ATM Master Plan relationship:	[ER APP ATC 15]-Flight Data Processing: support Dynamic Sectorisation and Dynamic Constraint Management. [ER APP ATC 75]-Enhance FDP for Direct Route and Free Route Operations		
Finalisation criteria:	1 - The Direct Routing airspace has been described and published in the AIP, RAD and/or the charts 2 - The Letters of Agreement have been updated if necessary 3 - The ASM and ATC procedures have been updated to take on board the Direct Routing impact		

AOM21.1-ASP04	Implement transversal activities (verification at local/regional level, safety case and training)	From: 01/01/2015	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Take the following actions: -Validate the Direct Routing concept (airspace organisation, ATC/ATFCM and ASM procedures, airspace restrictions) based on the local and/or regional conditions -Train ATCOs on the application of Direct Routing -Develop Direct Routing Safety Argument.		
Supporting material(s):	EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 - Free Route Airspace Concept 06/2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf		
ATM Master Plan relationship:	[ER APP ATC 15]-Flight Data Processing: support Dynamic Sectorisation and Dynamic Constraint Management. [ER APP ATC 75]-Enhance FDP for Direct Route and Free Route Operations		
Finalisation criteria:	1 - Direct Routing concept has been validated; safety argument has been developed and delivered to the Regulator/NSA/Competent Authority, as appropriate, depending on the severity of the identified risks or the introduction of new aviation standards. 2 - ATCO training has been conducted.		

AOM21.1-NM01	Implement system improvements	From: -	By: -
Action by:	NM		
Description & purpose:	-Adaptations of NM systems -New AUP/UUP template		
Supporting material(s):	EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 4 - Route Availability Document Users Manual - Edition June 2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-4-rad-users-manual.pdf		
ATM Master Plan relationship:	[AAMS-16a]-Airspace management functions equipped with tools able to deal with free-routing [NIMS-29]-Network DCB sub-system enhanced for Network Operations Plan (NOP) preparation and dissemination		
Finalisation criteria:	1 - The required adaptations of NM systems (IFPS and Airspace Management tools) to support Direct Routing have been deployed		

AOM21.1	Direct Routing
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AOM21.1-NM02	Implement procedures and processes	From: 01/01/2015	By: 31/12/2017
Action by:	NM		
Description & purpose:	Take the following actions in coordination with ANSPs: -Identify the Direct Routing airspace volume (Lateral and Vertical) and applicable time -Identify Direct Routing entry and exit points -Adapt Airspace design and ensure Direct Routing horizontal and vertical connectivity -Validate airspace design with NM -ATFCM Direct Routing procedures -Adapt RAD applicability - Validate airspace design, RAD and ASM procedures with ANSPs.		
Supporting material(s):	EUROCONTROL - European Route Network Improvement Plan (ERNIP) PART 3 - Airspace Management Handbook - Guidelines for Airspace Management; Edition February 2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 4 - Route Availability Document Users Manual - Edition June 2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-4-rad-users-manual.pdf EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 2 - European ATS Route Network - Version 2013-2015 06/2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-2-arn-v8.pdf		
Finalisation criteria:	1 - European Airspace has been updated with the integration of the coordinated Direct Routing definition 2 - Route Availability Document has been updated accordingly		

PCP		Active					ECAC	
AOM21.2		Free Route Airspace						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Free Route Airspace (FRA) is a specified airspace within which users may freely plan a route between a defined entry point and a defined exit point, with the possibility to route via intermediate (published or unpublished) waypoints, without reference to the ATS route network, subject to airspace availability. Within this airspace, flights remain subject to air traffic control.

The FRA concept brings significant flight efficiency benefits and a choice of user preferred routes to airspace users. As a step to full trajectory based operations the FRA concept brings increased flight predictability, reduced uncertainty for the Network which in turn can lead to potential capacity increases for ATM which will also benefit the user.

The PCP IR requires the deployment of Free Route Airspace (FRA) within Member States' airspace of the ICAO EUR region at and above FL 310. The implementation is coordinated through the NM European Route Network Improvement Plan (ERNIP) and the Network Operations Plan following the Strategic Objectives and Targets set in the Network Strategic Plan and in the Network Manager Performance Plan. All European ANSPs have included in the ERNIP Part 2 - ARN Version 2014-2019 projects for full or partial implementation of Free Route Airspace selecting their implementation step. Within the PCP the implementation of FRA is closely linked to the deployment of Airspace Management procedures and advanced Flexible use of airspace (A-FUA).

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	All ECAC States except: Azerbaijan, Belgium, Luxembourg		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2015		Applicability Area
Full operational capability		31/12/2021	Applicability Area

References

European ATM Master Plan

OI step -	[AOM-0401]-Multiple Route Options & Airspace Organisation Scenarios								
	Enablers -								
OI step -	[AOM-0402]-Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routing Options								
	Enablers -								
OI step -	[AOM-0501]-Free Routing for Flights both in cruise and vertically evolving within low to medium complexity environments								
	Enablers -	AAMS-06c	AAMS-09a AOM19.1	AAMS-11 AOM19.2, AOM19.3	AAMS-16a	AOC-ATM-10	ER APP ATC 129 ATC12.1	ER APP ATC 75 AOM21.1	ER APP ATC 77 AOM19.2
		ER ATC 91 ATC12.1	NIMS-21a FCM06, FCM07, FCM08	NIMS-29	NIMS-42 AOM19.2, AOM19.3	PRO-085	STD-033 FCM08	STD-061	STD-062
		STD-063	STD-064	SWIM-APS- 01a INF08.1	SWIM-APS- 02a INF08.1	SWIM-APS- 03a INF08.1, INF08.2	SWIM-APS- 04a INF08.1		
OI step -	[AOM-0505]-Free Routing for Flights both in cruise and vertically evolving within high -complexity environments in Upper En Route airspace								
	Enablers -	ER APP ATC 78	ER ATC 92	NIMS-21b	NIMS-36	NIMS-37 FCM06	NIMS-46 FCM07	SWIM-APS- 05a INF08.1, INF08.2	SWIM-INFR- 01a INF08.1, INF08.2
OI step -	[CM-0102-A]-Dynamic Sectorisation based on complexity								
	Enablers -	CTE-C05a COM11	CTE-C05b	ER APP ATC 15					
Legend:	WXYZ-001	Covered by SLoA(s) in this objective		WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler			WXYZ-003	Not covered in the ESSIP Plan

AOM21.2	Free Route Airspace
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Applicable legislation

- Regulation (EU) No 677/2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010
- Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B0-FRTO	Improved Operations through Enhanced En-Route Trajectories.
B1-FRTO	Improved Operations through Optimized ATS Routing

Deployment Programme

3.2.1	Upgrade of ATM systems (NM, ANSPs, Aus) to support Direct Routings (DCTs) and Free Routing Airspace (FRA)
3.2.4	Implement Free Route Airspace

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOM21.2-ASP01	Implement procedures and processes in support of the network dimension	01/01/2015	31/12/2021
AOM21.2-ASP02	Implement system improvements	01/01/2015	31/12/2021
AOM21.2-ASP03	Implement procedures and processes in support of the local dimension	01/01/2015	31/12/2021
AOM21.2-ASP04	Implement transversal activities in support to operational deployment of FRA (validation, safety case and training)	01/01/2015	31/12/2021
AOM21.2-USE01	Implement system improvements	01/01/2015	31/12/2021
AOM21.2-USE02	Implement procedures and processes	01/01/2015	31/12/2021
AOM21.2-USE03	Train aircrews and operational staff for FRA operations	01/01/2015	31/12/2021
AOM21.2-NM01	Implement system improvements	01/01/2015	31/12/2019
AOM21.2-NM02	Implement procedures and processes	01/01/2015	31/12/2017

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Although the main benefits are expected in the area of environment the FRA implementation has the ambition to at least maintain the current level of safety.
Capacity:	Increased through better airspace utilisation to and reduced controller workload.
Operational Efficiency:	Savings in route distances and fuel efficiency through increased use of preferred flight profiles.
Cost Efficiency:	-
Environment:	Reductions in emissions through use of optimal routes.
Security:	N/A

Detailed SLoA Descriptions

AOM21.2-ASP01	Implement procedures and processes in support of the network dimension	From: 01/01/2015	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Take the following actions: -Identify the FRA airspace volume (Lateral and Vertical) and applicable time (not necessary H24 7/7) -Identify FRA entry and exit points, arrival transition point and departure transition point, and intermediate points -Adapt Airspace design and ensure FRA horizontal and vertical connectivity -Validate airspace design with NM -Network overview - connectivity consistency of FRA cross-border application -ATFCM FRA procedures -Adapt RAD applicability -Validate RAD with NM		

AOM21.2		Free Route Airspace		
Supporting material(s): EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 - Free Route Airspace Concept 06/2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf				
ATM Master Plan relationship:		[PRO-148]-ASM Procedures for identifying and promulgating 'Free Route' areas		
Finalisation criteria:		1 - The local FRA airspace has been identified in coordination with the Network and FAB partners and the RAD has been updated accordingly. 2 - The local ATFCM procedures have been updated in cooperation with the network to take on board the FRA impact.		
AOM21.2-ASP02		Implement system improvements	From: 01/01/2015	By: 31/12/2021
Action by:		ANS Providers		
Description & purpose:		Take the following actions: -Upgrades FDP and CWP related to: - Dynamic sectorisation by an application of pre-defined elementary volumes or dynamically shaped sector boundaries - ATC clearances beyond AoR;; Differentiation between different traffic type airspaces; - Calculation of 4D trajectory with Aol; - Editing function for 4D trajectories - Provision/integration of FP and real time data related to the FRA traffic to the Military ATS units - COP management for FRA - Enhance Conflict Management and Controller HMI functions to support conflict detection and resolution - Tactical Controller Tool (TCT), using the tactical trajectory and managing the clearances along that trajectory - CPDLC handling of LAT/LONG		
		Note :Additional System improvement which might be required for FRA are covered by other ESSIP Objectives like ATC 12.1 (MTCD, conflict resolution support info and MONA), ITY-COTR (OLDI), ATC17 (SYSCO) and ATC02.5 (APW) Note :No supporting material defined (subject to stakeholder analysis of the local needs)		
ATM Master Plan relationship:		[AAMS-16a]-Airspace management functions equipped with tools able to deal with free-routing [ER APP ATC 15]-Flight Data Processing: support Dynamic Sectorisation and Dynamic Constraint Management. [ER APP ATC 78]-Enhance FDP to use 4D trajectories to support extended direct routing beyond local AoR		
Finalisation criteria:		1 - The ANSP system has been updated according to the specifications representing the identified necessary changes.		
AOM21.2-ASP03		Implement procedures and processes in support of the local dimension	From: 01/01/2015	By: 31/12/2021
Action by:		ANS Providers		
Description & purpose:		Take the following actions: -Adapt the LoA with adjacent ATS units -Publish relevant data for FRA in AIP -Charts for FRA operations -Airspace management procedure for the implementation of free routes operation -ASM Procedures for identifying and promulgating 'Free Route' areas -ATC procedures to cover free route co-ordination and transfer of control, trajectory change in a free route environment, conflict detection -Validate airspace design, RAD and ASM procedures with NM.		
Supporting material(s):		EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 - Free Route Airspace Concept 06/2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf		
ATM Master Plan relationship:		[PRO-085]-ATC procedures to cover issues such as hand-off, transfer of control, and for defining trajectory changes necessitated by changes in airspace availability, weather constraints and other non-nominal events [PRO-148]-ASM Procedures for identifying and promulgating 'Free Route' areas		
Finalisation criteria:		1 - The FRA airspace has been described and published in the AIP and the charts. 2 - The Letters of Agreement have been updated if necessary. 3 - The ASM and ATC procedures have been updated to take on board the FRA impact.		
AOM21.2-ASP04		Implement transversal activities in support to operational deployment of FRA (validation, safety case and training)	From: 01/01/2015	By: 31/12/2021
Action by:		ANS Providers		
Description & purpose:		Take the following actions: -Validate FRA concept (airspace organisation, ATC/ATFCM and ASM procedures, airspace restrictions) -Train ATCOs on the application of FRA -Develop FRA Safety Argument.		
Supporting material(s):		EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 - Free Route Airspace Concept 06/2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf		

AOM21.2		Free Route Airspace	
Finalisation criteria:			
1 - FRA concept has been validated, safety argument has been developed and delivered to the Regulator/NSA/Competent Authority, as appropriate, depending on the severity of the identified risks or the introduction of new aviation standards.			
2 - ATCO training has been conducted.			
AOM21.2-USE01	Implement system improvements	From: 01/01/2015	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	Adapt as necessary the flight Planning system to support free routing.		
	Note :No supporting material identified (subject to stakeholder analysis of the local needs)		
ATM Master Plan relationship:	[AOC-ATM-10]-Modification of AOC/WOC-ATM trajectory management system (or new systems) to allow quality of service requested by NOP for pre-flight trajectory with dynamic routing		
Finalisation criteria:	1 - Flight Planning system has been amended if necessary.		
AOM21.2-USE02	Implement procedures and processes	From: 01/01/2015	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	Take the following actions: - Develop and apply operational Procedures for free route - Develop and apply operational Procedures to take into account airspace and traffic constraints when selecting a route.		
Supporting material(s):	EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 - Free Route Airspace Concept 06/2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf		
ATM Master Plan relationship:			
Finalisation criteria:	1 - Procedures have been updated to take into account Free Route Airspace.		
AOM21.2-USE03	Train aircrews and operational staff for FRA operations	From: 01/01/2015	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	Develop and apply training packages for pilots and personnel involved in flight planning, on the basis of procedures developed as described in SLoA AOM21-USE02.		
Finalisation criteria:	1 - Pilots and Flight Planners have been trained to Free Route operations.		
AOM21.2-NM01	Implement system improvements	From: 01/01/2015	By: 31/12/2019
Action by:	NM		
Description & purpose:	-Adaptations (tuning) of NM systems -New AUP/UUP template		
Supporting material(s):	EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 - Free Route Airspace Concept 06/2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf		
ATM Master Plan relationship:	[AAMS-16a]-Airspace management functions equipped with tools able to deal with free-routing [NIMS-29]-Network DCB sub-system enhanced for Network Operations Plan (NOP) preparation and dissemination		
Finalisation criteria:	1 - The required adaptations of NM systems (IFPS and Airspace Management tools) to FRA have been deployed		
AOM21.2-NM02	Implement procedures and processes	From: 01/01/2015	By: 31/12/2017
Action by:	NM		
Description & purpose:	Take the following actions in coordination with ANSPs: -Identify the FRA airspace volume (Lateral and Vertical) and applicable time -Identify FRA entry and exit points, arrival transition point and departure transition point, and intermediate points -Adapt Airspace design and ensure FRA horizontal and vertical connectivity -Network overview-connectivity consistency of FRA cross-border application -ATFCM FRA procedures -Adapt RAD applicability -Validate airspace design, RAD and ASM procedures with ANSPs.		
Supporting material(s):	EUROCONTROL - European Route Network Improvement Plan (ERNIP) PART 3 - Airspace Management Handbook - Guidelines for Airspace Management; 11/2014 Url : http://www.eurocontrol.int/sites/default/files/publication/files/ERNIP-ASM-Handbook-Part3.pdf EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 - Free Route Airspace Concept 06/2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf		

AOM21.2	Free Route Airspace
	EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 2 - European ATS Route Network - Version 2013-2015 06/2013 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-2-arn-v8.pdf
ATM Master Plan relationship:	[PRO-148]-ASM Procedures for identifying and promulgating 'Free Route' areas
Finalisation criteria:	1 - European Airspace has been updated with the integration of the coordinated FRA definition. 2 - Route Availability Document has been updated accordingly.

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SESAR		Active					APT	
AOP04.1		Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Implement A-SMGCS Level I which consists of an airport surface surveillance system that provides ATC with the position and automatic identity of:

- All relevant aircraft on the movement area;
- All relevant vehicles on the manoeuvring area.

A-SMGCS Level 1 surveillance data may be used to replace visual observation as required, in accordance with ICAO EUR Doc 7030, chapter 6.5.6 (approved March 2009), and as the basis of controller decision making. Traffic will be controlled through the use of appropriate procedures allowing the issuance of information and clearances to traffic on the basis of A-SMGCS Level 1 surveillance data.

Apron management units, airlines and other interested parties may also benefit from the provision of A-SMGCS Level 1 surveillance data.

A-SMGCS Level 1 is a prerequisite for A-SMGCS Level 2.

All reference documentation listed in SLoAs is available via the EUROCONTROL website:

<https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs>

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	See list of Airports in the Plan - Annex E		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2007		Applicability Area
Full operational capability		31/12/2011	Applicability Area

References

European ATM Master Plan

OI step -	[AO-0201]-Enhanced Ground Controller Situational Awareness in all Weather Conditions						
Enablers -	AERODROME -ATC-04	AERODROME -ATC-28	AERODROME -ATC-36	PRO-201a			
OI step -	- No OI Link -						
Enablers -	CTE-S02b	CTE-S03b	CTE-S04b				
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project
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ICAO GANP – ASBUs

B0-SURF	Improved Runway Safety (A-SMGCS Level 1-2 and Cockpit Moving Map)
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Deployment Programme

2.2.1	A-SMGCS Level 1 and 2
2.5.2	Aircraft and vehicle systems contributing to Airport Safety Nets

AOP04.1	Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOP04.1-REG01	Mandate the carriage of required aircraft equipment to enable location and identification of aircraft on the movement area (including military aircraft, as appropriate).	01/01/2007	31/12/2010
AOP04.1-REG02	Mandate the carriage of required vehicle equipment to enable location and identification of vehicles on the manoeuvring area	01/01/2007	31/12/2010
AOP04.1-REG03	Publish A-SMGCS Level 1 procedures (including transponder operating procedures) in national aeronautical information publications	01/01/2007	31/12/2010
AOP04.1-REG04	Approve A-SMGCS Level 1 implementations for operation	DELETED	
AOP04.1-ASP01	Install required surveillance equipment	01/01/2007	31/12/2010
AOP04.1-ASP02	Train aerodrome control staff in the use of A-SMGCS Level 1 surveillance in the provision of aerodrome control service	01/01/2007	31/12/2010
AOP04.1-ASP03	Implement approved A-SMGCS operational procedures at airports equipped with A-SMGCS	01/01/2007	31/12/2011
AOP04.1-APO01	Install required surveillance equipment	01/01/2007	31/12/2010
AOP04.1-APO02	Equip Ground Vehicles	01/01/2007	31/12/2010
AOP04.1-APO03	Train Ground Vehicle Drivers	01/01/2007	31/12/2010
AOP04.1-USE01	Update aircrew training manual to include procedures for use of correct Mode-S transponder setting for enabling cooperative A-SMGCS detection on the movement area	FINALISED	
AOP04.1-INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS Level 1 procedures	FINALISED	
AOP04.1-AGY01	Production of agreed & validated requirements & guidance material for the implementation of A-SMGCS Level 1	DELETED	
AOP04.1-AGY02	Develop agreed A-SMGCS Level 1 ATC procedures, through established EUROCONTROL Agency processes and mechanisms for proposal to ICAO	DELETED	
AOP04.1-AGY03	Develop and incorporate A-SMGCS licensing requirements into the European Air Traffic Controller Licensing Scheme	DELETED	
AOP04.1-AGY04	Develop A-SMGCS Level 1 training guidelines	DELETED	
AOP04.1-AGY05	Develop and propose amendments to ICAO documentation, using established processes	DELETED	

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Through improved situational awareness of the controller, especially during periods of reduced visibility and darkness.
Capacity:	Traffic throughput notably increased in low visibility conditions.
Operational Efficiency:	More efficient control of surface traffic.
Cost Efficiency:	-
Environment:	Reduction in fuel burn and emissions.
Security:	-

Detailed SLoA Descriptions

AOP04.1-REG01	Mandate the carriage of required aircraft equipment to enable location and identification of aircraft on the movement area (including military aircraft, as appropriate).	From: 01/01/2007	By: 31/12/2010
Action by:	State Authorities		
Description & purpose:	Mandate the equipage of aircraft operating into airports equipped with A-SMGCS Level 1 with the necessary systems to provide their position and identity to the A-SMGCS Level 1 surveillance system.		
Supporting material(s):	ETSI - EN 303 213-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 1: A-SMGCS Level 1 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.3.1 / 04/2012 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp		

AOP04.1	Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
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	<p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166</p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011 Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCAE - ED-87C - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) - Levels 1 and 2 - January 2015 01/2015 Url : https://www.eurocae.net/eshop/catalog/product_info.php?products_id=245</p> <p>EUROCAE - ED-117 - Minimum Operational Performance Specification for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS) 11/2003 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004 Url : http://boutique.eurocae.net/catalog/index.php</p>
Finalisation criteria:	<p>1 - Mandate to equip the aircraft operating into the airports equipped with A-SMGCS Level 1 with necessary systems to provide position and identity to A-SMGCS Level 1 surveillance system has been issued by the regulator.</p> <p>2 - Airworthiness certificate has been issued by the regulator for aircraft equipped with A-SMGCS Level 1 capabilities.</p> <p>3 - Transponder operating procedure published in AIP</p>

AOP04.1-REG02	Mandate the carriage of required vehicle equipment to enable location and identification of vehicles on the manoeuvring area	From: 01/01/2007	By: 31/12/2010
Action by:	State Authorities		
Description & purpose:	Mandate the equipage of vehicles operating on the manoeuvring area of airports equipped with A-SMGCS Level 1 with the necessary systems to provide their position and identity to the A-SMGCS Level 1 surveillance system.		
Supporting material(s):	<p>ETSI - EN 303 213-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 1: A-SMGCS Level 1 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.3.1 / 04/2012 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166</p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 /</p>		

AOP04.1	Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
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	<p>12/2004</p> <p>Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 12/2001</p> <p>Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCAE - ED-87C - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) - Levels 1 and 2 - January 2015 01/2015</p> <p>Url : https://www.eurocae.net/eshop/catalog/product_info.php?products_id=245</p> <p>EUROCAE - ED-117 - Minimum Operational Performance Specification for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS) 11/2003</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p>
Finalisation criteria:	<p>1 - Mandate to equip the vehicles operating on the manoeuvring area of the airports equipped with A-SMGCS Level1 with necessary systems to provide position and identity to A-SMGCS Level 1 surveillance system has been issued by the regulator.</p> <p>2 - Operating certificate has been issued by the regulator for the vehicles equipped with A-SMGCS Level 1 capabilities.</p>

AOP04.1-REG03	Publish A-SMGCS Level 1 procedures (including transponder operating procedures) in national aeronautical information publications	From: 01/01/2007	By: 31/12/2010
Action by:	State Authorities		
Description & purpose:	Incorporate the agreed and validated A-SMGCS Level 1 operating procedures into national aeronautical information publications.		
Supporting material(s):	<p>ETSI - EN 303 213-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 1: A-SMGCS Level 1 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.3.1 / 04/2012</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010</p> <p>Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166</p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004</p> <p>Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 12/2001</p> <p>Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCAE - ED-87C - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) - Levels 1 and 2 - January 2015 01/2015</p> <p>Url : https://www.eurocae.net/eshop/catalog/product_info.php?products_id=245</p> <p>EUROCAE - ED-117 - Minimum Operational Performance Specification for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS) 11/2003</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p>		

AOP04.1	Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1		
	EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004 Url : http://boutique.eurocae.net/catalog/index.php		
Finalisation criteria:	1 - Agreed and validated procedures have been incorporated into national aeronautical information publication (AIP) 2 - Transponder operating procedure published in AIP		
AOP04.1-ASP01	Install required surveillance equipment	From: 01/01/2007	By: 31/12/2010
Action by:	ANS Providers		
Description & purpose:	Install all the surveillance equipment and related systems as specified in the functional specifications for A-SMGCS, in order to enable aerodrome controllers to locate and identify aircraft and vehicles on the manoeuvring area (in co-operation with Airport operators, as appropriate).		
Supporting material(s):	<p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 1: A-SMGCS Level 1 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.3.1 / 04/2012 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166</p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011 Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCAE - ED-87C - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) - Levels 1 and 2 - January 2015 01/2015 Url : https://www.eurocae.net/eshop/catalog/product_info.php?products_id=245</p> <p>EUROCAE - ED-117 - Minimum Operational Performance Specification for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS) 11/2003 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004 Url : http://boutique.eurocae.net/catalog/index.php</p>		
ATM Master Plan relationship:	[AERODROME-ATC-04]-ANSP Civil ATS Aerodrome service providers (incl. Civil AMS Apron Management Service) [AERODROME-ATC-28]-Surface movement control workstation equipped with initial tools for Aerodrome Control Service [AERODROME-ATC-36]-Airport surveillance data processing and distribution upgraded to store and forward flight plan data [CTE-S02b]-Surface Movement Radar [CTE-S03b]-ADS-B station for RAD and APT surveillance [CTE-S04b]-Airport Multilateration (MLAT)		
Finalisation criteria:	1 - Surveillance equipment that meets required performance specifications have been installed. Such equipment must include both non-cooperative sensors (e.g. SMR) and co-operative sensors (e.g. Mode S Multilateration).		
AOP04.1-ASP02	Train aerodrome control staff in the use of A-SMGCS Level 1 surveillance in the provision of aerodrome control service	From: 01/01/2007	By: 31/12/2010
Action by:	ANS Providers		

AOP04.1	Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1		
Description & purpose:	Train aerodrome controllers in the use of A-SMGCS Level 1 tools and procedures (including phraseology) in accordance with agreed training requirements.		
Supporting material(s):	<p>EUROCONTROL - ATCO Rating Training - Training Plans: Aerodrome Training - Annex B: Detailed Training Plans - Edition 1.0 / 03/2004</p> <p>Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCONTROL - Guidance on Training Requirements for Operational Users of A-SMGCS Levels 1 & 2 - Edition 1.1 / 11/2006</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p>		
Finalisation criteria:	1 - Controllers training has been completed in accordance with agreed training requirements and programme.		
AOP04.1-ASP03	Implement approved A-SMGCS operational procedures at airports equipped with A-SMGCS	From: 01/01/2007	By: 31/12/2011
Action by:	ANS Providers		
Description & purpose:	Develop and apply agreed and validated A-SMGCS Level 1 procedures as an integral part of the aerodrome control service.		
Supporting material(s):	<p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p>		
ATM Master Plan relationship:	[PRO-201a]-Procedures linked to Improvement of Surveillance on the Manoeuvring Area on and around the Runway		
Finalisation criteria:	<p>1 - Implementation of the procedures at airports equipped with A-SMGCS Level 1 has been completed.</p> <p>2 - Harmonized application of transponder operating procedures consistent with the equipment in use.</p>		
AOP04.1-APO01	Install required surveillance equipment	From: 01/01/2007	By: 31/12/2010
Action by:	Airport Operators		
Description & purpose:	Install all the surveillance equipment and related systems as specified in the functional specifications for A-SMGCS, in order to enable aerodrome controllers to locate and identify aircraft and vehicles on the manoeuvring area (in co-operation with ANS provider, as appropriate).		
Supporting material(s):	<p>ETSI - EN 303 213-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 1: A-SMGCS Level 1 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.3.1 / 04/2012</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010</p> <p>Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166</p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004</p> <p>Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCAE - ED-87C - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) - Levels 1 and 2 - January 2015 01/2015</p> <p>Url : https://www.eurocae.net/eshop/catalog/product_info.php?products_id=245</p> <p>EUROCAE - ED-117 - Minimum Operational Performance Specification for Mode S Multilateration Systems for Use in</p>		

AOP04.1	Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
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	Advanced Surface Movement Guidance and Control Systems (A-SMGCS) 11/2003 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004 Url : http://boutique.eurocae.net/catalog/index.php
ATM Master Plan relationship:	[AERODROME-ATC-04]-ANSP Civil ATS Aerodrome service providers (incl. Civil AMS Apron Management Service) [AERODROME-ATC-28]-Surface movement control workstation equipped with initial tools for Aerodrome Control Service [AERODROME-ATC-36]-Airport surveillance data processing and distribution upgraded to store and forward flight plan data
Finalisation criteria:	1 - Surveillance equipment that meets agreed performance specifications has been installed. Such equipment must include both non-cooperative sensors (e.g. SMR) and co-operative sensors (e.g. Mode S Multilateration).

AOP04.1-APO02	Equip Ground Vehicles	From: 01/01/2007	By: 31/12/2010
Action by:	Airport Operators		
Description & purpose:	Ensure vehicles operating on the manoeuvring area of airports equipped with A-SMGCS Level 1 are equipped with the necessary systems as specified in the functional specifications for A-SMGCS, to provide their position and identity to the A-SMGCS Level 1 surveillance system.		
Supporting material(s):	EUROCONTROL - Operational Concept and Requirements for A-SMGCS Implementation Level 1 - Edition 2.1 / 06/2010 Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs		
Finalisation criteria:	1 - Vehicle equipment that meets required performance specifications has been installed.		

AOP04.1-APO03	Train Ground Vehicle Drivers	From: 01/01/2007	By: 31/12/2010
Action by:	Airport Operators		
Description & purpose:	Ensure drivers of vehicles operating on the manoeuvring area of airports equipped with A-SMGCS Level 1 are trained in the operation of equipment associated with A-SMGCS Level 1.		
Supporting material(s):	EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011 Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs EUROCONTROL - Mode S Transponder in an Airport/A-SMGCS Environment - Edition 1.1 / 05/2005 Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs		
Finalisation criteria:	1 - Vehicle drivers have been trained and authorized.		

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SESAR		Active					APT	
AOP04.2		Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Implement A-SMGCS Level 2 which consists of an airport surface surveillance system (i.e. A-SMGCS Level 1) complemented by the A-SMGCS function to detect potential conflicts on runways and intrusions into restricted areas and provide the controllers with appropriate alerts.

The implementation of A-SMGCS Level 1 is a pre-requisite for the implementation of A-SMGCS Level 2.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	See list of Airports in the Plan - Annex E		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2007		Applicability Area
Full operational capability		31/12/2017	Applicability Area

References

European ATM Master Plan

OI step -	[AO-0102]-Automated Alerting of Controller in Case of Runway Incursion or Intrusion into Restricted Areas								
	Enablers -	AERODROME -ATC-03	ASMGCS- 0101	ASMGCS- 0102	ASMGCS- 0103	ASMGCS- 0104	ASMGCS- 0113	ASMGCS- 0114	ASMGCS- 0115
		PRO-139	PRO-201b						
OI step -	[AO-0201]-Enhanced Ground Controller Situational Awareness in all Weather Conditions								
	Enablers -	AERODROME -ATC-04 AOP04.1	AERODROME -ATC-28 AOP04.1	AERODROME -ATC-36 AOP04.1, AOP12	PRO-201a				
OI step -	- No OI Link -								
	Enablers -	CTE-S02b	CTE-S03b	CTE-S04b					
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler			WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project
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ICAO GANP – ASBUs

B0-SURF	Improved Runway Safety (A-SMGCS Level 1-2 and Cockpit Moving Map)
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Deployment Programme

2.2.1	A-SMGCS Level 1 and 2
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOP04.2-REG01	Approve A-SMGCS Level 2 implementations for operation	DELETED	
AOP04.2-ASP01	Install required A-SMGCS control function equipment	01/01/2007	31/12/2017

AOP04.2	Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
AOP04.2-ASP02	Train aerodrome control staff in the use of A-SMGCS Level 2 in the provision of an aerodrome control service 01/01/2007 31/12/2017
AOP04.2-ASP03	Implement approved A-SMGCS Level 2 operational procedures at airports equipped with A-SMGCS Level 2 01/01/2007 31/12/2017
AOP04.2-APO01	Install required A-SMGCS control function equipment 01/01/2007 31/12/2017
AOP04.2-INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS Level 2 procedures FINALISED
AOP04.2-AGY01	Production of agreed & validated guidance material for the implementation of A-SMGCS Level 2 DELETED
AOP04.2-AGY02	Develop agreed ATC procedures for A-SMGCS Level 2, through established EUROCONTROL Agency processes and mechanisms for proposal to ICAO DELETED
AOP04.2-AGY03	Develop and incorporate A-SMGCS Level 2 training requirements into the common core training syllabus DELETED
AOP04.2-AGY04	Develop and propose amendments to ICAO documentation, using established processes DELETED

Description of finalised and deleted SLOs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Better situational awareness and support to controller in detecting potentially hazardous conflicts or infringements of runway and route deviations on taxiways and apron.
Capacity:	Reduction of delay and improving traffic throughput in low visibility conditions.
Operational Efficiency:	More efficient control of surface traffic.
Cost Efficiency:	-
Environment:	Reduction in fuel burn and emissions.
Security:	-

Detailed SLOA Descriptions

AOP04.2-ASP01	Install required A-SMGCS control function equipment	From: 01/01/2007	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Install A-SMGCS control function systems in order to enable the detection of conflicts & intrusions in accordance with A-SMGCS Level 2 requirements (in co-operation with Airport Operators, as appropriate). Such equipment should be provided in addition to the equipment requirements for A-SMGCS Level 1.		
Supporting material(s):	<p>ETSI - EN 303 213-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 2: Level 2 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.2.1 / 04/2012 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010 Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166</p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual -</p>		

AOP04.2	Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
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	<p>Edition 1.0 / 04/2011</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 06/2010</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCAE - ED-87C - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) - Levels 1 and 2 - January 2015 01/2015</p> <p>Url : https://www.eurocae.net/eshop/catalog/product_info.php?products_id=245</p> <p>EUROCAE - ED-117 - Minimum Operational Performance Specification for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS) 11/2003</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p>
ATM Master Plan relationship:	<p>[AERODROME-ATC-03]-Surface movement control workstation equipped with tools for runway incursion detection and alerting</p> <p>[CTE-S02b]-Surface Movement Radar</p> <p>[CTE-S03b]-ADS-B station for RAD and APT surveillance</p> <p>[CTE-S04b]-Airport Multilateration (MLAT)</p>
Finalisation criteria:	1 - Equipment that meets agreed performance requirements and specifications of A-SMGCS Level 2 has been installed.

AOP04.2-ASP02	Train aerodrome control staff in the use of A-SMGCS Level 2 in the provision of an aerodrome control service	From: 01/01/2007	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Train aerodrome controllers in the use of A-SMGCS Level 2 systems and procedures (including phraseology) in accordance with agreed training requirements.		
Supporting material(s):	<p>EUROCONTROL - ATCO Rating Training - Training Plans: Aerodrome Training - Annex B: Detailed Training Plans - Edition 1.0 / 03/2004</p> <p>Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCONTROL - Guidance on Training Requirements for Operational Users of A-SMGCS Levels 1 & 2 - Edition 1.1 / 11/2006</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p>		
Finalisation criteria:	1 - Controllers training in accordance with agreed training requirements and programme has been completed.		

AOP04.2-ASP03	Implement approved A-SMGCS Level 2 operational procedures at airports equipped with A-SMGCS Level 2	From: 01/01/2007	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Apply agreed and validated A-SMGCS Level 2 procedures as an integral part of the aerodrome control service.		
Supporting material(s):	<p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCONTROL - Mode S Transponder in an Airport/A-SMGCS Environment - Edition 1.1 / 05/2005</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCONTROL - Operational concept and requirements for A-SMGCS implementation level 2 - 2.1 / 06/2010</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p>		
ATM Master Plan relationship:	<p>[PRO-139]-ATC Procedures (Airport) for standardised response to runway incursion alerts</p> <p>[PRO-201a]-Procedures linked to Improvement of Surveillance on the Manoeuvring Area on and around the Runway</p>		
Finalisation criteria:	1 - Local procedures have been developed, implemented, approved/certified and are being used by controllers at airports equipped with A-SMGCS Level 2.		

AOP04.2-APO01	Install required A-SMGCS control function equipment	From: 01/01/2007	By: 31/12/2017
Action by:	Airport Operators		
Description & purpose:	Install A-SMGCS control function systems in order to enable the detection of conflicts & intrusions in accordance with A-SMGCS Level 2 requirements (in co-operation with ANSPs, as appropriate). Such equipment should be provided in addition to the equipment requirements for A-SMGCS Level 1.		
Supporting material(s):	<p>ETSI - EN 303 213-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 2: Level 2 including external interfaces;</p> <p>Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver.</p>		

AOP04.2	Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
	<p>1.2.1 / 04/2012</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 10/2010</p> <p>Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166</p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 12/2004</p> <p>Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 06/2010</p> <p>Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs</p> <p>EUROCAE - ED-87C - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) - Levels 1 and 2 - January 2015 01/2015</p> <p>Url : https://www.eurocae.net/eshop/catalog/product_info.php?products_id=245</p> <p>EUROCAE - ED-117 - Minimum Operational Performance Specification for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS) 11/2003</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 01/2004</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p>
ATM Master Plan relationship:	[CTE-S04b]-Airport Multilateration (MLAT)
Finalisation criteria:	1 - Equipment that meets agreed performance requirements and specifications of A-SMGCS Level 2 has been installed.

SESAAR	Active						APT
AOP05	Airport Collaborative Decision Making (CDM)						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

Implement Airport CDM (A-CDM) to enhance the operational efficiency of airports and improve their integration into the Air Traffic Management Network (ATMN) while maintaining or improving the safety levels. These objectives are achievable by increasing the information sharing between the local ANSP, airport operator, aircraft operators, ground handlers, the NM and other airport service providers; and improving the cooperation between these partners to enhance the predictability of events and optimise the utilisation of resources therefore increase the efficiency of the overall system. .

The Airport CDM concept is built on the following elements:

- The foundations for Airport CDM are Information Sharing and the Milestone Approach. They consist in collaborative information sharing and monitoring of the progress of a flight from the initial planning to the take off. Those two elements allow the airport partners to achieve a common situational awareness and predict the forthcoming events for each flight.
- Variable Taxi Time Calculation, Collaborative Pre-Departure Sequencing (i.e. initial DMAN) and CDM in Adverse Conditions allow the airport partners to further improve the local management of airport operations, whatever the situation at the airport.
- Once A-CDM has been implemented locally, the link with the ATMN can be strengthened through the exchange of flight update messages between the CDM airport and the NM. This last building block of the A-CDM concept facilitates the flow and capacity management, helps reduce uncertainty and increases efficiency at the network level.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities

Applicability Area(s) & Timescale(s)

Applicability Area	See list of Airports in the Plan - Annex E		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2004		Applicability Area
Full operational capability		31/12/2016	Applicability Area

References

European ATM Master Plan

OI step -	[AO-0501]-Improved Operations in Adverse Conditions through Airport Collaborative Decision Making						
Enablers -	PRO-204a	PRO-204b	PRO-204c	PRO-204d			
OI step -	[AO-0601]-Improved Turn-Round Process through Collaborative Decision Making						
Enablers -	AIRPORT-31	CDM-01	PRO-213a	PRO-213b			
OI step -	[AO-0602]-Collaborative Pre-departure Sequencing						
Enablers -	CDM-01	PRO-214a	PRO-214b				
OI step -	[AO-0603]-Improved De-icing Operation through Collaborative Decision Making						
Enablers -	AIRPORT-31	CDM-01	PRO-073	PRO-075 ENV02			

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B0-ACDM	Improved Airport Operations through Airport-CDM
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Deployment Programme

AOP05	Airport Collaborative Decision Making (CDM)
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2.1.1	Initial DMAN
2.1.3	Basic A-CDM

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOP05-ASP01	Define and agree performance objectives and KPIs at local level, specific to ANSP in accordance with A-CDM Manual guidelines	01/01/2004	31/01/2013
AOP05-ASP02	Define and implement local Air Navigation Service (ANS) procedures for information sharing through Letters of Agreement (LoAs) and/or Memorandum of Understanding (MoU) in accordance with A-CDM Manual guidelines	01/01/2004	31/01/2013
AOP05-ASP03	Define and implement local procedures for turnaround processes in accordance with CDM manual guidelines	01/01/2004	31/12/2016
AOP05-ASP04	Continually review and measure airport performance in accordance with Airport CDM Manual guidelines	01/01/2004	31/01/2013
AOP05-ASP05	Define and implement variable taxi-time and predeparture sequencing procedure (i.e. initial DMAN) according to airport CDM Manual guidelines	01/06/2006	31/12/2016
AOP05-ASP06	Define and implement procedures for CDM in adverse conditions, including the de-icing according to airport CDM Manual guidelines	01/01/2012	31/12/2016
AOP05-APO01	Define and agree performance objectives and KPIs at local level specific to airport operations in accordance with A-CDM Manual guidelines	01/01/2004	31/01/2013
AOP05-APO02	Define and implement local airport operations procedures for information sharing through Letters of Agreement (LoAs) and/or Memorandum of Understanding (MoU) in accordance with A-CDM Manual guidelines	01/01/2004	31/01/2013
AOP05-APO03	Define and implement local procedures for turnaround processes in accordance with CDM manual guidelines (baseline CDM)	01/01/2004	31/12/2016
AOP05-APO04	Continually review and measure airport performance in accordance with Airport CDM Manual guidelines	01/01/2004	31/01/2013
AOP05-APO05	Define and implement the exchange of messages, Flight Update Message (FUM) and Departure Planning Information (DPI) between NMOC and the airport in accordance with A-CDM Manual guidelines	01/03/2005	31/01/2014
AOP05-APO06	Define and implement procedures for CDM in adverse conditions including the de-icing according to airport CDM Manual guidelines	01/06/2006	31/12/2016
AOP05-USE01	Define and agree performance objectives and KPIs at local level, specific to aircraft operators, in accordance with A-CDM Manual guidelines	01/01/2004	31/01/2013
AOP05-USE02	Define and implement local aircraft operators procedures for information sharing through LoAs and/or MoU in accordance with A-CDM manual guidelines	01/01/2004	31/01/2013
AOP05-USE03	Define and implement local procedures for turnaround processes in accordance with A-CDM manual guidelines	01/01/2004	31/12/2016
AOP05-USE04	Continually review and measure airport performance in accordance with Airport CDM Manual guidelines	01/01/2004	31/01/2013
AOP05-USE05	Define and implement procedures for CDM in adverse conditions including the de-icing according to A-CDM Manual guidelines	01/01/2012	31/12/2016
AOP05-NM01	Update NM systems and define procedures to support the exchange of messages, Flight Update Message (FUM) and Departure Planning Information (DPI) between NMOC and airports in accordance with A-CDM Manual guidelines	FINALISED	

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	-
Capacity:	Improved through optimal use of facilities and services, better use of airport and ATFM slots.
Operational Efficiency:	Improved system efficiency and predictability. Significant decrease in fuel burn through better timed operations.
Cost Efficiency:	Lower airspace user operating cost due to decrease in fuel costs and more accurate fleet predictions. Increased airport revenue through additional flights and passengers.
Environment:	Reduced noise and emissions due to limiting engine ground running time due to better timed operations.
Security:	N/A

AOP05	Airport Collaborative Decision Making (CDM)
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Detailed SLoA Descriptions

AOP05-ASP01	Define and agree performance objectives and KPIs at local level, specific to ANSP in accordance with A-CDM Manual guidelines	From: 01/01/2004	By: 31/01/2013
Action by:	ANS Providers		
Description & purpose:	Agree and define specific performance objectives and KPIs through a local A-CDM committee, in co-operation with other stakeholders involved.		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p>		
Finalisation criteria:	1 - List of performance objectives and KPIs has been agreed.		

AOP05-ASP02	Define and implement local Air Navigation Service (ANS) procedures for information sharing through Letters of Agreement (LoAs) and/or Memorandum of Understanding (MoU) in accordance with A-CDM Manual guidelines	From: 01/01/2004	By: 31/01/2013
Action by:	ANS Providers		
Description & purpose:	Agree, define and implement local procedures for information sharing and information management systems based on A-CDM Implementation Manual, in co-operation with other stakeholders involved.		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p>		
ATM Master Plan relationship:	[AIRPORT-31]-Airport CDM (levels 1, 2 & 3)		
Finalisation criteria:	1 - Agreed LoA or MoU between the Airport CDM Partners has been signed.		

AOP05-ASP03	Define and implement local procedures for turnaround processes in accordance with CDM manual guidelines	From: 01/01/2004	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Define and implement local procedures for turnaround processes (milestone approach) based on A-CDM Implementation Manual and through LoAs.		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012</p>		

AOP05	Airport Collaborative Decision Making (CDM)
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	<p>Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p>
ATM Master Plan relationship:	[PRO-213a]-CDM information sharing Airport Procedures for turn-around
Finalisation criteria:	1 - Agreed LoA or MoU between the A-CDM Partners has been signed.

AOP05-ASP04	Continually review and measure airport performance in accordance with Airport CDM Manual guidelines	From: 01/01/2004	By: 31/01/2013
Action by:	ANS Providers		
Description & purpose:	Measure performance (KPIs) according to agreed success criteria, and quantify the benefits at local airport after implementation and through a local A-CDM committee.		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009</p> <p>Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012</p> <p>Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p>		
Finalisation criteria:	1 - Results/benefits at airport have been published.		

AOP05-ASP05	Define and implement variable taxi-time and predeparture sequencing procedure (i.e. initial DMAN) according to airport CDM Manual guidelines	From: 01/06/2006	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	<p>Agree, define and implement local procedures for pre-departure sequencing taking into account preferences based on A-CDM Implementation Manual, in co-operation with other stakeholders involved.</p> <p>Note :The pre-departure sequencing procedures based on the A-CDM Implementation Manual cover the requirements of Family 2.1.1-Initial DMAN as described in the Deployment Programme 2016.</p>		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009</p> <p>Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012</p> <p>Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010</p> <p>Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008</p> <p>Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008</p>		

AOP05	Airport Collaborative Decision Making (CDM)
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	Url : http://boutique.eurocae.net/catalog/index.php
ATM Master Plan relationship:	[PRO-214a]-Airport CDM Procedures for pre-departure sequencing
Finalisation criteria:	1 - Procedure has been published in the AIP.

AOP05-ASP06	Define and implement procedures for CDM in adverse conditions, including the de-icing according to airport CDM Manual guidelines	From: 01/01/2012	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Agree, define and implement local CDM procedures to manage adverse conditions based on A-CDM Implementation Manual, in co-operation with other stakeholders involved.		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p>		
ATM Master Plan relationship:	[PRO-073]-Airport Procedures to maximise throughput of de-icing stands [PRO-204b]-Collaborative Procedures (ATC) for improving Airport Operations in Adverse Conditions		
Finalisation criteria:	1 - LoA or MoU between the Airport CDM Partners has been agreed. 2 - CDM procedures for the management of adverse conditions, including de-icing, have been established.		

AOP05-APO01	Define and agree performance objectives and KPIs at local level specific to airport operations in accordance with A-CDM Manual guidelines	From: 01/01/2004	By: 31/01/2013
Action by:	Airport Operators		
Description & purpose:	Agree and define specific performance objectives and KPIs through a local A-CDM committee, in co-operation with other stakeholders involved.		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p>		
Finalisation criteria:	1 - List of performance objectives and KPIs has been agreed.		

AOP05-APO02	Define and implement local airport operations procedures for information sharing through Letters of Agreement (LoAs) and/or Memorandum of Understanding (MoU) in accordance with A-CDM Manual guidelines	From: 01/01/2004	By: 31/01/2013
Action by:	Airport Operators		
Description & purpose:	Agree, define and implement local procedures for information sharing and information management systems based on		

AOP05	Airport Collaborative Decision Making (CDM)
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Supporting material(s):	<p>A-CDM Implementation Manual, in co-operation with other stakeholders involved.</p> <p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p>
ATM Master Plan relationship:	[AIRPORT-31]-Airport CDM (levels 1, 2 & 3)
Finalisation criteria:	<p>1 - LoA or MoU between the A-CDM Partners has been agreed.</p> <p>2 - Information sharing has been implemented.</p>

AOP05-APO03	Define and implement local procedures for turnaround processes in accordance with CDM manual guidelines (baseline CDM)	From: 01/01/2004	By: 31/12/2016
Action by:	Airport Operators		
Description & purpose:	Define and implement local procedures for turnaround processes (milestone approach) based on A-CDM Implementation Manual and through LoAs.		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p>		
ATM Master Plan relationship:	[PRO-213a]-CDM information sharing Airport Procedures for turn-around		
Finalisation criteria:	1 - LoA or MoU between the A-CDM Partners has been agreed.		

AOP05-APO04	Continually review and measure airport performance in accordance with Airport CDM Manual guidelines	From: 01/01/2004	By: 31/01/2013
Action by:	Airport Operators		
Description & purpose:	Measure performance (KPIs) according to agreed success criteria, and quantify the benefits at local airport after implementation and through a local A-CDM committee.		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p>		

AOP05	Airport Collaborative Decision Making (CDM)
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	EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php
Finalisation criteria:	1 - Results/benefits at airport have been published.

AOP05-APO05	Define and implement the exchange of messages, Flight Update Message (FUM) and Departure Planning Information (DPI) between NMOC and the airport in accordance with A-CDM Manual guidelines	From: 01/03/2005	By: 31/01/2014
Action by:	Airport Operators		
Description & purpose:	Agree, define and implement local procedures for exchange of messages (FUMs and DPIs) between NM and the airport based on A-CDM Implementation Manual, in co-operation with other stakeholders involved.		
Supporting material(s):	EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4 ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php		
ATM Master Plan relationship:	[PRO-214a]-Airport CDM Procedures for pre-departure sequencing		
Finalisation criteria:	1 - LoA or MoU between the A-CDM Partners and the NM has been agreed. 2 - Exchange of messages has been implemented.		

AOP05-APO06	Define and implement procedures for CDM in adverse conditions including the de-icing according to airport CDM Manual guidelines	From: 01/06/2006	By: 31/12/2016
Action by:	Airport Operators		
Description & purpose:	Agree, define and implement local CDM procedures to manage adverse conditions based on A-CDM Implementation Manual, in co-operation with other stakeholders involved.		
Supporting material(s):	EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4 ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php		
ATM Master Plan relationship:	[PRO-073]-Airport Procedures to maximise throughput of de-icing stands [PRO-204a]-Collaborative Procedures (Airport) for improving Airport Operations in Adverse Conditions		
Finalisation criteria:	1 - LoA or MoU between the A-CDM partners has been agreed. 2 - CDM procedures for the management of adverse conditions, including de-icing, have been established.		

AOP05	Airport Collaborative Decision Making (CDM)
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AOP05-USE01	Define and agree performance objectives and KPIs at local level, specific to aircraft operators, in accordance with A-CDM Manual guidelines	From: 01/01/2004	By: 31/01/2013
Action by:	Airspace Users		
Description & purpose:	Agree and define specific performance objectives and KPIs at local level, in co-operation with airport and ANSP.		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p>		
Finalisation criteria:	1 - List of performance objectives and KPIs have been agreed with ANSP and AO.		

