European Single Sky ImPlementation

ESSIP Plan - Edition 2013

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ESSIP Plan - Edition 2013

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Abstract

The 'European Single Sky ImPlementation' (ESSIP) Plan defines the common implementation actions required to improve the European ATM network over a short/medium term. The ESSIP represents the 'Level 3' of the European ATM Master Plan. It does it in the form of implementation objectives to be achieved within coordinated time scales, published every year in the ESSIP Plan. Its target audience includes planning staff from the various stakeholders participating in the ESSIP, both at European and National level. ESSIP objectives bring tangible benefits to the European aviation community in terms of increased safety, capacity, cost-effectiveness or lesser impact on the environment.

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IPR (foreground)

This deliverable consists of Foreground owned by EUROCONTROL.

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Foreword

The European ATM is increasingly planned in a performance driven perspective. The European Single Sky ImPlementation (ESSIP) Plan is instrumental in ensuring that this perspective is duly adopted when defining each year the new improvements required by European ATM or adapting the course of change agreed previously to better meet expectations and requirements.

I have pleasure in confirming that the harmonised implementation of the ESSIP Plan across the ECAC area will enable the achievement of the performance targets agreed within the European performance scheme framework, in line with the overarching **European ATM Master Plan** for which the ESSIP Plan represents the detailed implementation view, namely the Master Plan 'Level 3'.
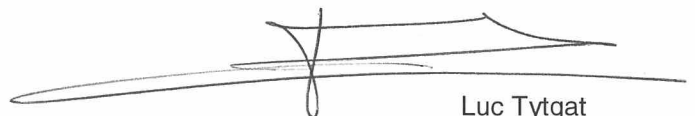
Through a high-level description of the alignment process with the European ATM Master Plan, including the mapping between the **operational improvements** stipulated in the Master Plan and the **ESSIP objectives**, this Edition 2013 of the ESSIP Plan provides a comprehensive view of the European implementation roadmap for the Single European Sky that is fully consistent with the deployment activities such as those foreseen by the Interim Deployment Programme. For future editions of the ESSIP Plan, I confirm our readiness to take into account and accommodate, as appropriate, subsequent deployment initiatives such as those of the Pilot Common Project or those required by the emerging Centralised Services.

As every year, this edition of the ESSIP Plan includes a detailed description of all objectives endorsed by the Provisional Council of EUROCONTROL. These are objectives, referred to as 'Active' objectives, for which implementation actions at local level are required and for which a Pan European monitoring is needed. This gives me the opportunity to highlight that these local actions form together the crucial elements of the implementation framework within which all stakeholders, such as Airspace Users, National Administrations, Military Authorities, Air Navigation Service Providers and Airport Authorities have committed to act.

Concretely, the ESSIP Plan – Edition 2013 has been developed following a gap analysis against the full set of operational improvements defined in the Deployment Baseline of the European ATM Master Plan. As a consequence of the sustained endeavour towards achieving an appropriate mapping between the European ATM Master Plan and ESSIP, the number of ESSIP objectives directly related to the European ATM Master Plan or developed on the basis of the Single European Sky legislation has been consistently growing, reaching now 95%. I see this evolution as a positive sign, namely that of a strategic planning being resolutely turned towards the efficient achievement of the Single European Sky. This has been fully acknowledged in the recently published **Commission Regulation** (EU) No 409/2013 on the definition of common projects, the establishment of an appropriate governance and the identification of incentives in the implementation of the European ATM Master Plan, where the ESSIP/LSSIP[1] process and instruments are recognised as the basis for implementation planning, monitoring and reporting mechanisms.

Finally, as a result of this approach, together with the consultation of stakeholders within the EUROCONTROL working arrangements, it can be ascertained that the ESSIP Plan – Edition 2013 takes duly into account those elements of the European ATM Master Plan which have been considered mature for implementation and require a coordinated planning approach in view of their deployment. It takes also into account the recommendations of the **ESSIP Report for 2012**, notably those to help reduce the remaining gap between what was achieved and the target situation.

All together, these observations confirm that the ESSIP/LSSIP process and its deliverables (ESSIP Plan, LSSIP Documents and ESSIP Report) can be used to monitor effectively the progress of the **European ATM Master Plan implementation**. This is another positive evolution which I warmly welcome since it brings a key contribution to the Single European Sky.

Luc Tytgat
Director of Directorate Single Sky, EUROCONTROL

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[1] Local Single Sky ImPlementation (LSSIP)

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ESSIP Plan
Edition 2013

▼ **GEOGRAPHICAL AREA**

41
STATES

- **41** ECAC STATES + MUAC
- **28** EU STATES + Norway and Switzerland
- **7** ECAA STATES (outside EU)

▼ **COMMITMENT FOR IMPLEMENTATION**

41
'ACTIVE' OBJECTIVES

- **9** SES RELATED OBJECTIVES
- **30** SESAR OBJECTIVES
- **2** OTHER TYPES OBJECTIVES

▼ **DOMAINS (No of objectives)**

11
ATM AREAS

- AOM **(4)**
- AOP **(5)**
- ATC **(9)**
- COM **(3)**
- ENV **(2)**
- FCM **(4)**
- INF **(1)**
- ITY **(6)**
- NAV **(2)**
- SAF **(2)**
- SRC **(3)**

▼ **STAKEHOLDERS**

1
PLAN FOR ALL

- ANSPs
- MILITARY
- REGULATORY AUTHORITIES / NSAs
- NETWORK MANAGER
- AIRPORTS
- AIRSPACE USERS
- AERONAUTICS INDUSTRY
- INTERNATIONAL ORGANISATIONS

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CONTENTS

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PART I
INTRODUCTION

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CONTEXT

SES & SESAR ENVIRONMENT

The Single European Sky (SES) / Single European Sky ATM Research (SESAR) environment, re-enforcing the implementation of a performance-based approach in ATM, leads to the need for a combined, unique and coordinated process for European and local implementation planning, monitoring and reporting.

Stakeholders have concluded that the implementation planning aspects of a performance-based approach would be delivered via the ESSIP (European Single Sky ImPlementation) mechanism – mirrored at national level by the LSSIP tool – thus playing a large part in assisting individual ECAC States in their efforts to meet their objectives and national performance targets. This process satisfies in particular the need to:

- link the European implementation plan with the European ATM Master Plan by identifying those elements which are mature for implementation by stakeholders;

- better integrate all aspects of European planning, monitoring and reporting in one single process that addresses both the timely implementation of the European ATM Master Plan and the application of SES legislation;

- clarify commitment procedures for all stakeholders involved in order to ensure effective implementation of the SESAR Deployment Baseline;

- promote links between European implementation decisions and stakeholders business plans;

- close the loop between implementation reporting and implementation planning by building lessons learnt and agreeing with stakeholders on corrective actions where relevant;

- develop the adequate interface with the Master Planning process, including the maintenance of the European ATM Master Plan.

As approved by the SJU Admin Board, the ESSIP process and resources are supporting the SESAR WP C.02 to provide a single planning process framework, which brings together common agreed implementation actions, deriving from the operational improvements detailed in the European ATM Master Plan.

The ESSIP implementation plan is composed of selected implementation actions that have been endorsed by stakeholders, especially because they are expected to contribute to the evolution of the ATM performance at European network level, in terms of improved safety, capacity, cost-efficiency and environmental impact.

THE POSITION OF THE ESSIP PLAN IN THE PAN-EUROPEAN ATM ENVIRONMENT

The ESSIP Plan document plays a significant role in the overall ATM environment. Since the last three years, the ESSIP Plan and ESSIP Report represent the 'Level 3' - Implementation view of the European ATM Master Plan (see Figure 1 below). The bottom level of the European ATM Master Plan contains the elements which have reached the necessary technical and operational maturity to be included in the Deployment Baseline. Of all these elements, those having an impact on ATM at network level and requiring close coordination among Stakeholders are linked to ESSIP "Implementation objectives" included in the ESSIP Plan document.
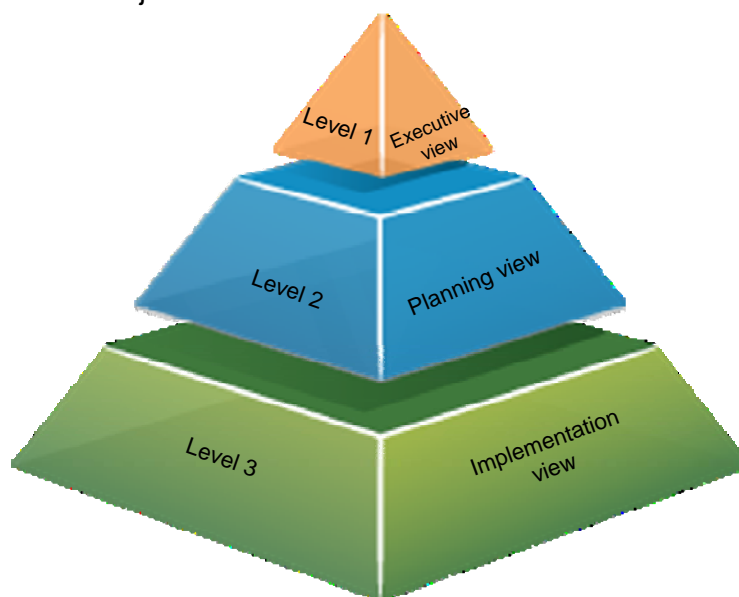

Figure 1: European ATM Master Plan

Being recognised as the Implementation View of the European ATM Master Plan, the ESSIP Plan becomes a single reference for the deployment planning at local level. This has been recognised by the Interim Deployment Steering Group (IDSG) as well as by the upcoming "Pilot Common Project (PCP)" initiative of the European Commission.

The IDSG has developed an Interim Deployment Programme (IDP) derived from and kept consistent with the ESSIP Plan, level 3 of the European ATM Master Plan, and which addresses the implementation activities in support to short term deployment priorities.

Building mainly on the ESSIP objectives related to essential operational changes, the Interim Deployment Programme has defined and organised common implementation projects that address and are aligned with SESAR key features. As a living Programme, the IDP evolutions have fed the development of the ESSIP Plan - Edition 2013, leading to the mutual enrichment of the two deliverables. Therefore the content of the ESSIP Plan - Edition 2013 is fully aligned with the content of the IDP, as several ESSIP objectives were amended or created in order to reflect the IDP developments.

The ESSIP Plan - Edition 2013 also contains several objectives which are considered to be essential prerequisites for the successful implementation of the Pilot Common Project, expected to assist the successful implementation of the ATM Master Plan. The PCP outlines the main steps and drivers required to ensure the practical deployment of SESAR solutions and thereby unleash their full potential to the ATM community. They combine coherent technological improvements aiming to enhance the performance of the European Air Traffic Management system in the short to medium term, focusing on

technological improvements that are mature enough to start deployment in the 2014-2020 timeframe.

With the European ATM Master Plan addressing the high-level operational and technological evolution of the ATM System, based on agreed performance objectives and deployment scenarios, the current version of the ESSIP Plan includes specific Stakeholder Lines of Action (SLoAs) applicable to the Network Manager, addressing elements of the Network Strategy Plan[1].

The ESSIP Plan also contains objectives beyond those related to SESAR (e.g. those related SES legislation implementation). To that effect, it reflects the measures needed to support the European Commission's Single European Sky scheme to harmonise air traffic provision.

THE ESSIP PLAN TIME HORIZON

The ESSIP Plan is a short/medium term implementation plan.

With the alignment of the ESSIP Plan to the Deployment Baseline in the European ATM Master Plan, the notion of a 'short/medium term' plan has moved away from a fixed five-year look-ahead time as used to be the case before.

The ESSIP Plan - Edition 2013 contains 41 'Active' objectives having Full Operational Capability (FOC) dates spanning over the next seven years, with most of the planning activity focussed on the next five years ahead. To note that for six ESSIP objectives, the FOC date is shown as N/A. They refer to the Interoperability (ITY) objectives, which have multiple dates for accomplishing their SLoAs, as indicated by the relevant EU Regulations of reference.
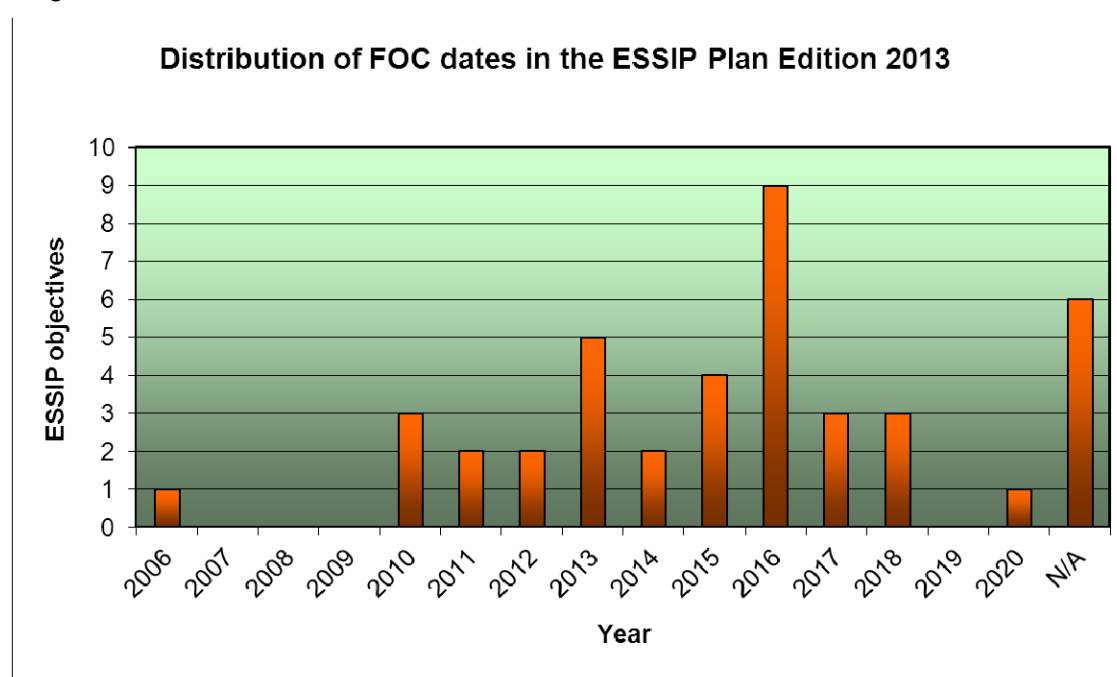

Figure 2: Distribution of Full Operational Capability dates

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[1] The Network Strategy Plan goal is to address the ATM Network Performance as defined in the performance IR for the next reference period(s) focusing on specific objectives, targeting current and known problems and taking benefit of mainly short term solutions and best practices.

RELATIONSHIP BETWEEN THE ESSIP PLAN EDITION 2013 AND SESAR DEPLOYMENT INITIATIVES

As mentioned above, the ESSIP Plan is focussing on the content of the current Deployment Baseline of the European ATM master Plan while the PCP initiative is addressing the content of Step 1 of the Master Plan. Therefore, the current edition of the ESSIP Plan is only containing elements considered as prerequisites of the PCP, but not the Operational Improvement (OI) Steps having the deployment directly addressed by the PCP. As the PCP is becoming mature and the OIs steps addressed by it will move towards implementation, it is expected that specific ESSIP objectives will be developed and included in the future editions of the ESSIP Plan. Based on expert judgement, all the prerequisites considered essential for the successful implementation of the Deployment Baseline Scenario of the PCP were identified by the SESAR JU. The Essential prerequisites were also mapped with the Interim Deployment Programme (IDP) and the ESSIP objectives based on the latest information available in the IDP, as developed by the IDSG and the ESSIP Plan - Edition 2013. The results of this analysis are presented in the table below:

ATM functionalities (AFs)	Prerequisite	IDP: • Activity Areas • Work Packages (WPs) • Sub-Work Packages (sWPs)	ESSIP objectives addressing the prerequisites
AF # 1 - Extended AMAN and PBN in high density TMAs	AMAN en route interface	SWP5.2.1 task 193 (2012-2018)	ATC15 (2012-2017)
AF # 2 - Airport Integration and Throughput Functionalities	A-SMGCS Level 1 A-SMGCS Level 2 Electronic Flight Strip (in relation with CWP)	None None	AOP04.1 (2007-2011) AOP04.2 (2007-2017)
	Electronic Flight Strip TBS tool	None	
AF # 4 - Network Collaborative Management (Flow & NOP)	STAM phase 1	sWP1.2 (2011-2016)	FCM04 (2013-2015_
AF # 6 Initial Trajectory Information Sharing (i4D)	Commission Regulation (EC) No 29/2009 on Data link services	WP4 (2010-2018)	ITY-AGDL (2015)

Table 1: ESSIP objectives expected to support the PCP

RELATIONSHIP BETWEEN THE ESSIP PLAN EDITION 2013 AND CENTRALISED SERVICES

In the view of the new SES2+ Legislation and EUROCONTROL's commitment:

- to promote a competitive air transport market in Europe through an ambitious approach to ANS-ATM;

- to significantly contribute to the achievement of the targets laid down in the EU performance scheme;

EUROCONTROL facilitates in the development of the concept "Centralised Services (CS)" as part of the SESAR deployment and SES implementation.

Currently 9 centralised services have been identified, resulting from the analysis of some 300 SESAR projects, which are:

- CS1 - Flight Plan and Airport Slot Consistency Service (FAS) - A service to check consistency of flight plans against airport slots on a centralised basis – which will result in better exploitation of airport capacity and improved flight punctuality.

- CS2 - 4D Trajectory Flight Profile Calculation for planning purposes Service (4DPP) - A centralised service for calculating and communicating 4D trajectory profiles with increased accuracy, leading to improved predictability in the planning phase.

- CS3 - European Tracker Service (ETKR) - This service will enable the creation of a Europe-wide, consistent, high quality picture of the air situation, processing and unifying all the data sent by numerous surveillance sensors.

- CS4 - Advanced Flexible Use of Airspace Support Service (AFUAS) - A service for the collection and provision of airspace management data, enabling the more efficient and effective use of available airspace by both civil and military users.

- CS5 - European ATM Information Management Service (EAIMS) - A development of the existing EAD service, to include all pre-departure static and dynamic data (eg airport information, weather and digital NOTAMs); this service enables the acceleration of the early deployment of the SWIM technology.

- CS6 - Management of Common Network Resources Service (CNR) - This service improves the management of scarce resources such as transponder codes and radio frequencies by handling them on a unified basis across Europe.

- CS7 - Network Infrastructure Performance monitoring and analysis Service (NIPS) - A service to ensure the safe function and anomaly resolution of common/distributed CNS infrastructure. This service would set up and operate sensors so that performance of the infrastructure could be measured and issues resolved.

- CS8 - Pan European Network Service (PENS) - As data interchange increases, this service would meet all the ground communication needs between sites and partners (based on Internet Protocol version 6). This existing service would be expanded both in scope and in coverage.

- CS9 - Data Communication Service (DCS) - A data communication service between the air and the ground, to support services such as datalink, AOC services, ADS-C, flight information service, airport coordination services, space-based ADS-B etc.

While it was premature to derive specific ESSIP objectives or Stakeholder Lines of Action for inclusion in the ESSIP Plan - Edition 2013, based on the available information, several existing objectives have been identified as having links with the deployment of Centralised Services. Depending on the evolution of CS, in future editions of the ESSIP Plan, new objectives may have to be developed or existing ones may have to be amended.

CS#	ESSIP objective title	ESSIP Reference
1 and 2	Implement Collaborative Flight Planning	FCM03
	Implement Advanced Airspace Management	AOM19
	Implement Airport Collaborative Decision Making (CDM)	AOP05
	Enhanced tactical Flow Management Services	FCM01
	Implementation of Short Term ATFCM Measures – Phase 1	FCM04
	Implementation of interactive rolling NOP	FCM05
3	Surveillance Performance and Interoperability	ITY-SPI
4	Implement Advanced Airspace Management	AOM19
	Implementation of interactive rolling NOP	FCM05
5	Ensure quality of aeronautical data and aeronautical information	ITY-ADQ
6	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)	COM09
	Migrate from AFTN to AMHS	COM10
	Implementation of Voice over Internet Protocol (IP) in ATM	COM11
	Apply a common flight message transfer protocol (FMTP)	ITY-FMTP
7	Initial ATC air-ground data link services above FL-285	ITY-AGDL
	Implement Approach Procedures with Vertical Guidance (APV)	NAV10
	Implement air-ground voice channel spacing requirements below FL195	ITY-AGVCS2
	Implement ACAS II compliant with TCAS II change 7.1	ATC16
8	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)	COM09
	Implementation of Voice over Internet Protocol (IP) in ATM	COM11
	Apply a common flight message transfer protocol (FMTP)	ITY-FMTP
9	Initial ATC air-ground data link services above FL-285	ITY-AGDL

Table 2: ESSIP objectives linked to CS

THE ESSIP PLAN EDITION 2013 DEVELOPMENT

The ESSIP Plan - Edition 2013 development was done through a robust process involving a wide range of Stakeholders. Figure 3 represents the development process.
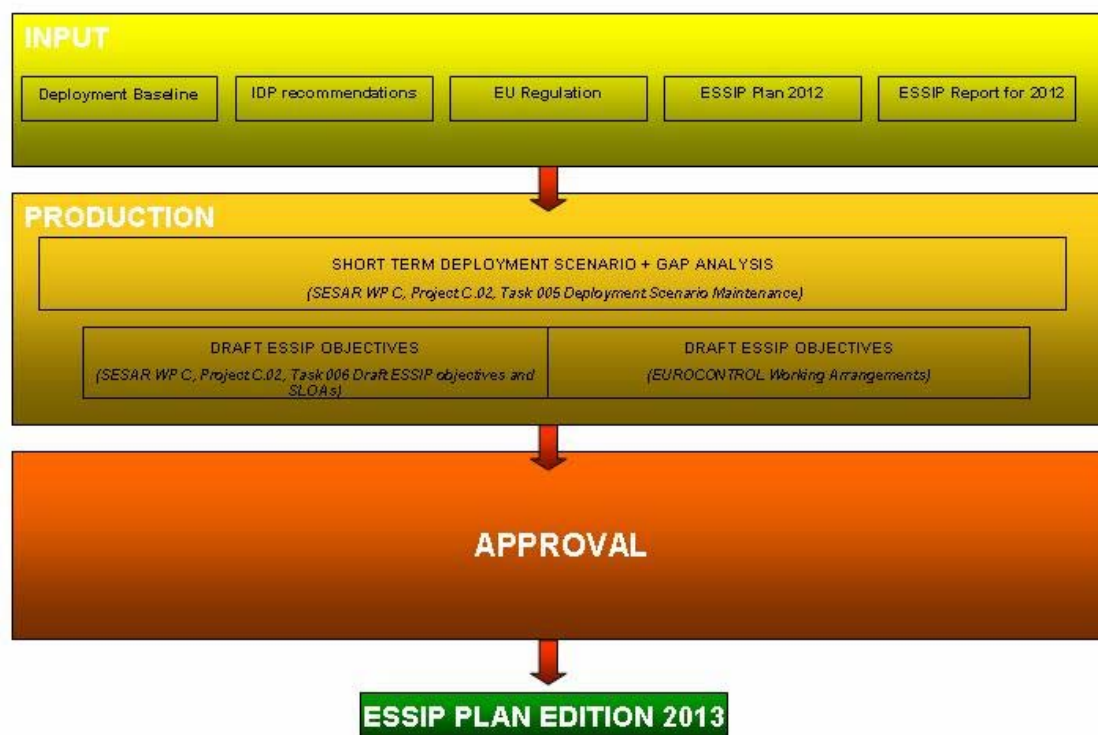

Figure 3: The ESSIP Plan - Edition 2013 development

The main inputs for the ESSIP Plan - Edition 2013 development were SESAR Deployment Baseline elements (extracted from Edition 2 of the European ATM Master Plan, in particular the Data Set 9 from November 2012), the EU Regulations, notably the new Regulation on the deployment of 8.33 kHz communications below Flight Level 195 (EU) No 1079/2012, recommendations of the Interim Deployment Steering Group, notably the Interim Deployment Program, the SESAR Release 1 report and the ESSIP Report for 2012. The development process always starts from the last year's version of the ESSIP Plan (for this document, the ESSIP Plan Edition 2012).

The production phase of the document involved the analysis of the inputs listed above and their impact on the ESSIP Plan document. Since the ESSIP Plan is the Level 3 of the European ATM Master Plan, this was done by a specific task (Task 006) of the SESAR project C.02 in support to the European ATM Master Plan Maintenance. Task 006 performed the gap analysis relative to the ESSIP Plan edition 2012 vis-à-vis the other inputs, and subsequently, developed Deployment Analysis documents. Following these Deployment Analyses, Task 006 developed ESSIP outline descriptions, where necessary, before embarking into the development of the proper new draft ESSIP objectives and/or proposed changes to existing ones. This was an input to the approval phase of the ESSIP Plan.

This document has been endorsed by the Provisional Council of EUROCONTROL, as well as approved by the SESAR JU Administrative Board as a non-significant update of the European ATM Master Plan.

THE ESSIP DELIVERABLES

This document is one of the two that, together, make the European Single Sky ImPlementation (ESSIP) deliverables. Both documents are deliverables of SJU WP C0.2:

- The **ESSIP Plan** - this document - contains the detailed 'Active' implementation objectives and Stakeholder Lines of Action (SLoA) to be achieved within coordinated time scales. Its target audience includes planning staff from the various stakeholders participating in ESSIP, both at European and National level. Implementation of the ESSIP objectives brings tangible benefits to the European aviation community in terms of increased safety, capacity, cost-effectiveness or lesser impact on the environment. It is produced every year.

- The **ESSIP Report** assesses the level of success in the implementation progress of 'Active' ESSIP objectives at ECAC level for the benefit of all aviation stakeholders. For each of the objectives it highlights critical issues, main reasons for delays, (positive) progress and it proposes remedial actions at network level. It is based on information gathered from the Local Single Sky ImPlementation (LSSIP) documents and closes the loop between the monitoring and planning phases of the ESSIP/LSSIP yearly cycle. Understanding what happened during the reporting period puts into perspective the investments and actions to real benefits and enables to steer implementation.
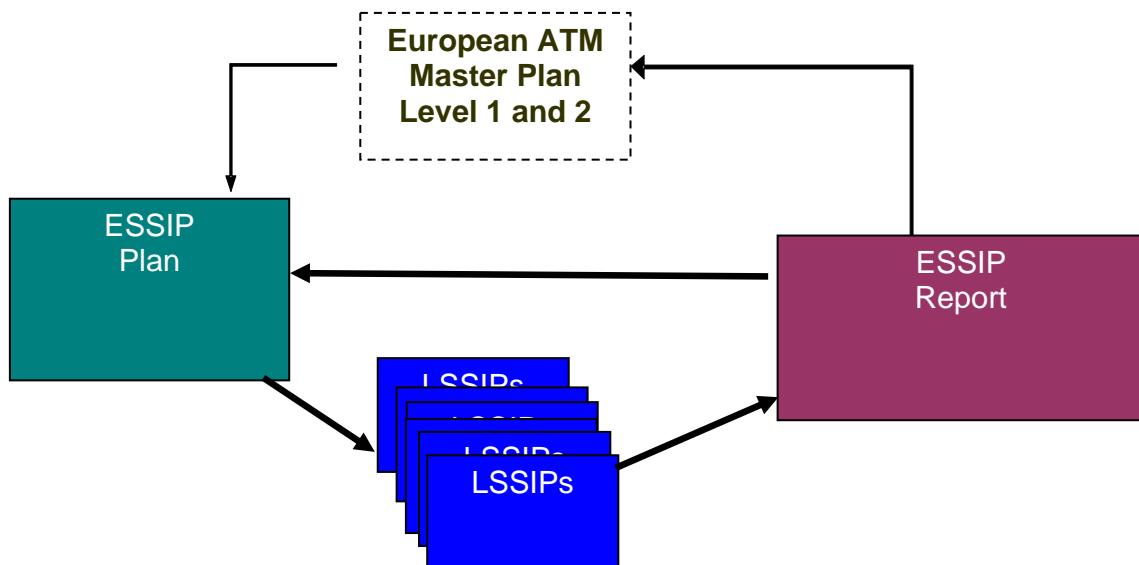
Figure 4: The ESSIP deliverables

RECOMMENDATIONS OF THE ESSIP REPORT 2012

The information provided throughout the LSSIP 2012 cycle has been compiled into the ESSIP Report 2012. The Report has identified several recommendations, including some applicable to the ESSIP Plan – Edition 2013, notably with regard to the need for new objectives or with regard to the achievement of existing objectives. Most of these recommendations have already been taken into account and implemented in the current edition of the ESSIP Plan. However, as the recommendations can only be available after the closure of the LSSIP reporting cycle, therefore towards the end of the development period of the ESSIP plan, one of the recommendations (REC-2012-25) has not been addressed in the Plan. It will be fed into the development of the next edition, 2014, of the ESSIP Plan.

Recommendation ID	Text of recommendation	Status in ESSIP Plan – Edition 2013
REC-2012-01	ESSIP objectives HUM02.1 and HUM03.1 to be proposed as 'Removed' for the ESSIP Plan - Edition 2013.	Done.
REC-2012-02	ESSIP objectives AOP08, AOP09, GEN01, HUM01.1, SAF04, SAF05, SRC-AUDI and SRC-OVCA will be proposed as 'Achieved' for the ESSIP Plan - Edition 2013.	Done.
REC-2012-04	To investigate the modification of objective applicability area according to LSSIP information to correctly reflect the situation in the States.	Done.
REC-2012-21	Consider the alignment of ESSIP objective FCM03 with IDP WP1.1 (automation of AFP).	Done
REC-2012-23	Consider development of ESSIP objective to cover STAM Phase 1.	Done. New objective FCM04
REC-2012-25	Consider MIL applicability for AOM19-ASP06 and AOM19-ASP07.	Pending. Recommendation to be addressed in the process of development of the next, 2014, edition of the ESSIP Plan.
REC-2012-26	Consider development of ESSIP objective to cover Free Route Airspace.	Done. New objective AOM21
REC-2012-33	Consider development of ESSIP objective to cover CCO operations.	Pending. Potential objective considered by T006. However the subject was not considered mature enough for the 2013 Edition of the ESSIP Plan. Outline description is available and the topic will be reanalysed in the context of the 2014 edition.

Table 3: ESSIP Report 2012 recommendations on the ESSIP Plan – Edition 2013

Note: all the recommendations of the ESSIP Report for 2011 were already integrated in the ESSIP Plan - Edition 2012.

HOW TO USE THE DOCUMENT

PURPOSE

The ESSIP Plan contains the detailed 'Active' implementation objectives and Stakeholder Lines of Action (SLoA) and provides the link with the European ATM Master Plan. Its target audience includes planning staff from various stakeholders participating in the ESSIP, both at European and National level.

The objective is that stakeholders will refer to this ESSIP Plan document as the appropriate tool to approach, understand and use the ESSIP/LSSIP mechanism as the planning, monitoring and reporting interface to the overall European ATM Master Plan.

CONTENT

The ESSIP Plan document is structured in four main parts.

Part I, as an introduction to the main body of the document (described in Part III), gives the context, provides some information on its purpose and on what can be found in it.

The key definitions important for the clear understanding of ESSIP implementation objectives are in the section 'How to use the document'.

The section 'Overview of ESSIP Plan' gives in <u>Table 4</u> a snapshot of the implementation objectives available in Part III.

Part II presents the mapping between the European ATM Master Plan – (Level 2) and the ESSIP Plan – (Level 3).

Part III presents the detailed description of all 'Active' implementation objectives.

Part IV includes the five annexes of the document:

Annex A includes significant changes since the ESSIP Plan – Edition 2012

Annex B includes a list of 75 airports, which participate in a certain implementation objective. This list is applicable to AOP and ENV objectives.

Annex C includes the list of Outline Descriptions

Annex D includes the list of Achieved and Removed objectives

Annex E includes a list of acronyms and abbreviations

Further information can be found on the EIPR website at: *http://www.eurocontrol.int/eipr/*

KEY DEFINITIONS FOR ESSIP OBJECTIVES DESCRIPTIONS

This section of the document provides the reader with the necessary definitions and explanations to correctly interpret ESSIP objectives detailed descriptions.

Type of the objective	There are three main types of ESSIP objectives:
	• SES related objectives (related to the SES legislation)
	• SESAR objectives (related to the specific elements from the European ATM Master Plan); and
	• Other type of objectives (objectives which do not belong to the SES or SESAR types but which are nevertheless considered necessary for a harmonised planning and monitoring of the deployment of certain initiatives).
ESSIP designator	**1**) In the form **ABCXY** or **ABCd0** where:
	• **ABC** is the acronym of one of the ESSIP designated ATM areas of work shown in the table below.
	• **XY** is the serial number for the implementation objective in the area of work it covers.

AOM	=	Airspace Organisation and Management		**HUM**	=	Human Factors
AOP	=	Airport Operations		**INF**	=	Information Management
ATC	=	Air Traffic Control		**ITY**	=	Interoperability
COM	=	Communications		**NAV**	=	Navigation
ENV	=	Environment		**SAF**	=	Safety Management
FCM	=	Flow and Capacity Management		**SRC**	=	Safety Regulation
GEN	=	General				

2) In the form **XYZ-ABCD** where:

• **XYZ** is the acronym of the SES area covered by the legislation and

• **ABCD**…, an acronym that stipulates the subject.

Example: 'Interoperability' & 'Coordination and Transfer' **ITY-COTR**

Status	The status of an ESSIP implementation objective reflects the degree of decision passed for the objective. Subject to endorsement at the appropriate decision-making level. The status will vary over time in relation to the lifecycle of the programme that supports it, or in relation to the progress of implementation actions in the case of objectives that are not supported by a programme. The ESSIP currently includes three main objectives statuses:

Active	The development work has started and the feasibility of the implementation objectives have been confirmed and accepted by: WP C.02 and EUROCONTROL teams, and agreed by the Agency Advisory Body (AAB). Commitment to implement has been endorsed by the Provisional Council (PC). Local implementation planning needs to be translated into implementation actions at national level.
Achieved	The objective can be considered as completed, i.e. 80% of the SLoAs have been finalised by 80% of stakeholders, AND initial operation has started at least in a given area. Yet in some cases monitoring might continue through the LSSIP process for those stakeholders that have not yet finalised all SLoAs.