AOP05-USE02	Define and implement local aircraft operators procedures for information sharing through LoAs and/or MoU in accordance with A-CDM manual guidelines	From: 01/01/2004	By: 31/01/2013
Action by:	Airspace Users		
Description & purpose:	Agree, define and implement local procedures for information sharing and information management systems based on A-CDM Implementation Manual, in co-operation with other stakeholders involved.		
Supporting material(s):	<p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p> <p>ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p>		
ATM Master Plan relationship:	[AIRPORT-31]-Airport CDM (levels 1, 2 & 3)		
Finalisation criteria:	1 - LoA or MoU between the A-CDM partners has been agreed.		

AOP05-USE03	Define and implement local procedures for turnaround processes in accordance with A-CDM manual guidelines	From: 01/01/2004	By: 31/12/2016
Action by:	Airspace Users		
Description & purpose:	Define and implement local procedures for turnaround processes (milestone approach) based on A-CDM Implementation Manual and through LoAs.		
Supporting material(s):	<p>EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php</p> <p>EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4</p>		

AOP05	Airport Collaborative Decision Making (CDM)
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	ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php
ATM Master Plan relationship:	[PRO-213b]-CDM information sharing Airline Procedures for turn-around
Finalisation criteria:	1 - LoA or MoU between the A-CDM partners has been agreed.

AOP05-USE04	Continually review and measure airport performance in accordance with Airport CDM Manual guidelines	From: 01/01/2004	By: 31/01/2013
Action by:	Airspace Users		
Description & purpose:	Measure performance (KPIs) according to agreed success criteria and quantify the benefits at local airport after implementation and through a local A-CDM committee.		
Supporting material(s):	EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4 ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php		
Finalisation criteria:	1 - Results/benefits at airport have been published.		

AOP05-USE05	Define and implement procedures for CDM in adverse conditions including the de-icing according to A-CDM Manual guidelines	From: 01/01/2012	By: 31/12/2016
Action by:	Airspace Users		
Description & purpose:	Agree, define and implement local CDM procedures to manage adverse conditions based on A-CDM Implementation Manual, in co-operation with other stakeholders involved.		
Supporting material(s):	EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 05/2009 Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 04/2012 Url : http://www.eurocontrol.int/publications/airport-cdm-implementation-manual-version-4 ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010C168/04 / 06/2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp EUROCAE - ED-145 - Airport-CDM Interface Specification 10/2008 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 10/2008 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 10/2008 Url : http://boutique.eurocae.net/catalog/index.php		
ATM Master Plan relationship:	[PRO-204c]-Collaborative Procedures (Airlines) for improving Airport Operations in Adverse Conditions		
Finalisation criteria:	1 - LoA or MoU between the A-CDM partners has been agreed. 2 - CDM procedures for the management of adverse conditions, including de-icing, have been established.		

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PCP		Active					APT	
AOP10		Time Based Separation						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Time-Based Separation (TBS) consists in the separation of aircraft in sequence on the approach to a runway using time intervals instead of distances. It may be applied during final approach by allowing equivalent distance information to be displayed to the controller taking account of prevailing wind conditions. Radar separation minima and Wake Turbulence Separation parameters shall be integrated to provide guidance to the air traffic controller to enable time-based spacing of aircraft during final approach that considers the effect of headwind.

A TBS system that provides in real-time the separation to apply between two aircraft needs to be fed by:

- the aircraft sequence to anticipate aircraft specific speed management and to define the time separation required for a given wake category pair, and;
- the wind profile, approximately 10 minutes before landing, to define the separation on final approach.

These require respectively the development of an easily usable sequencing tool and a now casting technology based upon merging wind profile measurement and heuristic techniques.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area (As in PCP Regulation for S-AF2.3)	See list of Airports in the Plan - Annex E		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2015		Applicability Area
Full operational capability		31/12/2023	Applicability Area

References

European ATM Master Plan

OI step -	[AO-0303]-Time Based Separation for Final Approach - full concept						
Enablers -	AERODROME -ATC-17	APP ATC 156	REG-0514	STD-065			
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project
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ICAO GANP – ASBUs

B1-RSEQ	Improved Airport operations through Departure, Surface and Arrival Management
B2-WAKE	Advanced Wake Turbulence Separation (Time Based)

Deployment Programme

2.3.1	Time Based Separation (TBS)
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOP10-REG01	Publish TBS operations procedures in national aeronautical information publications	01/01/2015	31/12/2023
AOP10-ASP01	Ensure AMAN system is compatible with TBS support tool	01/01/2015	31/12/2023

AOP10	Time Based Separation		
AOP10-ASP02	Modify CWP to integrate TBS Support tool with safety nets	01/01/2015	31/12/2023
AOP10-ASP03	Local MET info with actual glide-slope wind conditions to be provided into TBS Support tool	01/01/2015	31/12/2023
AOP10-ASP04	TBS Support tool to provide automatic monitoring and alerting of non-conformant behaviours, infringements, wrong aircraft	01/01/2015	31/12/2023
AOP10-ASP05	Implement procedures for TBS operations	01/01/2015	31/12/2023
AOP10-ASP06	Train controllers (Tower and Approach) on TBS operations		
AOP10-USE01	Train flight crews on TBS operations	01/01/2015	31/12/2023

Description of finalised and deleted SLOAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	-
Capacity:	Improved aircraft landing rates leading to reduced delays.
Operational Efficiency:	-
Cost Efficiency:	-
Environment:	Reduced emissions due to reduced holding times and stack entry to touchdown times.
Security:	-

Detailed SLOA Descriptions

AOP10-REG01	Publish TBS operations procedures in national aeronautical information publications	From: 01/01/2015	By: 31/12/2023
Action by:	National Supervisory Authorities (NSAs)		
Description & purpose:	Publish TBS operations procedures in national aeronautical information publications		
Supporting material(s):	SJU - SESAR Joint Undertaking ID D05 OCD and OSED - S1 (TBS) - Ed. 00.00.06		
Finalisation criteria:	1 - TBS operations procedures are published in national aeronautical information publications.		
AOP10-ASP01	Ensure AMAN system is compatible with TBS support tool	From: 01/01/2015	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Ensure that the flight data processing and AMAN systems are compatible with the TBS support tool for the visualisation of the final approach separation or spacing, and are able to switch between time and distance based wake turbulence radar separation rules. Switching from TBS to Distance Based Separation (DBS) is necessary to cover contingency and other locally-driven requirements. The TBS support tool and associated CWP shall also calculate headwind independent time based separation to be used by the Arrival manager between arriving aircraft and display it on controller displays to support reduced, time-based separation for aircraft on final approach.		
Supporting material(s):	SJU - SESAR Joint Undertaking ID D05 OCD and OSED - S1 (TBS) - Ed. 00.00.06		
ATM Master Plan relationship:	[AERODROME-ATC-17]-Airport ATC tool to Support Time-Based Separation in Final Approach [APP ATC 156]-ATC System to Support Time-Based Separation in Final Approach		
Finalisation criteria:	1 - FDPS and AMAN system are compatible with the TBS support tool 2 - CWP is modified to display headwind independent time based separation 3 - TBS support tool is able to calculate headwind independent time based separation		
AOP10-ASP02	Modify CWP to integrate TBS Support tool with safety nets	From: 01/01/2015	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Modify the controller working position (CWP) to integrate the new TBS support tool with safety nets to support the air traffic controller, in order to calculate TBS distance respecting minimum radar separation using actual glide-slope wind conditions.		
Supporting material(s):	SJU - SESAR Joint Undertaking ID D05 OCD and OSED - S1 (TBS) - Ed. 00.00.06		
Finalisation criteria:	1 - CWP is modified to integrate the new TBS support tool with safety nets.		
AOP10-ASP03	Local MET info with actual glide-slope wind conditions to be provided into TBS Support tool	From: 01/01/2015	By: 31/12/2023

AOP10		Time Based Separation	
Action by:	ANS Providers		
Description & purpose:	To feed local meteorological (MET) information providing actual glide slope wind conditions to the TBS support tool.		
Supporting material(s):	SJU - SESAR Joint Undertaking ID D05 OCD and OSED - S1 (TBS) - Ed. 00.00.06		
Finalisation criteria:	1 - Local meteorological information providing actual glide slope wind conditions is fed into the TBS support tool		
AOP10-ASP04	TBS Support tool to provide automatic monitoring and alerting of non-conformant behaviours, infringements, wrong aircraft	From: 01/01/2015	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	To ensure that the TBS support tool provides automatic monitoring and alerting on non-conformant final approach airspeed behaviour, automatic monitoring and alerting of separation infringement, automatic monitoring and alerting for the wrong aircraft being turned on to a separation indicator.		
Supporting material(s):	SJU - SESAR Joint Undertaking ID D05 OCD and OSED - S1 (TBS) - Ed. 00.00.06		
Finalisation criteria:	1 - TBS support tool provides automatic monitoring and alerting		
AOP10-ASP05	Implement procedures for TBS operations	From: 01/01/2015	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Implement procedures and practices to be used by the final approach controller for TBS operations.		
Supporting material(s):	SJU - SESAR Joint Undertaking ID D05 OCD and OSED - S1 (TBS) - Ed. 00.00.06		
Finalisation criteria:	1 - Procedures for TBS operations are implemented operationally		
AOP10-ASP06	Train controllers (Tower and Approach) on TBS operations	From: -	By: -
Action by:	ANS Providers		
Description & purpose:	Train Tower and Approach controllers on TBS operations. The final approach controller will be required to adopt procedures and practices to ensure that the variations in the distance spacing changes and time spacing changes on final approach are consistently managed.		
Supporting material(s):	SJU - SESAR Joint Undertaking ID D05 OCD and OSED - S1 (TBS) - Ed. 00.00.06		
Finalisation criteria:	1 - Final approach controllers are trained for TBS procedures and practices.		
AOP10-USE01	Train flight crews on TBS operations	From: 01/01/2015	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Train flight crews on TBS operations The flight deck will be required to adopt procedures and practices to ensure that the variations in the distance spacing changes and time spacing changes on final approach are consistently managed.		
Supporting material(s):	SJU - SESAR Joint Undertaking ID D05 OCD and OSED - S1 (TBS) - Ed. 00.00.06		
Finalisation criteria:	1 - Flight crews are trained to TBS operations		

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PCP		Active					APT	
AOP11		Initial Airport Operations Plan						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

The Airport element that reflects the operational status of the Airport and therefore facilitates Demand and Capacity Balancing is the Airport Operations Plan (AOP). The Airport Operations Plan connects the relevant stakeholders, notably the Airspace Users' Flight Operations Centre (FOC). It contains data and information relating to the different status of planning phases and is in the format of a rolling plan, which naturally evolves over time.

The Airport Operations Plan is a single, common and collaboratively agreed rolling plan available to all airport stakeholders whose purpose is to provide common situational awareness and to form the basis upon which stakeholder decisions relating to process optimization can be made.

Roles and responsibilities are extensively detailed in Deliverable D07 - OFA 05.01.01 Operational Service and Environment Definition - Edition: 00.03.00.

Note: The data sharing between the Airport Operations Plan and the Network Operations Plan is addressed by objective FCM05.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area 1 (PCP airports)	See list of Airports in the Plan - Annex E		
Applicability Area 2 (Non-PCP Airports)	See list of Airports in the Plan - Annex E		
Timescales:	From:	By:	Applicable to:
Initial Operational Capability	01/01/2015		Applicability Area 1 (PCP airports) + Applicability Area 2 (Non-PCP Airports)
Full Operational Capability		31/12/2021	Applicability Area 1 (PCP airports) + Applicability Area 2 (Non-PCP Airports)

References

European ATM Master Plan

OI step -	[AO-0801-A]-Collaborative Airport Planning Interface								
Enablers -	AIRPORT-03	AIRPORT-31 AOP05	AIRPORT-38 FCM05	AOC-ATM-13	HUM-007	PRO-028 FCM05	SWIM-APS-03a INF08.1, INF08.2	SWIM-APS-04a INF08.1	
	SWIM-INFR-05a INF08.1, INF08.2	SWIM-NET-01a INF08.1, INF08.2							

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B1-ACDM	Optimized Airport Operations through A-CDM Total Airport Management
B1-NOPS	Enhanced Flow Performance through Network Operational Planning

Deployment Programme

2.1.4	Initial Airport Operations Plan (AOP)
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AOP11	Initial Airport Operations Plan
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOP11-ASP01	Provide the required information to the AOP	01/01/2015	31/12/2021
AOP11-APO01	Set up the and manage Airport Operational Plan	01/01/2015	31/12/2021
AOP11-APO02	Provide the required information to the AOP	01/01/2015	31/12/2021
AOP11-APO03	Train all relevant personnel	01/01/2015	31/12/2021
AOP11-USE01	Provide the required information to the AOP	01/01/2015	31/12/2021

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	-
Capacity:	Improved through optimal use of facilities and services, better use of airport and ATFM slots.
Operational Efficiency:	Improved system efficiency and predictability. Significant decrease in fuel burn through better timed operations.
Cost Efficiency:	Lower airspace user operating cost due to improved punctuality.
Environment:	Reduced noise and emissions due to limiting engine ground running time due to better timed operations.
Security:	-

Detailed SLoA Descriptions

AOP11-ASP01	Provide the required information to the AOP	From: 01/01/2015	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Provide and maintain AOP elements (core and supporting) which are under the responsibility of the ANSP, based on the local agreements. This information may include available Airspace Capacity, other Constraining factors (e.g. adjacent airports, military training areas, etc.)		
Finalisation criteria:	1 - The AOP information under its responsibility is provided and maintained, ensuring the appropriate quality		

AOP11-APO01	Set up the and manage Airport Operational Plan	From: 01/01/2015	By: 31/12/2021
Action by:	Airport Operators		
Description & purpose:	Set up an AOP containing the following categories of information: <ul style="list-style-type: none"> - Traffic demand - Airport capabilities - Airport operational context The information available in the AOP should be separated in two AOP content blocks to distinguish between information fields to be implemented at every airport (core information) and the set of information that can be included depending on local agreements (supporting information). The information requested in the AOP will be provided accorded to various sources. However, at each airport it must be established through local agreement which actor is the best positioned to provide each AOP content field. Those information sources can be the different airport stakeholders.		
Supporting material(s):	SJU - SESAR JU ID D07 - OFA 05.01.01 Operational Service and Environment Definition - 00.03.00		
ATM Master Plan relationship:	[AIRPORT-41]-Airport Operations Centre Support Tools		
Finalisation criteria:	1 - Core information elements have been implemented 2 - Local agreements have been established for the provision of AOP information 3 - The supporting information has been agreed by the concerned stakeholders 4 - All the stakeholders relevant to the AOP have been identified		

AOP11-APO02	Provide the required information to the AOP	From: 01/01/2015	By: 31/12/2021
Action by:	Airport Operators		
Description & purpose:	Provide and maintain and AOP elements (core and supporting) which are under the responsibility of the Airport Operator, based on the local agreements. This information includes (but is not limited to): <ul style="list-style-type: none"> - Possible airport configurations - Unforeseen / Temporary aerodrome constraints - Restrictions regarding aerodrome resources. 		

AOP11	Initial Airport Operations Plan
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	<ul style="list-style-type: none"> - Information sharing between airport partners - Airport usage and any restriction rule. - Operational capacity of airport resources. - Airport resources availability and allocation plan. <p>This SLoA also covers other stakeholders active in the airport environment (e.g. Ground Handling Agents) which may feed the AOP according with the local agreements.</p>
Supporting material(s):	SJU - SESAR JU ID D07 - OFA 05.01.01 Operational Service and Environment Definition - 00.03.00
ATM Master Plan relationship:	[AIRPORT-03]-Airports Operation Plan (AOP) management tool
Finalisation criteria:	1 - According with the locally allocated roles and responsibilities, the AOP information under its responsibility is provided and maintained, ensuring the appropriate quality

AOP11-APO03	Train all relevant personnel	From: 01/01/2015	By: 31/12/2021
Action by:	Airport Operators		
Description & purpose:	All relevant personnel having roles and responsibilities with regard the AOP have to be trained in order to adequately fulfil their respective roles as agreed locally.		
Supporting material(s):	SJU - SESAR JU ID D07 - OFA 05.01.01 Operational Service and Environment Definition - 00.03.00		
ATM Master Plan relationship:	[HUM-007]-New communication and interaction patterns between stakeholders of airport operations linked to collaborative rolling AOP/NOP management.		
Finalisation criteria:	1 - The personnel has been trained		

AOP11-USE01	Provide the required information to the AOP	From: 01/01/2015	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	The airspace users shall update the AOP with information within its sphere of responsibility, notably with regard the information relating to the planning of their Business Trajectories and about the inbound and outbound flights connected by a turn-round process.		
Supporting material(s):	SJU - SESAR JU ID D07 - OFA 05.01.01 Operational Service and Environment Definition - 00.03.00		
ATM Master Plan relationship:	[AOC-ATM-13]-Participating of the FOC/ WOC in the airport triggered CDM process		
Finalisation criteria:	1 - The AOP information under its responsibility is provided and maintained, ensuring the appropriate quality		

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PCP		Active					APT	
AOP12		Improve runway and airfield safety with ATC clearances monitoring						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Improve runway and airfield safety with ATC clearances monitoring (i.e.: 'Airport safety nets' in PCP terminology) consists of the detection and alerting of conflicting ATC clearances to aircraft and deviation of vehicles and aircraft from their instructions, procedures or routing which may potentially put the vehicles and aircraft at risk of a collision.

The scope of this objective includes the Runway and Airfield Surface Movement area. ATC support tools at the aerodrome shall provide the detection of Conflicting ATC Clearances as well as deviations from ATC instructions, procedures or routes and shall be performed by the ATC system based on the knowledge of data including the clearances given to aircraft and vehicles by the air traffic controller, the assigned runway and holding point. The air traffic controller shall input all clearances given to aircraft or vehicles into the ATC system using a digital system, such as the EFS. Different types of conflicting clearances shall be identified (for example Line-Up vs. Take-Off). Some may only be based on the air traffic controller input; others may in addition use other data such as A-SMGCS surveillance data. 'Airport Safety Nets' tools shall alert air traffic controllers when aircraft and vehicles deviate from ATC instructions, procedures or routes. The detection of Conflicting ATC Clearances shall aim to provide an early prediction of situations that if not corrected would end up in hazardous situations that would be detected in turn by the runway incursion monitoring system (RIMS) if in operation. A-SMGCS level 2 (covered by ESSIP Objective AOP04.2) is seen as a pre-requisite for the deployment of Airport Safety Nets.

Note: Safety nets have been defined for and through regulation/specifications for other environments and RWY environment partly. If the term 'Airport safety net' is not consistent with those definitions, it will however be used in this objective for consistency with PCP terminology. Actually, this objective is affecting the safety nets and controller support tools envelopes. A-SMGCS Level 2 is a RWY safety net and provides alerts on hazardous situations on the RWY, regardless of whether the a/c have been cleared or not by ATC, which fits perfectly on the safety nets umbrella.

Note: An action has been launched with the SJU to clarify the operational scope of the functionality as well as to improve the consistency of the terminology.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area (PCP Airports) (As in PCP Regulation for S-AF2.5)		See list of Airports in the Plan - Annex E		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/01/2015		Applicability Area (PCP Airports)
Full operational capability			31/12/2020	Applicability Area (PCP Airports)

References

European ATM Master Plan

OI step -	[AO-0104-A]-Airport Safety Nets for Controllers in Step 1							
	Enablers -	AERODROME -ATC-06	AERODROME -ATC-07	AERODROME -ATC-23a	AERODROME -ATC-50 AOP13			
OI step -	- No OI Link -							
	Enablers -	AERODROME -ATC-36						

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project
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ICAO GANP – ASBUs

AOP12	Improve runway and airfield safety with ATC clearances monitoring
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B1-SURF	Enhanced Safety and Efficiency of Surface Operations - SURF, SURF-IA and Enhanced Vision Systems (EVS)
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Deployment Programme

2.1.2	Electronic Flight Strips (EFS)
2.5.1	Airport Safety Nets associated with A-SMGCS (Level 2)

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOP12-ASP01	Install required 'Airport Safety Nets'	01/01/2015	31/12/2020
AOP12-ASP02	Train aerodrome control staff on the functionality of 'Airport Safety Nets'	01/01/2015	31/12/2020
AOP12-ASP03	Implement digital systems such as Electronic Flight Strips (EFS)	01/01/2015	31/12/2020
AOP12-APO01	Train all relevant staff on the functionality of 'Airport Safety Nets'	01/01/2015	31/12/2020
AOP12-USE01	Train Pilots on the functionality of 'Airport Safety Nets'	01/01/2015	31/12/2020

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Improved situational awareness of all actors.
Capacity:	Enhanced through optimal use of airside and landside facilities and services, better use of airport and ATFM slots.
Operational Efficiency:	More efficient airside and landside operations management resulting reduced fuel burn.
Cost Efficiency:	-
Environment:	Reduced noise and emissions due to limiting engine ground running time due to better timed operations.
Security:	-

Detailed SLoA Descriptions

AOP12-ASP01	Install required 'Airport Safety Nets'	From: 01/01/2015	By: 31/12/2020
Action by:	ANS Providers		
Description & purpose:	Deploy appropriate systems, constituents and associated procedures allowing the detection and alerting of conflicting ATC clearances to aircraft and deviation of vehicles and aircraft from their instructions, procedures or routing which may potentially put the vehicles and aircraft at risk of a collision. This deployment is considered as an enhancement of A-SMGCS level 2 (ESSIP Objective AOP04.2)		
Supporting material(s):	EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 06/2010 Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs		
ATM Master Plan relationship:	[AERODROME-ATC-06]-Surface movement control workstation equipped with tools for conflicting ATC clearances detection and alerting for Runway operations [AERODROME-ATC-07]-Surface movement control workstation equipped with tools for detection and alerting of non-conformance to ATC instructions or procedures for surface movements, including apron and taxiways		
Finalisation criteria:	1 - 'Airport Safety Nets' functionality has been deployed		
AOP12-ASP02	Train aerodrome control staff on the functionality of 'Airport Safety Nets'	From: 01/01/2015	By: 31/12/2020
Action by:	ANS Providers		
Description & purpose:	Train aerodrome controllers on the 'Airport Safety Nets' systems and procedures (including phraseology) in accordance with agreed training requirements.		
Supporting material(s):	EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 06/2010 Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs		
Finalisation criteria:	1 - Controllers training in accordance with agreed training requirements and programme has been completed		
AOP12-ASP03	Implement digital systems such as Electronic Flight Strips (EFS)	From: 01/01/2015	By: 31/12/2020
Action by:	ANS Providers		

AOP12	Improve runway and airfield safety with ATC clearances monitoring
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Description & purpose:	Implement a digital system, such as Electronic Flights Strips (EFS), allowing the air traffic controller to input all clearances given to aircraft or vehicles into the ATC system. The digital systems, such as EFS, shall have the appropriate interfaces allowing the integration the instructions given by the air traffic controller with other data such as flight plan, surveillance, routing, published routes and procedures.
Supporting material(s):	EUROCONTROL - Integrated Tower Working Position Functional Requirements - V3.0 / 03/2009 Url : https://www.eurocontrol.int/eec/gallery/content/public/document/eec/report/2009/010_ITWP_functional_spec.pdf
ATM Master Plan relationship:	[AERODROME-ATC-36]-Airport surveillance data processing and distribution upgraded to store and forward flight plan data
Finalisation criteria:	1 - Digital systems such as EFS have been implemented, documented and in operational use

AOP12-APO01	Train all relevant staff on the functionality of 'Airport Safety Nets'	From: 01/01/2015	By: 31/12/2020
Action by:	Airport Operators		
Description & purpose:	Train all relevant staff (e.g. vehicle drivers) on the 'Airport Safety Nets' systems and procedures (including phraseology) in accordance with agreed training requirements.		
Supporting material(s):	EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 06/2010 Url : https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs		
Finalisation criteria:	1 - Staff training in accordance with agreed training requirements and programme has been completed		

AOP12-USE01	Train Pilots on the functionality of 'Airport Safety Nets'	From: 01/01/2015	By: 31/12/2020
Action by:	Airspace Users		
Description & purpose:	Train Pilots on the 'Airport Safety Nets' systems and procedures (including phraseology) in accordance with agreed training requirements		
Finalisation criteria:	1 - Pilots training in accordance with agreed training requirements and programme has been completed		

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PCP		Active					APT	
AOP13		Automated assistance to Controller for Surface Movement Planning and Routing						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

The routing and planning functions of A-SMGCS provide the automatic generation of taxi routes, with the corresponding estimated taxi time and management of potential conflicts. Taxi routes may be manually modified by the air traffic controller before being assigned to aircraft and vehicles. These routes shall be available in the flight data processing system.

The A-SMGCS routing and planning function shall calculate the most operationally relevant route as free as possible of conflicts which permits the aircraft to go from stand to runway, from runway to stand or any other surface movement.

The controller working position shall allow the air traffic controller to manage surface route trajectories.

The flight data processing system shall be able to receive planned and cleared routes assigned to aircraft and vehicles and manage the status of the route for all concerned aircraft and vehicles.

Traffic will be controlled through the use of appropriate procedures allowing the issuance of information and clearances to traffic.

Note: For this objective, there is no requirement for the use of datalink for providing clearances to the pilot or vehicle driver (e.g. D-Taxi).

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area (PCP Airports)	See list of Airports in the Plan - Annex E		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2016		Applicability Area (PCP Airports)
Full operational capability		31/12/2023	Applicability Area (PCP Airports)

References

European ATM Master Plan

OI step -	[AO-0205]-Automated Assistance to Controller for Surface Movement Planning and Routing						
	Enablers -	AERODROME -ATC-12	AERODROME -ATC-13	AERODROME -ATC-50	REG-0201	REG-0513	
OI step -	- No OI Link -						
	Enablers -	AERODROME -ATC-18	AERODROME -ATC-44a				

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B1-ACDM	Optimized Airport Operations through A-CDM Total Airport Management
B1-RSEQ	Improved Airport operations through Departure, Surface and Arrival Management
B2-SURF	Optimized Surface Routing and Safety Benefits (A-SMGCS Level 3-4 and SVS)

Deployment Programme

2.4.1	A-SMGCS Routing and Planning Functions
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AOP13	Automated assistance to Controller for Surface Movement Planning and Routing
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
AOP13-REG01	Coordination and final official approval of procedures by the local regulator is required	01/01/2016	31/12/2023
AOP13-ASP01	Upgrade ATS systems to support automated assistance to air traffic controllers for surface movement planning and routing	01/01/2016	31/12/2023
AOP13-ASP02	Implement operational procedures implementing automated assistance to air traffic controllers for surface movement planning and routing	01/01/2016	31/12/2023
AOP13-ASP03	Develop, and deliver as necessary, a safety assessment of the changes imposed by the implementation of automated assistance to air traffic controllers for surface movement planning and routing	01/01/2016	31/12/2023
AOP13-ASP04	Train all operational personnel concerned in the use of automated assistance for surface movement planning and routing	01/01/2016	31/12/2023

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Improved through increased controllers' situational awareness for all ground movements and potential conflicts resolution.
Capacity:	Increased availability of taxiway resources and reduced total taxi time by ground movements. Improved traffic flow on the aerodrome's manoeuvring area.
Operational Efficiency:	Reduced fuel consumption due to reduced taxi time and reduced number of stops while taxiing.
Cost Efficiency:	-
Environment:	Reduced environmental impact by reducing fuel consumption and then CO2 emissions.
Security:	-

Detailed SLoA Descriptions

AOP13-REG01	Coordination and final official approval of procedures by the local regulator is required	From: 01/01/2016	By: 31/12/2023
Action by:	Regulatory Authorities		
Description & purpose:	Coordinate and discuss the use of new routing & planning functions between all different stakeholders and finally receive the official approval by the local regulator. Note that in some airports, management of ground movement is performed by non ATCO airport personnel.		
Finalisation criteria:	1 - All routing and planning functionalities are approved by the regulator for daily operations.		
AOP13-ASP01	Upgrade ATS systems to support automated assistance to air traffic controllers for surface movement planning and routing	From: 01/01/2016	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	<p>Upgrade ATS systems to support the capability of receiving planned and cleared surface routes assigned to aircraft and vehicles and managing the status of the routes for all concerned aircraft and vehicles.</p> <p>The A-SMGCS routing and planning function shall calculate the most operationally relevant route as free as possible of conflicts which permits the aircraft to go from stand to runway, from runway to stand or any other surface movement.</p> <p>The controller working position shall allow the air traffic controller to manage surface route trajectories.</p> <p>The flight data processing system shall be able to receive planned and cleared routes assigned to aircraft and vehicles and manage the status of the route for all concerned aircraft and vehicles.</p>		
ATM Master Plan relationship:	[AERODROME-ATC-12]-Provision of the optimised ground route minimising conflicts [AERODROME-ATC-13]-Surface movement information processing system enhanced with storage and dissemination of surface routes [AERODROME-ATC-18]-Interfacing between DMAN and Routing module [AERODROME-ATC-44a]-Departure sequence updated taking into account surface management information [AERODROME-ATC-50]-Advanced Controller Working Position (A-CWP) supporting A-SMGCS functionalities		
Finalisation criteria:	1 - Systems have been upgraded.		

AOP13	Automated assistance to Controller for Surface Movement Planning and Routing		
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AOP13-ASP02	Implement operational procedures implementing automated assistance to air traffic controllers for surface movement planning and routing	From: 01/01/2016	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Define and implement local procedures for surface movement planning and routing. Note that in some airports, management of ground movement is performed by non ATCO airport personnel.		
Finalisation criteria:	1 - Local procedures have been developed, implemented, approved/certified and are being used by controllers at airports equipped with planning and routing functions.		

AOP13-ASP03	Develop, and deliver as necessary, a safety assessment of the changes imposed by the implementation of automated assistance to air traffic controllers for surface movement planning and routing	From: 01/01/2016	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Develop safety assessment of the changes, notably upgrades of ATS systems to support automated assistance to air traffic controllers for surface movement planning and routing. The tasks to be done are as follows: <ul style="list-style-type: none"> - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver safety assessment to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. This safety assessment shall be based on fully validated/recognised method.		
Finalisation criteria:	1 - The safety argument for all changes, generated by the deployment of this functionality, has been delivered by the ANSP to the NSA.		

AOP13-ASP04	Train all operational personnel concerned in the use of automated assistance for surface movement planning and routing	From: 01/01/2016	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Train aerodrome controllers in the use of planning and routing systems and procedures (including phraseology) in accordance with agreed training requirements. Note that in some airports, management of ground movement is performed by non ATCO airport personnel.		
Finalisation criteria:	1 - Controllers training in accordance with agreed training requirements and programme has been completed.		

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SESAR		Active					ECAC	
ATC02.8		Ground-based Safety Nets						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

This objective covers the implementation of Level 2 of the following ground-based safety nets: Area Proximity Warning (APW), Minimum Safe Altitude Warning (MSAW) and Approach Path Monitor (APM).

- Area Proximity Warning (APW) uses surveillance data and flight path prediction to warn the controller when an aircraft is, or is predicted to be, flying into a volume of notified airspace, such as controlled airspace, danger areas, prohibited areas and restricted areas. APW has been identified as a pre-requisite for the implementation of Free Route Airspace (FRA) in Regulation (EU) No 716/2014 (the PCP Regulation).

- Minimum Safe Altitude Warning (MSAW) is intended to warn the air traffic controller (ATCO) about the increased risk of controlled flight into terrain by generating, in a timely manner, an alert of aircraft proximity to terrain or obstacles.

- An approach path monitor (APM) is intended to warn the ATCO about increased risk of controlled flight into terrain accidents by generating, in a timely manner, an alert of aircraft proximity to terrain or obstacles during final approach.

Before starting first operations, air traffic controllers must receive training, aimed at creating an appropriate level of trust in the concerned safety net. The time-criticality of alerts and the need for immediate attention or action must be well understood, but also the situations in which safety nets are less effective.

The number of nuisance and false alerts must be reduced to a minimum. Air traffic controllers should be encouraged to report unexpected and unwanted safety nets behaviour and feedback should always be provided.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All ECAC States		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/01/2009		Applicability Area
Full operational capability			31/12/2016	Applicability Area

References

European ATM Master Plan

OI step -	[CM-0801]-Ground Based Safety Nets (TMA, En-Route)							
Enablers -	CTE-S01	CTE-S01a ATC12.1	ER APP ATC 133	PRO-059	PRO-219			

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project (only for APW implementation)
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ICAO GANP – ASBUs

B0-SNET	Ground based safety nets
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Deployment Programme

3.2.1	Upgrade of ATM systems (NM, ANSPs, Aus) to support Direct Routings (DCTs) and Free Routing Airspace (FRA)
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ATC02.8	Ground-based Safety Nets
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ATC02.8-ASP01	Implement the APW function	01/01/2009	31/12/2016
ATC02.8-ASP02	Align ATCO training with the use of APW ground-based safety tools	01/01/2009	31/12/2016
ATC02.8-ASP03	Implement the MSAW function	01/01/2009	31/12/2016
ATC02.8-ASP04	Align ATCO training with the use of MSAW ground-based safety tools	01/01/2009	31/12/2016
ATC02.8-ASP05	Implement the APM function	01/01/2009	31/12/2016
ATC02.8-ASP06	Align ATCO training with the use of APM ground-based safety tools	01/01/2009	31/12/2016

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Major safety improvement through the systematic presentation of: - imminent and actual unauthorized penetrations into airspace volumes to controllers ahead of their occurrence, as provided by APW; - possible infringements of minimum safe altitude to controllers ahead of their occurrence, as provided by MSAW; - deviations from the glide path to controllers, as provided by APM.
Capacity:	-
Operational Efficiency:	-
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

ATC02.8-ASP01	Implement the APW function	From: 01/01/2009	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Put into service ground-based safety tool systems and associated procedures supporting the APW function. The implementation of APW is recommended for both en-route and terminal airspace. Note that APW has been identified as a pre-requisite for the implementation of Free Route Airspace (FRA) in Regulation (EU) No 716/2014 (the PCP Regulation).		
Supporting material(s):	EUROCONTROL - SPEC 124 - EUROCONTROL Specification for Area Proximity Warning - Edition 0.5 / 05/2009 Url : https://eurocontrol.int/sites/default/files/content/documents/nm/safety/eurocontrol-specification-for-area-proximity-warning-updated-edition-0-5-dated-19-may-2009.pdf EUROCONTROL - Guide - Safety Nets Ensuring Effectiveness - 21 May 2011 Url : https://www.eurocontrol.int/sites/default/files/publication/files/safety-nets-guide-21-05-2011.pdf		
ATM Master Plan relationship:	[ER APP ATC 133]-Upgrade Ground Safety Nets to provide Area Penetration Warning (APW), Minimum Safe Altitude Warning (MSAW) and Approach Path Monitoring to Controller Workstations. [PRO-059]-ATC Procedures to provide a systematic and common response to ground based Safety Net alerts		
Finalisation criteria:	1 - Ground systems have been upgraded to support the APW function. 2 - APW function in operational use.		

ATC02.8-ASP02	Align ATCO training with the use of APW ground-based safety tools	From: 01/01/2009	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Train operational staff in the use of APW. The tasks to be done are as follows: - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.		
Supporting material(s):	EUROCONTROL - SPEC 124 - EUROCONTROL Specification for Area Proximity Warning - Edition 0.5 / 05/2009 Url : https://eurocontrol.int/sites/default/files/content/documents/nm/safety/eurocontrol-specification-for-area-proximity-warning-updated-edition-0-5-dated-19-may-2009.pdf EUROCONTROL - Guide - Safety Nets Ensuring Effectiveness - 21 May 2011 Url : https://www.eurocontrol.int/sites/default/files/publication/files/safety-nets-guide-21-05-2011.pdf		

ATC02.8		Ground-based Safety Nets	
ATM Master Plan relationship:	[PRO-059]-ATC Procedures to provide a systematic and common response to ground based Safety Net alerts		
Finalisation criteria:	1 - The training plans have been updated and a training package has been developed for the use of APW functions. 2 - The concerned personnel have been trained.		
ATC02.8-ASP03	Implement the MSAW function	From: 01/01/2009	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Put into service ground-based safety tool systems and associated procedures supporting the MSAW function.		
Supporting material(s):	EUROCONTROL - Guide - Safety Nets Ensuring Effectiveness - 21 May 2011 Url : https://www.eurocontrol.int/sites/default/files/publication/files/safety-nets-guide-21-05-2011.pdf EUROCONTROL - SPEC-126 - EUROCONTROL Specification for Minimum Safe Altitude Warning - Edition 0.9 / 09/2009 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/eurocontrol-specification-for-minimum-safe-altitude-warning-updated-edition-0-9-dated-19-may-2009.pdf EUROCONTROL - GUID-127 - EUROCONTROL Guidance Material for Minimum Safe Altitude Warning - Edition 1.0 - 1.0 / 05/2009 Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/guidelines/20090519-msaw-guid-v1.0.pdf		
ATM Master Plan relationship:	[ER APP ATC 133]-Upgrade Ground Safety Nets to provide Area Penetration Warning (APW), Minimum Safe Altitude Warning (MSAW) and Approach Path Monitoring to Controller Workstations. [PRO-059]-ATC Procedures to provide a systematic and common response to ground based Safety Net alerts [PRO-219]-ATC Procedures to give priority to SNET alarm		
Finalisation criteria:	1 - Ground systems have been upgraded to support the MSAW function. 2 - MSAW function in operational use.		
ATC02.8-ASP04	Align ATCO training with the use of MSAW ground-based safety tools	From: 01/01/2009	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Train operational staff in the use of APW. The tasks to be done are as follows: - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.		
Supporting material(s):	EUROCONTROL - Guide - Safety Nets Ensuring Effectiveness - 21 May 2011 Url : https://www.eurocontrol.int/sites/default/files/publication/files/safety-nets-guide-21-05-2011.pdf EUROCONTROL - SPEC-126 - EUROCONTROL Specification for Minimum Safe Altitude Warning - Edition 0.9 / 09/2009 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/eurocontrol-specification-for-minimum-safe-altitude-warning-updated-edition-0-9-dated-19-may-2009.pdf EUROCONTROL - GUID-127 - EUROCONTROL Guidance Material for Minimum Safe Altitude Warning - Edition 1.0 - 1.0 / 05/2009 Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/guidelines/20090519-msaw-guid-v1.0.pdf		
ATM Master Plan relationship:	[PRO-059]-ATC Procedures to provide a systematic and common response to ground based Safety Net alerts [PRO-219]-ATC Procedures to give priority to SNET alarm		
Finalisation criteria:	1 - The training plans have been updated and a training package has been developed for the use of MSAW functions. 2 - The concerned personnel have been trained.		
ATC02.8-ASP05	Implement the APM function	From: 01/01/2009	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Put into service ground-based safety tool systems and associated procedures supporting the MSAW function.		
Supporting material(s):	EUROCONTROL - Guide - Safety Nets Ensuring Effectiveness - 21 May 2011 Url : https://www.eurocontrol.int/sites/default/files/publication/files/safety-nets-guide-21-05-2011.pdf EUROCONTROL - SPEC 128 - EUROCONTROL Specification for Approach Path Monitor - Edition 0.5 / 05/2009 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/eurocontrol-specification-for-approach-path-monitor-updated-edition-0-5-dated-19-may-2009.pdf EUROCONTROL - GUID-129 - EUROCONTROL Guidance Material for Approach Path Monitor - Edition 1.0 - 1.0 / 05/2009 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/guidance-material-for-approach-path-monitor.pdf		
ATM Master Plan relationship:	[ER APP ATC 133]-Upgrade Ground Safety Nets to provide Area Penetration Warning (APW), Minimum Safe Altitude		

ATC02.8	Ground-based Safety Nets		
	Warning (MSAW) and Approach Path Monitoring to Controller Workstations. [PRO-059]-ATC Procedures to provide a systematic and common response to ground based Safety Net alerts		
Finalisation criteria:	1 - Ground systems have been upgraded to support the APM function. 2 - APM function in operational use.		
ATC02.8-ASP06	Align ATCO training with the use of APM ground-based safety tools	From: 01/01/2009	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Train operational staff in the use of APM. The tasks to be done are as follows: - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.		
Supporting material(s):	EUROCONTROL - GUID-129 - EUROCONTROL Guidance Material for Approach Path Monitor - Edition 1.0 - 1.0 / 05/2009 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/guidance-material-for-approach-path-monitor.pdf EUROCONTROL - SPEC 128 - EUROCONTROL Specification for Approach Path Monitor - Edition 0.5 / 05/2009 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/eurocontrol-specification-for-approach-path-monitor-updated-edition-0-5-dated-19-may-2009.pdf EUROCONTROL - Guide - Safety Nets Ensuring Effectiveness - 21 May 2011 Url : https://www.eurocontrol.int/sites/default/files/publication/files/safety-nets-guide-21-05-2011.pdf		
ATM Master Plan relationship:	[PRO-059]-ATC Procedures to provide a systematic and common response to ground based Safety Net alerts		
Finalisation criteria:	1 - The training plans have been updated and a training package has been developed for the use of APM functions. 2 - The concerned personnel have been trained.		

SESAR	Active						APT
ATC07.1	AMAN tools and procedures						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

Implement Basic Arrival Manager (AMAN) tools to improve sequencing and metering of arrival aircraft in selected TMAs and airports. The AMAN tools interact with several systems, including the host Flight Data Processing System (FDPS) and Surveillance Data Processing System (SDPS) resulting in a 'planned' time for any individual flight.

Since the AMAN has certain conditions it needs to satisfy (such as the required landing rate, or spacing, on the runway), when 2 or more aircraft are predicted at or around the same time on the runway it plans a sequence, generating new 'required' times that need to be applied to the flight(s), in order to create/maintain the sequence.

AMAN also outputs the required time for the ATCO in the form of Time To Lose (TTL)/Time To Gain (TTG) information. The controller is then responsible for finding and applying an appropriate method (vectoring, path stretching, speed changes or holding) for the aircraft to meet its time or position in the sequence.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area 1 (PCP airports) (TMAs serving the listed airports)	See list of Airports in the Plan - Annex E		
Applicability Area 2 (Non-PCP airports) (TMAs serving the listed airports)	See list of Airports in the Plan - Annex E		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2007		Applicability Area 1 (PCP airports) + Applicability Area 2 (Non-PCP airports)
Full operational capability		31/12/2019	Applicability Area 1 (PCP airports) + Applicability Area 2 (Non-PCP airports)

References

European ATM Master Plan

OI step -	[TS-0102]-Basic Arrival Management Supporting TMA Improvements (incl. CDA, P-RNAV)						
Enablers -	ER APP ATC 128	PRO-049	PRO-050				
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

-none-

ICAO GANP – ASBUs

B0-RSEQ	Improved Runway Traffic Flow through Sequencing (AMAN/DMAN)
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Deployment Programme

1.1.1	Basic AMAN
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ATC07.1-ASP01	Implement initial basic arrival management tools	01/12/1998	31/12/2019
ATC07.1-ASP02	Implement initial basic AMAN procedures	01/01/2005	31/12/2019

ATC07.1	AMAN tools and procedures		
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ATC07.1-ASP03	Adapt TMA organisation to accommodate use of basic AMAN	01/01/2005	31/12/2019
ATC07.1-ASP04	Adapt ground ATC systems to support basic AMAN functions	01/01/2007	31/12/2019

Description of finalised and deleted SLOAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Maintain or improved.
Capacity:	Improved airport/TMA capacity and reduced delays.
Operational Efficiency:	Optimised arrival sequencing produces a positive effect on fuel burn.
Cost Efficiency:	-
Environment:	Reduced holding and low level vectoring has a positive environmental effect in terms of noise and CO2 emissions.
Security:	-

Detailed SLOA Descriptions

ATC07.1-ASP01	Implement initial basic arrival management tools	From: 01/12/1998	By: 31/12/2019
Action by:	ANS Providers		
Description & purpose:	Implement initial basic arrival management tools		
Supporting material(s):	EUROCONTROL - Arrival Manager - Implementation Guidelines and Lessons Learned Edition 0.1 12/2010 Url : http://www.eurocontrol.int/articles/fasti-documents EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 01/1999 Url : http://extraweb.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html		
Finalisation criteria:	1 - Function has been implemented, documented and is in operational use.		

ATC07.1-ASP02	Implement initial basic AMAN procedures	From: 01/01/2005	By: 31/12/2019
Action by:	ANS Providers		
Description & purpose:	Define, validate and implement ATC procedures for operational use of basic AMAN tools.		
Supporting material(s):	EUROCONTROL - Arrival Manager - Implementation Guidelines and Lessons Learned Edition 0.1 12/2010 Url : http://www.eurocontrol.int/articles/fasti-documents EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 01/1999 Url : http://extraweb.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html		
ATM Master Plan relationship:	[PRO-049]-ATC Procedures to make use of AMAN tool including assigning responsibility for issuing times [PRO-050]-ATC Procedures to increase the use of CDA during busier time periods using AMAN information		
Finalisation criteria:	1 - Procedures have been implemented, documented and are in operational use.		

ATC07.1-ASP03	Adapt TMA organisation to accommodate use of basic AMAN	From: 01/01/2005	By: 31/12/2019
Action by:	ANS Providers		
Description & purpose:	Adapt TMA organisation, where necessary, to accommodate the use of basic AMAN.		
Supporting material(s):	EUROCONTROL - Arrival Manager - Implementation Guidelines and Lessons Learned Edition 0.1 12/2010 Url : http://www.eurocontrol.int/articles/fasti-documents EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 01/1999 Url : http://extraweb.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html		
Finalisation criteria:	1 - TMA organisation is already compliant to basic AMAN use, or has been adapted accordingly.		

ATC07.1-ASP04	Adapt ground ATC systems to support basic AMAN functions	From: 01/01/2007	By: 31/12/2019
Action by:	ANS Providers		
Description & purpose:	Prepare and adapt ground ATC systems to support and implement basic AMAN functions.		
Supporting material(s):	EUROCONTROL - Arrival Manager - Implementation Guidelines and Lessons Learned Edition 0.1 12/2010 Url : http://www.eurocontrol.int/articles/fasti-documents		

ATC07.1	AMAN tools and procedures
	EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 01/1999 Url : http://extraweb.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html
ATM Master Plan relationship:	[ER APP ATC 128]-Introduce Basic AMAN
Finalisation criteria:	1 - ATC systems are already compliant to basic AMAN use, or have been adapted accordingly.

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SESAR		Active					ECAC	
ATC12.1		Automated support for conflict detection, resolution support information and conformance monitoring						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

The Implementation of Free Route Airspace (FRA) needs to be supported by Conflict Detection Tools (CDT), Resolution Support Information and Conformance Monitoring.

The Conflict Detection tools (CDT) include the trajectory based Medium Conflict Detection Tool (MTCD) or/and Tactical Controller Tool (TCT).

The decision on whether to implement either one or both tools (MTCD and TCT) is left to the individual ANSP organisation as it depends on local conditions and systems in use.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All ECAC States except: Luxembourg		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/01/2015		Applicability Area
Full operational capability			31/12/2021	Applicability Area

References

European ATM Master Plan

Ol step -	[CM-0202]-Automated Assistance to ATC Planning for Preventing Conflicts in En-Route Airspace								
	Enablers -	ER APP ATC 129	PRO-046b						
Ol step -	[CM-0203]-Automated Flight Conformance Monitoring								
	Enablers -	CTE-S01a	CTE-S03	CTE-S03a	CTE-S04	CTE-S04a	CTE-S04b AOP04.1, AOP04.2	ER APP ATC 130	PRO-046b
Ol step -	[CM-0205]-Advanced Conflict Detection and Resolution in En-Route								
	Enablers -	ER ATC 157	PRO-046b						
Ol step -	[CM-0207-A]-Advanced Automated Ground Based Flight Conformance Monitoring in En-Route								
	Enablers -	CTE-S01a	CTE-S03b AOP04.1, AOP04.2	ER ATC 91					

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

- none -	
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Deployment Programme

3.2.1	Upgrade of ATM systems (NM, ANSPs, Aus) to support Direct Routings (DCTs) and Free Routing Airspace (FRA)
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
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ATC12.1	Automated support for conflict detection, resolution support information and conformance monitoring
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ATC12.1-ASP01	Implement MTCD and resolution support functions and associated procedures	01/01/2015	31/12/2021
ATC12.1-ASP02	Implement TCT and associated procedures	01/01/2015	31/12/2021
ATC12.1-ASP03	Implement MONA functions	01/01/2015	31/12/2021
ATC12.1-ASP04	Perform ATCO training for the use of CDT (MTCD and or TCT), resolution support and MONA related functions	01/01/2015	31/12/2021
ATC12.1-ASP05	Develop safety assessment for the changes	01/01/2015	31/12/2021

Description of finalised and deleted SLOAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Early and systematic conflict detection and conformance monitoring enabled by ground based automated tools will reduce the need for tactical interventions, conformance monitoring reduces the risk of the impact of controllers and pilots errors. Possibility to maintain high level of safety with an increase in capacity due to a reduction of controller workload per aircraft.
Capacity:	Reduction of tactical controller workload, and better sector team productivity, compared to the conventional systems without automated support will open potential for capacity up to 15% in comparison to a baseline case without a detection tool (MTCD and/or TCT).
Operational Efficiency:	-
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLOA Descriptions

ATC12.1-ASP01	Implement MTCD and resolution support functions and associated procedures	From: 01/01/2015	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	<p>Deploy the MTCD related to :</p> <ul style="list-style-type: none"> * Detection conflicts and risks <ul style="list-style-type: none"> - between aircraft; - between aircraft and reserved airspace or area (such as Holding stack area), upon activation or de-activation - Including posting detection to the sector responsible for acting on it, * Resolution support information which includes conflict probe and passive conflict resolution advisor(e.g. presentation of context traffic) <p>as appropriate and in accordance with the ANSP's Concept of Operation and identified needs.</p> <p>Adapt the operational procedures and working methods to support the MTCD deployment.</p>		
Supporting material(s):	<p>EUROCONTROL - SPEC 139 - EUROCONTROL Specification for Medium-Term Conflict Detection - Edition 1.0 / 07/2010</p> <p>Url : http://www.eurocontrol.int/articles/fasti-documents</p> <p>EUROCONTROL - SPEC 143 - EUROCONTROL Specification for Trajectory Prediction - Edition 1.0 / 07/2010</p> <p>Url : http://www.eurocontrol.int/articles/fasti-documents</p> <p>EUROCONTROL - FASTI - Operational Performance Requirements Analysis for the Conflict Detection Tool - Final Draft - 2 / 12/2012</p> <p>Url : http://www.eurocontrol.int/articles/fasti-documents</p>		
ATM Master Plan relationship:	<p>[ER APP ATC 129]-Upgrade FDP and provide Controller Tools to provide assistance to ATC Planning for Preventing Conflicts in En-Route Airspace</p> <p>[ER ATC 157]-ATC System Support for Medium-Term Conflict Detection and Resolution in En-route Airspace</p> <p>[PRO-046b]-ATC Procedures for Using Advanced System Assistance to Medium Term Conflict Detection and Resolution</p>		
Finalisation criteria:	1 - MTCD and resolution support functions have been implemented documented and is in operational use.		

ATC12.1-ASP02	Implement TCT and associated procedures	From: 01/01/2015	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	<p>Deploy the Tactical Controller Tool (TCT) to:</p> <ul style="list-style-type: none"> - Detection conflicts between state vector trajectories(extended STCA); - Detection conflicts between state vector trajectories and tactical trajectories; - Detection conflicts between tactical trajectories; <p>as appropriate and in accordance with the ANSP's Concept of Operation and identified needs.</p>		

ATC12.1		Automated support for conflict detection, resolution support information and conformance monitoring	
	Adapt the operational procedures and working methods to support the TCT deployment.		
Supporting material(s):	EUROCONTROL - TCT RTS Final report - 0.3 / 04/2009 Url : http://www.eurocontrol.int/sites/default/files/article/content/documents/nm/fasti-tct-rts-2009.pdf		
ATM Master Plan relationship:	[CTE-S01a]-SSR Mode A/C/S		
Finalisation criteria:	1 - TCT functions have been implemented documented and is in operational use.		
ATC12.1-ASP03	Implement MONA functions	From: 01/01/2015	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Deploy MONA functions : - Lateral deviation - Longitudinal deviation - Vertical deviation - CFL deviation - Aircraft Derived Data (ADD) deviations as appropriate and in accordance with the ANSP's Concept of Operation and identified needs. Adapt the operational procedures and working methods to support the MONA deployment		
Supporting material(s):	EUROCONTROL - SPEC 142 - EUROCONTROL Specification for Monitoring Aids - Edition 1.0 / 07/2010 Url : http://www.eurocontrol.int/articles/fasti-documents EUROCONTROL - SPEC 143 - EUROCONTROL Specification for Trajectory Prediction - Edition 1.0 / 07/2010 Url : http://www.eurocontrol.int/articles/fasti-documents		
ATM Master Plan relationship:	[ER APP ATC 130]-Upgrade FDP and provide Controller Tools to provide Controller with warnings if aircraft deviate from a clearance or plan [ER ATC 91]-ATC System Support for Advanced Conformance Monitoring in En-route Airspace [ER ATC 94]-ATC tools in support of RNP (e.g. RNP1, A-RNP) for En-Route [PRO-046b]-ATC Procedures for Using Advanced System Assistance to Medium Term Conflict Detection and Resolution		
Finalisation criteria:	1 - Conformance Monitoring function has been implemented, documented and is in operational use.		
ATC12.1-ASP04	Perform ATCO training for the use of CDT (MTCD and or TCT), resolution support and MONA related functions	From: 01/01/2015	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Perform ATCO training in line with EUROCONTROL Specifications and guidelines.		
Supporting material(s):	EUROCONTROL - SPEC 139 - EUROCONTROL Specification for Medium-Term Conflict Detection - Edition 1.0 / 07/2010 Url : http://www.eurocontrol.int/articles/fasti-documents EUROCONTROL - Good Practice Guidelines for First ATC Support Tools Implementation (FASTI) with a Focus on Human Factors and Managing the Transition - Edition 1.0 / 06/2007 Url : http://www.eurocontrol.int/articles/fasti-documents EUROCONTROL - FASTI - FASTI Specific Human Factors Guidelines for MTCD, MONA and SYSCO 06/2007 Url : http://www.eurocontrol.int/articles/fasti-documents EUROCONTROL - FASTI - Completing the FASTI Safety Case: Guidance for Service Providers - 1.0 / 01/2009 Url : http://www.eurocontrol.int/articles/fasti-documents		
Finalisation criteria:	1 - ATCOs have been trained for the use of CDT (MTCD and/or TCT), resolution support information and MONA.		
ATC12.1-ASP05	Develop safety assessment for the changes	From: 01/01/2015	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Develop safety assessment of the changes, notably ATC systems and procedures that will implement Conflict Detection Tools, resolution support function and conformance monitoring. The tasks to be done are as follows: - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. This safety assessment shall be based on a fully validated/recognised method.		
Supporting material(s):	EUROCONTROL - FASTI - Completing the FASTI Safety Case: Guidance for Service Providers - 1.0 / 01/2009 Url : http://www.eurocontrol.int/articles/fasti-documents		

ATC12.1	Automated support for conflict detection, resolution support information and conformance monitoring
	<p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam</p> <p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EUROCONTROL - Safety Assessment Made Easier (SAME), Part 1 - Edition 1.0 / 01/2010 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam</p>
Finalisation criteria:	1 - The safety assessment report including safety arguments for the changes has been delivered to the NSA and a notification of acceptance was received.

SESAR		Active					Multi-N	
ATC15.1		Implement, in en-route operations, information exchange mechanisms, tools and procedures in support of basic AMAN						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Implement, in En-Route operations in selected ACCs, information exchange mechanisms, tools and procedures in support of Basic AMAN operations in adjacent ACCs and/or subjacent TMAs (including, where relevant, support for AMAN operations involving airports located in adjacent ATSUs).

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All EU States except: Cyprus, Greece, Lithuania, Luxembourg, Malta, Slovak Republic, Slovenia. Plus: Bosnia and Herzegovina, Maastricht UAC, Norway, Switzerland, Turkey		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/01/2012		Applicability Area
Full operational capability			31/12/2017	Applicability Area

References

European ATM Master Plan

Ol step -	[TS-0305]-Arrival Management Extended to En-Route Airspace							
	Enablers -	ER APP ATC 111	HUM-TS-0305	PRO-052				
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan		

Applicable legislation

-none-

ICAO GANP – ASBUs

B0-RSEQ	Improved Runway Traffic Flow through Sequencing (AMAN/DMAN)
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Deployment Programme

1.1.2	AMAN Upgrade to include Extended Horizon function
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ATC15.1-REG01	Conduct safety oversight of the changes	DELETED	
ATC15.1-REG02	Approve the procedures for operation of AMAN tools in en route sectors supporting AMAN in adjacent/subjacent areas.	DELETED	
ATC15.1-ASP01	Develop safety assessment for the changes	01/01/2012	31/12/2017
ATC15.1-ASP02	Adapt the ATC systems that will implement arrival management functionality in En-Route sectors in support of AMAN operations in adjacent/subjacent TMAs	01/01/2012	31/12/2017
ATC15.1-ASP03	Implement ATC procedures in En-Route airspace/sectors that will implement AMAN information and functionality	01/01/2012	31/12/2017
ATC15.1-ASP04	Train operational and technical staff and update Training Plans	01/01/2012	31/12/2017
ATC15.1-ASP05	Revise and publish Aeronautical Information documents	DELETED	

ATC15.1	Implement, in en-route operations, information exchange mechanisms, tools and procedures in support of basic AMAN
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Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Maintained or improved.
Capacity:	Improved airport/TMA capacity.
Operational Efficiency:	Reduction in holding and in low-level vectoring, by applying delay management at an early stage of flight, reduces delay and has a positive effect on fuel burn.
Cost Efficiency:	-
Environment:	Reduction in holding and in low-level vectoring, by applying delay management at an early stage of flight, has a positive environmental effect in terms of noise and CO2 emissions.
Security:	N/A

Detailed SLoA Descriptions

ATC15.1-ASP01	Develop safety assessment for the changes	From: 01/01/2012	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	<p>Develop safety assessment of the changes, notably ATC systems and procedures that will implement arrival management functionality in En-Route sectors and associated procedures.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. <p>This safety assessment shall be based on fully validated/recognised method.</p>		
Supporting material(s):	<p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam</p> <p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF</p> <p>EUROCONTROL - Safety Assessment Made Easier (SAME), Part 1 - Edition 1.0 / 01/2010 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam</p>		
Finalisation criteria:	1 - The safety assessment report including safety arguments for the changes has been delivered to the NSA and a notification of acceptance was received.		

ATC15.1-ASP02	Adapt the ATC systems that will implement arrival management functionality in En-Route sectors in support of AMAN operations in adjacent/subjacent TMAs	From: 01/01/2012	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Implement, in selected ATC systems, the necessary functionality and information exchanges to support the use of AMAN information in En-Route sectors requiring data exchange generated from AMAN systems and operations in adjacent/subjacent TMAs.		
Supporting material(s):	<p>EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 01/1999 Url : http://extraweb.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html</p> <p>EUROCONTROL - AMAN Information Extension to En Route Sectors - Concept of Operations - Edition 1.0 / 06/2009 Url : http://www.eurocontrol.int/articles/fasti-documents</p>		
ATM Master Plan relationship:	[ER APP ATC 111]-Enhance AMAN to provide arrival sequence time information into En-Route decision making.		
Finalisation criteria:	<p>1 - ATC systems are either:</p> <ul style="list-style-type: none"> - Already compliant to AMAN use in En-Route; or - have functionality implemented to support the necessary exchange of information needed to support AMAN operations in En-Route airspace that is interfacing with AMANs in adjacent/subjacent areas. <p>2 - ANSPs have described the level of system support and functionality with direct reference to the relevant complexity</p>		

ATC15.1	Implement, in en-route operations, information exchange mechanisms, tools and procedures in support of basic AMAN		
	level as defined in the -AMAN Information Extension to En-Route Sectors- Concept - documentation.		
ATC15.1-ASP03	Implement ATC procedures in En-Route airspace/sectors that will implement AMAN information and functionality	From: 01/01/2012	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Define, validate and implement the necessary ATC procedures in selected En-Route airspace/sectors, to support the use of AMAN information in En-Route sectors that are interfacing with AMAN systems operating in adjacent/subjacent TMAs.		
Supporting material(s):	EUROCONTROL - AMAN Information Extension to En Route Sectors - Concept of Operations - Edition 1.0 / 06/2009 Url : http://www.eurocontrol.int/articles/fasti-documents EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 01/1999 Url : http://extraweb.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html		
ATM Master Plan relationship:	[PRO-052]-ATC Procedures for extending sequencing for TMA into the en-route sectors		
Finalisation criteria:	1 - Procedures have been implemented, documented and are in operational use. 2 - ANSPs have defined, validated and implemented procedures directly related to the relevant complexity level chosen (ref. SLoA ATC15-ASP02), as defined in the AMAN Information Extension to En-Route Sectors Concept documentation.		
ATC15.1-ASP04	Train operational and technical staff and update Training Plans	From: 01/01/2012	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Train operational staff in the use of ATC procedures in En-Route airspace/sectors that will implement AMAN information and functionality in support of AMAN in adjacent/subjacent TMAs. The tasks to be done are as follows: - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.		
Finalisation criteria:	1 - The training plans have been updated and a training package has been developed by the ANSP. 2 - All concerned personnel have been trained.		

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PCP		Active					EU+	
ATC15.2		Arrival Management extended to en-route Airspace						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Arrival Management extended to en-route Airspace extends the AMAN horizon from the 100-120 nautical miles to at least 180-200 nautical miles from the arrival airport. Traffic sequencing may be conducted in the en-route and early descent phases.

Air traffic control (ATC) services in the TMAs implementing AMAN operations shall coordinate with Air Traffic Services (ATS) units responsible for adjacent en-route sectors.

The existing techniques to manage the AMAN constraints, in particular Time to Lose or Gain and Speed Advice may be used to implement this functionality.

Input data to AMAN need to be provided by the most accurate trajectory prediction information available (including EFD, CPR, etc.).

It should be noted that "AMAN upgrade to include Extended Horizon function" includes the following aspects:

- A sector receiving arrival messages must display information for the controller in order to facilitate that instructions are given to aircraft.
- A sector operating a "Basic AMAN" should be able to generate arrival messages to adjacent sectors providing instructions to aircraft outside its own sector.
- ATM systems must be upgraded in order to be able to generate, communicate, receive and display AMA messages (ref. SLoA ATC15-ASP02) or other extended AMAN data exchanges via B2B services.
- Bilateral agreements must be established between the sectors involved that can be in different ATC units and also in different countries, including the Network Manager for the notification purposes.
- Integration of departing traffic from airfields within the extended horizon destined to arrive at the AMAN airfield.
- NM system upgrades for extended AMAN.
- Development of the working procedures including coordination with NM.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area (ACCs within the extended AMAN horizon, including those adjacent to TMAs serving/associated to PCP airports; TMAs associated to PCP airports.)		All EU+ States		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/01/2015		Applicability Area
Full operational capability			31/12/2023	Applicability Area

References

European ATM Master Plan

OI step -		[TS-0305-A]-Arrival Management Extended to En-Route Airspace - single TMA						
Enablers -		APP ATC 111	ER ATC 163	PRO-245	REG-0516			
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler		WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B1-RSEQ	Improved Airport operations through Departure, Surface and Arrival Management
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Deployment Programme

1.1.2	AMAN Upgrade to include Extended Horizon function
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ATC15.2	Arrival Management extended to en-route Airspace
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Stakeholder Lines of Action (SLOAs)

SloA ref.	Title	From	By
ATC15.2-ASP01	Upgrade ATC systems to support extended AMAN	01/01/2015	31/12/2023
ATC15.2-ASP02	Implement ATC procedures to support extended AMAN	01/01/2015	31/12/2023
ATC15.2-ASP03	Develop, and deliver as necessary, a safety assessment	01/01/2015	31/12/2023
ATC15.2-ASP04	Establish Bilateral agreements	01/01/2015	31/12/2023
ATC15.2-ASP05	Ensure that all operational personnel concerned is adequately trained	01/01/2015	31/12/2023
ATC15.2-NM01	Upgrade NM systems to support extended AMAN	01/01/2015	31/12/2023
ATC15.2-NM02	Establish Bilateral agreements	01/01/2015	31/12/2023
ATC15.2-NM03	Implement ATFCM procedures for management of extended AMAN info	01/01/2015	31/12/2023

Description of finalised and deleted SLOAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Maintained.
Capacity:	Optimal use of TMA capacity.
Operational Efficiency:	Improved arrival flow.
Cost Efficiency:	-
Environment:	Delays are resorbed by reducing speed in early phases of arrivals leading to reduction of holding and vectoring which has a positive environmental impact in terms of fuel savings.
Security:	-

Detailed SLOA Descriptions

ATC15.2-ASP01	Upgrade ATC systems to support extended AMAN	From: 01/01/2015	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Upgrade ATC system to support extended AMAN in En-route sectors (including data exchange, data processing and information display at the ATCO working positions in support the handling of AMAN constraints). ATM systems must be upgraded in order to be able to generate, communicate, receive and display AMA OLDI messages or other extended AMAN data exchanges via B2B services.		
Supporting material(s):	<p>SJU - SESAR 05.06.04-D34 - Consolidated SPR-INTEROP - Tactical TMA and En-route Queue Management - 05.06.04-D34 of 24.08.2015</p> <p>Url : https://extranet.sesarju.eu/WP_05/Project_05.06.04/Project%20Plan/Forms/AllItems.aspx?RootFolder=%2fWP%5f05%2fProject%5f05%2e06%2e04%2fProject%20Plan%2fSPR%5fINTEROP%2fD34%5fSPR%5fINTEROP%5fupdated%20version%20after%20SJU%20assessment&FolderCTID=0x012000F960C1DC67197348ABCB538BB4AD7BD8&View=%7b65F324AA%2d1DFF%2d4BAC%2d8982%2dE9C507655CA6%7d</p> <p>SJU - SESAR 05.06.04-D32 - Updated OSED- Tactical TMA and En-route Queue Management - 05.06.04-D32 of 20.02.2014</p> <p>Url : https://extranet.sesarju.eu/WP_05/Project_05.06.04/Project%20Plan/Forms/AllItems.aspx?RootFolder=%2fWP%5f05%2fProject%5f05%2e06%2e04%2fProject%20Plan%2fOSED%2fD32%20OSED%20Update%20%2d%20Consolidated%20vers%5freview%20after%20SJU%20assessment&FolderCTID=0x012000F960C1DC67197348ABCB538BB4AD7BD8&View=%7b65F324AA%2d1DFF%2d4BAC%2d8982%2dE9C507655CA6%7d</p>		
ATM Master Plan relationship:	[APP ATC 111]-Enhance AMAN to extend arrival management to en-route airspace - single TMA [ER ATC 163]-Support to En-route delay absorption for cross-border implementation of arrival sequence		
Finalisation criteria:	1 - The upgraded systems are in service.		

ATC15.2-ASP02	Implement ATC procedures to support extended AMAN	From: 01/01/2015	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Define and implement the needed ATC procedures to support the extended AMAN functionality.		
Supporting material(s):	SJU - SESAR 05.06.04-D34 - Consolidated SPR-INTEROP - Tactical TMA and En-route Queue Management - 05.06.04-D34 of 24.08.2015		

ATC15.2		Arrival Management extended to en-route Airspace	
	<p>Url : https://extranet.sesarju.eu/WP_05/Project_05.06.04/Project%20Plan/Forms/AllItems.aspx?RootFolder=%2fWP%5f05%2fProject%5f05%2e06%2e04%2fProject%20Plan%2fSPR%5fINTEROP%2fd34%5fSPR%5fINTEROP%5fupdated%20ersion%20after%20SJU%20assessment&FolderCTID=0x012000F960C1DC67197348ABC538BB4AD7BD8&View=%7b65F324AA%2d1DFF%2d4BAC%2d8982%2dE9C507655CA6%7d</p> <p>SJU - SESAR 05.06.04-D32 - Updated OSED- Tactical TMA and En-route Queue Management - 05.06.04-D32 of 20.02.2014</p> <p>Url : https://extranet.sesarju.eu/WP_05/Project_05.06.04/Project%20Plan/Forms/AllItems.aspx?RootFolder=%2fWP%5f05%2fProject%5f05%2e06%2e04%2fProject%20Plan%2fOSED%2fd32%20OSED%20Update%20%2d%20Consolidated%20vers%5freview%20after%20SJU%20assessment&FolderCTID=0x012000F960C1DC67197348ABC538BB4AD7BD8&View=%7b65F324AA%2d1DFF%2d4BAC%2d8982%2dE9C507655CA6%7d</p>		
ATM Master Plan relationship:	[PRO-245]-ATC Procedures for use of cross border extended Arrival Management		
Finalisation criteria:	1 - Procedures have been developed, implemented, and are in operational use.		
ATC15.2-ASP03	Develop, and deliver as necessary, a safety assessment	From: 01/01/2015	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	<p>Develop safety assessment of the changes related to implementation of extended arrival management functionality in En-Route sectors and associated procedures. The tasks to be done are as follows:</p> <ul style="list-style-type: none">- Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks;- Develop safety assessment;- Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. <p>This safety assessment shall be based on fully validated/recognised method.</p>		
Supporting material(s):	<p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam</p> <p>EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF</p>		
Finalisation criteria:	1 - The safety assessment report for the changes has been developed and delivered to the NSA as necessary.		
ATC15.2-ASP04	Establish Bilateral agreements	From: 01/01/2015	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Establish Bilateral agreements between the ATS units involved for extended operational procedures and data exchanges, as well as between the concerned ATS unit and NM.		
Supporting material(s):	<p>SJU - SESAR 05.06.04-D34 - Consolidated SPR-INTEROP - Tactical TMA and En-route Queue Management - 05.06.04-D34 of 24.08.2015</p> <p>Url : https://extranet.sesarju.eu/WP_05/Project_05.06.04/Project%20Plan/Forms/AllItems.aspx?RootFolder=%2fWP%5f05%2fProject%5f05%2e06%2e04%2fProject%20Plan%2fSPR%5fINTEROP%2fd34%5fSPR%5fINTEROP%5fupdated%20ersion%20after%20SJU%20assessment&FolderCTID=0x012000F960C1DC67197348ABC538BB4AD7BD8&View=%7b65F324AA%2d1DFF%2d4BAC%2d8982%2dE9C507655CA6%7d</p> <p>SJU - SESAR 05.06.04-D32 - Updated OSED- Tactical TMA and En-route Queue Management - 05.06.04-D32 of 20.02.2014</p> <p>Url : https://extranet.sesarju.eu/WP_05/Project_05.06.04/Project%20Plan/Forms/AllItems.aspx?RootFolder=%2fWP%5f05%2fProject%5f05%2e06%2e04%2fProject%20Plan%2fOSED%2fd32%20OSED%20Update%20%2d%20Consolidated%20vers%5freview%20after%20SJU%20assessment&FolderCTID=0x012000F960C1DC67197348ABC538BB4AD7BD8&View=%7b65F324AA%2d1DFF%2d4BAC%2d8982%2dE9C507655CA6%7d</p>		
ATM Master Plan relationship:	[PRO-245]-ATC Procedures for use of cross border extended Arrival Management		
Finalisation criteria:	1 - Agreed LoA or MoU between neighbouring ATC units has been signed.		
ATC15.2-ASP05	Ensure that all operational personnel concerned is adequately trained	From: 01/01/2015	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	<p>Train operational staff in the use of ATC procedures in En-Route airspace/sectors that will implement extended AMAN information. The tasks to be done are as follows:</p>		

ATC15.2	Arrival Management extended to en-route Airspace
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	<ul style="list-style-type: none"> - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.
Finalisation criteria:	1 - A training package has been developed by the ANSP and all concerned staff have been trained.

ATC15.2-NM01	Upgrade NM systems to support extended AMAN	From:	By:
		01/01/2015	31/12/2023
Action by:	NM		
Description & purpose:	Upgrade the NM systems for: <ul style="list-style-type: none"> - reception and presentation of extended AMAN data; - processing extended AMAN data in NM systems (new estimates used for updating traffic demand data during the execution phase, further updates for trajectory update); - a provision of Network information(EFD improvements regarding accuracy and timely distribution of data); - development of Network Impact Assessment Tool to include extended AMAN requirements. 		
Finalisation criteria:	1 - The upgraded system is in service.		

ATC15.2-NM02	Establish Bilateral agreements	From:	By:
		01/01/2015	31/12/2023
Action by:	NM		
Description & purpose:	Define the data exchanges and operational procedures between NM and concerned ATS units.		
Finalisation criteria:	1 - Bilateral agreements are concluded.		

ATC15.2-NM03	Implement ATFCM procedures for management of extended AMAN info	From:	By:
		01/01/2015	31/12/2023
Action by:	NM		
Description & purpose:	Define and implement the required ATFCM procedures to support the extended AMAN functionality.		
Finalisation criteria:	1 - ATFCM Procedures have been developed, implemented, and are in operational use.		

SESAR		Active					ECAC	
ATC17		Electronic Dialogue as automated assistance to controller during coordination and transfer						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

The operational context of electronic dialogue as automated assistance to controller during coordination and transfer addresses the facilities and processes between ATC components serving ATC units for the purpose of achieving:

1. The electronic dialogue in co-ordination prior to the transfer of flights from one ATC unit to the next.

In the scope of this objective the implementers should use the following OLDI messages in order to perform an electronic dialogue :

- Referred Activate Proposal Message (RAP);
- Referred Revision Proposal Message (RRV)
- Co-ordination Message (CDN)
- Acceptance Message (ACP)
- Reject Co-ordination Message (RJC)
- Stand-by Message (SBY)

2. The transfer of communication from one ATC unit to the next ATC unit of such flights.

In the scope of this objective the implementers should use the following OLDI messages in order to perform an electronic dialogue:

- Change of Frequency Message (COF)
- Manual Assumption of Communications Message (MAS)
- Transfer Initiation Message (TIM)
- Supplementary Data Message (SDM)
- Hand-Over Proposal Message (HOP)
- Request on Frequency Message (ROF)

3. The coordination processes that support the exchange of OLDI messages related to the Basic procedure, specifically Preliminary Activation Message (PAC) and, if applicable, SSR Code Assignment Message (COD).

The system permits controllers to conduct screen to screen coordination between adjacent ATSUs / sectors reducing workload associated with coordination, integration and identification tasks. The system supports coordination dialogue between controllers and transfer of flights between ATSUs, and facilitates early resolution of conflicts through inter ATSU/sector coordination.

NOTE: This objective complements the (mandatory) requirements of basic notification, coordination and transfer functionalities which were covered in ESSIP objective ITY-COTR (achieved in 2015) and regulated by Regulation (EC) No 1032/2006.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All ECAC States except: Ireland, Slovak Republic		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/01/2013		Applicability Area
Full operational capability			31/12/2018	Applicability Area

References

European ATM Master Plan

OI step -	[CM-0201]-Automated Assistance to Controller for Seamless Coordination, Transfer and Dialogue						
Enablers -	PRO-048						

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EC) No 1032/2006 laying down requirements for the exchange of flight data for the purpose of notification, coordination and transfer of flights between air traffic control units.

ICAO GANP – ASBUs

ATC17	Electronic Dialogue as automated assistance to controller during coordination and transfer
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B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration
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Deployment Programme

3.2.1	Upgrade of ATM systems (NM, ANSPs, Aus) to support Direct Routings (DCTs) and Free Routing Airspace (FRA)
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ATC17-REG01	Conduct safety oversight of the changes	DELETED	
ATC17-ASP01	Develop safety assessment for the changes	01/01/2013	31/12/2018
ATC17-ASP02	Upgrade and put into service ATC system to support the Basic procedure (specifically PAC and COD)	01/01/2013	31/12/2018
ATC17-ASP03	Upgrade and put into service ATC system to support electronic dialogue procedure in Transfer of communication process	01/01/2013	31/12/2018
ATC17-ASP04	Upgrade and put into service ATC system to support electronic dialogue procedure in Coordination process	01/01/2013	31/12/2018
ATC17-ASP05	Train ATC staff for applying electronic dialogue procedure	01/01/2013	31/12/2018

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Reduction of human error due to automation of controller tasks during coordination and transfer.
Capacity:	Reduction of controller workload compared to conventional processes without automated support.
Operational Efficiency:	More efficient planning and operational decision making.
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

ATC17-ASP01	Develop safety assessment for the changes	From: 01/01/2013	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	<p>Develop safety assessment of the changes, notably upgrades of the system to support Electronic Dialogue during Coordination and Transfer. The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver safety assessment to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. <p>This safety assessment shall be based on fully validated/recognised method.</p>		
Supporting material(s):	<p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/11 / 12/2010 Url : http://www.eurocontrol.int/publications/line-data-interchange-oldi-specification</p> <p>EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF</p>		
Finalisation criteria:	1 - The Safety argument for all changes, generated by the upgrade of the system to support Electronic Dialogue during Coordination and Transfer has been delivered by the ANSP to the NSA.		
ATC17-ASP02	Upgrade and put into service ATC system to support the Basic	From:	By:

ATC17	Electronic Dialogue as automated assistance to controller during coordination and transfer		
	procedure (specifically PAC and COD)	01/01/2013	31/12/2018
Action by:	ANS Providers		
Description & purpose:	When bilaterally agreed between ANSPs, upgrade and put into service ATC system to support the Basic procedure, specifically Preliminary Activation Message (PAC) and, if applicable, SSR Code Assignment Message (COD).		
Supporting material(s):	EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/11 / 12/2010 Url : http://www.eurocontrol.int/publications/line-data-interchange-oldi-specification EUROCONTROL - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 03/2011 Url : http://www.eurocontrol.int/articles/fasti-documents		
Finalisation criteria:	1 - Ground systems have been upgraded with the functions to support Basic procedure, as identified by the individual administration from the following list: - PAC, COD. 2 - The technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) has been delivered to the competent National Supervisory Authority (NSA). 3 - The functions to support Basic procedure, as identified by the individual administration from the following list: - PAC, COD; have been documented and are in operational use with all partners in the applicability area.		
ATC17-ASP03	Upgrade and put into service ATC system to support electronic dialogue procedure in Transfer of communication process	From: 01/01/2013	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	When bilaterally agreed between ANSPs, upgrade and put into service ATC system to support electronic dialogue procedure in Transfer of communication process using OLDI.		
Supporting material(s):	EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/11 / 12/2010 Url : http://www.eurocontrol.int/publications/line-data-interchange-oldi-specification EUROCONTROL - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 03/2011 Url : http://www.eurocontrol.int/articles/fasti-documents		
Finalisation criteria:	1 - Ground systems have been upgraded with the functions to support electronic dialogue procedure in Transfer of communication process using OLDI messages, as identified by the individual administration from the following list: - ROF, COF, TIM, HOP, MAS and SDM. 2 - The technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) has been delivered to the competent National Supervisory Authority (NSA). 3 - The functions to support the transfer and communication process as identified by the individual administration from the following list: - ROF, COF, TIM, HOP, MAS and SDM. have been documented and are in operational use.		
ATC17-ASP04	Upgrade and put into service ATC system to support electronic dialogue procedure in Coordination process	From: 01/01/2013	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	When bilaterally agreed between ANSPs, upgrade and put into service ATC system to support electronic dialogue procedure in Coordination process using OLDI.		
Supporting material(s):	EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/11 / 12/2010 Url : http://www.eurocontrol.int/publications/line-data-interchange-oldi-specification EUROCONTROL - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 03/2011 Url : http://www.eurocontrol.int/articles/fasti-documents		
ATM Master Plan relationship:	[PRO-048]-ATC Procedures to implement screen to screen coordination for transfer of control conditions		
Finalisation criteria:	1 - Ground systems have been upgraded with the functions to support electronic dialogue procedure in Coordination process using OLDI messages, as identified by the individual administration from the following list: - RAP, RRV, CDN, ACP, RJC and SBY. 2 - The technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) has been delivered to the competent National Supervisory Authority (NSA). 3 - The functions to support the coordination process as identified by the individual administration from the following list: - RAP, RRV, CDN, ACP, RJC and SBY; have been documented and are in operational use with all partners in the applicability area.		
ATC17-ASP05	Train ATC staff for applying electronic dialogue procedure	From: 01/01/2013	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	Train operational staff in the use of electronic dialogue procedure. The tasks to be done are as follows:		

ATC17	Electronic Dialogue as automated assistance to controller during coordination and transfer
	<ul style="list-style-type: none"> - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.
Supporting material(s):	<p>EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/11 / 12/2010</p> <p>Url : http://www.eurocontrol.int/publications/line-data-interchange-oldi-specification</p> <p>EUROCONTROL - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 03/2011</p> <p>Url : http://www.eurocontrol.int/articles/fasti-documents</p>
Finalisation criteria:	1 - The training plans have been updated and a training package has been developed by the ANSP for the use of electronic dialogue procedure

SESAR	Active						ECAC
COM10	Migrate from AFTN to AMHS						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

The purpose of this objective is to enable EATM Network-wide support of a specific profile of the Extended level of service of the ATSMHS (ATS Message Handling Service), as defined by ICAO. An initial transition step supporting migration from the AFTN to the Basic ATSMHS level of service is foreseen.

AFTN, complemented in Europe by the CIDIN, has provided an effective store-and-forward messaging service for the conveyance of text messages, using character-oriented procedures, for many years. However AFTN / CIDIN technology is now becoming obsolescent, and is not sufficiently flexible to support future messaging requirements. It is intended that existing AFTN and CIDIN users and systems will transition to more modern technology, using the ATSMHS application, defined by ICAO to replace the AFTN telegraphic style of working with a store-and-forward Message Handling System based on international Standards and providing enhanced functionality.

This implementation objective makes use of the EUROCONTROL Specification 0136, Edition number 2.0 "EUROCONTROL specification on the Air Traffic Services Message Handling System (AMHS)" recognised as Community Specification in the Official Journal of the European Union (ref. OJ C 323, 31.12.2009, p. 24), to help the ground ATS Messaging systems of the EATM Network to meet the essential requirements for interoperability mandated by Commission Regulation (EC) No 552/2004. In application of Article 4 of Commission Regulation (EC) No 552/2004, compliance with the essential requirements for interoperability shall be presumed for AMHS systems, together with the associated procedures, that meet the AMHS Community Specification.

For global AMHS address management ICAO has strongly recommended the use of the ATS Messaging Management Centre (AMC) implemented by EUROCONTROL under the aegis of the ICAO EUR Office (Paris) to every ICAO Contracting State worldwide, as soon as there is an AMHS project or implementation in that State.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	All ECAC States		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/12/2011		Applicability Area
Full operational capability		31/12/2018	Applicability Area

References

European ATM Master Plan

OI step -	- No OI Link -						
	Enablers -	CTE-C06c					

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

-none-

ICAO GANP – ASBUs

- none -

Deployment Programme

- none -

COM10	Migrate from AFTN to AMHS
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
COM10-ASP01	Implement AMHS capability (Basic ATSMHS) and gateway facilities to AFTN	01/01/2002	31/12/2011
COM10-ASP02	Implement regional boundary gateways	01/01/2002	31/12/2011
COM10-ASP03	Enhance AMHS capability (Extended ATSMHS)	01/01/2012	31/12/2018
COM10-ASP04	Ensure the conformity of AMHS systems and associated procedures	01/01/2002	31/12/2018
COM10-ASP05	Organise personnel awareness and training	01/01/2002	31/12/2018
COM10-ASP06	Participate in AMC activities for ATS Messaging Management	01/01/2007	31/12/2018
COM10-IND01	Ensure the conformity of AMHS systems	01/01/2002	31/12/2018
COM10-AGY01	Provide AMC (ATS Messaging Management Centre) Service	01/01/2007	31/12/2018
COM10-AGY02	Implement AMHS capability (Basic ATSMHS) and gateway facilities to AFTN	FINALISED	
COM10-AGY03	Enhance AMHS capability (Extended ATSMHS)	01/01/2012	31/12/2018
COM10-AGY04	Develop further relevant elements of the Extended ATSMHS in AMHS Community Specification	01/01/2010	31/12/2018
COM10-AGY05	Implement AMHS-Community Specification compliance testing methodology and tools	01/01/2010	31/12/2018
COM10-AGY06	Support personnel training	01/01/2002	31/12/2018

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Benefits resulting from the application of a harmonised set of safety requirements.
Capacity:	-
Operational Efficiency:	-
Cost Efficiency:	Use of COTS messaging systems will de-facto reduce the cost of messaging services and support any kind of message format including the exchange of new binary data leading to lower ANS provision costs.
Environment:	-
Security:	AMHS security services may help to protect against safety hazards such as accidental or deliberate message corruption and can provide protection against undetected misdelivery.

Detailed SLoA Descriptions

COM10-ASP01	Implement AMHS capability (Basic ATSMHS) and gateway facilities to AFTN	From: 01/01/2002	By: 31/12/2011
Action by:	ANS Providers		
Description & purpose:	Upgrade existing COM centres to provide AMHS capability and/or AFTN gateway facilities		
Supporting material(s):	ICAO - EUR-Doc 021 - ATS Messaging Management Manual - Edition 10 / 04/2014 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114 ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 9 / 04/2014 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=74 EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 09/2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification ICAO - Doc 9880-Part II - Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols - Part II - Ground-Ground Applications - Air Traffic Services Message Handling Services (ATSMHS) - Edition 1 / 12/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
ATM Master Plan relationship:	[CTE-C06c]-AMHS		
Finalisation criteria:	1 - AMHS capability has been implemented, documented and in operational service.		

COM10-ASP02	Implement regional boundary gateways	From: 01/01/2002	By: 31/12/2011
Action by:	ANS Providers		

COM10	Migrate from AFTN to AMHS
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Description & purpose:	Provide interfaces between the EUR AMHS and non-European AFTN as well as interfaces to AMHS networks outside the EUR Region. This action is applicable to ANSPs in ICAO EUR Region Boundary States.
Supporting material(s):	<p>ICAO - EUR-Doc 021 - ATS Messaging Management Manual - Edition 10 / 04/2014 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114</p> <p>ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 9 / 04/2014 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=74</p> <p>EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 09/2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification</p> <p>ICAO - Doc 9880-Part II - Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols - Part II - Ground-Ground Applications - Air Traffic Services Message Handling Services (ATSMHS) - Edition 1 / 12/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>
Finalisation criteria:	1 - Seamless cross-boundary operation of the ground ATS Messaging part of the AFS.

COM10-ASP03	Enhance AMHS capability (Extended ATSMHS)	From: 01/01/2012	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	Upgrade the AMHS capability in existing COM centres to provide the Extended ATSMHS in accordance with the profile specified in the AMHS Community Specification.		
Supporting material(s):	<p>ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 9 / 04/2014 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=74</p> <p>EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 09/2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification</p> <p>ICAO - Doc 9880-Part II - Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols - Part II - Ground-Ground Applications - Air Traffic Services Message Handling Services (ATSMHS) - Edition 1 / 12/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>		
Finalisation criteria:	1 - Extended ATSMHS capability has been implemented, documented and in operational service.		

COM10-ASP04	Ensure the conformity of AMHS systems and associated procedures	From: 01/01/2002	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	Ensure that the AMHS systems and associated procedures comply with the AMHS Community Specification		
Supporting material(s):	<p>EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 09/2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification</p> <p>ICAO - Doc 9880-Part IV - Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols - Part IV - Directory Services, Security and Systems Management - Edition 1 / 12/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>		
Finalisation criteria:	1 - EC declaration of verification has been provided.		

COM10-ASP05	Organise personnel awareness and training	From: 01/01/2002	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	Develop and maintain operations manuals and train personnel accordingly to ensure that: <ul style="list-style-type: none"> - All COM Centre personnel are adequately trained to AMHS technology; - An AMHS "expertise cell" is available in every COM Centre implementing AMHS; - All ANSP personnel involved in ATS Messaging Management (AMC activities) is adequately trained. 		
Supporting material(s):	<p>ICAO - EUR-Doc 021 - ATS Messaging Management Manual - Edition 10 / 04/2014 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114</p> <p>ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 9 / 04/2014 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=74</p> <p>EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 09/2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification</p> <p>EUROCONTROL - IANS-COM-AMHS - IANS-COM-AMHS Course Url : https://trainingzone.eurocontrol.int</p>		
Finalisation criteria:	1 - All COM Centre personnel have been adequately trained to AMHS technology.		

COM10	Migrate from AFTN to AMHS		
	2 - An AMHS "expertise cell" has been established in every COM Centre implementing AMHS. 3 - All ANSP personnel involved in ATS Messaging Management (AMC activities) has been adequately trained.		
COM10-ASP06	Participate in AMC activities for ATS Messaging Management	From: 01/01/2007	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	Use the services of the ATS Messaging Management Centre (AMC) for AMHS off-line management		
Supporting material(s):	ICAO - EUR-Doc 021 - ATS Messaging Management Manual - Edition 10 / 04/2014 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114		
Finalisation criteria:	1 - AMC Procedures for Cooperating COM Centres (CCC) operators have been implemented as defined in the ATS Messaging Management Manual.		
COM10-IND01	Ensure the conformity of AMHS systems	From: 01/01/2002	By: 31/12/2018
Action by:	Industry		
Description & purpose:	AMHS system manufacturers to ensure that the available AMHS systems comply with the AMHS Community Specification.		
Supporting material(s):	EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 09/2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification ICAO - Doc 9880-Part IV - Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols - Part IV - Directory Services, Security and Systems Management - Edition 1 / 12/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - Test reports have been completed in accordance with AMHS Community Specification and testing methodology and tools ensured by the EUROCONTROL Agency. 2 - An EC declaration of conformity has been provided.		
COM10-AGY01	Provide AMC (ATS Messaging Management Centre) Service	From: 01/01/2007	By: 31/12/2018
Action by:	EUROCONTROL Agency		
Description & purpose:	Provide AMHS off-line network management service defined in the ATS Messaging Management Manual (ICAO EUR Doc 021)		
Supporting material(s):	ICAO - EUR-Doc 021 - ATS Messaging Management Manual - Edition 10 / 04/2014 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114		
Finalisation criteria:	1 - Positive indication in AMC user's satisfaction surveys		
COM10-AGY03	Enhance AMHS capability (Extended ATSMHS)	From: 01/01/2012	By: 31/12/2018
Action by:	EUROCONTROL Agency		
Description & purpose:	Upgrade the AMHS capability in existing CFMU COM centres to provide the Extended ATSMHS in accordance with the profile specified in the AMHS Community Specification		
Supporting material(s):	EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 09/2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification ICAO - Doc 9880-Part II - Manual on Detailed Technical Specifications for the Aeronautical Telecommunication Network (ATN) using ISO/OSI Standards and Protocols - Part II - Ground-Ground Applications - Air Traffic Services Message Handling Services (ATSMHS) - Edition 1 / 12/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - Extended ATSMHS capability has been implemented and put in operational service.		
COM10-AGY04	Develop further relevant elements of the Extended ATSMHS in AMHS Community Specification	From: 01/01/2010	By: 31/12/2018
Action by:	EUROCONTROL Agency		
Description & purpose:	Developed additional requirements regarding functionality of the relevant elements of the Extended ATSMHS and complete AMHS Community specification accordingly. This refers to a set of testing requirements, conformance, interoperability and pre-operational tests covering the Extended ATSMHS.		
Supporting material(s):	EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 09/2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification		
Finalisation criteria:	1 - AMHS Community Specification has been updated with the relevant elements of the Extended ATSMHS.		

COM10	Migrate from AFTN to AMHS
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COM10-AGY05	Implement AMHS-Community Specification compliance testing methodology and tools	From: 01/01/2010	By: 31/12/2018
Action by:	EUROCONTROL Agency		
Description & purpose:	Take measures to ensure availability of test tools with adequate functionality with regard to AMHS Community Specification (particularly regarding Extended ATSMHS) Develop and implement testing methodology enabling Industry manufacturers and ANS Providers to execute AMHS Community Specification conformance tests		
Supporting material(s):	EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 09/2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification		
Finalisation criteria:	1 - Test tool has been made available.		

COM10-AGY06	Support personnel training	From: 01/01/2002	By: 31/12/2018
Action by:	EUROCONTROL Agency		
Description & purpose:	Support AMHS training of personnel in ANS Providers, including operational procedures		
Finalisation criteria:	1 - Most people working in AFTN/CIDIN environment have been trained on AMHS before 2011.		

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SESAR		Active					ECAC	
COM11		Voice over Internet Protocol (VoIP)						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Within pre-SWIM evolutions and preparation of SWIM implementation, the purpose of this ESSIP implementation objective is to ensure that all ECAC States implement ATM-VoIP, which provides the appropriate signalisation required for ATM voice communication.

The initiative covers inter centre (encompassing all type of ATM Units) voice communication and the links with the ground radio stations

Inter centres voice communications are currently mainly performed via analogue circuits. In 2003, to implement digital communications, the ATS-QSIG protocol has been chosen to replace part of these communications. At present and in order to follow the evolution of the communication technologies, VoIP is identified as being the medium term standard for ground telephony and ground segment of the Air-Ground voice. Industry has already developed a standard for ATM-VoIP. The standard shall still be validated as part of SESAR JU WP15.2.10, but several ANSPs expressed their wish to migrate quickly to ATM-VoIP for ground telephony and the ground segment of the Air-Ground voice.

Furthermore, a number of Telecommunication Service Providers (TELCO-s) are planning to phase out analogue and digital 64k circuits that support current analogue and digital ATM voice services. It is expected that current services will begin to be phased out in a number of the ECAC States. A replacement of current analogue and digital ATM voice services with a common standard is therefore strongly needed at European level.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All ECAC States		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/01/2013		Applicability Area
Full operational capability			31/12/2020	Applicability Area

References

European ATM Master Plan

OI step -		- No OI Link -						
Enablers -		CTE-C05a						
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler			WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

-none-

ICAO GANP – ASBUs

- none -

Deployment Programme

3.1.4	Management of Dynamic Airspace configurations
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
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COM11	Voice over Internet Protocol (VoIP)
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COM11-REG01	Conduct safety oversight of the changes	DELETED	
COM11-ASP01	Develop safety assessment for the changes	01/01/2012	31/12/2018
COM11-ASP02	Notify to the Regulator the planned means & date of Initial and Full Operational Capability	DELETED	
COM11-ASP03	Upgrade and put into service Voice Communication Systems to support VoIP inter-centre telephony	01/01/2013	31/12/2020
COM11-ASP04	Upgrade and put into service Voice Communication Systems to support VoIP links to the ground radio stations	01/01/2013	31/12/2020

Description of finalised and deleted SLOAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Maintained or improved by providing enhanced signalisation functions.
Capacity:	-
Operational Efficiency:	-
Cost Efficiency:	Reduced costs by reusing Internet off the shelf technologies that can be based on standard hardware.
Environment:	-
Security:	-

Detailed SLOA Descriptions

COM11-ASP01	Develop safety assessment for the changes	From: 01/01/2012	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	<p>Develop safety assessment of the changes, notably upgrades of voice communication systems to support VoIP both for inter-centre telephony and AG radio communication. The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver safety assessment to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. <p>This safety assessment shall be based on fully validated/recognised method.</p>		
Supporting material(s):	<p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF</p>		
Finalisation criteria:	1 - The Safety argument for all changes, generated by the deployment of VoIP, has been delivered by the ANSP to the NSA.		

COM11-ASP03	Upgrade and put into service Voice Communication Systems to support VoIP inter-centre telephony	From: 01/01/2013	By: 31/12/2020
Action by:	ANS Providers		
Description & purpose:	<p>Upgrade and put into service voice communication systems which support VoIP inter-centre telephony which will enable the deployment of system enablers listed in -References- section. The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Define requirements which fit with operational/technical context and are based on relevant standards; - Upgrade voice communication systems to comply with defined requirements; - Implement or purchase IP network services to enable international communication exchange on IPS based protocol; - Purchase and install VCS equipment and/or gateways able to support VoIP in ATM; - Implement the necessary IPv4/IPv6 translation device if required; - Test voice required connectivity and performance; - Update VoIP addressing information in the EUROCONTROL AGVN web-database; - Verify compliance with Interoperability Regulation(s); - Integrate upgraded voice communication systems into the EATM Network; - Put into service upgraded voice communication systems. <p>The upgraded voice communication systems and their HMI shall enable the operators to perform the inter-centre communication using VoIP telephony at all types of ATS units.</p>		

COM11	Voice over Internet Protocol (VoIP)		
	Report yearly the actual achieved performance for implemented VoIP in ATM to the EUROCONTROL Agency.		
Supporting material(s):	<p>EUROCONTROL - SIP v ATS-QSIG Gateway Interworking Test Specification - Edition 2 / 12/2013 Url : https://www.eurocontrol.int/articles/atm-voice-0</p> <p>EUROCONTROL - Guidelines on Conformity Assessment for the Interoperability Regulation of the Single European Sky - Edition 3.0 / 02/2012 Url : http://www.eurocontrol.int/publications/conformity-assessment-guidelines</p> <p>EUROCONTROL - SIP v ATS-R2 Gateway Interworking Test Specification - Edition 2 / 12/2013 Url : https://www.eurocontrol.int/articles/atm-voice-0</p> <p>EUROCONTROL - VOTER - Edition 2.7 / 02/2014 Url : https://www.eurocontrol.int/articles/atm-voice-0</p> <p>EUROCONTROL - VoIP in ATM Cross-Reference Matrix - Edition 2.0 / 12/2013 Url : https://www.eurocontrol.int/articles/atm-voice-0</p> <p>EUROCONTROL - VoIP in ATM Telephony Test case specification - Edition 2 / 12/2013 Url : https://www.eurocontrol.int/articles/atm-voice-0</p>		
ATM Master Plan relationship:	[CTE-C05a]-VoIP for ground telephony		
Finalisation criteria:	<p>1 - Voice communications systems have been upgraded.</p> <p>2 - The technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) has been delivered to the competent National Supervisory Authority (NSA).</p> <p>3 - Upgraded voice communication systems have been put into service.</p>		
COM11-ASP04	Upgrade and put into service Voice Communication Systems to support VoIP links to the ground radio stations	From: 01/01/2013	By: 31/12/2020
Action by:	ANS Providers		
Description & purpose:	<p>Upgrade and put into service voice communication systems which support VoIP links to the ground radio stations which will enable the deployment of system enablers listed in -References- section. The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Define requirements which fit with operational/technical context and are based on relevant standards; - Upgrade voice communication systems to comply with defined requirements; - Implement or purchase IP network services to enable international communication exchange on IPS based protocol; - Purchase and install VCS and GRS equipment and/or gateways able to support VoIP in ATM; - Implement the necessary IPv4/IPv6 translation device if required; - Test voice required connectivity and performance including AG ground segment voice application; - Updating VoIP addressing information in the EUROCONTROL AGVN web-database; - Verify compliance with Interoperability Regulation(s); - Integrate upgraded voice communication systems into the EATM Network; - Put into service upgraded voice communication systems. <p>The upgraded voice communication systems shall enable the operators to perform AG radio communication using VoIP links between VCS and ground radio stations.</p> <p>Report yearly the actual achieved performance for implemented VoIP in ATM to the EUROCONTROL Agency.</p>		
Supporting material(s):	<p>EUROCONTROL - Guidelines on Conformity Assessment for the Interoperability Regulation of the Single European Sky - Edition 3.0 / 02/2012 Url : http://www.eurocontrol.int/publications/conformity-assessment-guidelines</p> <p>EUROCONTROL - VOTER - Edition 2.7 / 02/2014 Url : https://www.eurocontrol.int/articles/atm-voice-0</p> <p>EUROCONTROL - VoIP in ATM Cross-Reference Matrix - Edition 2.0 / 12/2013 Url : https://www.eurocontrol.int/articles/atm-voice-0</p> <p>EUROCONTROL - VoIP in ATM Telephony Test case specification - Edition 2 / 12/2013 Url : https://www.eurocontrol.int/articles/atm-voice-0</p>		
Finalisation criteria:	<p>1 - Voice communications systems upgraded.</p> <p>2 - The technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) has been delivered to the competent National Supervisory Authority (NSA).</p> <p>3 - Upgraded voice communication systems put into service.</p>		

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SESAAR		Active					APT	
ENV01		Continuous Descent Operations (CDO)						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Continuous Descent Operations (CDO)(1) is an aircraft operating technique enabled by airspace design, procedure design and facilitated by ATC in which an arriving aircraft descends continuously, to the greatest extent possible, using minimum engine thrust and low drag.

CDO does not adversely affect safety and capacity and will produce environmental and cost benefits including reductions to fuel burn, gaseous emissions and noise impact. (2)

(1) Since the publication of ICAO Doc 9931, the term Continuous Descent Operations (CDO) has generally replaced the term CDA (Continuous Descent Approach).

(2) In principle, it is not required to implement CDO on a 24/7 basis, but is preferable, wherever possible. Depending on National legislation and/or National court decisions and/or local constraints at airports, a limited introduction, for example during night time, is considered equally valid.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	See list of Airports in the Plan - Annex E		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/07/2007		Applicability Area
Full operational capability		31/12/2013	Applicability Area

References

European ATM Master Plan

OI step -	[AOM-0701]-Continuous Descent Approach (CDA)							
Enablers -								

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) 598/2014 of 16 April 2014 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach and repealing Directive 2002/30/EC (as from 16/06/2016).
EC Directive 2002/30/EC, dated 20.03.2002 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Community airports.
EC Directive 2002/49/EC, dated 25.06.2002 relating to the assessment and management of environmental noise.
EC Directive 2008/50/EC, dated 21.05.2008 on ambient air quality and cleaner air for Europe.