Removed	The objective has been removed from the ESSIP database because it has been replaced or renamed, or is considered as no longer contributing significantly to the European ATM network performance.

Objective title   Short text reference to the implementation goal.

Stakeholders involved   Indicates stakeholders for which the respective objective is applicable. The following groups of stakeholders are represented:

- **REG** – National Regulatory Authorities/NSAs
- **ASP** – Air Navigation Service Providers (ANSPs)
- **MIL** – Military Authorities
- **APO** – Airport Operators
- **USE** – Airspace Users
- **INT** – International Organisations and Regional Bodies
- **IND** – Aeronautics Industry
- **AGY** - EUROCONTROL Agency (non Network Manager)
- **NM –** Network Manager

Stakeholders having one or more SLoAs within an objective are also identified on the top of the first page of the objective itself, with their acronym (see list above) in white over black background; e.g.:

SESAR	Active				ECAC	
AOM19	Implement Advanced Airspace Management					
REG	ASP	MIL	APO	USE	INT	IND

Scope   Varies according to the strategic aim being met and the nature of the objectives:

The colour-coding used both in ESSIP Plan and ESSIP Report to identify the scope of each individual objective, is as follows:

ECAC	**'ECAC'** - European Civil Aviation Conference Objective to be applied in at least 80% of the ECAC States within a common time scale (i.e.: the same date or a commonly agreed and coordinated completion by a common target date). The Applicability area entry is defined as "All ECAC States except X, Y, Z"
EU+	**'EU+'** – European Union extended to other States Objective to be applied in the Member States of the European Union, Norway, and Switzerland pursuant to their contractual commitment to implement the SES legislation and in the states signatory to the European Common Aviation Area Agreement (ECAA), Albania, Bosnia and Herzegovina, FYROM, Georgia, Montenegro, Serbia and Moldova.
Multi-N	**'Multi-N'** – Multi-National Objective to be applied in some ECAC States, representing less than 80% of the ECAC States (e.g. ATC07.1) within a common time scale (i.e.: the same date or a commonly agreed and coordinated completion by a common target date).
APT	**'APT'- Airport** Airport related ESSIP objective. It applies to all existing AOP and ENV objectives. See Annex B for full list of the airports.

**Description &
purpose ('Subject
matter and scope'
for SES objectives)**

Represent the short textual description of the objective. The aim of this section is to describe the main purpose (what is to be implemented and why) of the objective in few sentences.

- **Applicable area(s)**

Types of operations, airspace, ATC units or geographical area within which the objective is likely to deliver significant benefits.

- **Operational capability dates for this objective (SESAR and other non-SES objectives)**

This entry comprises 2 fields '**Initial operational capability**' and '**Full operational capability**'.

'**Initial operational capability**' indicates the date of the first possible operational deployment.

'**Full operational capability**', indicates the date by which full operational capability should be achieved by all involved.

Where the 'Initial operational capability' and 'Full operational capability' are the same (i.e.: the objective will be implemented on an agreed and specific date) only the 'Full operational capability' is specified.

- **Timescales (for SES related objectives)**

This entry provides information about entry into force of regulation to which objective relates as well as the applicability dates of the regulatory requirements..

References

Shows the elements/documents that the objective is linked to.

- **European ATM Master Plan relationship**

This entry presents two items '**Improvement steps/or system enablers**'

'**Improvement steps/or systems enablers**' indicate the Operational Improvement (OI) steps, or the enablers (EN) as defined in the European ATM Master Plan.

- **Applicable legislation**

Indicates one or more existing Regulations that the ESSIP objective adheres to.

- **Applicable ICAO Annexes and other references**

This field contains references to applicable ICAO Annexes and standards.

**Non-mandatory
actions
(complementing the
SES legislation)**

Appears in **SES related objectives only**.

It contains all preparatory, coordination and other non-mandatory actions which are important for the implementation of the objective,

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Consultation & Approval	Defines the level of approval of the objective and working arrangement in charge.
	Commitment decision body in most instances approval will be at the level of the EUROCONTROL Provisional Council. It contains two specific dates (Date format MM/YYYY):
	• the date of the first Provisional Council endorsement for the objective to be included in the ESSIP
	• the date of the last Provisional Council endorsement of changes to the objective, where applicable
	Working arrangement in charge represents WP C.02 or the Stakeholders Team, working on the development of concept which is covered by the objective.
	• the date when the outline description has been approved
	• the date of latest objective review at expert level

| Expected performance benefits | Defines the performance benefits associated with the implementation objective in terms of the main ATM key performance areas that are quantifiable and measurable. In principle only significant performance benefits are stipulated, otherwise the field contains 'N/A' for 'Not applicable'. |

Safety	Benefits that improve safety levels by ensuring that the number of ATM induced accidents and serious or risk bearing incidents is reduced in real terms.
Capacity	Benefits that provide sufficient capacity to accommodate the demand in typical busy hour periods without imposing significant operational, economic or environmental penalties under normal circumstances, and, benefits that enable airports to make the best use of potential capacity, as determined by the infrastructure in place (landside and airside), political and environmental restrictions, and the economic handling of the traffic demand.
Cost effectiveness	Benefits that reduce the total Air Navigation Service costs per unit of aircraft operations.
Environment	Benefits that help to mitigate the impact of aviation on the environment.
Security	Benefits that help to improve aviation security.

SLoA ref.	The SLoA reference is in the form **ABCXY - ZZZ00** where:
	a) **ABCXY** is the designator of the implementation objective associated with the SLoA (see above)
	b) **ZZZ** is the acronym of the stakeholder involved
	c) **00** is the serial number of the SLoA within the stakeholder category it covers.

| SLoA title | Text that briefly describes the goal of the SLoA. |

| SLoA Timescale (Start & Finish) | This entry includes two fields 'Start' and 'Finish'. Depending on the scope and maturity of the SLoA, none, one or both fields may be populated. |
| | *ECAC, EU+, APT and Multi-N objectives*: 'Start' indicates the date at which at least one State will commence the action and 'Finish' the date at which the action should be finalised by all States. For objectives derived from the SES legislation, several 'Finish" dates may be identified for the same SLoA depending on the applicability of specific regulatory requirements (e.g. difference in the applicability dates applicable to new or to legacy EATMN systems). |

In those instances where enough stakeholders have finalised the SLoA to ensure the objective achievement, the SLoA is noted "FINALISED" in the front-page objective description. The detailed description of the SLoA is removed from the printed version of the Detailed objective descriptions but remains as 'non essential information' in the database and in the web page Where an SLoA has been deleted, for example because it is no longer considered appropriate or has been transferred to another objective, the SLoA will be retained only in the list of SLoA on the front-page of the objective until the objective is achieved, and annotated "DELETED".

Action by
Indicates stakeholders who have to perform the actions described in the SLoA. The categories used in this field are derived from the EATM Stakeholder Segmentation Model, except that Military Authorities are shown a separate stakeholder category.

National Regulatory Authorities / NSAs / Competent Authorities	State authorities, including Military Authorities and Competent Authorities, in charge of rule making and regulation, certification of equipment and procedures, and establishment of legal responsibilities at a national level, including the oversight of compliance.
Air Navigation Service Providers (ANSPs)	The various providers of ANS with the exception of the airside airport aspects.
Military Authorities	Defence/security organisations that, depending on national considerations of each State, can encompass airport operators, ANSPs, airspace users and Regulatory/Certification Authorities.
Airport Operators	Authorities involved in airport operations, including the airside navigation services.
Airspace Users	All types of civil airspace users.
International Organisations and Regional Bodies	International civil and military organisations and bodies responsible for setting rules, regulations, standards and practices and the establishment of legal responsibilities at international level. It includes typically such organisations as ICAO, EU, EASA, ITU, JAA, NATO, etc. This entry stipulates the Agency unit that is responsible of coordinating the necessary actions to get the international organisations to produce the expected rules, regulations, standards and practices; or that has been required to perform an action under the aegis of that international body.
Aeronautics Industry	Manufacturing industry: airframes, avionics, CNS equipment, ATC equipment, software, etc. This entry is confined to the requirement for clear and specific supporting actions (e.g.: the definition of specifications, standards, etc) that are essential for the successful progress or completion of the SLoA, particularly those recommended by representative bodies such as AECMA, EUROCAE or RTCA.
The Network Manager	The body established in order to perform the duties related to the implementation of air traffic management network functions as defined in Commission Regulation (EU) No 677/2011.
EUROCONTROL Agency	Executive body of the EUROCONTROL Organisation. Is mentioned as the stakeholder where the realisation of a central function or facility is a significant element of the objective.

Description & Purpose   Text describing the SLoA activity and purpose of its implementation.

Supporting material   Documentation such as concept of operations, strategy, specification, standard, operations or flight manuals, etc, that is necessary or useful to progress the SLoA. This entry appears in the SLoA description only when filled in.

Should a document be a prerequisite or mandatory for achieving a particular SLoA, it should be specified as such; otherwise listed documents are considered as guidance material.

Finalisation criteria   Statements as evidence that the SLoA is finalised, specified in such a way that its progress can be monitored and reported.

The SLoA is declared 'finalised' only when this has been validated at the level of appropriate working arrangement (Team, Task or specialist group). As long as an SLoA is not finalised, it remains active and if late is reported as such in the ESSIP Report.

M   Indicates that the SLoA is **also** applicable to subscribing military authorities

OVERVIEW

OVERVIEW OF THE ESSIP PLAN - EDITION 2013

European ATM Master Plan Relationship	ESSIP PLAN EDITION 2013 - OVERVIEW ACTIVE IMPLEMENTATION OBJECTIVES										
	SES				SESAR				Other		
	ECAC	EU+	Multi-N	APT	ECAC	EU+	Multi-N	APT	ECAC	Multi-N	APT
Depl.Baseline OI Steps related	ITY-FMTP	ITY-ADQ			AOM13.1		ATC07.1	AOP01.2			
		ITY-AGDL			AOM19		ATC15	AOP03			
		ITY-COTR			AOM20		FCM04	AOP04.1			
		ITY-AGVCS2			AOM21			AOP04.2			
					ATC02.2			AOP05			
					ATC02.5			ENV01			
					ATC02.6			ENV02			
					ATC02.7						
					ATC12						
					ATC16						
					ATC17						
					COM09						
					COM10						
					COM11						
					FCM01						
					FCM03						
					FCM05						
					INF04						
					NAV03						
					NAV10						
Non Master Plan related		ITY-SPI	SRC-CHNG						SAF10		
			SRC-RLMK						SAF11		
			SRC-SLRD								

Table 4: Overview of the ESSIP Plan - Edition 2013

LIST OF ACTIVE OBJECTIVES PER TYPE – DEPLOYMENT ACTIVITIES

Table 5: Active ESSIP objectives sorted by type and linked to current deployment activities.

Objective Type	IDP	PCP	CS	Objective Designator	Objective title	Page No.
SES (9)			X	**ITY-ADQ**	Ensure quality of aeronautical data and aeronautical information	157
	X	X	X	**ITY-AGDL**	Initial ATC air-ground data link services above FL-285	169
				ITY-COTR	Implementation of ground-ground automated co-ordination processes	185
	X		X	**ITY-FMTP**	Apply a common flight message transfer protocol (FMTP)	193
			X	**ITY-SPI**	Surveillance performance and interoperability	199
			X	**ITY-AGVCS2**	Implement air-ground voice channel spacing requirements below FL195	177
				SRC-CHNG	Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities (NSA)	223
				SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)	227
				SRC-SLRD	Safety Levels and Resolution of Deficiencies	233
SESAR (30)	X			**AOM13.1**	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling	33
	X		X	**AOM19**	Implement Advanced Airspace Management	37
				AOM20	Implement ATS Route Network (ARN) - Version 7	43
	X			**AOM21**	Implementation of Free Route Airspace	47
				AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual	53
				AOP03	Improve runway safety by preventing runway incursions	57
		X		**AOP04.1**	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level I	61
		X		**AOP04.2**	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2	71
	X		X	**AOP05**	Implement airport Collaborative Decision Making (CDM)	77
				ATC02.2	Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2	87
				ATC02.5	Implement ground based safety nets - Area Proximity Warning - level 2	91
				ATC02.6	Implement ground based safety nets - Minimum Safe Altitude Warning - level 2	93
				ATC02.7	Implement ground based safety nets - Approach Path Monitor - level 2	95
				ATC07.1	Implement arrival management tools	97
				ATC12	Implement automated support for conflict detection and conformance monitoring	99
	X		X	**ATC15**	Implement, in En Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations	103
			X	**ATC16**	Implement ACAS II compliant with TCAS II change 7.1	107
	X			**ATC17**	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer	113
	X		X	**COM09**	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)	117
			X	**COM10**	Migrate from AFTN (Aeronautical Fixed Telecommunication Network) to AMHS (ATS Message Handling System)	121
			X	**COM11**	Implementation of Voice over Internet Protocol (IP) in ATM	127
	X			**ENV01**	Implement Continuous Descent Approach (CDA) techniques for environmental improvements	131
				ENV02	Implement Collaborative Environmental Management (CEM) at Airports	133
			X	**FCM01**	Implement enhanced tactical flow management services	137
	X		X	**FCM03**	Implement collaborative flight planning	141
	X		X	**FCM04**	Implementation of Short Term ATFCM Measures – Phase 1	145
	X		X	**FCM05**	Implementation of interactive rolling NOP	149
				INF04	Implement integrated briefing	155
				NAV03	Implementation of Precision Area Navigation RNAV (P-RNAV)	207
	X		X	**NAV10**	Implement Approach Procedures with Vertical Guidance (APV)	211
Other types (2)				**SAF10**	Implement measures to reduce the risk to aircraft operations caused by airspace infringements	215
				SAF11	Improve runway safety by preventing runway excursions	219

Note: The relationship with PCP and CS elements is based on the information available in June 2013. Further evolutions of the PCP and of the CS will have an impact on the above-mentioned links.

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PART II
Mapping
European ATM Master Plan (Level 2)
with
ESSIP Plan - Edition 2013 (Level 3)

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MAPPING THE EUROPEAN ATM MASTER PLAN LEVEL 2 WITH THE ESSIP PLAN - EDITION 2013

This part of the document provides the full picture on the current coverage of the elements of European ATM Master Plan (Level 2) in ESSIP Plan - Edition 2013.

Table 6 shows a one-to-one relationship between the Deployment Baseline OI steps as in Dataset 9 of the European ATM Master Plan Portal, and ESSIP implementation objectives or Outline Descriptions. For the OI steps where neither ESSIP implementation objective nor Outline description currently exists, explanations are included.

Finally, those OI steps indicated as 'Essential' have also been identified.

Table 7 shows those enablers that are specifically covered by an ESSIP implementation objective (i.e. relationship enabler – ESSIP objective instead of OI step – ESSIP objective). It should be noted that this edition of the ESSIP Plan also provides, in each ESSIP Objective (Part III of the document), the links between the Stakeholder Lines of Action (SLoA) and enablers, where available.

Four ESSIP objectives are related to SES legislation, with no direct link to European ATM Master Plan elements. This is shown in Table 8.

Finally, the group of two ESSIP implementation objectives that have no relationship with an element of the European ATM Master Plan (Level 2) or with SES legislation, is shown in Table 9.

Table 6: Deployment Baseline OI Steps versus ESSIP

European ATM Master Plan - Data Set 9 – Nov. 2012			ESSIP Plan - Edition 2013		
Deployment Baseline OI Step			**ESSIP objective(s) covering Deployment Baseline OI Steps**		
Code	**Title**	**Essentials**	**Designator**	**Title**	**Full Ops. Capab. date**
AO-0101	Reduced Risk of Runway Incursions through Improved Procedures and Best Practices on the Ground		AOP03	Improve runway safety by preventing runway incursions	12/2013
AO-0102	Automated Alerting of Controller in Case of Runway Incursion or Intrusion into Restricted Areas		AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2	12/2017
AO-0201	Enhanced Ground Controller Situational Awareness in all Weather Conditions	■	AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1	12/2011
AO-0202	Detection of FOD (Foreign Object Debris) on the Airport Surface		None. No ESSIP Objective required as already agreed in the context of the ESSIP Plan edition 2011.		
AO-0301	Crosswind Reduced Separations for Arrivals		None. OI Step moved to Step 1. Outline Description available (OD AO-0301).		
AO-0302	Time Based Separation (TBS) for Arriving Aircraft - Transitional Step		None. Not assessed by the working arrangements. Outline Description available (OD AO-0302).		
AO-0305	Additional Rapid Exit Taxiways (RET) and Entries		AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual	12/2013
AO-0403	Optimised Dependent Parallel Operations	■	Covered by the former Objective AOP09, closed as "achieved" in 2012.		
AO-0501	Improved Operations in Adverse Conditions through Airport Collaborative Decision Making	■	AOP05	Implement Airport Collaborative Decision Making (CDM)	01/2016
AO-0502	Improved Operations in Low Visibility Conditions		None. No added value in the development of an Objective identified by T006.		
AO-0601	Improved Turn-Round Process through Collaborative Decision Making	■	AOP05	Implement Airport Collaborative Decision Making (CDM)	01/2016
AO-0602	Collaborative Pre-departure Sequencing	■	AOP05	Implement Airport Collaborative Decision Making (CDM)	01/2016
AO-0603	Improved De-icing Operation through Collaborative Decision Making	■	AOP05	Implement Airport Collaborative Decision Making (CDM)	01/2016
AO-0703	Aircraft Environmental Impact Management and Mitigation at and around Airports		ENV02	Implement Collaborative Environmental Management (CEM) at Airports	12/2016
AO-0705	Reduced Water Pollution		ENV02	Implement Collaborative Environmental Management (CEM) at Airports	12/2016
AO-0706	(Local) Monitoring of Environmental Performance		ENV02	Implement Collaborative Environmental Management (CEM) at Airports	12/2016

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European ATM Master Plan - Data Set 9 – Nov. 2012			ESSIP Plan - Edition 2013		
Deployment Baseline OI Step			ESSIP objective(s) covering Deployment Baseline OI Steps		
Code	Title	Essentials	Designator	Title	Full Ops. Capab. date
AOM-0101	Uniform Application of 7 ICAO Airspace Classes at FL195 and below		None. OI Step to be clarified in the context of the ATM MP Level 2 maintenance.		
AOM-0201	Moving Airspace Management Into Day of Operation		AOM19	Implement Advanced Airspace Management	12/2016
AOM-0202	Enhanced Real-time Civil-Military Coordination of Airspace Utilisation (Step to be reviewed)	■	AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling	12/2018
			AOM19	Implement Advanced Airspace Management	12/2016
AOM-0203	Cross-Border Operations Facilitated through Collaborative Airspace Planning with Neighbours	■	None. Covered by the former Objective AOM16. Enablers also covered by other Objectives.		
AOM-0205	Modular Temporary Airspace Structures and Reserved Areas (to be reviewed)	■	AOM19	Implement Advanced Airspace Management	12/2016
			AOM20	Implement ATS Route Network (ARN) - Version 7	10/2013
			FCM05	Implementation of interactive rolling NOP	12/2016
AOM-0301	Harmonised EUROCONTROL ECAC Area Rules for OAT-IFR and GAT Interface		AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling	12/2018
AOM-0401	Multiple Route Options & Airspace Organisation Scenarios	■	AOM19	Implement Advanced Airspace Management	12/2016
			AOM20	Implement ATS Route Network (ARN) - Version 7	10/2013
			AOM21	Implementation of Free Route Airspace	12/2017
AOM-0402	Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routeing Options		AOM20	Implement ATS Route Network (ARN) - Version 7	10/2013
			AOM21	Implementation of Free Route Airspace	12/2017
AOM-0504	Optimum Trajectories in Defined Airspaces at Particular Times	■	AOM20	Implement ATS Route Network (ARN) - Version 7	10/2013
AOM-0601	Terminal Airspace Organisation Adapted through Use of Best Practice	■	NAV03	Implementation of P-RNAV	12/2012

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European ATM Master Plan - Data Set 9 – Nov. 2012			ESSIP Plan - Edition 2013		
Deployment Baseline OI Step			ESSIP objective(s) covering Deployment Baseline OI Steps		
Code	Title	Essentials	Designator	Title	Full Ops. Capab. date
AOM-0602-A	Enhanced terminal operations with APV using Barometric VNAV	■	NAV10	Implement APV procedures	12/2016
AOM-0602-B	Enhanced terminal operations with LPV using SBAS	■	NAV10	Implement APV procedures	12/2016
AOM-0701	Continuous Descent Approach (CDA)		ENV01	Implement Continuous Descent Operations (CDO) techniques for environmental improvements	12/2013
AOM-0703	Continuous Climb Departure	■	None. Relevant information not available in time for the 2013 Edition. Outline Description available (OD AOM-0703).		
AOM-0801	Flexible Sectorisation Management	■	AOM20	Implement ATS Route Network (ARN) - Version 7	10/2013
AOM-0802	Modular Sectorisation Adapted to Variations in Traffic Flows	■	AOM20	Implement ATS Route Network (ARN) - Version 7	10/2013
AUO-0101	ATFM Slot Swapping		None. Already implemented.		
AUO-0201	Enhanced Flight Plan Filing Facilitation		None. Not assessed for the 2013 edition, as local and non-essential.		
AUO-0301	Voice Controller-Pilot Communications (En Route) Complemented by Data Link	■	ITY-AGDL	Initial ATC air-ground data link services above FL-285	02/2015
AUO-0401	Air Traffic Situational Awareness (ATSAW) on the Airport Surface		None. Not assessed for the 2013 edition, as local and non-essential.		
AUO-0402	Air Traffic Situational Awareness (ATSAW) during Flight Operations (AIRB)		None. Not assessed for the 2013 edition, as local and non-essential.		
AUO-0502	Enhanced Visual Separation on Approach (ATSA-VSA)		None. Not assessed for the 2013 edition, as local and non-essential.		
AUO-0503	In-trail Procedure in Oceanic Airspace (ATSA-ITP)		None. Not assessed for the 2013 edition, as local and non-essential.		
AUO-0701	Use of Runway Occupancy Time (ROT) Reduction Techniques		AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual	12/2013
CM-0101	Automated Support for Traffic Load (Density) Management		None. No ESSIP Objective required as already agreed in the context of the ESSIP Plan edition 2011.		
CM-0201	Automated Assistance to Controller for Seamless Coordination, Transfer and Dialogue	■	ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer	12/2018
			ITY-COTR	Implementation of ground-ground automated co-ordination processes	02/2015
CM-0202	Automated Assistance to ATC Planning for Preventing Conflicts in En Route Airspace	■	ATC12	Implement automated support for conflict detection and conformance monitoring	12/2016

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| European ATM Master Plan - Data Set 9 – Nov. 2012 | | | ESSIP Plan - Edition 2013 | | |
| Deployment Baseline OI Step | | | ESSIP objective(s) covering Deployment Baseline OI Steps | | |
Code	Title	Essentials	Designator	Title	Full Ops. Capab. date
CM-0203	Automated Flight Conformance Monitoring	■	ATC12	Implement automated support for conflict detection and conformance monitoring	12/2016
CM-0801	Ground Based Safety Nets (TMA, En Route)	■	ATC02.2	Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2	01/2013
			ATC02.5	Implement ground based safety nets - Area Proximity Warning - level 2	12/2016
			ATC02.6	Implement ground based safety nets - Minimum Safe Altitude Warning - level 2	12/2016
			ATC02.7	Implement ground based safety nets - Approach Path Monitor - level 2	12/2016
CM-0803	Use of Autoflight systems for enhanced compliance with TCAS II RAs (compliant with TCAS II Version 7)		None. Partially covered by enabler CTE-S11a (see Table 7).		
DCB-0101	Enhanced Seasonal NOP Elaboration		None. Already implemented.		
DCB-0102	Interactive Rolling NOP	■	FCM05	Implementation of interactive rolling NOP	12/2016
DCB-0201	Interactive Network Capacity Planning	■	None. Enablers either already implemented or covered by other ESSIP Objectives (FCM05)		
DCB-0203	Enhanced ASM/ATFCM Coordinated Process	■	AOM19	Implement Advanced Airspace Management	12/2016
DCB-0204	ATFCM Scenarios	■	None. Some enablers implemented while other covered by other ESSIP Objectives (FCM04)		
DCB-0205	Short Term ATFCM Measures (to be reviewed)	■	FCM04	Implementation of Short Term ATFCM Measures - phase 1	12/2015
DCB-0206	Co-ordinated Network Management Operation extended until the Day of operation		None. Already implemented.		
DCB-0207	Management of Critical Events	■	None. Already implemented.		
DCB-0301	Improved Consistency between Airport Slots and Flight Plans	■	AOP05	Implement Airport Collaborative Decision Making (CDM)	01/2016
DCB-0302	Collaborative Management of Flight Updates	■	AOP05	Implement Airport Collaborative Decision Making (CDM)	01/2016
			FCM03	Implement collaborative flight planning	12/2015

ESSIP Plan - Edition 2013

European ATM Master Plan - Data Set 9 – Nov. 2012				ESSIP Plan - Edition 2013		
Deployment Baseline OI Step				ESSIP objective(s) covering Deployment Baseline OI Steps		
Code	Title	Essentials		Designator	Title	Full Ops. Capab. date
IS-0101	Improved Flight Plan Consistency Pre-Departure	■		FCM03	Implement collaborative flight planning	12/2015
IS-0102	Improved Management of Flight Plan After Departure	■		FCM01	Implement enhanced tactical flow management services	12/2006
				FCM03	Implement collaborative flight planning	12/2015
IS-0201	Integrated Pre-Flight Briefing			INF04	Implement integrated briefing	12/2012
IS-0202	Improved Supply Chain for Aeronautical Data through Common Quality Measures			ITY-ADQ	Ensure quality of aeronautical data and aeronautical information	07/2017
IS-0204	Facilitated Aeronautical Data Exchanges through Digitalised/Electronic Information	■		ITY-ADQ	Ensure quality of aeronautical data and aeronautical information	07/2017
IS-0401	Automatic Terminal Information Service Provision through Use of Datalink			None. No ESSIP Objective required as already agreed in the context of the ESSIP Plan edition 2011.		
SDM-0101	Network Performance Assessment	■		None. No need for ESSIP Objective identified.		
SDM-0102	Civil-Military Cooperation Performance Assessment			None. No ESSIP Objective required as already agreed in the context of the ESSIP Plan edition 2011.		
TS-0102	Basic Arrival Management Supporting TMA Improvements (incl. CDA, P-RNAV)	■		ATC07.1	Implement arrival management tools	12/2015
TS-0305	Arrival Management Extended to En Route Airspace	■		ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations	12/2017

ESSIP Plan - Edition 2013

Table 7: Enablers covered specifically by ESSIP objectives

European ATM Master Plan - Data Set 9 – Nov. 2012				ESSIP Plan - Edition 2013		
Enabler with ESSIP objective				**ESSIP objective covering an Enabler**		
Code	**Title**	**IOC**		**Designator**	**Title**	**Full Ops. Capab. date**
CTE-C10	AMHS	2003		COM10	Migrate from AFTN to AMHS	12/2014
CTE-C11a	Extend PENS to support the SESAR testing and validation activities.	2012		COM09	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)	12/2014
CTE-C11b	Expand the network communication services offered by PENS and enlarge the scope to other non-ANSP users (within and outside ECAC)	2017		COM09	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)	12/2014
				ITY-FMTP	Apply a common flight message transfer protocol (FMTP)	12/2014
CTE-C5	8.33 kHz Voice communications Air-Ground	2009		ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195	12/2020
CTE-C8	Digital voice/VoIP for ground telephony	2013		COM11	Implementation of Voice over Internet Protocol (VoIP) in ATM	12/2020
CTE-S11a	CTE-S11a - Upgrades to TCAS	2011		ATC16	Implement ACAS II compliant with TCAS II change 7.1	12/2015

ESSIP Plan - Edition 2013

Table 8: ESSIP objectives related to SES legislation but not related to European Master Plan elements

ESSIP Plan - Edition 2013			SES Legislation		
ESSIP objectives not related to Eur. ATM MP element			EC Regulation addressing ESSIP objective		
Designator	Title	Full Ops. Capab. date	Category	Reference	Subject
ITY-SPI	Surveillance performance and interoperability	12/2019	IR	(EU) 1207/2011	Interoperability
SRC-CHNG	Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities (NSA)	12/2010	IR	(EU) 1034/2011	Safety Oversight
SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)	12/2010	IR	(EU) 1034/2011	Safety Oversight
SRC-SLRD	Safety Levels and Resolution of Deficiencies	12/2010	IR	(EU) 1034/2011	Safety Oversight

Table 9: ESSIP objectives not related to European Master Plan elements or to SES legislation

ESSIP Plan - Edition 2013			SES Legislation or Eur. ATM Master Plan		
ESSIP objectives not related to Eur. ATM MP element					
Designator	Title	Full Ops. Capab. date	Category	Reference	Subject
SAF10	Implement measures to reduce the risk to aircraft operations caused by airspace infringements	12/2011	-	-	-
SAF11	Improve runway safety by preventing runway excursions	01/2018	-	-	-

Legend:

▮	'ECAC' objective	▮	'Multi-National' objective	▮	'EU+' objective	▮	'APT' Airports objective	**OD** Outline description

▮ An OI Step indicated as essential in the European ATM Master Plan, level 2 (Dataset 9)"

PART III
ACTIVE IMPLEMENTATION OBJECTIVES

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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

Description & purpose

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).

Applicable area(s)   *Operational capability dates FOR THIS OBJECTIVE*

All ECAC States   *Initial operational capability:*   01/2012
                                                                                     Full operational capability: 12/2018

References

European ATM Master Plan relationship

OI step -   [AOM-0202]-Enhanced Real-time Civil-Military Coordination of Airspace Utilisation   ESSENTIAL
               (Step to be reviewed)
OI step -   [AOM-0301]-Harmonised EUROCONTROL ECAC Area Rules for OAT-IFR and GAT
               Interface

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
Regulation (EU) No 805/2011 of 10 August 2011 laying down detailed rules for air traffic controllers- licences and certain certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council
Regulation (EC) No 2150/2005 of 23 December 2005 laying down common rules for the flexible use of airspace.

Applicable ICAO Annexes and other references

EUROCONTROL Safety Regulatory Requirement (ESARR) 5 - ATM Services Personnel, Edition: 2.0, dated 11.04.2002

Stakeholder Lines of Action (SloA)

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

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

ESSIP Plan Edition 2013

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

Consultation & Approval

Working arrangement in charge: **MAB - Military ATM Board**
Outline description approved in: -
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2010
Latest change to objective approved/endorsed in: 07/2012

Expected performance benefits

Safety :   Less chance of error through the use of common rules and procedures for OAT handling and for OAT/GAT interface.

Capacity :   Potential increase through the use of common rules and procedures for OAT handling and for OAT/GAT interface.

Cost-effectiveness :   Improved through increased efficiency of operations.

Environment :   Improved through better use of airspace resources.

Security :   N/A

Detailed SloA descriptions

AOM13.1-REG01	Revise national legislation as required	Start:01/2012	Finish:12/2018

Action by :   National Regulatory Authorities

Description & purpose :   Enact regulatory material for implementation of new principles, rules and procedures for OAT/GAT handling in a mixed environment.
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 this findings, determine change of regulatory material, if required.
Develop Annex with national regulations and rules pertinent to this specification.
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.
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.

Finalisation criteria :   1 - National publications have been updated in accordance with EUROAT.

2 - Clear identification of pertinent and acknowledged documents stating the implementation of such OAT/GAT interfaces on a regulatory level has been provided.

3 - Additionally the evidence of adequate procedures comprising their operational realisation has been provided.

AOM13.1-ASP01	Apply common principles, rules and procedures for OAT handling and OAT/GAT interface	Start:01/2012	Finish:12/2018

Action by :   ANS Providers

Description & purpose :   Apply common principles, rules and procedures for the OAT/GAT interface.
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).

ATM Master Plan relationship :   Enabler - [AAMS-10a]-Initial airspace management system enhanced with commonly applied GAT/OAT handling

     Enabler - [AAMS-10b]-Airspace management system enhanced with update of GATpart of OAT trajectories

     Enabler - [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-ASP02	Train staff as necessary	Start:01/2012	Finish: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.

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

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/documents/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	Start:01/2012	Finish: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.

ATM Master Plan relationship :   Enabler - [AAMS-10a]-Initial airspace management system enhanced with commonly applied GAT/OAT handling
Enabler - [AAMS-10b]-Airspace management system enhanced with update of GATpart of OAT trajectories
Enabler - [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	Start:01/2011	Finish: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.

ATM Master Plan relationship :   Enabler - [AIMS-19b]-Aeronautical Information system is interfaced to receive and distribute aeronautical information electronically to military systems.

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	Start:01/2010	Finish: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.

Supporting material(s) :   EUROCONTROL - EAD Safety Case - Edition 2.3 / 09/2009
Url : http://www.eurocontrol.int/adq-library

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).

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SESAR	Active		ECAC
AOM19	**Implement Advanced Airspace Management**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Establish a collaborative civil-military airspace planning at the European Network level through an integrated Airspace Management/Air Traffic Flow Capacity Management (ASM/ATFCM) process and an extended planning phase into the day of operations.

Ensure full exploitation of capacity becoming available through the identification of efficient combinations of areas allocation, routes availability, including CDRs, and sector configurations able to cope with traffic demand. The process will be applied also for improving the planning activities related to the updates to airspace status.

Foster a consistent application of the Flexible Use of Airspace (FUA) Concept across the European network, and support a safe, efficient and accurate flow of ASM data.

This will support the ECAC States collective responsibility for European airspace planning and management that provides for a continuum and transparency of airspace structures and rules at boundaries while satisfying national security and defence requirements.