ICAO GANP – ASBUs

B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDOs)
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Deployment Programme

- none -

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
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ENV01	Continuous Descent Operations (CDO)		
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ENV01-ASP01	Coordinate activities and implement rules and procedures for the application of CDO techniques whenever practicable in Approach Control Service in close co-operation with aircraft operators	01/07/2007	31/12/2013
ENV01-ASP02	Train controllers in the application of CDO techniques whenever practicable	01/07/2007	31/12/2013
ENV01-APO01	Support CDO measures, implement monitoring of performance and feedback to ANSP and users where equipment is available. Provide the main link with the local community	01/07/2007	31/12/2013
ENV01-USE01	Include CDO techniques in the aircrew training manual and support its implementation wherever possible	01/07/2007	31/12/2013

Description of finalised and deleted SLOAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	-
Capacity:	-
Operational Efficiency:	-
Cost Efficiency:	CDO is a low cost measure with no equipment upgrade needed.
Environment:	Reduction of fuel, noise and atmospheric emissions due to lower drag and thrust facilitated by this initiative. Indications are a reduction of around 40% fuel for the segments for flights affected, and 5-6 dB for noise.
Security:	-

Detailed SLOA Descriptions

ENV01-ASP01	Coordinate activities and implement rules and procedures for the application of CDO techniques whenever practicable in Approach Control Service in close co-operation with aircraft operators	From: 01/07/2007	By: 31/12/2013
Action by:	ANS Providers		
Description & purpose:	Provide the tactical and operational situational awareness support to allow aircrew to apply CDO.		
Supporting material(s):	EUROCONTROL - European Joint Industry CDA Action Plan Url : http://www.eurocontrol.int/publications/european-joint-industry-cda-action-plan ICAO - Doc 9931 - Continuous Descent Operations (CDO) Manual - Edition 1 / 12/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - CDO procedures have been published in the local/State AIP.		

ENV01-ASP02	Train controllers in the application of CDO techniques whenever practicable	From: 01/07/2007	By: 31/12/2013
Action by:	ANS Providers		
Description & purpose:	Train controllers in the application of CDO.		
Supporting material(s):	ICAO - Doc 9931 - Continuous Descent Operations (CDO) Manual - Edition 1 / 12/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx EUROCONTROL - European Joint Industry CDA Action Plan Url : http://www.eurocontrol.int/publications/european-joint-industry-cda-action-plan EUROCONTROL - IANS-ENV-INTRO - IANS-ENV-INTRO-Introduction to Environment -e-learning training course 12/2012 Url : https://trainingzone.eurocontrol.int/		
Finalisation criteria:	1 - Approach Controllers have been suitably trained in the CDO techniques.		

ENV01-APO01	Support CDO measures, implement monitoring of performance and feedback to ANSP and users where equipment is available. Provide the main link with the local community	From: 01/07/2007	By: 31/12/2013
Action by:	Airport Operators		
Description & purpose:	In partnership with ANSPs and airlines select the most appropriate form of CDO from guidance material, to support activities and to report performance feedback to allow continual improvement.		
Supporting material(s):	ICAO - Doc 9931 - Continuous Descent Operations (CDO) Manual - Edition 1 / 12/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx EUROCONTROL - European Joint Industry CDA Action Plan Url : http://www.eurocontrol.int/publications/european-joint-industry-cda-action-plan		

ENV01	Continuous Descent Operations (CDO)		
Finalisation criteria:	1 - CDO procedures have been published in the local/State AIP.		
ENV01-USE01	Include CDO techniques in the aircrew training manual and support its implementation wherever possible	From: 01/07/2007	By: 31/12/2013
Action by:	Airspace Users		
Description & purpose:	Provide suitable training, ensure awareness and encourage application of CDO techniques.		
Supporting material(s):	ICAO - Doc 9931 - Continuous Descent Operations (CDO) Manual - Edition 1 / 12/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx EUROCONTROL - European Joint Industry CDA Action Plan Url : http://www.eurocontrol.int/publications/european-joint-industry-cda-action-plan EUROCONTROL - IANS-ENV-INTRO - IANS-ENV-INTRO-Introduction to Environment -e-learning training course 12/2012 Url : https://trainingzone.eurocontrol.int/		
Finalisation criteria:	1 - CDO techniques have been integrated in the aircrew training manual.		

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SESAR		Active					APT	
ENV02		Airport Collaborative Environmental Management						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Formal working partnership arrangements between ANSP, Airport and Aircraft Operators will be established at individual airports to enable :

- the minimisation of noise and atmospheric emissions (including fuel burn); and
 - the management of aircraft and airfield de-icing resulting from combined aircraft operations at the terminal airspace and ground.
- These formal working arrangements will enable understanding and awareness of interdependencies and facilitate jointly agreed solutions for environmental improvements.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	See list of Airports in the Plan - Annex E		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/09/2004		Applicability Area
Full operational capability		31/12/2016	Applicability Area

References

European ATM Master Plan

Ol step -	[AO-0703]-Aircraft Environmental Impact Management and Mitigation at and around Airports								
Enablers -	A/C-53	ENV-05	ENV-06	ENV-08	ENV-17	PRO-190	PRO-AC-53	PRO-ENV-12a	
	PRO-ENV-12b	PRO-ENV-13a	PRO-ENV-13b						
Ol step -	[AO-0705]-Reduced Water Pollution								
Enablers -	AIRPORT-34	ENV-06	ENV-17	PRO-075					
Ol step -	[AO-0706]-(Local) Monitoring of Environmental Performance								
Enablers -	AIRPORT-34	ENV-06	ENV-07	ENV-17					

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) 598/2014 of the European Parliament and of the Council of 16 April 2014 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach and repealing Directive 2002/30/EC.
EC Directive 2002/30/EC, dated 20.03.2002 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Community airports.
EC Directive 2002/49/EC, dated 25.06.2002 relating to the assessment and management of environmental noise.
EC Directive 2008/50/EC, dated 21.05.2008 on ambient air quality and cleaner air for Europe.

ICAO GANP – ASBUs

- none -	
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Deployment Programme

- none -	
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
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ENV02	Airport Collaborative Environmental Management		
ENV02-ASP01	Participate actively in formal working partnership arrangements with the Airport and Aircraft Operators to manage and control environmental impacts of air traffic procedures in and around the airport.	01/01/2009	31/12/2015
ENV02-ASP02	Train controllers in the environmental impacts of aircraft operations	01/01/2009	31/12/2016
ENV02-APO01	Initiate and participate actively in the formal working partnership arrangements with the ANSP and Aircraft Operators to minimise the environmental impact of air traffic procedures	01/01/2009	31/12/2015
ENV02-APO02	Ensure appropriate and relevant performance information availability at Airports	01/01/2009	31/12/2016
ENV02-APO03	Ensure appropriate Airport policy and procedures and, if required, relevant infrastructures needed to manage and mitigate pollution due to de-icing activities	01/01/2012	31/12/2016
ENV02-APO04	Train airport operational staff in the environmental impacts of aircraft operations	01/01/2012	31/12/2016
ENV02-USE01	Participate actively in the formal working partnership arrangements with the ANSP and Airport to manage and control the environmental impact of aircraft operations.	01/01/2009	31/12/2015
ENV02-AGY01	Provide assistance and guidelines to assist airports in setting up formal partnership arrangements between ATSP, Airport and Aircraft Operators for achieving control of environmental impact mitigation	FINALISED	

Description of finalised and deleted SLOAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	-
Capacity:	-
Operational Efficiency:	Reduction of fuel burn and CO2.
Cost Efficiency:	-
Environment:	Reduction of fuel use, noise, emissions and de-icing water pollution resulting from a structured collaborative approach that jointly identifies effective operational solutions for implementation.
Security:	-

Detailed SLOA Descriptions

ENV02-ASP01	Participate actively in formal working partnership arrangements with the Airport and Aircraft Operators to manage and control environmental impacts of air traffic procedures in and around the airport.	From: 01/01/2009	By: 31/12/2015
Action by:	ANS Providers		
Description & purpose:	Enter into formal CEM working arrangements. At the same time provide proactive practical support to minimise environmental impact and secure or safeguard ATM capacity in supporting compliance to the relevant legislation. Participation in CEM should be endorsed and supported by senior management. The purpose of CEM is to facilitate collaboration between the key operational stakeholders at airports to address the environmental impacts caused by their combined air traffic operations. The CEM working arrangements can provide timely and accurate operational or environmental information that is relevant to locally identified and jointly agreed issues. These can include aircraft noise, de-icing, fuel use and atmospheric emissions or any other ATM related environmental imperative that is locally important.		
	Note :Awareness and understanding of interdependencies. Jointly agreed environmental objectives, solutions and delivery plan, new procedures and trials, provision of data.		
Supporting material(s):	ICAO - Doc 9889 - Airport Air Quality Manual - Edition 1 / 01/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9184-Part 2 - Airport Planning Manual - Part 2 - Land Use and Environmental Control - Edition 3 / 03/2009 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9958 - Assembly Resolution A37-18: Consolidated statement of continuing ICAO policies and practices related to environmental protection - General provisions, noise and local air quality 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9993 - Continuous Climb Operations (CCO) Manual - Edition 1 / 11/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9646 - Engine Exhaust Emissions Databank - First Edition / 12/1995 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9829 - Guidance on the Balanced Approach to Aircraft Noise Management - Edition 2 / 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013		

ENV02	Airport Collaborative Environmental Management
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	Url : http://www.icao.int/publications/Pages/catalogue.aspx EUROCONTROL - SPEC-156 - EUROCONTROL Specification for Collaborative Environmental Management (CEM) - 1.0 Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/specifications/20140908-cem-spec-v1.0.pdf
ATM Master Plan relationship:	[ENV-05]-Guidance for community relations at airports [ENV-06]-Central environmental guidance web-portal [ENV-08]-Commonly agreed assessment methods [PRO-190]-ATC Procedures for Managing Environmental Noise Capacity [PRO-ENV-12b]-Exploiting new ATM and aircraft capabilities to optimise the aircraft noise footprint at airports (Airports) [PRO-ENV-13b]-Airport Procedures for exploiting new ATM and aircraft capabilities with a view to optimising atmospheric emissions from aircraft operations
Finalisation criteria:	1 - A Local Memorandum of Understanding (MoU) or Memorandum of Cooperation (MoC) along with a Terms of Reference (TOR) document detailing the working arrangement or document of similar authority covering the implementation of CEM officially signed by the key operational stakeholders

ENV02-ASP02	Train controllers in the environmental impacts of aircraft operations	From: 01/01/2009	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Provide a regular training course in accordance with demand. This should include potentially aircraft noise, aircraft and airfield de-icing, aircraft fuel use and atmospheric emissions or any other ATM related environment imperative locally planned.		
Supporting material(s):	ICAO - Doc 9889 - Airport Air Quality Manual - Edition 1 / 01/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9184-Part 2 - Airport Planning Manual - Part 2 - Land Use and Environmental Control - Edition 3 / 03/2009 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9958 - Assembly Resolution A37-18: Consolidated statement of continuing ICAO policies and practices related to environmental protection - General provisions, noise and local air quality 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9993 - Continuous Climb Operations (CCO) Manual - Edition 1 / 11/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx EUROCONTROL - SPEC-156 - EUROCONTROL Specification for Collaborative Environmental Management (CEM) - 1.0 Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/specifications/20140908-cem-spec-v1.0.pdf ICAO - Doc 9646 - Engine Exhaust Emissions Databank - First Edition / 12/1995 Url : http://www.icao.int/publications/Pages/catalogue.aspx EUROCONTROL - Environmental Awareness Training Package Url : https://trainingzone.eurocontrol.int/env-catalogue.htm EUROCONTROL - European Joint Industry CDA Action Plan Url : http://www.eurocontrol.int/publications/european-joint-industry-cda-action-plan ICAO - Doc 9829 - Guidance on the Balanced Approach to Aircraft Noise Management - Edition 2 / 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - Continuous or refresher controller awareness training on the environmental impacts of aircraft operations has been implemented.		

ENV02-APO01	Initiate and participate actively in the formal working partnership arrangements with the ANSP and Aircraft Operators to minimise the environmental impact of air traffic procedures	From: 01/01/2009	By: 31/12/2015
Action by:	Airport Operators		
Description & purpose:	Initiate and promulgate formal CEM partnership working arrangements with key operational stakeholders in order to facilitate understanding and awareness of interdependencies and enable collaborative solutions at airports to address the environmental impacts caused by combined air traffic operations. At the same time provide proactive practical mutual support to each other to minimise environmental impacts and secure or safeguard ATM capacity whilst facilitating compliance to relevant legislation. This can include aircraft noise, de-icing, fuel use and atmospheric emissions or any other ATM related environment impact that is identified locally as important and planned to be covered by CEM. CEM working arrangements should be endorsed and supported by senior management.		
	Note : Awareness and understanding of interdependencies. Jointly agreed environmental objectives, solutions and delivery plan, new procedures and trials, provision of data.		

ENV02	Airport Collaborative Environmental Management
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Supporting material(s):	<p>ICAO - Doc 9889 - Airport Air Quality Manual - Edition 1 / 01/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9184-Part 2 - Airport Planning Manual - Part 2 - Land Use and Environmental Control - Edition 3 / 03/2009 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9958 - Assembly Resolution A37-18: Consolidated statement of continuing ICAO policies and practices related to environmental protection - General provisions, noise and local air quality 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9993 - Continuous Climb Operations (CCO) Manual - Edition 1 / 11/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - SPEC-156 - EUROCONTROL Specification for Collaborative Environmental Management (CEM) - 1.0 Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/specifications/20140908-cem-spec-v1.0.pdf</p> <p>ICAO - Doc 9646 - Engine Exhaust Emissions Databank - First Edition / 12/1995 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9829 - Guidance on the Balanced Approach to Aircraft Noise Management - Edition 2 / 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>
ATM Master Plan relationship:	[PRO-ENV-12b]-Exploiting new ATM and aircraft capabilities to optimise the aircraft noise footprint at airports (Airports)
Finalisation criteria:	1 - A Local Memorandum of Understanding (MoU) or Memorandum of Cooperation (MoC) along with a Terms of Reference (TOR) document detailing the working arrangement or document of similar authority covering the implementation of CEM officially signed by the key operational stakeholders

ENV02-APO02	Ensure appropriate and relevant performance information availability at Airports	From: 01/01/2009	By: 31/12/2016
Action by:	Airport Operators		
Description & purpose:	In accordance with locally agreed CEM priorities, ensure the availability of timely, accurate and relevant environmental information. This may entail investment in appropriate environmental monitoring or modelling systems at Airports in order to record and monitor locally significant environmental impacts that could include noise, emissions, air quality, etc. This data availability is essential in support of the continuous performance improvement process. In particular, it should be possible to determine the amount of airport related versus external pollution.		
Supporting material(s):	<p>ICAO - Doc 9889 - Airport Air Quality Manual - Edition 1 / 01/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9184-Part 2 - Airport Planning Manual - Part 2 - Land Use and Environmental Control - Edition 3 / 03/2009 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9958 - Assembly Resolution A37-18: Consolidated statement of continuing ICAO policies and practices related to environmental protection - General provisions, noise and local air quality 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9993 - Continuous Climb Operations (CCO) Manual - Edition 1 / 11/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9646 - Engine Exhaust Emissions Databank - First Edition / 12/1995 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - European Joint Industry CDA Action Plan Url : http://www.eurocontrol.int/publications/european-joint-industry-cda-action-plan</p> <p>ICAO - Doc 9829 - Guidance on the Balanced Approach to Aircraft Noise Management - Edition 2 / 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - SPEC-156 - EUROCONTROL Specification for Collaborative Environmental Management (CEM) - 1.0 Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/specifications/20140908-cem-spec-v1.0.pdf</p>		
ATM Master Plan relationship:	<p>[AIRPORT-34]-Airport equipped with (real time) environmental monitoring systems</p> <p>[ENV-05]-Guidance for community relations at airports</p> <p>[ENV-06]-Central environmental guidance web-portal</p> <p>[ENV-07]-(Local) monitoring of environmental performance</p> <p>[ENV-08]-Commonly agreed assessment methods</p>		
Finalisation criteria:	1 - Environmental monitoring or information systems have been implemented and deliver the relevant performance data		

ENV02	Airport Collaborative Environmental Management
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ENV02-APO03	Ensure appropriate Airport policy and procedures and, if required, relevant infrastructures needed to manage and mitigate pollution due to de-icing activities	From: 01/01/2012	By: 31/12/2016
Action by:	Airport Operators		
Description & purpose:	Develop policy, procedures and technical applications in collaboration with airlines and ANSPs to manage and control the pollution of ground and surface water coming from de-icing activities. When required, ensure the implementation of relevant mitigation infrastructure for collection, disposal and possible treatment of fluids.		
Supporting material(s):	<p>ICAO - Doc 9184-Part 2 - Airport Planning Manual - Part 2 - Land Use and Environmental Control - Edition 3 / 03/2009 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9958 - Assembly Resolution A37-18: Consolidated statement of continuing ICAO policies and practices related to environmental protection - General provisions, noise and local air quality 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9993 - Continuous Climb Operations (CCO) Manual - Edition 1 / 11/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9646 - Engine Exhaust Emissions Databank - First Edition / 12/1995 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - European Joint Industry CDA Action Plan Url : http://www.eurocontrol.int/publications/european-joint-industry-cda-action-plan</p> <p>ICAO - Doc 9829 - Guidance on the Balanced Approach to Aircraft Noise Management - Edition 2 / 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - SPEC-156 - EUROCONTROL Specification for Collaborative Environmental Management (CEM) - 1.0 Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/specifications/20140908-cem-spec-v1.0.pdf</p> <p>ICAO - Doc 9889 - Airport Air Quality Manual - Edition 1 / 01/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>		
ATM Master Plan relationship:	[PRO-075]-Airport infrastructure and procedures governing de-icing to isolate surface water systems, collect and dispose of run-off, use the least harmful chemical, reduce the quantities required, reduce delays and increase recovered volumes of fluid		
Finalisation criteria:	1 - Information and procedures on de-icing pollution mitigation has been agreed and is published locally and accessible. 2 - Relevant infrastructure has been implemented, when and where required.		

ENV02-APO04	Train airport operational staff in the environmental impacts of aircraft operations	From: 01/01/2012	By: 31/12/2016
Action by:	Airport Operators		
Description & purpose:	Provide a regular training course. Identify and ensure that all relevant operational staff is covered. The course should include where relevant aircraft noise, aircraft and airfield de-icing, aircraft fuel use and atmospheric emissions or any other locally identified environmental impact.		
Supporting material(s):	<p>ICAO - Doc 9889 - Airport Air Quality Manual - Edition 1 / 01/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9184-Part 2 - Airport Planning Manual - Part 2 - Land Use and Environmental Control - Edition 3 / 03/2009 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9958 - Assembly Resolution A37-18: Consolidated statement of continuing ICAO policies and practices related to environmental protection - General provisions, noise and local air quality 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9993 - Continuous Climb Operations (CCO) Manual - Edition 1 / 11/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9646 - Engine Exhaust Emissions Databank - First Edition / 12/1995 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - Environmental Awareness Training Package Url : https://trainingzone.eurocontrol.int/env-catalogue.htm</p> <p>EUROCONTROL - European Joint Industry CDA Action Plan Url : http://www.eurocontrol.int/publications/european-joint-industry-cda-action-plan</p> <p>ICAO - Doc 9829 - Guidance on the Balanced Approach to Aircraft Noise Management - Edition 2 / 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013</p>		

ENV02	Airport Collaborative Environmental Management		
	Url : http://www.icao.int/publications/Pages/catalogue.aspx EUROCONTROL - SPEC-156 - EUROCONTROL Specification for Collaborative Environmental Management (CEM) - 1.0 Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/specifications/20140908-cem-spec-v1.0.pdf		
Finalisation criteria:	1 - Airport Operational staff awareness training on the environmental impacts of aircraft operations has been implemented and completed.		
ENV02-USE01	Participate actively in the formal working partnership arrangements with the ANSP and Airport to manage and control the environmental impact of aircraft operations.	From: 01/01/2009	By: 31/12/2015
Action by:	Airspace Users		
Description & purpose:	Enter into formal CEM working arrangements. At the same time provide proactive practical mutual support to minimise environmental impact and secure or safeguard ATM capacity in supporting compliance to the relevant legislation. Provide timely and accurate operational or environmental information that is relevant to locally identified and jointly agreed CEM priorities. Participation in CEM should be endorsed and supported by senior management. The purpose of CEM is to facilitate understanding and awareness of interdependencies and find collaborative solutions amongst the key operational stakeholders at airports to address the environmental impacts caused by combined air traffic operations. The environmental impact may include aircraft noise, de-icing, fuel use and atmospheric emissions or any other ATM related environmental impact that is locally important.		
	Note : Awareness and understanding of interdependencies. Jointly agreed environmental objectives, solutions and delivery plan, new procedures and trials, provision of data.		
Supporting material(s):	ICAO - Doc 9889 - Airport Air Quality Manual - Edition 1 / 01/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9184-Part 2 - Airport Planning Manual - Part 2 - Land Use and Environmental Control - Edition 3 / 03/2009 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9958 - Assembly Resolution A37-18: Consolidated statement of continuing ICAO policies and practices related to environmental protection - General provisions, noise and local air quality 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9993 - Continuous Climb Operations (CCO) Manual - Edition 1 / 11/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9646 - Engine Exhaust Emissions Databank - First Edition / 12/1995 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9829 - Guidance on the Balanced Approach to Aircraft Noise Management - Edition 2 / 10/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx EUROCONTROL - SPEC-156 - EUROCONTROL Specification for Collaborative Environmental Management (CEM) - 1.0 Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/specifications/20140908-cem-spec-v1.0.pdf		
ATM Master Plan relationship:	[ENV-05]-Guidance for community relations at airports [ENV-08]-Commonly agreed assessment methods [PRO-AC-53]-Cockpit Procedure for Noise Abatement Departure Procedure [PRO-ENV-12a]-Exploiting new ATM and aircraft capabilities to optimise the aircraft noise footprint at airports (Airlines) [PRO-ENV-13a]-Airline Procedures for exploiting new ATM and aircraft capabilities with a view to optimising atmospheric emissions from aircraft operations		
Finalisation criteria:	1 - A Local Memorandum of Understanding (MoU) or Memorandum of Cooperation (MoC) along with a Terms of Reference (TOR) document detailing the working arrangement or document of similar authority covering the implementation of CEM officially signed by the key operational stakeholders		

SESAR	Active						ECAC
FCM03	Collaborative flight planning						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

Improve collaboration between the NM, ANSPs, airports and airspace users in flight plan (FP) filing, in particular to assist airspace users in filing their FPs and in re-routings according to the airspace availability and ATFM situation.

The ATC Flight Plan (AFP) messages sent to the NM serve purpose of:

- Enabling NM to provide ATC Units with more accurate FP information, improving their traffic situation awareness and reducing the workload caused by last minute updates or missing FPs.
- Updating the ETFMS with FP information in order to reflect as accurately as possible the current and future flight trajectories, providing accurate sector load calculations.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities

Applicability Area(s) & Timescale(s)

Applicability Area	All ECAC States		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2000		Applicability Area
Full operational capability		31/12/2017	Applicability Area

References

European ATM Master Plan

Ol step -	[IS-0102]-Improved Management of Flight Plan After Departure						
	Enablers -	NIMS-02	NIMS-20 FCM06	PRO-005			
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

-none-

ICAO GANP – ASBUs

B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view
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Deployment Programme

4.2.3	Interface ATM systems to NM systems
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
FCM03-ASP01	Provide flight plan message processing in ICAO format	FINALISED	
FCM03-ASP02	Automatically process FPLs derived from RPLs	FINALISED	
FCM03-ASP03	Provide flight plan message processing in ADEXP format	01/12/1997	31/12/2012
FCM03-ASP04	Processing of APL and ACH messages	FINALISED	
FCM03-ASP05	Automatically provide AFP for missing flight plans	01/03/1998	31/12/2017
FCM03-ASP06	Automatically provide AFP message for change of route	01/03/2003	31/12/2017
FCM03-ASP07	Automatically provide AFP message for a diversion	01/03/2008	31/12/2017
FCM03-ASP08	Automatically provide AFP message for a change of flight rules or flight type	01/03/2003	31/12/2017

FCM03	Collaborative flight planning
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FCM03-ASP09	Automatically provide AFP message for a change of requested cruising level	01/03/2003	31/12/2017
FCM03-ASP10	Provide AFP messages in ADEXP format	DELETED	
FCM03-ASP11	Use IFPLID in all messages to ETFMS	DELETED	
FCM03-ASP12	Use IFPLID in exchange of route-charge data	DELETED	
FCM03-ASP13	Automatically provide AFP message for change of aircraft type	01/03/2003	31/12/2017
FCM03-ASP14	Automatically provide AFP message for change of aircraft equipment	01/03/2008	31/12/2017
FCM03-NM01	Integration of Automatic AFP in NM systems	01/01/2010	31/12/2017

Description of finalised and deleted SLOAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Prevention of overloads.
Capacity:	Better use of the available network capacity hence reducing delays.
Operational Efficiency:	-
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLOA Descriptions

FCM03-ASP03	Provide flight plan message processing in ADEXP format	From: 01/12/1997	By: 31/12/2012
Action by:	ANS Providers		
Description & purpose:	<p>Receive and automatically process IFPS output of all defined flight plan messages for input into local ATC systems in ADEXP format in line with ICAO State Letter (AN 13/2.1-08/50) - 25 June 2008.</p> <p>Impact of Flight Plan 2012 changes:</p> <p>The basic flight plan form and the field composition within the FPL message remains unchanged, but the content of some fields will change.</p> <ul style="list-style-type: none"> - changes to indications in Items 10 and 18 (including the use of digits) describing the precise NAV/COM/SUR capabilities of the flight - the ability to file a FPL up to 5 days (120 hours) before the flight, using the Date of Flight (DOF/) in Item 18 - addition of new Item 18 indicators and changes to the contents of several existing indicators. - a change to the description of a significant point which may now be described by range and bearing <p>The field composition within associated messages (CHG, DEP, CNL, ARR, RQP) will change to include the EOBT and Item 18 DOF/ thus ensuring association to the correct FPL.</p>		
	<p>Note :All national ATC systems that receive flight plan data from IFPS receive and process the data in ADEXP format. The SLoA can be considered as not applicable if the amount of IFR/GAT traffic does not justify automation.</p>		
Specific applicability:	ECAC States, IFR/GAT only.		
Finalisation criteria:	1 - ATC system is able to receive and process flight plan data from IFPS in ADEXP format.		

FCM03-ASP05	Automatically provide AFP for missing flight plans	From: 01/03/1998	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	<p>Automatically provide IFPS with updated flight plan information on airborne flights by means of AFP message. Provide the AFP in case an IFR-GAT flight exists but no IFPL has been received from IFPS.</p> <p>The related AFP message can be sent in either ICAO or ADEXP format.</p>		
Specific applicability:	ECAC States, IFR/GAT only.		
ATM Master Plan relationship:	[NIMS-02]-Provision , reception and processing of collaborative flight plan updates		
Finalisation criteria:	1 - Reception of AFP messages by NM has been ensured.		

FCM03-ASP06	Automatically provide AFP message for change of route	From: 01/03/2003	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	<p>Automatically provide IFPS with updated flight plan information on airborne flights by means of AFP message; provide the AFP in case of a change of route where the exit point from the flight data processing area (FDPA) has changed.</p> <p>The related AFP message must be provided in ADEXP format only.</p>		
Specific applicability:	ECAC States, IFR/GAT only.		
ATM Master Plan relationship:	[NIMS-02]-Provision , reception and processing of collaborative flight plan updates		

FCM03	Collaborative flight planning		
Finalisation criteria:	1 - Transmission of AFP messages for route changes by the ANSP has been implemented.		
FCM03-ASP07	Automatically provide AFP message for a diversion	From: 01/03/2008	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Automatically provide IFPS with updated flight plan information on airborne flights by means of AFP message; provide the AFP in case of a diversion. The related AFP message must be provided in ADEXP format only.		
Specific applicability:	ECAC States, IFR/GAT only.		
ATM Master Plan relationship:	[NIMS-02]-Provision , reception and processing of collaborative flight plan updates		
Finalisation criteria:	1 - Transmission of AFP messages for diversions by the ANSP has been implemented.		
FCM03-ASP08	Automatically provide AFP message for a change of flight rules or flight type	From: 01/03/2003	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Automatically provide IFPS with updated flight plan information on airborne flights by means of AFP message; provide the AFP in case of a change of flight rules from VFR to IFR, or IFR to VFR, or a change of flight type from OAT to GAT, or GAT to OAT.		
Specific applicability:	ECAC States, IFR/GAT only.		
ATM Master Plan relationship:	[NIMS-02]-Provision , reception and processing of collaborative flight plan updates		
Finalisation criteria:	1 - Transmission of AFP messages for changes of flight rules and flight types by the ANSP has been implemented.		
FCM03-ASP09	Automatically provide AFP message for a change of requested cruising level	From: 01/03/2003	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Automatically provide IFPS with updated flight plan information on airborne flights by means of AFP message. Provide the AFP in case of a change of requested cruising level. The SLoA refers to a permanent change of a Requested Cruising Level and not to flight level changes allocated on a tactical basis by ATC.		
Specific applicability:	ECAC States, IFR/GAT only.		
ATM Master Plan relationship:	[NIMS-02]-Provision , reception and processing of collaborative flight plan updates		
Finalisation criteria:	1 - Transmission of AFP messages for changes of requested cruising level by the ANSP has been implemented.		
FCM03-ASP13	Automatically provide AFP message for change of aircraft type	From: 01/03/2003	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Automatically provide IFPS with updated Flight Plan information on airborne flights by means of AFP message. Provide the AFP in case of a change of aircraft type.		
Specific applicability:	ECAC States, IFR/GAT only.		
ATM Master Plan relationship:	[NIMS-02]-Provision , reception and processing of collaborative flight plan updates		
Finalisation criteria:	1 - Transmission of AFP messages for changes of aircraft type by ANSP has been implemented.		
FCM03-ASP14	Automatically provide AFP message for change of aircraft equipment	From: 01/03/2008	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Automatically provide IFPS with updated Flight Plan information on airborne flights by means of AFP message. Provide the AFP in case of a change of aircraft equipment. The related AFP message must be provided in ADEXP format only.		
Specific applicability:	ECAC States, IFR/GAT only.		
ATM Master Plan relationship:	[NIMS-02]-Provision , reception and processing of collaborative flight plan updates		
Finalisation criteria:	1 - Transmission of AFP messages for changes of aircraft equipment by ANSP has been implemented.		
FCM03-NM01	Integration of Automatic AFP in NM systems	From: 01/01/2010	By: 31/12/2017
Action by:	NM		
Description & purpose:	The automatic AFP messages should not be transmitted to IFPS without prior coordination and test validation by NM. NM should ensure the correctness of AFP messages by testing and validate them. If the testing is correct, the received AFP messages from a specific ASTC unit will be integrated in NM systems.		

FCM03	Collaborative flight planning
ATM Master Plan relationship:	[NIMS-02]-Provision , reception and processing of collaborative flight plan updates
Finalisation criteria:	1 - Integration of AFP messages in NM systems

SESAR		Active					Multi-N	
FCM04.1		Short Term ATFCM Measures (STAM) - phase 1						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

The rigid application of ATFM regulations based on standard capacity thresholds as the predominant tactical capacity measure needs to be replaced by a close working relationship between ANSP/FMP, AU and NMF, which would monitor both the real demand, the effective capacity of sectors having taken into account the complexity of expected traffic situation.

In order to close the gap between ATC and ATFCM, local operational procedures need to be developed. The aim is to improve the efficiency of the system using flow management techniques close to the real time operations with direct impact on tactical capacity management, occupancy counts and tactical action on traffic. The target of the Short Term ATFCM Measures (STAM) is to replace En Route CASA regulations for situations where the capacity is nominal.

This objective deals with the initial version of STAM already deployed in some FMPs following some operational experimentations which is labelled STAM phase 1. A more automated version of STAM labelled STAM phase 2 will be released in the next years by SESAR. The deployment of STAM phase 1 is expected to happen only in selected core area FMPs. Once released, STAM Phase 2 will be deployed ECAC wide or at least in the high complexity ACCs.

Airports can be involved in the STAM process but the decision to involve them is a local decision

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities

Applicability Area(s) & Timescale(s)

Applicability Area	Austria, Belgium, Croatia, Czech Republic, France, Germany, Italy, Poland, Spain, Switzerland		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/09/2013		Applicability Area
Full operational capability		31/10/2017	Applicability Area

References

European ATM Master Plan

Ol step -	[DCB-0205]-Short Term ATFCM Measures						
	Enablers -	CTE-C06a	CTE-C06b COM12	NIMS-08	NIMS-13a	PRO-038	
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler		WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view
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Deployment Programme

4.1.1	STAM Phase 1
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
FCM04.1-REG01	Review, as appropriate, the safety argument of the changes imposed by the implementation of Short Term ATFCM Measures Phase 1	DELETED	

FCM04.1	Short Term ATFCM Measures (STAM) - phase 1		
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FCM04.1-ASP01	Availability of demand-capacity balancing tools via CHMI	01/09/2013	31/10/2017
FCM04.1-ASP02	Provision of ANSPs sector and traffic occupancy parameters data to NM	01/09/2013	31/10/2017
FCM04.1-ASP03	Implement FCM Procedures to enable application of flow management techniques on traffic streams closer to real-time and including more accurate assessment of forecast sector loads and cooperative management of groups of sectors and ATCO resources.	01/09/2013	31/10/2017
FCM04.1-ASP04	Develop, and deliver as necessary, a safety assessment of the changes imposed by the implementation of Short Term ATFCM Measures Phase 1	01/09/2013	31/10/2017
FCM04.1-USE01	Availability of demand-capacity balancing tools	01/09/2013	31/10/2017
FCM04.1-NM01	Develop and implement demand-capacity balancing tools via CHMI	FINALISED	
FCM04.1-NM02	Integration of ANSPs sector and traffic occupancy parameters data into NM systems	01/09/2013	31/10/2017

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Some enhancement through the prevention of overloads.
Capacity:	Better utilisation of existing capacity by a.o. using occupancy counts.
Operational Efficiency:	-
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

FCM04.1-ASP01	Availability of demand-capacity balancing tools via CHMI	From: 01/09/2013	By: 31/10/2017
Action by:	ANS Providers		
Description & purpose:	A tool supporting STAM phase 1 operations (hot spot detection based on occupancy counts, Occupancy Traffic Monitoring Values and Flight Lists) needs to be implemented. The tool can be CHMI or a local tool (if available).		
Supporting material(s):	EUROCONTROL - CFMU Human Machine Interface (CHMI) ATFCM Reference Guide - Edition 7.0 / 03/2012 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/chmi-atfc-reference-guide-current.pdf		
ATM Master Plan relationship:	[NIMS-08]-strategic and pre-tactical demand-capacity balancing evaluation, simulation and display tools		
Finalisation criteria:	1 - The tools supporting STAM phase 1 have been implemented.		

FCM04.1-ASP02	Provision of ANSPs sector and traffic occupancy parameters data to NM	From: 01/09/2013	By: 31/10/2017
Action by:	ANS Providers		
Description & purpose:	Provide the necessary up to date local sector and occupancy counts parameters to NM in order to get the NM system configured to properly support STAM Phase 1.		
Supporting material(s):	EUROCONTROL - CFMU Human Machine Interface (CHMI) ATFCM Reference Guide - Edition 7.0 / 03/2012 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/chmi-atfc-reference-guide-current.pdf		
Finalisation criteria:	1 - Local sector and occupancy counts parameters are provided to NM.		

FCM04.1-ASP03	Implement FCM Procedures to enable application of flow management techniques on traffic streams closer to real-time and including more accurate assessment of forecast sector loads and cooperative management of groups of sectors and ATCO resources.	From: 01/09/2013	By: 31/10/2017
Action by:	ANS Providers		
Description & purpose:	Define operational procedures to analyse the traffic in situation of normal capacity but where ATFM regulations would be applied and to define and apply measures (re-route, flight level cap) for ATFCM purpose.		
Supporting material(s):	EUROCONTROL - CFMU Human Machine Interface (CHMI) ATFCM Reference Guide - Edition 7.0 / 03/2012 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/chmi-atfc-reference-guide-current.pdf		
ATM Master Plan relationship:	[PRO-038]-FCM Procedures to enable application of flow management techniques on traffic streams closer to real-time		

FCM04.1	Short Term ATFCM Measures (STAM) - phase 1		
Finalisation criteria:	1 - Operational procedures are available.		
FCM04.1-ASP04	Develop, and deliver as necessary, a safety assessment of the changes imposed by the implementation of Short Term ATFCM Measures Phase 1	From: 01/09/2013	By: 31/10/2017
Action by:	ANS Providers		
Description & purpose:	<p>Notify the Regulator/NSA/Competent Authority of planned safety related changes and develop safety assessment of these changes, imposed by the integration implementation of Short Term ATFCM Measures Phase 1</p> <p>The tasks to be performed are as follows:</p> <ul style="list-style-type: none"> - notify the Regulator/NSA/Competent Authority of the planned safety related changes. - conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks - develop a safety argument - deliver the safety argument to the Regulator/NSA/Competent Authority, if the severity class of identified risks is 1 or 2 or if the implementation of the changes requires the introduction of new aviation standards. <p>Note :Any other validated/recognised method for the safety assessment, is acceptable, if agreed with the Regulator/NSA/Competent Authority.</p>		
Supporting material(s):	<p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam</p> <p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF</p>		
Finalisation criteria:	<p>1 - Safety argument addressing the implementation of Short Term ATFCM Measures Phase 1, as required by the implementation of the ESSIP objective, has been developed.</p> <p>2 - Safety argument addressing the implementation of Short Term ATFCM Measures Phase 1, as required by the implementation of the ESSIP objective, has been delivered to the Regulator/NSA/Competent Authority, as appropriate, depending on the severity of the identified risks or the introduction of new aviation standards.</p>		
FCM04.1-USE01	Availability of demand-capacity balancing tools	From: 01/09/2013	By: 31/10/2017
Action by:	Airspace Users		
Description & purpose:	A tool supporting STAM phase 1 operations for Airspace Users' needs be implemented. The tool can be CHMI or a local tool.		
Supporting material(s):	<p>EUROCONTROL - CFMU Human Machine Interface (CHMI) ATFCM Reference Guide - Edition 7.0 / 03/2012 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/chmi-atfcm-reference-guide-current.pdf</p>		
ATM Master Plan relationship:	[NIMS-08]-strategic and pre-tactical demand-capacity balancing evaluation, simulation and display tools		
Finalisation criteria:	1 - Tool supporting STAM Phase 1 is available.		
FCM04.1-NM02	Integration of ANSPs sector and traffic occupancy parameters data into NM systems	From: 01/09/2013	By: 31/10/2017
Action by:	NM		
Description & purpose:	Integrate the sector and occupancy counts parameters delivered by the ANSP in the NM systems to ensure a proper operation of the tools supporting STAM Phase 1.		
Supporting material(s):	<p>EUROCONTROL - CFMU Human Machine Interface (CHMI) ATFCM Reference Guide - Edition 7.0 / 03/2012 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/chmi-atfcm-reference-guide-current.pdf</p>		
Finalisation criteria:	1 - Parameters have been integrated within NM systems.		

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PCP		Active					EU+	
FCM04.2		Short Term ATFCM Measures (STAM) - phase 2						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Short Term ATFCM Measures (STAM), as defined in the STAM Concept of Operations but also in the Pilot Common Project Regulation and in the Deployment Programme is consisting of an approach to smooth sector workloads by reducing traffic peaks through short-term application of minor ground delays, appropriate flight level capping, timing and modalities of ATC re-sectorisation, exiguous re-routings to a limited number of flights and what-if function in order to identify the applicability and gains of potential ATFCM measure. These measures are capable of reducing the traffic complexity for ATC with minimum curtailing for the airspace users. STAM is based on high-quality data for prediction and accurate traffic analysis and will be an important contribution to Enhanced Demand Capacity Balancing (DCB) concept.

ANSPs can optimize capacity throughput by adopting and improving the tactical capacity management procedures (with the use of STAM). The tactical capacity management procedures can be supported by a Network Tools (system based STAM with the hot-spot detections in the network view, the "what-if" function and capabilities of promulgation and implementation of STAM measures, including CDM) or by local tools. These tools shall be applicable in the tactical ATFCM timeframe (e.g. up to 2 hours before flights enter a sector).

Tactical capacity management shall implement STAM using cooperative decision-making to manage flows before flights enter a sector.

The deployment shall mainly focus on:

- Enhanced monitoring techniques (including hotspot management and complexity indicators)
- Coordination systems (including B2B with local tools)
- What-if function (local measures, flight based, flow based and multiple measure alternative)
- Network impact assessment

NOTE: the STAM CONOPS mentioned in this document includes both STAM Phase 1 and Phase 2.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	All EU+ States			
Timescales:	From:	By:	Applicable to:	
Initial operational capability	01/11/2017		Applicability Area	
Full operational capability		31/12/2021	Applicability Area	

References

European ATM Master Plan

OI step -	[DCB-0308]-Advanced Short Term ATFCM								
	Enablers -	NIMS-13b	NIMS-27	PRO-022	PRO-247	SWIM-APS-03a INF08.1, INF08.2	SWIM-APS-04a INF08.1	SWIM-INFR-05a INF08.1, INF08.2	SWIM-NET-01a INF08.1, INF08.2
OI step -	- No OI Link -								
	Enablers -	ER APP ATC 17							

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project
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ICAO GANP – ASBUs

- none -

FCM04.2	Short Term ATFCM Measures (STAM) - phase 2
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Deployment Programme

4.1.2	STAM Phase 2
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
FCM04.2-ASP01	Develop STAM procedures and upgrade the local systems	01/11/2017	31/12/2021
FCM04.2-ASP02	Use of STAM phase 2	01/11/2017	31/12/2021
FCM04.2-ASP03	Train the personnel	01/11/2017	31/12/2021
FCM04.2-USE01	Airspace Users to deploy the appropriate tools and associated procedures	01/11/2017	31/12/2021
FCM04.2-NM01	Update the NM systems and develop the associated procedures	01/11/2017	31/12/2021
FCM04.2-NM02	Train the personnel	01/11/2017	31/12/2021

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Small enhancement through the resolution of some conflicts through STAM measures.
Capacity:	Effective capacity is globally optimised thanks to replacement of some ATFCM regulations with the STAM measures, hotspot reduction and its more efficient management.
Operational Efficiency:	Improved through the proposition of the most appropriate measures according with the type of flight.
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

FCM04.2-ASP01	Develop STAM procedures and upgrade the local systems	From: 01/11/2017	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Develop the associated procedures so as to ensure that the ATFCM planning at local level allows the STAM coordination process (system based), involving all actors and Procure/ Upgrade the local STAM systems, if required and justified with specific operational needs, and develop the B2B interfaces with NM STAM(INAP function).		
	<p>Note :It is expected that in the majority of cases, the NM STAM application will be sufficient for the implementation of STAM P2 and no other system updates will be needed. However in the case of specific, complex environments, development or upgrade of local ATM systems may be needed as indicated above. This SLOA is applicable only for these cases while ANSPs that will solely use NM STAMs, this SLOA should be considered as not applicable.</p>		
Supporting material(s):	<p>SJU - Enhanced DCB OSED for Step1 (interim R5) D302 Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13%2002%2003-D302%20OSED%20Step1%20R5.docx</p> <p>SJU - Enhanced DCB Safety and Performance Requirements for Step 1 - interim R5 (SPR) D322 Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13.02.03-D322%20Step%201%20eDCB%20Interim%20R5%20SPR.docx</p> <p>EUROCONTROL - NM STAM CONOPS</p> <p>EUROCONTROL - NM STAM coordination procedures (Common set of ATFCM-STAM procedures including roles & responsibilities allowing for effective STAM measure execution)</p> <p>SJU - Technical Specification S1 R5 final Fed DCB and TT Manager Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13.02.03%20D352%20TS.doc</p>		
ATM Master Plan relationship:	<p>[ER APP ATC 17]-Enhance Traffic and Flow Management sub-systems to support dynamic flow management in co-ordination with local, regional, and European levels.</p> <p>[PRO-247]-FCM Procedures for hotspots information sharing and for CDM process to support STAM coordination and implementation..</p>		
Finalisation criteria:	<p>1 - The local procedures for STAM phase 2 have been developed</p> <p>2 - NM STAM tool has been used.</p>		

FCM04.2	Short Term ATFCM Measures (STAM) - phase 2		
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FCM04.2-ASP02	Use of STAM phase 2	From: 01/11/2017	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Use of STAM Phase 2 application and services provided by NM and develop the associated local procedures. In addition to STAM p1 system features, STAM p2 includes additional features as the enhanced monitoring techniques, what-if functionality for local measures and system based coordination. The use and the effectiveness of the STAM P2 measures are to be monitored (off-line) by the NM.		
ATM Master Plan relationship:	<p>Note :This SLOA is applicable for ANSP that opted to use NM STAM p2, while the ANSPs that want to develop their own tools and integrate with NM STAM should refer to ASP-01.</p> <p>[NIMS-13b]-Enhanced short term ATFM measures (STAM)</p> <p>[PRO-247]-FCM Procedures for hotspots information sharing and for CDM process to support STAM coordination and implementation..</p>		
Finalisation criteria:	None		

FCM04.2-ASP03	Train the personnel	From: 01/11/2017	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Ensure that all operational personnel concerned is adequately trained for their job functions in relation to the implementation of STAM Phase 2		
Supporting material(s):	<p>SJU - Enhanced DCB OSED for Step1 (interim R5) D302 Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13%2002%2003-D302%20OSED%20Step1%20R5.docx</p> <p>SJU - Enhanced DCB Safety and Performance Requirements for Step 1 - interim R5 (SPR) D322 Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13.02.03-D322%20Step%201%20eDCB%20Interim%20R5%20SPR.docx</p> <p>SJU - Technical Specification S1 R5 final Fed DCB and TT Manager Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13.02.03%20D352%20TS.doc</p>		
Finalisation criteria:	1 - Training plans covering STAM P2 have been developed and implemented		

FCM04.2-USE01	Airspace Users to deploy the appropriate tools and associated procedures	From: 01/11/2017	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	<p>Airspace Users, in particular Flight Planning Services, to deploy the appropriate tools (STAM application and services provided by NM) and associated procedures so as to be capable to support Enhanced Short Term ATFCM Measures.</p> <p>The procedures mentioned above shall include the communication of the STAM measures to the crews, as appropriate.</p>		
Supporting material(s):	<p>SJU - Enhanced DCB OSED for Step1 (interim R5) D302 Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13%2002%2003-D302%20OSED%20Step1%20R5.docx</p> <p>SJU - Enhanced DCB Safety and Performance Requirements for Step 1 - interim R5 (SPR) D322 Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13.02.03-D322%20Step%201%20eDCB%20Interim%20R5%20SPR.docx</p> <p>EUROCONTROL - NM STAM CONOPS</p> <p>EUROCONTROL - NM STAM coordination procedures (Common set of ATFCM-STAM procedures including roles & responsibilities allowing for effective STAM measure execution)</p> <p>SJU - Technical Specification S1 R5 final Fed DCB and TT Manager Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13.02.03%20D352%20TS.doc</p>		
ATM Master Plan relationship:	<p>[NIMS-13b]-Enhanced short term ATFM measures (STAM)</p> <p>[PRO-022]-FCM procedures for collaborating on SBT changes with Airspace Users</p>		
Finalisation criteria:	<p>1 - Tool supporting STAM Phase 2 is available</p> <p>2 - Procedures are in place</p>		

FCM04.2-NM01	Update the NM systems and develop the associated procedures	From: 01/11/2017	By: 31/12/2021
Action by:	NM		
Description & purpose:	Update the NM systems and develop the associated procedures so as to ensure that the ATFCM planning at network level supports hot-spot detection, what-if function, STAM CDM, execution of STAM, network assessment and continuous monitoring of network activity.		
Supporting material(s):	<p>SJU - Enhanced DCB OSED for Step1 (interim R5) D302 Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13%2002%2003-D302%20OSED%20Step1%20R5.docx</p> <p>SJU - Enhanced DCB Safety and Performance Requirements for Step 1 - interim R5 (SPR) D322</p>		

FCM04.2	Short Term ATFCM Measures (STAM) - phase 2		
	<p>Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13.02.03-D322%20Step%201%20eDCB%20Interim%20R5%20SPR.docx</p> <p>EUROCONTROL - NM STAM CONOPS</p> <p>EUROCONTROL - NM STAM coordination procedures (Common set of ATFCM-STAM procedures including roles & responsibilities allowing for effective STAM measure execution)</p> <p>SJU - Technical Specification S1 R5 final Fed DCB and TT Manager</p> <p>Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13.02.03%20D352%20TS.doc</p>		
ATM Master Plan relationship:	<p>[NIMS-13b]-Enhanced short term ATFM measures (STAM)</p> <p>[NIMS-27]-Network DCB sub-system enhanced with improved accuracy of processing real-time data</p> <p>[PRO-022]-FCM procedures for collaborating on SBT changes with Airspace Users</p> <p>[PRO-247]-FCM Procedures for hotspots information sharing and for CDM process to support STAM coordination and implementation..</p>		
Finalisation criteria:	1 - Tools supporting STAM Phase 2 are available.		
FCM04.2-NM02	Train the personnel	From: 01/11/2017	By: 31/12/2021
Action by:	NM		
Description & purpose:	Ensure that all operational personnel concerned is adequately trained for their job functions in relation to the implementation of STAM Phase 2.		
Supporting material(s):	<p>SJU - Technical Specification S1 R5 final Fed DCB and TT Manager</p> <p>Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13.02.03%20D352%20TS.doc</p> <p>SJU - Enhanced DCB Safety and Performance Requirements for Step 1 - interim R5 (SPR) D322</p> <p>Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13.02.03-D322%20Step%201%20eDCB%20Interim%20R5%20SPR.docx</p> <p>SJU - Enhanced DCB OSED for Step1 (interim R5) D302</p> <p>Url : https://extranet.sesarju.eu/intraprogman/Assessment%20Library/13%2002%2003-D302%20OSED%20Step1%20R5.docx</p> <p>EUROCONTROL - NM STAM CONOPS</p>		
Finalisation criteria:	1 - Training plans covering STAM P2 have been developed and implemented.		

PCP		Active					ECAC	
FCM05		Interactive rolling NOP						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

The first steps of the interactive Rolling NOP were already implemented through the deployment of the NOP portal (through n-CONNECT platform and B2B services). Further information and data have been deployed to support the Interactive approach to the NOP (e.g. ADR, DDR2,...) and the access to the NOP data will be more and more available through B2B services. Most of the enablers required are expected to be gradually deployed over this period.

The scope of this ESSIP objective consists in the implementation of a platform that uses the state-of-the-art technologies for creation of a Virtual Operations Room for the physically distributed European ATM Network Operations, in support of the Collaborative NOP. This platform will support the network collaborative rolling processes from strategic to real-time operations, including capabilities for online performance monitoring integrated and feeding back into the collaborative network planning. Also, the platform provides access to post-operational data for offline analysis and performance reporting.

Information and dialogue tools shall be accessed via an ATM Information Portal. Access to information is done in a secure way, tailored according the stakeholders needs and subject to access control rules, so that only those who have an operational need to access particular information are able to do so.

IN addition, this ESSIP objective also covers the NM system upgrades related to AOP-NOP B2B interface for data exchanges with selected airports.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

NOTE: The deleted SloAs ASP01 and ASP02 appear now in objective AOM19.1. The deleted SloA NM11 is addressed by the objective INF08.1

Applicability Area(s) & Timescale(s)

Applicability Area	All ECAC States except: Armenia, The former Yugoslav Republic of Macedonia		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/09/2013		Applicability Area
Full operational capability		31/12/2021	Applicability Area

References

European ATM Master Plan

Ol step -	[DCB-0102]-Interactive Rolling NOP							
	Enablers -	AAMS-06a	AIMS-21	PRO-035				
Ol step -	[DCB-0103-A]-Collaborative NOP for Step 1							
	Enablers -	AIRPORT-38	METEO-06b INF08.1	MIL-0502 INF08.1	NIMS-13b FCM04.2	NIMS-14b	NIMS-25	PRO-028
		SWIM-APS-01a INF08.1	SWIM-APS-02a INF08.1	SWIM-APS-03a INF08.1, INF08.2	SWIM-APS-04a INF08.1	SWIM-INFR-05a INF08.1, INF08.2	SWIM-NET-01a INF08.1, INF08.2	REG-0518
Legend:	WXYZ-001	Covered by SLoA(s) in this objective		WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler		WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view
B1-NOPS	Enhanced Flow Performance through Network Operational Planning

Deployment Programme

4.2.2	Interactive Rolling NOP
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FCM05	Interactive rolling NOP
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4.2.4	AOP/NOP Information Sharing
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
FCM05-REG01	Review, as appropriate, the safety argument of the changes to the ASM system, supporting the implementation of interactive Rolling NOP by the NM	DELETED	
FCM05-ASP01	Upgrade the automated ASM support system with the capability of AIXM 5.1 B2B data exchange with NM	DELETED	
FCM05-ASP02	Perform an integration of the automated ASM support systems with the Network	DELETED	
FCM05-ASP03	Produce a safety assessment on the upgrade of automated ASM support systems to the AIXM 5.1 capability	DELETED	
FCM05-ASP04	Develop and implement ATFCM procedures for interaction with the NOP	01/09/2016	31/12/2021
FCM05-ASP05	Train the relevant personnel for interaction with the NOP	01/09/2016	31/12/2021
FCM05-APO01	Provide the required data to the Network Manager for DDR	01/09/2013	31/12/2017
FCM05-APO02	Perform the integration of the AOP with the NOP	01/01/2015	31/12/2021
FCM05-USE01	Provide the required data to the Network Manager for DDR	01/09/2013	31/12/2017
FCM05-NM01	ADR to provide, common and consolidated view of European airspace data containing both static and dynamic digital data	FINALISED	
FCM05-NM02	Upgrade NM system for external user access to the airspace data repository (making restrictions available in AIXM 5.1 format via B2B)	FINALISED	
FCM05-NM03	Equip Airspace management system with tools for collection of airspace data (Interoperability with ASM tools in AIXM 5.1)	FINALISED	
FCM05-NM04	Perform an integration of ASM support systems with the Network	FINALISED	
FCM05-NM05	Upgrade NM systems to allow the access of interested users to the Demand Data Repository	FINALISED	
FCM05-NM06	Implement FCM Procedures for on-line access/update to the NOP and notification of updates	FINALISED	
FCM05-NM07	Upgrade NM systems to allow FMP to remote access simulation via the NOP Portal (create of simulations and assessment of the results) and in a second step to edit scenario measures (regulation, config, capacities,...) prior to running simulations	FINALISED	
FCM05-NM08	Flight Plan filing capability directly via the NOP portal	FINALISED	
FCM05-NM09	Develop AOP/NOP interfaces	01/01/2015	31/12/2017
FCM05-NM10	Integrate the AOPs into the Network Operation Plan	01/01/2016	31/12/2021
FCM05-NM11	Develop Network Manager B2B services	DELETED	
FCM05-NM12	Enhance the NM technical platform and services	01/09/2016	31/12/2021
FCM05-NM13	Implement ATFCM procedures	01/09/2016	31/12/2021

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Enhanced by improved sharing of the network situation.
Capacity:	Small benefits through improved use of the airport and airspace capacity resulting from a better knowledge of the airspace availability and of the traffic demand.
Operational Efficiency:	-
Cost Efficiency:	Enhanced through use of cost efficient tools to access network information instead of expensive local tools or procedures.
Environment:	-
Security:	-

Detailed SLoA Descriptions

FCM05-ASP04	Develop and implement ATFCM procedures for interaction with the NOP	From: 01/09/2016	By: 31/12/2021
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FCM05	Interactive rolling NOP		
Action by:	ANS Providers		
Description & purpose:	The SLoA addresses the definition, validation and deployment of the new/changed operational procedures pertinent to the interaction with the NOP.		
Supporting material(s):	EUROCONTROL - NOP Portal User Guide - Edition 20.0-111 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf		
ATM Master Plan relationship:	[PRO-035]-FCM Procedures for on-line access/update to the NOP and notification of updates		
Finalisation criteria:	1 - The procedures are in use		
FCM05-ASP05	Train the relevant personnel for interaction with the NOP	From: 01/09/2016	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Ensure that all operational personnel concerned is adequately trained for their job functions in relation to the interaction with the rolling NOP.		
Supporting material(s):	EUROCONTROL - NOP Portal User Guide - Edition 20.0-111 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf		
Finalisation criteria:	1 - Training plans covering interaction with the NOP have been developed and implemented		
FCM05-APO01	Provide the required data to the Network Manager for DDR	From: 01/09/2013	By: 31/12/2017
Action by:	Airport Operators		
Description & purpose:	Coordinated Airports to provide the Airport slots information in SSIM format to EUACA. From this, EUACA will compile them and will transmit them to NM in a EUACA format.		
Supporting material(s):	IATA - Standard Schedules Information Manual - Edition 23 Url : http://www.iata.org/publications/Pages/ssim.aspx		
ATM Master Plan relationship:	[NIMS-14b]-Demand Data Repository Phase II		
Finalisation criteria:	1 - Airport slot information provided to DDR.		
FCM05-APO02	Perform the integration of the AOP with the NOP	From: 01/01/2015	By: 31/12/2021
Action by:	Airport Operators		
Description & purpose:	Linking AOP with NOP (Airport Business Trajectory and User Preferred Trajectory) will contribute in optimising both Network and Airport management. This will be achieved by timely and simultaneously updating AOP and NOP, providing Network and Airport Managers with a commonly updated, consistent and accurate Plan. The AOP is therefore the tool which provides/integrates the airport information into the Network (NOP). This is done by sharing information with NOP or by requesting information from the NOP. The AO will have to ensure that AOP core information is provided to the NOP and that change in information in the AOP with anticipated impact on the network is made available to the NOP according with the appropriate agreed quality of service.		
Supporting material(s):	SJU - OFA 05.01.01 - Airport Operations Centre Definition - Operational Service and Environment Definition Part 1 - 00.03.00 / 12/2014		
ATM Master Plan relationship:	[AIRPORT-38]-Airport/ATFCM Extended data interface [PRO-028]-Procedures to support AOP-NOP collaborative process		
Finalisation criteria:	1 - The relevant AOP information is made available to the NOP 2 - The relevant NOP information is integrated into the AOP		
FCM05-USE01	Provide the required data to the Network Manager for DDR	From: 01/09/2013	By: 31/12/2017
Action by:	Airspace Users		
Description & purpose:	Airspace users to provide the scheduled flight information.		
Supporting material(s):	IATA - Standard Schedules Information Manual - Edition 23 Url : http://www.iata.org/publications/Pages/ssim.aspx		
ATM Master Plan relationship:	[NIMS-14b]-Demand Data Repository Phase II		
Finalisation criteria:	1 - Scheduled flight information is provided.		
FCM05-NM09	Develop AOP/NOP interfaces	From: 01/01/2015	By: 31/12/2017
Action by:	NM		

FCM05	Interactive rolling NOP		
Description & purpose:	Linking AOP with NOP will contribute in optimising both Network and Airport management. This will be achieved by developing AOP/NOP B2C and B2B interfaces., providing NOP and AOPs with a commonly updated, consistent and accurate data . The NM will have to ensure that relevant information for airport operations, which may be contained in the AOPs, is shared with the relevant part of the NOP.		
Supporting material(s):	SJU - OFA 05.01.01 - Airport Operations Centre Definition - Operational Service and Environment Definition Part 1 - 00.03.00 / 12/2014		
ATM Master Plan relationship:	[AIRPORT-38]-Airport/ATFCM Extended data interface		
Finalisation criteria:	1 - Availability of AOP/NOP B2B and B2C interfaces		
FCM05-NM10	Integrate the AOPs into the Network Operation Plan	From: 01/01/2016	By: 31/12/2021
Action by:	NM		
Description & purpose:	Linking AOP with NOP will contribute in optimising both Network and Airport management. This will be achieved by timely and simultaneously updating NOP with AOPs data, providing NOP and AOPs with a commonly updated, consistent and accurate data. The AOP is therefore the tool which provides the airport information into the Network (NOP). This is done by sharing information between the NOP and the AOP. The NM will have to ensure that relevant information for airport operations, which may be contained in the AOPs, are shared with the relevant part of the NOP.		
Supporting material(s):	SJU - OFA 05.01.01 - Airport Operations Centre Definition - Operational Service and Environment Definition Part 1 - 00.03.00 / 12/2014		
ATM Master Plan relationship:	[AIRPORT-38]-Airport/ATFCM Extended data interface [PRO-028]-Procedures to support AOP-NOP collaborative process		
Finalisation criteria:	1 - Integration of relevant AOP data for a specific airport into NOP 2 - The relevant NOP information is made available to the AOP		
FCM05-NM12	Enhance the NM technical platform and services	From: 01/09/2016	By: 31/12/2021
Action by:			
Description & purpose:	The enhancement of NM's technical platform and services will address the following: - Extension of NM interfaces with new functional capabilities - Migration of the variety of interfaces it currently provides (CHMI variants, the NOP Portal) into a single, redesigned HMI for all users, fit for purpose and flexible enough to meet the needs of the different user roles (both internal and external). - system upgrades for enhanced planning process (integration of planning tool, tools to support collaborative dynamic planning, simulation tools) - enhancements of post-analysis tools and process - support the needs in terms of user interfaces for other NM projects		
Finalisation criteria:	1 - NM technical platform and services have been upgraded		
FCM05-NM13	Implement ATFCM procedures	From: 01/09/2016	By: 31/12/2021
Action by:	NM		
Description & purpose:	The SLoA addresses the definition, validation and deployment of the new/changed operational procedures pertinent to the NM system changes, including FCM procedures for redesigned NM HMI as well as procedures related to post OPS analysis process.		
Supporting material(s):	EUROCONTROL - NOP Portal User Guide - Edition 20.0-111 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-current.pdf		
ATM Master Plan relationship:	[PRO-035]-FCM Procedures for on-line access/update to the NOP and notification of updates		
Finalisation criteria:	1 - The procedures are in use		

PCP	Active						EU+
FCM06	Traffic complexity assessment						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

The Traffic Load management tool addressed by SESAR OI step CM-0101 (Automatic support for traffic load density management) is the predecessor of traffic complexity tools. The traffic complexity tools continuously monitor sector demand and evaluate traffic complexity (by applying predefined complexity metrics) according to a predetermined qualitative scale. The predicted complexity coupled with traffic demand enables ATFCM to take timely action to adjust capacity, or request the traffic profile changes in coordination with ATC and airspace users.

The rigid application of ATFCM regulations based on standard capacity thresholds as the pre-dominant tactical capacity measure needs to be replaced by a close working relationship between ANSPs and Network Manager, which would monitor both the real demand, the effective capacity of sectors having taken into account the complexity of expected traffic situation.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	All EU+ States		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2015		Applicability Area
Full operational capability		31/12/2021	Applicability Area

References

European ATM Master Plan

OI step -	[CM-0101]-Automated Support for Traffic Load (Density) Management								
	Enablers -	ER APP ATC 124							
OI step -	[CM-0103-A]-Automated Support for Traffic Complexity Assessment								
	Enablers -	ER APP ATC 93	NIMS-37	PRO-220a	PRO-220b	SWIM-APS-03a INF08.1, INF08.2	SWIM-APS-04a INF08.1	SWIM-INFR-05a INF08.1, INF08.2	SWIM-NET-01a INF08.1, INF08.2
OI step -	- No OI Link -								
	Enablers -	NIMS-20							
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler			WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

Regulation (EU) No 677/2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010
Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B0-NOPS	Improved Flow Performance through Planning based on a Network-Wide view
B1-NOPS	Enhanced Flow Performance through Network Operational Planning

Deployment Programme

4.4.2	Traffic Complexity Tools
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Stakeholder Lines of Action (SLoAs)

FCM06	Traffic complexity assessment
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SloA ref.	Title	From	By
FCM06-ASP01	Implement Local Traffic Load Management tool	01/01/2015	31/12/2021
FCM06-ASP02	Receive, process and integrate ETFMS Flight Data (EFD)	01/01/2015	31/12/2021
FCM06-ASP03	Implement Local Traffic Complexity tools and procedures	01/01/2018	31/12/2021
FCM06-NM01	Provide EFD to the local traffic complexity tools	01/01/2015	31/12/2021
FCM06-NM02	Improved trajectory in NM systems	01/01/2015	31/12/2021
FCM06-NM03	Network Traffic Complexity Assessment	01/01/2015	31/12/2021

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	The better ATCO workload predictability via deployment of the traffic complexity assessment tool will lead to safety gains. Enhancement also through reduction in controller workload.
Capacity:	Increased through the better resource utilisation to enhance productivity and reduce controller workload.
Operational Efficiency:	Increased through use of more optimal routes leading to fuel saving and lower CO2 emissions.
Cost Efficiency:	-
Environment:	Reductions in emissions through use of more optimal routes.
Security:	-

Detailed SLoA Descriptions

FCM06-ASP01	Implement Local Traffic Load Management tool	From: 01/01/2015	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	The automated tools shall support the continuous monitoring of the traffic loads per network node (sector, waypoint, route, route-segment) according to declared capacities and provide support to the local resource management.		
ATM Master Plan relationship:	[ER APP ATC 124]-Basic Resource Management and Planning Tools.		
Finalisation criteria:	1 - Tools supporting local traffic load management are implemented and available for operational use		

FCM06-ASP02	Receive, process and integrate ETFMS Flight Data (EFD)	From: 01/01/2015	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	The local FDPS to receive, process and integrate EFD provided by NM in the local traffic complexity assessment tool. This activity is needed in order to supplement the local traffic count with the flight plan data from ETFMS.		
Supporting material(s):	EUROCONTROL - Flight Progress Messages Document - 2.100 / 03/2015 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/flight-progress-msg.pdf		
ATM Master Plan relationship:	[NIMS-20]-Provision, reception and processing of ATFCM flight progress messages		
Finalisation criteria:	1 - Reception, processing and integration of EFD message has been implemented.		

FCM06-ASP03	Implement Local Traffic Complexity tools and procedures	From: 01/01/2018	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Local traffic Complexity assessment tools shall receive process and integrate EFD provided by NM.		
ATM Master Plan relationship:	[ER APP ATC 93]-Enhance Resource Management and Planning Tools to use Traffic Complexity Assessment. [PRO-220a]-ATC Procedures related to Detection and Resolution of Complexity, Density and Traffic Flow Problems [PRO-220b]-FCM procedures to describe how detection and resolution of complexity, density or traffic flow issues are managed.		
Finalisation criteria:	1 - The local traffic complexity tools and procedures are implemented documented and in operational use.		

FCM06-NM01	Provide EFD to the local traffic complexity tools	From: 01/01/2015	By: 31/12/2021
Action by:	NM		
Description & purpose:	Provide the EFD data to the local FDPSs.		

FCM06	Traffic complexity assessment
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Supporting material(s):	EUROCONTROL - Flight Progress Messages Document - 2.100 / 03/2015 Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/flight-progress-msg.pdf
ATM Master Plan relationship:	[NIMS-20]-Provision, reception and processing of ATFCM flight progress messages
Finalisation criteria:	1 - Provision of EFD to ANSPs.

FCM06-NM02	Improved trajectory in NM systems	From: 01/01/2015	By: 31/12/2021
Action by:	NM		
Description & purpose:	The NM systems adaptation activities (specifications, development and deployment) deal with improving the quality of the planned trajectory, thus enhancing flight planning and complexity assessment. They address the following functions: - Operational deployment of EFPL - Processing of ATC information - Processing of OAT FPL information - Support to mixed mode operations		
ATM Master Plan relationship:	[NIMS-21a]-Initial Flight Planning management enhanced to support 4D for Step 1 [NIMS-35]-Flight Planning management sub-system enhanced to process improved OAT flight plans		
Finalisation criteria:	1 - NM scenario management tools and procedures are implemented, documented and in operational use		

FCM06-NM03	Network Traffic Complexity Assessment	From: 01/01/2015	By: 31/12/2021
Action by:	NM		
Description & purpose:	Implementation of scenario management tools in support of traffic complexity management in the pre-tactical phase. This tool is built on the planned trajectory information and allows to simulate options optimising the use of available capacity. It is intended to support NM operations by identifying the possible mitigation strategies to be applied at network or local level, in coordination with FMPs and airspace users. In addition there is a need to develop a procedure related to implementation of traffic count methodologies that do not impact trajectory calculation.		
ATM Master Plan relationship:	[NIMS-37]-Basic Complexity assessment tools [PRO-220b]-FCM procedures to describe how detection and resolution of complexity, density or traffic flow issues are managed.		
Finalisation criteria:	1 - NM scenario management tools and procedures are implemented, documented and in operational use		

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PCP		Active					EU+	
FCM08		Extended Flight Plan						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

To achieve a common trajectory for ATM planning purposes, the Initial Trajectory Information Sharing requires the improvements in three main areas: quality and completeness of input information, the trajectory calculation method and sharing of the results. The trajectory information will allow a common view on planned trajectories to the various Stakeholders to be used to fulfil their different responsibilities.

The Extended Flight Plan (EFPL) represents one of the system requirements supporting the Initial Trajectory Information. This objective addresses the message exchange between NM systems, ANSPs ATM system and AU/FOC /WOC flight plan filing systems in respect of collaborative flight planning, improving flight plan distribution and enhanced tactical flow management, using the EFPL.

The EFPL will include the planned 4D trajectory of the flight as well as flight performance data in addition to ICAO 2012 FPL data. The first phase that will be implemented should address only the exchange of EFPL information between AUs and NM. The transmission of EFPL data to ANSP (flight plan distribution) will be implemented when transition to FF-ICE provisions is achieved. EFPL will be processed by AU flight planning systems and sent to IFPS. Initially the EFPL exchange will be implemented using the flight data model developed by the NM for B2B and that is currently used for operations. Subsequently, as the FIXM version corresponding to FF-ICE/1 becomes available, the EFPL will be migrated to FIXM.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	All EU+ States		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2016		Applicability Area
Full operational capability		31/12/2021	Applicability Area

References

European ATM Master Plan

Ol step -	[AUO-0203]-EFPL in NM processes								
	Enablers -	AOC-ATM-20	METEO-06b INF08.1	NIMS-21a	NIMS-40	SWIM-APS-03a INF08.1, INF08.2	SWIM-APS-04a INF08.1	SWIM-GOV-05a	SWIM-INFR-05a INF08.1, INF08.2
		SWIM-NET-01a INF08.1, INF08.2							

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project
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ICAO GANP – ASBUs

B1-FICE	Increased Interoperability, Efficiency and Capacity through FF-ICE, STEP 1 application before departure
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Deployment Programme

4.2.3	Interface ATM systems to NM systems
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FCM08	Extended Flight Plan
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
FCM08-ASP01	Upgrade the ground systems and develop the associated procedures.	01/01/2018	31/12/2021
FCM08-ASP02	Develop, and deliver as necessary, a safety assessment	01/01/2018	31/12/2021
FCM08-USE01	Upgrade the flight planning systems	01/01/2016	31/12/2021
FCM08-USE02	Train the personnel	01/01/2016	31/12/2021
FCM08-NM01	Upgrade the NM systems and develop the associated procedures related to EFPL	01/01/2016	31/12/2021
FCM08-NM02	Upgrade the NM systems and develop the associated procedures related to FF-ICE/1	01/01/2018	31/12/2021

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Increased safety due to better traffic predictability. Reduction of over-delivery risk.
Capacity:	-
Operational Efficiency:	Executed trajectory closer to Airspace User's preferences. Enhanced tactical flow management allows improved operational efficiency through better predictability.
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

FCM08-ASP01	Upgrade the ground systems and develop the associated procedures.	From: 01/01/2018	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Upgrade the ground systems with the capability to receive and process EFPL information via FF-ICE/1 and develop the associated procedures.		
Supporting material(s):	SJU - SESAR 07.06.02-VP-713 - EXE-07.06.02-VP-713: Enhance Current Flight Planning Processes - V3 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D66 - OSED: 07.06.02-D66 - Edition 00.02.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx		
ATM Master Plan relationship:	[ATC-STD-01]-Ground-Ground flight data exchange		
Finalisation criteria:	1 - The local systems have the capability to receive and process EFPL		

FCM08-ASP02	Develop, and deliver as necessary, a safety assessment	From: 01/01/2018	By: 31/12/2021
Action by:	ANS Providers		
Description & purpose:	Develop, and deliver as necessary, a safety assessment of the changes imposed to the local ground systems by the implementation of the capability to receive and process EFPL information via FF-ICE/1. The safety assessment shall be based on a fully validated/recognised method.		
Supporting material(s):	EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm SJU - SESAR 07.06.02-VP-713 - EXE-07.06.02-VP-713: Enhance Current Flight Planning Processes - V3 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D66 - OSED: 07.06.02-D66 - Edition 00.02.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D68 - SPR: 07.06.02-D68 - Edition 00.01.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx		
Finalisation criteria:	1 - The safety argument for all changes generated by the upgrade of the systems to support EFPL has been developed 2 - The safety argument has been delivered to NSA if new standards are applicable or if the severity class of identified risks is 1 or 2.		

FCM08	Extended Flight Plan
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FCM08-USE01	Upgrade the flight planning systems	From: 01/01/2016	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	Upgrade the flight planning systems with the capability to exchange extended flight plan data with the NM (B2B and FIXM) and develop the associated procedures.		
Supporting material(s):	SJU - SESAR 07.06.02-VP-713 - EXE-07.06.02-VP-713: Enhance Current Flight Planning Processes - V3 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D66 - OSED: 07.06.02-D66 - Edition 00.02.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx		
ATM Master Plan relationship:	[AOC-ATM-20]-Sharing of trajectory data between AOC/WOC and the ATM world using B2B web services [STD-033]-Flight Information Exchange Model v4 incl. ICAO FPL 2012, Extended Flight Plan and Flight Objects elements, in accordance with SESAR FIXM Strategy.		
Finalisation criteria:	1 - Flight Planning systems have the capability to exchange and process extended flight plan and corresponding associated messages		

FCM08-USE02	Train the personnel	From: 01/01/2016	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	Ensure that all operational personnel concerned with flight planning is adequately trained for their job functions in relation to the implementation of EFPL		
Supporting material(s):	SJU - SESAR 07.06.02-VP-713 - EXE-07.06.02-VP-713: Enhance Current Flight Planning Processes - V3 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D66 - OSED: 07.06.02-D66 - Edition 00.02.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx		
Finalisation criteria:	None		

FCM08-NM01	Upgrade the NM systems and develop the associated procedures related to EFPL	From: 01/01/2016	By: 31/12/2021
Action by:			
Description & purpose:	Upgrade the NM systems with the capability to able to receive, process and distribute extended flight plan and develop the associated procedures		
Supporting material(s):	SJU - SESAR 07.06.02-VP-713 - EXE-07.06.02-VP-713: Enhance Current Flight Planning Processes - V3 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D66 - OSED: 07.06.02-D66 - Edition 00.02.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx		
ATM Master Plan relationship:	[NIMS-21a]-Initial Flight Planning management enhanced to support 4D for Step 1		
Finalisation criteria:	1 - The NM systems have the capability to receive process and distribute as necessary extended flight plan information and corresponding associated messages.		

FCM08-NM02	Upgrade the NM systems and develop the associated procedures related to FF-ICE/1	From: 01/01/2018	By: 31/12/2021
Action by:			
Description & purpose:	Upgrade the NM systems with the capability to distribute EFPL data to ANSPs via FF-ICE/1 and associated procedures.		
Supporting material(s):	SJU - SESAR 07.06.02-VP-713 - EXE-07.06.02-VP-713: Enhance Current Flight Planning Processes - V3 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D66 - OSED: 07.06.02-D66 - Edition 00.02.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx		
ATM Master Plan relationship:	[NIMS-21a]-Initial Flight Planning management enhanced to support 4D for Step 1		
Finalisation criteria:	1 - The NM systems have the capability to distribute EFPL via FF-ICE/1.		

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SESA		Active					ECAC	
FCM09		Enhanced ATFM slot swapping						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

In today operations, 'Air Traffic Flow Management (ATFM) slot swapping' allows Airspace Users (AU) to request to the Network Manager (NM) a rearrangement of their own flights subject to a regulation in order to better suit their needs. However the current process has some limitations and the AU requests for rearrangement of their flights to NM cannot be always accommodated.

The enhanced ATFM Slot Swapping improves the slot swapping currently used by Airspace Users (AU), by allowing the function to be extended within the same group of airlines/operators (i.e. an alliance), by re-prioritising their flights during the pre-tactical part of operations.

The Enhanced Slot swapping increases flexibility for Airspace Users; within the same group of airlines (alliance) and provides a wider range of possibilities, by facilitating the identification of possible swaps for a regulated flight and by reducing the rate of rejection of swap request by refining current processes.

The Network Management function will supervise the swapping or changing of flight priority requests.

NOTE 1: The airport operators are not directly involved in the implementation of the objective. However, there are indirect links through the provision of slot change information to them, via A-CDM process.

NOTE 2: This objective is related to the OI Step AUO-0101-A, but it does not cover the full scope of the OI. It is only addressing a first phase, related to the extension of slot swapping within the same alliance of airlines. The full deployment of the OI is not currently planned.

NOTE 3: The ATFM Slot Swapping is a feature to be implemented only by the NM and by the Airspace Users with no intervention from the ANSPs. Therefore the implementation is not associated to a geographical applicability area.

Applicability Area(s) & Timescale(s)

Applicability Area			
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2016		
Full operational capability		31/12/2021	

References

European ATM Master Plan

OI step -	[AUO-0101-A]-Enhanced ATFM Slot Swapping						
Enablers -	NIMS-39a	NIMS-39b					
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

-none-

ICAO GANP – ASBUs

B1-ACDM	Optimized Airport Operations through A-CDM Total Airport Management
B1-NOPS	Enhanced Flow Performance through Network Operational Planning

Deployment Programme

- none -

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
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FCM09	Enhanced ATFM slot swapping
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FCM09-USE01	Upgrade the Flight Operations Centre (FOC) interface	01/01/2016	31/12/2021
FCM09-USE02	Train the personnel		01/01/2016 31/12/2021
FCM09-NM01	Upgrade the NM systems and develop the associated procedures	01/01/2016	31/12/2017

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	-
Capacity:	Maximisation of throughput during period of constrained capacity.
Operational Efficiency:	Airspace users can choose which of their flights to prioritise for operational reasons.
Cost Efficiency:	Airlines save costs with each slot swap that is executed.
Environment:	-
Security:	-

Detailed SLoA Descriptions

FCM09-USE01	Upgrade the Flight Operations Centre (FOC) interface	From: 01/01/2016	By: 31/12/2021
Action by:	Airspace Users		
Description & purpose:	Update as necessary the Flight Operations Centre (FOC) systems and interface within the NM systems so as to allow the use of the ATFM Slot swapping functionality. Operators who wish to receive NM's slot service via B2B might need to adapt their own Flight Operations Centre interface.		
Supporting material(s):	SJU - SESAR 07.06.02-D66 - OSED: 07.06.02-D66 - Edition 00.02.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D68 - SPR: 07.06.02-D68 - Edition 00.01.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D63 - TS: 07.06.02-D63 - Edition 00.02.00 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D67 - VALR: 07.06.02-D67 - Edition 00.01.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx		
ATM Master Plan relationship:	[NIMS-39b]-Enhancement of FOC HMI		
Finalisation criteria:	1 - The Flight Operations Centre has the capability to perform ATFM Slot Swapping.		

FCM09-USE02	Train the personnel	From: -	By: 01/01/2016 31/12/2021
Action by:			
Description & purpose:	Ensure that all operational personnel concerned with FOC is adequately trained for their job functions in relation to the implementation of ATFM Slot swapping so as to ensure maximum benefits are realised.		
Supporting material(s):	SJU - SESAR 07.06.02-D66 - OSED: 07.06.02-D66 - Edition 00.02.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D68 - SPR: 07.06.02-D68 - Edition 00.01.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D63 - TS: 07.06.02-D63 - Edition 00.02.00 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx SJU - SESAR 07.06.02-D67 - VALR: 07.06.02-D67 - Edition 00.01.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx		
Finalisation criteria:	1 - Training plans covering ATFM Slot swapping have been developed and implemented.		

FCM09-NM01	Upgrade the NM systems and develop the associated procedures	From: 01/01/2016	By: 31/12/2017
Action by:			
Description & purpose:	Update the NM systems, and develop associated procedures as necessary allowing ATFM Slot swapping as described above, in the 'Subject matter and scope' section.		

FCM09	Enhanced ATFM slot swapping
Supporting material(s):	<p>SJU - SESAR 07.06.02-D66 - OSED: 07.06.02-D66 - Edition 00.02.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx</p> <p>SJU - SESAR 07.06.02-D68 - SPR: 07.06.02-D68 - Edition 00.01.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx</p> <p>SJU - SESAR 07.06.02-D63 - TS: 07.06.02-D63 - Edition 00.02.00 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx</p> <p>SJU - SESAR 07.06.02-D67 - VALR: 07.06.02-D67 - Edition 00.01.01 Url : https://extranet.sesarju.eu/WP_07/Project_07.06.02/Project%20Plan/Forms/AllItems.aspx</p>
Finalisation criteria:	1 - The NM systems upgraded with the ATFM Slow Swapping (within the same airline group).

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SESAR		Active					ECAC	
INF07		Electronic Terrain and Obstacle Data (eTOD)						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

This objective has been introduced in order to aid the States in establishing a robust framework that will ensure the timely provision of Electronic Terrain and Obstacle Data (TOD)

ICAO Annex 15, Aeronautical Information Services, requires the States to provide TOD for their own territory and to announce it in the national AIPs. TOD is sub-divided into four areas:

- Area 1 - the entire territory of a State
- Area 2 - the terminal control area
- Area 3 - aerodromes/heliport area
- Area 4 - CAT II or CAT III operation area

States need to assess the existing national regulations and policies, including the safeguarding of aerodromes and obstacle permission processes, in order to evaluate their suitability in relation to the electronic terrain and obstacle data requirements of ICAO Annex 15 and to allocate responsibilities.

In addition, States will need to create capabilities for the origination, collection, exchange, management and distribution of the digital terrain and obstacle information in the form of digital datasets. This implies the establishment of efficient and reliable processes (e.g. data acquisition, cross-border provision, data validation and verification, data maintenance, data storage, data transmission, and oversight, etc.) ensuring the provision of up-to-date data which meets the operational requirements in support of an enhanced overall situational awareness and separation assurance and at the same time complies with the requirements of EU Regulation 73/2010 on the quality of aeronautical data and aeronautical information for the Single European Sky.

The operational capability dates given for this objective are not meant to replace, amend or modify in any way the deadline for implementation of the ICAO Annex 15 requirements for electronic terrain and obstacle data (TOD). The aim of this objective is to ensure that all States of the ECAC area provide the required TOD as soon as possible in line with the ICAO Annex 15.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities

Applicability Area(s) & Timescale(s)

Applicability Area		All ECAC States except: Maastricht UAC		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/11/2014		Applicability Area
Full operational capability			31/05/2018	Applicability Area

References

European ATM Master Plan

OI step -	- No OI Link -							
	Enablers -	AIMS-16						

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

EU Regulation 73/2010 - Requirements on the quality of aeronautical data and aeronautical information for the Single European Sky
EU Regulation 139/2014 - Requirements and administrative procedures related to aerodromes

ICAO GANP – ASBUs

- none -	
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Deployment Programme

- none -	
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INF07	Electronic Terrain and Obstacle Data (eTOD)
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
INF07-REG01	Establish National TOD policy	01/11/2014	30/11/2015
INF07-REG02	Establish TOD regulatory framework	01/05/2015	31/12/2017
INF07-REG03	Establish oversight of TOD implementation	01/06/2015	31/12/2017
INF07-REG04	Verify the regulatory compliance of TOD implementation	01/12/2017	31/05/2018
INF07-ASP01	Plan the required activities for the collection, management and provision of TOD in accordance with national TOD policy	01/11/2014	30/11/2015
INF07-ASP02	Implement the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework	01/05/2015	31/05/2018
INF07-APO01	Plan the required activities for the collection, management and provision of TOD in accordance with national TOD policy	01/11/2014	30/11/2015
INF07-APO02	Implement the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework	01/05/2015	31/05/2018

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	The availability of quality-assured electronic terrain and obstacle data from the State's authoritative sources will significantly improve situational awareness with respect to terrain or obstacle hazards, separation assurance and the visualization of approaches in challenging terrain environments, and thereby contribute to increased safety levels and performance in airborne and ground-based systems (e.g. EGPWS, MSAW, APM, SVS, A-SMGCS and Instrument Procedure Design).
Capacity:	-
Operational Efficiency:	-
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

INF07-REG01	Establish National TOD policy	From: 01/11/2014	By: 30/11/2015
Action by:	State Authorities		
Description & purpose:	<p>In close coordination with ANSPs, airport operators and other organisations or bodies relevant in the TOD processes to establishing commonly agreed national TOD policy and implementation programmes, setting up the necessary steps to enable the provision of electronic terrain and obstacle data. The national TOD policy, being a binding document for TOD stakeholders, should include, as a minimum:</p> <ul style="list-style-type: none"> - TOD affected stakeholders within the State, their roles and responsibilities (cost recovery models, where appropriate) for TOD origination, collection, verification, validation, management and provision; - TOD to be made available, including the survey requirements based on the data quality requirements, methods for verification and validation and delivery formats; - list of aerodromes where Area 2, 3 and 4 TOD would be provided; - the milestones and tasks of the TOD stakeholders and implementation timeline; - the list of rules/regulations constituting the TOD regulatory framework that would require to be developed or updated; - where appropriate, principles for exchange and harmonisation of the common TOD with neighbouring States. 		
Supporting material(s):	<p>ICAO - Annex 15 - Aeronautical Information Services Url : http://store1.icao.int/ ICAO - Doc 9137-Part 6 - Airport Services Manual - Part 6 - Control of Obstacles - Edition 2 / 12/1983 Url : http://www.icao.int/publications/Pages/catalogue.aspx EASA - Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 Url : https://www.easa.europa.eu/document-library/acceptable-means-of-compliance-and-guidance-materials/aerodromes-amc-gm ICAO - Annex 14 - Aerodromes, Volume I and II ICAO - ICAO - Annex 4 - Aeronautical charts</p>		

INF07	Electronic Terrain and Obstacle Data (eTOD)
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	<p>EC - EU Regulation 139/2014 Requirements and administrative procedures related to aerodromes</p> <p>ICAO - Doc 9881 - Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information</p> <p>Url : http://store1.icao.int/</p> <p>EC - Regulation (EU) No 73/2010-(OJ L 23, 27.1.2010, p.6) - Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information 01/2010</p> <p>Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:023:0006:0027:EN:PDF</p> <p>EUROCONTROL - Terrain and Obstacle Data Manual - Edition 2.0 / 10/2011</p> <p>Url : http://www.eurocontrol.int/publications/terrain-and-obstacle-data-tod-manual</p>
Finalisation criteria:	1 - In coordination with relevant TOD stakeholders, national TOD policy and implementation programme is established

INF07-REG02	Establish TOD regulatory framework	From: 01/05/2015	By: 31/12/2017
Action by:	State Authorities		
Description & purpose:	<p>- Establish the TOD regulatory framework based on National TOD Policy (REG01) through the development or updating of the national rules and regulations affecting the provision of TOD (e.g. suitability of the existing national safeguarding policy for obstacle development in all four areas in relation to electronic obstacle data requirements or origination responsibilities and processes).</p> <p>- Include and maintain in the EUR ANP/FASID (AIM part) the list of aerodromes where Area 2, 3 and 4 TOD would be provided</p> <p>- Where appropriate, changes to State legislation should be initiated to ensure timely implementation.</p>		
Supporting material(s):	<p>EASA - Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014</p> <p>Url : https://www.easa.europa.eu/document-library/acceptable-means-of-compliance-and-guidance-materials/aerodromes-amc-gm</p> <p>ICAO - Annex 15 - Aeronautical Information Services</p> <p>Url : http://store1.icao.int/</p> <p>ICAO - Doc 9137-Part 6 - Airport Services Manual - Part 6 - Control of Obstacles - Edition 2 / 12/1983</p> <p>Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Annex 14 - Aerodromes, Volume I and II</p> <p>ICAO - ICAO - Annex 4 - Aeronautical charts</p> <p>EC - EU Regulation 139/2014 Requirements and administrative procedures related to aerodromes</p> <p>ICAO - Doc 9881 - Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information</p> <p>Url : http://store1.icao.int/</p> <p>EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011</p> <p>Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF</p> <p>EC - Regulation (EU) No 73/2010-(OJ L 23, 27.1.2010, p.6) - Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information 01/2010</p> <p>Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:023:0006:0027:EN:PDF</p> <p>EUROCONTROL - Terrain and Obstacle Data Manual - Edition 2.0 / 10/2011</p> <p>Url : http://www.eurocontrol.int/publications/terrain-and-obstacle-data-tod-manual</p>		
Finalisation criteria:	<p>1 - The TOD regulatory framework based on National TOD Policy (REG01) is established</p> <p>2 - The list of aerodromes where Area 2, 3 and 4 TOD would be provided is included in EUR ANP/FASID (AIM part)</p> <p>3 - Change process to state legislation is initiated as required</p>		

INF07-REG03	Establish oversight of TOD implementation	From: 01/06/2015	By: 31/12/2017
Action by:	State Authorities		
Description & purpose:	The regulatory oversight of TOD implementation for data origination, collection, verification and validation, management and provision based on the national TOD policy and regulatory framework.		
Supporting material(s):	<p>ICAO - Annex 15 - Aeronautical Information Services</p> <p>Url : http://store1.icao.int/</p> <p>ICAO - Annex 14 - Aerodromes, Volume I and II</p> <p>ICAO - ICAO - Annex 4 - Aeronautical charts</p> <p>ICAO - Doc 9881 - Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information</p> <p>Url : http://store1.icao.int/</p> <p>EC - Regulation (EU) No 73/2010-(OJ L 23, 27.1.2010, p.6) - Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information 01/2010</p> <p>Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:023:0006:0027:EN:PDF</p> <p>EUROCONTROL - Terrain and Obstacle Data Manual - Edition 2.0 / 10/2011</p>		

INF07	Electronic Terrain and Obstacle Data (eTOD)		
	Url : http://www.eurocontrol.int/publications/terrain-and-obstacle-data-tod-manual ICAO - Doc 9734 - Safety Oversight Manual - Edition 2 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - State TOD oversight plan, including all TOD affected stakeholders, in accordance with the national TOD policy and regulatory framework is established 2 - Procedures are established for the national supervision of the ongoing TOD operation.		
INF07-REG04	Verify the regulatory compliance of TOD implementation	From: 01/12/2017	By: 31/05/2018
Action by:	State Authorities		
Description & purpose:	The verification of compliance with the regulatory TOD requirements through oversight and acceptance of TOD implementation for data origination, collection, verification and validation, management and provision based on the international TOD requirements and the national TOD regulatory framework.		
Supporting material(s):	ICAO - Annex 15 - Aeronautical Information Services Url : http://store1.icao.int/ ICAO - Annex 14 - Aerodromes, Volume I and II ICAO - ICAO - Annex 4 - Aeronautical charts ICAO - Doc 9881 - Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information Url : http://store1.icao.int/ EC - Regulation (EU) No 73/2010-(OJ L 23, 27.1.2010, p.6) - Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information 01/2010 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:023:0006:0027:EN:PDF EUROCONTROL - Terrain and Obstacle Data Manual - Edition 2.0 / 10/2011 Url : http://www.eurocontrol.int/publications/terrain-and-obstacle-data-tod-manual ICAO - Doc 9734 - Safety Oversight Manual - Edition 2 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - Implementation of TOD is verified through oversight and acceptance and corrective action where required		
INF07-ASP01	Plan the required activities for the collection, management and provision of TOD in accordance with national TOD policy	From: 01/11/2014	By: 30/11/2015
Action by:	ANS Providers		
Description & purpose:	In close coordination with the State authorities and related TOD stakeholders, analyse the current environment and develop a plan/roadmap demonstrating the feasibility of achieving the necessary steps to enable the collection (where applicable), management and provision of electronic terrain and obstacle data in accordance with the national TOD policy. The implementation planning should cover the following topics, as applicable: <ul style="list-style-type: none"> - System change; - Change management; - Process development; - Migration of processes and data; - Data validation and verification; - Financial and human resources; - Performance monitoring; - Risk management; - Compliance management; - Training 		
Supporting material(s):	ICAO - Annex 15 - Aeronautical Information Services Url : http://store1.icao.int/ ICAO - ICAO - Annex 4 - Aeronautical charts ICAO - Doc 9881 - Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information Url : http://store1.icao.int/ EC - Regulation (EU) No 73/2010-(OJ L 23, 27.1.2010, p.6) - Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information 01/2010 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:023:0006:0027:EN:PDF EUROCONTROL - Terrain and Obstacle Data Manual - Edition 2.0 / 10/2011 Url : http://www.eurocontrol.int/publications/terrain-and-obstacle-data-tod-manual		
Finalisation criteria:	1 - The availability of a plan/roadmap by the ANSP demonstrating the feasibility of implementation of TOD as defined by the national TOD policy in line with the national TOD implementation programme		
INF07-ASP02	Implement the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework	From: 01/05/2015	By: 31/05/2018

INF07	Electronic Terrain and Obstacle Data (eTOD)
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Action by:	ANS Providers
Description & purpose:	Adjust the AIM system (i.e. people, equipment and procedures) to ensure the collection (where applicable), management and provision of TOD in accordance with the national TOD policy and regulatory framework.
Supporting material(s):	ICAO - Annex 15 - Aeronautical Information Services Url : http://store1.icao.int/ ICAO - Doc 9881 - Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information Url : http://store1.icao.int/
ATM Master Plan relationship:	[AIMS-16]-Electronic Terrain and Obstacle Data (TOD)
Finalisation criteria:	1 - The requirements defined in the national TOD policy and regulatory framework for ANSP are fulfilled in accordance with the national TOD implementation programme

INF07-APO01	Plan the required activities for the collection, management and provision of TOD in accordance with national TOD policy	From: 01/11/2014	By: 30/11/2015
Action by:	Airport Operators		
Description & purpose:	In close coordination with the State authorities and related TOD stakeholders, analyse the current environment and develop a plan/roadmap demonstrating the feasibility of achieving the necessary steps to enable the collection, management and provision of electronic terrain and obstacle data in accordance with the national TOD policy.		
Supporting material(s):	ICAO - Annex 14 - Aerodromes, Volume I and II ICAO - ICAO - Annex 4 - Aeronautical charts EC - EU Regulation 139/2014 Requirements and administrative procedures related to aerodromes ICAO - Doc 9881 - Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information Url : http://store1.icao.int/ EC - Regulation (EU) No 73/2010-(OJ L 23, 27.1.2010, p.6) - Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information 01/2010 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:023:0006:0027:EN:PDF EUROCONTROL - Terrain and Obstacle Data Manual - Edition 2.0 / 10/2011 Url : http://www.eurocontrol.int/publications/terrain-and-obstacle-data-tod-manual EASA - Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 Url : https://www.easa.europa.eu/document-library/acceptable-means-of-compliance-and-guidance-materials/aerodromes-amc-gm ICAO - Annex 15 - Aeronautical Information Services Url : http://store1.icao.int/ ICAO - Doc 9137-Part 6 - Airport Services Manual - Part 6 - Control of Obstacles - Edition 2 / 12/1983 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - The availability of a plan/roadmap by the airport operator demonstrating the feasibility of implementation of TOD as defined by the national TOD policy in line with the national TOD implementation programme		

INF07-APO02	Implement the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework	From: 01/05/2015	By: 31/05/2018
Action by:	Airport Operators		
Description & purpose:	Adjust the related airport operation system (i.e. people, equipment and procedures) to ensure the collection, management and provision of TOD in accordance with the national TOD policy and regulatory framework.		
Supporting material(s):	ICAO - Annex 15 - Aeronautical Information Services Url : http://store1.icao.int/ ICAO - Doc 9137-Part 6 - Airport Services Manual - Part 6 - Control of Obstacles - Edition 2 / 12/1983 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Annex 14 - Aerodromes, Volume I and II ICAO - ICAO - Annex 4 - Aeronautical charts EC - EU Regulation 139/2014 Requirements and administrative procedures related to aerodromes ICAO - Doc 9881 - Guidelines for Electronic Terrain, Obstacle and Aerodrome Mapping Information Url : http://store1.icao.int/ EC - Regulation (EU) No 73/2010-(OJ L 23, 27.1.2010, p.6) - Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information 01/2010 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:023:0006:0027:EN:PDF EUROCONTROL - Terrain and Obstacle Data Manual - Edition 2.0 / 10/2011 Url : http://www.eurocontrol.int/publications/terrain-and-obstacle-data-tod-manual EASA - Acceptable Means of Compliance and Guidance Material to Regulation (EU) No 139/2014 Url : https://www.easa.europa.eu/document-library/acceptable-means-of-compliance-and-guidance-materials/aerodromes-amc-gm		

INF07	Electronic Terrain and Obstacle Data (eTOD)
	materials/aerodromes-amc-gm
ATM Master Plan relationship:	[AIMS-16]-Electronic Terrain and Obstacle Data (TOD)
Finalisation criteria:	1 - The requirements defined in the national TOD policy and regulatory framework for airport operators are fulfilled in accordance with the national TOD implementation programme

SES		Active					EU+	
ITY-ACID		Aircraft identification						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

This SES-related implementation objective is derived from Implementing Regulation (EU) No 1206/2011 of 22 November 2011, laying down requirements on aircraft identification for surveillance for the single European sky. The main objective of the Regulation is to ensure the unambiguous and continuous identification of individual aircraft operating as general air traffic under instrument flight rules throughout the airspace of the single European sky (the ACID IR) through a phased approach.

The scope of this ESSIP objective is limited to the milestone of 2 January 2020 as identified in the Regulation. By this date, the Regulation requires that air navigation service providers deploy the capability to use the downlinked aircraft identification feature as well as the associated procedures so as to ensure the unambiguous and continuous identification of all individual aircraft operating IFR/GAT flights, by using this feature. It also addresses the possible exemptions associated to this date, under specific conditions.

Implementing Regulation (EU) No 1206/2011 requires that air navigation service providers, in all Member States, have the capability to establish individual aircraft identification using the downlinked aircraft identification feature, for all IFR/GAT flights. This will be achieved with the deployment of the appropriate elements of the surveillance chain as identified in the Implementing Regulation, so as to ensure this capability. Practically this capability can be ensured by deploying Mode S surveillance, or ADS-B or WAM, taking into account the local operating environments, constraints and needs as well as the airspace user's capabilities. The possibility of delayed compliance, under very specific conditions (approach area where air traffic services are provided by military units or under military supervision) is envisaged for no later than 2 January 2025.

For completeness of information, Implementing Regulation (EU) No 1206/2011 of 22 November 2011 includes a first milestone, applicable from 9 February 2012, requiring the use the downlinked aircraft identification feature, or the deployment of improved and harmonised capabilities for the automatic assignment of SSR codes (e.g. directional assignments of SSR codes, multiple simultaneous assignments to flights operated in conflict-free directions, etc). As the first milestone has been already implemented, it is outside the scope of the ESSIP as an implementation planning tool.

It should be noted that the technical capability of the airborne constituents (the carriage of transponders capable to downlink of the aircraft identification) is addressed by Regulation (EU) No 1207/2011 of 22 November 2011 laying down requirements for the performance and the interoperability of surveillance for the single European sky (as amended by Commission Implementing Regulation (EU) No 1028/2014) being covered by ESSIP objective ITY-SPI. However, as the ACID-IR identifies specific procedures to be used by the Operators, notably with regard the setting of the downlinked aircraft identification on-board, the ITY-ACID ESSIP objective defines a specific Stakeholder Line of Action with regard the appropriate training to be provided by the Operators to the personnel operating and maintaining surveillance equipment, in relationship with the use of the aircraft identification feature.

This SES-related implementation objective does not replace the EC legislation. It aims at facilitating the monitoring and reporting of the implementation of the requirements on aircraft identification for surveillance in European ATM in line with the EC regulations.