The improved planning process refers to the use of specific procedures allowing Airline Operators (AOs) to optimise their flight planning in order to achieve a more efficient utilization of available airspace through more dynamic responses to specific short notice or real-time airspace status changes, requirements and route optimisation at the pre-tactical and/or tactical levels.

Develop, validate and implement ASM/ATFCM processes, procedures and supporting tools at national, sub-regional and the European Network level to ensure that airspace is used more flexibly, capacity is better balanced and predictability is enhanced through greater adherence to planned activities as a result of better planning and notification.

It will provide a coherent response to the recommendations of the Performance Review Commission (PRC) report on Civil-Military Airspace Utilisation (2007) in accordance with the Dynamic Management of the European Airspace Network (DMEAN) Framework Programme and DMEAN Conception of Operations (CONOPS) and supporting expected deliverables of SESAR WP7 [Network Operations] in particular P7.5.2 [Advanced FUA Concept].

Ultimately, the ASM operations continue until the real-time activation of airspaces or routes. The alignment between both ASM/ATFCM processes shall continue to ensure the assessment of the network impact, the identification of flights affected by real-time modifications, as well as the timely dissemination of the decisions. Airspace uses (allocations, activations, deactivations) are issued from the ASM tools (LARA, STANLY, etc) via B2B.

Applicable area(s)	*Operational capability dates FOR THIS OBJECTIVE*	
All ECAC States	*Initial operational capability:*	01/2011
	Full operational capability:	12/2016

References

European ATM Master Plan relationship

OI step -	[AOM-0201]-Moving Airspace Management Into Day of Operation	
OI step -	[AOM-0202]-Enhanced Real-time Civil-Military Coordination of Airspace Utilisation (Step to be reviewed)	ESSENTIAL
OI step -	[AOM-0205]-Modular Temporary Airspace Structures and Reserved Areas (to be reviewed)	ESSENTIAL
OI step -	[AOM-0401]-Multiple Route Options & Airspace Organisation Scenarios	ESSENTIAL
OI step -	[DCB-0203]-Enhanced ASM/ATFCM Coordinated Process	ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
Regulation (EC) No 2150/2005 of 23 December 2005 on Implementation and Application of the Flexible Use of Airspace

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

SloA ref.	*Title*	*Start*	*Finish*	
AOM19-ASP01	Implement an improved ASM/ATFCM process	05/2009	12/2010	**M**
AOM19-ASP02	Implement CIAM Phase 1	05/2009	12/2010	**M**
AOM19-ASP03	Implement CIAM Phase 2	05/2009	12/2011	**M**

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AOM19	Implement Advanced Airspace Management			

AOM19-ASP04	Implement Rolling ASM/ATFCM process	12/2011	12/2014	**M**
AOM19-ASP05	Implement Interoperability of local system with ADR	01/2014	12/2015	**M**
AOM19-ASP06	Simplify CDR categorisation	07/2011	12/2015	
AOM19-ASP07	Optimise CDRs design and availability	01/2009	12/2013	
AOM19-ASP08	Improve accuracy of airspace booking	12/2010	12/2015	**M**
AOM19-ASP09	Deploy automated ASM support systems	07/2010	12/2015	**M**
AOM19-USE01	Implement an improved Notification Process	05/2009	12/2010	**M**
AOM19-USE02	Implement improved notification process supporting the Rolling ASM/ATFCM process	01/2014	12/2015	**M**
AOM19-NM01	Develop System and procedures for an improved ASM/ATFCM process	12/2010	12/2015	
AOM19-NM02	Upgrade NM systems to allow exchange in real-time of ASM information	09/2014	12/2016	

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **NETOPS**
Outline description approved in: 03/2013
Latest objective review at expert level in: 05/2013

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2010
Latest change to objective approved/endorsed in: 07/2013

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 and some enhancement through reduction in controller workload.

Capacity :   Increased through better utilization of airspace resources within and across airspace boundaries. Potential increase through dynamic adjustment of airspace resources and suppression of some flight regulations thanks to local ATFCM measures with the same ATC sector manning.

Cost-effectiveness :   Potential cost reduction through the availability of more optimum routes/trajectories and reduction of flight delays thanks to increased capacity.

Environment :   Emissions reduced through the use of more optimum routes/trajectories.

Security :   N/A

Detailed SloA descriptions

AOM19-ASP01	**Implement an improved ASM/ATFCM process**	Start:05/2009	Finish:12/2010

Action by :   ANS Providers

Description & purpose :   Implement procedures to manage pre-defined airspace configurations.
Implement pre-defined Airspace solutions to enhance the ASM/ATFCM process.
Implement Procedure 1 - Co-ordination process required for the optimisation of airspace allocation:
- Airspace Management Cell (AMC) to prepare draft AUP for consideration of Central Network Management Function (NM);
- Consider advice by the NM to re-consider AUP;
- Submit AUP to NM.

Implement Procedure 2 - The release of military airspace after Conditional Message Route Availability (CRAM) publication:
- AMC to prepare draft Updated Airspace Use Plan (UUP) 1 and UUP2 for NM reflecting release of airspace as planned in AUP;
- Consider advice by the NM to re-consider UUP1 and UUP2;
- Submit UUP1 and UUP2 to NM.

Implement Procedure 3 - The request for unplanned military activity after CRAM publication:
- AMC to prepare draft UUP1 and UUP2 for NM reflecting requests for additional booking of airspace not planned in AUP;
- Consider advice by the NM to re-consider UUP1 and UUP2;
- Submit UUP1 and UUP2 to NM.

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AOM19	Implement Advanced Airspace Management

Supporting material(s) : EUROCONTROL - CFMU Handbook - Edition 15 / 03/2011
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/library_handbook_supplements.html

EUROCONTROL - CIAM Web Based Training
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/courses_refreshamc.html

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 - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 05/2012
Url : http://www.eurocontrol.int/articles/airspace-management

ATM Master Plan relationship : Enabler - [PRO-009]-Military Procedures to identify and release previously reserved airspace back to civil aviation

Enabler - [PRO-184]-ASM Procedures related to Dynamic co-operative management of the airspace

Enabler - [PRO-185]-FUA Procedures

Finalisation criteria : 1 - Procedures to manage airspace configuration have been implemented.

2 - Pre-defined Airspace solutions have been implemented.

3 - Draft AUP and UUPs have been produced in accordance with timeframe defined in ASM Handbook.

4 - Changes to airspace use planning are being notified to NM.

AOM19-ASP02	Implement CIAM Phase 1	Start:05/2009	Finish:12/2010

Action by : ANS Providers

Description & purpose : Deploy and use the CFMU Interface for Airspace Managers (Collaboration Interface for Airspace Managers - CIAM) Phase 1 as made available by the EUROCONTROL Agency in 05/2009.
Train the airspace management staff to use CIAM Phase 1.

Supporting material(s) : EUROCONTROL - CFMU Handbook - Edition 15 / 03/2011
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/library_handbook_supplements.html

EUROCONTROL - CIAM Web Based Training
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/courses_refreshamc.html

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 - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 05/2012
Url : http://www.eurocontrol.int/articles/airspace-management

Finalisation criteria : 1 - CIAM Phase 1 has been deployed and used in accordance with the procedures described in ASM and CFMU Handbook.

AOM19-ASP03	Implement CIAM Phase 2	Start:05/2009	Finish:12/2011

Action by : ANS Providers

Description & purpose : Deploy and use the CIAM Phase 2 as made available by the EUROCONTROL Agency in 04/2010.
Train the airspace management staff to use CIAM Phase 2.

Supporting material(s) : EUROCONTROL - CFMU Handbook - Edition 15 / 03/2011
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/library_handbook_supplements.html

EUROCONTROL - CIAM Web Based Training
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/courses_refreshamc.html

EUROCONTROL - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 05/2012
Url : http://www.eurocontrol.int/articles/airspace-management

ATM Master Plan relationship : Enabler - [AAMS-06a]-Airspace management system enhanced to generate and distribute planned airspace usage information(CIAM)

Finalisation criteria : 1 - CIAM Phase 2 has been deployed and used in accordance with the procedures described in ASM and CFMU Handbook.

AOM19-ASP04	Implement Rolling ASM/ATFCM process	Start:12/2011	Finish:12/2014

Action by : ANS Providers

Description & purpose : Implement Rolling ASM/ATFCM process comprising the following:
- Introduce Rolling airspace update process by providing for draft UUP reflecting any change in airspace use planning as described in the ASM Handbook;
- Consider advice by the NM to re-consider UUP;
- Submit UUP to NM as described in the ASM Handbook.

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AOM19	Implement Advanced Airspace Management

Supporting material(s) : EUROCONTROL - CFMU Handbook - Edition 15 / 03/2011
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/library_handbook_supplements.html

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 - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 05/2012
Url : http://www.eurocontrol.int/articles/airspace-management

ATM Master Plan relationship :
Enabler - [PRO-009]-Military Procedures to identify and release previously reserved airspace back to civil aviation
Enabler - [PRO-184]-ASM Procedures related to Dynamic co-operative management of the airspace
Enabler - [PRO-185]-FUA Procedures

Finalisation criteria : 1 - Rolling airspace update process has been deployed as defined in ASM Handbook.

AOM19-ASP05	Implement Interoperability of local system with ADR	Start:01/2014	Finish:12/2015

Action by : ANS Providers

Description & purpose : Implement Dynamic ASM/ATFCM process enabled by Airspace Data Repository (ADR) comprising the following:
- Adapt local systems to make them interoperable with ADR (AIXM interface);
- Conclude LoA with NM;
- Provide relevant Aeronautical information required to implement dynamic ASM/ATFCM process;
- Use ADR in accordance with LoA with NM;
- Deploy Rolling airspace update process by using ADR facilities, providing for airspace update reflecting any change in airspace use planning as described in the ASM Handbook including real time airspace status information and collection of real time airspace data .
Provide airspace updates by means of system-to-system communication providing for automatic notification of all the stakeholders involved. This is in order to facilitate collaborative decision making process enabled by ADR facilities. Participate continuously in Dynamic ASM/ATFCM process collaborative decision making.

Supporting material(s) : EUROCONTROL - ADR Data Catalogue - Edition 0.4 / 06/2011
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/nos_work_programme_adr.html

EUROCONTROL - CFMU Handbook - Edition 15 / 03/2011
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/library_handbook_supplements.html

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 - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 05/2012
Url : http://www.eurocontrol.int/articles/airspace-management

ATM Master Plan relationship :
Enabler - [AIMS-21]-Airspace management system enhanced for external user access to the airspace data repository
Enabler - [AIMS-22]-Airspace management functions enhanced to provide airspace status information

Finalisation criteria : 1 - Local systems have been adapted to use ADR.

2 - LoA has been concluded with NM.

3 - Automatic airspace updates have been provided by means of ADR.

AOM19-ASP06	Simplify CDR categorisation	Start:07/2011	Finish:12/2015

Action by : ANS Providers

Description & purpose : Implement revised CDR categorisation scheme as defined in ASM Handbook.

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 - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 05/2012
Url : http://www.eurocontrol.int/articles/airspace-management

Finalisation criteria : 1 - CDR categorisation scheme has been revised as defined in ASM Handbook.

AOM19-ASP07	Optimise CDRs design and availability	Start:01/2009	Finish:12/2013

Action by : ANS Providers

Description & purpose : Create CDRs as a function of vertical and lateral sub-modular TRA/TSA design.
Harmonise CDR design and availability at national level (if affecting adjacent ATS units). The same applies at bilateral or sub-regional level.
This is to be achieved through Route Network Development Sub-Group (RNDSG) working arrangement and ARN V-7 development.

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AOM19	Implement Advanced Airspace Management

Supporting material(s) : EUROCONTROL - European ATS Route Network (ARN) Version 7- Concept of Operations & Catalogue of Projects - Edition 1.1 / 01/2011
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/arn-v7-concept-operations-catalogue-projects-jan2011.pdf

EUROCONTROL - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 05/2012
Url : http://www.eurocontrol.int/articles/airspace-management

Finalisation criteria : 1 - CDRs have been created as a function of vertical and lateral sub-modular TRA/TSA design.

2 - CDRs consistency achieved at national, bilateral or sub-regional level.

AOM19-ASP08	Improve accuracy of airspace booking	Start:12/2010	Finish:12/2015

Action by : ANS Providers

Description & purpose : Improve airspace planning and allocation at pre-tactical ASM level 2 in order to increase accuracy.
Plan reserved/segregated airspace utilization in accordance with actual need.
Release reserved/segregated non used airspace as soon as activity stops. Utilize reserved/segregated airspace that has not be planned in AUP (ad-hoc procedure 3).

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 - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 05/2012
Url : http://www.eurocontrol.int/articles/airspace-management

ATM Master Plan relationship : Enabler - [PRO-009]-Military Procedures to identify and release previously reserved airspace back to civil aviation

Enabler - [PRO-010]-Military Procedures to ensure that all operations that are involved with the airspace reservation are cognizant of the changes in cooperation with ASM

Enabler - [PRO-082]-ASM procedures for the promulgation, system delineation and acknowledgement of receipt of the information change

Finalisation criteria : 1 - Reserved/segregated airspace has been used in accordance with actual need (measured trough military Key Performance Indicators - KPIs - in Pan-European Repository of Information Supporting Military KPIs - PRISMIL - tool).

AOM19-ASP09	Deploy automated ASM support systems	Start:07/2010	Finish:12/2015

Action by : ANS Providers

Description & purpose : Improve ASM system support by using either national or EUROCONTROL (Local and Regional ASM Application - LARA) automated support system in airspace planning and allocation.
Use simulation tool for ASM to access optimum airspace allocation. The simulation tool is to be delivered by the EUROCONTROL Agency.

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 - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 05/2012
Url : http://www.eurocontrol.int/articles/airspace-management

EUROCONTROL - Local And Regional Airspace Management Supporting System Conceptual Description - Edition 2.0 / 11/2008
Url : http://www.eurocontrol.int/articles/dsscm-library

ATM Master Plan relationship : Enabler - [AAMS-08]-Airspace management system enhanced to support improved collaborative airspace planning

Enabler - [AAMS-09]-Airspace management system enhanced to support the integrated European airspace planning process

Enabler - [AIMS-22]-Airspace management functions enhanced to provide airspace status information

Finalisation criteria : 1 - National or EUROCONTROL (LARA) automated support system in airspace planning and allocation has been deployed.

AOM19-USE01	Implement an improved Notification Process	Start:05/2009	Finish:12/2010

Action by : Airspace Users

Description & purpose : Adapt flight planning operations to benefit from dynamic airspace changes.
React to airspace changes as notified by means of electronic Airspace Management Information Message (eAMI), Re-Routing Proposal Message (RRP) and Network Operation Plan (NOP).

Supporting material(s) : EUROCONTROL - CFMU Handbook - Edition 15 / 03/2011
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/library_handbook_supplements.html

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AOM19	Implement Advanced Airspace Management

Finalisation criteria :   1 - Flight plans have been amended according to notified dynamic airspace changes.

AOM19-USE02	Implement improved notification process supporting the Rolling ASM/ATFCM process	Start:01/2014	Finish:12/2015

Action by :   Airspace Users

Description & purpose :   Implement interoperability of local system with ADR.
Adapt flight planning operations to benefit from dynamic airspace changes based on the rolling process.
React to airspace changes as notified.
Adapt flight planning systems to support rolling process.
Conclude appropriate service agreement with NM whenever required.
Use ADR in accordance with service agreement with NM.
Use ADR for optimisation of strategic, short term and actual flight planning.

Supporting material(s) :   EUROCONTROL - CFMU Handbook - Edition 15 / 03/2011
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/library_handbook_supplements.html

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 - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 05/2012
Url : http://www.eurocontrol.int/articles/airspace-management

Finalisation criteria :   1 - Flight planning systems have been adapted to use ADR.

2 - Appropriate service agreement has been concluded with NM.

AOM19-NM01	Develop System and procedures for an improved ASM/ATFCM process	Start:12/2010	Finish:12/2015

Action by :   NM

Description & purpose :   Take the following actions:
- Develop CFMU interface for Airspace Managers (Collaboration Interface for Airspace Managers CIAM) - Completed
- Develop airspace procedures for the optimisation of airspace allocation - Completed
- Develop procedures for pre-defined Airspace solutions to enhance the ASM/ATFCM process.
- Develop the rolling ASM/ATFCM procedure(s)

Supporting material(s) :   EUROCONTROL - CFMU Handbook - Edition 15 / 03/2011
Url : http://www.cfmu.eurocontrol.int/cfmu/public/standard_page/library_handbook_supplements.html

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 - European Route Network Improvement Plan (ERNIP) PART 3 - Airspace Management Handbook - Guidelines for Airspace Management; Edition February 2013 02/2013
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part3-asm-handbook-ed40-feb2013.pdf

ATM Master Plan relationship :   Enabler - [PRO-009]-Military Procedures to identify and release previously reserved airspace back to civil aviation

Enabler - [PRO-184]-ASM Procedures related to Dynamic co-operative management of the airspace

Enabler - [PRO-185]-FUA Procedures

Finalisation criteria :   1 - The required procedures and systems have been developed by NM and ready for deployment by civil/military ANSPs

AOM19-NM02	Upgrade NM systems to allow exchange in real-time of ASM information	Start:09/2014	Finish:12/2016

Action by :   NM

Description & purpose :   Network Manager to upgrade NM systems to allow exchange in Real Time of Airspace management information and to update the central documentation and procedures.
This action may lead to a new SLoA for civil and military ANSPs to upgrade their local/regional automated ASM support systems and to update the local/regional documentation and procedures (to be analysed in future updates of the ESSIP plan).

Supporting material(s) :   EUROCONTROL - FLEXIBLE USE OF AIRSPACE AMC/CADF OPERATIONS MANUAL - Edition 5.1
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/HANDBOOK/fua-amc-cadf-ops-manual-current.pdf

EUROCONTROL - NM B2B Reference Manuals
Url : http://www.eurocontrol.int/nm-services/nm-b2b

ATM Master Plan relationship :   Enabler - [AAMS-11]-Airspace management system enhanced with real-time functions and dialogues for dynamic airspace allocation

Finalisation criteria :   1 - The required NM system updates have been implemented.

SESAR	Active		ECAC
AOM20	**Implement ATS Route Network (ARN) - Version 7**		
REG	**ASP**	**MIL** **APO** **USE** **INT**	**IND**

Description & purpose

Implement ATS Route Network Version 7 (ARN V7) as a response to the Airspace Action Plan and the 2015 Airspace Concept and Strategy for the ECAC States.

Develop, validate and implement ARN V7 in accordance with Advanced Airspace Scheme (AAS) principles taking into account military requirements.

The objective will ensure the progressive deployment of the AAS route network and consolidate into a network approach the first FAB developments, Free Route Airspace (FRA) implementation, and Terminal Airspace System (TAS) developments.

The progressive implementation of ARN V7 will ensure the delivery of the airspace structure elements of SESAR Deployment Baseline.

Applicable area(s)
All ECAC States

Operational capability dates FOR THIS OBJECTIVE
Initial operational capability:	05/2011
Full operational capability:	10/2013

References

European ATM Master Plan relationship

OI step -	[AOM-0205]-Modular Temporary Airspace Structures and Reserved Areas (to be reviewed)	ESSENTIAL
OI step -	[AOM-0401]-Multiple Route Options & Airspace Organisation Scenarios	ESSENTIAL
OI step -	[AOM-0402]-Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routeing Options	
OI step -	[AOM-0504]-Optimum Trajectories in Defined Airspaces at Particular Times	ESSENTIAL
OI step -	[AOM-0801]-Flexible Sectorisation Management	ESSENTIAL
OI step -	[AOM-0802]-Modular Sectorisation Adapted to Variations in Traffic Flows	ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

ECAC Advanced Airspace Scheme Concept
The Airspace Action Plan approved at the 27th EUROCONTROL PC in November 2007
The 2015 Airspace Concept and Strategy for the ECAC States adopted by SCG/7 in February 2008

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
AOM20-ASP01	Implement national airspace structure changes	05/2011	10/2013	
AOM20-ASP02	Ensure compatibility of en-route and terminal airspace	05/2011	10/2013	**M**
AOM20-USE01	Adapt flight planning	05/2011	10/2013	**M**
AOM20-INT01	Amend ICAO EUR Regional Plan	**FINALISED**		**M**
AOM20-AGY01	Adapt Flight Planning and ATFCM systems, processes and procedures	05/2010	10/2012	

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge:	**NETOPS / RNDSG**
Outline description approved in:	01/2010
Latest objective review at expert level in:	04/2012
Commitment decision body:	**Provisional Council (PC)**
Objective approved/endorsed in:	08/2011
Latest change to objective approved/endorsed in:	07/2012

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AOM20	Implement ATS Route Network (ARN) - Version 7

Expected performance benefits

Safety : Some enhancement through reduction in controller workload.

Capacity : Increased through reduction in conflict points, and specialization of routes and sectors to enhance productivity and reduce controller workload.

Cost-effectiveness : Savings in route distances in some States as well as better fuel efficiency through increased use of preferred flight profiles and improved sectorisation.

Environment : Reductions in emissions through use of more optimal routes.

Security : N/A

Detailed SloA descriptions

AOM20-ASP01	Implement national airspace structure changes	Start:05/2011	Finish:10/2013

Action by : ANS Providers

Description & purpose : Implement airspace structure modifications and necessary sector changes, in accordance with ARN V7.

Amend supporting systems, amend and publish route changes in accordance with Aeronautical Information Regulation and Control (AIRAC) requirements, and train staff in new route/sector configurations.

Supporting material(s) : EUROCONTROL - ERNIP Database
Url : http://www.eurocontrol.int/nm-services/european-route-network-improvement-plan-ernip-database

EUROCONTROL - European ATS Route Network (ARN) Version 7- Concept of Operations & Catalogue of Projects - Edition 1.1 / 01/2011
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/arn-v7-concept-operations-catalogue-projects-jan2011.pdf

EUROCONTROL - The 2015 Airspace Concept & Strategy for the ECAC Area - Edition 2.0 / 02/2008
Url : http://www.eurocontrol.int/articles/airspace-management

Finalisation criteria : 1 - Publication of amendments to AIP documents in accordance with ARN V7 has been done.

AOM20-ASP02	Ensure compatibility of en-route and terminal airspace	Start:05/2011	Finish:10/2013

Action by : ANS Providers

Description & purpose : Ensure viability and connectivity between en-route and terminal airspace changes.

Supporting material(s) : EUROCONTROL - European ATS Route Network (ARN) Version 7- Concept of Operations & Catalogue of Projects - Edition 1.1 / 01/2011
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/arn-v7-concept-operations-catalogue-projects-jan2011.pdf

EUROCONTROL - European Airspace Design Methodology Guidelines - General Principles and Technical Specifications for Airspace Design
 - Edition 1.1 / 05/2012
Url : http://www.eurocontrol.int/articles/operations-planning

EUROCONTROL - European Route Network Improvement Plan - Framework Document - Edition 1.1 / 05/2012
Url : http://www.eurocontrol.int/articles/operations-planning

EUROCONTROL - Route Availability Document (RAD) - Edition 1.1 / 05/2012
Url : http://www.eurocontrol.int/articles/operations-planning

EUROCONTROL - ERNIP Database
Url : http://www.eurocontrol.int/nm-services/european-route-network-improvement-plan-ernip-database

Finalisation criteria : 1 - Publication of amendments to AIP documents in accordance with ARN V7.

AOM20-USE01	Adapt flight planning	Start:05/2011	Finish:10/2013

Action by : Airspace Users

Description & purpose : Adapt flight planning procedures and systems to take account of ARN V7 airspace structure.

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Supporting material(s) :   EUROCONTROL - CFMU - IFPS and RPL Dictionary of Messages - ICAO 2012 Special edition - Edition 2012 v2.003 /
11/2011
Url : http://www.eurocontrol.int/articles/icao-flight-planning-modifications-2012-documentation-related-links

EUROCONTROL - CFMU 2012 Requirements - Edition 1.42 / 06/2012
Url : http://www.eurocontrol.int/articles/icao-flight-planning-modifications-2012-documentation-related-links

EUROCONTROL - CFMU Interface Manual for ICAO 2012 - Edition 1.32 / 06/2012
Url : http://www.eurocontrol.int/articles/icao-flight-planning-modifications-2012-documentation-related-links

ICAO - EUR Region Plan for Implementation of Amendment 1 to the 15th edition of the PANS-ATM Document 'New FPL
Contents for 2012' - Edition v1.28 / 06/2012
Url : http://www.eurocontrol.int/articles/icao-flight-planning-modifications-2012-documentation-related-links

ICAO - Flight Plan Implementation Tracking System (FITS) - Edition 1.0 / 12/2009
Url : http://www2.icao.int/en/fits/pages/home.aspx

EUROCONTROL - Guidance for the provision of NAV/COM/SUR information in the New ICAO 2012 Flight Plan - Edition
d2 / 06/2012
Url : http://www.eurocontrol.int/articles/icao-flight-planning-modifications-2012-documentation-related-links

EUROCONTROL - IFPS USERS MANUAL - Edition 16.0 / 03/2012
Url : http://www.eurocontrol.int/articles/icao-flight-planning-modifications-2012-documentation-related-links

Finalisation criteria :   1 - Changes to airspace users' flight planning systems, procedures and to FMS have been completed.

| **AOM20-AGY01** | **Adapt Flight Planning and ATFCM systems, processes and procedures** | Start:05/2010 | Finish:10/2012 |

Action by :   EUROCONTROL Agency

Description & purpose :   Adapt Flight Planning and ATFCM systems, processes and procedures as necessary to ensure optimal use of the ARN
V7 airspace structure, including FRA.

Supporting material(s) :   EUROCONTROL - Advanced Airspace Scheme - Concept Document - Edition 2.1 / 12/2004
Url : http://www.eurocontrol.int/airspace/public/site_preferences/display_library_list_public.html

EUROCONTROL - DMEAN Concept of Operations - Edition P1 / 09/2004
Url : http://www.eurocontrol.int/dmean/public/standard_page/Concept_of_operations.html

Finalisation criteria :   1 - NM Flight Plan Processing systems, processes and procedures have been adapted to support the various elements
of ARN V7 implementation, including FRA.

2 - NM ATFCM systems, processes and procedures have been adapted to support the various elements of ARN V7
implementation, including FRA.

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SESAR	Active					ECAC
AOM21	**Implementation of Free Route Airspace**					
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Free Route Airspace (FRA) is defined as 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) way points, 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 capacity increases for ATM which will also benefit the user.

Several ACCs and ANSPs already implemented fully or partially Free Route Airspace with further phased implementations planned by all FABs/ANSPs over the period 2013-2019, including cross border operations then full free route implementation. Free Route operations are already operational in Portugal (24hrs), Maastricht (24hrs, night and week-end in parts of the AoR), Karlsruhe (24hrs in parts of the AoR), Ireland (24 hrs), Austria - night, Finland - night and weekend, Zagreb, Belgrade, the Former Yugoslav Republic of Macedonia and joint Free Route in Denmark and Sweden.

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 2013-2015 projects for full or partial implementation of Free Route Airspace selecting their implementation step(s) among the proposed 7 methods according to their local situation (e.g. current airspace design, airspace complexity).

The Free route ESSIP objective is derived from the ATMMP OI steps AOM-0401 (Multiple Route Options & Airspace Organisation Scenarios) and AOM-0402 (Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routeing Options), complemented with the IDP WP 2.3 and associated IDP tasks. The deployment of Free Route is part of the Interim Deployment Programme and will be part of the Pilot Common Project. This objective covers the IDP part of the deployment.

As a consequence, the Free Route implementation strategy is a local decision coordinated at network and FAB level. All SLoA start dates are set to now as we already have implementation and ending date taking into consideration the current IDP dates. The Full operational capability date of 12/2017 might reflect different levels of achievements within the Control Centres, the implementation being harmonized and phased for a maximum benefit to the Airspace Users.

Note: This ESSIP objective is based on AOM-0401 (Multiple Route Options & Airspace Organisation Scenarios) and AOM-0402 (Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routeing Options), complemented with the IDP WP 2.3 and associated IDP tasks.
A SESAR action is in progress to improve the scope and description of the OI steps dealing with Free Route.

Applicable area(s)	*Operational capability dates FOR THIS OBJECTIVE*	
All ECAC States except: Armenia, Azerbaijan, Georgia	*Initial operational capability:*	06/2013
	Full operational capability:	12/2017

References

European ATM Master Plan relationship

OI step - [AOM-0401]-Multiple Route Options & Airspace Organisation Scenarios   ESSENTIAL
OI step - [AOM-0402]-Further Improvements to Route Network and Airspace incl. Cross-
          Border Sectorisation and Further Routeing Options

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
Commission Regulation (EU) No 677/2011 of 7 July 2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010

Applicable ICAO Annexes and other references

Annex 11, Doc 4444

Stakeholder Lines of Action (SloA)

SloA ref.	**Title**	**Start**	**Finish**
AOM21-REG01	Review, as appropriate, the safety argument of the changes imposed by the implementation of Free Route operations	09/2013	12/2017
AOM21-ASP01	Implement procedures and processes in support of the network dimension	09/2013	12/2017
AOM21-ASP02	Implement system improvements	09/2013	12/2017

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AOM21-ASP03	Implement procedures and processes in support of the local dimension	08/2013	12/2017	
AOM21-ASP04	Implement transversal activities (validation, safety case and training)	09/2013	12/2017	
AOM21-USE01	Implement system improvements	09/2013	12/2017	**M**
AOM21-USE02	Implement procedures and processes	09/2013	12/2017	**M**
AOM21-USE03	Train aircrews and operational staff for FRA operations	09/2013	12/2017	**M**
AOM21-NM01	Implement system improvements	09/2013	08/2014	
AOM21-NM02	Implement procedures and processes	08/2013	12/2017	

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge:　　　　**NETOPS**
Outline description approved in:　　　　03/2013
Latest objective review at expert level in:　　　　05/2013

Commitment decision body:　　　　**Provisional Council (PC)**
Objective approved/endorsed in:　　　　07/2013
Latest change to objective approved/endorsed in:　　　　-

Expected performance benefits

Safety :　　　　Some enhancement through reduction in controller workload.

Capacity :　　　　Increased through the better airspace utilisation to enhance productivity and reduce controller workload.

Cost-effectiveness :　　　　Savings in route distances as well as better fuel efficiency through increased use of preferred flight profiles and improved sectorization.
By 2014, it is estimated that more than 25% of the ECAC area will conduct FRA operations in one form or other.
Savings, compared to last filed flight plan, will account to approximately 25000 NMs per day as a result of these FRA implementations, flying distances will be reduced by approximately 7.5 million NMs, this representing the equivalent of 45000 tons of fuel saved, or reduced emissions of 150000 tons, or 37 million Euros.

Environment :　　　　Reductions in emissions through use of more optimal routes.

Security :　　　　N/A

Detailed SloA descriptions

AOM21-REG01	Review, as appropriate, the safety argument of the changes imposed by the implementation of Free Route operations	Start:09/2013	Finish:12/2017

Action by :　　　　Regulatory Authority/National Supervisory Authority/Competent Authority

Description & purpose :　　　　Review the safety argument of the changes imposed by the implementation of Free Route operations, 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.
Take the following actions:
-Analyse the safety case
-Review the safety arguments
-Prepare the material for the acceptance of the changes
-Provide notification of the acceptance, with conditions where applicable, or the non-acceptance, with supporting reasons, of the change under consideration.

Notes :　　　　With reference to the supporting material section, it should be noted that any other validated/recognised method for the safety assessment, is acceptable if agreed with the ANSP.

Supporting material(s) :　　　　EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 12/2009
Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EUROCONTROL - EAM 1/GUI 1 - Explanatory Material on ESARR 1 Requirements - Edition 2.0 / 12/2010
Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011 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 - Notification of the acceptance, or the non-acceptance, of the change under consideration has been communicated to the ANSP.

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AOM21	Implementation of Free Route Airspace

AOM21-ASP01	Implement procedures and processes in support of the network dimension	Start:09/2013	Finish:12/2017

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
-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

Supporting material(s) : EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 (Free Route Airspace Concept); Edition June 2012 06/2012
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf

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-ASP02	Implement system improvements	Start:09/2013	Finish:12/2017

Action by : ANS Providers

Description & purpose : Take the following actions:
-Upgrade FDP and CWP, if strictly required by the selected FRA operations and according to the existing FDP/CWP capabilities.
Possible FDP upgrades are differentiation between different traffic type airspaces, support to cross-border FRA operations (direct route beyond AoR, DCT clearances, random entry/exit points, OLDI/SYSCO messages supporting LAT/LONG COPs).
Possible CWP upgrades (e.g. the ones required by the FDP changes)
-Upgrade local flight plan reception and handling, if required.

Notes : No supprting material defined (subject to stakeholder analysis of the local needs)

Finalisation criteria : 1 - The ANSP system has been updated according to the specifications representing the identified necessary changes.

AOM21-ASP03	Implement procedures and processes in support of the local dimension	Start:08/2013	Finish:12/2017

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); Edition June 2012 06/2012
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf

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-ASP04	Implement transversal activities (validation, safety case and training)	Start:09/2013	Finish:12/2017

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.

AOM21	Implementation of Free Route Airspace

Supporting material(s) : EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 (Free Route Airspace Concept); Edition June 2012 06/2012
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf

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-USE01	Implement system improvements	Start:09/2013	Finish:12/2017

Action by : Airspace Users

Description & purpose : Adapt as necessary the flight Planning system to support free routing.

Notes : No supporting material identified (subject to stakeholder analysis of the local needs)

Finalisation criteria : 1 - Flight Planning system has been amended if necessary.

AOM21-USE02	Implement procedures and processes	Start:09/2013	Finish:12/2017

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); Edition June 2012 06/2012
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf

Finalisation criteria : 1 - Procedures have been updated to take into account Free Route Airspace.