This SES-related implementation objective does not replace the EU legislation. It aims at facilitating the monitoring and reporting of the implementation of aircraft identification in European ATM in line with the EU regulations and through the SES implementation monitoring and reporting mechanism.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities

Applicability Area(s) & Timescale(s)

Applicability Area		All EU+ States		
Timescales:		From:	By:	Applicable to:
Entry into force of the Regulation		13/12/2011		Applicability Area
System capability			02/01/2020	Applicability Area

References

European ATM Master Plan

OI step -	- No OI Link -							
	Enablers -	GSURV-0101						

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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ITY-ACID	Aircraft identification
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Applicable legislation

Regulation (EU) No 1206/2011 of 22 November 2011 laying down requirements on aircraft identification for surveillance for the single European sky
Regulation (EU) No 1207/2011 of 22 November 2011 laying down requirements for the performance and the interoperability of surveillance for the single European sky as amended by Commission Implementing Regulation (EU) No 1028/2014

ICAO GANP – ASBUs

- none -

Deployment Programme

- none -

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ITY-ACID-ASP01	Ensure the capability of the cooperative surveillance chain, to use the downlinked aircraft identification		02/01/2020
ITY-ACID-ASP02	Organise personnel training and awareness		02/01/2020
ITY-ACID-ASP03	Develop, and deliver as necessary, a safety assessment of the changes imposed by the implementation of the capability allowing the establishment of the individual aircraft identification using the downlinked aircraft identification feature		02/01/2020
ITY-ACID-USE01	Organise personnel training and awareness		02/01/2020

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Enhanced safety levels by ensuring that unambiguous individual aircraft identification is achieved, maintained and shared accurately throughout EATMN airspace.
Capacity:	Avoidance of delays and of reduction in network capacity due to shortage of SSR transponder codes or by increased controller workload caused by code changes.
Operational Efficiency:	The use of downlinked aircraft identification represents the most efficient long term solution as primary mean of identification, as shown in the impact assessment of Regulation (EU) No 1206/2011.
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

ITY-ACID-ASP01	Ensure the capability of the cooperative surveillance chain, to use the downlinked aircraft identification	From: -	By: 02/01/2020
Action by:	ANS Providers		
Description & purpose:	Ensure that the cooperative surveillance chain has the necessary capability to allow the establishment of the individual aircraft identification using the downlinked aircraft identification feature in compliance with Article 4.2 and ensure the operational use of this capability as prescribed in Article 4.3 (including Annex II) of Regulation (EU) No 1206/2011. The deployment and the use of this capability will have an impact on the surveillance systems as well as on flight data processing systems, surveillance data processing systems, human machine interface systems and ground-to-ground communication systems used for the distribution of surveillance data. With regard to the specific surveillance technologies the ANSPs could use to support this requirement they have the choice between Mode S surveillance, ADS-B or WAM, taking into account the local operating environments, constraints and needs as well as the capabilities of the airspace users.		
Derogations:	For the specific case of approach areas where air traffic services are provided by military units or under military supervision and when procurement constraints prevent compliance with Article 4(2) of the Regulation, Member States shall communicate to the Commission by 31 December 2017 at the latest, the date of compliance with downlinked aircraft identification that shall not be later than 2 January 2025, as prescribed in Article 11 'Exemptions' of Regulation (EU) No 1206/2011. Following consultation with the Network Manager, and not later than 31 December 2018, the		

ITY-ACID	Aircraft identification
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	Commission may review the exemptions that could have a significant impact on the EATMN.
Supporting material(s):	<p>EUROCONTROL - ADS-B documentation Url : http://www.eurocontrol.int/articles/cascade-documents</p> <p>EUROCONTROL - Mode S Elementary Surveillance (ELS) Operations Manual Url : http://www.eurocontrol.int/sites/default/files/article/content/documents/nm/surveillance/surveillance-mode-s-els-ops-manual-ed-1.0-20110102.pdf</p> <p>EUROCONTROL - Wide Area Multilateration (WAM) Guidance Material Url : http://www.eurocontrol.int/publications/wide-area-multilateration-wam-guidance-material</p>
Finalisation criteria:	<p>1 - All the appropriate systems have been upgraded</p> <p>2 - The technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) has been delivered to the competent National Supervisory Authority (NSA)</p> <p>3 - The upgraded systems have been put into service, allowing the establishment of the individual aircraft identification using the downlinked aircraft identification.</p>

ITY-ACID-ASP02	Organise personnel training and awareness	From:	By:
		-	02/01/2020
Action by:	ANS Providers		
Description & purpose:	<p>Ensure that:</p> <ul style="list-style-type: none"> - personnel are made duly aware of the requirements of the Regulation and adequately trained as prescribed in Art 8.(1)] - operations manuals, working methods and operating procedures comply with Article 8(2) of Regulation (EU) No 1206/2011. 		
	<p>Note :The completion dates should take into account the possible derogations identified in SLoA ITY-ACID-ASP01 (ref, Article 11 'Exemptions' of Regulation (EU) No 1206/2011).</p>		
Supporting material(s):	<p>EUROCONTROL - ADS-B documentation Url : http://www.eurocontrol.int/articles/cascade-documents</p> <p>EUROCONTROL - Mode S Elementary Surveillance (ELS) Operations Manual Url : http://www.eurocontrol.int/sites/default/files/article/content/documents/nm/surveillance/surveillance-mode-s-els-ops-manual-ed-1.0-20110102.pdf</p> <p>EUROCONTROL - Wide Area Multilateration (WAM) Guidance Material Url : http://www.eurocontrol.int/publications/wide-area-multilateration-wam-guidance-material</p>		
Finalisation criteria:	<p>1 - The training plans have been updated and a training package has been developed.</p> <p>2 - All concerned personnel have been trained.</p>		

ITY-ACID-ASP03	Develop, and deliver as necessary, a safety assessment of the changes imposed by the implementation of the capability allowing the establishment of the individual aircraft identification using the downlinked aircraft identification feature	From:	By:
		-	02/01/2020
Action by:	ANS Providers		
Description & purpose:	<p>Notify the Regulator/NSA/Competent Authority of planned safety related changes and develop safety assessment of these changes, imposed by implementation of the capability allowing the establishment of the individual aircraft identification using the downlinked aircraft identification feature.</p> <p>The tasks to be performed are as follows:</p> <ul style="list-style-type: none"> - notify the Regulator/NSA/Competent Authority of the planned safety related changes. - conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks - develop a safety argument - deliver the safety argument to the Regulator/NSA/Competent Authority, if the severity class of identified risks is 1 or 2 or if the implementation of the changes requires the introduction of new aviation standards. <p>The assessment should consider transition planning leading to the introduction of the capability as well as fall-back mitigation.</p>		
	<p>Note : 1 - Any other validated/recognised method for the safety assessment, is acceptable, if agreed with the Regulator/NSA/Competent Authority.</p> <p>2 - The completion dates should take into account the possible derogations identified in SLoA ITY-ACID-ASP01 (ref, Article 11 'Exemptions' of Regulation (EU) No 1206/2011).</p>		
Supporting material(s):	<p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam</p> <p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF</p>		
Finalisation criteria:	1 - Safety argument addressing the implementation of the capability allowing the establishment of the individual aircraft		

ITY-ACID	Aircraft identification
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	<p>identification using the downlinked aircraft identification feature, has been developed.</p> <p>2 - Safety argument addressing the implementation of the capability allowing the establishment of the individual aircraft identification using the downlinked aircraft identification feature, has been delivered to the Regulator/NSA/Competent Authority, as appropriate, depending on the severity of the identified risks or the introduction of new aviation standards.</p>
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ITY-ACID-USE01	Organise personnel training and awareness	From:	By:
		-	02/01/2020
Action by:	Airspace Users		
Description & purpose:	Operators shall ensure that the personnel operating and maintaining surveillance equipment are made duly aware of Regulation (EU) No 1206/2011, that they are adequately trained to use this equipment, that instructions are available in the cockpit and that the correct processes are applied in operations, so as to ensure compliance with the provisions of Article 9 'Additional requirements for operators' of Regulation (EU) No 1206/2011.		
	Note :This SLoA is specific to the provision and use of the downlinked aircraft identification feature and complements the User SLoAs identified in the ITY-SPI ESSIP objective.		
Finalisation criteria:	<p>1 - Training manuals have been updated, as required and that instructions are available in the cockpit.</p> <p>2 - All personnel operating surveillance equipment have been trained and the correct processes are applied in operations.</p>		

SES		Active					EU+	
ITY-ADQ		Ensure quality of aeronautical data and aeronautical information						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

This SES-related implementation objective is derived from Regulation (EU) No 73/2010 of 26 January 2010, amended by Commission Implementing Regulation (EU) No 1029 of 26 September 2014, laying down requirements on the quality of aeronautical data and aeronautical information for the single European sky (Official Journal L23/6, dated 27.01.2010). The Regulation lays down the requirements on the quality of aeronautical data and aeronautical information in terms of accuracy, resolution and integrity [Article 1].

It applies to European Air Traffic Management Network (EATM Network) systems, their constituents and associated procedures involved in the origination, production, storage, handling, processing, transfer and distribution of aeronautical data and aeronautical information [Article 2(1)].

The Regulation applies to the following aeronautical data and aeronautical information [Article 2(1)]:

- the integrated aeronautical information package (IAIP) made available by Member States, with the exception of aeronautical information circulars;
- electronic obstacle and electronic terrain data or elements thereof, where made available by Member States;
- aerodrome mapping data, where made available by Member States.

It applies to ANSPs, AIS Providers, operators of those aerodromes and heliports for which IFR or Special-VFR procedures have been published in national aeronautical information publications, public or private entities providing services for the origination and provision of survey data, procedure design services, electronic terrain data, electronic obstacle data and manufacturing industry [Article 2(2)].

It applies up to the moment when the aeronautical data and/or aeronautical information are made available by the aeronautical information service to the next intended user [Article 2(3)].

The terms used in this objective are defined in Article 2 of Regulation (EC) No 549/2004, complemented by definitions set in Article 3 of Regulation (EU) No 73/2010, amended by Commission Implementing Regulation (EU) No 1029 of 26 September 2014.

This SES-related implementation objective does not replace the EU legislation. It aims at facilitating the monitoring and reporting of the implementation of quality of aeronautical data and aeronautical information in terms of accuracy, resolution and integrity in European ATM in line with the EU regulations and through the SES implementation monitoring and reporting mechanism.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All EU+ States except: Georgia, Maastricht UAC, The former Yugoslav Republic of Macedonia		
Timescales:		From:	By:	Applicable to:
Entry into force of the regulation		16/02/2010		Applicability Area
Article 5(4)(a), Article 5(4)(b) and Article 6 to 13 to be implemented by			30/06/2013	Applicability Area
Article 4, Article 5(1) and Article 5(2), Article 5(3) and Article 5(4)(c) to be implemented by			30/06/2014	Applicability Area
All data requirements implemented by			30/06/2017	Applicability Area

References

European ATM Master Plan

OI step -	[IS-0202]-Improved Supply Chain for Aeronautical Data through Common Quality Measures							
	Enablers -	AIMS-13						
OI step -	[IS-0204]-Facilitated Aeronautical Data Exchanges through Digitalised/Electronic Information							
	Enablers -	AIMS-19a	AIMS-19b AOM13.1	CTE-C06c COM10	GGSWIM-11	GGSWIM-26a	GGSWIM-52	GGSWIM-53
Legend:	WXYZ-001	Covered by SLoA(s) in this objective		WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler		WXYZ-003	Not covered in the ESSIP Plan

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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Applicable legislation

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, amended by Regulation (EU) No 1029/2014 of 26 September 2014.

ICAO GANP – ASBUs

B0-DATM	Service Improvement through Digital Aeronautical Information Management
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Deployment Programme

5.3.1	Upgrade/Implement Aeronautical Information Exchange System/Service
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ITY-ADQ-REG01	Verify the compliance with data quality requirements and supervise safety assessments		30/06/2013
ITY-ADQ-REG02	Verify the establishment of formal arrangements		30/06/2013
ITY-ADQ-REG03	Verify the compliance with the common dataset specifications and the data exchange format requirements	DELETED	
ITY-ADQ-REG04	Verify that all parties comply with all data requirements		30/06/2017
ITY-ADQ-ASP01	Implement data quality and process requirements		30/06/2013
ITY-ADQ-ASP02	Establish formal arrangements		30/06/2013
ITY-ADQ-ASP03	Establish consistency mechanisms and implement timeliness requirements		30/06/2013
ITY-ADQ-ASP04	Implement personnel and performance requirements		30/06/2013
ITY-ADQ-ASP05	Implement a quality management system and fulfil safety and security objectives		30/06/2013
ITY-ADQ-ASP06	Implement the common dataset and digital exchange format		30/06/2014
ITY-ADQ-ASP07	Implement all data requirements		30/06/2017
ITY-ADQ-APO01	Implement data quality and process requirements		30/06/2013
ITY-ADQ-APO02	Implement personnel and performance requirements		30/06/2013
ITY-ADQ-APO03	Implement a quality management system and fulfil safety and security objectives		30/06/2013
ITY-ADQ-APO04	Implement the common dataset and digital exchange format requirements		30/06/2014
ITY-ADQ-APO05	Implement all data quality requirements		30/06/2017
ITY-ADQ-IND01	Implement data quality and process requirements		30/06/2013
ITY-ADQ-IND02	Implement personnel and performance requirements		30/06/2013
ITY-ADQ-IND03	Implement a quality management system and fulfil safety and security objectives		30/06/2013
ITY-ADQ-IND04	Implement the common dataset and digital exchange format requirements		30/06/2014
ITY-ADQ-IND05	Implement all data quality requirements		30/06/2017

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Improved consistency, reliability and integrity of aeronautical data and aeronautical information.
Capacity:	-
Operational Efficiency:	-
Cost Efficiency:	-
Environment:	-
Security:	Enhanced security due to the implementation of security requirements.

Detailed SLoA Descriptions

ITY-ADQ-REG01	Verify the compliance with data quality requirements and	From:	By:
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ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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	supervise safety assessments	-	30/06/2013
Action by:	State Authorities		
Description & purpose:	<p>Verify that data quality and process requirements are fulfilled in accordance with Article 6 (with the exception of Article 6(3), see ITY-ADQ-REG02) and Annex IV Parts A, B, D, E and F of Regulation (EU) No 73/2010.</p> <p>Supervise that a safety assessment is conducted in accordance with Article 10 of Regulation (EU) No 73/2010 and review the safety assessment report. If applicable review the safety arguments.</p> <p>Notify the acceptance of the change to the ANSP/ANS.</p>		
Supporting material(s):	<p>EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006 Url : https://www.eurocontrol.int/articles/adq-library</p> <p>EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/data-assurance-levels-dal-specification</p> <p>EUROCONTROL - SPEC 152 - EUROCONTROL Specification for Data Quality Requirements - Edition 1.1 / 06/2014 Url : http://www.eurocontrol.int/publications/data-quality-requirements-dqr-specification</p> <p>EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013 Url : http://www.eurocontrol.int/publications/origination-aeronautical-data-do-specification</p> <p>EUROCONTROL - Guidelines on Conformity Assessment for the Interoperability Regulation of the Single European Sky - Edition 3.0 / 02/2012 Url : http://www.eurocontrol.int/publications/conformity-assessment-guidelines</p> <p>EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010 Url : https://www.eurocontrol.int/articles/adq-library</p> <p>EUROCONTROL - NSA Coordination Platform - Guidelines on Interoperability Oversight - Edition 1.0 / 06/2012 Url : http://www.eurocontrol.int/articles/support-civil-aviation-and-national-supervisory-authorities</p>		
Finalisation criteria:	<p>1 - An EN ISO 9001 certificate has been submitted to the NSA by relevant organisations.</p> <p>2 - (For ANSPs, APOs and IND certified as ANS): A safety assessment report, including safety arguments where applicable, has been received and reviewed.</p> <p>3 - (For ANSPs, APOs and IND certified as ANS): Proposed changes have been accepted and formally notified to the relevant organisation.</p> <p>4 - (For ANSPs, APOs and IND certified as ANS): An EC declaration of verification of systems and technical file containing evidence of compliance with the relevant regulatory provisions and with the relevant parts of EUROCONTROL specifications or other acceptable means of compliance received and assessed.</p>		

ITY-ADQ-REG02	Verify the establishment of formal arrangements	From:	By:
		-	30/06/2013
Action by:	State Authorities		
Description & purpose:	Verify that appropriate formal arrangements, respecting at least the minimum content, are established between the relevant parties in accordance with Article 6(3) and Annex IV Part C of Regulation (EU) No 73/2010.		
Supporting material(s):	<p>EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/data-assurance-levels-dal-specification</p> <p>EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013 Url : http://www.eurocontrol.int/publications/origination-aeronautical-data-do-specification</p> <p>EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010 Url : https://www.eurocontrol.int/articles/adq-library</p> <p>EUROCONTROL - NSA Coordination Platform - Guidelines on Interoperability Oversight - Edition 1.0 / 06/2012 Url : http://www.eurocontrol.int/articles/support-civil-aviation-and-national-supervisory-authorities</p> <p>EUROCONTROL - Service Level Agreements (SLA) package - Edition 1.0 / 08/2007 Url : http://www.eurocontrol.int/articles/adq-library</p>		
Finalisation criteria:	1 - Formal arrangements have been established and signed by relevant parties.		

ITY-ADQ-REG04	Verify that all parties comply with all data requirements	From:	By:
		-	30/06/2017
Action by:	State Authorities		
Description & purpose:	Verify that those aeronautical data and aeronautical information items published before 1 July 2013 and not amended since are brought in line by 30 June 2017, at the latest, and that all parties fulfil the requirements in accordance with Article 14 of Regulation (EU) No 73/2010.		
Supporting material(s):	<p>EUROCONTROL - NSA Coordination Platform - Guidelines on Interoperability Oversight - Edition 1.0 / 06/2012 Url : http://www.eurocontrol.int/articles/support-civil-aviation-and-national-supervisory-authorities</p>		

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information		
Finalisation criteria:	1 - All parties publishing aeronautical data and/or aeronautical information comply with all the requirements set in Regulation (EU) No 73/2010 and an according statement of compliance has been received.		
ITY-ADQ-ASP01	Implement data quality and process requirements	From: -	By: 30/06/2013
Action by:	ANS Providers		
Description & purpose:	<p>Implement the data quality, evidence, origination, process, error reporting and rectification requirements in accordance with Article 6 (with the exception of Article 6(3), see: ITY-ADQ-ASP02) and Annex IV Parts A, B, D, E and F of Regulation (EU) No 73/2010 and provide written evidence that the requirements are met.</p> <p>Validate and verify all tools used to support or automate processes in the origination, production, storage, handling, processing and transfer of aeronautical data and/or aeronautical information in accordance with Article 8 and Annex V of Regulation (EU) No 73/2010. Protect data against loss or alteration in accordance with Article 9 and Annex VI of Regulation (EU) No 73/2010.</p> <p>Conduct a safety assessment including hazard identification, risk assessment and mitigation in accordance with Article 10 of Regulation (EU) No 73/2010 and provide a safety assessment report to the NSA. If applicable provide safety arguments to the NSA.</p> <p>Conduct a verification of the systems demonstrating the conformity with the interoperability, performance and safety requirements in accordance with Article 12 and Annex IX and X of Regulation (EU) No 73/2010 and draw up an EC declaration of verification of systems together with a technical file.</p>		
Supporting material(s):	<p>EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006 Url : https://www.eurocontrol.int/articles/adq-library</p> <p>EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/data-assurance-levels-dal-specification</p> <p>EUROCONTROL - SPEC 152 - EUROCONTROL Specification for Data Quality Requirements - Edition 1.1 / 06/2014 Url : http://www.eurocontrol.int/publications/data-quality-requirements-dqr-specification</p> <p>EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013 Url : http://www.eurocontrol.int/publications/origination-aeronautical-data-do-specification</p> <p>EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010 Url : https://www.eurocontrol.int/articles/adq-library</p>		
ATM Master Plan relationship:	[AIMS-13]-Controlled & Harmonised Aeronautical Information Network Activity (CHAIN)		
Finalisation criteria:	<p>1 - Data quality requirements have been implemented and are documented for verification and audit.</p> <p>2 - A safety assessment report, including safety arguments where applicable, has been provided to the NSA.</p> <p>3 - The introduction of the change into service was accepted by the NSA and a notification of acceptance has been received.</p> <p>4 - An EC declaration of verification of systems and a technical file containing evidence of compliance with the relevant regulatory provisions and with the relevant parts of EUROCONTROL specifications or other acceptable means of compliance has been submitted to the NSA.</p>		
ITY-ADQ-ASP02	Establish formal arrangements	From: -	By: 30/06/2013
Action by:	ANS Providers		
Description & purpose:	Establish formal arrangements with other relevant parties for the exchange of aeronautical data and/or aeronautical information in accordance with Article 6(3) and Annex IV Part C of Regulation (EU) No 73/2010.		
Supporting material(s):	<p>EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/data-assurance-levels-dal-specification</p> <p>EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013 Url : http://www.eurocontrol.int/publications/origination-aeronautical-data-do-specification</p> <p>EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010 Url : https://www.eurocontrol.int/articles/adq-library</p> <p>EUROCONTROL - Service Level Agreements (SLA) package - Edition 1.0 / 08/2007 Url : http://www.eurocontrol.int/articles/adq-library</p>		
Finalisation criteria:	1 - Formal arrangements signed by all relevant parties have been established.		
ITY-ADQ-ASP03	Establish consistency mechanisms and implement timeliness requirements	From: -	By: 30/06/2013
Action by:	ANS Providers		

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information		
Description & purpose:	Establish and document mechanisms to ensure consistency and implement the timeliness requirements in accordance with Article 7(1), 7(2) and 7(3) of Regulation (EU) No 73/2010.		
Supporting material(s):	EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010 Url : https://www.eurocontrol.int/articles/adq-library		
Finalisation criteria:	1 - Mechanisms ensuring consistency and, if relevant, annotating AIP items not meeting the data quality requirements have been established and documented		
ITY-ADQ-ASP04	Implement personnel and performance requirements	From: -	By: 30/06/2013
Action by:	ANS Providers		
Description & purpose:	Develop and maintain awareness material and implement training and competence requirements in accordance with Articles 7(4) and 7(5) of Regulation (EU) No 73/2010. Develop and maintain operating manuals and request security clearances in accordance with Article 13 of Regulation (EU) No 73/2010.		
Supporting material(s):	EUROCONTROL - AIS Training Development Guidelines - Edition 1.1 / 10/2011 Url : http://www.eurocontrol.int/publications/ais-training-development-guidelines-ais-tdg EUROCONTROL - Common AIS Staff Profiling (CASP) - Edition 1.0 / 08/2004 Url : http://www.eurocontrol.int/publications/common-ais-staff-profiling-casp EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 02/2011 Url : http://www.eurocontrol.int/publications/eaip-specification		
Finalisation criteria:	1 - Awareness material and training records have been published. 2 - Competence requirements for staff have been met. 3 - Operating manuals have been provided. 4 - Security clearances for authorised staff have been provided.		
ITY-ADQ-ASP05	Implement a quality management system and fulfil safety and security objectives	From: -	By: 30/06/2013
Action by:	ANS Providers		
Description & purpose:	Implement and maintain a quality management system meeting the safety management and the security management objectives in accordance with Article 10 and Annex VII of Regulation (EU) No 73/2010. Note : An EN ISO 9001 certificate issued by an appropriately accredited organisation shall be considered as a sufficient means of compliance for the quality management system.		
Supporting material(s):	EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010 Url : https://www.eurocontrol.int/articles/adq-library		
Finalisation criteria:	1 - A quality management system meeting the safety and security management objectives has been implemented, documented and is maintained. 2 - An EN ISO 9001 certificate has been obtained. 3 - Documentation related to certification has been provided to the NSA. 4 - Access authorisations have been provided.		
ITY-ADQ-ASP06	Implement the common dataset and digital exchange format	From: -	By: 30/06/2014
Action by:	ANS Providers		
Description & purpose:	Implement the common dataset, provide and document the IAIP, aerodrome mapping, electronic obstacle data, electronic terrain data and metadata in accordance with Article 4 and Annex I of Regulation (EU) No 73/2010. Implement a common data exchange for IAIP, aerodrome mapping, electronic obstacle data and electronic terrain data allowing digital data exchange and verify that all aeronautical data and aeronautical information within the IAIP, AIP amendments and AIP supplements are made available to the next intended user in accordance with Article 5 and Annex II of Regulation (EU) No 73/2010. Conduct a safety assessment including hazard identification, risk assessment and mitigation in accordance with Article 10 of Regulation (EU) No 73/2010 and provide a safety assessment report to the NSA. If applicable provide safety arguments to the NSA.		
	Note : (1). Digital NOTAM may be excluded from the data exchange format ref. Article 5(3) (subject to revision once digital NOTAM work progressed). Note: (2). Concerning the provision of Electronic obstacle data, electronic terrain data and aerodrome mapping data, ref. Article 2(1)(b-d).		

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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Derogations:	Refer to Article 15(2) of Regulation (EU) No 73/2010.
Supporting material(s):	<p>EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006 Url : https://www.eurocontrol.int/articles/adq-library</p> <p>EUROCONTROL - SPEC 151 - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 1.0 / 12/2012 Url : http://www.eurocontrol.int/publications/aeronautical-information-exchange-aix-specification</p> <p>EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/data-assurance-levels-dal-specification</p> <p>EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 02/2011 Url : http://www.eurocontrol.int/publications/eaip-specification</p> <p>EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013 Url : http://www.eurocontrol.int/publications/origination-aeronautical-data-do-specification</p> <p>EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010 Url : https://www.eurocontrol.int/articles/adq-library</p>
Finalisation criteria:	<p>1 - The common dataset and digital exchange format requirements have been implemented.</p> <p>2 - A safety assessment report, including safety arguments where applicable, has been provided to the NSA.</p> <p>3 - The introduction of the change into service was accepted by the NSA and a notification of acceptance has been received.</p> <p>4 - An EC declaration of verification of systems and a technical file containing evidence of compliance with the relevant regulatory provisions and with the relevant parts of EUROCONTROL specifications or other acceptable means of compliance has been submitted to the NSA.</p>

ITY-ADQ-ASP07	Implement all data requirements	From: -	By: 30/06/2017
Action by:	ANS Providers		
Description & purpose:	Update those aeronautical data and aeronautical information items which were published before 1 July 2013 and not amended since in accordance with Article 14 of Regulation (EU) No 73/2010.		
Finalisation criteria:	1 - All electronic data is compliant to all requirements and a statement of compliance has been provided to the NSA.		

ITY-ADQ-APO01	Implement data quality and process requirements	From: -	By: 30/06/2013
Action by:	Aerodrome & heliport Operators for which IFR or Special-VFR procedures have been published in national AIPs		
Description & purpose:	<p>Implement the data quality and data origination requirements in accordance with Article 6 and Annex IV Parts A - F of Regulation (EU) No 73/2010 and provide written evidence that the requirements are met.</p> <p>Validate and verify all tools used to support or automate processes in the origination, production, storage, handling, processing and transfer of aeronautical data and/or aeronautical information and document the validation in a technical file in accordance with Article 8 and Annex V of Regulation (EU) No 73/2010. Protect data against loss or alteration in accordance with Article 9 and Annex VI of Regulation (EU) No 73/2010.</p> <p>Conduct a safety assessment including hazard identification, risk assessment and mitigation in accordance with Article 10 of Regulation (EU) No 73/2010. If certified as ANS, provide a safety assessment report to the NSA and if applicable provide safety arguments to the NSA.</p>		
Supporting material(s):	<p>EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006 Url : https://www.eurocontrol.int/articles/adq-library</p> <p>EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/data-assurance-levels-dal-specification</p> <p>EUROCONTROL - SPEC 152 - EUROCONTROL Specification for Data Quality Requirements - Edition 1.1 / 06/2014 Url : http://www.eurocontrol.int/publications/data-quality-requirements-dqr-specification</p> <p>EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013 Url : http://www.eurocontrol.int/publications/origination-aeronautical-data-do-specification</p> <p>EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010 Url : https://www.eurocontrol.int/articles/adq-library</p>		
Finalisation criteria:	<p>1 - Data quality requirements have been implemented and are documented for verification and audit.</p> <p>2 - (For APOs certified as ANS): A safety assessment report, including safety arguments where applicable, has been provided to the NSA.</p> <p>3 - (For APOs certified as ANS): The introduction of the change into service was accepted by the NSA and a notification of acceptance has been received.</p>		

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information		
	4 - (For APOs certified as ANS): An EC declaration of verification of systems and a technical file containing evidence of compliance with the relevant regulatory provisions and with relevant parts of EUROCONTROL specifications or other acceptable means of compliance has been submitted to the NSA.		
ITY-ADQ-APO02	Implement personnel and performance requirements	From: -	By: 30/06/2013
Action by:	Aerodrome & heliport Operators for which IFR or Special-VFR procedures have been published in national AIPs		
Description & purpose:	<p>Develop and maintain awareness material and implement training and competence requirements in accordance with Article 7(4) and Article 7(5) of Regulation (EU) No 73/2010.</p> <p>Develop and maintain operating manuals and request security clearances in accordance with Article 13 of Regulation (EU) No 73/2010.</p>		
Supporting material(s):	<p>EUROCONTROL - AIS Training Development Guidelines - Edition 1.1 / 10/2011 Url : http://www.eurocontrol.int/publications/ais-training-development-guidelines-ais-tdg</p> <p>EUROCONTROL - Common AIS Staff Profiling (CASP) - Edition 1.0 / 08/2004 Url : http://www.eurocontrol.int/publications/common-ais-staff-profiling-casp</p>		
Finalisation criteria:	<p>1 - Awareness material and training records have been published.</p> <p>2 - Competence requirements for staff have been met.</p> <p>3 - Operating manuals have been provided.</p> <p>4 - Security clearances for authorised staff have been provided.</p>		
ITY-ADQ-APO03	Implement a quality management system and fulfil safety and security objectives	From: -	By: 30/06/2013
Action by:	Aerodrome & heliport Operators for which IFR or Special-VFR procedures have been published in national AIPs		
Description & purpose:	<p>Implement and maintain a quality management system meeting the safety management and the security management objectives in accordance with Article 10 and Annex VII of Regulation (EU) No 73/2010.</p> <p>Note : An EN ISO 9001 certificate issued by an appropriately accredited organisation shall be considered as a sufficient means of compliance for the quality management system.</p>		
Supporting material(s):	<p>EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010 Url : https://www.eurocontrol.int/articles/adq-library</p>		
Finalisation criteria:	<p>1 - A quality management system meeting the safety and security management objectives have been implemented, documented and is maintained.</p> <p>2 - An EN ISO 9001 certificate has been obtained.</p> <p>3 - Documentation related to certification has been provided to the NSA.</p> <p>4 - Access authorisations have been provided.</p>		
ITY-ADQ-APO04	Implement the common dataset and digital exchange format requirements	From: -	By: 30/06/2014
Action by:	Aerodrome & heliport Operators for which IFR or Special-VFR procedures have been published in national AIPs		
Description & purpose:	<p>Implement the common dataset, provide and document the IAIP, aerodrome mapping, electronic obstacle data, electronic terrain data and metadata in accordance with Article 4 and Annex I of Regulation (EU) No 73/2010.</p> <p>If certified as ANS, implement a common data exchange for IAIP, aerodrome mapping, electronic obstacle data and electronic terrain data allowing digital data exchange and verify that all aeronautical data and aeronautical information within the IAIP, AIP amendments and AIP supplements are made available to the next intended user in accordance with Article 5 and Annex II of Regulation (EU) No 73/2010.</p> <p>Conduct a safety assessment including hazard identification, risk assessment and mitigation in accordance with Article 10 of Regulation (EU) No 73/2010. If certified as ANS, provide a safety assessment report to the NSA and if applicable provide safety arguments to the NSA.</p> <p>Note : Digital NOTAM may be excluded from the data exchange format ref. Article 5(3) (subject to revision once digital NOTAM work progressed).</p>		
Supporting material(s):	<p>EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006 Url : https://www.eurocontrol.int/articles/adq-library</p> <p>EUROCONTROL - SPEC 151 - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 1.0 / 12/2012 Url : http://www.eurocontrol.int/publications/aeronautical-information-exchange-aix-specification</p> <p>EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/data-assurance-levels-dal-specification</p> <p>EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 02/2011</p>		

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	<p>Url : http://www.eurocontrol.int/publications/eaip-specification EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013</p> <p>Url : http://www.eurocontrol.int/publications/origination-aeronautical-data-do-specification EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010</p> <p>Url : https://www.eurocontrol.int/articles/adq-library</p>
Finalisation criteria:	<p>1 - The common dataset requirements have been implemented.</p> <p>2 - (For APOs certified as ANS): The common digital exchange format requirements have been implemented.</p> <p>3 - (For APOs certified as ANS): A safety assessment report, including safety arguments where applicable, has been provided to the NSA.</p> <p>4 - (For APOs certified as ANS): The introduction of the change into service was accepted by the NSA and a notification of acceptance has been received.</p> <p>5 - (For APOs certified as ANS): An EC declaration of verification of systems and a technical file containing evidence of compliance with relevant regulatory provisions and with the relevant parts of EUROCONTROL specifications or other acceptable means of compliance has been submitted to the NSA.</p>

ITY-ADQ-APO05	Implement all data quality requirements	From: -	By: 30/06/2017
Action by:	Aerodrome & heliport Operators for which IFR or Special-VFR procedures have been published in national AIPs		
Description & purpose:	Update those aeronautical data and aeronautical information items which were published before 1 July 2013 and not amended since in accordance with Article 14 of Regulation (EU) No 73/2010.		
Finalisation criteria:	1 - All electronic data is compliant to all requirements and a statement of compliance has been provided to the NSA.		

ITY-ADQ-IND01	Implement data quality and process requirements	From: -	By: 30/06/2013
Action by:	Public/private entities providing services for the origination/provision of survey, electronic terrain & obstacle data and procedures design services		
Description & purpose:	<p>Implement the data quality and data origination requirements in accordance with Article 6 and Annex IV Parts A - F of Regulation (EU) No 73/2010 and provide written evidence that the requirements are met.</p> <p>Validate and verify all tools used to support or automate processes in the origination, production, storage, handling, processing and transfer of aeronautical data and/or aeronautical information in accordance with Article 8 and Annex V of Regulation (EU) No 73/2010. Protect data against loss or alteration in accordance with Article 9 and Annex VI of Regulation (EU) No 73/2010.</p> <p>Conduct a safety assessment including hazard identification, risk assessment and mitigation in accordance with Article 10 of Regulation (EU) No 73/2010. If certified as an ANS, provide a safety assessment report to the NSA and if applicable provide safety arguments to the NSA.</p> <p>Assess the conformity or suitability for use of constituents in accordance with Article 11 and Annex VIII of Regulation (EU) No 73/2010 and issue an EC declaration of conformity or suitability for use of constituents together with a technical file.</p>		
Supporting material(s):	<p>EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006</p> <p>Url : https://www.eurocontrol.int/articles/adq-library</p> <p>EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012</p> <p>Url : http://www.eurocontrol.int/publications/data-assurance-levels-dal-specification</p> <p>EUROCONTROL - SPEC 152 - EUROCONTROL Specification for Data Quality Requirements - Edition 1.1 / 06/2014</p> <p>Url : http://www.eurocontrol.int/publications/data-quality-requirements-dqr-specification</p> <p>EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013</p> <p>Url : http://www.eurocontrol.int/publications/origination-aeronautical-data-do-specification</p> <p>EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010</p> <p>Url : https://www.eurocontrol.int/articles/adq-library</p>		
Finalisation criteria:	<p>1 - Data quality requirements have been implemented and are documented for verification and audit.</p> <p>2 - (For IND certified as ANS): The introduction of the change into service has been accepted by the NSA and a notification of acceptance was received.</p> <p>3 - (For IND certified as ANS): An EC declaration of verification of systems and a technical file containing evidence of compliance with the relevant regulatory provisions and with the relevant parts of EUROCONTROL specifications or other acceptable means of compliance has been submitted to the NSA.</p> <p>4 - (For Manufacturers of constituents): An EC declaration of conformity of constituents or of suitability for use has been issued.</p> <p>5 - (For IND certified as ANS): A safety assessment report, including safety arguments where applicable, has been</p>		

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information		
	provided to the NSA.		
ITY-ADQ-IND02	Implement personnel and performance requirements	From: -	By: 30/06/2013
Action by:	Public/private entities providing services for the origination/provision of survey, electronic terrain & obstacle data and procedures design services		
Description & purpose:	Develop and maintain awareness material and implement training and competence requirements in accordance with Articles 7(4) and 7(5) of Regulation (EU) No 73/2010. Develop and maintain operating manuals and request security clearances in accordance with Article 13 of Regulation (EU) No 73/2010.		
Supporting material(s):	EUROCONTROL - AIS Training Development Guidelines - Edition 1.1 / 10/2011 Url : http://www.eurocontrol.int/publications/ais-training-development-guidelines-ais-tdg EUROCONTROL - Common AIS Staff Profiling (CASP) - Edition 1.0 / 08/2004 Url : http://www.eurocontrol.int/publications/common-ais-staff-profiling-casp		
Finalisation criteria:	1 - Awareness material and training records have been published. 2 - Competence requirements for staff have been met. 3 - Operating manuals have been provided. 4 - Security clearances for authorised staff have been provided.		
ITY-ADQ-IND03	Implement a quality management system and fulfil safety and security objectives	From: -	By: 30/06/2013
Action by:	Public/private entities providing services for the origination/provision of survey, electronic terrain & obstacle data and procedures design services		
Description & purpose:	Implement and maintain a quality management system meeting the safety management and the security management objectives in accordance with Article 10 and Annex VII of Regulation (EU) No 73/2010		
Supporting material(s):	EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality - Edition 1.3 / 06/2010 Url : https://www.eurocontrol.int/articles/adq-library		
Finalisation criteria:	1 - A quality management system meeting the safety and security management objectives has been implemented documented and is maintained. 2 - Access authorisations have been provided. 3 - An EN ISO 9001 certificate has been obtained. 4 - Documentation related to certification has been provided to the NSA.		
ITY-ADQ-IND04	Implement the common dataset and digital exchange format requirements	From: -	By: 30/06/2014
Action by:	Public/private entities providing services for the origination/provision of survey, electronic terrain & obstacle data and procedures design services		
Description & purpose:	Implement the common dataset, provide and document the IAIP, aerodrome mapping, electronic obstacle data, electronic terrain data and metadata in accordance with Article 4 and Annex I of Regulation (EU) No 73/2010. If certified as ANS, implement a common data exchange for IAIP, aerodrome mapping, electronic obstacle data and electronic terrain data allowing digital data exchange and verify that all aeronautical data and aeronautical information within the IAIP, AIP amendments and AIP supplements are made available to the next intended user in accordance with Article 5 and Annex II of Regulation (EU) No 73/2010. Conduct a safety assessment including hazard identification, risk assessment and mitigation in accordance with Article 10 of Regulation (EU) No 73/2010. If certified as an ANS, provide a safety assessment report to the NSA and if applicable provide safety arguments to the NSA.		
	Note : (1). Digital NOTAM may be excluded from the data exchange format ref. Article 5(3) (subject to revision once digital NOTAM work progressed). Note: (2). Concerning the provision of Electronic obstacle data, electronic terrain data and aerodrome mapping data, ref. Article 2(1)(b-d).		
Supporting material(s):	EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006 Url : https://www.eurocontrol.int/articles/adq-library EUROCONTROL - SPEC 151 - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 1.0 / 12/2012 Url : http://www.eurocontrol.int/publications/aeronautical-information-exchange-aix-specification EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/data-assurance-levels-dal-specification EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 02/2011		

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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	Url : http://www.eurocontrol.int/publications/eaip-specification EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013 Url : http://www.eurocontrol.int/publications/origination-aeronautical-data-do-specification
Finalisation criteria:	1 - The common dataset requirements have been implemented. 2 - (For IND certified as ANS): The common digital exchange format requirements have been implemented. 3 - (For IND certified as ANS): A safety assessment report, including safety arguments where applicable, has been provided to the NSA. 4 - (For IND certified as ANS): The introduction of the change into service was accepted by the NSA and a notification of acceptance has been received. 5 - (For IND certified as ANS): An EC declaration of verification of systems and a technical file containing evidence of compliance with the relevant regulatory provisions and with the relevant parts of EUROCONTROL specifications or other acceptable means of compliance has been submitted to the NSA. 6 - (For Manufacturers of constituents): An EC declaration of conformity of constituents or of suitability for use has been issued.

ITY-ADQ-IND05	Implement all data quality requirements	From: -	By: 30/06/2017
Action by:	Public/private entities providing services for the origination/provision of survey, electronic terrain & obstacle data and procedures design services		
Description & purpose:	Update those aeronautical data and aeronautical information items which were published before 1 July 2013 and not amended since in accordance with Article 14 of Regulation (EU) No 73/2010.		
Finalisation criteria:	1 - All electronic data is compliant to all requirements and a statement of compliance has been provided to the NSA.		

SES		Active					EU+	
ITY-AGDL		Initial ATC air-ground data link services						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

This SES-related implementation objective is derived from Regulation (EU) No 2015/310 of 26 February 2015, amending Regulation (EC) No 29/2009 of 16 January 2009 and repealing Regulation (EU) No 441/2014, laying down requirements on data link services for the single European sky.

Regulation (EC) No 29/2009 applies to air-ground data communications systems, their constituents and associated procedures and to flight data processing systems serving air traffic control units providing services to general air traffic, their constituents and associated procedures [Ref. Article 1(2)].

Regulation (EC) No 29/2009 requires the interoperable implementation of the first set of en-route non-time critical air-ground data link services DLIC, ACL, ACM and AMC [Ref. Annex II].

This regulation applies to all flights operating as general air traffic in accordance with instrument flight rules above FL 285, within the defined airspace areas [Ref. Article 1.1 of Regulation (EU) 2015/310].

The terms used in this objective are defined in Article 2 of Regulation (EC) No 549/2004 and in Article 2 of Regulation (EC) No 29/2009.

The ESSIP objective is aligned with Regulation (EU) No 2015/310, amending Regulation (EC) No 29/2009 and repealing Regulation (EU) No 441/2014.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All EU+ States except: Georgia, Luxembourg, Netherlands		
Timescales:		From:	By:	Applicable to:
ATS unit operational capability			05/02/2018	Applicability Area
Aircraft capability			05/02/2020	Applicability Area

References

European ATM Master Plan

OI step -	[AUO-0301]-Voice Controller-Pilot Communications (En-Route) Complemented by Data Link							
	Enablers -	A/C-31	ER ATC 154a	ER ATC 154b	PRO-044b	PRO-228a		
OI step -	- No OI Link -							
	Enablers -	CTE-C02b						

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) 2015/310 amending Regulation (EC) No 29/2009 and repealing Implementing Regulation (EU) No 441/2014, laying down requirements on data link services for the single European sky

ICAO GANP – ASBUs

B0-TBO	Improved Safety and Efficiency through the initial application of Data Link En-Route
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Deployment Programme

6.1.2	Air Ground Data Link deployment for A/G Communication
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ITY-AGDL	Initial ATC air-ground data link services
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ITY-AGDL-REG01	Ensure that safety is assessed before any change to the existing system	DELETED	
ITY-AGDL-REG02	Ensure the processing and the distribution of the information on the data link capability by the IFPS	DELETED	
ITY-AGDL-REG03	Ensure the publication of relevant information in the national aeronautical information publication		05/02/2018
ITY-AGDL-REG04	Ensure ATN/VDL-2 availability, security policy and address management procedures		05/02/2018
ITY-AGDL-REG05	Approve the operational use of air-ground data link services	DELETED	
ITY-AGDL-REG06	Notify potential exemption cases to the European Commission	FINALISED	
ITY-AGDL-ASP01	Ensure the conformity of communications, flight data and initial flight plan processing systems and associated procedures		05/02/2018
ITY-AGDL-ASP02	Organise personnel awareness and training		05/02/2018
ITY-AGDL-ASP03	Ensure ground communication systems comply with air-ground communication requirements		05/02/2018
ITY-AGDL-ASP04	Deploy communication infrastructure to handle air-ground data link services		05/02/2018
ITY-AGDL-ASP05	Implement Logon Forward process		05/02/2018
ITY-AGDL-ASP06	Implement Next Authority Notified process		05/02/2018
ITY-AGDL-MIL01	Equip transport-type State aircraft		01/01/2019
ITY-AGDL-USE01	Equip aircraft with data link equipment supporting the identified services		05/02/2020
ITY-AGDL-USE02	Specify relevant operational procedures		05/02/2020
ITY-AGDL-USE03	Arrange air-ground ATS data link service provision		05/02/2020
ITY-AGDL-USE04	Organise personnel awareness and training		05/02/2020
ITY-AGDL-IND01	Provide avionics and ground systems for data link services	DELETED	

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Through the delivery of standard and unambiguous messages (significant error and fatigue reduction), provision of a communications backup and the possibility of immediate message retrieval.
Capacity:	Through both reduction of voice congestion and increase in controller and sector productivity. Capacity gain is expected from 3.4 % (if 25% of flights is equipped) up to 11% (if 75% of flights is equipped). This will lead to reduction of delays.
Operational Efficiency:	-
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

ITY-AGDL-REG03	Ensure the publication of relevant information in the national aeronautical information publication	From: -	By: 05/02/2018
Action by:	State Authorities		
Description & purpose:	Ensure that relevant information on the use of data link services is published in the national aeronautical information publications [Regulation (EC) No 29/2009, Article 13(8)].		
Finalisation criteria:	1 - National aeronautical information publications have been updated appropriately.		
ITY-AGDL-REG04	Ensure ATN/VDL-2 availability, security policy and address management procedures	From: -	By: 05/02/2018
Action by:	State Authorities		
Description & purpose:	Member States which have designated ATS providers in the applicable airspace shall: - Ensure that air-ground communications services satisfying requirements for ATN and VDL-2 are available to operators for aircraft flying within that airspace under their responsibility for CM and CPDLC data exchanges, with due regard to possible coverage limitations inherent in the communication technology used [Regulation (EC) No 29/2009, Article 7(1)];		

ITY-AGDL	Initial ATC air-ground data link services
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	<ul style="list-style-type: none"> - Ensure that air navigation service providers and other entities providing communication services implement an appropriate security policy for data exchanges of the DLIC, ACM, ACL and AMC services, notably by applying common security rules to protect distributed physical resources supporting those data exchanges [Regulation (EC) No 29/2009, Article 7(2)]; - Ensure that harmonised procedures apply for the management of addressing information in order to unambiguously identify air and ground communications systems supporting data exchanges of the CM and CPDLC air/ground applications [Regulation (EC) No 29/2009, Article 7(3)].
Finalisation criteria:	1 - Availability of ATN/VDL-2 service has been published in national aeronautical information publication. 2 - Security policy is available. 3 - Harmonised addressing procedures are available.

ITY-AGDL-ASP01	Ensure the conformity of communications, flight data and initial flight plan processing systems and associated procedures	From: -	By: 05/02/2018
Action by:	ANS Providers		
Description & purpose:	Ensure that air-ground communications systems, flight data processing systems and human-machine interface systems serving ATS units providing service to general air traffic within the applicable airspace areas comply with the following articles of Regulation (EC) No 29/2009: <ul style="list-style-type: none"> - Article 1(3) on the operational coverage; - Article 3(1) on the capability to provide and operate the DLIC, ACM, ACL and AMC data link services; - Article 4 on procedures for CPDLC establishment, operation and termination, and for the filing of flight plans regarding information pertaining to data link capability; - Article 5(1) on ground systems support of CM and CPDLC; - Article 5(2) on seamless provision, message set and integrity requirements of end-to-end communications for data exchanges of the CM and CPDLC air-ground applications; - Article 5(3) on service level agreement for communication services for CM and CPDLC data exchanges that may be provided by other organisations (i.e. CSPs); - Article 5(4) on ensuring that data exchanges can be established with all compliant aircraft flying in the airspace under their responsibility; - Article 5(5) on automated notification, coordination and transfer of flights between ATC units (Note that this requires implementation of LOF/NAN processes in accordance with Regulation (EC) No 1032/2006 - as complemented by Regulation (EC) No 30/2009 - refer to SES-related implementation objective ITY-COTR); - Article 5(6) on performance monitoring; - Article 9 on the application of air-ground communications in ground communication systems and their constituents for CM and CPDLC data exchanges, allowing either ATN/VDL-2 or an alternative communication technology; - Article 13(1) and (2) on the ground-based recording of data link communications. 		
Supporting material(s):	ICAO - Annex 10, Volume III - Aeronautical Telecommunications, Volume III Communication Systems, Part 1 Digital Data Communication Systems - Edition 2.0 Url : http://store1.icao.int/ EUROCONTROL - SPEC 116 - EUROCONTROL Specification on Data Link Services - Edition 2.1 / 01/2009 Url : http://www.eurocontrol.int/articles/link-2000-library EUROCAE - ED-111 - Functional specifications for CNS/ATM Recording - Including Amendment N°1 - 30 July 2003 07/2002 Url : http://boutique.eurocae.net/catalog/index.php		
ATM Master Plan relationship:	[ER ATC 154b]-Enhance En-route ATC sub-systems (internal processing, FDP and Controller Workstation) to enable CPDLC dialog with Pilot [PRO-044b]-ATC Procedures involving protocol for utilization of DataLink communications, message composition, receipt acknowledgement		
Finalisation criteria:	1 - Air-ground ANSP communications systems enable data link communication between controllers and operators of equipped aircraft. 2 - Flight data and initial flight plan processing systems are able to handle the information about the data link capability of flights. 3 - Associated procedures are applied in operation.		

ITY-AGDL-ASP02	Organise personnel awareness and training	From: -	By: 05/02/2018
Action by:	ANS Providers		
Description & purpose:	Develop and maintain operations manuals containing the necessary instructions and information to enable all personnel concerned to apply Regulation (EC) No 29/2009. Ensure that these manuals are accessible and kept up to date and that their update and distribution are subject to appropriate quality and documentation configuration management. Ensure that the working methods and operating procedures comply with Regulation (EC) No 29/2009. Ensure that all personnel concerned are made duly aware of the relevant provisions in Regulation (EC) No 29/2009. Ensure that all personnel concerned are adequately trained for their job functions. Note: In accordance with Regulation (EC) No 29/2009, Articles 13(3) and 13(5)		
Finalisation criteria:	1 - Air Navigation Service Providers have produced the operations manuals and the training programmes.		

ITY-AGDL	Initial ATC air-ground data link services
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ITY-AGDL-ASP03	Ensure ground communication systems comply with air-ground communication requirements	From: -	By: 05/02/2018
Action by:	ANS Providers		
Description & purpose:	Entities providing communication services shall ensure that the ground communication systems and their constituents apply air-ground communications for CM and CPDLC data exchanges in compliance with Article 9 of Regulation (EC) No 29/2009, allowing either ATN/VDL-2 or an alternative communication technology.		
ATM Master Plan relationship:	[ER ATC 154a]-Basic air-ground datalink communications service derived from the CM and CPDLC applications		
Finalisation criteria:	1 - CSP has deployed and made available ground communication systems which allow ATN/VDL-2 or alternative communication technology.		

ITY-AGDL-ASP04	Deploy communication infrastructure to handle air-ground data link services	From: -	By: 05/02/2018
Action by:	ANS Providers		
Description & purpose:	Ensure that the entities providing communication services for data exchanges of the air-ground applications deploy the appropriate telecommunication infrastructure (e.g. based on ATN/VDL-Mode 2).		
Supporting material(s):	<p>EUROCONTROL - SPEC 116 - EUROCONTROL Specification on Data Link Services - Edition 2.1 / 01/2009 Url : http://www.eurocontrol.int/articles/link-2000-library</p> <p>EUROCONTROL - Generic Requirements for a LINK 2000+ Air/Ground Communications Service Provider (ACSP) - Edition 1.6 / 12/2009 Url : http://www.eurocontrol.int/articles/link-2000-guidance-material</p> <p>EUROCONTROL - LINK 2000+ Network Planning Document - Edition 3.6 / 12/2012 Url : http://www.eurocontrol.int/articles/link-2000-guidance-material</p> <p>ARINC - 631-5 - VHF Digital Link (VDL) Mode 2 Implementation Provisions - ARINC 600 Series / 12/2008 Url : https://www.arinc.com/cf/store/catalog.cfm?prod_group_id=1&category_group_id=3</p> <p>ARINC - 631-6 - VHF Digital Link (VDL) Mode 2 Implementation Provisions Standards - ARINC 600 Series / 11/2010 Url : https://www.arinc.com/cf/store/catalog.cfm?prod_group_id=1&category_group_id=3</p>		
ATM Master Plan relationship:	[CTE-C02b]-A/G Datalink over ATN/OSI - Single frequency		
Finalisation criteria:	1 - Appropriate telecommunication infrastructure has been deployed in the specific locations selected by the State, and is ready to handle the selected air-ground data link services.		

ITY-AGDL-ASP05	Implement Logon Forward process	From: -	By: 05/02/2018
Action by:	ANS Providers		
Description & purpose:	<p>Implement a process for the transmission of logon parameters of flight data between ATC units as specified in the Annex to Regulation (EC) No 30/2009 amending Regulation (EC) No 1032/2006.</p> <p>The Logon Forward process is transmitted to provide the ATN or FANS/1A logon parameters to the receiving data-link equipped unit, to allow the unit to use the data link applications (CM, CPDLC, ADS, FIS).</p> <p>This process shall comply with the interoperability and performance requirements specified in Art. 3 of Regulation (EC) No 1032/2006.</p> <p>Note :This SLoA corresponds to ITY-COTR-ASP08 from ESSIP Plan Edition 2015.</p>		
Specific applicability:	Related to Commission Regulation 29/2009 laying down requirements on datalink services for the Single European Sky.		
Derogations:	It shall not apply to flight data processing systems for which the flight data are synchronised by means of a common system.		
Supporting material(s):	<p>EUROCONTROL - SPEC 107 - EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) - Edition 3.1 - OJ 2008/C 68/03 / 10/2007 Url : http://www.eurocontrol.int/publications/ats-data-exchange-presentation-adexp-specification</p> <p>EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/11 / 12/2010 Url : http://www.eurocontrol.int/publications/line-data-interchange-oldi-specification</p>		
ATM Master Plan relationship:	[ER ATC 154b]-Enhance En-route ATC sub-systems (internal processing, FDP and Controller Workstation) to enable CPDLC dialog with Pilot		
Finalisation criteria:	1 - The Logon Forward process has been implemented, documented and is in operational use.		

ITY-AGDL-ASP06	Implement Next Authority Notified process	From: -	By: 05/02/2018
Action by:	ANS Providers		
Description & purpose:	Implement a process for the transmission of information of flight data between ATC units as specified in the Annex to Regulation (EC) No 30/2009 amending Regulation (EC) No 1032/2006.		

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	Information subject to the next authority notified process shall provide as a minimum: aircraft identification, departure aerodrome, destination aerodrome. This process shall comply with the interoperability and performance requirements specified in Art. 3 of Regulation (EC) No 1032/2006. Note :This SLoA corresponds to ITY-COTR-ASP09 from ESSIP Plan Edition 2015.
Specific applicability:	Related to Commission Regulation 29/2009 laying down requirements on datalink services for the Single European Sky.
Derogations:	It shall not apply to flight data processing systems for which the flight data are synchronised by means of a common system.
Supporting material(s):	EUROCONTROL - SPEC 107 - EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) - Edition 3.1 - OJ 2008/C 68/03 / 10/2007 Url : http://www.eurocontrol.int/publications/ats-data-exchange-presentation-adexp-specification EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/11 / 12/2010 Url : http://www.eurocontrol.int/publications/line-data-interchange-oldi-specification
ATM Master Plan relationship:	[ER ATC 154b]-Enhance En-route ATC sub-systems (internal processing, FDP and Controller Workstation) to enable CPDLC dialog with Pilot
Finalisation criteria:	1 - The Next Authority Notified process has been implemented, documented and is in operational use with all partners within the applicability area.

ITY-AGDL-MIL01	Equip transport-type State aircraft	From: -	By: 01/01/2019
Action by:	Military Authorities		
Description & purpose:	States which decide to equip new transport type State aircraft entering into service from 1 January 2019 with data link capability relying upon standards which are not specific to military operational requirements, shall ensure that those aircraft comply with the following articles of Regulation (EC) No 29/2009: - Article 3(5), amended by Article 1.2.4 of COMMISSION IMPLEMENTING REGULATION (EU) 2015/310, on the capability to operate the data link services DLIC, ACM, ACL and AMC; - Article 8(1) on communications systems support of CM and CPDLC; - Article 8(2) on seamless provision, message set and integrity requirements of end-to-end communications for data exchanges of the CM and CPDLC air-ground applications; - Article 8(3) on requirements for air-ground communication systems and their constituents to apply air-ground communications for data exchanges of the CM and CPDLC applications, allowing either ATN/VDL-2 or an alternative communication technology.		
Supporting material(s):	EUROCONTROL - SPEC 116 - EUROCONTROL Specification on Data Link Services - Edition 2.1 / 01/2009 Url : http://www.eurocontrol.int/articles/link-2000-library		
Finalisation criteria:	1 - Transport-type aircraft have been equipped with data link capabilities.		

ITY-AGDL-USE01	Equip aircraft with data link equipment supporting the identified services	From: -	By: 05/02/2020
Action by:	Airspace Users		
Description & purpose:	Operators shall ensure that: - Their aircraft operating IFR/GAT flights within the applicable airspace above FL285 have the capability to operate the DLIC, ACM, ACL and AMC services [Article 1.(2).2 of COMMISSION IMPLEMENTING REGULATION 2015/310] - Aircraft air-ground communication systems and their constituents support the CM and CPDLC air-ground applications [Regulation (EC) No 29/2009, Article 6(1)]; - Aircraft air-ground communication systems and their constituents apply end-to-end communications for data exchanges of the CM and CPDLC air-ground applications in compliance with Regulation (EC) No 29/2009, Article 6(2); - Aircraft air-ground communication systems and their constituents apply air-ground communications for data exchanges of the CM and CPDLC air-ground applications in compliance with Regulation (EC) No 29/2009, Article 6(3), allowing either ATN/VDL-2 or an alternative communication technology.		
Derogations:	Not applicable to: - Aircraft with an individual certificate of airworthiness first issued before 01.01.14 and fitted with FANS-1/A data link equipment certified against the requirements of EUROCAE ED-100 or ED-100A [Article 1.(2).3.a of COMMISSION IMPLEMENTING REGULATION 2015/310]; - Aircraft with an individual certificate of airworthiness first issued before 31.12.2003 which will cease operation in the applicable airspace by 31.12.2022 [Article 1.(2).3.b of COMMISSION IMPLEMENTING REGULATION 2015/310]; - State aircraft [Article 1.(2).3.c of COMMISSION IMPLEMENTING REGULATION 2015/310]; - Aircraft being flown for testing, delivery or for maintenance purpose or with data link constituents temporarily inoperative under conditions specified in the applicable minimum equipment list [Article 1.(2).3.d of COMMISSION IMPLEMENTING REGULATION 2015/310]; - Specific aircraft types for which exemptions are justified and granted according to the procedure in Article 5(3) of Regulation (EC) No 549/2004 [Article 14].		
Supporting material(s):	EUROCONTROL - SPEC 116 - EUROCONTROL Specification on Data Link Services - Edition 2.1 / 01/2009 Url : http://www.eurocontrol.int/articles/link-2000-library		
ATM Master Plan	[A/C-31]-Data link exchange compliant with Link 2000+		

ITY-AGDL	Initial ATC air-ground data link services
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relationship:	
Finalisation criteria:	1 - Airworthiness certificate with evidence of compliance with the certification specification has been granted by EASA.

ITY-AGDL-USE02	Specify relevant operational procedures	From: -	By: 05/02/2020
Action by:	Airspace Users		
Description & purpose:	Specify and apply common standardised procedures consistent with relevant ICAO provisions for CPDLC establishment, operation and termination, and for the filing of flight plans regarding information pertaining to data link capability, in compliance with Regulation (EC) No 29/2009, Article 4.		
Supporting material(s):	EUROCONTROL - SPEC 116 - EUROCONTROL Specification on Data Link Services - Edition 2.1 / 01/2009 Url : http://www.eurocontrol.int/articles/link-2000-library		
Finalisation criteria:	1 - Operators have updated flight manuals with relevant information for the use of data link equipment and for CPDLC operations.		

ITY-AGDL-USE03	Arrange air-ground ATS data link service provision	From: -	By: 05/02/2020
Action by:	Airspace Users		
Description & purpose:	Make appropriate arrangements (with a CSP) to ensure that data exchanges can be established between their aircraft and all ATS units which may control the flights they operate in the applicable airspace, with due regard to possible coverage limitations inherent in the communication technology used [Regulation (EC) No 29/2009, Article 6(4)].		
Finalisation criteria:	1 - Operators have made appropriate arrangements with Communication Service Providers serving all relevant ATS units.		

ITY-AGDL-USE04	Organise personnel awareness and training	From: -	By: 05/02/2020
Action by:	Airspace Users		
Description & purpose:	Ensure that the personnel operating data link equipment are made duly aware of Regulation (EC) No 29/2009, and that they are adequately trained for their job functions, and that instructions for using data link equipment are available in the cockpit [Regulation (EC) No 29/2009, Article13(6)].		
Finalisation criteria:	1 - Operators have training package added to training courses. 2 - Operators have training plans. 3 - Operators have Flight Manual with relevant information for the use of data link equipment available in the cockpit.		

SES		Active					EU+	
ITY-AGVCS2		8,33 kHz air-ground voice channel spacing below FL195						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

This SES-type objective is derived from Implementing Regulation (EU) No 1079/2012 of 16 November 2012 laying down requirements for voice channels spacing for the single European sky.

The Regulation applies to:

1. all radios operating in the 117,975-137 MHz band ('the VHF band') allocated to the aeronautical mobile route service, including systems, their constituents and associated procedures;
2. all flights operating as general air traffic, within the airspace of the ICAO EUR region where States are responsible for the provision of air traffic services in accordance with Regulation (EC) No 550/2004.

The conversion requirements of the Regulation do NOT apply to frequency assignments:

(a) that will remain in 25 kHz channel spacing on the following frequencies:

- (i) the emergency frequency (121,5 MHz);
- (ii) the auxiliary frequency for search and rescue operations (123,1 MHz);
- (iii) the VHF digital link (VDL) frequencies (136,725 MHz, 136,775 MHz, 136,825 MHz, 136,875 MHz, 136,925 MHz and 136,975 MHz);
- (iv) the aircraft communications addressing and reporting system (ACARS) frequencies (131,525 MHz, 131,725 MHz and 131,825 MHz);

(b) where offset carrier operation within a 25 kHz channel spacing is utilised.

According to Article 14 of Regulation (EU) No 1079/2012, for cases having limited impact on the network, States may take local measures granting exemptions from compliance with:

- Article 4(5) on the obligation for all radios to have 8,33 kHz channel spacing capability by 31 December 2017 at the latest (except ground radios operated by air navigation service providers);
- Article 5(4) on the obligation for aircraft to be equipped with an 8,33 kHz-capable radio from 1 January 2018 to operate in airspace where carriage of radio is required;
- and 6(10) on the obligation to convert all frequency assignments to 8,33 kHz channel spacing by 31 December 2018 at the latest (except frequency assignments that stay in 25 kHz as a result of a safety requirement, or 25 kHz frequency assignments used to accommodate State aircraft).

However, the State shall provide the Commission with detailed information justifying the exemption at the latest one year before the dates identified in the relevant articles. Within six months of receiving the information and after consultation with the Network Manager, the Commission may review the exemption if the impact on the network is not limited.

The terms used in this objective are defined in Article 2 of Regulation (EC) No 549/2004 and Article 2 of Regulation (EU) No 1079/2012.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All EU+ States except: Maastricht UAC, Moldova		
Timescales:		From:	By:	Applicable to:
Entry into force		07/12/2012		Applicability Area
New and upgraded radio equipment		17/11/2013		Applicability Area
New or upgraded radios on State aircraft		01/01/2014		Applicability Area
Interim target for freq. conversions			31/12/2014	Applicability Area
All radio equipment			31/12/2017	Applicability Area
All frequencies converted			31/12/2018	Applicability Area
State aircraft equipped, except those notified to EC			31/12/2018	Applicability Area
State aircraft equipped, except those exempted [Art 9(11)]			31/12/2020	Applicability Area

References

European ATM Master Plan

OI step -	- No OI Link -						
	Enablers -	CTE-C01a					

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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ITY-AGVCS2	8,33 kHz air-ground voice channel spacing below FL195
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Applicable legislation

Regulation (EU) No 1079/2012 of 16 November 2012 laying down requirements for voice channels spacing.
Regulation (EC) No 552/2004 of 10 March 2004 - the interoperability Regulation

ICAO GANP – ASBUs

- none -

Deployment Programme

- none -

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ITY-AGVCS2-REG01	Ensure radios have 8,33 kHz channel spacing capability		31/12/2017
ITY-AGVCS2-REG02	Ensure the achievement of the interim target for 8,33 kHz frequency conversions	FINALISED	
ITY-AGVCS2-REG03	Ensure compliance with the requirements on 8,33 kHz frequency conversions		31/12/2018
ITY-AGVCS2-ASP01	Ensure conformity of voice communications systems and associated procedures		31/12/2018
ITY-AGVCS2-ASP02	Convert 25 kHz frequencies to 8,33 kHz to achieve the interim target	FINALISED	
ITY-AGVCS2-ASP03	Convert all 25 kHz frequencies to 8,33 kHz		31/12/2018
ITY-AGVCS2-ASP04	Develop safety assessment		31/12/2018
ITY-AGVCS2-ASP05	Organise personnel training and awareness		31/12/2017
ITY-AGVCS2-MIL01	Equip State aircraft with radio equipment with 8,33 kHz channel spacing capability		31/12/2020
ITY-AGVCS2-MIL02	Organise personnel training and awareness of military aircrew		31/12/2020
ITY-AGVCS2-APO01	Convert all 25 kHz frequencies to 8,33 kHz		31/12/2018
ITY-AGVCS2-APO02	Accommodate non-equipped vehicles		31/12/2017
ITY-AGVCS2-APO03	Organise personnel training and awareness		31/12/2018
ITY-AGVCS2-USE01	Equip aircraft with radio equipment with 8,33 kHz channel spacing capability		31/12/2017
ITY-AGVCS2-USE02	Organise personnel training and awareness		31/12/2017
ITY-AGVCS2-NM01	Ensure the centralised flight planning processing and distribution service complies with the Regulation	FINALISED	

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	-
Capacity:	-
Operational Efficiency:	Optimisation of the use of the bandwidth, which is a prerequisite to a number of crucial operational improvements that will deliver benefits such as reduced delays and increased capacity. Such benefits will be postponed or even impossible if the additional frequencies required are not readily available.
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

ITY-AGVCS2-REG01	Ensure radios have 8,33 kHz channel spacing capability	From: -	By: 31/12/2017
Action by:	State Authorities		
Description & purpose:	Take the necessary measures to ensure compliance of ANSPs, operators and other users of radios with the interoperability and performance requirements as specified in Article 4 of Regulation (EU) No 1079/2012. In particular:		

ITY-AGVCS2	8,33 kHz air-ground voice channel spacing below FL195
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	<p>i) From entry into force of the Regulation, ensure that all radios having the 8,33 kHz channel spacing capability:</p> <ul style="list-style-type: none"> - Are able to tune to 25 kHz spaced channels [Art. 4(6)]; - The performance of these radios and the transmitter/receiver ground constituent complies with the ICAO standards referred to in the supporting material of this SLoA [Art. 4(7) & 4(8)]. <p>ii) From 17 November 2013:</p> <ul style="list-style-type: none"> - all radio equipment put into service or subject to radio upgrades by ANSPs, operators and other users or owners of radios includes the 8,33 kHz channel spacing capability [Art. 4(2) & 4(4)]; - aircraft for which the individual certificates of airworthiness or individual flight permits are first issued in the States included in the applicability area of this objective from 17 November 2013 and have a radio equipage requirement are fitted with radios having the 8,33 kHz channel spacing capability [Art. 4(3)]. <p>iii) By 31 December 2017 at the latest all radios have the 8,33 kHz channel spacing capability with the exception of ground radios operated by air navigation service providers [Art. 4(5)].</p>
	<p>Note : Note that Regulation (EU) No 1079/2012 applies to 'all radios operating in the VHF band allocated to the aeronautical mobile route service' which goes beyond ATM and might affect stakeholders that are not part of the ESSIP/LSSIP process, however this objective is limited to ATM in line with the scope of ESSIP/LSSIP.</p>
Supporting material(s):	<p>ICAO - Annex 10, Volume III - Aeronautical Telecommunications, Volume III Communication Systems, Part 2 (incorporating Amendment No 85), Chapter 2, Sections 2.1, 2.2, 2.3.1 and 2.3.2 (excluding Subsection 2.3.2.8) - Second Edition / 07/2007 Url : http://store1.icao.int/</p> <p>ICAO - Doc 4444 - Air Traffic Management, Section 12.3.1.4 '8,33 kHz channel spacing' - Edition 15 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>EUROCONTROL - 8.33 ISG - Frequently Asked Questions and Answers - Edition 1.1 Url : https://www.eurocontrol.int/services/vhf-833-khz</p>
Finalisation criteria:	<p>1 - Where applicable, the State has published the additional local exemptions as per Article 14 of Regulation (EU) No 1079/2012.</p> <p>2 - From 17 November 2013: Measures have been taken to ensure that all radio equipment put into service or subject to radio upgrades by ANSPs, operators and other users or owners of radios includes the 8,33 kHz channel spacing capability.</p> <p>3 - From 17 November 2013: Measures have been taken to ensure that aircraft for which the individual certificates of airworthiness or individual flight permits are first issued from 17 November 2013 and have a radio equipage requirement are fitted with radios having the 8,33 kHz channel spacing capability.</p> <p>4 - By 31 December 2017: The NSA has evidence that all radios in the State have 8,33 kHz channel spacing capability except where derogations apply and/or exemptions have been granted.</p>

ITY-AGVCS2-REG03	Ensure compliance with the requirements on 8,33 kHz frequency conversions	From: -	By: 31/12/2018
Action by:	State Authorities		
Description & purpose:	Ensure that, by 31 December 2018 at the latest, all frequency assignments are converted to 8,33 kHz [Art 6(10)]. Where the State decides not to convert a 25 kHz frequency assignment as a result of a safety requirement (see Derogations below) this shall be subject to a safety assessment.		
Derogations:	<p>The conversion requirements to 8,33 kHz channel spacing do not apply to frequency assignments:</p> <p>a) that are outside the scope of the Regulation [Art 2(4)];</p> <p>b) that stay in 25 kHz as a result of a safety requirement [Art. 6(10)];</p> <p>c) 25 kHz frequency assignments used to accommodate State aircraft [Art. 6(10)].</p> <p>States may grant additional local exemptions as per Article 14 of Regulation (EU) No 1079/2012 (see Objective "Subject Matter and Scope").</p>		
Supporting material(s):	<p>EUROCONTROL - 8.33 ISG - Frequently Asked Questions and Answers - Edition 1.1 Url : https://www.eurocontrol.int/services/vhf-833-khz</p>		
Finalisation criteria:	1 - All frequency assignments published in the Table COM2 of ICAO Doc 7754, except where derogations apply or the State has granted local exceptions, have been converted to 8,33 kHz.		

ITY-AGVCS2-ASP01	Ensure conformity of voice communications systems and associated procedures	From: -	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	<p>Ensure that voice communication systems and associated communication procedures comply with the following articles of Regulation (EU) No 1079/2012:</p> <p>i) From entry into force:</p> <ul style="list-style-type: none"> - Articles 4(6), 4(7) and 4(8) on interoperability and performance requirements; - Article 7(1) on operational coverage; - Article 8(1) on the identification of the transmitting channel; - Article 8(2) on air-ground voice communication procedures; - Article 12(1) and 12(2) on the verification of systems. <p>ii) From 17 November 2013:</p> <ul style="list-style-type: none"> - Articles 4(2) and 4(4) on the 8,33 kHz channel spacing capability of new radio equipment or equipment subject to radio upgrades; <p>iii) By 31 December 2017:</p> <ul style="list-style-type: none"> - Article 4(5) on the 8,33 kHz channel spacing capability of all radios. 		

ITY-AGVCS2	8,33 kHz air-ground voice channel spacing below FL195
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Supporting material(s):	ICAO - Annex 10, Volume III - Aeronautical Telecommunications, Volume III Communication Systems, Part 2 (incorporating Amendment No 85), Chapter 2, Sections 2.1, 2.2, 2.3.1 and 2.3.2 (excluding Subsection 2.3.2.8) - Second Edition / 07/2007 Url : http://store1.icao.int/ ICAO - Doc 4444 - Air Traffic Management, Section 12.3.1.4 '8,33 kHz channel spacing' - Edition 15 Url : http://www.icao.int/publications/Pages/catalogue.aspx EUROCONTROL - 8.33 ISG - Frequently Asked Questions and Answers - Edition 1.1 Url : https://www.eurocontrol.int/services/vhf-833-khz
Finalisation criteria:	1 - Voice communication systems have been upgraded. 2 - The technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) has been delivered to the competent National Supervisory Authority (NSA). 3 - Upgraded communication systems have been put into service.

ITY-AGVCS2-ASP03	Convert all 25 kHz frequencies to 8,33 kHz	From: -	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	Ensure that, by 31 December 2018 at the latest, all 25 kHz frequencies are converted 8,33 kHz [Art. 6(10)].		
Derogations:	The conversion requirements to 8,33 kHz channel spacing do not apply to frequency assignments: a) that are outside the scope of the Regulation [Art 2(4)]; b) that stay in 25 kHz as a result of a safety requirement [Art. 6(10)]; c) 25 kHz frequency assignments used to accommodate State aircraft [Art. 6(10)]. States may grant additional local exemptions as per Article 14 of Regulation (EU) No 1079/2012 (see Objective "Subject Matter and Scope").		
Supporting material(s):	EUROCONTROL - 8.33 ISG - Frequently Asked Questions and Answers - Edition 1.1 Url : https://www.eurocontrol.int/services/vhf-833-khz		
ATM Master Plan relationship:	[CTE-C01a]-Existing Voice radio (VHF 25/8.33KHz)		
Finalisation criteria:	1 - All frequency assignments published in the Table COM2 of ICAO Doc 7754, except where derogations apply or the State has granted local exceptions, have been converted to 8,33 kHz.		

ITY-AGVCS2-ASP04	Develop safety assessment	From: -	By: 31/12/2018
Action by:	ANS Providers		
Description & purpose:	Develop a safety assessment of any changes to existing systems or introduction of new systems referred to in Article 2(1) of Regulation (EU) No 1079/2012 [Art 10]. The tasks to be performed are as follows: - notify the NSA of planned changes; - conduct hazard identification, risk assessment and mitigation; - develop safety assessment; - deliver safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. The assessment shall be based in full validated/recognised method and shall take into consideration, as a minimum, the requirements of Annex III to the Regulation.		
Supporting material(s):	EUROCONTROL - 8.33 ISG - Frequently Asked Questions and Answers - Edition 1.1 Url : https://www.eurocontrol.int/services/vhf-833-khz EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm		
Finalisation criteria:	1 - Safety assessment report including safety arguments for the changes has been submitted to the NSA and notification of acceptance was received.		

ITY-AGVCS2-ASP05	Organise personnel training and awareness	From: -	By: 31/12/2017
Action by:	ANS Providers		
Description & purpose:	Ensure that: - personnel are made duly aware of the requirements of the Regulation and adequately trained [Art 13.(1)] - operations manuals, working methods and operating procedures comply with Article 13(3) of the Regulation.		
Finalisation criteria:	1 - The training plans have been updated and a training package has been developed. 2 - All concerned personnel have been trained.		

ITY-AGVCS2-MIL01	Equip State aircraft with radio equipment with 8,33 kHz channel spacing capability	From: -	By: 31/12/2020
Action by:	Military Authorities		
Description & purpose:	Ensure that aircraft are equipped with 8,33 kHz channel spacing capability in compliance with the following articles of		

ITY-AGVCS2	8,33 kHz air-ground voice channel spacing below FL195
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	<p>Regulation (EU) No 1079/2012:</p> <p>i) From entry into force of the Regulation, ensure that all radios having the 8,33 kHz channel spacing capability comply with:</p> <ul style="list-style-type: none"> - Articles 4(6), 4(7) and 4(8) on interoperability and performance requirements; - Articles 8(4) and 8(5) on flight plan requirements, where applicable; - Article 8(6) on the notification to the IFPS, where applicable. <p>ii) From 1 January 2014:</p> <ul style="list-style-type: none"> - ensure all new State aircraft entering into service are equipped with radios having the 8,33 kHz channel spacing capability [Art. 9.(6)] - ensure that whenever the radios installed on-board State aircraft are subject to radio upgrades, the new radios have the 8,33 kHz channel spacing capability [Art. 9.(7)]. <p>iii) By 30 June 2018:</p> <ul style="list-style-type: none"> - communicate to the Commission the list of State aircraft that cannot be equipped with 8,33 kHz radios due to compelling technical or budgetary constraints or procurement constraints [Art. 9(9)]. <p>iv) By 31 December 2018:</p> <ul style="list-style-type: none"> - ensure all State aircraft, except those communicated to the Commission as per the previous bullet, are equipped with radios having the 8,33 kHz channel spacing capability [Art. 9(8)]. <p>v) By 31 December 2020:</p> <ul style="list-style-type: none"> - ensure the State aircraft not equipped by 31 December 2018 due to procurement constraints (as communicated to the Commission by 30 June 2018) are equipped with radios having the 8,33 kHz channel spacing capability [Art. 9(10)].
Derogations:	<p>The obligation does not apply to State aircraft that will be withdrawn from operational service by 31 December 2025 [Art 9(11)].</p> <p>The State can grant additional exemptions to State aircraft that cannot be equipped with radios having the 8,33 kHz channel spacing capability due to compelling technical or budgetary constraints.</p>
Supporting material(s):	<p>ICAO - Annex 10, Volume III - Aeronautical Telecommunications, Volume III Communication Systems, Part 2 (incorporating Amendment No 85), Chapter 2, Sections 2.1, 2.2, 2.3.1 and 2.3.2 (excluding Subsection 2.3.2.8) - Second Edition / 07/2007</p> <p>Url : http://store1.icao.int/</p> <p>ICAO - Doc 4444 - Air Traffic Management, Section 12.3.1.4 '8,33 kHz channel spacing' - Edition 15</p> <p>Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>
Finalisation criteria:	<p>1 - List of State aircraft that cannot be equipped with 8,33 kHz radios by 31 December 2018 has been communicated to the Commission.</p> <p>2 - State aircraft have been equipped.</p>

ITY-AGVCS2-MIL02	Organise personnel training and awareness of military aircrew	From:	By:
		-	31/12/2020
Action by:	Military Authorities		
Description & purpose:	Military Authorities shall ensure that the personnel operating radio equipment are made duly aware of Regulation (EU) No 1079/2012 that they are adequately trained to use this equipment and that instructions are available in the cockpit where feasible.		
Finalisation criteria:	<p>1 - Training manuals have been updated, as required.</p> <p>2 - All personnel operating radio equipment have been trained.</p>		

ITY-AGVCS2-APO01	Convert all 25 kHz frequencies to 8,33 kHz	From:	By:
		-	31/12/2018
Action by:	Airport Operators		
Description & purpose:	Ensure that, by 31 December 2018 at the latest, all 25 kHz frequencies are converted 8,33 kHz [Art. 6(10)].		
Derogations:	<p>The conversion requirements to 8,33 kHz channel spacing do not apply to frequency assignments:</p> <p>a) that are outside the scope of the Regulation [Art 2(4)];</p> <p>b) that stay in 25 kHz as a result of a safety requirement [Art. 6(10)];</p> <p>c) 25 kHz frequency assignments used to accommodate State aircraft [Art. 6(10)].</p> <p>States may grant additional local exemptions as per Article 14 of Regulation (EU) No 1079/2012 (see Objective "Subject Matter and Scope").</p>		
Supporting material(s):	<p>EUROCONTROL - 8.33 ISG - Frequently Asked Questions and Answers - Edition 1.1</p> <p>Url : https://www.eurocontrol.int/services/vhf-833-khz</p>		
ATM Master Plan relationship:	[CTE-C01a]-Existing Voice radio (VHF 25/8.33KHz)		
Finalisation criteria:	1 - All frequency assignments published in the Table COM2 of ICAO Doc 7754, except where derogations apply or the State has granted local exceptions, have been converted to 8,33 kHz.		

ITY-AGVCS2-APO02	Accommodate non-equipped vehicles	From:	By:
		-	31/12/2017
Action by:	Airport Operators		
Description & purpose:	Ensure that procedures for handling non-8,33 kHz equipped vehicles through airport areas using 8,33 kHz channel spacing are published and applied as appropriate [Annex III.8].		
Finalisation criteria:	1 - Procedures for handling non-8,33 kHz equipped vehicles through airport areas using 8,33 kHz channel spacing have		

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	been published and are applied as appropriate.
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ITY-AGVCS2-APO03	Organise personnel training and awareness	From:	By:
		-	31/12/2018
Action by:	Airport Operators		
Description & purpose:	Ensure that the personnel operating radio equipment are made duly aware of this Regulation, that they are adequately trained for their job functions [Art 13(1)].		
Finalisation criteria:	1 - The training plans have been updated and a training package has been developed. 2 - All personnel operating radio equipment have been trained.		

ITY-AGVCS2-USE01	Equip aircraft with radio equipment with 8,33 kHz channel spacing capability	From:	By:
		-	31/12/2017
Action by:	Airspace Users		
Description & purpose:	Ensure that aircraft are equipped with 8,33 kHz channel spacing capability in compliance with the following articles of Regulation (EU) No 1079/2012: i) From entry into force: - Articles 4(6), 4(7) and 4(8) on interoperability and performance requirements; - Articles 8(4) and 8(5) on flight plan requirements; - Article 8(6) on the notification to the IFPS. ii) From 17 November 2013: - Articles 4(2) and 4(4) on the 8,33 kHz channel spacing capability of new radio equipment or equipment subject to radio upgrades; iii) By 31 December 2017: - Article 4(5) on the 8,33 kHz channel spacing capability of all radios.		
Supporting material(s):	ICAO - Annex 10, Volume III - Aeronautical Telecommunications, Volume III Communication Systems, Part 2 (incorporating Amendment No 85), Chapter 2, Sections 2.1, 2.2, 2.3.1 and 2.3.2 (excluding Subsection 2.3.2.8) - Second Edition / 07/2007 Url : http://store1.icao.int/ ICAO - Doc 4444 - Air Traffic Management, Section 12.3.1.4 '8,33 kHz channel spacing' - Edition 15 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - Operators are able to demonstrate the conformity of airborne equipment.		

ITY-AGVCS2-USE02	Organise personnel training and awareness	From:	By:
		-	31/12/2017
Action by:	Airspace Users		
Description & purpose:	Operators shall ensure that the personnel operating radio equipment are made duly aware of Regulation (EU) No 1079/2012, that they are adequately trained to use this equipment and that instructions are available in the cockpit where feasible.		
Finalisation criteria:	1 - Training manuals have been updated, as required. 2 - All personnel operating radio equipment have been trained.		

SES		Active					ECAC	
ITY-FMTP		Common Flight Message Transfer Protocol (FMTP)						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

This SES-related implementation objective is derived from Regulation (EC) No 633/2007 of 7 June 2007 laying down requirements for the application of a flight message transfer protocol (FMTP) for information exchanges between flight data processing systems for the purpose of notification, coordination and transfer of flights between air traffic control units and for the purposes of civil-military coordination, in accordance with Regulation (EC) No 1032/2006 [Ref. Article 1(1)].

Regulation (EC) No 633/2007 applies to [Ref. Article 1(2)]:

- a) Communication systems supporting the coordination procedures between air traffic control units using a peer-to-peer communication mechanism and providing services to general air traffic;
- b) Communication systems supporting the coordination procedures between air traffic services units and controlling military units, using a peer-to-peer communication mechanism and providing services to general air traffic.

The terms used in this objective are defined in Article 2 of Regulation (EC) No 549/2004, complemented by Article 2 of Regulation (EC) No 633/2007.

This implementation objective has been amended in order to introduce the new optional conditional transitional arrangements defined in Regulation (EU) No 283/2011 of 22 March 2011.

This SES-related implementation objective does not replace the EC legislation. It aims at facilitating the monitoring and reporting of the implementation of a common flight message transfer protocol in European ATM in line with the EC regulations and through the SES implementation monitoring and reporting mechanism.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All ECAC States		
Timescales:		From:	By:	Applicable to:
Entry into force of regulation		28/06/2007		Applicability Area
All EATMN systems put into service after 01/01/09		01/01/2009		Applicability Area
All EATMN systems in operation by 20/04/11			20/04/2011	Applicability Area
Transitional arrangements			31/12/2012	Applicability Area
Transitional arrangements when bilaterally agreed between ANSPs			31/12/2014	Applicability Area

References

European ATM Master Plan

OI step -		- No OI Link -						
		Enablers -	CTE-C06					
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler			WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

Regulation (EC) No 633/2007 of 07 June 2007;
Regulation (EC) No 283/2011 of 22 March 2011 amending Regulation No 633/2007;
Commission Communication (OJ No 2007/C 188/03) concerning the implementation of Article 4 of Regulation (EC) No 552/2004 referring to EUROCONTROL Spec-0100 Edition No 2.0 as Community Specification.

ICAO GANP – ASBUs

B0-FICE	Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration
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Deployment Programme

ITY-FMTP	Common Flight Message Transfer Protocol (FMTP)
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- none -	
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ITY-FMTP-REG02	Ensure that the verification of systems has been conducted	DELETED	
ITY-FMTP-REG03	Conduct safety oversight of the changes	DELETED	
ITY-FMTP-ASP01	Upgrade and put into service communication systems to support information exchange via FMTP between FDPS(s) for the purpose of notification, coordination and transfer of the flights between ATC units		20/04/2011 31/12/2012 31/12/2014
ITY-FMTP-ASP02	Develop safety assessment for the changes		20/04/2011 31/12/2012 31/12/2014
ITY-FMTP-ASP03	Train technical staff		20/04/2011 31/12/2012 31/12/2014
ITY-FMTP-MIL01	Upgrade and put into service communication systems to support information exchange via FMTP between FDPS(s) for the purpose of notification, coordination, transfer of the flights and civil-military coordination between ATS units and controlling military units		20/04/2011 31/12/2012 31/12/2014

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	-
Capacity:	-
Operational Efficiency:	-
Cost Efficiency:	More cost efficient as X.25 maintenance costs are increasing while TCP/IP costs are lower.
Environment:	-
Security:	-

Detailed SLoA Descriptions

ITY-FMTP-ASP01	Upgrade and put into service communication systems to support information exchange via FMTP between FDPS(s) for the purpose of notification, coordination and transfer of the flights between ATC units	From: -	By: 20/04/2011 31/12/2012 31/12/2014
Action by:	ANS Providers		
Description & purpose:	<p>Ensure that the communication systems supporting the coordination procedures between ATC units using a peer-to-peer communication mechanism and providing services to general air traffic shall apply the flight message transfer protocol (FMTP).</p> <p>The tasks to be performed are as follows:</p> <ul style="list-style-type: none"> - Define requirements based on relevant standards/regulations; - Upgrade communication systems to comply with defined requirements; - Verify compliance with Interoperability Regulation(s); - Integrate upgraded communication systems into the EATM Network; - Put into service upgraded communication systems. <p>The application of FMTP shall be in accordance with the interoperability requirements specified in Annex I of Regulation (EC) No 633/2007.</p> <p>The verification of the systems shall be done as defined in Annex II and IV of Regulation (EC) No 633/2007.</p>		
Supporting material(s):	<p>EUROCONTROL - EUROCONTROL Inter Centre Test Tool (ETIC) - Version 3.2.2. / 08/2012</p> <p>Url : http://www.eurocontrol.int/articles/network</p> <p>EUROCONTROL - SPEC 100 - EUROCONTROL Specification of Interoperability and Performance Requirements for</p>		

ITY-FMTP	Common Flight Message Transfer Protocol (FMTP)
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	<p>the Flight Message Transfer Protocol (FMTP) - Edition 2.0 - OJ 2007/C 188/03 / 06/2007</p> <p>Url : http://www.eurocontrol.int/publications/flight-message-transfer-protocol-fmtp-specification</p> <p>EUROCONTROL - Guidelines for Implementation Support (EGIS) Part 5 Communication & Navigation Specifications Chapter 13 Flight Message Transfer Protocol (FMTP) - Edition 2.0 / 12/2008</p> <p>Url : http://www.eurocontrol.int/sites/default/files/field_tabs/content/documents/communications/121208-egis-fmtp.pdf</p>
ATM Master Plan relationship:	[CTE-C06]-Ground ATM Data communication Network
Finalisation criteria:	<p>1 - Communications systems have been upgraded.</p> <p>2 - The technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) has been delivered to the competent National Supervisory Authority (NSA).</p> <p>3 - Upgraded communication systems have been put into service.</p> <p>4 - Note: For states where Regulation (EC) No 552/2004 on the interoperability of the European Air Traffic Management network does not apply, ANSPs should apply compliance procedures as defined by their competent National Authority.</p>

ITY-FMTP-ASP02	Develop safety assessment for the changes	From: -	By: 20/04/2011 31/12/2012 31/12/2014
Action by:	ANS Providers		
Description & purpose:	<p>Notify the NSA of planned changes and develop safety assessments of the changes for the upgrades of communication systems which support information exchange using a peer-to-peer communication mechanism via FMTP between FDPS(s).</p> <p>The tasks to be performed are as follows:</p> <ul style="list-style-type: none"> - Notify the NSA of planned changes; - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. <p>This safety assessment shall be based on fully validated/recognised method.</p>		
Supporting material(s):	<p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006</p> <p>Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam</p> <p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001</p> <p>Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EUROCONTROL - SPEC 100 - EUROCONTROL Specification of Interoperability and Performance Requirements for the Flight Message Transfer Protocol (FMTP) - Edition 2.0 - OJ 2007/C 188/03 / 06/2007</p> <p>Url : http://www.eurocontrol.int/publications/flight-message-transfer-protocol-fmtp-specification</p> <p>EUROCONTROL - Guidelines for Implementation Support (EGIS) Part 5 Communication & Navigation Specifications Chapter 13 Flight Message Transfer Protocol (FMTP) - Edition 2.0 / 12/2008</p> <p>Url : http://www.eurocontrol.int/sites/default/files/field_tabs/content/documents/communications/121208-egis-fmtp.pdf</p> <p>EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011</p> <p>Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF</p>		
Finalisation criteria:	1 - Safety assessment report including safety arguments for the changes has been submitted to the NSA.		

ITY-FMTP-ASP03	Train technical staff	From: -	By: 20/04/2011 31/12/2012 31/12/2014
Action by:	ANS Providers		
Description & purpose:	<p>Train technical staff to supervise and maintain communication systems which support information exchange via FMTP between FDPS(s).</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans. 		
Supporting material(s):	<p>EUROCONTROL - SPEC 100 - EUROCONTROL Specification of Interoperability and Performance Requirements for the Flight Message Transfer Protocol (FMTP) - Edition 2.0 - OJ 2007/C 188/03 / 06/2007</p> <p>Url : http://www.eurocontrol.int/publications/flight-message-transfer-protocol-fmtp-specification</p> <p>EUROCONTROL - Guidelines for Implementation Support (EGIS) Part 5 Communication & Navigation Specifications Chapter 13 Flight Message Transfer Protocol (FMTP) - Edition 2.0 / 12/2008</p>		

ITY-FMTP	Common Flight Message Transfer Protocol (FMTP)		
	Url : http://www.eurocontrol.int/sites/default/files/field_tabs/content/documents/communications/121208-egis-fmtp.pdf		
Finalisation criteria:	1 - The training plans have been updated and a training package has been developed by the ANSP. 2 - All concerned personnel has been trained.		
ITY-FMTP-MIL01	Upgrade and put into service communication systems to support information exchange via FMTP between FDPS(s) for the purpose of notification, coordination, transfer of the flights and civil-military coordination between ATS units and controlling military units	From:	By:
		-	20/04/2011 31/12/2012 31/12/2014
Action by:	ANS Providers		
Description & purpose:	<p>Ensure that the communication systems supporting the coordination procedures between ATC units and controlling military units using a peer-to-peer communication mechanism shall apply the flight message transfer protocol (FMTP).</p> <p>The application of FMTP shall be in accordance with the interoperability requirements specified in Annex I of Regulation (EC) No 633/2007.</p> <p>The verification of the systems shall be done as defined in Annex II and IV of Regulation (EC) No 633/2007.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Define requirements based on relevant standards/regulations; - Upgrade communication systems to comply with defined requirements; - Verify compliance with Interoperability Regulation(s); - Integrate upgraded communication systems into the EATM Network; - Put into service upgraded communication systems. 		
Finalisation criteria:	1 - Communications systems upgraded. 2 - Demonstration of compliance with the essential requirements as laid out in Regulation (EC) No 552/2004 and relevant implementing rules delivered to the competent National Authority. 3 - Upgraded communication systems put into service.		

SES		Active					EU+	
ITY-SPI		Surveillance performance and interoperability						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

This SES-related implementation objective is derived from Regulation (EU) No 1207/2011 (as amended), laying down requirements on the systems contributing to the provision of surveillance data, their constituents and associated procedures in order to ensure the harmonisation of performance, the interoperability and the efficiency of these systems within the European air traffic management network (EATMN) and for the purpose of civil- military coordination (SPI-IR).

Regulation (EU) No 1207/2011 (as amended) applies to the surveillance chain (as defined in Article 3(6) of the Regulation) constituted of:

- (a) airborne surveillance systems, their constituents and associated procedures;
- (b) ground-based surveillance systems, their constituents and associated procedures;
- (c) surveillance data processing systems, their constituents and associated procedures;
- (d) ground-to-ground communications systems used for distribution of surveillance data, their constituents and associated procedures.

Regulation (EU) No 1207/2011 (as amended) applies to all flights operating as general air traffic in accordance with instrument flight rules within the airspace provided for in Article 1(3) of Regulation (EC) No 551/2004 with the exception of Articles 7(3) and 7(4) which apply to all flights operating as general air traffic. This Regulation applies to air traffic service providers which provide air traffic control services based on surveillance data, and to communication, navigation or surveillance service providers which operate systems laid down in paragraph 1 of the Regulation itself.

Regulation (EU) No 1207/2011 (as amended) should be read in conjunction with the existing locally published requirements that European States already have in force on the subject matter.

This SES-related implementation objective does not replace the EU legislation. It aims at facilitating the monitoring and reporting of the implementation of surveillance performance and interoperability in European ATM in line with the EU regulations and through the SES implementation monitoring and reporting mechanism.

The timescales identified in the objective reflect the amendments published through the Commission Implementing Regulation (EU) No 1028/2014 published in September 2014.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities

Applicability Area(s) & Timescale(s)

Applicability Area		All EU+ States		
Timescales:		From:	By:	Applicable to:
Entry into force of regulation		13/12/2011		Applicability Area
ATS unit operational capability			12/12/2013	Applicability Area
New aircraft capability		08/06/2016		Applicability Area
ELS in transport-type State aircraft			07/12/2017	Applicability Area
EHS and ADS-B Out in transport-type State aircraft			07/06/2020	Applicability Area
Ensure training of MIL personnel			07/06/2020	Applicability Area
Retrofit aircraft capability			07/06/2020	Applicability Area

References

European ATM Master Plan

OI step -	- No OI Link -							
	Enablers -	GSURV-0101						

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EC) No 1207/2011 of 22 November 2011 for the performance and the interoperability of surveillance (SPI-IR);

ITY-SPI	Surveillance performance and interoperability
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ICAO GANP – ASBUs

B0-ASUR	Improved access to Optimum Flight Levels through Climb/Descent Procedures using ADS-B
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Deployment Programme

- none -	
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
ITY-SPI-REG01	Conduct safety oversight for the existing surveillance chain		05/02/2015
ITY-SPI-ASP01	Ensure interoperability of surveillance data		12/12/2013
ITY-SPI-ASP02	Conduct Safety Assessment for the existing surveillance chain		05/02/2015
ITY-SPI-ASP03	Conduct Safety Assessment for changes introduced to the surveillance infrastructure		12/12/2013
ITY-SPI-ASP04	Ensure the training of personnel		12/12/2013
ITY-SPI-MIL01	Carriage and operation of Mode S Elementary Surveillance avionics		07/12/2017
ITY-SPI-MIL02	Carriage and operation of Mode S Enhanced Surveillance and ADS-B Out avionics		07/06/2020
ITY-SPI-MIL03	Ensure the training of personnel		07/06/2020
ITY-SPI-USE01	Carriage and operation of Mode S Elementary Surveillance avionics by aircraft with an individual certificate of airworthiness first issued on or after 8 January 2015	08/01/2015	
ITY-SPI-USE02	Carriage and operation of ADS-B Out avionics by aircraft with an individual certificate of airworthiness first issued on or after 8 June 2016	08/06/2016	
ITY-SPI-USE03	Carriage and operation of Mode S Enhanced Surveillance avionics by aircraft with an individual certificate of airworthiness first issued on or after 8 June 2016	08/06/2016	
ITY-SPI-USE04	Carriage and operation of Mode S Elementary Surveillance avionics by aircraft with an individual certificate of airworthiness first issued before 8 January 2015		07/12/2017
ITY-SPI-USE05	Carriage and operation of ADS-B Out avionics by aircraft with an individual certificate of airworthiness first issued before 8 June 2016		07/06/2020
ITY-SPI-USE06	Carriage and operation of Mode S Enhanced Surveillance avionics by aircraft with an individual certificate of airworthiness first issued before 8 June 2016		07/06/2020
ITY-SPI-USE07	Ensure the training of personnel		07/06/2020

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Improved safety through the deployment of surveillance solutions in non-radar areas.
Capacity:	Capacity increase through the deployment of surveillance solutions in areas where currently procedural separation is applied.
Operational Efficiency:	The application of surveillance based separation instead of procedural separation will allow the airspace users to fly more efficient trajectories.
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

ITY-SPI-REG01	Conduct safety oversight for the existing surveillance chain	From: -	By: 05/02/2015
Action by:	National Supervisory Authorities (NSAs)		
Description & purpose:	Verify that the necessary safety assessments for the existing surveillance chain (systems identified in Art. 2.1 (b), (c) and (d) of Regulation (EU) No 1207/2011 (SPI-IR)), as required by Art 9.1 of the Regulation are conducted by the parties concerned and review, as appropriate, the safety assessment report(s) before their acceptance.		
	Note 'existing' refers to systems in place at the date of entry into force of Regulation (EU) 1207/2011		
Supporting material(s):	EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011		

ITY-SPI	Surveillance performance and interoperability
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	on safety oversight in air traffic management and air navigation services and amending Regulation (EU) No 691/2010 10/2011 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0015:0022:EN:PDF
Finalisation criteria:	1 - Safety assessment to existing surveillance chain (see SLoA description) has been conducted by the ANSP and delivered to the NSA. The NSA has reviewed the safety assessment as appropriate and the outcome of the assessment has been communicated to the ANSP.

ITY-SPI-ASP01	Ensure interoperability of surveillance data	From:	By:
		-	12/12/2013
Action by:	ANS Providers		
Description & purpose:	As required by Article 5(1) of the Regulation (EU) No 1207/2011 (SPI-IR) , air navigation service providers shall ensure interoperability of all surveillance data transferred from their ground-based surveillance systems and their surveillance data processing systems to other navigation service providers are subject to a common protocol.		
	Note : The ASTERIX Standard has been transposed into a EUROCONTROL Specification which may be considered for recognition as Community Specification by the European Commission.		
Supporting material(s):	EUROCONTROL - SPEC 147 - EUROCONTROL ATM Surveillance System Performance Specification (Volume 1 & Volume 2) - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/eurocontrol-specification-atm-surveillance-system-performance EUROCONTROL - The EUROCONTROL ASTERIX Standard All Purpose Structured Eurocontrol SuRveillance Information Exchange, including its categories - Edition 1.3 / 11/2007 Url : http://www.eurocontrol.int/articles/previous-editions-asterix-documents		
Finalisation criteria:	1 - All surveillance data transferred from their ground-based surveillance systems and their surveillance data processing systems to other navigation service providers: a) are subject to a data format that is agreed between the parties concerned; b) allow identification of the data source and identification of the type of data; c) are time stamped and expressed as coordinated universal time (UTC).		

ITY-SPI-ASP02	Conduct Safety Assessment for the existing surveillance chain	From:	By:
		-	05/02/2015
Action by:	ANS Providers		
Description & purpose:	Conduct a safety assessment: for all existing ground-based surveillance systems, surveillance data processing systems and ground-to-ground communications systems used for the distribution and processing of surveillance data, as required in Art. 9.1 and Annex VI of SPI-IR.		
	Note : 'existing' refers to systems in place at the date of entry into force of Regulation (EU) 1207/2011		
Derogations:	The SLoA does not apply to ANSP which do not use or do not provide surveillance data.		
Supporting material(s):	EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm EUROCONTROL - SPEC 147 - EUROCONTROL ATM Surveillance System Performance Specification (Volume 1 & Volume 2) - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/eurocontrol-specification-atm-surveillance-system-performance EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF		
Finalisation criteria:	1 - Safety assessment to all existing systems (see SLoA description) has been developed and delivered to the NSA.		

ITY-SPI-ASP03	Conduct Safety Assessment for changes introduced to the surveillance infrastructure	From:	By:
		-	12/12/2013
Action by:	ANS Providers		
Description & purpose:	Conduct a safety assessment of the changes introduced to systems and associated procedures, identified in Art. 2.1 (b), (c) and (d) of SPI-IR in order to achieve compliance with Article 9.2 of the aforementioned regulation. The tasks to be done are as follows: - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. This safety assessment shall be based on fully validated/recognised method.		
Derogations:	The SLoA does not apply to ANSP which do not use or do not provide surveillance data.		