AOM21-USE03	Train aircrews and operational staff for FRA operations	Start:09/2013	Finish:12/2017

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-NM01	Implement system improvements	Start:09/2013	Finish:08/2014

Action by : NM

Description & purpose : -Adaptations (tuning) of NM systems
-Airspace Data repository (ADR) and Airspace Management tools (modelling, simulation) adapted to free routing

Supporting material(s) : EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 (Free Route Airspace Concept); Edition June 2012 06/2012
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-1-airspace-design-methodology.pdf

Finalisation criteria : 1 - The required adaptations of NM systems (ADR and Airspace Management tools) to free routing have been deployed

AOM21-NM02	Implement procedures and processes	Start:08/2013	Finish: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 (not necessary H24 7/7)
-Identify FRA entry and exit 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.

AOM21	**Implementation of Free Route Airspace**

Supporting material(s) :   EUROCONTROL - European Route Network Improvement Plan (ERNIP) PART 3 - Airspace Management Handbook - Guidelines for Airspace Management; Edition February 2013 02/2013
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part3-asm-handbook-ed40-feb2013.pdf

EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 1 (Free Route Airspace Concept); Edition June 2012 06/2012
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 2 - European ATS Route Network - Version 8 (2012-2014) 06/2012
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-2-arn-v8.pdf

EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 4 - Route Availability Document Users Manual - Edition June 2012 06/2012
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/ernip-part-4-rad-users-manual.pdf

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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Description & purpose

Implement a collaborative capacity enhancement method that releases possible airside capacity improvement areas, to enable the implementation of suitable European best practices to unlock latent airside capacity.

Note: (1). This objective cancels and replaces the previous AOP01 on the basis of new developments in this area.

Note: (2). The actions described in this objective are due to be renewed annually after the first implementation, planned for deployment at listed airports on 12/2007.

Applicable area(s)

See list of airports in ESSIP Plan - Annex B

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:	01/2007
Full operational capability:	12/2013

References

European ATM Master Plan relationship

OI step - [AO-0305]-Additional Rapid Exit Taxiways (RET) and Entries
OI step - [AUO-0701]-Use of Runway Occupancy Time (ROT) Reduction Techniques

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

ICAO Annex 11 - Air Traffic Services

ICAO Annex 14 - Aerodromes

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish
AOP01.2-ASP01	Participate in the local ACE Steering Group	01/2007	12/2011
AOP01.2-ASP02	Facilitate the involvement of operational ATCOs in the Forums	05/2007	08/2011
AOP01.2-ASP03	Approve and Implement the locally defined action plan	05/2007	08/2011
AOP01.2-APO01	Establish an Airside Capacity Enhancement (ACE) Steering Group	01/2007	12/2011
AOP01.2-APO02	Conduct annual capacity assessment	03/2007	08/2011
AOP01.2-APO03	Collect and analyse capacity and performance data	05/2007	08/2011
AOP01.2-APO04	Facilitate forums with pilots and ATCOs	05/2007	08/2011
AOP01.2-APO05	Develop and Implement a commonly agreed local action plan	05/2007	08/2011
AOP01.2-APO06	Develop and widely distribute yearly a capacity enhancement awareness leaflet in accordance with the action plan	05/2007	08/2011
AOP01.2-APO07	Airports to provide the Agency with accurate updated airport data sheet to be used in the EUROCONTROL Network Capacity Planning function.	05/2007	12/2011
AOP01.2-USE01	Participate in the local ACE Steering Group	01/2007	12/2011
AOP01.2-USE02	Facilitate the involvement of operational pilots in the Forums	05/2007	08/2011
AOP01.2-USE03	Approve and Implement the locally defined action plan	05/2007	12/2013
AOP01.2-AGY01	Develop and make available the PIATA Plus tool	**FINALISED**	
AOP01.2-AGY02	Maintain models as required	**FINALISED**	

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **Airport Operations Team (AOT)**
Outline description approved in: -
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2010
Latest change to objective approved/endorsed in: 07/2013

AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual

Expected performance benefits

Safety :   Safer operations following harmonised and more predictable aircraft operations on the movement area.

Capacity :   Increase in overall airside capacity due to higher efficiency of aircraft operations.

Cost-effectiveness :   Savings on costs through more efficient surface operations.

Environment :   Direct benefit from less taxi and ground and airborne holding time for individual aircraft, thus reducing noise and emissions. Better use of existing infrastructure minimising the need for additional development.

Security :   N/A

Detailed SloA descriptions

AOP01.2-ASP01	Participate in the local ACE Steering Group	Start:01/2007	Finish:12/2011

Action by :   ANS Providers

Description & purpose :   Participate actively in the local Airside Capacity Enhancement (ACE) exercise, at a managerial level in the steering group. The steering group will assign objectives and resources to the ACE exercise.

Notes :   Referenced supporting material is available on request to the Head of Airports Unit (http://www.eurocontrol.int/articles/airport-operations)

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Proven record of participation in local steering groups.

2 - Number of steering group meetings conducted per annum.

AOP01.2-ASP02	Facilitate the involvement of operational ATCOs in the Forums	Start:05/2007	Finish:08/2011

Action by :   ANS Providers

Description & purpose :   Present the results of the capacity and performance data measurement campaign (APO03) in the forums, and possible solutions to capacity constraints are reviewed and discussed. From this a local action plan will be developed to form recommendations to the steering group.

The forums require the active participation of a representative number of local operational controllers (e.g. 10 ATCOs) who are able to review the results of the data analysis and provide operational expertise towards the development of an action plan.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Proven record of participation in both the Air Traffic Control Officer (ATCO) and joint forums.

2 - Number of forum meetings per annum.

AOP01.2-ASP03	Approve and Implement the locally defined action plan	Start:05/2007	Finish:08/2011

Action by :   ANS Providers

Description & purpose :   Approve, through the steering group, the locally defined action plan, containing improvements and best practices recommended by local experts i.e. Additional Rapid Exit Taxiways and Entries, Runway Occupancy (ROT) Techniques as necessary, etc.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Proven record of having implemented the action plan recommendations.

AOP01.2-APO01	Establish an Airside Capacity Enhancement (ACE) Steering Group	Start:01/2007	Finish:12/2011

Action by :   Airport Operators

Description & purpose :   Convene a steering group consisting of senior managers from the Airport Operator (AO), local airlines and ANSPs. The objective for the group will be to direct a local capacity enhancement exercise and then to implement a resulting local action plan.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual		

Finalisation criteria :   1 - Steering group are effective, capacity enhancement exercise has been completed and local action plan has been defined.

2 - Attendance of the steering group members has been recorded.

AOP01.2-APO02	**Conduct annual capacity assessment**	Start:03/2007	Finish:08/2011

Action by :   Airport Operators

Description & purpose :   Asses the airside capacity at least once yearly in order to determine baseline capacity potential. This can be done simultaneously to fulfil AOP08-APO01.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Annual capacity assessments have been completed.

AOP01.2-APO03	**Collect and analyse capacity and performance data**	Start:05/2007	Finish:08/2011

Action by :   Airport Operators

Description & purpose :   Decide which performance indicators to be measured according to the objectives of the capacity enhancement exercise. Typical indicators to be measured will include: runway occupancy times, pilot reaction times, clearance delivery delays, actual radar spacing on approach and final, efficient sequencing of traffic.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Data measurement campaigns and resulting analysis have been effected.

AOP01.2-APO04	**Facilitate forums with pilots and ATCOs**	Start:05/2007	Finish:08/2011

Action by :   Airport Operators

Description & purpose :   Facilitate a series of forums composed of local operational experts. These should initially be within their own peer group (i.e. pilots, controllers, airport operations) then together in a joint forum. The objective of the joint forum should be to develop an action plan based on local knowledge and the results of the data collection and analysis.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Forums have been held.

2 - Action plan has been completed.

AOP01.2-APO05	**Develop and Implement a commonly agreed local action plan**	Start:05/2007	Finish:08/2011

Action by :   Airport Operators

Description & purpose :   Consider the recommendations of the action plan including Additional Rapid Exit Taxiways prepared under AOP01.2-APO04 and oversee its implementation with cooperation from all stakeholders.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Action plan has been implemented.

AOP01.2-APO06	**Develop and widely distribute yearly a capacity enhancement awareness leaflet in accordance with the action plan**	Start:05/2007	Finish:08/2011

Action by :   Airport Operators

Description & purpose :   Consider the recommendations of the action plan prepared under AOP01.2-APO05 and extract relevant information to be widely disseminated to all stakeholders, including ANSP, Airlines, and AO and other concerned stakeholders.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Awareness leaflet has been distributed to concerned stakeholders.

AOP01.2-APO07	**Airports to provide the Agency with accurate updated airport data sheet to be used in the EUROCONTROL Network Capacity Planning function.**	Start:05/2007	Finish:12/2011

Action by :   Airport Operators

Description & purpose :   Provide the EUROCONTROL Agency with accurate airport declared capacity information to be used in the EUROCONTROL Network Capacity Planning function. This information should include current capacity figures as well as planned capacity within the next five years and the status of agreed Best Practices.

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AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual

Notes :   Note: this exchange is now automated

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

EUROCONTROL - CFMU Network Operation Plan (NOP) Portal
Url : https://www.public.cfmu.eurocontrol.int/PUBPORTAL/gateway/spec/index.html

Finalisation criteria :   1 - Accurate airport capacity figures have been provided to EUROCONTROL.

AOP01.2-USE01	Participate in the local ACE Steering Group	Start:01/2007	Finish:12/2011

Action by :   Airspace Users

Description & purpose :   Participate actively in the local ACE exercise, at a managerial level in the steering group. The steering group will assign objectives and resources to the ACE exercise.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Local steering groups have been regularly attended.

AOP01.2-USE02	Facilitate the involvement of operational pilots in the Forums	Start:05/2007	Finish:08/2011

Action by :   Airspace Users

Description & purpose :   Present the results of the capacity and performance data measurement campaign (APO03) at these forums, and possible solutions are reviewed and discussed. From the joint forum of pilots and ATCOs, a local action plan will be developed to form recommendations to the steering group. The forums require the active participation of local operational pilots (e.g. 10 pilots or 75% of the airlines represented) who are able to review the results of the data analysis and to provide operational expertise towards the development of an action plan.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Local steering groups have been regularly attended.

AOP01.2-USE03	Approve and Implement the locally defined action plan	Start:05/2007	Finish:12/2013

Action by :   Airspace Users

Description & purpose :   Approve first, through the steering group, the locally defined action plan, containing improvements and best practices recommended by local experts; then implement those recommendations meant for the airspace users i.e. Runway Occupancy (ROT) Techniques.

Supporting material(s) :   EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 10/2003

Finalisation criteria :   1 - Action plan has been signed and implemented.

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SESAR	Active						APT
AOP03	**Improve runway safety by preventing runway incursions**						
REG	**ASP**	**MIL**	**APO**	**USE**		**INT**	**IND**

Description & purpose

Prevent runway accidents by identifying and eliminating the risks of runway incursions.

This objective has been updated in 2010 to encompass the new recommendations in the European Action Plan for Prevention of Runway Incursions (EAPPRI) Edition 2.0.

A few recommendations have been completed, progressed or improved. All the remaining recommendations which were part of the previous EAPPRI Editions are still valid. New recommendations are based upon best practices from airports across Europe and can be found in sections 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, and the new sections 1.9 -Technology for the prevention of runway incursions - and 1.10 - Civil-military joint use aerodromes.

Note: The applicability area of this objective is all ECAC aerodromes. Nonetheless, it is for the individual National safety authority to decide upon the strategy of implementation at aerodromes within its own State.

Applicable area(s)	*Operational capability dates FOR THIS OBJECTIVE*	
See list of airports in ESSIP Plan - Annex B	*Initial operational capability:*	04/2003
All ECAC aerodromes, nonetheless, it is for the individual National safety authority to decide upon the strategy of implementation at aerodromes within its own State.	*Full operational capability:*	12/2013

References

European ATM Master Plan relationship

OI step - [AO-0101]-Reduced Risk of Runway Incursions through Improved Procedures and Best Practices on the Ground

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

ICAO Annex 11 - Air Traffic Services
ICAO Annex 14 - Aerodromes
Directive 2003/42/EC of 13 June 2003 on occurrence reporting in civil aviation, amended by Regulation (EC) No 569/2009

Stakeholder Lines of Action (SloA)

SloA ref.	*Title*	*Start*	*Finish*	
AOP03-REG01	Implement recommendations contained in the European Action Plan for the Prevention of Runway Incursions in accordance with the explanatory notes	04/2003	12/2013	**M**
AOP03-ASP01	Establish a local Runway Safety Team and implement General principles contained in the European Action plan for the prevention of runway incursions in accordance with the explanatory notes	04/2003	12/2013	**M**
AOP03-ASP02	Ensure Air Traffic Controller Best Practices are implemented	04/2003	12/2013	**M**
AOP03-ASP03	Implement Communication recommendations	04/2003	12/2013	**M**
AOP03-ASP04	Implement Aeronautical information management	04/2003	12/2013	**M**
AOP03-APO01	Establish a local Runway Safety Team and implement General principles contained in the European Action Plan for the Prevention of Runway Incursions in accordance with the explanatory notes	04/2003	12/2013	**M**
AOP03-APO02	Ensure that all airport infrastructure, practices and procedures are in accordance with ICAO provisions	04/2003	12/2013	**M**
AOP03-APO03	Implement Communication recommendations	04/2003	12/2013	**M**
AOP03-APO04	Implement Aeronautical information management	04/2003	12/2013	**M**
AOP03-APO05	Put in place a formal training and assessment for drivers and all personnel who operate on or near the runway	04/2003	12/2013	**M**
AOP03-APO06	Implement Safety Management Systems (SMS) in accordance with ICAO provisions for its aerodrome operations	04/2003	12/2013	**M**
AOP03-USE01	Implement recommendations contained in the European Action Plan for the Prevention of Runway Incursions in accordance with the explanatory notes	04/2003	12/2013	**M**

M - Applicable to the military.

 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

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AOP03	Improve runway safety by preventing runway incursions

Consultation & Approval

Working arrangement in charge: **Airport Operations Team (AOT)**
Outline description approved in: -
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2004
Latest change to objective approved/endorsed in: 07/2012

Expected performance benefits

Safety :   Significant, through reduced risk of incidents and accidents on runways.

Capacity :   Indirect through prevention of delay problems caused by runway incursion incidents.

Cost-effectiveness :   The prevention of accidents is a highly cost-effective measure and the application is based upon the implementation of existing ICAO provisions.

Environment :   Negligible

Security :   N/A

Detailed SloA descriptions

AOP03-REG01	Implement recommendations contained in the European Action Plan for the Prevention of Runway Incursions in accordance with the explanatory notes	Start:04/2003	Finish:12/2013

Action by :   National Supervisory Authorities (NSAs)

Description & purpose :   Implement recommendations contained in the EAPRI Edition 2.0 related to general principles for prevention of runway incursions (1.1.1, 1.1.4 and 1.1.5), airport operator issues (1.2.8, 1.2.11 & 1.2.15), data collection and lessons sharing (1.6.1 to 1.6.2), regulatory issues (1.7.1 to 1.7.9), Aeronautical Information Management (AIM) (1.8.1, 1.8.5 & 1.8.6) and civil-military joint use of aerodromes (1.10.1, 1.10.2, 1.10.3, 1.10.4 and 1.10.12). For the responsible organisation is to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Finalisation criteria :   1 - Recommendations 1.1.1, 1.1.4, 1.1.5, 1.2.8, 1.2.11, 1.2.15, 1.6.1 to 1.6.2, 1.7.1 to 1.7.9, 1.8.1, 1.8.5, 1.8.6, 1.10.1, 1.10.2, 1.10.3, 1.10.4 and 1.10.12 have been implemented.

AOP03-ASP01	Establish a local Runway Safety Team and implement General principles contained in the European Action plan for the prevention of runway incursions in accordance with the explanatory notes	Start:04/2003	Finish:12/2013

Action by :   ANS Providers

Description & purpose :   Implement recommendations contained in the EAPPRI Edition 2.0 related to general principles for prevention of runway incursions (1.1.1 to 1.1.7). The responsible organization is to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Finalisation criteria :   1 - Recommendations 1.1.1 to 1.1.7 have been implemented.

AOP03-ASP02	Ensure Air Traffic Controller Best Practices are implemented	Start:04/2003	Finish:12/2013

Action by :   ANS Providers

Description & purpose :   Ensure that recommendations on ATC best practices contained in the EAPPRI Edition 2.0 are implemented. These recommendations are specified in sections related to airport operator issues (1.2.7, 1.2.8, 1.2.10, 1.2.11, 1.2.14 and 1.2.15), ANSP issues (1.5.1 to 1.5.18), data collection and lesson sharing (1.6.2), regulatory issues (1.7.6), technology (1.9.1) and civil-military joint use of aerodromes (1.10.2, 1.10.3, 1.10.6, 1.10.7, 1.10.8, and 1.10.9) The responsible organisation is to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

ATM Master Plan relationship :   Enabler - [PRO-062b]-Airport Operational Procedures implementing Best Practices for Prevention of Runway Incursions

AOP03	Improve runway safety by preventing runway incursions

Finalisation criteria :   1 - Recommendations 1.2.7, 1.2.8, 1.2.10, 1.2.11, 1.2.14, 1.2.15, 1.5.1 to 1.5.18, 1.6.2, 1.7.6, 1.9.1, 1.10.2, 1.10.3, 1.10.6, 1.10.7, 1.10.8 and 1.10.9 have been implemented.

AOP03-ASP03	Implement Communication recommendations	Start:04/2003	Finish:12/2013

Action by :   ANS Providers

Description & purpose :   Implement communication recommendations contained in the EAPPRI Edition 2.0. These recommendations are related to language, radiotelephony, phraseologies and procedures (all these are covered by recommendations 1.3.1 to 1.3.9); to airport operator issues (1.2.8), ANSP issues (1.5.3, 1.5.4, 1.5.6, 1.5.7, 1.5.8 and 1.5.11), and civil-military joint use of aerodromes (1.10.7 and 1.10.9). The responsible organization to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Finalisation criteria :   1 - Recommendations 1.3.1 to 1.3.9, 1.2.8, 1.5.3, 1.5.4, 1.5.6, 1.5.7, 1.5.8, 1.5.11, 1.10.7 and 1.10.9 have been implemented

AOP03-ASP04	Implement Aeronautical information management	Start:04/2003	Finish:12/2013

Action by :   ANS Providers

Description & purpose :   Implement recommendations related to Aeronautical Information Management (AIM) contained in the EAPPRI Ed 2.0 (1.8.1, 1.8.4, 1.8.5 and 1.8.6), general principles (1.1.3). and communication section (1.3.9). The responsible organisation is to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Finalisation criteria :   1 - Recommendations 1.1.3, 1.3.9, 1.8.1, 1.8.4, 1.8.5 and 1.8.6 have been implemented.

AOP03-APO01	Establish a local Runway Safety Team and implement General principles contained in the European Action Plan for the Prevention of Runway Incursions in accordance with the explanatory notes	Start:04/2003	Finish:12/2013

Action by :   Airport Operators

Description & purpose :   Implement recommendations contained in the EAPPRI Edition 2.0 related to general principles for prevention of runway incursions (1.1.1 to 1.1.7). The responsible organization is to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Finalisation criteria :   1 - Recommendations 1.1.1 to 1.1.7 have been implemented.

AOP03-APO02	Ensure that all airport infrastructure, practices and procedures are in accordance with ICAO provisions	Start:04/2003	Finish:12/2013

Action by :   Airport Operators

Description & purpose :   Ensure that all recommendations related to ICAO provisions for airport infrastructure, practices and procedures contained in the EAPPRI Edition 2.0 are implemented. These recommendations are specified in sections related to airport operator issues (1.2.1, 1.2.2, 1.2.4 to 1.2.16) and Civil-Military joint use of aerodromes (1.10.2, 1.10.5, 1.10.10 and 1.10.12). The responsible organization is to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Finalisation criteria :   1 - Recommendations 1.2.1, 1.2.2, 1.2.4 to1.2.16, 1.10.2, 1.10.5, 1.10.10 and 1.10.12 have been implemented.

AOP03-APO03	Implement Communication recommendations	Start:04/2003	Finish:12/2013

Action by :   Airport Operators

Description & purpose :   Implement communication recommendations contained in the EAPPRI Edition 2.0. These recommendations are related to language, radiotelephony, phraseologies and procedures (all these are covered by recommendations 1.3.1 to 1.3.7, and 1.3.9); and Civil-Military joint use of aerodromes (1.10.7). The responsible organization is to decide specific details, after taking local conditions into account.

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AOP03	Improve runway safety by preventing runway incursions

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Finalisation criteria :   1 - Recommendations 1.3.1 to 1.3.7, 1.3.9 and 1.10.7 have been implemented.

AOP03-APO04	Implement Aeronautical information management	Start:04/2003	Finish:12/2013

Action by :   Airport Operators

Description & purpose :   Implement recommendations related to AIM contained in the EAPPRI Edition 2.0. These recommendations are specified in sections aeronautical information management (1.8.1, 1.8.3, 1.8.4, 1.8.5 and 1.8.6) and Civil-Military joint use of aerodromes (1.10.3). The responsible organization is to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Finalisation criteria :   1 - Recommendations 1.8.1, 1.8.3, 1.8.4, 1.8.5, 1.8.6 and 1.10.3 have been implemented.

AOP03-APO05	Put in place a formal training and assessment for drivers and all personnel who operate on or near the runway	Start:04/2003	Finish:12/2013

Action by :   Airport Operators

Description & purpose :   Implement recommendations contained in the EAPPRI Edition 2.0 which are related to training and assessment of drivers and personnel who operate on or near runway. These recommendations are specified in sections related to generic principles for prevention of runway incursions (1.1.4 and 1.1.5) and aerodrome operator issues (1.2.6, 1.2.7, 1.2.10, 1.2.13 and 1.2.16). The responsible organization is to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Finalisation criteria :   1 - Recommendations 1.1.4, 1.1.5, 1.2.6, 1.2.7, 1.2.10, 1.2.13 and 1.2.16 have been implemented.

AOP03-APO06	Implement Safety Management Systems (SMS) in accordance with ICAO provisions for its aerodrome operations	Start:04/2003	Finish:12/2013

Action by :   Airport Operators

Description & purpose :   Implement recommendations contained in the EAPPRI Edition 2.0 related to the implementation of the Safety Management System (SMS) on the airports (1.2.3). The responsible organization is to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Finalisation criteria :   1 - Recommendation 1.2.3 has been implemented.

AOP03-USE01	Implement recommendations contained in the European Action Plan for the Prevention of Runway Incursions in accordance with the explanatory notes	Start:04/2003	Finish:12/2013

Action by :   Airspace Users

Description & purpose :   Implement recommendations contained in the EAPPRI Edition 2.0 which are related to aircraft operators. These recommendations are specified in sections related to general principles for prevention of runway incursions (1.1.1, 1.1.5 to 1.1.7), communications (1.3.1 to 1.3.5 and 1.3.7), aircraft operator issues (1.4.1 to 1.4.15), ANSP issues (1.5.17), data collection and lessons sharing (1.6.2), regulatory issues (1.7.6), aeronautical information management (1.8.3 and 1.8.4), technology (1.9.1) and civil-military joint use of aerodromes (1.10.6, 1.10.8, 1.10.11 to 1.10.12). The responsible organization is to decide specific details, after taking local conditions into account.

Supporting material(s) :   EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0
Url : http://www.skybrary.aero/index.php/European_Action_Plan_for_the_Prevention_of_Runway_Incursions

Specific applicability :   Military authorities shall consider revising appropriate manuals and checklists so that military aircrew operating to and from civil aerodromes on a regular basis, are able to apply runway safety best practices.

Finalisation criteria :   1 - Recommendations 1.1.1, 1.1.5 to 1.1.7, 1.3.1 to 1.3.5, 1.3.7, 1.4.1 to 1.4.15, 1.5.17, 1.6.2, 1.7.6, 1.8.3, 1.8.4, 1.9.1, 1.10.6, 1.10.8, 1.10.11 and 1.10.12 have been implemented.

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

Description & purpose

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.

Note: All reference documentation listed in SLoAs is available via the EUROCONTROL website: http://www.eurocontrol.int/airports/public/standard_page/surface_library.html

Applicable area(s)

See list of airports in ESSIP Plan - Annex B

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:	01/2007
Full operational capability:	12/2011

References

European ATM Master Plan relationship

OI step -   [AO-0201]-Enhanced Ground Controller Situational Awareness in all Weather Conditions   ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

ICAO Annex 10 - Telecommunications

ICAO Annex 14 - Aerodromes

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
AOP04.1-REG01	Mandate and verify the carriage of required aircraft equipment to enable location and identification of aircraft on the movement area (including military aircraft, as appropriate).	01/2007	12/2010	**M**
AOP04.1-REG02	Mandate and verify the carriage of required vehicle equipment to enable location and identification of vehicles on the manoeuvring area	01/2007	12/2010	
AOP04.1-REG03	Incorporate A-SMGCS Level 1 procedures (including transponder operating procedures) into state regulations.	01/2007	12/2010	**M**
AOP04.1-REG04	Approve A-SMGCS Level 1 implementations for operation	01/2007	12/2010	
AOP04.1-ASP01	Install required surveillance equipment	01/2007	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	01/2007	12/2010	
AOP04.1-ASP03	Implement approved A-SMGCS operational procedures at airports equipped with A-SMGCS	01/2007	12/2011	
AOP04.1-APO01	Install required surveillance equipment	01/2007	12/2010	
AOP04.1-APO02	Equip Ground Vehicles	01/2007	12/2010	
AOP04.1-APO03	Train Ground Vehicle Drivers	01/2007	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	01/2004	12/2010	**M**
AOP04.1-INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS Level 1 procedures	11/2004	12/2011	
AOP04.1-AGY01	Production of agreed & validated requirements & guidance material for the implementation of A-SMGCS Level 1	**FINALISED**		

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AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1

AOP04.1-AGY02	Develop agreed A-SMGCS Level 1 ATC procedures, through established EUROCONTROL Agency processes and mechanisms for proposal to ICAO	**FINALISED**
AOP04.1-AGY03	Develop and incorporate A-SMGCS licensing requirements into the European Air Traffic Controller Licensing Scheme	**FINALISED**
AOP04.1-AGY04	Develop A-SMGCS Level 1 training guidelines	**FINALISED**
AOP04.1-AGY05	Develop and propose amendments to ICAO documentation, using established processes	**FINALISED**

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

<u>*Working arrangement in charge:*</u> **Airport Operations Team (AOT)**
Outline description approved in: -
Latest objective review at expert level in: 04/2012

<u>*Commitment decision body:*</u> **Provisional Council (PC)**
Objective approved/endorsed in: 03/2003
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

<u>*Safety :*</u> Improved situational awareness for aerodrome controllers, particularly during periods of reduced visibility and darkness will enhance safe operations.

<u>*Capacity :*</u> Ability to maintain traffic throughput during periods when aerodrome traffic cannot be observed visually by aerodrome controllers, through the use of surveillance information and appropriate procedures.

<u>*Cost-effectiveness :*</u> More efficient control of aerodrome surface traffic, leading to a reduction in delay and fuel burn.

<u>*Environment :*</u> Reduction of noise and emissions.

<u>*Security :*</u> N/A

Detailed SloA descriptions

AOP04.1-REG01	**Mandate and verify the carriage of required aircraft equipment to enable location and identification of aircraft on the movement area (including military aircraft, as appropriate).**	Start:01/2007	Finish:12/2010

Action by : National Supervisory Authorities (NSAs)

Description & purpose : Mandate the introduction of and verify the compliance with requirements to equip 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.

AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1

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

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

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

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

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

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual -
Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCAE - ED-87B - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance
and Control Systems (A-SMGCS) – Levels 1 & 2- Including Amendment N°1 - January 2009 08/2008
Url : http://boutique.eurocae.net/catalog/index.php

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

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 - 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.

2 - Airworthiness certificate has been issued by the regulator for aircraft equipped with A-SMGCS Level 1 capabilities.

AOP04.1-REG02	Mandate and verify the carriage of required vehicle equipment to enable location and identification of vehicles on the manoeuvring area	Start:01/2007	Finish:12/2010

Action by :   National Supervisory Authorities (NSAs)

Description & purpose :   Mandate the introduction of and verify compliance with requirements to equip 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.

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AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1

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

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

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

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

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

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 12/2001
Url : http://www.icao.int/publications/Pages/catalogue.aspx

EUROCAE - ED-87B - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) – Levels 1 & 2- Including Amendment N°1 - January 2009 08/2008
Url : http://boutique.eurocae.net/catalog/index.php

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

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 - 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.

2 - Operating certificate has been issued by the regulator for the vehicles equipped with A-SMGCS Level 1 capabilities.

AOP04.1-REG03	Incorporate A-SMGCS Level 1 procedures (including transponder operating procedures) into state regulations.	Start:01/2007	Finish:12/2010

Action by : National Supervisory Authorities (NSAs)

Description & purpose : Incorporate the agreed and validated A-SMGCS Level 1 operating procedures into State regulation.

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AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1

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

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

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

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

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

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 12/2001
Url : http://www.icao.int/publications/Pages/catalogue.aspx

EUROCAE - ED-87B - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) – Levels 1 & 2- Including Amendment N°1 - January 2009 08/2008
Url : http://boutique.eurocae.net/catalog/index.php

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

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 appropriate State regulations.

AOP04.1-REG04	Approve A-SMGCS Level 1 implementations for operation	Start:01/2007	Finish:12/2010

Action by :   National Supervisory Authorities (NSAs)

Description & purpose :   Approve A-SMGCS Level 1 installations at equipped airports for operation (following an agreed assessment/evaluation process).

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AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1

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

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

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

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

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

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 12/2001
Url : http://www.icao.int/publications/Pages/catalogue.aspx

EUROCAE - ED-87B - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) – Levels 1 & 2- Including Amendment N°1 - January 2009 08/2008
Url : http://boutique.eurocae.net/catalog/index.php

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

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 - A-SMGCS Level 1 system has been approved and/or certified for operational use.

AOP04.1-ASP01	Install required surveillance equipment	Start:01/2007	Finish: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).

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AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1

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

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

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

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

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

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCAE - ED-87B - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) – Levels 1 & 2- Including Amendment N°1 - January 2009 08/2008
Url : http://boutique.eurocae.net/catalog/index.php

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

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 : Enabler - [AERODROME-ATC-04]-Surface movement control workstation enhanced to use and display flight plan data

Enabler - [AERODROME-ATC-28]-Surface movement control workstation equipped with initial tools for Aerodrome Control Service

Enabler - [AERODROME-ATC-36]-Airport surveillance data processing and distribution upgraded to store and forward flight plan data

Enabler - [CTE-S5]-Independent Cooperative Surveillance sensors (SSR, WAM)

Enabler - [CTE-S9a]-Airport Surface Surveillance through SMR

Enabler - [CTE-S9b]-Airport Surface Surveillance through 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	Start:01/2007	Finish:12/2010

Action by : ANS Providers

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) : EUROCONTROL - ATCO Rating Training - Training Plans: Aerodrome Training - Annex B: Detailed Training Plans - Edition 1.0 / 03/2004
Url : https://trainingzone.eurocontrol.int

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCONTROL - Guidance on Training Requirements for Operational Users of A-SMGCS Levels 1 & 2 - Edition 1.1 / 11/2006
Url : http://www.eurocontrol.int/articles/a-smgcs

ATM Master Plan Enabler - [CTE-S1b]-ADS-B Ground receiving station for RAD and APT applications

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AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1

relationship :

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	Start:01/2007	Finish: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) : EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

ATM Master Plan relationship : Enabler - [PRO-201]-Procedures linked to Improvement of Guidance and Control on the Manoeuvring Area on and around the Runway

Finalisation criteria : 1 - Implementation of the procedures at airports equipped with A-SMGCS Level 1 has been completed.

2 - Harmonized application of transponder operating procedures consistent with the equipment in use.

AOP04.1-APO01	Install required surveillance equipment	Start:01/2007	Finish: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) : 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

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

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

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

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

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCAE - ED-87B - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) – Levels 1 & 2- Including Amendment N°1 - January 2009 08/2008
Url : http://boutique.eurocae.net/catalog/index.php

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

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 : Enabler - [AERODROME-ATC-04]-Surface movement control workstation enhanced to use and display flight plan data

Enabler - [AERODROME-ATC-28]-Surface movement control workstation equipped with initial tools for Aerodrome Control Service

Enabler - [AERODROME-ATC-36]-Airport surveillance data processing and distribution upgraded to store and forward

AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1

[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	Start:01/2007	Finish: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 : http://www.eurocontrol.int/articles/a-smgcs

Finalisation criteria : 1 - Vehicle equipment that meets required performance specifications has been installed.

AOP04.1-APO03	Train Ground Vehicle Drivers	Start:01/2007	Finish: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 : http://www.eurocontrol.int/articles/a-smgcs

EUROCONTROL - Mode S Transponder in an Airport/A-SMGCS Environment - Edition 1.1 / 05/2005
Url : http://www.eurocontrol.int/articles/a-smgcs

Finalisation criteria : 1 - Vehicle drivers have been trained and authorized.

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	Start:01/2004	Finish:12/2010

Action by : Airspace Users

Description & purpose : Perform the training of aircrew in the use of aircraft equipment and procedures in accordance with A-SMGCS Level 1.

Supporting material(s) : EUROCONTROL - Mode S Transponder in an Airport/A-SMGCS Environment - Edition 1.1 / 05/2005
Url : http://www.eurocontrol.int/articles/a-smgcs

Finalisation criteria : 1 - Procedures for use of correct Mode-S transponder setting for enabling co-operative A-SMGCS detection on the movement area have been incorporated in the pilot ab-initio and recurrent training programmes

AOP04.1-INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS Level 1 procedures	Start:11/2004	Finish:12/2011

Action by : EUROCONTROL Agency

Description & purpose : Obtain the incorporation of A-SMGCS Level 1 related procedures (including phraseology) into ICAO documentation.