ITY-SPI	Surveillance performance and interoperability
Supporting material(s):	<p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam</p> <p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EUROCONTROL - SPEC 147 - EUROCONTROL ATM Surveillance System Performance Specification (Volume 1 & Volume 2) - Edition 1.0 / 03/2012 Url : http://www.eurocontrol.int/publications/eurocontrol-specification-atm-surveillance-system-performance</p> <p>EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF</p>
Finalisation criteria:	1 - The safety assessment report including safety arguments for the changes has been delivered to the NSA and a notification of acceptance was received as appropriate.

ITY-SPI-ASP04	Ensure the training of personnel	From: -	By: 12/12/2013
Action by:	ANS Providers		
Description & purpose:	<p>Ensure the training of their personnel affected by system and procedural changes introduced by compliance to SPI-IR.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans. 		
Finalisation criteria:	<p>1 - The training plans have been updated and a training package has been developed.</p> <p>2 - All personnel affected by the changes to the surveillance infrastructure have been trained.</p>		

ITY-SPI-MIL01	Carriage and operation of Mode S Elementary Surveillance avionics	From: -	By: 07/12/2017
Action by:	Military Authorities		
Description & purpose:	Equip and certify for operational use of secondary surveillance radar transponders having the Mode S Elementary Surveillance capability, as set out in Part A of Annex II of the SPI-IR, the State aircraft operating as GAT in accordance with IFR rules.		
Derogations:	<p>In line with Art. 8.3 of SPI-IR and communication to the European Commission:</p> <ul style="list-style-type: none"> a) compelling technical reasons; b) State aircraft out of service by 01 January 2020; c) Procurement constraints. 		
Supporting material(s):	<p>EUROCAE - ED-73E - Minimum Operational Performance Specification for Secondary Surveillance Radar Mode S Transponders 05/2011 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>		
Finalisation criteria:	1 - Aircraft have been equipped with Mode S Elementary Surveillance equipment and certified for operational use.		

ITY-SPI-MIL02	Carriage and operation of Mode S Enhanced Surveillance and ADS-B Out avionics	From: -	By: 07/06/2020
Action by:	Military Authorities		
Description & purpose:	Equip with and certify for operational use of Mode S Enhanced Surveillance and ADS-B Out on 1090 Extended Squitter avionics, as set out in Part B and Part C of Annex II of the SPI-IR the transport-type State aircraft operating as GAT in accordance with IFR rules with a maximum certified take-off mass exceeding 5 700 kg or having a maximum cruising true airspeed capability greater than 250 knots. This is in addition to the capability set out in Part A of that Annex (Mode S Elementary Surveillance).		
Derogations:	<p>In line with Art. 8.3 of SPI-IR and communication to the European Commission:</p> <ul style="list-style-type: none"> a) compelling technical reasons; b) State aircraft out of service by 01 January 2020; c) Procurement constraints. 		
Supporting material(s):	<p>EASA - Certification Specifications for Airborne Communications Navigation and Surveillance - Initial Issue / 12/2013 Url : http://easa.europa.eu/document-library/certification-specifications/cs-acns-initial-issue</p> <p>EUROCAE - ED-102A - Minimum Operational Performance Specification for 1090 MHz Extended Squitter Automatic Dependant Surveillance - Broadcast (ADS-B) & Traffic Information Services - Broadcast (TIS-B) with Corrigendum 1</p>		

ITY-SPI	Surveillance performance and interoperability
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	01/2012 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-73E - Minimum Operational Performance Specification for Secondary Surveillance Radar Mode S Transponders 05/2011 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-126 - Safety, Performance and Interoperability Requirements Document for ADS-B-NRA Application 12/2006 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-161 - Safety, Performance and Interoperability Requirements Document for ADS-B-RAD Application 09/2009 Url : http://boutique.eurocae.net/catalog/index.php ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx
Finalisation criteria:	1 - Aircraft have been equipped with Mode S Enhanced Surveillance and ADS-B Out (1090 extended squitter) equipment, and certified for operational use.

ITY-SPI-MIL03	Ensure the training of personnel	From:	By:
		-	07/06/2020
Action by:	Military Authorities		
Description & purpose:	Ensure the training of all their personnel affected by changes introduced by compliance to SPI-IR. The tasks to be done are as follows: - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.		
Finalisation criteria:	1 - The training plans have been updated and a training package has been developed. 2 - All personnel affected by the changes to the surveillance ground infrastructure have been trained.		

ITY-SPI-USE01	Carriage and operation of Mode S Elementary Surveillance avionics by aircraft with an individual certificate of airworthiness first issued on or after 8 January 2015	From:	By:
		08/01/2015	-
Action by:	Airspace Users		
Description & purpose:	Equip with secondary surveillance radar transponders having the Mode S Elementary Surveillance capability, as set out in Part A of Annex II of Regulation (EU) No 1207/2011 (SPI-IR) the aircraft operating as GAT in accordance with IFR rules with an individual certificate of airworthiness first issued on or after 8 January 2015.		
Supporting material(s):	EUROCAE - ED-82A - Minimum Operational Performance Specification for Mode S Aircraft Data Link Processors 11/1999 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-73E - Minimum Operational Performance Specification for Secondary Surveillance Radar Mode S Transponders 05/2011 Url : http://boutique.eurocae.net/catalog/index.php ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx EASA - Certification Specifications for Airborne Communications Navigation and Surveillance - Initial Issue / 12/2013 Url : http://easa.europa.eu/document-library/certification-specifications/cs-acns-initial-issue		
Finalisation criteria:	1 - Aircraft have been equipped with Mode S Elementary Surveillance equipment and certified as appropriate. 2 - Aircraft have obtained airworthiness approval.		

ITY-SPI-USE02	Carriage and operation of ADS-B Out avionics by aircraft with an individual certificate of airworthiness first issued on or after 8 June 2016	From:	By:
		08/06/2016	-
Action by:	Airspace Users		
Description & purpose:	Equip with secondary surveillance radar transponders having the ADS-B Out on 1090 Extended Squitter capability, as set out in Part B of Annex II of the SPI-IR, the aircraft with a maximum certified take-off mass exceeding 5 700 kg or having a maximum cruising true airspeed capability greater than 250 knots, operating as GAT in accordance with IFR rules with an individual certificate of airworthiness first issued on or after 8 June 2016.		
Supporting material(s):	EASA - Certification Specifications for Airborne Communications Navigation and Surveillance - Initial Issue / 12/2013 Url : http://easa.europa.eu/document-library/certification-specifications/cs-acns-initial-issue EUROCAE - ED-102A - Minimum Operational Performance Specification for 1090 MHz Extended Squitter Automatic Dependant Surveillance - Broadcast (ADS-B) & Traffic Information Services - Broadcast (TIS-B) with Corrigendum 1		

ITY-SPI	Surveillance performance and interoperability
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	01/2012 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-73E - Minimum Operational Performance Specification for Secondary Surveillance Radar Mode S Transponders 05/2011 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-126 - Safety, Performance and Interoperability Requirements Document for ADS-B-NRA Application 12/2006 Url : http://boutique.eurocae.net/catalog/index.php EUROCAE - ED-161 - Safety, Performance and Interoperability Requirements Document for ADS-B-RAD Application 09/2009 Url : http://boutique.eurocae.net/catalog/index.php ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx
Finalisation criteria:	1 - Aircraft have been equipped with ADS-B Out on 1090 Extended Squitter equipment certified as appropriate. 2 - Aircraft have obtained airworthiness approval.

ITY-SPI-USE03	Carriage and operation of Mode S Enhanced Surveillance avionics by aircraft with an individual certificate of airworthiness first issued on or after 8 June 2016	From: 08/06/2016	By: -
Action by:	Airspace Users		
Description & purpose:	Equip with secondary surveillance radar transponders having the Mode S Enhanced Surveillance capability, as set out in Part C of Annex II of the SPI-IR the fixed wing aircraft with a maximum certified take-off mass exceeding 5 700 kg or having a maximum cruising true airspeed capability greater than 250 knots operating as GAT in accordance with IFR rules with an individual certificate of airworthiness first issued on or after 8 June 2016.		
Supporting material(s):	EASA - Certification Specifications for Airborne Communications Navigation and Surveillance - Initial Issue / 12/2013 Url : http://easa.europa.eu/document-library/certification-specifications/cs-acns-initial-issue EUROCAE - ED-73E - Minimum Operational Performance Specification for Secondary Surveillance Radar Mode S Transponders 05/2011 Url : http://boutique.eurocae.net/catalog/index.php ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - Aircraft have been equipped with Mode S Enhanced Surveillance equipment certified as appropriate. 2 - Aircraft have obtained airworthiness approval.		

ITY-SPI-USE04	Carriage and operation of Mode S Elementary Surveillance avionics by aircraft with an individual certificate of airworthiness first issued before 8 January 2015	From: -	By: 07/12/2017
Action by:	Airspace Users		
Description & purpose:	Equip with secondary surveillance radar transponders having the Mode S Elementary Surveillance capability, as set out in Part A of Annex II of the SPI-IR the aircraft operating as GAT in accordance with IFR rules with an individual certificate of airworthiness first issued before 8 January 2015.		
Supporting material(s):	EUROCAE - ED-73E - Minimum Operational Performance Specification for Secondary Surveillance Radar Mode S Transponders 05/2011 Url : http://boutique.eurocae.net/catalog/index.php ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx EASA - Certification Specifications for Airborne Communications Navigation and Surveillance - Initial Issue / 12/2013 Url : http://easa.europa.eu/document-library/certification-specifications/cs-acns-initial-issue		
Finalisation criteria:	1 - Aircraft have been equipped with Mode S Elementary Surveillance equipment certified as appropriate. 2 - Aircraft have obtained airworthiness approval.		

ITY-SPI-USE05	Carriage and operation of ADS-B Out avionics by aircraft with an individual certificate of airworthiness first issued before 8 June 2016	From: -	By: 07/06/2020
Action by:	Airspace Users		
Description & purpose:	Equip with secondary surveillance radar transponders having the ADS-B Out on 1090 Extended Squitter capability, as set out in Part B of Annex II of the SPI-IR, the aircraft with a maximum certified take-off mass exceeding 5 700 kg or having a maximum cruising true airspeed capability greater than 250 knots, operating as GAT in accordance with IFR rules with an individual certificate of airworthiness first issued before 8 June 2016.		

ITY-SPI	Surveillance performance and interoperability
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Supporting material(s):	<p>EASA - Certification Specifications for Airborne Communications Navigation and Surveillance - Initial Issue / 12/2013 Url : http://easa.europa.eu/document-library/certification-specifications/cs-acns-initial-issue</p> <p>EUROCAE - ED-102A - Minimum Operational Performance Specification for 1090 MHz Extended Squitter Automatic Dependant Surveillance - Broadcast (ADS-B) & Traffic Information Services - Broadcast (TIS-B) with Corrigendum 1 01/2012 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-73E - Minimum Operational Performance Specification for Secondary Surveillance Radar Mode S Transponders 05/2011 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-126 - Safety, Performance and Interoperability Requirements Document for ADS-B-NRA Application 12/2006 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-161 - Safety, Performance and Interoperability Requirements Document for ADS-B-RAD Application 09/2009 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>
Finalisation criteria:	<p>1 - Aircraft have been equipped with ADS-B Out on 1090 Extended Squitter equipment and certified as appropriate.</p> <p>2 - Aircraft have obtained airworthiness approval.</p>

ITY-SPI-USE06	Carriage and operation of Mode S Enhanced Surveillance avionics by aircraft with an individual certificate of airworthiness first issued before 8 June 2016	From: -	By: 07/06/2020
Action by:	Airspace Users		
Description & purpose:	Equip with secondary surveillance radar transponders having the Mode S Enhanced Surveillance capability, as set out in Part C of Annex II of the SPI-IR the fixed wing aircraft with a maximum certified take-off mass exceeding 5 700 kg or having a maximum cruising true airspeed capability greater than 250 knots operating as GAT in accordance with IFR rules with an individual certificate of airworthiness first issued before 8 June 2016.		
Derogations:	Aircraft of specific types with a first certificate of airworthiness issued before 8 June 2016 that have a maximum take off mass exceeding 5 700 kg or a maximum cruising true airspeed greater than 250 knots that do not have the complete set of parameters detailed in Part C of Annex II available on a digital bus on-board the aircraft may be exempted by the European Commission from complying with the requirements of point (c) of Article 5(5) of the SPI-IR.		
Supporting material(s):	<p>EASA - Certification Specifications for Airborne Communications Navigation and Surveillance - Initial Issue / 12/2013 Url : http://easa.europa.eu/document-library/certification-specifications/cs-acns-initial-issue</p> <p>EUROCAE - ED-73E - Minimum Operational Performance Specification for Secondary Surveillance Radar Mode S Transponders 05/2011 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>		
Finalisation criteria:	<p>1 - Aircraft have been equipped with Mode S Enhanced Surveillance equipment certified as appropriate.</p> <p>2 - Aircraft have obtained airworthiness approval.</p>		

ITY-SPI-USE07	Ensure the training of personnel	From: -	By: 07/06/2020
Action by:	Airspace Users		
Description & purpose:	<p>Ensure the training of all their personnel affected by changes introduced by compliance to SPI-IR.</p> <p>The tasks to be done are as follows: - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.</p>		
Finalisation criteria:	<p>1 - The training plans have been updated and a training package has been developed.</p> <p>2 - All personnel affected by the changes to the surveillance infrastructure have been trained.</p>		

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PCP		Active					ECAC	
NAV03		RNAV 1						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

RNAV (Area Navigation) allows aircraft to operate on any desired flight path within the coverage of station-referenced navigation aids or within the limits of the capability of self-contained aids, or a combination of these. An RNAV 1 designation refers to an RNAV specification which includes a requirement for 1 NM (lateral) navigation accuracy among many other requirements.

This is an interim objective aimed towards establishing a global RNP (Required Navigation Performance)-RNAV environment, which requires on-board performance monitoring and alerting. Individual States, airports and aircraft operators will need to evaluate the business need for RNAV 1 procedures according to local circumstances.

NOTE 1: The objective is without prejudice to the obligation to implement RNP1 at the airports listed in section 1.2.1 of the Annex of the PCP Implementing Regulation (EU) No 716/2014.

NOTE 2: The continuation of this ESSIP objective will be re-assessed on publication of the EASA PBN Implementing Rule targeting RNP implementation. This IR is currently under development.

NOTE 3: Aircraft operators who wish to equip their aircraft to derive benefit from the RNAV 1 procedures are encouraged to consider the business case for fitting RNP equipment that will enable them to eventually proceed to the RNP environment.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	All ECAC States except: Luxembourg, Maastricht UAC, Slovak Republic		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2001		Applicability Area
Full operational capability		31/12/2023	Applicability Area

References

European ATM Master Plan

OI step -	[AOM-0601]-Terminal Airspace Organisation Adapted through Use of Best Practice							
	Enablers -	A/C-71	PRO-021					
OI step -	[AOM-0602]-Enhanced terminal operations with APV using Barometric VNAV							
	Enablers -	A/C-04	A/C-05a NAV10	A/C-71	CTE-N01	PRO-AC-05a		
OI step -	[AOM-0603]-Enhanced Terminal Airspace for RNP-based Operations							
	Enablers -	APP ATC 134	CTE-N08	REG-0500				
OI step -	[AOM-0605]-Enhanced Terminal Operations with RNP transition to ILS/GLS/LPV							
	Enablers -	A/C-07	CTE-N01					
OI step -	- No OI Link -							
	Enablers -	CTE-N08						

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ICAO GANP – ASBUs

B0-CDO	Improved Flexibility and Efficiency in Descent Profiles (CDOs)
B0-FRTO	Improved Operations through Enhanced En-Route Trajectories.
B1-APTA	Optimised Airport Accessibility

NAV03	RNAV 1
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B1-FRTO	Improved Operations through Optimized ATS Routing
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Deployment Programme

1.2.3	RNP 1 Operations in high density TMAs (ground capabilities)
1.2.4	RNP 1 Operations in high density TMAs (aircraft capabilities)

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
NAV03-REG01	Ensure suppliers of navigation databases are accredited	DELETED	
NAV03-REG02	Ensure quality of published Navigation Data	DELETED	
NAV03-ASP01	Develop and implement RNAV arrival and departure procedures for RNAV 1 approved aircraft	01/01/2001	31/12/2023
NAV03-ASP02	Provide appropriate terrestrial navigation infrastructure to support RNAV operations	01/01/2001	31/12/2023
NAV03-ASP03	Train air traffic controllers in RNAV procedures	01/01/2003	31/12/2023
NAV03-ASP04	Train procedure designers in RNAV capabilities	FINALISED	
NAV03-ASP05	Implement RNAV 1 routes where identified as providing benefit	01/01/2001	31/12/2023
NAV03-ASP06	Publish in AIPs all co-ordinate data in WGS-84 meeting the quality requirements set out in ICAO Annex 15	FINALISED	
NAV03-ASP07	Define all RNAV procedures to be for RNAV 1 approved aircraft and designed in accordance with the EUROCONTROL guidelines and ICAO PANS OPS	DELETED	
NAV03-ASP08	Adapt ATS automated systems to ensure the availability of information regarding aircraft RNAV equipage for systematic display to relevant control positions	FINALISED	
NAV03-ASP09	Implement adaptations to ATS systems to permit the display on flight strips (and extended track labels) radar labels and/or radar position symbols, of aircraft RNAV equipage	DELETED	
NAV03-ASP10	Recommend to adapt ATS radar display systems to permit the display, on radar labels and/or radar position symbols, of aircraft RNAV equipage. Such display should be automatic. Manual updates should be possible	DELETED	
NAV03-ASP11	Develop a Local RNAV 1 Safety Case	01/01/2001	31/12/2023
NAV03-USE01	Install appropriate RNAV equipment	01/01/2001	31/12/2023
NAV03-USE02	Train flight crews in RNAV TMA procedures	01/01/2001	31/12/2023
NAV03-USE03	Ensure correctness of data before use	DELETED	
NAV03-IND01	Ensure that data meets specification of ED77 and is managed according to ED76	DELETED	
NAV03-IND02	Ensure that the navigation database is not corrupted when installed	DELETED	
NAV03-AGY01	Identify applicability of P-RNAV routes to en-route applications	DELETED	
NAV03-AGY02	Investigate the requirements for additional R/T phraseology and flight planning methodology for RNAV operations in terminal airspace and develop as necessary	DELETED	
NAV03-AGY03	Produce and maintain guidelines for the application and design of P-RNAV procedures	DELETED	
NAV03-AGY04	Adapt OLDI Standard to ensure the automatic transfer of the FPL Item 10 Letters "S", "R", and "P"	DELETED	
NAV03-AGY05	Develop Outline for TMA RNAV training material for ATC	DELETED	

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Increased situational awareness and indirect benefit to both ATC and pilot through reduction of workload during RNAV operations.
Capacity:	-
Operational Efficiency:	Reduction in fuel burn through optimised routes and TMA procedures.
Cost Efficiency:	-
Environment:	Emissions and noise nuisance reduced by use of optimal flight procedures and routings.
Security:	-

NAV03	RNAV 1
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Detailed SLoA Descriptions

NAV03-ASP01	Develop and implement RNAV arrival and departure procedures for RNAV 1 approved aircraft	From: 01/01/2001	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Design, develop and implement RNAV 1 arrival and departure procedures, and continuous descent approaches and declare these in the appropriate AIPs.		
Supporting material(s):	ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Air Navigation Services - Aircraft Operations (PANS-OPS) Software - Edition 5 / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx EUROCONTROL - Airspace Concept Handbook for the Implementation of Performance Based Navigation (PBN) - Edition 2.0 Url : http://www.eurocontrol.int/sites/default/files/content/documents/navigation/european-ac-handbook-pbn-implement-2013-web.pdf ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 7030 - Regional supplementary Procedures - Edition 5 / 07/2011 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - RNAV 1 arrival and departures have been implemented.		

NAV03-ASP02	Provide appropriate terrestrial navigation infrastructure to support RNAV operations	From: 01/01/2001	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Implement RNAV 1 using basic GNSS (i.e. standalone GPS without ground or space based augmentations with RAIM and possibly also with Inertial Augmentation) or DME/DME modes of navigation. However, RNAV procedures are dependent upon sufficient DME transponders being distributed geographically to allow for DME/DME navigation in the absence of onboard GNSS equipment or GNSS failure. This requirement may mean new DME stations and/or the relocation of existing stations. This SLoA is a pre-requisite to NAV03-ASP01.		
Supporting material(s):	EUROCONTROL - Distance Measuring Equipment Tracer (DEMETER) Tool - Version 1.0.4 / 01/2012 Url : http://www.eurocontrol.int/publications/demeter-distance-measuring-equipment-tracer EUROCONTROL - GUID-0114 - Guidelines for P-RNAV Infrastructure Assessment - Edition V1.2 / 04/2008 Url : http://www.eurocontrol.int/sites/default/files/content/documents/navigation/eg0114-p-rnav-infrastructure-assessment-vweb.pdf ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
ATM Master Plan relationship:	[CTE-N08]-DME Ground Infrastructure optimisation		
Finalisation criteria:	1 - Infrastructure has been assessed and modified if required to meet the requirements for DME/DME procedures.		

NAV03-ASP03	Train air traffic controllers in RNAV procedures	From: 01/01/2003	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Train ATCOs in RNAV capabilities and new methods of managing TMA traffic to ensure safe and expeditious operations. RNAV procedures could reduce the need for radar vectors up to the FAP. This SLoA is a pre-requisite to NAV03-ASP01.		
Supporting material(s):	ICAO - Doc 4444 - Air Traffic Management - Edition 15 / 11/2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Air Navigation Services - Aircraft Operations (PANS-OPS) Software - Edition 5 / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 7030 - Regional supplementary Procedures - Edition 5 / 07/2011 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - The necessary training has been given to controllers responsible for the operation of RNAV terminal procedures.		

NAV03-ASP05	Implement RNAV 1 routes where identified as providing benefit	From: 01/01/2001	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Implement RNAV 1 routes where such implementation can be demonstrated to improve efficiency and provide additional capacity and where the implementation of such routes can be identified as operationally acceptable.		

NAV03	RNAV 1		
Supporting material(s):	EUROCONTROL - Airspace Concept Handbook for the Implementation of Performance Based Navigation (PBN) - Edition 2.0 Url : http://www.eurocontrol.int/sites/default/files/content/documents/navigation/european-ac-handbook-pbn-implement-2013-web.pdf ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - RNAV 1 routes have been implemented in ECAC states in accordance with criteria developed in guidance material of the implementation of RNAV 1 routes, and in use.		
NAV03-ASP11	Develop a Local RNAV 1 Safety Case	From: 01/01/2001	By: 31/12/2023
Action by:	ANS Providers		
Description & purpose:	Demonstrate that the implementation of the new RNAV 1 procedures designed is safe. The Safety Case shall comply with the ESARRs and shall take into account the national requirements established by the Regulatory Authorities. The RNAV 1 Safety Argument could be used as a basis for the development of the Local RNAV 1 Safety Case.		
Supporting material(s):	EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm EUROCONTROL - Safety Argument for Precision RNAV in Terminal Airspace - Edition 3.2 Url : http://www.skybrary.aero/bookshelf/books/990.pdf		
Finalisation criteria:	1 - Local RNAV 1 Safety Case has been finalised and approved by the National Supervisory Authority.		
NAV03-USE01	Install appropriate RNAV equipment	From: 01/01/2001	By: 31/12/2023
Action by:	Airspace Users		
Description & purpose:	Install equipment meeting RNAV 1 requirements. Where existing RNAV/FMS equipment meets only B-RNAV requirements, there will be a need to update or replace the systems. Aircraft already equipped with RNAV/FMS will need to gain regulatory approval which will include operational approval for the application of the system on RNAV 1 routes.		
Supporting material(s):	ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Air Navigation Services - Aircraft Operations (PANS-OPS) Software - Edition 5 / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
ATM Master Plan relationship:	[A/C-04]-Flight management and guidance for improved lateral navigation in approach via RNP [A/C-71]-Aircraft Based Augmentation System (ABAS) for Military A/C		
Finalisation criteria:	1 - All civil transport aircraft operating in ECAC states are capable of RNAV 1 operations.		
NAV03-USE02	Train flight crews in RNAV TMA procedures	From: 01/01/2001	By: 31/12/2023
Action by:	Airspace Users		
Description & purpose:	Train flight crews in the application of RNAV TMA procedures.		
Supporting material(s):	ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - Training manuals have been updated to include RNAV TMA procedures. 2 - The aircrew has been trained accordingly		

SESAR		Active					ECAC	
NAV10		APV procedures						
REG	ASP	MIL	APO	USE	INT	IND	NM	

Subject matter and scope

Implement RNAV(GNSS) APV procedures based on APV/Baro and/or APV/SBAS. The intention is to transition from conventional NPA to APV procedures.

The primary objective is to enhance safety but there are potential benefits in terms of reduced minima and better access to airports without precision approach and landing capabilities. This objective is in line with the ICAO 37th Assembly resolution which recommends States to implement APV procedures at all IFR runways by 2016. It also supports the Performance Based Navigation implementation and harmonisation strategy of the ICAO European Region.

The implementation of APV/SBAS procedures may be restricted by the coverage limitation of EGNOS satellite signal within the concerned airspace.

NOTE FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SLoAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SLoAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area		All ECAC States except: Maastricht UAC		
Timescales:		From:	By:	Applicable to:
Initial operational capability		01/06/2011		Applicability Area
Full operational capability			31/12/2016	Applicability Area

References

European ATM Master Plan

OI step -	[AOM-0104]-Enhanced Rotorcraft Operations at VFR FATOs with specific Point-in-Space RNP procedures using satellite augmentation							
	Enablers -	A/C-01	A/C-04 NAV03	A/C-06	A/C-07	PRO-250		
OI step -	[AOM-0602]-Enhanced terminal operations with APV using Barometric VNAV							
	Enablers -	A/C-04 NAV03	A/C-05a	A/C-71 NAV03	CTE-N01	PRO-AC-05a		
OI step -	[AOM-0604]-Enhanced terminal operations with LPV using SBAS							
	Enablers -	A/C-01	A/C-06	CTE-N01	CTE-N06	CTE-N06a	PRO-AC-06	
OI step -	- No OI Link -							
	Enablers -	CTE-N06a	CTE-N06b					

Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan
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Applicable legislation

-none-

ICAO GANP – ASBUs

B0-APTA	Improved Airport Accessibility
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Deployment Programme

1.2.1	RNP Approaches with vertical guidance
1.2.2	Geographic Database for Procedure Design

NAV10	APV procedures
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Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
NAV10-REG01	Apply EASA material to local national regulatory activities	01/06/2010	30/04/2016
NAV10-ASP01	Design and Publish APV/Baro and/or APV/SBAS procedures	01/06/2008	31/12/2016
NAV10-ASP02	Provide an approved SBAS Service to support APV/SBAS and declare the Service area	FINALISED	
NAV10-ASP03	Develop National safety case for APV/Baro operations and/or APV/SBAS operations	01/01/2009	30/04/2015
NAV10-ASP04	Publish in AIPs all coordinates data in WGS-84 in accordance with ICAO Annex 15 requirements and Article 14 of Regulation (EU) No 73/2010	01/01/2009	31/12/2016
NAV10-USE01	Equip aircraft with systems approved for APV/Baro and/or APV/SBAS	01/04/2006	31/12/2016
NAV10-USE02	Get airworthiness certification and operational approval	01/04/2006	31/12/2016

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Reduction in Controlled Flight Into Terrain (CFIT) occurrences. Improved pilot situation awareness and reduced crew workload.
Capacity:	Potential to enhance capacity due to lower minima than can be achieved through conventional NPA.
Operational Efficiency:	Improved thanks to shortened approaches, increased flexibility in the use of runways, reduced landing minima for runways with only conventional NPAs, fallback during precision approach system outages.
Cost Efficiency:	-
Environment:	Emissions and noise nuisance reduced by use of optimal flight procedures and routings and the elimination of step-down approach procedures.
Security:	-

Detailed SLoA Descriptions

NAV10-REG01	Apply EASA material to local national regulatory activities	From: 01/06/2010	By: 30/04/2016
Action by:	State Authorities		
Description & purpose:	Publish national regulatory material for APV procedures based on Airworthiness Approval and Operational Criteria for RNP APPROACH (RNP APCH) Operations including APV Baro-VNAV Operations (EASA AMC 20-27) and Airworthiness approval and Operational criteria for RNAV GNSS approach operation to LPV minima using SBAS (EASA AMC 20-28).		
Supporting material(s):	EASA - AMC 20-27 - Airworthiness Approval and Operational Criteria for RNP APPROACH (RNP APCH) Operations Including APV BARO- NAV Operations - ED Decision 2009/019/R / 12/2009 Url : https://www.easa.europa.eu/agency-measures/docs/agency-decisions/2009/2009-019-R/Annex%20III%20-%20AMC%2020-27.pdf EASA - AMC 20-28 - Airworthiness Approval and Operational Criteria related to Area Navigation for Global Navigation Satellite System approach operation to Localiser Performance with Vertical guidance minima using Satellite Based Augmentation System ED Decision 2009/014/R 09/2012 Url : http://www.easa.europa.eu/system/files/dfu/Annex II - AMC 20-28.pdf		
Finalisation criteria:	1 - National regulatory material for APV procedures based on EASA AMC 20-27 and EASA AMC 20-28 has been published.		

NAV10-ASP01	Design and Publish APV/Baro and/or APV/SBAS procedures	From: 01/06/2008	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Develop APV procedures at all instrument runway ends, either as the primary approach or as a back-up for precision approaches. The APV level to be implemented at different locations depends upon local requirements. This action includes the following tasks: - Identify runways where APV should be introduced; - Design APV procedures; - Publish APV procedures in national AIPs.		
Supporting material(s):	ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Air Navigation Services - Aircraft Operations (PANS-OPS) Software - Edition 5 / 04/2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx		

NAV10	APV procedures		
ATM Master Plan relationship:	[PRO-250]-Rotorcraft procedures for IFR access to VFR FATOs		
Finalisation criteria:	1 - APV/Baro and/or APV/SBAS Procedures have been implemented in accordance with guidance material and published in the National AIP, and are in use.		
NAV10-ASP03	Develop National safety case for APV/Baro operations and/or APV/SBAS operations	From: 01/01/2009	By: 30/04/2015
Action by:	ANS Providers		
Description & purpose:	<p>Develop a generic safety case for APV/Baro and/or APV/SBAS procedures developed upon the EASA AMC for RNP APCH.</p> <p>Identify and develop a means for mitigation of any issues requiring remedial action to ensure safety targets are met.</p> <p>The material will be developed in a manner, and approval sought through the appropriate bodies, that will enable cross reference to be made by States in their implementation of APV.</p> <p>Get an operational approval for APV/Baro and/or APV/SBAS operations.</p>		
Supporting material(s):	<p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EC - Regulation (EU) No 1035/2011-(OJ L 271, 18.10.2011, p. 23) - Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 10/2011 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:271:0023:0041:EN:PDF</p> <p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam</p>		
Finalisation criteria:	1 - National Safety case for APV/Baro and/or APV/SBAS has been produced and an operational approval was issued by the regulator.		
NAV10-ASP04	Publish in AIPs all coordinates data in WGS-84 in accordance with ICAO Annex 15 requirements and Article 14 of Regulation (EU) No 73/2010	From: 01/01/2009	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	It is an essential requirement for RNAV procedures that all coordinates data published in AIPs, e.g. Runway Thresholds, Navigation Aids, Waypoints, etc, are surveyed with reference to the WGS84 standard. Following survey which must be undertaken in accordance with the Eurocontrol standard for WGS 84 survey (Doc 006), the data must be maintained with adequate integrity.		
Supporting material(s):	<p>EC - Regulation (EU) No 73/2010-(OJ L 23, 27.1.2010, p.6) - Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information 01/2010 Url : http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:023:0006:0027:EN:PDF</p> <p>ICAO - Doc 9674 - World Geodetic System - 1984 (WGS-84) Manual - Edition 2 / 12/2002 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>		
Finalisation criteria:	1 - AIP Updated accordingly		
NAV10-USE01	Equip aircraft with systems approved for APV/Baro and/or APV/SBAS	From: 01/04/2006	By: 31/12/2016
Action by:	Airspace Users		
Description & purpose:	<p>Fit the aircraft with suitably approved equipment (Stand alone or integrated with existing FMS) as follows:</p> <ul style="list-style-type: none"> - APV/Baro equipment compliant to AMC 20-27; - APV/SBAS SBAS compliant to AMC 20-28. <p>For new or modified aircraft, the Aircraft Flight Manual (AFM) or the Pilot's Operating Handbook (POH), whichever is applicable, should be updated according to AMC 20-27 and AMC 20-28.</p>		
Supporting material(s):	<p>EASA - AMC 20-28 - Airworthiness Approval and Operational Criteria related to Area Navigation for Global Navigation Satellite System approach operation to Localiser Performance with Vertical guidance minima using Satellite Based Augmentation System ED Decision 2009/014/R 09/2012 Url : http://www.easa.europa.eu/system/files/dfu/Annex II - AMC 20-28.pdf</p> <p>EASA - AMC 20-27 - Airworthiness Approval and Operational Criteria for RNP APPROACH (RNP APCH) Operations Including APV BARO- NAV Operations - ED Decision 2009/019/R / 12/2009 Url : https://www.easa.europa.eu/agency-measures/docs/agency-decisions/2009/2009-019-R/Annex%20III%20-%20AMC%2020-27.pdf</p> <p>FAA - AC 20-138C - Airworthiness Approval of Positioning and Navigation Systems 05/2012 Url : http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/101</p> <p>FAA - AC 90-105 - Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System 01/2009</p>		

NAV10	APV procedures
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	Url : http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/128
ATM Master Plan relationship:	[A/C-05a]-APV Barometric VNAV [CTE-N06]-Space Based Augmentation System (SBAS) [CTE-N06a]-EGNOS V2.4.X [CTE-N06b]-EGNOS V3
Finalisation criteria:	1 - Aircraft have been fitted with suitable APV/Baro equipment compliant to AMC 20-27 or APV/SBAS compliant to AMC 20-28. 2 - The AFM or the POH, whichever is applicable, have been updated according to AMC 20-27 and AMC 20-28.

NAV10-USE02	Get airworthiness certification and operational approval	From: 01/04/2006	By: 31/12/2016
Action by:	Airspace Users		
Description & purpose:	Apply for approval against EASA AMC 20-27 and 20-28. The applicant needs to submit, to the competent National Authorities, a compliance statement which shows how the criteria of the AMC 20-27 and 20-28 have been satisfied.		
Supporting material(s):	ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Edition 5 / 11/2011 Url : http://www.icao.int/publications/Pages/catalogue.aspx EASA - AMC 20-27 - Airworthiness Approval and Operational Criteria for RNP APPROACH (RNP APCH) Operations Including APV BARO- NAV Operations - ED Decision 2009/019/R / 12/2009 Url : https://www.easa.europa.eu/agency-measures/docs/agency-decisions/2009/2009-019-R/Annex%20III%20-%20AMC%2020-27.pdf EASA - AMC 20-28 - Airworthiness Approval and Operational Criteria related to Area Navigation for Global Navigation Satellite System approach operation to Localiser Performance with Vertical guidance minima using Satellite Based Augmentation System ED Decision 2009/014/R 09/2012 Url : http://www.easa.europa.eu/system/files/dfu/Annex II - AMC 20-28.pdf ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 4 / 03/2013 Url : http://www.icao.int/publications/Pages/catalogue.aspx		
Finalisation criteria:	1 - The airworthiness and operational approval has been granted by the competent National Authorities to the operator.		

SESAR	Active						ECAC
SAF11	Improve runway safety by preventing runway excursions						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

The EUROCONTROL "Study of Runway Excursions from a European Perspective" showed that the causal and contributory factors leading to a runway excursion were the same in Europe as in other regions of the world. The study findings made extensive use of lessons from more than a thousand accident and incident reports. Those lessons have been used to draft the recommendations contained in the European Action Plan for the Prevention of Runway Excursions, Edition 1.0 of which was published in January 2013.

The European Action Plan for the Prevention of Runway Excursions (EAPPRE) contains practical recommendations with guidance materials to assist operational staff with their implementation. According to ICAO, runway excursions are a persistent problem and their numbers have not decreased in more than 20 years.

The European Working Group for Runway Safety who developed the EAPPRE considered all practicable means available ranging from the design of aircraft, airspace, procedures and technologies to relevant training for operational staff associated with runway excursion prevention. The recommendations and guidance materials contained in the Action Plan are intended for implementation by the relevant stakeholder organisations with the aim of reducing the rate of runway excursions and the runway excursion risk incumbent upon them.

This European Action Plan, directed to all providers and users of European aerodromes and all European aircraft operators, is the result of the combined and sustained efforts of organisations involved in all areas of runway operations and has been co-developed with the European Commercial Aviation Safety Team (ECAST) which is the first pillar of the European Strategic Safety Initiative (ESSI). The EAPPRE is a deliverable of the European Aviation Safety Plan, Edition 2011-2014.

Additionally, the Network Strategy Plan (NSP), Edition 2012 - 2019 published in November 2012 addresses strategic objectives for runway excursions as part of the Operational Pan-European safety improvement action plans.

Note: Central to the recommendations contained in this Action Plan is the uniform and consistent application of ICAO provisions. The applicability area of this objective is all ECAC States. Nevertheless, it is for the individual National Safety Authority to decide upon the strategy of implementation by the applicable organisations within its own State.

FOR MILITARY AUTHORITIES: It is the responsibility of each Military Authority to review this Objective IN ITS ENTIRETY and address each of the SloAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of "MIL" SloAs which identify actions EXCLUSIVE to MIL Authorities.

Applicability Area(s) & Timescale(s)

Applicability Area	All ECAC States except: Maastricht UAC		
Timescales:	From:	By:	Applicable to:
Initial operational capability	01/09/2013		Applicability Area
Full operational capability		31/01/2018	Applicability Area

References

European ATM Master Plan

OI step -	- No OI Link -						
	Enablers -	PRO-006a					
Legend:	WXYZ-001	Covered by SLoA(s) in this objective	WXYZ-002 zzz	Covered by SLoA(s) in another objective ESSIP objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

-none-

ICAO GANP – ASBUs

- none -

Deployment Programme

SAF11	Improve runway safety by preventing runway excursions
- none -	

Stakeholder Lines of Action (SLoAs)

SLoA ref.	Title	From	By
SAF11-REG01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	01/09/2013	31/01/2018
SAF11-ASP01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	01/09/2013	31/12/2014
SAF11-ASP02	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions with regard to the provision of aeronautical information services	01/09/2013	31/12/2014
SAF11-ASP03	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions with regard to the provision of meteorological services for international aviation	01/09/2013	31/12/2014
SAF11-APO01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	01/09/2013	31/12/2014
SAF11-USE01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	01/09/2013	31/01/2018
SAF11-NM01	Maintain the European action plan for the Prevention of Runway Excursions	01/09/2013	31/01/2018
SAF11-NM02	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	01/09/2013	31/01/2018

Description of finalised and deleted SLoAs is available on the eATM Portal @ https://www.eatmportal.eu/working/depl/essip_objectives

Expected Performance Benefits

Safety:	Significant improvement, through reduced risk of incidents and accidents on runways.
Capacity:	-
Operational Efficiency:	-
Cost Efficiency:	-
Environment:	-
Security:	-

Detailed SLoA Descriptions

SAF11-REG01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	From: 01/09/2013	By: 31/01/2018
Action by:	State Authorities		
Description & purpose:	<ul style="list-style-type: none"> - Ensure that the European Action Plan for the Prevention of Runway Excursions is disseminated widely to increase understanding of runway excursion which includes the Recommendations of the Action Plan, i.e. Part 3.1 references 3.1.1 and Part 3.6 references 3.6.3; 3.6.8 and 3.6.9. - Regulators, i.e. National Supervisory Authorities (NSAs) should focus on runway safety in their oversight activities e.g. preventing runway excursion risks which includes the Recommendations of the Action Plan, i.e. Part 3.1 references 3.1.4; 3.1.5 and Part 3.6 reference 3.6.2. - Verify that aircraft operators, aerodrome operators and air navigation service providers adapt according to the local needs and comply with the respective measures of the European Action Plan for the Prevention of Runway Excursions which includes the Recommendations of the Action Plan, i.e. Part 3.6 references 3.6.1; 3.6.4; 3.6.5; 3.6.6 and 3.6.7. 		
Supporting material(s):	EUROCONTROL - European Action Plan for the Prevention of Runway Excursions (EAPPRE) - 1.0 / 01/2013 Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Excursions_(EAPPRE) ICAO - ICAO - Runway Safety Team Handbook - First Edition 01/2014 Url : http://www.icao.int/SAM/SSP/Documents/ICAO%20RST%20Handbook%201stEdJan2014.pdf		
Finalisation criteria:	1 - Documentation for the European Action Plan for the Prevention of Runway Excursions has been disseminated. 2 - Established oversight activities arrangements, e.g. audit plans, audit report published, including corrective actions if applicable. 3 - The applicable measures of the Action plan, Part 3.6 have been implemented. 4 - Implementation is reported through the appropriate mechanism.		

SAF11	Improve runway safety by preventing runway excursions
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SAF11-ASP01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	From: 01/09/2013	By: 31/12/2014
Action by:	ANS Providers		
Description & purpose:	Adapt according to the local operational environment and implement the respective measures of the European Action Plan for the Prevention of Runway Excursions which includes all recommendations of Part 3.3; Part 3.1 references 3.1.1; 3.1.3; 3.1.4; 3.1.5; 3.1.6 and 3.1.7; Part 3.2 references 3.2.8 and 3.2.9.		
Supporting material(s):	EUROCONTROL - European Action Plan for the Prevention of Runway Excursions (EAPPRE) - 1.0 / 01/2013 Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Excursions_(EAPPRE) ICAO - ICAO - Runway Safety Team Handbook - First Edition 01/2014 Url : http://www.icao.int/SAM/SSP/Documents/ICAO%20RST%20Handbook%201stEdJan2014.pdf		
ATM Master Plan relationship:	[PRO-006a]-ATC Procedures to standardise phraseology, altitude usage (airport)		
Finalisation criteria:	1 - The applicable measures of the Action plan, Parts 3.1, 3.2 and 3.3 have been implemented. 2 - Implementation is reported through the appropriate mechanism.		

SAF11-ASP02	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions with regard to the provision of aeronautical information services	From: 01/09/2013	By: 31/12/2014
Action by:	AIS Providers		
Description & purpose:	Adapt according to the local operational environment and implement the respective measures of the European Action Plan for the Prevention of Runway Excursions which includes Recommendations of Part 3.3 references 3.3.4 and 3.3.5.		
Supporting material(s):	ICAO - ICAO - Runway Safety Team Handbook - First Edition 01/2014 Url : http://www.icao.int/SAM/SSP/Documents/ICAO%20RST%20Handbook%201stEdJan2014.pdf EUROCONTROL - European Action Plan for the Prevention of Runway Excursions (EAPPRE) - 1.0 / 01/2013 Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Excursions_(EAPPRE)		
Finalisation criteria:	1 - The applicable measures of the Action plan, Part 3.3 have been implemented. 2 - Implementation is reported through the appropriate mechanism.		

SAF11-ASP03	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions with regard to the provision of meteorological services for international aviation	From: 01/09/2013	By: 31/12/2014
Action by:			
Description & purpose:	Adapt according to the local operational environment and implement the respective measures of the European Action Plan for the Prevention of Runway Excursions which includes Recommendations of Part 3.2 references 3.2.8 and 3.2.9.		
Supporting material(s):	EUROCONTROL - European Action Plan for the Prevention of Runway Excursions (EAPPRE) - 1.0 / 01/2013 Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Excursions_(EAPPRE) ICAO - ICAO - Runway Safety Team Handbook - First Edition 01/2014 Url : http://www.icao.int/SAM/SSP/Documents/ICAO%20RST%20Handbook%201stEdJan2014.pdf		
Finalisation criteria:	1 - The applicable measures of the Action plan, Part 3.2 have been implemented. 2 - Implementation is reported through the appropriate mechanism.		

SAF11-APO01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	From: 01/09/2013	By: 31/12/2014
Action by:	Airport Operators		
Description & purpose:	Implement the applicable measures of the European Action Plan for the Prevention of Runway Excursions which includes all recommendations of Part 3.2, Part 3.1 references 3.1.1; 3.1.3; 3.1.4; 3.1.5; 3.1.6 and 3.1.7, Part 3.3 references 3.3.4; 3.3.5 and 3.3.6. For the Local Runway Safety Team implement the applicable measures of the Action Plan, recommendations 3.1.2; 3.1.4 and 3.1.6 of Part 3.1.		
Supporting material(s):	EUROCONTROL - European Action Plan for the Prevention of Runway Excursions (EAPPRE) - 1.0 / 01/2013 Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Excursions_(EAPPRE) ICAO - ICAO - Runway Safety Team Handbook - First Edition 01/2014 Url : http://www.icao.int/SAM/SSP/Documents/ICAO%20RST%20Handbook%201stEdJan2014.pdf		
Finalisation criteria:	1 - The applicable measures of the Action plan, Parts 3.1, 3.2 and 3.3 have been implemented. 2 - Implementation is reported through the appropriate mechanism.		

SAF11	Improve runway safety by preventing runway excursions
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SAF11-USE01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	From: 01/09/2013	By: 31/01/2018
Action by:	Airspace Users		
Description & purpose:	Implement the applicable measures of the European Action Plan for the Prevention of Runway Excursions which includes all recommendations of Part 3.4, Part 3.1 references 3.1.1, 3.1.6, 3.1.7 and Part 3.3 reference 3.3.4.		
Supporting material(s):	EUROCONTROL - European Action Plan for the Prevention of Runway Excursions (EAPPRE) - 1.0 / 01/2013 Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Excursions_(EAPPRE) ICAO - ICAO - Runway Safety Team Handbook - First Edition 01/2014 Url : http://www.icao.int/SAM/SSP/Documents/ICAO%20RST%20Handbook%201stEdJan2014.pdf		
Finalisation criteria:	1 - The applicable measures of the Action plan, Parts 3.1, 3.3 and 3.4 have been implemented. 2 - Implementation is reported through the appropriate mechanism.		

SAF11-NM01	Maintain the European action plan for the Prevention of Runway Excursions	From: 01/09/2013	By: 31/01/2018
Action by:	NM		
Description & purpose:	A European action plan for the Prevention of Runway Excursions has to be produced by the Eurocontrol Agency through coordinated collaboration with concerned stakeholders within the ESSI, ECAST and EASp initiatives. The Action plan development lifecycle includes: (1) Identification of Safety Issues; (2) Initial Evaluation; (3) Analysis of the causal factors and elaboration of recommendations; (4) Development and adoption of an Action Plan; (5) Implementation and Monitoring. The action plan shall be reviewed in due time.		
Finalisation criteria:	1 - http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Excursions_(EAPPRE)		

SAF11-NM02	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	From: 01/09/2013	By: 31/01/2018
Action by:	NM		
Description & purpose:	Implement the applicable measures of the European Action Plan for the Prevention of Runway Excursions which includes Part 3.1 reference 3.1.6.		
Supporting material(s):	EUROCONTROL - European Action Plan for the Prevention of Runway Excursions (EAPPRE) - 1.0 / 01/2013 Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Excursions_(EAPPRE)		
Finalisation criteria:	1 - The measures assigned for implementation to the EUROCONTROL Agency have been implemented. 2 - Report on the action plan implementation is produced.		

Substantial changes since previous Edition

Changes applied to the previous edition of the MP Level 3 Implementation Plan have been developed in close co-operation with the SESAR JU, WP C.02 Task T006, and relevant EUROCONTROL expert Teams.

New objectives included in the Plan - Edition 2016

Objective designator	Objective Title	Scope
AOM19.1	ASM support tools to support A-FUA	ECAC
AOM19.2	ASM Management of real-time airspace data	ECAC
AOM19.3	Full rolling ASM/ATFCM process and ASM information sharing	ECAC
AOP13	Automated assistance to controller for surface movement planning and routing	APT
ATC15.2	Arrival Management extended to en-route airspace	EU+
COM12	NewPENS	ECAC
FCM04.2	STAM Phase 2	EU+
FCM07	Calculated Take-off Time (CTOT) to Target Times for ATFCM purposes	EU+
FCM08	Extended Flight Plan	EU+
FCM09	Enhanced ATFM Slot Swapping	ECAC
INF08.1	Initial SWIM - Yellow TI Profile	EU+
INF08.2	Initial SWIM - Blue TI Profile	EU+

Substantial changes to existing objectives

Objective designator	Objective Title	Substantial Change
ATC07.1	AMAN tools and procedures	FOC date postponed to 31.12.2019
COM10	Migrate from AFTN to AMHS	FOC date postponed to 31.12.2018
FCM04	STAM phase 1	Designator changed to FCM04.1 so as to reflect its relation with the new FCM04.2. FOC date postponed to 31.10.2017 and Applicability Area enlarged so as to cover the voluntary implementation by Austria, Belgium, Czech Republic and Croatia.
FCM05	Interactive rolling NOP	Updated so as to take into account the evolution of NM systems Deletion of SLoAs ASP01, 02 and 03 which are now addressed by the new Objective AOM19.2 Deletion of SLoA NM11, included not in the new Objective on SWIM (INF08.1) New NM SLoAs NM12 and 13, extending the NM functionalities. Finalisation of SLoAs NM04 and 08.

Objective designator	Objective Title	Substantial Change
NAV03	Implement P-RNAV	Change of title to refer to RNAV-1 and introduction of a note referring to the obligation of the PCP TMAs to implement RNP1.

Objectives closed as **ACHIEVED** since the previous edition of the Plan

Objective designator	Objective Title	Rationale
AOP03	Improve runway safety by preventing runway incursions	Implementation of the Objective has been completed by at least 80% of the stakeholders in the area of applicability as indicated in the Master Plan Level 3 Report.
ATC16	Implement ACAS II compliant with TCAS change 7.1	
FCM01	Implement enhanced tactical flow management services	
ITY-COTR	Implement ground-ground automated co-ordination processes	The ITY-COTR Objective is fully implemented, with the exception of the 2 data link related SLoAs which were transferred to the ITY-AGDL Objective.

Objectives **REMOVED** since the previous edition of the Plan

Objective designator	Objective Title	Rationale
AOM19	Implement Advanced Airspace Management	Objective removed. It has been replaced by a new set of objectives AOM19.1, AOM19.2, AOM19.3.
SAF10	Implement measures to reduce the risk to aircraft operations caused by airspace infringements	Objective removed, pending the availability of a new Action Plan and renewed commitment from stakeholders.
INF04	Implement integrated briefing	Objective removed. Implementers expect to address this functionality through the upcoming SWIM developments which has led to a lack of implementation progress over the last years.