Supporting material(s) : EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

Finalisation criteria : 1 - Proposed A-SMGCS Level 1 procedures have been adopted by ICAO and published in ICAO documents (i.e. Doc. 4444, and/or Doc. 7030).

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

Description & purpose

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.

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

Applicable area(s)

See list of airports in ESSIP Plan - Annex B

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:	01/2007
Full operational capability:	12/2017

References

European ATM Master Plan relationship

OI step - [AO-0102]-Automated Alerting of Controller in Case of Runway Incursion or Intrusion into Restricted Areas

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

ICAO Annex 10 - Telecommunications
ICAO Annex 14 - Aerodromes

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish
AOP04.2-REG01	Approve A-SMGCS Level 2 implementations for operation	01/2007	12/2017
AOP04.2-ASP01	Install required A-SMGCS control function equipment	01/2007	12/2017
AOP04.2-ASP02	Train aerodrome control staff in the use of A-SMGCS Level 2 in the provision of an aerodrome control service	01/2007	12/2017
AOP04.2-ASP03	Implement approved A-SMGCS Level 2 operational procedures at airports equipped with A-SMGCS Level 2	01/2007	12/2017
AOP04.2-APO01	Install required A-SMGCS control function equipment	01/2007	12/2017
AOP04.2-INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS Level 2 procedures	11/2004	12/2017
AOP04.2-AGY01	Production of agreed & validated guidance material for the implementation of A-SMGCS Level 2	**FINALISED**	
AOP04.2-AGY02	Develop agreed ATC procedures for A-SMGCS Level 2, through established EUROCONTROL Agency processes and mechanisms for proposal to ICAO	**FINALISED**	
AOP04.2-AGY03	Develop and incorporate A-SMGCS Level 2 training requirements into the common core training syllabus	**FINALISED**	
AOP04.2-AGY04	Develop and propose amendments to ICAO documentation, using established processes	**FINALISED**	

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **Airport Operations Team (AOT)**
Outline description approved in: -
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2005
Latest change to objective approved/endorsed in: 07/2013

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AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2

Expected performance benefits

Safety : The systematic presentation of potentially hazardous conflicts or infringements of runway and restricted areas will help ensure the safety of aerodrome operations.

Capacity : Ability to maintain traffic throughput during periods when aerodrome traffic cannot be observed visually by aerodrome controllers, through the use of A-SMGCS Level 2 safety net combined with improved surveillance information of A-SMGCS Level 1 and appropriate procedures.

Cost-effectiveness : More efficient control of aerodrome surface traffic, leading to a reduction in delay and fuel burn. Reduction of incidents & accidents on manoeuvring area.

Environment : N/A

Security : N/A

Detailed SloA descriptions

AOP04.2-REG01	Approve A-SMGCS Level 2 implementations for operation	Start:01/2007	Finish:12/2017

Action by : National Supervisory Authorities (NSAs)

Description & purpose : Approve A-SMGCS Level 2 installations at equipped airports for operation (following an agreed assessment/evaluation process)

Supporting material(s) : 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*

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*

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*

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*

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*

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : *http://www.eurocontrol.int/articles/a-smgcs*

EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 06/2010
Url : *http://www.eurocontrol.int/articles/a-smgcs*

EUROCAE - ED-87B - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) – Levels 1 & 2- Including Amendment N°1 - January 2009 08/2008
Url : *http://boutique.eurocae.net/catalog/index.php*

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*

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 - A-SMGCS Level 2 system for operational use has been approved and/or certified.

AOP04.2-ASP01	Install required A-SMGCS control function equipment	Start:01/2007	Finish:12/2017

Action by : ANS Providers

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AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2

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) : 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

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

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

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

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Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 06/2010
Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCAE - ED-87B - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) – Levels 1 & 2- Including Amendment N°1 - January 2009 08/2008
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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 : Enabler - [AERODROME-ATC-03]-Surface movement control workstation equipped with tools for runway incursion detection and alerting

Enabler - [CTE-S5]-Independent Cooperative Surveillance sensors (SSR, WAM)

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	Start:01/2007	Finish: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) : EUROCONTROL - ATCO Rating Training - Training Plans: Aerodrome Training - Annex B: Detailed Training Plans - Edition 1.0 / 03/2004
Url : https://trainingzone.eurocontrol.int

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCONTROL - Guidance on Training Requirements for Operational Users of A-SMGCS Levels 1 & 2 - Edition 1.1 / 11/2006
Url : http://www.eurocontrol.int/articles/a-smgcs

ATM Master Plan relationship : Enabler - [CTE-S1b]-ADS-B Ground receiving station for RAD and APT applications

Finalisation criteria : 1 - Controllers training in accordance with agreed training requirements and programme has been completed.

AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2

AOP04.2-ASP03	Implement approved A-SMGCS Level 2 operational procedures at airports equipped with A-SMGCS Level 2	Start:01/2007	Finish: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) : EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCONTROL - Mode S Transponder in an Airport/A-SMGCS Environment - Edition 1.1 / 05/2005
Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCONTROL - Operational concept and requirements for A-SMGCS implementation level 2 - 2.1 / 06/2010
Url : http://www.eurocontrol.int/articles/a-smgcs

ATM Master Plan relationship : Enabler - [PRO-139]-ATC Procedures (Airport) for standardised response to runway incursion alerts

Enabler - [PRO-201]-Procedures linked to Improvement of Guidance and Control on the Manoeuvring Area on and around the Runway

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	Start:01/2007	Finish: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) : 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

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

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
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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

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Url : http://www.icao.int/publications/Pages/catalogue.aspx

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 04/2011
Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 06/2010
Url : http://www.eurocontrol.int/articles/a-smgcs

EUROCAE - ED-87B - Minimum Aviation System Performance Specification for Advanced Surface Movement Guidance and Control Systems (A-SMGCS) – Levels 1 & 2- Including Amendment N°1 - January 2009 08/2008
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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

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

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AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2

Finalisation criteria : 1 - Equipment that meets agreed performance requirements and specifications of A-SMGCS Level 2 has been installed.

AOP04.2-INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS Level 2 procedures	Start:11/2004	Finish:12/2017

Action by : EUROCONTROL Agency

Description & purpose : The incorporation of A-SMGCS Level 2 procedures (including phraseology) into ICAO documentation.

Finalisation criteria : 1 - Proposed procedures have been adopted by ICAO and published in ICAO documents (i.e. Doc. 4444, and/or Doc. 7030).

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SESAR	Active		APT
AOP05	**Implement Airport Collaborative Decision Making (CDM)**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

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.

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 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.

Applicable area(s)   *Operational capability dates FOR THIS OBJECTIVE*

See list of airports in ESSIP Plan - Annex B   *Initial operational capability:*   01/2004
                                                       Full operational capability: 01/2016

References

European ATM Master Plan relationship

OI step	-	[AO-0501]-Improved Operations in Adverse Conditions through Airport Collaborative Decision Making	ESSENTIAL
OI step	-	[AO-0601]-Improved Turn-Round Process through Collaborative Decision Making	ESSENTIAL
OI step	-	[AO-0602]-Collaborative Pre-departure Sequencing	ESSENTIAL
OI step	-	[AO-0603]-Improved De-icing Operation through Collaborative Decision Making	ESSENTIAL
OI step	-	[DCB-0301]-Improved Consistency between Airport Slots and Flight Plans	ESSENTIAL
OI step	-	[DCB-0302]-Collaborative Management of Flight Updates	ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

ICAO Annex 14 - Aerodromes

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish
AOP05-ASP01	Define and agree performance objectives and KPIs at local level, specific to ANSP in accordance with A-CDM Manual guidelines	01/2004	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	01/2004	01/2013
AOP05-ASP03	Define and implement local procedures for turnaround processes in accordance with CDM manual guidelines	01/2004	01/2016
AOP05-ASP04	Continually review and measure airport performance in accordance with Airport CDM Manual guidelines	01/2004	01/2013
AOP05-ASP05	Define and implement variable taxi-time and predeparture sequencing procedure according to airport CDM Manual guidelines	06/2006	01/2016
AOP05-ASP06	Define and implement procedures for CDM in adverse conditions, including the de-icing according to airport CDM Manual guidelines	01/2012	01/2016
AOP05-APO01	Define and agree performance objectives and KPIs at local level specific to airport operations in accordance with A-CDM Manual guidelines	01/2004	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	01/2004	01/2013

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AOP05	Implement Airport Collaborative Decision Making (CDM)

AOP05-APO03	Define and implement local procedures for turnaround processes in accordance with CDM manual guidelines (baseline CDM)	01/2004	01/2016	
AOP05-APO04	Continually review and measure airport performance	01/2004	01/2013	
AOP05-APO05	Define and implement the exchange of messages, Flight Update Message (FUM) and Departure Planning Information (DPI) between CFMU and the airport in accordance with A-CDM Manual guidelines	03/2005	01/2014	
AOP05-APO06	Define and implement procedures for CDM in adverse conditions including the de-icing according to airport CDM Manual guidelines	06/2006	01/2016	
AOP05-USE01	Define and agree specific to aircraft operators performance objectives and KPIs at local level in accordance with A-CDM Manual guidelines	01/2004	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	01/2004	01/2013	**M**
AOP05-USE03	Define and implement local procedures for turnaround processes in accordance with A-CDM manual guidelines	01/2004	01/2016	**M**
AOP05-USE04	Continually review and measure airport performance	01/2004	01/2013	
AOP05-USE05	Define and implement procedures for CDM in adverse conditions including the de-icing according to A-CDM Manual guidelines	01/2012	01/2016	

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

<u>**Working arrangement in charge:**</u>   **Airport Operations Team (AOT)**
Outline description approved in: -
Latest objective review at expert level in: 04/2012

<u>**Commitment decision body:**</u>   **Provisional Council (PC)**
Objective approved/endorsed in: 07/2003
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

<u>*Safety :*</u>   The more effective airside and landside operations management, improved situational awareness of all actors and resulting reduced congestion has a positive effect on safety

<u>*Capacity :*</u>   Enhanced airport capacity through optimal use of airside and landside facilities and services, better use of airport and ATFM slots

<u>*Cost-effectiveness :*</u> Punctuality improvements for all Stakeholders will reduce operating costs.

The Airport Operations Programme Business case Assessment (Ref no: 04316-01 ed. 1.1., 02.2004, www.eurocontrol.int/airports) performed on the Airport CDM Applications Cluster provides an overall assessment of costs and benefits at the ECAC level.

Airport CDM has been assessed as low in implementation costs and high in return of benefits.

<u>*Environment :*</u>   Reduced noise and emissions due to limiting engine ground running time due to better timed operations
<u>*Security :*</u>   N/A

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**	Start:01/2004	Finish:01/2013

<u>*Action by :*</u>   ANS Providers
<u>*Description & purpose :*</u> Agree and define specific performance objectives and KPIs through a local A-CDM committee, in co-operation with other stakeholders involved.

AOP05	Implement Airport Collaborative Decision Making (CDM)

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/documents/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 - 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	Start:01/2004	Finish: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) : 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/documents/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 : Enabler - [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	Start:01/2004	Finish:01/2016

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.

AOP05	Implement Airport Collaborative Decision Making (CDM)

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/documents/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 - 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	Start:01/2004	Finish: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) : 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/documents/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

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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-ASP05	Define and implement variable taxi-time and predeparture sequencing procedure according to airport CDM Manual guidelines	Start:06/2006	Finish:01/2016

Action by : ANS Providers

Description & purpose : 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 .

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/documents/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

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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

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AOP05	Implement Airport Collaborative Decision Making (CDM)

ATM Master Plan relationship :   Enabler - [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	Start:01/2012	Finish:01/2016

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) :   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/documents/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 :   Enabler - [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 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	Start:01/2004	Finish: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) :   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/documents/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 - 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	Start:01/2004	Finish:01/2013

Action by :   Airport Operators

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.

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AOP05	Implement Airport Collaborative Decision Making (CDM)

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/documents/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 :	Enabler - [AIRPORT-31]-Airport CDM (levels 1, 2 & 3)
Finalisation criteria :	1 - LoA or MoU between the A-CDM Partners has been agreed.
	2 - Information sharing has been implemented.

AOP05-APO03	Define and implement local procedures for turnaround processes in accordance with CDM manual guidelines (baseline CDM)	Start:01/2004	Finish:01/2016

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) :	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/documents/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 :	Enabler - [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	Start:01/2004	Finish: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.

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AOP05	Implement Airport Collaborative Decision Making (CDM)

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/documents/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-APO05	Define and implement the exchange of messages, Flight Update Message (FUM) and Departure Planning Information (DPI) between CFMU and the airport in accordance with A-CDM Manual guidelines	Start:03/2005	Finish: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/documents/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 - 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	Start:06/2006	Finish:01/2016

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.

AOP05	Implement Airport Collaborative Decision Making (CDM)

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/documents/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 :

Enabler - [PRO-073]-Airport Procedures to maximise throughput of de-icing stands

Enabler - [PRO-204a]-Collaborative Procedures (Airport) for improving Airport Operations in Adverse Conditions

Enabler - [PRO-AC-75]-Cockpit Procedures (AWOP) linked to Optimisation of Airport Operations in All Weather Conditions

Finalisation criteria : 1 - LoA or MoU between the A-CDM partners has been agreed.

2 - CDM procedures for the management of adverse conditions have been established.

AOP05-USE01	Define and agree specific to aircraft operators performance objectives and KPIs at local level in accordance with A-CDM Manual guidelines	Start:01/2004	Finish: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) : 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/documents/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 - 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	Start:01/2004	Finish:01/2013

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.

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AOP05	Implement Airport Collaborative Decision Making (CDM)

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/documents/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 - 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	Start:01/2004	Finish:01/2016

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) :   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/documents/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 :   Enabler - [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	Start:01/2004	Finish: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.

AOP05	Implement Airport Collaborative Decision Making (CDM)

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/documents/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	Start:01/2012	Finish:01/2016

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/documents/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 : Enabler - [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 have been established.

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SESAR	Active		ECAC
ATC02.2	**Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Implement and make operational use of the Short Term Conflict Alert (STCA) ground based safety net in line with the EUROCONTROL Specification for STCA and the related guidance material.

Note: Military ATC authorities are invited to consider implementation of STCA level 2 when providing ATS surveillance services to GAT.

Applicable area(s)
All ECAC States
Airspace in which ATS surveillance services are provided.

Operational capability dates FOR THIS OBJECTIVE
Initial operational capability: 01/2008
Full operational capability: 01/2013

References

European ATM Master Plan relationship

OI step   -   [CM-0801]-Ground Based Safety Nets (TMA, En Route)   ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
ATC02.2-REG01	Conduct safety oversight of the changes	01/2012	01/2013	**M**
ATC02.2-ASP01	Implement STCA in line with EUROCONTROL Specification for STCA	01/2008	01/2013	**M**
ATC02.2-ASP02	Align ATCO training with EUROCONTROL Specification for STCA	01/2008	01/2013	**M**
ATC02.2-ASP03	Develop safety assessment for the changes	01/2012	01/2013	

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **SAFETY / SPIN SG**
Outline description approved in: -
Latest objective review at expert level in: 05/2006

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2000
Latest change to objective approved/endorsed in: 07/2011

Expected performance benefits

Safety :   The systematic presentation of potential infringements of separation minima to controllers ahead of their occurrence, as provided by STCA, is a major safety assurance tool.

Capacity :   N/A

Cost-effectiveness :   Standardisation of STCA enables cost-effective use of resources and is in particular a critical success factor for smaller ASP.

Environment :   N/A

Security :   N/A

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ATC02.2	Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2

Detailed SloA descriptions

ATC02.2-REG01	Conduct safety oversight of the changes	Start:01/2012	Finish:01/2013

Action by : National Supervisory Authorities (NSAs)

Description & purpose : Verify that a safety assessment is conducted and review the safety assessment report before acceptance.

Conduct the safety oversight of changes introduced by the introduction of Short Term Conflict Alert - level 2 ground safety net.

The tasks to be done are as follows:

- Analyse the provided safety assessment in detail;
- Review safety arguments provided in the safety assessment report;
- Notify the ANSP/ANS by written letter of the accepted change.

The safety case shall be developed in accordance with a validated / recognised safety assessment method.

Supporting material(s) : EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 12/2009
Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011 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 - The introduction of the change into service was accepted and a notification of acceptance has been provided to the ANSP.

ATC02.2-ASP01	Implement STCA in line with EUROCONTROL Specification for STCA	Start:01/2008	Finish:01/2013

Action by : ANS Providers

Description & purpose : Implement STCA systems and associated procedures in line with EUROCONTROL Specification and related guidance material in En-Route airspace, applicable TMAs and Military ATC units providing radar services.

Supporting material(s) : EUROCONTROL - GUID-123 - EUROCONTROL Guidance Material for Short Term Conflict Alert - Edition 2.0 - 2.0 / 05/2009
Url : https://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/guidance-material-for-short-term-conflict-alert.pdf

EUROCONTROL - SPEC 108 - EUROCONTROL Specification for Short Term Conflict Alert (STCA)
 - Edition 1.0 / 11/2007
Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/specifications/20071122-stca-spe-v1.0.pdf

ATM Master Plan relationship : Enabler - [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.

Finalisation criteria : 1 - STCA function is implemented, documented and in operational use.

ATC02.2-ASP02	Align ATCO training with EUROCONTROL Specification for STCA	Start:01/2008	Finish:01/2013

Action by : ANS Providers

Description & purpose : Train operational staff in the use of STCA in line with guidelines based on the EUROCONTROL Specification for STCA and related guidance material.

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 108 - EUROCONTROL Specification for Short Term Conflict Alert (STCA)
 - Edition 1.0 / 11/2007
Url : http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/specifications/20071122-stca-spe-v1.0.pdf

Finalisation criteria : 1 - The training plans have been updated and a training package has been developed by the ANSP.

ATC02.2	Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2

ATC02.2-ASP03	Develop safety assessment for the changes	Start:01/2012	Finish:01/2013

Action by :   ANS Providers

Description & purpose :   Develop safety assessment of the changes, notably ATC systems and procedures that will implement Short Term Conflict Alert (STCA) - level 2 functionality and associated procedures.

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.

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

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

EUROCONTROL - Safety Assessment Made Easier (SAME), Part 1 - Edition 1.0 / 01/2010
Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#15

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.

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SESAR	Active		ECAC
ATC02.5	**Implement ground based safety nets - Area Proximity Warning - level 2**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Implement and make operational use of the Area Proximity Warning (APW) ground based safety tool in En-Route airspace, applicable TMAs and Military ATC units providing surveillance services.

Area Proximity Warning (APW) is a ground based safety net which 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 is intended to function in the short term

Terrain and traffic characteristics can lead to a significant safety risk that can be mitigated by this tool.

Note: (1). Military ATC authorities are invited to consider implementation of APW level 2 when providing ATS surveillance services to GAT

Note: (2). Existing draft EUROCONTROL Specification for APW could be used as guidance material (ref. supporting material of individual SLoAs)

Applicable area(s)

All ECAC States
Selected portions of airspace in which ATS surveillance services are provided. Deployment according to local needs (e.g.: terrain and traffic characteristics as identified by concerned stakeholders)

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2009
Full operational capability: 12/2016

References

European ATM Master Plan relationship

OI step - [CM-0801]-Ground Based Safety Nets (TMA, En Route)   ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SIoA)

SloA ref.	Title	Start	Finish	
ATC02.5-REG01	Approve EUROCONTROL Specification for APW	**DELETED**		**M**
ATC02.5-ASP01	Implement the APW function	01/2009	12/2016	**M**
ATC02.5-ASP02	Align ATCO training with the use of APW ground-based safety tools	01/2009	12/2016	**M**
ATC02.5-INT01	Amend ICAO documentation if required	**DELETED**		
ATC02.5-AGY01	Produce EUROCONTROL Specification for APW and related guidance material	**DELETED**		

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **SAFETY / SPIN SG**
Outline description approved in: 03/2012
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2006
Latest change to objective approved/endorsed in: 07/2012

Expected performance benefits

Safety :   The systematic presentation of imminent and actual unauthorized penetrations into airspace volumes to controllers ahead of their occurrence, as provided by APW, is a major safety assurance tool.

Capacity :   N/A

Cost-effectiveness :   Standardisation of APW enables cost-effective use of scarce resources and is in particular a critical success factor for smaller ASP.

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ATC02.5	Implement ground based safety nets - Area Proximity Warning - level 2

Environment :   N/A

Security :   N/A

Detailed SloA descriptions

ATC02.5-ASP01	Implement the APW function	Start:01/2009	Finish:12/2016

Action by : ANS Providers

Description & purpose : Put into service ground-based safety tool systems and associated procedures supporting the APW function in En-Route airspace, applicable TMAs and Military ATC units providing surveillance services.

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

ATM Master Plan relationship : Enabler - [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.

Finalisation criteria : 1 - Ground systems have been upgraded to support the APW function.

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 - APW function ready for operational use.

ATC02.5-ASP02	Align ATCO training with the use of APW ground-based safety tools	Start:01/2009	Finish: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

Finalisation criteria : 1 - The training plans have been updated and a training package has been developed by the ANSP for the use of APW functions.

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SESAR	Active		ECAC
ATC02.6	Implement ground based safety nets - Minimum Safe Altitude Warning - level 2		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Implement and make operational use of the MSAW ground based safety net.

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.

Terrain and traffic characteristics can lead to a significant safety risk that can be mitigated by this tool.

Note: (1). Military ATC authorities are invited to consider implementation of MSAW level 2 when providing ATS surveillance services to GAT

Note: (2). Existing draft EUROCONTROL Specification for MSAW could be used as guidance material (ref. supporting material of individual SLoAs)

Applicable area(s)

All ECAC States except: Greece, United Kingdom
Selected portions of airspace in which ATS surveillance services are provided. Deployment according to local needs (e.g.: terrain and traffic characteristics as identified by concerned stakeholders).

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2009
Full operational capability: 12/2016

References

European ATM Master Plan relationship

OI step - [CM-0801]-Ground Based Safety Nets (TMA, En Route)   ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
ATC02.6-REG01	Approve EUROCONTROL Specification for MSAW	**DELETED**		**M**
ATC02.6-ASP01	Implement the MSAW function	01/2009	12/2016	**M**
ATC02.6-ASP02	Align ATCO training with the use of MSAW ground-based safety tools	01/2009	12/2016	**M**
ATC02.6-INT01	Amend ICAO documentation if required	**DELETED**		**M**
ATC02.6-AGY01	Produce a EUROCONTROL Specification for MSAW	**DELETED**		

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **SAFETY / SPIN SG**
Outline description approved in: 02/2012
Latest objective review at expert level in: 03/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 06/2006
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

Safety :	The systematic presentation of possible infringements of minimum safe altitude to controllers ahead of their occurrence, as provided by MSAW, is a major safety contribution.
Capacity :	N/A
Cost-effectiveness :	Standardisation of MSAW enables cost-effective use of resources and is in particular a critical success factor for smaller ANSP.
Environment :	N/A
Security :	N/A

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ATC02.6	Implement ground based safety nets - Minimum Safe Altitude Warning - level 2

Detailed SloA descriptions

ATC02.6-ASP01	Implement the MSAW function	Start:01/2009	Finish: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 - 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

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

ATM Master Plan relationship : Enabler - [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.

Finalisation criteria : 1 - Ground systems have been upgraded to support the MSAW function.

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 - MSAW function for operational use.

ATC02.6-ASP02	Align ATCO training with the use of MSAW ground-based safety tools	Start:01/2009	Finish:12/2016

Action by : ANS Providers

Description & purpose : Train operational staff in the use of MSAW. 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-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

Finalisation criteria : 1 - The training plans have been updated and a training package has been developed by the ANSP for the use of MSAW functions.

SESAR	Active		ECAC
ATC02.7	**Implement ground based safety nets - Approach Path Monitor - level 2**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Implement and make operational use of the Approach Path Monitor (APM) ground based safety net.

An approach path monitor (APM) is a ground based Safety Net intended to warn the controller 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.

Terrain and traffic characteristics can lead to a significant safety risk that can be mitigated by this tool.

Note: (1). Military ATC units are invited to consider implementation of APM level 2 when providing ATS surveillance services to GAT

Note: (2). Existing draft EUROCONTROL Specification for APM could be used as guidance material (ref. supporting material of individual SLoAs)

Applicable area(s)

All ECAC States except: Georgia, Greece, Slovak Republic
Selected portions of airspace in which ATS surveillance services are provided. Deployment according to local needs (e.g.: terrain and traffic characteristics as identified by concerned stakeholders)

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2009
Full operational capability: 12/2016

References

European ATM Master Plan relationship

OI step - [CM-0801]-Ground Based Safety Nets (TMA, En Route) ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
ATC02.7-REG01	Approve EUROCONTROL Specification for APM	**DELETED**		**M**
ATC02.7-ASP01	Implement the APM function	01/2009	12/2016	**M**
ATC02.7-ASP02	Align ATCO training with the use of APM ground-based safety tools	01/2009	12/2016	**M**
ATC02.7-INT01	Amend ICAO documentation if required	**DELETED**		
ATC02.7-AGY01	Produce EUROCONTROL Specification for APM and related guidance material	**DELETED**		

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **SAFETY / SPIN SG**
Outline description approved in: 03/2012
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2006
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

Safety : The systematic presentation of deviations from the glide path to controllers, as provided by APM, is a major safety contribution.

Capacity : N/A

Cost-effectiveness : Standardisation of APM enables cost-effective use of resources and is in particular a critical success factor for smaller ANSP.

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ATC02.7	Implement ground based safety nets - Approach Path Monitor - level 2

Environment :　　　　N/A

Security :　　　　　N/A

Detailed SIoA descriptions

ATC02.7-ASP01	**Implement the APM function**	Start:01/2009	Finish:12/2016

Action by :　　　　　　　ANS Providers

Description & purpose :　　Put into service ground-based safety tool systems and associated procedures supporting the APM function

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 0.9 / 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

ATM Master Plan relationship :　　Enabler - [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.

Finalisation criteria :　　1 - Ground systems have been upgraded to support the APM function.

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 - APM function is in operational use.

ATC02.7-ASP02	**Align ATCO training with the use of APM ground-based safety tools**	Start:01/2009	Finish: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 - SPEC 128 - EUROCONTROL Specification for Approach Path Monitor - Edition 0.9 / 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

Finalisation criteria :　　1 - The training plans have been updated and a training package has been developed by the ANSP for the use of APM functions.

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SESAR	Active		Multi-N
ATC07.1	**Implement arrival management tools**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Implement Basic Arrival Manager (AMAN) tools to improve sequencing and metering of arrival aircraft in selected TMAs and airports.

Applicable area(s)

All EU States except: Bulgaria, Cyprus, Estonia, Greece, Lithuania, Malta, Slovak Republic, Slovenia.
Plus: Bosnia and Herzegovina, Maastricht UAC, Norway, Switzerland, Ukraine
Selected airports and TMAs in the states.

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:	01/2007
Full operational capability:	12/2015

References

European ATM Master Plan relationship

OI step - [TS-0102]-Basic Arrival Management Supporting TMA Improvements (incl. CDA, P-RNAV)   ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
None

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish
ATC07.1-ASP01	Implement initial basic arrival management tools	12/1998	12/2015
ATC07.1-ASP02	Implement initial basic AMAN procedures	01/2005	12/2015
ATC07.1-ASP03	Adapt TMA organisation to accommodate use of basic AMAN	01/2005	12/2015
ATC07.1-ASP04	Implement basic AMAN functions	01/2007	12/2015

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **Unassigned**
Outline description approved in: -
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2000
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

Safety :	Maintained or improved.
Capacity :	Improved airport/TMA capacity.
Cost-effectiveness :	Reduced costs through reduction in delays.
Environment :	Reduced holding and low level vectoring has a positive environmental effect in terms of noise and fuel usage.
Security :	N/A

Detailed SloA descriptions

ATC07.1-ASP01	**Implement initial basic arrival management tools**	Start:12/1998	Finish:12/2015

Action by :   ANS Providers
Description & purpose :   Implement initial basic arrival management tools

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ATC07.1	Implement 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://www.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	Start:01/2005	Finish:12/2015

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://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html

ATM Master Plan relationship :   Enabler - [PRO-049]-ATC Procedures to make use of AMAN tool including assigning responsibility for issuing times

Enabler - [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	Start:01/2005	Finish:12/2015

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://www.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	Implement basic AMAN functions	Start:01/2007	Finish:12/2015

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

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://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html

ATM Master Plan relationship :   Enabler - [ER APP ATC 128]-Introduce Basic AMAN

Finalisation criteria :   1 - ATC systems are already compliant to basic AMAN use, or have been adapted accordingly.

SESAR		Active				ECAC
ATC12		**Implement automated support for conflict detection and conformance monitoring**				
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Implement and make operational use of ground based automated ATC support tool for conflict detection and conformance monitoring (FASTI - related support tools).

Applicable area(s)	*Operational capability dates FOR THIS OBJECTIVE*	
All ECAC States	*Initial operational capability:*	01/2008
In En-Route airspace	*Full operational capability:*	12/2016

References

European ATM Master Plan relationship

OI step -	[CM-0202]-Automated Assistance to ATC Planning for Preventing Conflicts in En Route Airspace	ESSENTIAL
OI step -	[CM-0203]-Automated Flight Conformance Monitoring	ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

EUROCONTROL - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 02-12-2009

Stakeholder Lines of Action (SloA)

SloA ref.	*Title*	*Start*	*Finish*
ATC12-REG01	Approve use of MTCD and conformance monitoring functions and associated operational procedures	01/2008	12/2016
ATC12-ASP01	Implement MTCD and MONA functions and associated procedures	01/2008	12/2016
ATC12-ASP02	Perform ATCO training for the use of MTCD/MONA related functions	01/2008	12/2016
ATC12-ASP03	Develop safety assessment for the changes	01/2008	12/2016

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge:	**Unassigned**
Outline description approved in:	-
Latest objective review at expert level in:	04/2012

Commitment decision body:	**Provisional Council (PC)**
Objective approved/endorsed in:	07/2003
Latest change to objective approved/endorsed in:	07/2012

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%.
Cost-effectiveness :	Early conflict detection will enable smoother flight patterns, without frequent and sudden control interventions. This will have a moderate influence on airline costs. Moderate benefits for ANSPs due to better deployment of the ATCO workforce, reduced workload per aircraft and workload distribution.
Environment :	N/A.
Security :	N/A

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ATC12	Implement automated support for conflict detection and conformance monitoring

Detailed SIoA descriptions

ATC12-REG01	Approve use of MTCD and conformance monitoring functions and associated operational procedures	Start:01/2008	Finish:12/2016

Action by : National Supervisory Authorities (NSAs)

Description & purpose : Verify that a safety assessment is conducted and review the safety assessment report before acceptance. Furthermore conduct the safety oversight of changes introduced by the implementation and operational use of ground based automated ATC support tool for conflict detection and conformance monitoring.

The tasks to be done are as follows:

- Analyse the provided safety assessment in detail;
- Review safety arguments provided in the safety assessment report;
- Notify the ANSP/ANS by written letter of the accepted change.

The safety case shall be developed in accordance with a validated/recognised safety assessment method.

Supporting material(s) : EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 12/2009
Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011 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 - The introduction of the change into service has been accepted and a notification of acceptance has been provided to the ANSP.

ATC12-ASP01	Implement MTCD and MONA functions and associated procedures	Start:01/2008	Finish:12/2016

Action by : ANS Providers

Description & purpose : Prepare and adapt ATC ground systems, operational procedures and working methods to support and implement MTCD and Conformance Monitoring functions and associated operational procedures.

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 - 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 : Enabler - [ER APP ATC 129]-Upgrade FDP and provide Controller Tools to provide assistance to ATC Planning for Preventing Conflicts in En Route Airspace

Enabler - [ER APP ATC 130]-Upgrade FDP and provide Controller Tools to provide Controller with warnings if aircraft deviate from a clearance or plan

Enabler - [PRO-046b]-ATC Procedures for Using Advanced System Assistance to Medium Term Conflict Detection and Resolution

Finalisation criteria : 1 - MTCD and Conformance Monitoring function has been implemented, documented and is in operational use.

ATC12-ASP02	Perform ATCO training for the use of MTCD/MONA related functions	Start:01/2008	Finish:12/2016

Action by : ANS Providers

Description & purpose : Perform ATCO training for the use of FASTI related functions 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 - 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

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

ATC12	Implement automated support for conflict detection and conformance monitoring

Finalisation criteria :   1 - ATCOs have been trained for the use of FASTI related functions.

ATC12-ASP03	Develop safety assessment for the changes	Start:01/2008	Finish:12/2016

Action by :   ANS Providers

Description & purpose :   Develop safety assessment of the changes, notably ATC systems and procedures that will implement ground based automated ATC support tool for conflict detection 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 - 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*

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*

EUROCONTROL - Safety Assessment Made Easier (SAME), Part 1 - Edition 1.0 / 01/2010
Url : *http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#15*

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.

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SESAR	Active		Multi-N
ATC15	**Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Implement, in En-Route operations in selected ACCs, information exchange mechanisms, tools and procedures in support of Basic AMAN operations in adjacent and/or subjacent TMAs.

Applicable area(s)

All EU States except: Cyprus, Greece, Lithuania, Malta, Slovak Republic, Slovenia. Plus: Bosnia and Herzegovina, Maastricht UAC, Montenegro, Norway, Serbia, Switzerland, Turkey, Ukraine
In selected En-Route environments interfacing with AMAN systems and operations.

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:	01/2012
Full operational capability:	12/2017

References

European ATM Master Plan relationship

OI step - [TS-0305]-Arrival Management Extended to En Route Airspace   ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

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

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **Unassigned**
Outline description approved in: 02/2009
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 05/2009
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

Safety :	Maintained or improved.
Capacity :	Improved airport/TMA capacity.
Cost-effectiveness :	Reduced costs through reduction in delays, reduction in low-level holding operations and reduction in low-level tactical vectoring for delay purposes.
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 fuel usage.
Security :	N/A

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ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations

Detailed SloA descriptions

ATC15-REG01	Conduct safety oversight of the changes	Start:01/2012	Finish:12/2017

Action by :	National Supervisory Authorities (NSAs)
Description & purpose :	Verify that a safety assessment is conducted and review the safety assessment report before acceptance.
	Conduct the safety oversight of changes introduced by En- Route operations in selected ACCs, in support of Basic AMAN operations in adjacent and/or subjacent TMAs.
	The tasks to be done are as follows:
	- Analyse the provided safety assessment in detail; - Review safety arguments provided in the safety assessment report; - Notify the ANSP/ANS by written letter of the accepted change.
Supporting material(s) :	EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 12/2009 *Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm*
	EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011 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 - Formal acceptance by the NSA of the proposed changes has been communicated to ANSP.

ATC15-REG02	Approve the procedures for operation of AMAN tools in en route sectors supporting AMAN in adjacent/subjacent areas.	Start:01/2012	Finish:12/2017

Action by :	National Supervisory Authorities (NSAs)
Description & purpose :	Approve the validated procedures, working methods and training of ATCOs for the operation of AMAN tools in En-Route sectors supporting AMAN in adjacent/subjacent areas. The tasks to be done are as follows: - Analyse the specified procedure; - Review available validated data and information; - Prepare relevant information for the publication.
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*
Finalisation criteria :	1 - A formal approval of the procedures for operation of AMAN tools in En-Route sectors supporting AMAN in adjacent/subjacent areas has been delivered to the ANSP.

ATC15-ASP01	Develop safety assessment for the changes	Start:01/2012	Finish:12/2017

Action by :	ANS Providers
Description & purpose :	Develop safety assessment of the changes, notably ATC systems and procedures that will implement arrival management functionality in En-Route sectors and associated procedures.
	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.
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*
	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*
	EUROCONTROL - Safety Assessment Made Easier (SAME), Part 1 - Edition 1.0 / 01/2010 *Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#15*

ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations		

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-ASP02	Adapt the ATC systems that will implement arrival management functionality in En-Route sectors in support of AMAN operations in adjacent/subjacent TMAs	Start:01/2012	Finish: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) : 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://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html

ATM Master Plan relationship : Enabler - [ER APP ATC 111]-Enhance AMAN to provide arrival sequence time information into En Route decision making.

Finalisation criteria : 1 - ATC systems are either:
- 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.

2 - ANSPs have described the level of system support and functionality with direct reference to the relevant complexity level as defined in the -AMAN Information Extension to En-Route Sectors- Concept - documentation.

ATC15-ASP03	Implement ATC procedures in En-Route airspace/sectors that will implement AMAN information and functionality	Start:01/2012	Finish: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://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html

ATM Master Plan relationship : Enabler - [PRO-052]-ATC Procedures for extending sequencing for TMA into the enroute 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-ASP04	Train operational and technical staff and update Training Plans	Start:01/2012	Finish: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.

ATC15-ASP05	Revise and publish Aeronautical Information documents	Start:01/2012	Finish:12/2017

Action by : ANS Providers

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ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations

Description & purpose : Revise and publish aeronautical Information regarding 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:
- Design and validate procedures for all eligible en route airspace/sectors that will implement AMAN information and functionality in support of AMAN in adjacent/subjacent TMAs;
- Publish AIC/NOTAM to inform the aviation community of the entry into force of changes in accordance with applicable AIRAC dates;
- Prepare necessary material for publication in AIP;
- Publish relevant sections of AIP accordingly.

Finalisation criteria : 1 - AIC and AIP have been published taking due account of the impact of this deployment.

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ATC16	**Implement ACAS II compliant with TCAS II change 7.1**	

REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

This implementation objective is aligned to Regulation (EU) No 1332/2011 of 16 December 2011 laying down common airspace usage requirements and operating procedures for airborne collision avoidance.

This objective is applicable to all flights performed by turbine-powered aeroplanes, regardless of State of Registry:
- with MTOW > 5700 kg, or
- authorised to carry more than 19 passengers; or
- any other aeroplane equipped on a voluntary basis with ACAS II.

This objective is not applicable to unmanned aircraft systems

Regulation (EU) No 1332/2011 applies as of 01 March 2012. By way of derogation, for aircraft with individual certificate of airworthiness issued before 1 March 2012, the provisions in Regulation (EU) No 1332/2011 shall apply as of 1st December 2015.

For ACAS II (with 7.0 logic), Military Authorities of ECAC Member States previously agreed on a voluntary installation programme on military transport type aircraft from 01 January 2005. Germany made ACAS II mandatory within its airspace from 01 January 2000 for all aircraft including military transport type aircraft (DE AIC IFR 8 - 23 DEC 04).

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:	03/2012
Full operational capability:	12/2015

References

European ATM Master Plan relationship

Enabler - [CTE-S11a]-CTE-S11a - Upgrades to TCAS

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
Commission Regulation (EU) No 1332/2011 of 16 December 2011 laying down common airspace usage requirements and operating procedures for airborne collision avoidance

Applicable ICAO Annexes and other references

ICAO Annex 10 - Amendment 85 of October 2010

Stakeholder Lines of Action (SloA)

SloA ref.	**Title**	**Start**	**Finish**
ATC16-REG01	Supervise compliance with regulatory provisions	03/2012	12/2015
ATC16-REG02	Provide airworthiness certification	03/2012	12/2015
ATC16-REG03	Deliver operational approval for ACAS II version 7.1 equipped aircraft	03/2012	12/2015
ATC16-ASP01	Train controllers	-	03/2012
ATC16-ASP02	Establish ACAS II (TCAS II version 7.1) performance monitoring	-	03/2012
ATC16-MIL01	Equip and put into service transport-type aircraft with ACAS II (TCAS II version 7.1) capability	03/2012	12/2015
ATC16-MIL02	Train aircrews of tactical aircraft (not ACAS II equipped)	-	03/2012
ATC16-USE01	Obtain airworthiness certification for ACAS II version 7.1 equipped aircraft	03/2012	12/2015
ATC16-USE02	Obtain operational approval for ACAS II version 7.1 equipped aircraft	03/2012	12/2015

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge:	**Unassigned**
Outline description approved in:	03/2011
Latest objective review at expert level in:	04/2012

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ATC16	**Implement ACAS II compliant with TCAS II change 7.1**

Expected performance benefits

Safety :   Improve ATM safety by reducing incidence of mid-air collisions between aircraft.

Capacity :   N/A

Cost-effectiveness :   N/A

Environment :   N/A

Security :   N/A

Detailed SloA descriptions

ATC16-REG01	**Supervise compliance with regulatory provisions**	Start:03/2012	Finish:12/2015

Action by :   National Supervisory Authorities (NSAs)

Description & purpose :   Supervise compliance with regulatory provisions for ACAS II (TCAS II version 7.1). The tasks to be done are as follows:
- Ensure that all concerned aircraft in the State of Registry under its oversight are equipped with certified ACAS II equipment;
- Ensure that these ACAS II equipment have received airworthiness certificate, in compliance with applicable EASA certification material;
- Ensure that all concerned aircraft operators in the State of Registry under its oversight have received an operational approval in compliance with applicable EASA material.

Supporting material(s) :   ICAO - Annex 10,Volume IV - Aeronautical Telecommunications, Volume IV - Surveillance and Collision Avoidance Systems - 4th Edition
Url : http://store1.icao.int/mainpage.ch2

ICAO - Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual - Edition 2 / 01/2012
Url : http://www.icao.int/publications/Pages/catalogue.aspx

EASA - AMC 20-15 - Airworthiness Certification Considerations for the Airborne Collision Avoidance System (ACAS II) with optional Hybrid Surveillance - ED Decision 2011/001/R / 03/2011
Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20

EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 09/2010
Url : http://boutique.eurocae.net/catalog/index.php

EASA - ETSO-C119c - Traffic Alert and Collision Avoidance System (TCAS) Airborne Equipment, TCAS II - ED Decision 2009/015/R / 12/2009
Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO

Finalisation criteria :   1 - Evidence on the status of compliance with regulatory provisions for ACAS II (TCAS 7.1) for aircraft and aircraft operators in the State of Registry under the NSA oversight has been provided.

ATC16-REG02	**Provide airworthiness certification**	Start:03/2012	Finish:12/2015

Action by :   Competent Authorities

Description & purpose :   Provide airworthiness certification to all concerned aircraft in the State of Registry under its responsibility, which are equipped with ACAS II equipment compliant with applicable airworthiness requirements.

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ATC16	Implement ACAS II compliant with TCAS II change 7.1

ICAO - Annex 10,Volume IV - Aeronautical Telecommunications, Volume IV - Surveillance and Collision Avoidance Systems - 4th Edition
Url : http://store1.icao.int/mainpage.ch2

ICAO - Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual - Edition 2 / 01/2012
Url : http://www.icao.int/publications/Pages/catalogue.aspx

EASA - AMC 20-15 - Airworthiness Certification Considerations for the Airborne Collision Avoidance System (ACAS II) with optional Hybrid Surveillance - ED Decision 2011/001/R / 03/2011
Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20

EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 09/2010
Url : http://boutique.eurocae.net/catalog/index.php

EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 04/2009
Url : http://boutique.eurocae.net/catalog/index.php

EASA - ETSO-C119c - Traffic Alert and Collision Avoidance System (TCAS) Airborne Equipment, TCAS II - ED Decision 2009/015/R / 12/2009
Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO

EUROCAE - ED-143 - Volume I : Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II)
Volume II : TCAS II Collision Avoidance System (CAS) Requirements Specification- Attachment A to Volume II 09/2008
Url : http://boutique.eurocae.net/catalog/index.php

Finalisation criteria :   1 - Airworthiness certification for ACAS II (TCAS 7.1) aircraft in the State of Registry under its responsibility has been provided.

ATC16-REG03	Deliver operational approval for ACAS II version 7.1 equipped aircraft	Start:03/2012	Finish:12/2015

Action by :   Competent Authorities

Description & purpose :   Deliver operational approval for ACAS II version 7.1 equipped aircraft. The tasks to be done are as follows:
- Instruction of the certification application file delivered by the applicant in accordance with the appropriate certification process;
- Approval of pertinent training programs, checklists, operations manuals or training manuals, maintenance programs, minimum equipment lists or other pertinent documents or document revisions applicable to that operator.

The requirements for certification and operation of ACAS II within the EU Member States, Norway and Switzerland are covered in EU-OPS 1.

Supporting material(s) :   EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 09/2010
Url : http://boutique.eurocae.net/catalog/index.php

EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 04/2009
Url : http://boutique.eurocae.net/catalog/index.php

RTCA - DO-185B - Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II) 08/2006
Url : http://www.rtca.org/doclist.asp

RTCA - DO-185B-Change 1 - Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II) - Change 1 01/2007
Url : http://www.rtca.org/doclist.asp

RTCA - DO-185A - Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II) Airborne Equipment 12/1997
Url : http://www.rtca.org/doclist.asp

EUROCAE - ED-143 - Volume I : Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II)
Volume II : TCAS II Collision Avoidance System (CAS) Requirements Specification- Attachment A to Volume II 09/2008
Url : http://boutique.eurocae.net/catalog/index.php

Finalisation criteria :   1 - Operational approval to aircraft operators having submitted an application has been delivered.

ATC16-ASP01	Train controllers	Start:-	Finish:03/2012

Action by :   ANS Providers

Description & purpose :   Train air traffic control staff in ACAS II (TCAS II version 7.1) procedures for the provision of air traffic control services.

The tasks to be done are as follows:

- Update existing training package (material) to ACAS II - TCAS II version 7.1;
- Develop training plan;
- Determine staff population to be trained;
- Apply the training plan.

ATC16	Implement ACAS II compliant with TCAS II change 7.1

Supporting material(s) :   EUROCONTROL - ACAS training material
Url : http://www.eurocontrol.int/acas-ii/training

ICAO - Annex 10,Volume IV - Aeronautical Telecommunications, Volume IV - Surveillance and Collision Avoidance Systems - 4th Edition
Url : http://store1.icao.int/mainpage.ch2

ICAO - Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual - Edition 2 / 01/2012
Url : http://www.icao.int/publications/Pages/catalogue.aspx

EASA - AMC 20-15 - Airworthiness Certification Considerations for the Airborne Collision Avoidance System (ACAS II) with optional Hybrid Surveillance - ED Decision 2011/001/R / 03/2011
Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20

EASA - ETSO-C119c - Traffic Alert and Collision Avoidance System (TCAS) Airborne Equipment, TCAS II - ED Decision 2009/015/R / 12/2009
Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO

Finalisation criteria :   1 - The training plan and package has been developed by the ANSP.

2 - All concerned personnel have been trained.

ATC16-ASP02	Establish ACAS II (TCAS II version 7.1) performance monitoring	Start:-	Finish:03/2012

Action by :   ANS Providers

Description & purpose :   Establish a monitoring of the performance of ACAS in the ATC environment, as described in PANS-ATM (Procedures for Air Navigation Services - ICAO Doc. 4444 Fifteenth Edition 2007-ATM/501)

Supporting material(s) :   ICAO - Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual - Edition 2 / 01/2012
Url : http://www.icao.int/publications/Pages/catalogue.aspx

EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 04/2009
Url : http://boutique.eurocae.net/catalog/index.php

EASA - ETSO-C119c - Traffic Alert and Collision Avoidance System (TCAS) Airborne Equipment, TCAS II - ED Decision 2009/015/R / 12/2009
Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO

EUROCAE - ED-143 - Volume I : Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II)
Volume II : TCAS II Collision Avoidance System (CAS) Requirements Specification- Attachment A to Volume II 09/2008
Url : http://boutique.eurocae.net/catalog/index.php

Finalisation criteria :   1 - A monitoring system of the performance of ACAS in the ATC environment, by means of regular incident occurrence reporting, investigation and analysis, has been put in place.

ATC16-MIL01	Equip and put into service transport-type aircraft with ACAS II (TCAS II version 7.1) capability	Start:03/2012	Finish:12/2015

Action by :   Military Authorities

Description & purpose :   Equip and put into service ACAS II (TCAS II version 7.1) in military fixed-wing turbine engine transport-type aircraft as specified in EASA ETSO C-119c.

Notes :   Where TCAS has been mandated or States have been agreed on a voluntary installation for transport type military aircraft, as well as for any future fitment to military airframes, TCAS implementation should be carried out with due regard to the TCAS version 7.1.

Supporting material(s) :   EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 09/2010
Url : http://boutique.eurocae.net/catalog/index.php

EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 04/2009
Url : http://boutique.eurocae.net/catalog/index.php

EUROCAE - ED-143 - Volume I : Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II)
Volume II : TCAS II Collision Avoidance System (CAS) Requirements Specification- Attachment A to Volume II 09/2008
Url : http://boutique.eurocae.net/catalog/index.php

Finalisation criteria :   1 - Transport-type aircraft have been equipped with ACAS II (TCAS II Version 7.1) compliant equipment.

ATC16-MIL02	Train aircrews of tactical aircraft (not ACAS II equipped)	Start:-	Finish:03/2012

Action by :   Military Authorities

ATC16	Implement ACAS II compliant with TCAS II change 7.1

Description & purpose : Train aircrews of tactical aircraft (not ACAS II equipped) on the implications of ACAS operations, when operating in the airspace environment.

Supporting material(s) : ICAO - Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual - Edition 2 / 01/2012
Url : http://www.icao.int/publications/Pages/catalogue.aspx

ICAO - Annex 10,Volume IV - Aeronautical Telecommunications, Volume IV - Surveillance and Collision Avoidance Systems - 4th Edition
Url : http://store1.icao.int/mainpage.ch2

Finalisation criteria : 1 - The training plan and package has been developed by the Military Authority.

2 - All concerned personnel have been trained.

ATC16-USE01	Obtain airworthiness certification for ACAS II version 7.1 equipped aircraft	Start:03/2012	Finish:12/2015

Action by : Airspace Users

Description & purpose : Provide a certification application case to the competent authority for the state of registry of the aircraft to obtain airworthiness certification for their airframes equipped with ACAS II equipment.

Supporting material(s) : EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 09/2010
Url : http://boutique.eurocae.net/catalog/index.php

EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 04/2009
Url : http://boutique.eurocae.net/catalog/index.php

EASA - ETSO-C119c - Traffic Alert and Collision Avoidance System (TCAS) Airborne Equipment, TCAS II - ED Decision 2009/015/R / 12/2009
Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO

EUROCAE - ED-143 - Volume I : Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II)
Volume II : TCAS II Collision Avoidance System (CAS) Requirements Specification- Attachment A to Volume II 09/2008
Url : http://boutique.eurocae.net/catalog/index.php

Finalisation criteria : 1 - Aircraft operators have received airworthiness certificate by the Competent Authorities, for ACAS II version 7.1 equipped aircraft.

ATC16-USE02	Obtain operational approval for ACAS II version 7.1 equipped aircraft	Start:03/2012	Finish:12/2015

Action by : Airspace Users

Description & purpose : In order to obtain operational approval by the Competent authority of the State from which they hold an Air Operator Certificate, operators must provide evidence which pertains to:
- Changes to training and maintenance programmes;
- Changes to manuals, operational procedures, minimum equipment lists; and
- Other areas necessary for safe and effective TCAS use and the qualification of aircrews through the approved training programmes.

Supporting material(s) : EASA - AMC 20-15 - Airworthiness Certification Considerations for the Airborne Collision Avoidance System (ACAS II) with optional Hybrid Surveillance - ED Decision 2011/001/R / 03/2011
Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20

EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 09/2010
Url : http://boutique.eurocae.net/catalog/index.php

EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 04/2009
Url : http://boutique.eurocae.net/catalog/index.php

RTCA - DO-185B - Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II) 08/2006
Url : http://www.rtca.org/doclist.asp

RTCA - DO-185B-Change 1 - Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II) - Change 1 01/2007
Url : http://www.rtca.org/doclist.asp

EASA - ETSO-C119c - Traffic Alert and Collision Avoidance System (TCAS) Airborne Equipment, TCAS II - ED Decision 2009/015/R / 12/2009
Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO

EUROCAE - ED-143 - Volume I : Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II)
Volume II : TCAS II Collision Avoidance System (CAS) Requirements Specification- Attachment A to Volume II 09/2008
Url : http://boutique.eurocae.net/catalog/index.php

Finalisation criteria : 1 - Aircraft operators have received operational approval by the Competent Authorities, for ACAS II version 7.1 equipped aircraft.

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SESAR		Active				ECAC
ATC17		**Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer**				
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

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: The new ESSIP objective ATC17 complements the (mandatory) requirements of basic notification, coordination and transfer functionalities which are already covered in ESSIP objective ITY- COTR and regulated by Commission Regulation (EC) No 1032/2006.

Applicable area(s)

All ECAC States except: Slovak Republic
Selected ATSUs according to regional/local needs and possibilities as identified by the concerned stakeholders based on local business cases and bilateral agreements.

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2013
Full operational capability: 12/2018

References

European ATM Master Plan relationship

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

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
Commission Regulation (EC) No 1032/2006 of 06 July 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.

Applicable ICAO Annexes and other references

ICAO Doc 4444 - PANS ATM

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish
ATC17-REG01	Conduct safety oversight of the changes	01/2013	12/2018
ATC17-ASP01	Develop safety assessment for the changes	01/2013	12/2018
ATC17-ASP02	Upgrade and put into service ATC system to support the Basic procedure (specifically PAC and COD)	01/2013	12/2018
ATC17-ASP03	Upgrade and put into service ATC system to support electronic dialogue procedure in Transfer of communication process	01/2013	12/2018
ATC17-ASP04	Upgrade and put into service ATC system to support electronic dialogue procedure in Coordination process	01/2013	12/2018

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ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer

ATC17-ASP05   Train ATC staff for applying electronic dialogue procedure   01/2013   12/2018

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **Unassigned**
Outline description approved in: 03/2012
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2012
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

Safety :   Reduction of human error.

Capacity :   Reduction of controller workload.

Cost-effectiveness :   More efficient planning and operational decision making.

Environment :   N/A

Security :   N/A

Detailed SloA descriptions

ATC17-REG01	Conduct safety oversight of the changes	Start:01/2013	Finish:12/2018

Action by :   National Supervisory Authorities (NSAs)

Description & purpose :   Oversee safety of the changes induced by upgrades of the system to support Electronic Dialogue during Coordination and Transfer. The tasks to be done are as follows:

- Analyse the safety case;
- Review safety arguments;
- Prepare the material for the acceptance of changes.

Supporting material(s) :   EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 12/2009
Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011 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 - Formal acceptance by the NSA of the proposed changes has been communicated to ANSP.

ATC17-ASP01	Develop safety assessment for the changes	Start:01/2013	Finish:12/2018

Action by :   ANS Providers

Description & purpose :   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:

- 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.

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ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer

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

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/ses/public/standard_page/oldi_spec.html

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 - 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 procedure (specifically PAC and COD)	Start:01/2013	Finish: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/ses/public/standard_page/oldi_spec.html

EUROCONTROL - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 03/2011
Url : http://www.eurocontrol.int/articles/fasti-documents

ATM Master Plan relationship : Enabler - [ARCH-0302]-Community Specification for OLDI

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.

ATC17-ASP03	Upgrade and put into service ATC system to support electronic dialogue procedure in Transfer of communication process	Start:01/2013	Finish: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/ses/public/standard_page/oldi_spec.html

EUROCONTROL - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 03/2011
Url : http://www.eurocontrol.int/articles/fasti-documents

ATM Master Plan relationship : Enabler - [ARCH-0302]-Community Specification for OLDI

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	Start:01/2013	Finish:12/2018

Action by : ANS Providers

ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer

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/ses/public/standard_page/oldi_spec.html* EUROCONTROL - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 03/2011 *Url : http://www.eurocontrol.int/articles/fasti-documents*
ATM Master Plan relationship :	Enabler - [ARCH-0302]-Community Specification for OLDI Enabler - [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.

ATC17-ASP05	Train ATC staff for applying electronic dialogue procedure	Start:01/2013	Finish: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: - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.
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/ses/public/standard_page/oldi_spec.html* EUROCONTROL - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 03/2011 *Url : http://www.eurocontrol.int/articles/fasti-documents*
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

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SESAR		Active				ECAC
COM09		**Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)**				
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

In the light of diminishing industry support for the X.25 protocol, it is expected that X.25 will be phased out by 2009-2012. This affects all international and regional ATM applications that make use of these networks. A replacement of X.25 for networks with a common standard is therefore strongly needed at European level.

Commission Regulation (EC) No 633/2007 of 7 June 2007 lays down requirements for the application of a 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. This regulation implies de facto that the IPv6 be the new standard for international or regional data networks or services.

The purpose of this ESSIP objective is to ensure that all ECAC States migrate their international or regional data networks or services to IPv6 by the mandatory completion date of the application of FMTP. However, as some States have already started the migration of their national networks to IPv4 this standard can be accepted as a transition to IPv6.

The PENS project is aiming at the provision and deployment of a common networking infrastructure, based on IPv4 and IPv6, to cover the data connectivity requirements between ANSPs, for Network Operations Management applications and EAD. It is considered as an acceptable means of compliance for this objective.

Note: (1). PENS will also support IPv4.

Note: (2). for this objective, Full operational capability (FOC) means the effective IPv6 capability to comply with Commission Regulation (EC) No 633/2007 but NOT the phase-out of X.25 or IPv4 capability.

Applicable area(s)	*Operational capability dates FOR THIS OBJECTIVE*	
All ECAC States	*Initial operational capability:*	01/2006
	Full operational capability:	12/2014

References

European ATM Master Plan relationship

Enabler - [CTE-C11a]-Extend PENS to support the SESAR testing and validation activities.
Enabler - [CTE-C11b]-Expand the network communication services offered by PENS and enlarge the scope to other non-ANSP users (within and outside ECAC)

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
Commission Regulation (EC) No 633/2007 of 7 June 2007 laying down requirements for the application of a Flight Message Transfer Protocol (FMTP)
Commission Regulation (EU) No 283/2011 of 22 March 2011 amending Regulation (EC) No 633/2007 as regards the transitional arrangements referred to in Article 7

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
COM09-REG01	Notify relevant National ANSPs of the mandate to migrate to IPv6	09/2009	07/2010	
COM09-REG02	Inform the European Commission and the EUROCONTROL Agency of the planned means & dates of compliance of the National ANSPs	09/2009	12/2010	
COM09-ASP01	Migrate international or regional X.25 data networking facilities and/or services to IP	09/2009	07/2010	**M**
COM09-ASP02	Subscribe to PENS services (OPTIONAL)	**DELETED**		
COM09-ASP03	Migrate international or regional X.25 data networking facilities and/or services to IPv6	01/2006	12/2014	**M**
COM09-AGY01	Report on PENS performance	09/2009	12/2011	

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

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COM09	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)

Consultation & Approval

Working arrangement in charge: COM Steering Group (CSG) and PENS Steering Group (PSSG)
Outline description approved in: -
Latest objective review at expert level in: 04/2012

Commitment decision body: Provisional Council (PC)
Objective approved/endorsed in: 07/2009
Latest change to objective approved/endorsed in: 07/2012

Expected performance benefits

Safety :   N/A.

Capacity :   N/A.

Cost-effectiveness :   More cost efficient as X.25 maintenance costs are increasing while TCP/IP costs are lower.

Environment :   N/A.

Security :   N/A

Detailed SloA descriptions

COM09-REG01	Notify relevant National ANSPs of the mandate to migrate to IPv6	Start:09/2009	Finish:07/2010

Action by :   National Regulatory Authorities

Description & purpose :   Not all ANSPs of a given State require connecting international or regional data networks or services.

Have to decide which of the National ANSPs must comply with Commission Regulation (EC) No 633/2007 of 7 June 2007 laying down requirements for the application of a Flight Message Transfer Protocol (FMTP).

Regulators will then notify their relevant ANSPs of the mandate to migrate to IPv6 and inform the European Commission and the EUROCONTROL Agency accordingly.

This action should take account of the controlling military units providing services to general air traffic.

Finalisation criteria :   1 - The national Regulator has provided the European Commission and the EUROCONTROL Agency, e.g. through the LSSIP document, with the list of National ANSPs & controlling military units providing services to general air traffic, mandated to migrate to IPv6.

COM09-REG02	Inform the European Commission and the EUROCONTROL Agency of the planned means & dates of compliance of the National ANSPs	Start:09/2009	Finish:12/2010

Action by :   National Regulatory Authorities

Description & purpose :   Based on the output of COM09-ASP01, inform the European Commission and the EUROCONTROL Agency of the planned means & dates of compliance of the ANSPs identified within COM09-REG01.

Finalisation criteria :   1 - The national Regulator has provided the European Commission and the EUROCONTROL Agency, e.g. through the LSSIP documents, with the planned means & dates of compliance of their ANSPs.

COM09-ASP01	Migrate international or regional X.25 data networking facilities and/or services to IP	Start:09/2009	Finish:07/2010

Action by :   ANS Providers

Description & purpose :   - Stipulate to the national regulator the planned means of compliance with Commission Regulation No 633/2007 of 7 June 2007 laying down requirements for the application of a Flight Message Transfer Protocol (FMTP and the services concerned).
- Prepare internal business and safety cases for their National Regulator.
- Stipulate the target date of compliance.

ATM Master Plan relationship :   Enabler - [CTE-C11a]-Extend PENS to support the SESAR testing and validation activities.

Enabler - [GGSWIM-26]-Provision and use of Ground-ground data services for Network Operations Planning (OI Steps links to be reviewed)

Enabler - [GGSWIM-52]-Provision and use of ground-ground data communications services for aeronautical information-EAD (OI Steps links to be reviewed)

Enabler - [NIMS-02]-Ground-ground data communications services for flight plan filing and exchange

Finalisation criteria :   1 - The EUROCONTROL Agency (if PENS selected) informed by the National regulator of: a) The planned means of compliance; b) The target date of compliance.

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COM09	**Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)**

COM09-ASP03	**Migrate international or regional X.25 data networking facilities and/or services to IPv6**	Start:01/2006	Finish:12/2014

Action by :   ANS Providers

Description & purpose :   Implement or purchase IP network services to enable international communication exchange on IPS based protocol.

Implement the necessary IPv4/IPv6 translation device if required.

Finalisation criteria :   1 - International and regional ATM applications stipulated to make use of IPv6 networks are in operation under IPv6.

COM09-AGY01	**Report on PENS performance**	Start:09/2009	Finish:12/2011

Action by :   EUROCONTROL Agency

Description & purpose :   Based on PENS Users' Service Level Agreement (SLA) reports, establish a yearly consolidated report to allow effective management of the PENS Contract.

Finalisation criteria :   1 - This action will be stated finalised after acceptation by the PSSG of the PENS performance reports covering the first two years.

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

Description & purpose

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.

Note: 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.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:	12/2011
Full operational capability:	12/2014

References

European ATM Master Plan relationship

Enabler -   [CTE-C10]-AMHS

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

Standards and Recommended Practices (SARPs) for the ATSMHS application are specified in ICAO Annex 10 to the Convention on International Civil Aviation (Annex 10 Volume II, Chapter 4.6 and Volume III, Part I, Chapter 3.5.3). These SARPs refer to detailed specifications in the relevant technical Manual (ICAO Doc 9880 Part IIB).

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
COM10-ASP01	Implement AMHS capability (Basic ATSMHS) and gateway facilities to AFTN	01/2002	12/2011	**M**
COM10-ASP02	Implement regional boundary gateways	01/2002	12/2011	**M**
COM10-ASP03	Enhance AMHS capability (Extended ATSMHS)	01/2012	12/2014	**M**
COM10-ASP04	Ensure the conformity of AMHS systems and associated procedures	01/2002	12/2014	**M**
COM10-ASP05	Organise personnel awareness and training	01/2002	12/2014	**M**
COM10-ASP06	Participate in AMC activities for ATS Messaging Management	01/2007	12/2014	**M**
COM10-IND01	Ensure the conformity of AMHS systems	01/2002	12/2014	
COM10-AGY01	Provide AMC (ATS Messaging Management Centre) Service	01/2007	12/2014	
COM10-AGY02	Implement AMHS capability (Basic ATSMHS) and gateway facilities to AFTN	**FINALISED**		
COM10-AGY03	Enhance AMHS capability (Extended ATSMHS)	01/2012	12/2014	
COM10-AGY04	Develop further relevant elements of the Extended ATSMHS in AMHS Community Specification	01/2010	12/2011	
COM10-AGY05	Implement AMHS-Community Specification compliance testing methodology and tools	01/2010	12/2011	
COM10-AGY06	Support personnel training	01/2002	12/2014	

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

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COM10	Migrate from AFTN to AMHS

Consultation & Approval

Working arrangement in charge: **CNS / COM SG**
Outline description approved in: 01/2009
Latest objective review at expert level in: 02/2010

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2010
Latest change to objective approved/endorsed in: -

Expected performance benefits

Safety :   Benefits resulting from the application of a harmonised set of safety requirements

Capacity :   No or marginal benefits

Cost-effectiveness :   Use of de-facto COTS messaging systems will reduce the cost of messaging services and support any kind of message format including the exchange of new binary data.

Environment :   No or marginal benefits

Security :   Within the Extended ATSMHS, AMHS security services, when implemented, 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	Start:01/2002	Finish: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 9 / 04/2013
Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114

ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 8 / 04/2013
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 :   Enabler - [CTE-C10]-AMHS

Finalisation criteria :   1 - AMHS capability has been implemented, documented and in operational service.

COM10-ASP02	Implement regional boundary gateways	Start:01/2002	Finish:12/2011

Action by :   ANS Providers

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) :   ICAO - EUR-Doc 021 - ATS Messaging Management Manual - Edition 9 / 04/2013
Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114

ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 8 / 04/2013
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

Finalisation criteria :   1 - Seamless cross-boundary operation of the ground ATS Messaging part of the AFS.

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COM10	Migrate from AFTN to AMHS

COM10-ASP03	Enhance AMHS capability (Extended ATSMHS)	Start:01/2012	Finish:12/2014

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) : ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 8 / 04/2013
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

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	Start:01/2002	Finish:12/2014

Action by : ANS Providers

Description & purpose : Ensure that the AMHS systems and associated procedures 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 - EC declaration of verification has been provided.

COM10-ASP05	Organise personnel awareness and training	Start:01/2002	Finish:12/2014

Action by : ANS Providers

Description & purpose : Develop and maintain operations manuals and train personnel accordingly to ensure that:
- 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) : ICAO - EUR-Doc 021 - ATS Messaging Management Manual - Edition 9 / 04/2013
Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114

ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 8 / 04/2013
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

EUROCONTROL - IANS-COM-AMHS Course
Url : https://trainingzone.eurocontrol.int

Finalisation criteria : 1 - All COM Centre personnel have been adequately trained to AMHS technology.

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	Start:01/2007	Finish:12/2014

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 9 / 04/2013
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.

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COM10	**Migrate from AFTN to AMHS**

COM10-IND01	**Ensure the conformity of AMHS systems**	Start:01/2002	Finish:12/2014

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**	Start:01/2007	Finish:12/2014

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 9 / 04/2013
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)**	Start:01/2012	Finish:12/2014

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**	Start:01/2010	Finish:12/2011

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-AGY05	**Implement AMHS-Community Specification compliance testing methodology and tools**	Start:01/2010	Finish:12/2011

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

COM10	Migrate from AFTN to AMHS

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	Start:01/2002	Finish:12/2014

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	**Implementation of Voice over Internet Protocol (VoIP) in ATM**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

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 phaze 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.

Applicable area(s)	*Operational capability dates FOR THIS OBJECTIVE*	
All ECAC States	*Initial operational capability:*	01/2013
	Full operational capability:	12/2020

References

European ATM Master Plan relationship

Enabler - [CTE-C8]-Digital voice/VoIP for ground telephony

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

Covers ICAO Global Plan Initiative GP-22

EUROCONTROL- Strategic Guidance in Support of the Execution of the European ATM Master Plan Ed. 1.0 (05/2009) Annex D (ATM Infrastructure)

Stakeholder Lines of Action (SloA)

SloA ref.	**Title**	**Start**	**Finish**	
COM11-REG01	Conduct safety oversight of the changes	01/2012	12/2018	
COM11-ASP01	Develop safety assessment for the changes	01/2012	12/2018	**M**
COM11-ASP02	Notify to the Regulator the planned means & date of Initial and Full Operational Capability	01/2012	12/2012	**M**
COM11-ASP03	Upgrade and put into service Voice Communication Systems to support VoIP inter-centre telephony	01/2013	12/2020	**M**
COM11-ASP04	Upgrade and put into service Voice Communication Systems to support VoIP links to the ground radio stations	01/2013	12/2020	**M**

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge:	**CNS / COM SG**
Outline description approved in:	02/2009
Latest objective review at expert level in:	10/2009
Commitment decision body:	**Provisional Council (PC)**
Objective approved/endorsed in:	08/2011
Latest change to objective approved/endorsed in:	-

ESSIP Plan Edition 2013

COM11	Implementation of Voice over Internet Protocol (VoIP) in ATM

Expected performance benefits

Safety :   Maintained or improved by providing enhanced signalisation functions.

Capacity :   Maintained or improved by providing enhanced signalisation functions. Prerequisite of dynamic sectorisation through dynamic allocation of voice resources.

Cost-effectiveness :   Reduced costs by reusing Internet off the shelf technologies that can be based on standard hardware.

Environment :   Enabler for dynamic sectorisations in Functional Block of Airspace (FAB).

Security :   N/A

Detailed SIoA descriptions

COM11-REG01	Conduct safety oversight of the changes	Start:01/2012	Finish:12/2018

Action by :   National Supervisory Authorities (NSAs)

Description & purpose :   Oversee safety of the changes induced by 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:

- Analyse the safety case;
- Review safety arguments;
- Prepare the material for the acceptance of changes.

Supporting material(s) :   EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 12/2009
Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011 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 - Formal acceptance by the NSA of the proposed changes has been communicated to ANSP.

COM11-ASP01	Develop safety assessment for the changes	Start:01/2012	Finish:12/2018

Action by :   ANS Providers

Description & purpose :   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:

- 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.

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

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 - The Safety argument for all changes, generated by the deployment of VoIP, has been delivered by the ANSP to the NSA.

COM11-ASP02	Notify to the Regulator the planned means & date of Initial and Full Operational Capability	Start:01/2012	Finish:12/2012

Action by :   ANS Providers

Description & purpose :   Notify their National Regulator their plan to migrate to VoIP. In this respect they will have to:
- Prepare internal business and safety cases for their National Regulator;
- Stipulate the target date for Initial Operational Capability and foreseen date for Full operational Capability.

ESSIP Plan Edition 2013

COM11	Implementation of Voice over Internet Protocol (VoIP) in ATM

Supporting material(s) :   EUROCAE - ED-137B - Interoperability Standards for VoIP ATM Components (Volume 1: Radio - Volume 2: Telephone - Volume 3: European Legacy Telephone Interworking - Volume 4: Recording - Volume 5: Supervision) 01/2012
Url : http://boutique.eurocae.net/catalog/index.php

EUROCAE - ED-138 - Network Requirements and Performances for Voice over Internet Protocol (VoIP) Air Traffic Management (ATM) Systems (Part 1: Network Specification – Part 2: Network Design Guideline) - 28.02.2009
Url : http://boutique.eurocae.net/catalog/index.php

EUROCAE - ED-136 - Voice over Internet Protocol (VoIP) Air Traffic Management (ATM) System Operational and Technical Requirements 02/2009
Url : http://boutique.eurocae.net/catalog/index.php

Finalisation criteria :   1 - The National Regulator has been informed by the ANSP of the planned means & date of Initial and Full Operational Capability.

COM11-ASP03	Upgrade and put into service Voice Communication Systems to support VoIP inter-centre telephony	Start:01/2013	Finish:12/2020

Action by :   ANS Providers

Description & purpose :   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:

- 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.

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.

Report yearly the actual achieved performance for implemented VoIP in ATM to the EUROCONTROL Agency.

Supporting material(s) :   EUROCONTROL - Guidelines on Conformity Assessment for the Interoperability Regulation of the Single European Sky - Edition 3.0 / 02/2012
Url : http://www.eurocontrol.int/documents/conformity-assessment-guidelines

EUROCONTROL - SIP v ATS-QSIG Gateway Interworking Test Specification - Edition 1.2 / 09/2011
Url : http://www.eurocontrol.int/communications/atm-voice

EUROCONTROL - SIP v ATS-R2 Gateway Interworking Test Specification - Edition 1.2 / 09/2011
Url : http://www.eurocontrol.int/communications/atm-voice

EUROCONTROL - VOTER - Edition 1.0.0 / 02/2012
Url : http://www.eurocontrol.int/communications/atm-voice

EUROCONTROL - VoIP in ATM Cross-Reference Matrix - Edition 1.0 / 09/2011
Url : http://www.eurocontrol.int/communications/atm-voice

EUROCONTROL - VoIP in ATM Telephony Test case specification - Edition 1.1 / 09/2011
Url : http://www.eurocontrol.int/communications/atm-voice

Finalisation criteria :   1 - Voice communications 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 voice communication systems have been put into service.

COM11-ASP04	Upgrade and put into service Voice Communication Systems to support VoIP links to the ground radio stations	Start:01/2013	Finish:12/2020

Action by :   ANS Providers

COM11	**Implementation of Voice over Internet Protocol (VoIP) in ATM**

Description & purpose :   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:

- 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.

The upgraded voice communication systems shall enable the operators to perform AG radio communication using VoIP links between VCS and ground radio stations.

Report yearly the actual achieved performance for implemented VoIP in ATM to the EUROCONTROL Agency.

Supporting material(s) :   EUROCONTROL - Guidelines on Conformity Assessment for the Interoperability Regulation of the Single European Sky - Edition 3.0 / 02/2012
Url : http://www.eurocontrol.int/documents/conformity-assessment-guidelines

EUROCONTROL - VOTER - Edition 1.0.0 / 02/2012
Url : http://www.eurocontrol.int/communications/atm-voice

EUROCONTROL - VoIP in ATM Cross-Reference Matrix - Edition 1.0 / 09/2011
Url : http://www.eurocontrol.int/communications/atm-voice

EUROCONTROL - VoIP in ATM Telephony Test case specification - Edition 1.1 / 09/2011
Url : http://www.eurocontrol.int/communications/atm-voice

Finalisation criteria :   1 - Voice communications systems 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 voice communication systems put into service.

ESSIP Plan Edition 2013

SESAR	Active		APT
ENV01	**Implement Continuous Descent Operations (CDO) techniques for environmental improvements**		
REG	**ASP**	**MIL** **APO** **USE**	**INT** **IND**

Description & purpose

When applied at an airport, CDO offers a flexible and simple continuous descent approach technique that does not adversely affect safety and capacity and will produce a number of environmental and cost benefits including reductions to fuel burn, gaseous emissions and noise impact.

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

Note: (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.

Applicable area(s)
See list of airports in ESSIP Plan - Annex B

Operational capability dates FOR THIS OBJECTIVE
Initial operational capability: 07/2007
Full operational capability: 12/2013

References

European ATM Master Plan relationship

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

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/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

Applicable ICAO Annexes and other references

ICAO Annex 16 - Volume I - Aircraft Noise

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish
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	07/2007	12/2013
ENV01-ASP02	Train controllers in the application of CDO techniques whenever practicable	07/2007	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	07/2007	12/2013
ENV01-USE01	Include CDO techniques in the aircrew training manual and support its implementation wherever possible	07/2007	12/2013

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **Airport Operations Team (AOT)**
Outline description approved in: -
Latest objective review at expert level in: 01/2010

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2003
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

Safety : Prevention of local rules and local procedures proliferation

Capacity : Alleviating, avoiding and complying with environmental restrictions that may result in a capacity constraint at an airport.

Cost-effectiveness : Reduction of fuel burn and potentially reduced mitigation costs, reduced social costs from adverse impacts and improved indirect/induced capacity related economic benefits. CDO is a low cost measure with no equipment upgrade needed.

ESSIP Plan Edition 2013

ENV01	Implement Continuous Descent Operations (CDO) techniques for environmental improvements

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 : N/A

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	Start:07/2007	Finish: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) : 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/documents/european-joint-industry-cda-action-plan

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	Start:07/2007	Finish: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/documents/european-joint-industry-cda-action-plan

EUROCONTROL - IANS-ENV-INTRO-Introduction to Environment -e-learing 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	Start:07/2007	Finish: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/documents/european-joint-industry-cda-action-plan

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	Start:07/2007	Finish: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/documents/european-joint-industry-cda-action-plan

EUROCONTROL - IANS-ENV-INTRO-Introduction to Environment -e-learing training course 12/2012
Url : https://trainingzone.eurocontrol.int/

Finalisation criteria : 1 - CDO techniques have been integrated in the aircrew training manual.

ESSIP Plan Edition 2013

SESAR	Active					APT
ENV02	**Implement Collaborative Environmental Management (CEM) at Airports**					
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

The minimisation of noise and gaseous emissions and mitigation of aircraft and airfield de-icing resulting from aircraft operations at the terminal airspace and ground will be enabled through the establishment at individual airports of formal partnership arrangements between ANSP, Airport and Aircraft Operators, to facilitate joint environmental improvements.

Applicable area(s)

See list of airports in ESSIP Plan - Annex B

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:	09/2004
Full operational capability:	12/2016

References

European ATM Master Plan relationship

OI step	-	[AO-0703]-Aircraft Environmental Impact Management and Mitigation at and around Airports
OI step	-	[AO-0705]-Reduced Water Pollution
OI step	-	[AO-0706]-(Local) Monitoring of Environmental Performance

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/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.

Applicable ICAO Annexes and other references

ICAO Annex 16 , Volume I , Aircraft Noise and Volume II - Aircraft Engine Emissions

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
ENV02-ASP01	Participate actively in formal partnership working arrangements with the Airport and Aircraft Operators to manage and control environmental impacts of air traffic procedures in and around the airport.	01/2009	12/2015	
ENV02-ASP02	Train controllers in the environmental implications of aircraft operations	01/2009	12/2016	
ENV02-APO01	Initiate and Participate actively in the formal partnership arrangements with the ANSP and Aircraft Operators to control environmental impact of air traffic procedures	01/2009	12/2015	**M**
ENV02-APO02	Ensure appropriate and relevant performance information availability at Airports	01/2009	12/2016	
ENV02-APO03	Ensure appropriate Airport procedures and, if required, relevant infrastructures needed to manage and mitigate pollution due to de icing activities	01/2012	12/2016	
ENV02-APO04	Train Airport Operational staff in the environmental implications of aircraft operations	01/2012	12/2016	
ENV02-USE01	Participate actively in the formal partnership arrangements with the ANSP and Airport to control the environmental impact of aircraft movements	01/2009	12/2015	**M**
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**		

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge:	**Airport Operations Team (AOT)**
Outline description approved in:	-
Latest objective review at expert level in:	04/2012

Commitment decision body:	**Provisional Council (PC)**
Objective approved/endorsed in:	07/2003
Latest change to objective approved/endorsed in:	07/2013

ESSIP Plan Edition 2013

ENV02	Implement Collaborative Environmental Management (CEM) at Airports

Expected performance benefits

Safety : Prevention of the risk of uncoordinated procedures design.

Capacity : Alleviating or preventing environmental restrictions that may result in capacity constraints at airports.

Cost-effectiveness : Reduction of fuel burn and CO2, improved management efficiency, reduced social costs from adverse impacts and improved indirect/induced capacity related economic benefits. Overall benefits of ESAO identified within APR BCA document, CEM is fundamental to achievement of these benefits.these benefits.

Environment : Reduction of fuel use, noise, emissions and de icing water pollution coming from a wide range of operational solutions that will not be effectively implemented without structured collaboration.

Security : N/A

Detailed SloA descriptions

ENV02-ASP01	Participate actively in formal partnership working arrangements with the Airport and Aircraft Operators to manage and control environmental impacts of air traffic procedures in and around the airport.	Start:01/2009	Finish: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 tackle the environmental impacts caused by their joint air traffic operations. CEM working arrangements can provide timely and accurate operational or environmental information that is relevant to locally and jointly agreed CEM priorities. These can include aircraft noise, de icing, fuel use and atmospheric emissions or any other ATM related environment imperative that is locally important and planned to be covered by CEM.

Notes : Agreed environmental objectives and delivery plan, new procedures and trials, provision of data.

Supporting material(s) : EUROCONTROL - CEM guidelines - 1.0 / 11/2008
Url : http://www.eurocontrol.int/articles/operational-measures-minimise-aviations-environmental-impact

Finalisation criteria : 1 - A Local Memorandum of Understanding (MoU) or Memorandum of Cooperation (MoC) or document of similar authority dealing with the CEM implementation has been officially signed between CEM partners.

ENV02-ASP02	Train controllers in the environmental implications of aircraft operations	Start:01/2009	Finish: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) : EUROCONTROL - Environmental Awareness Training Package
Url : http://www.eurocontrol.int/environment/public/standard_page/training.html

EUROCONTROL - European Joint Industry CDA Action Plan
Url : http://www.eurocontrol.int/documents/european-joint-industry-cda-action-plan

Finalisation criteria : 1 - Controller awareness training on the environmental implications of aircraft operations has been completed.

ENV02-APO01	Initiate and Participate actively in the formal partnership arrangements with the ANSP and Aircraft Operators to control environmental impact of air traffic procedures	Start:01/2009	Finish:12/2015

Action by : Airport Operators

Description & purpose : Initiate and promulgate formal CEM partnership working arrangements with key operational stakeholders in order to facilitate collaboration at airports to tackle the environmental impacts caused by joint air traffic operations. At the same time provide proactive practical support to minimise environmental impacts and secure or safeguard ATM capacity in supporting compliance to the relevant legislation. This can include aircraft noise, de icing, fuel use and atmospheric emissions or any other ATM related environment imperative that is locally important and planned to be covered by CEM. CEM working arrangements should be endorsed and supported by senior management.

Notes : Agreed environmental objectives and delivery plan, new procedures and trials, provision of data.

Supporting material(s) : EUROCONTROL - CEM guidelines - 1.0 / 11/2008
Url : http://www.eurocontrol.int/articles/operational-measures-minimise-aviations-environmental-impact

ESSIP Plan Edition 2013

ENV02	Implement Collaborative Environmental Management (CEM) at Airports

Finalisation criteria :   1 - A Local Memorandum of Understanding (MoU) or Memorandum of Cooperation (MoC) or document of similar authority dealing with the CEM implementation has been officially signed between CEM partners.

ENV02-APO02	Ensure appropriate and relevant performance information availability at Airports	Start:01/2009	Finish: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) :   EUROCONTROL - CEM guidelines - 1.0 / 11/2008
Url : http://www.eurocontrol.int/articles/operational-measures-minimise-aviations-environmental-impact

EUROCONTROL - European Joint Industry CDA Action Plan
Url : http://www.eurocontrol.int/documents/european-joint-industry-cda-action-plan

Finalisation criteria :   1 - Environmental monitoring or information systems have been implemented and are functioning.

ENV02-APO03	Ensure appropriate Airport procedures and, if required, relevant infrastructures needed to manage and mitigate pollution due to de icing activities	Start:01/2012	Finish:12/2016

Action by :   Airport Operators

Description & purpose :   Develop procedures and technical applications in collaboration with airlines and ANSPs to manage 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) :   EUROCONTROL - CEM guidelines - 1.0 / 11/2008
Url : http://www.eurocontrol.int/articles/operational-measures-minimise-aviations-environmental-impact

EUROCONTROL - European Joint Industry CDA Action Plan
Url : http://www.eurocontrol.int/documents/european-joint-industry-cda-action-plan

Finalisation criteria :   1 - Information and procedures on de icing pollution mitigation has been agreed and is locally available.

2 - Relevant infrastructure has been implemented, when and where required.

ENV02-APO04	Train Airport Operational staff in the environmental implications of aircraft operations	Start:01/2012	Finish:12/2016

Action by :   Airport Operators

Description & purpose :   Provide a regular training course in accordance with demand. This should include where relevant aircraft noise, aircraft and airfield de icing, aircraft fuel use and atmospheric emissions or any other environment imperative locally planned.

Supporting material(s) :   EUROCONTROL - Environmental Awareness Training Package
Url : http://www.eurocontrol.int/environment/public/standard_page/training.html

EUROCONTROL - European Joint Industry CDA Action Plan
Url : http://www.eurocontrol.int/documents/european-joint-industry-cda-action-plan

Finalisation criteria :   1 - Airport Operational staff awareness training on the environmental implications of aircraft operations has been completed.

ENV02-USE01	Participate actively in the formal partnership arrangements with the ANSP and Airport to control the environmental impact of aircraft movements	Start:01/2009	Finish:12/2015

Action by :   Airspace Users

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. Provide timely and accurate operational or environmental information that is relevant to local and jointly agreed CEM priorities. 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 tackle the environmental impacts caused by air traffic operations The environment impact may include aircraft noise, de icing, fuel use and atmospheric emissions or any other ATM related environment imperative that is locally important.

Notes :   Agreed environmental objectives and delivery plan, new procedures and trials, provision of data.

ESSIP Plan Edition 2013

ENV02	Implement Collaborative Environmental Management (CEM) at Airports

Supporting material(s) :   EUROCONTROL - CEM guidelines - 1.0 / 11/2008
Url : http://www.eurocontrol.int/articles/operational-measures-minimise-aviations-environmental-impact

Finalisation criteria :   1 - A Local Memorandum of Understanding (MoU) or Memorandum of Cooperation (MoC) or document of similar authority dealing with the CEM implementation has been officially signed between CEM partners.

SESAR	Active		ECAC
FCM01	**Implement enhanced tactical flow management services**		
REG	**ASP** **MIL**	**APO** **USE**	**INT** **IND**

Description & purpose

Implement enhanced tactical flow management services based on the introduction of real-time aircraft position and meteorological data to adjust flow regulation.

Note: out of all Stakeholder Lines of Action that are allocated to ANSPs, the most beneficial ones at European level are those dealing with correlated position data (FCM01-ASP01 & FCM01-ASP02), reception and processing ATFM data from the NM (FCM01-ASP03) and sending of flight activations and estimates to the NM (FCM01-ASP04). Therefore States are invited to complete them as a priority.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 08/2001
Full operational capability: 12/2006

References

European ATM Master Plan relationship

OI step - [IS-0102]-Improved Management of Flight Plan After Departure   ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

ATM 2000+ Strategy (Ed. 07/2003), par. 6.4.3 'Tactical Flow and Capacity Management' and Appendix 1.

Operational Improvements: Increasing ATFCM capabilities and Enhanced tactical Flow and Capacity Management.

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
FCM01-ASP01	Supply ETFMS with Basic Correlated Position Data	08/2001	12/2004	
FCM01-ASP02	Supply ETFMS with Standard Correlated Position Data	08/2001	12/2006	
FCM01-ASP03	Receive and process ATFM data from the NM	03/1995	12/2001	**M**
FCM01-ASP04	Inform NM of flight activations and estimates for ATFM purposes	03/1995	12/1999	
FCM01-ASP05	Inform NM of flight activations and additional estimate updates for ATFM purposes	**DELETED**		
FCM01-ASP06	Inform NM of re-routings inside FDPA for ATFM purposes	03/2001	12/2006	
FCM01-ASP07	Inform NM of aircraft holding for ATFM purposes	03/2003	12/2006	
FCM01-ASP08	Supply NM with Departure Planning Information (DPI)	03/2005	-	
FCM01-AGY01	Implement ETFMS Phase 1A	**FINALISED**		
FCM01-AGY02	Implement ETFMS Phase 1B	**FINALISED**		
FCM01-AGY03	Implement ETFMS Phase 1C	**FINALISED**		
FCM01-AGY04	Implement ETFMS Phase 2	**FINALISED**		

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **NETOPS / ODSG**
Outline description approved in: -
Latest objective review at expert level in: 06/2008

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2000
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

Safety :   Reduced unexpected overload situations.

Capacity :   Reduced wasted capacity; reduced delays.

Cost-effectiveness :   Reduction of costs induced by delays.

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FCM01	Implement enhanced tactical flow management services

Environment :   N/A.
Security :   N/A

Detailed SloA descriptions

FCM01-ASP01	**Supply ETFMS with Basic Correlated Position Data**	Start:08/2001	Finish:12/2004

Action by :   ANS Providers

Description & purpose :   Provide ETFMS with correlated Position Data for all airborne flights inside its Flight Data Processing Area. For the initial implementation of ETFMS, the NM accepts a limited number of existing message formats.

Notes :   The implementation of this SLoA is no longer needed as soon as FCM01-ASP02 has been completed in a given State or ACC.

Specific applicability :   ECAC States, IFR/GAT only.

Finalisation criteria :   1 - Reception of CPRs by NM has been ensured.

FCM01-ASP02	**Supply ETFMS with Standard Correlated Position Data**	Start:08/2001	Finish:12/2006

Action by :   ANS Providers

Description & purpose :   Provide ETFMS with Correlated Position Data for all airborne flights inside its Flight Data Processing Area in ASTERIX Category 062 format.

Specific applicability :   ECAC States, IFR/GAT only.

Finalisation criteria :   1 - Reception of CPRs in ASTERIX Category 062 format by NM has been ensured.

FCM01-ASP03	**Receive and process ATFM data from the NM**	Start:03/1995	Finish:12/2001

Action by :   ANS Providers

Description & purpose :   Ensure that all ATFM messages received from the NM are automatically correlated to the ATC Flight Plan data. The ATFM data is automatically presented to the Air Traffic Controllers (as a minimum to the TWR Controllers) on strips or on electronic displays.

Notes :   The SloA can be considered as not applicable if the amount of IFR/GAT traffic does not justify automation.

Finalisation criteria :   1 - Automatic presentation of the ATFM data correlated to flight data to at least TWR controllers has been ensured.

FCM01-ASP04	**Inform NM of flight activations and estimates for ATFM purposes**	Start:03/1995	Finish:12/1999

Action by :   ANS Providers

Description & purpose :   Send to NM a First System Activation (FSA) message as evidence of flight activations in the local ATC system. The FSA informs the NM of the actual position of the aircraft (i.e: the actual time of departure or the time and flight level at the FDPA entry co-ordination point).

Specific applicability :   ECAC States, IFR/GAT only.

Finalisation criteria :   1 - Reception of FSA messages by NM has been ensured.

FCM01-ASP06	**Inform NM of re-routings inside FDPA for ATFM purposes**	Start:03/2001	Finish:12/2006

Action by :   ANS Providers

Description & purpose :   Send an FSA message for flights for a route change which does not affect the exit point and when this information has not already been sent by an AFP message.

Specific applicability :   ECAC States, IFR/GAT only.

Finalisation criteria :   1 - Reception of FSA messages by the NM for route changes has been ensured.

FCM01-ASP07	**Inform NM of aircraft holding for ATFM purposes**	Start:03/2003	Finish:12/2006

Action by :   ANS Providers

Description & purpose :   Send an FSA to inform the NM that the flight is holding.

Specific applicability :   ECAC States, IFR/GAT only.

Finalisation criteria :   1 - Reception of FSA messages by the NM for holding of flights has been ensured.

FCM01-ASP08	**Supply NM with Departure Planning Information (DPI)**	Start:03/2005	Finish:-

Action by :   ANS Providers

FCM01	**Implement enhanced tactical flow management services**

Description & purpose : Supply the NM/ETFMS with flight data related updates that are only available shortly before departure. The DPI is used to supply the NM with the taxi-time and SID per flight and with the Take-Off Time based upon the departure sequence.

Notes : This SLoA is linked to AOP05-APO05 "Define and implement the exchange of messages, Flight Update Message (FUM) and Departure Planning Information (DPIs) between NM and the airport in accordance with Airport CDM manual guidelines (enhanced CDM)".

Specific applicability : Airports that can provide DPI data with the required accuracy, IFR/GAT only.

Finalisation criteria : 1 - Reception of the DPI messages by NM has been ensured.

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SESAR	Active		ECAC
FCM03	Implement collaborative flight planning		
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

Improve the collaboration between the NM, ANS providers, airports and airspace users in flight plan filing, in particular to assist airspace users in filing their flight plans and in re-routings according to the airspace availability and ATFM situation. Improve flight plan distribution to increase consistency of flight plan data amongst all parties involved (NM IFPS/ETFMS, ANS Providers, etc).

Note: out of all SLoAs that are allocated to ANSPs, the most beneficial ones at European level are those dealing with Processing of APL and ACH messages (FCM03-ASP04), missing flight plans (FCM03-ASP05), change of route (FCM03-ASP06), diversion (FCM03-ASP07) and change of requested cruising level (FCM03-ASP09). Therefore States are invited to complete them as a priority.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2000
Full operational capability: 12/2015

References

European ATM Master Plan relationship

OI step	-	[DCB-0302]-Collaborative Management of Flight Updates	ESSENTIAL
OI step	-	[IS-0101]-Improved Flight Plan Consistency Pre-Departure	ESSENTIAL
OI step	-	[IS-0102]-Improved Management of Flight Plan After Departure	ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
Commission Regulation (EC) No 1033/2006 of 4 July 2006 laying down the requirements on procedures for flight plans in the pre-flight phase for the Single European Sky, as amended by Regulation (EC) No 929/2010

Applicable ICAO Annexes and other references

DMEAN project 'Improve Management of Flight Plan after Departure'.

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
FCM03-ASP01	Provide flight plan message processing in ICAO format	03/1995	12/1995	
FCM03-ASP02	Automatically process FPLs derived from RPLs	03/1995	12/1995	
FCM03-ASP03	Provide flight plan message processing in ADEXP format	12/1997	12/2012	
FCM03-ASP04	Processing of APL and ACH messages	12/1997	12/1999	
FCM03-ASP05	Automatically provide AFP for missing flight plans	03/1998	12/2015	
FCM03-ASP06	Automatically provide AFP message for change of route	03/2003	12/2015	
FCM03-ASP07	Automatically provide AFP message for a diversion	03/2008	12/2015	
FCM03-ASP08	Provide AFP message for a change of flight rules or flight type	03/2003	12/2015	
FCM03-ASP09	Provide AFP message for a change of requested cruising level	03/2003	12/2015	
FCM03-ASP10	Provide AFP messages in ADEXP format	03/1998	12/2015	
FCM03-ASP11	Use IFPLID in all messages to ETFMS	03/2005	12/2015	**M**
FCM03-ASP12	Use IFPLID in exchange of route-charge data	**DELETED**		**M**
FCM03-ASP13	Automatically provide AFP message for change of aircraft type	03/2003	12/2015	
FCM03-ASP14	Automatically provide AFP message for change of aircraft equipment	03/2008	12/2015	

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: NETOPS / ODSG
Outline description approved in: -
Latest objective review at expert level in: 05/2013

Commitment decision body: Provisional Council (PC)
Objective approved/endorsed in: 07/2000
Latest change to objective approved/endorsed in: 07/2013

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FCM03	Implement collaborative flight planning

Expected performance benefits

Safety :   Prevention of overloads.

Capacity :   Better use of the available network capacity.

Cost-effectiveness :   Reduction of costs induced by delays.

Environment :   N/A

Security :   N/A

Detailed SloA descriptions

FCM03-ASP01	Provide flight plan message processing in ICAO format	Start:03/1995	Finish:12/1995

Action by :   ANS Providers

Description & purpose :   Receive and automatically process IFPS output of all ICAO-defined flight plan messages for input into the local ATC systems. This excludes FPLs derived from RPLs (see also FCM03-ASP02).

Notes :   Processing of IFPS output without manual intervention. The SloA can be considered as not applicable if the amount of IFR/GAT traffic does not justify automation.

Specific applicability :   ECAC States, IFR/GAT only.

Finalisation criteria :   1 - Automatic processing of flight plan messages in ICAO format has been implemented.

FCM03-ASP02	Automatically process FPLs derived from RPLs	Start:03/1995	Finish:12/1995

Action by :   ANS Providers

Description & purpose :   Receive and automatically process IFPS output derived from RPL to suppress the need for RPL bulk-output from IFPS.

Notes :   No longer requiring RPL bulk-output or transmission of FPLs derived from RPLs by the NM. The SloA can be considered as not applicable if the amount of IFR/GAT traffic does not justify automation.

Specific applicability :   ECAC States, IFR/GAT only.

Finalisation criteria :   1 - Automatic processing of FPLs derived from RPLs has been implemented.

FCM03-ASP03	Provide flight plan message processing in ADEXP format	Start:12/1997	Finish:12/2012

Action by :   ANS Providers

Description & purpose :   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.
Impact of Flight Plan 2012 changes:
The basic flight plan form and the field composition within the FPL message remains unchanged, but the content of some fields will change.
- 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
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.

Notes :   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.

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-ASP04	Processing of APL and ACH messages	Start:12/1997	Finish:12/1999

Action by :   ANS Providers

Description & purpose :   Process automatically, in the local ATC systems, real time updates to flight plan information as provided by IFPS via APL and ACH messages.

Notes :   The SLoA may be implemented as a manual processing if the amount of IFR/GAT traffic does not justify automation.

Specific applicability :   ECAC States, IFR/GAT only.

Finalisation criteria :   1 - Processing of APL and ACH messages by the ANSP has been implemented.

FCM03	Implement collaborative flight planning

FCM03-ASP05	Automatically provide AFP for missing flight plans	Start:03/1998	Finish:12/2015

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 an IFR-GAT flight exists but no IFPL has been received from IFPS.
The related AFP message can be sent in either ICAO or ADEXP format.

Specific applicability : ECAC States, IFR/GAT only.

Finalisation criteria : 1 - Reception of AFP messages by NM has been ensured.

FCM03-ASP06	Automatically provide AFP message for change of route	Start:03/2003	Finish:12/2015

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 route where the exit point from the flight data processing area (FDPA) has changed.
The related AFP message must be provided in ADEXP format only.

Specific applicability : ECAC States, IFR/GAT only.

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	Start:03/2008	Finish:12/2015

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.

Finalisation criteria : 1 - Transmission of AFP messages for diversions by the ANSP has been implemented.

FCM03-ASP08	Provide AFP message for a change of flight rules or flight type	Start:03/2003	Finish:12/2015

Action by : ANS Providers

Description & purpose : 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.

Finalisation criteria : 1 - Transmission of AFP messages for changes of flight rules and flight types by the ANSP has been implemented.

FCM03-ASP09	Provide AFP message for a change of requested cruising level	Start:03/2003	Finish:12/2015

Action by : ANS Providers

Description & purpose : 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.

Finalisation criteria : 1 - Transmission of AFP messages for changes of requested cruising level by the ANSP has been implemented.

FCM03-ASP10	Provide AFP messages in ADEXP format	Start:03/1998	Finish:12/2015

Action by : ANS Providers

Description & purpose : Provide IFPS with updated flight plan information on airborne flights by means of AFP messages in ADEXP format instead of ICAO format. This is relevant for any trigger event.

Specific applicability : ECAC States, IFR/GAT only.

Finalisation criteria : 1 - Reception of AFP messages in ADEXP format by the NM has been ensured.

FCM03-ASP11	Use IFPLID in all messages to ETFMS	Start:03/2005	Finish:12/2015

Action by : ANS Providers

Description & purpose : Use the IFPLID as provided by IFPS in all messages to ETFMS. The IFPLID shall only be used for system generated/formatted messages. It is not the intention to enter the IFPLID manually. The use of the IFPLID will simplify the correlation of incoming flight plan messages with locally stored flight plan data at the NM.

Notes : The SloA can be considered as not applicable if the amount of IFR/GAT traffic does not justify automation.

Finalisation criteria : 1 - Reception of messages by NM/ETFMS that include the IFPLID has been ensured.

FCM03-ASP13	Automatically provide AFP message for change of aircraft type	Start:03/2003	Finish:12/2015

Action by : ANS Providers

FCM03	Implement collaborative flight planning

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.

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	Start:03/2008	Finish:12/2015

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.

Finalisation criteria : 1 - Transmission of AFP messages for changes of aircraft equipment by ANSP has been implemented.

SESAR	Active		Multi-N
FCM04	**Implementation of Short Term ATFCM Measures - phase 1**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

The rigid application of ATFM regulations based on standard capacity thresholds as the pre-dominant 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 (London, Reims, Maastricht), 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.

Applicable area(s)	_Operational capability dates FOR THIS OBJECTIVE_	
France, Germany, Italy, Poland, Spain, Switzerland	_Initial operational capability:_	09/2013
Applicable to the following FMPs: Paris FMP, Bordeaux FMP, Marseille FMP, Brest FMP, Karlsruhe FMP, Roma FMP, Warsaw FMP, Madrid FMP, Barcelona FMP, Geneva and Zurich FMP.	_Full operational capability:_	12/2015

References

European ATM Master Plan relationship

OI step -   [DCB-0205]-Short Term ATFCM Measures (to be reviewed)   ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
FCM04-REG01	Review, as appropriate, the safety argument of the changes imposed by the implementation of Short Term ATFCM Measures Phase 1	08/2013	12/2015	
FCM04-ASP01	Availability of demand-capacity balancing tools via CHMI	09/2013	12/2015	
FCM04-ASP02	Provision of ANSPs sector and traffic occupancy parameters data to NM	09/2013	12/2015	
FCM04-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.	09/2013	12/2015	
FCM04-ASP04	Develop, and deliver as necessary, a safety assessment of the changes imposed by the implementation of Short Term ATFCM Measures Phase 1	08/2013	12/2015	
FCM04-USE01	Availability of demand-capacity balancing tools	09/2013	12/2015	**M**
FCM04-NM01	Develop and implement demand-capacity balancing tools via CHMI	**FINALISED**		
FCM04-NM02	Integration of ANSPs sector and traffic occupancy parameters data into NM systems	09/2013	12/2015	

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge:	**NETOPS**
Outline description approved in:	03/2013
Latest objective review at expert level in:	05/2013

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FCM04	Implementation of Short Term ATFCM Measures - phase 1

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2013
Latest change to objective approved/endorsed in: -

Expected performance benefits

Safety :	Some enhancement through reduction in controller workload.
Capacity :	Increased through suppression of flight ATFM regulations thanks to local ATFCM measures with the same ATC sector manning
Cost-effectiveness :	Reduction of flight delays.
Environment :	N/A.
Security :	N/A.

Detailed SloA descriptions

FCM04-REG01	Review, as appropriate, the safety argument of the changes imposed by the implementation of Short Term ATFCM Measures Phase 1	Start:08/2013	Finish:12/2015

Action by : Regulatory Authority/National Supervisory Authority/Competent Authority

Description & purpose : Review the safety argument of the changes imposed by the implementation of Short Term ATFCM Measures Phase 1, 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.
Take the following actions:
- Analyse the safety case
- Review the safety arguments
- Prepare the material for the acceptance of the changes
- Provide notification of the acceptance, with conditions where applicable, or the non-acceptance, with supporting reasons, of the change under consideration.

Notes : Any other validated/recognised method for the safety assessment, is acceptable if agreed with the ANSP

Supporting material(s) : EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 12/2009
Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EUROCONTROL - EAM 1/GUI 1 - Explanatory Material on ESARR 1 Requirements - Edition 2.0 / 12/2010
Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011 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 - Notification of the acceptance, or the non-acceptance, of the change under consideration has been communicated to the ANSP.

FCM04-ASP01	Availability of demand-capacity balancing tools via CHMI	Start:09/2013	Finish:12/2015

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-atfcm-reference-guide-current.pdf

ATM Master Plan relationship : Enabler - [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-ASP02	Provision of ANSPs sector and traffic occupancy parameters data to NM	Start:09/2013	Finish:12/2015

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.

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FCM04	Implementation of Short Term ATFCM Measures - 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-atfcm-reference-guide-current.pdf

Finalisation criteria :   1 - Local sector and occupancy counts parameters are provided to NM.

FCM04-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.	Start:09/2013	Finish:12/2015

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-atfcm-reference-guide-current.pdf

ATM Master Plan relationship :   Enabler - [PRO-038]-FCM Procedures to enable application of flow management techniques on traffic streams closer to real-time

Finalisation criteria :   1 - Operational procedures are available.

FCM04-ASP04	Develop, and deliver as necessary, a safety assessment of the changes imposed by the implementation of Short Term ATFCM Measures Phase 1	Start:08/2013	Finish:12/2015

Action by :   ANS Providers

Description & purpose :   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
The tasks to be performed are as follows:
- 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.

Notes :   Any other validated/recognised method for the safety assessment, is acceptable, if agreed with the Regulator/NSA/Competent Authority.

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

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 argument addressing the implementation of Short Term ATFCM Measures Phase 1, as required by the implementation of the ESSIP objective, has been developed.

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.

FCM04-USE01	Availability of demand-capacity balancing tools	Start:09/2013	Finish:12/2015

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) :   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

ATM Master Plan relationship :   Enabler - [NIMS-08]-strategic and pre-tactical demand-capacity balancing evaluation, simulation and display tools

FCM04	Implementation of Short Term ATFCM Measures - phase 1

Finalisation criteria : 1 - Tool supporting STAM Phase 1 is available.

FCM04-NM02	Integration of ANSPs sector and traffic occupancy parameters data into NM systems	Start:09/2013	Finish:12/2015

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) : 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

Finalisation criteria : 1 - Parameters have been integrated within NM systems.

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SESAR	Active				ECAC
FCM05	**Implementation of interactive rolling NOP**				
REG	**ASP**	**MIL**	**APO**	**USE**	**INT** **IND**

Description & purpose

The validated and consistent information relating to the intentions and decisions of stakeholders has to be available and widely shared in relation to the use and management of European airspace from strategic planning through to archiving data post flight. For example: military demand for route and airspace, implemented ATFCM scenarios to address demand/capacity imbalances.

The Network Operation Plan provides an overview of the ATFCM situation from strategic planning to real time operations (accessible from 6 months to the day of operation) with ever increasing accuracy up to and including the day of operations. The data is accessible online by stakeholders for consultation and update as and when needed, subject to access and security controls. The elements and formats of the NOP will be established taking into account the requirements of the users of these plans. It will be possible for them to access and extract data for selected areas to support their operation and, if required, to create their specific operations plan. The NOP will also be updated taking into account the actual traffic situation and real time flow and capacity management.

The rolling NOP will also allow users to access simulations and to assess results.

The first steps of the interactive Rolling NOP were already implemented through the deployment of the NOP portal. Further information and data are available or planned for deployment (between 2010/2013-15) 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.

Applicable area(s)	_Operational capability dates FOR THIS OBJECTIVE_	
All ECAC States	_Initial operational capability:_	09/2013
	Full operational capability:	12/2016

References

European ATM Master Plan relationship

OI step -	[AOM-0205]-Modular Temporary Airspace Structures and Reserved Areas (to be reviewed)	ESSENTIAL
OI step -	[DCB-0102]-Interactive Rolling NOP	ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
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	09/2013	12/2016	
FCM05-ASP01	Upgrade the automated ASM support system with the capability of AIXM 5.1 B2B data exchange with NM	09/2013	12/2016	**M**
FCM05-ASP02	Perform an integration of the automated ASM support systems with the Network	09/2013	12/2016	**M**
FCM05-ASP03	Produce a safety assessment on the upgrade of automated ASM support systems to the AIXM 5.1 capability	09/2013	12/2016	
FCM05-APO01	Provide the required data to the Network Manager for DDR	09/2013	12/2016	
FCM05-USE01	Provide the required data to the Network Manager for DDR	09/2013	12/2016	**M**
FCM05-NM01	ADR to provide, common and consolidated view of European airspace data containing both static and dynamic digital data	09/2013	12/2014	
FCM05-NM02	ADR to provide, common and consolidated view of European airspace data containing both static and dynamic digital data	09/2013	12/2014	
FCM05-NM03	ADR to provide, common and consolidated view of European airspace data containing both static and dynamic digital data	09/2013	12/2014	
FCM05-NM04	Perform an integration of ASM support systems with the Network	09/2013	12/2016	
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	09/2013	12/2016	

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FCM05	Implementation of interactive rolling NOP

| **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 | 09/2013 | 12/2013 |
| **FCM05-NM08** | Flight Plan filing capability directly via the NOP portal | 09/2013 | 12/2014 |

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **NETOPS**
Outline description approved in: 03/2013
Latest objective review at expert level in: 05/2013

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2013
Latest change to objective approved/endorsed in: -

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.

Cost-effectiveness :   Enhanced through use of cost effective tools to access network information instead of expensive local tools or procedures and through the improved capacity.

Environment :   Marginal benefits resulting from better knowledge of Airspace status.

Security :   N/A

Detailed SloA descriptions

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**	Start:09/2013	Finish:12/2016

Action by :   Regulatory Authority/National Supervisory Authority/Competent Authority

Description & purpose :   Review the safety argument of the changes to the automated ASM support system 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.
Take the following actions:
- Analyse the safety case
- Review the safety arguments
- Prepare the material for the acceptance of the changes
- Provide notification of the acceptance, with conditions where applicable, or the non-acceptance, with supporting reasons, of the change under consideration.

Notes :   Any other validated/recognised method for the safety assessment, is acceptable if agreed with the ANSP

Supporting material(s) :   EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 12/2009
Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EUROCONTROL - EAM 1/GUI 1 - Explanatory Material on ESARR 1 Requirements - Edition 2.0 / 12/2010
Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011 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 - Notification of the acceptance, or the non-acceptance, of the change under consideration has been communicated to the ANSP.

FCM05-ASP01	**Upgrade the automated ASM support system with the capability of AIXM 5.1 B2B data exchange with NM**	Start:09/2013	Finish:12/2016

Action by :   ANS Providers

Description & purpose :   Develop an AIXM 5.1 B2B interface between the local/regional automated ASM support systems and the NM systems. The local/regional automated ASM tool can be locally developed (STANLY or others) or LARA tools.

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FCM05	**Implementation of interactive rolling NOP**

Supporting material(s) :   EUROCONTROL - NM B2B Reference Manuals
Url : http://www.eurocontrol.int/nm-services/nm-b2b

ATM Master Plan relationship :   Enabler - [AIMS-20]-Airspace Data Repository

Finalisation criteria :   1 - Local/regional automated ASM support systems have been developed or upgraded with an interface using AIXM 5.1 B2B.

FCM05-ASP02	**Perform an integration of the automated ASM support systems with the Network**	Start:09/2013	Finish:12/2016

Action by :   ANS Providers

Description & purpose :   Integrate the local/regional the automated ASM support systems migrated to AIXM 5.1 B2B with the NM system.

Supporting material(s) :   EUROCONTROL - NM B2B Reference Manuals
Url : http://www.eurocontrol.int/nm-services/nm-b2b

Finalisation criteria :   1 - Local/regional ASM support systems using AIXM 5.1 B2B have been integrated with NM.

FCM05-ASP03	**Produce a safety assessment on the upgrade of automated ASM support systems to the AIXM 5.1 capability**	Start:09/2013	Finish:12/2016

Action by :   ANS Providers

Description & purpose :   Notify the Regulator/NSA/Competent Authority of planned safety related changes and develop safety assessment of changes to the automated ASM support systems with the capablities of AIXM 5.1.
The tasks to be performed are as follows:

- 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.

Notes :   Any other validated/recognised method for the safety assessment, is acceptable, if agreed with the Regulator/NSA/Competent Authority.

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

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

ATM Master Plan relationship :   Enabler - [AIMS-20]-Airspace Data Repository

Finalisation criteria :   1 - Safety argument addressing the implementation of changes to the automated ASM support systems, as required by the ESSIP objective, has been developed.

2 - The safety argument addressing the implementation of changes to the automated ASM support systems, as required by 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.

FCM05-APO01	**Provide the required data to the Network Manager for DDR**	Start:09/2013	Finish:12/2016

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 :   Enabler - [NIMS-14b]-Demand Data Repository Phase II

Finalisation criteria :   1 - Airport slot information provided to DDR.

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FCM05	Implementation of interactive rolling NOP

FCM05-USE01	**Provide the required data to the Network Manager for DDR**	Start:09/2013	Finish:12/2016

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 : Enabler - [NIMS-14b]-Demand Data Repository Phase II

Finalisation criteria : 1 - Scheduled flight information is provided.

FCM05-NM01	**ADR to provide, common and consolidated view of European airspace data containing both static and dynamic digital data**	Start:09/2013	Finish:12/2014

Action by : NM

Description & purpose : Provide, common and consolidated view of European airspace data containing both static and dynamic digital data:
- Enabling the optimization of flight planning making available the changes made to the airspace usage & route availability (e-AMI, e-Restrictions)
- Improvement of data quality and interoperability through digital data exchange of ATM data

Supporting material(s) : EUROCONTROL - NM B2B Reference Manuals
Url : http://www.eurocontrol.int/nm-services/nm-b2b

ATM Master Plan relationship : Enabler - [AIMS-20]-Airspace Data Repository

Finalisation criteria : 1 - Common and consolidated view of European Airspace data has been made available

FCM05-NM02	**ADR to provide, common and consolidated view of European airspace data containing both static and dynamic digital data**	Start:09/2013	Finish:12/2014

Action by : NM

Description & purpose : Update NM system to allow all external Stakeholders to access the Airspace Data repository in AIXM 5.1 B2B protocol (e-AMI)

Supporting material(s) : EUROCONTROL - NM B2B Reference Manuals
Url : http://www.eurocontrol.int/nm-services/nm-b2b

ATM Master Plan relationship : Enabler - [AIMS-21]-Airspace management system enhanced for external user access to the airspace data repository

Finalisation criteria : 1 - NM system Airspace data repository accessible through AIXM 5.1 B2B protocol for e-AMI

FCM05-NM03	**ADR to provide, common and consolidated view of European airspace data containing both static and dynamic digital data**	Start:09/2013	Finish:12/2014

Action by : NM

Description & purpose : Update NM systems to allow exchange of airspace data in AIXM 5.1 B2B with local ASM tools

Supporting material(s) : EUROCONTROL - NM B2B Reference Manuals
Url : http://www.eurocontrol.int/nm-services/nm-b2b

ATM Master Plan relationship : Enabler - [AIMS-23]-Airspace management system equipped with tools for collection of real-time airspace data

Finalisation criteria : 1 - NM systems have been updated to allow exchange of airspace data in AIXM 5.1 B2B with local ASM tools.

FCM05-NM04	**Perform an integration of ASM support systems with the Network**	Start:09/2013	Finish:12/2016

Action by : NM

Description & purpose : Integrate the local/regional automated ASM support tools with the NM system

Supporting material(s) : EUROCONTROL - NM B2B Reference Manuals
Url : http://www.eurocontrol.int/nm-services/nm-b2b

Finalisation criteria : 1 - Local/Regional automated ASM support systems using AIXM 5.1 B2B have been integrated with NM systems.

FCM05	**Implementation of interactive rolling NOP**

FCM05-NM06	**Implement FCM Procedures for on-line access/update to the NOP and notification of updates**	Start:09/2013	Finish:12/2016

Action by : NM

Description & purpose : Develop the necessary procedures for NOP access (incremental work, a set of procedures for each yearly version)

Supporting material(s) : EUROCONTROL - NOP Portal User's Guide - 3.0 / 01/2013
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-3-44.pdf

ATM Master Plan relationship : Enabler - [PRO-035]-FCM Procedures for on-line access/update to the NOP and notification of updates

Finalisation criteria : 1 - Procedures are available

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**	Start:09/2013	Finish:12/2013

Action by : NM

Description & purpose : NM systems are updated to allow FMP to remote access simulation via the NOP Portal (creation of simulations and assessment of the results) and in a second step to edit scenario measures (regulation, configuration, capacities,...) prior to running simulations

Supporting material(s) : EUROCONTROL - NOP Portal User's Guide - 3.0 / 01/2013
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-3-44.pdf

ATM Master Plan relationship : Enabler - [AAMS-15]-Scenario management sub-system equipped with tools to support pre-tactical CDM

Finalisation criteria : 1 - NM systems have been updated

FCM05-NM08	**Flight Plan filing capability directly via the NOP portal**	Start:09/2013	Finish:12/2014

Action by :

Description & purpose : NM systems updated to provide the Airspace Users with a Flight Plan filling capability through the NOP portal.

Supporting material(s) : EUROCONTROL - NOP Portal User's Guide - 3.0 / 01/2013
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/network-operations/user-guides/nop-portal-user-guide-3-44.pdf

Finalisation criteria : 1 - NM systems and NOP portal have been updated.

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SESAR	Active		ECAC
INF04	**Implement integrated briefing**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Implement integrated briefing to allow integrated, flexible provision and presentation of data which are required during the pre-flight phase for the preparation and execution of a flight.

Integrated briefing is a system and/or service enabling the generic briefing process by enhancing the access to and provision of various data/information sources such as AIS, ARO, MET and ATFM which provide i.e. NOTAM, SNOWTAM, MET messages, FPL and related messages or ATFM messages.

Because of significant institutional and organisational constraints, implementation on a broad basis by ATM/CNS providers has not yet been achieved.

Applicable area(s)

All ECAC States
The level of integrated briefing deployment to be done in accordance with local needs and existing set up of briefing facilities.

Optional for military services.

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:	07/2002
Full operational capability:	12/2012

References

European ATM Master Plan relationship

OI step   -   [IS-0201]-Integrated Pre-Flight Briefing

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
INF04-ASP01	Implement and provide integrated briefing function	07/2002	12/2012	**M**
INF04-AGY01	Develop and provide a high-level User Requirements document for integrated briefing	**FINALISED**		
INF04-AGY02	Develop and provide the Concept document for integrated briefing	**FINALISED**		
INF04-AGY03	Provide awareness to facilitate the implementation of integrated briefing	**FINALISED**		

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **AIM / SWIM**
Outline description approved in: -
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2002
Latest change to objective approved/endorsed in: 07/2012

Expected performance benefits

Safety :	Improved, standardised flight preparation and planning ensures consistent, timely and complete provision of required pre-flight information.
Capacity :	N/A
Cost-effectiveness :	Improved access and provision of information reduces duplication in data assembly, avoids ambiguities and inconsistencies and results in improved service.
Environment :	N/A
Security :	N/A

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INF04	Implement integrated briefing

Detailed SloA descriptions

INF04-ASP01	**Implement and provide integrated briefing function**	Start:07/2002	Finish:12/2012

Action by :   ANS Providers

Description & purpose :   Implement and provide integrated briefing function.

The data required during the pre-flight phase is provided and presented into one package in a flexible manner. This is about integrating all information relevant to a flight (AIS, Flight Plan, MET and ATFM) into one single output that can be tailored to the user-s needs.

Notes :   Level 5 defines a single report to be provided by systems. At this level full integration is achieved and a single front-end application is used to access the briefing services. However these may have separate background applications hidden from the user. Level five allows the various briefing products (MET, AIS etc.) to be combined into a single output which may be tailored as requested by the pilot.

Supporting material(s) :   ICAO - EUR-Doc 010 - Harmonized Access to AIS and MET Services relating to pre-flight planning - Edition 2.0 / 08/2007
Url : http://www.paris.icao.int/documents_open/show_file.php?id=132

EUROCONTROL - Integrated Briefing High Level Concept Document, Edition 0.8 / 08/2002
Url : http://www.eurocontrol.int/articles/integrated-briefing-phase-3-p-12

EUROCONTROL - Integrated Briefing Technical Concept Document - Edition 0.4 / 09/2002
Url : http://www.eurocontrol.int/articles/integrated-briefing-phase-3-p-12

ATM Master Plan relationship :   Enabler - [AIMS-07]-Generation of pre-flight briefing information

Specific applicability :   Military Authorities are recommended to consider implementation of integrated briefing for units that provide briefing services for both, military and civil operation.

Finalisation criteria :   1 - Integrated briefing function has been implemented with the following conditions accomplished:
- Facilities and services with one final application at one terminal;
- One single entry of flight details;
- All briefing products combined into a single package that may be tailored by request of the user.

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

Subject matter and scope

* The extension of the applicability area to non-EU ECAC States that have not signed an aviation agreement with EU, as well as material not included in the legislation, are highlighted in blue font italics.

This SES-related implementation objective is derived from 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 (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.

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. It supersedes 'ECIP' objective INF05 'Improve end-to-end integrity of aeronautical data'.

Applicable Area(s)

All EU+ States
1) EU States
2) ECAC States having signed an aviation agreement with the EC

Timescales

Entry into force of the regulation:	02/2010
Article 5(4)(a), Article 5(4)(b) and Article 6 to 13 applicable as from:	07/2013
Article 4, Article5(1) and Article 5(2), Article 5(3) and Article 5(4)(c) applicable as from:	07/2014
Fully applicable as from:	07/2017

References

European ATM Master Plan relationship

OI step - [IS-0202]-Improved Supply Chain for Aeronautical Data through Common Quality Measures
OI step - [IS-0204]-Facilitated Aeronautical Data Exchanges through Digitalised/Electronic Information   ESSENTIAL

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.

Applicable ICAO Annexes and other references

ICAO Annex 15.

Stakeholder Lines of Action (SloA)

SloA ref.	Title	(Regulated) completion date(s)	
ITY-ADQ-REG01	Verify the compliance with data quality requirements and supervise safety assessments	07/2013	
ITY-ADQ-REG02	Verify the establishment of formal arrangements	07/2013	**M**

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ITY-ADQ	Ensure quality of aeronautical data and aeronautical information		

ITY-ADQ-REG03	Verify the compliance with the common dataset specifications and the data exchange format requirements	07/2014	
ITY-ADQ-REG04	Verify that all parties comply with all data requirements	07/2017	
ITY-ADQ-ASP01	Implement data quality and process requirements	07/2013	**M**
ITY-ADQ-ASP02	Establish formal arrangements	07/2013	**M**
ITY-ADQ-ASP03	Establish consistency mechanisms and implement timeliness requirements	07/2013	**M**
ITY-ADQ-ASP04	Implement personnel and performance requirements	07/2013	**M**
ITY-ADQ-ASP05	Implement a quality management system and fulfil safety and security objectives	07/2013	**M**
ITY-ADQ-ASP06	Implement the common dataset and digital exchange format	07/2014	**M**
ITY-ADQ-ASP07	Implement all data requirements	07/2017	**M**
ITY-ADQ-APO01	Implement data quality and process requirements	07/2013	
ITY-ADQ-APO02	Implement personnel and performance requirements	07/2013	
ITY-ADQ-APO03	Implement a quality management system and fulfil safety and security objectives	07/2013	
ITY-ADQ-APO04	Implement the common dataset and digital exchange format requirements	07/2014	
ITY-ADQ-APO05	Implement all data quality requirements	07/2017	
ITY-ADQ-IND01	Implement data quality and process requirements	07/2013	
ITY-ADQ-IND02	Implement personnel and performance requirements	07/2013	
ITY-ADQ-IND03	Implement a quality management system and fulfil safety and security objectives	07/2013	
ITY-ADQ-IND04	Implement the common dataset and digital exchange format requirements	07/2014	
ITY-ADQ-IND05	Implement all data quality requirements	07/2017	

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **AIM / SWIM**
Outline description approved in: 03/2011
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 05/2011
Latest change to objective approved/endorsed in: 07/2012

Expected performance benefits (for information)

Safety :   Improved consistency, reliability and integrity.

Capacity :   N/A

Cost effectiveness :   Avoidance of repair, correction and re-work activities at data provider and data user level as a necessary step towards the implementation of system wide information management.

Environment :   N/A

Security :   Enhanced security due to the implementation of security requirements.

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ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

Detailed SloA descriptions

ITY-ADQ-REG01	Verify the compliance with data quality requirements and supervise safety assessments	(Regulated) completion date(s)
		07/2013

Action by :   **National Supervisory Authorities (NSAs)**

Description & purpose :   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.

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.
Notify the acceptance of the change to the ANSP/ANS.

Derogations :   None

Supporting material(s) :   EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case - Edition 2.3 / 09/2009

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 12/2010

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012

Url : http://www.eurocontrol.int/documents/data-assurance-levels-specification

EUROCONTROL - SPEC 152 - EUROCONTROL Specification for Data Quality Requirements - Edition 1.0 / 01/2013

Url : http://www.eurocontrol.int/documents/data-quality-requirements-specification

EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013

Url : http://www.eurocontrol.int/documents/origination-aeronautical-data-specification

EUROCONTROL - Guidelines on Conformity Assessment for the Interoperability Regulation of the Single European Sky - Edition 3.0 / 02/2012

Url : http://www.eurocontrol.int/documents/conformity-assessment-guidelines

EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010

Url : http://www.eurocontrol.int/adq-library

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

Finalisation criteria :   1 - An EN ISO 9001 certificate has been submitted to the NSA by relevant organisations.

2 - (For ANSPs, APOs and IND certified as ANS): A safety assessment report, including safety arguments where applicable, has been received and reviewed.

3 - (For ANSPs, APOs and IND certified as ANS): Proposed changes have been accepted and formally notified to the relevant organisation.

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.

ITY-ADQ-REG02	Verify the establishment of formal arrangements	(Regulated) completion date(s)
		07/2013

Action by :   **National Supervisory Authorities (NSAs)**

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.

Derogations :   None

Supporting material(s) :   EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012

Url : http://www.eurocontrol.int/documents/data-assurance-levels-specification

EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013

Url : http://www.eurocontrol.int/documents/origination-aeronautical-data-specification

EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010

Url : http://www.eurocontrol.int/adq-library

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

EUROCONTROL - Service Level Agreements (SLA) package - Edition 1.0 / 08/2007

Url : http://www.eurocontrol.int/adq-library

Finalisation criteria :   1 - Formal arrangements have been established and signed by relevant parties.

ESSIP Plan Edition 2013

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

ITY-ADQ-REG03	Verify the compliance with the common dataset specifications and the data exchange format requirements	(Regulated) completion date(s) 07/2014

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Verify that the digital datasets for IAIP, aerodrome mapping, electronic obstacle data, electronic terrain data and metadata are provided in accordance with Article 4 and Annex I of Regulation (EU) No 73/2010 and that the data exchange format requirements are respected in accordance with Article 5 and Annex II of Regulation (EU) No 73/2010.

Note :Digital NOTAM may be excluded from the data exchange format ref. Article 5(3) (subject to revision once digital NOTAM work progressed).

Derogations : None

Supporting material(s) : EUROCONTROL - SPEC 151 - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 1.0 / 12/2012

Url : http://www.eurocontrol.int/documents/aeronautical-information-exchange-aix-specification

EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012

Url : http://www.eurocontrol.int/documents/data-assurance-levels-specification

EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 02/2011

Url : http://www.eurocontrol.int/documents/eaip-specification

EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013

Url : http://www.eurocontrol.int/documents/origination-aeronautical-data-specification

EUROCONTROL - Guidelines on Conformity Assessment for the Interoperability Regulation of the Single European Sky - Edition 3.0 / 02/2012

Url : http://www.eurocontrol.int/documents/conformity-assessment-guidelines

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

Finalisation criteria : 1 - (For ANSPs, APOs and IND certified as ANS): A safety assessment report, including safety arguments where applicable, has been received and reviewed.

2 - (For ANSPs, APOs and IND certified as ANS): Proposed changes have been accepted and formally notified to the relevant organisations.

3 - (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 has been received and assessed.

ITY-ADQ-REG04	Verify that all parties comply with all data requirements	(Regulated) completion date(s) 07/2017

Action by : **National Supervisory Authorities (NSAs)**

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.

Derogations : None

Supporting material(s) : 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

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	(Regulated) completion date(s) 07/2013

Action by : **ANS Providers**

Description & purpose : 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.

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.

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.

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.

Derogations : None

ESSIP Plan Edition 2013

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

Supporting material(s) : EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case - Edition 2.3 / 09/2009

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 12/2010

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012

Url : http://www.eurocontrol.int/documents/data-assurance-levels-specification

EUROCONTROL - SPEC 152 - EUROCONTROL Specification for Data Quality Requirements - Edition 1.0 / 01/2013

Url : http://www.eurocontrol.int/documents/data-quality-requirements-specification

EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013

Url : http://www.eurocontrol.int/documents/origination-aeronautical-data-specification

EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010

Url : http://www.eurocontrol.int/adq-library

ATM Master Plan relationship : Enabler - [AIMS-13]-Controlled & Harmonised Aeronautical Information Network Activity (CHAIN)

Finalisation criteria : 1 - Data quality requirements have been implemented and are documented for verification and audit.

2 - A safety assessment report, including safety arguments where applicable, has been provided to the NSA.

3 - The introduction of the change into service was accepted by the NSA and a notification of acceptance has been received.

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.

ITY-ADQ-ASP02	Establish formal arrangements	(Regulated) completion date(s)
		07/2013

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.

Derogations : None

Supporting material(s) : EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012

Url : http://www.eurocontrol.int/documents/data-assurance-levels-specification

EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013

Url : http://www.eurocontrol.int/documents/origination-aeronautical-data-specification

EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - Service Level Agreements (SLA) package - Edition 1.0 / 08/2007

Url : http://www.eurocontrol.int/adq-library

Finalisation criteria : 1 - Formal arrangements signed by all relevant parties have been established.

ITY-ADQ-ASP03	Establish consistency mechanisms and implement timeliness requirements	(Regulated) completion date(s)
		07/2013

Action by : **ANS Providers**

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.

Derogations : None

Supporting material(s) : EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010

Url : http://www.eurocontrol.int/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	(Regulated) completion date(s)
		07/2013

Action by : **ANS Providers**

ESSIP Plan Edition 2013

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

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.

Derogations : None

Supporting material(s) : EUROCONTROL - AIS Training Development Guidelines - Edition 1.1 / 10/2011

Url : http://www.eurocontrol.int/documents/ais-training-development-guidelines-ais-tdg

EUROCONTROL - Common AIS Staff Profiling (CASP) - Edition 1.0 / 08/2004

Url : http://www.eurocontrol.int/documents/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/documents/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	(Regulated) completion date(s)
		07/2013

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.

Derogations : None

Supporting material(s) : ISO - 9000 series of quality assurance standard

Url : http://www.iso.org/iso/iso_catalogue/management_and_leadership_standards/quality_management.htm

EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010

Url : http://www.eurocontrol.int/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	(Regulated) completion date(s)
		07/2014

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).

Derogations : Refer to Article 15(2) of Regulation (EU) No 73/2010.

ESSIP Plan Edition 2013

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

Supporting material(s) :   EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case - Edition 2.3 / 09/2009

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 12/2010

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - SPEC 151 - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 1.0 / 12/2012

Url : http://www.eurocontrol.int/documents/aeronautical-information-exchange-aix-specification

EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012

Url : http://www.eurocontrol.int/documents/data-assurance-levels-specification

EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 02/2011

Url : http://www.eurocontrol.int/documents/eaip-specification

EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013

Url : http://www.eurocontrol.int/documents/origination-aeronautical-data-specification

EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010

Url : http://www.eurocontrol.int/adq-library

Finalisation criteria :   1 - The common dataset and digital exchange format requirements have been implemented.

2 - A safety assessment report, including safety arguments where applicable, has been provided to the NSA.

3 - The introduction of the change into service was accepted by the NSA and a notification of acceptance has been received.

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.

ITY-ADQ-ASP07	Implement all data requirements	(Regulated) completion date(s)
		07/2017

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.

Derogations :   None

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	(Regulated) completion date(s)
		07/2013

Action by :   **Aerodrome & heliport Operators for which IFR or Special-VFR procedures have been published in national AIPs**

Description & purpose :   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.

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.
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.

Derogations :   None

ESSIP Plan Edition 2013

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

Supporting material(s) :	EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006
	Url : http://www.eurocontrol.int/adq-library
	EUROCONTROL - EAD Safety Case - Edition 2.3 / 09/2009
	Url : http://www.eurocontrol.int/adq-library
	EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 12/2010
	Url : http://www.eurocontrol.int/adq-library
	EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012
	Url : http://www.eurocontrol.int/documents/data-assurance-levels-specification
	EUROCONTROL - SPEC 152 - EUROCONTROL Specification for Data Quality Requirements - Edition 1.0 / 01/2013
	Url : http://www.eurocontrol.int/documents/data-quality-requirements-specification
	EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013
	Url : http://www.eurocontrol.int/documents/origination-aeronautical-data-specification
	EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010
	Url : http://www.eurocontrol.int/adq-library
Finalisation criteria :	1 - Data quality requirements have been implemented and are documented for verification and audit.
	2 - (For APOs certified as ANS): A safety assessment report, including safety arguments where applicable, has been provided to the NSA.
	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.
	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	(Regulated) completion date(s) 07/2013

Action by :	**Aerodrome & heliport Operators for which IFR or Special-VFR procedures have been published in national AIPs**
Description & purpose :	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.
	Develop and maintain operating manuals and request security clearances in accordance with Article 13 of Regulation (EU) No 73/2010.
Derogations :	None
Supporting material(s) :	EUROCONTROL - AIS Training Development Guidelines - Edition 1.1 / 10/2011
	Url : http://www.eurocontrol.int/documents/ais-training-development-guidelines-ais-tdg
	EUROCONTROL - Common AIS Staff Profiling (CASP) - Edition 1.0 / 08/2004
	Url : http://www.eurocontrol.int/documents/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-APO03	Implement a quality management system and fulfil safety and security objectives	(Regulated) completion date(s) 07/2013

Action by :	**Aerodrome & heliport Operators for which IFR or Special-VFR procedures have been published in national AIPs**
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.
Derogations :	None
Supporting material(s) :	ISO - 9000 series of quality assurance standard
	Url : http://www.iso.org/iso/iso_catalogue/management_and_leadership_standards/quality_management.htm
	EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010
	Url : http://www.eurocontrol.int/adq-library
Finalisation criteria :	1 - A quality management system meeting the safety and security management objectives have 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.

ESSIP Plan Edition 2013

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

ITY-ADQ-APO04	Implement the common dataset and digital exchange format requirements	(Regulated) completion date(s)
		07/2014

Action by : **Aerodrome & heliport Operators for which IFR or Special-VFR procedures have been published in national AIPs**

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 ANS, provide a safety assessment report to the NSA and if applicable provide safety arguments to the NSA.

Note : Digital NOTAM may be excluded from the data exchange format ref. Article 5(3) (subject to revision once digital NOTAM work progressed).

Derogations : None

Supporting material(s) : EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case - Edition 2.3 / 09/2009

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 12/2010

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - SPEC 151 - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 1.0 / 12/2012

Url : http://www.eurocontrol.int/documents/aeronautical-information-exchange-aix-specification

EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012

Url : http://www.eurocontrol.int/documents/data-assurance-levels-specification

EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 02/2011

Url : http://www.eurocontrol.int/documents/eaip-specification

EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013

Url : http://www.eurocontrol.int/documents/origination-aeronautical-data-specification

EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010

Url : http://www.eurocontrol.int/adq-library

Finalisation criteria : 1 - The common dataset requirements have been implemented.

2 - (For APOs certified as ANS): The common digital exchange format requirements have been implemented.

3 - (For APOs certified as ANS): A safety assessment report, including safety arguments where applicable, has been provided to the NSA.

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.

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.

ITY-ADQ-APO05	Implement all data quality requirements	(Regulated) completion date(s)
		07/2017

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.

Derogations : None

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	(Regulated) completion date(s)
		07/2013

Action by : **Public/private entities providing services for the origination/provision of survey, electronic terrain & obstacle data and procedures design services**

ESSIP Plan Edition 2013

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

Description & purpose : 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.

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.

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.

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.

Derogations : None

Supporting material(s) : EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case - Edition 2.3 / 09/2009

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 12/2010

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012

Url : http://www.eurocontrol.int/documents/data-assurance-levels-specification

EUROCONTROL - SPEC 152 - EUROCONTROL Specification for Data Quality Requirements - Edition 1.0 / 01/2013

Url : http://www.eurocontrol.int/documents/data-quality-requirements-specification

EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013

Url : http://www.eurocontrol.int/documents/origination-aeronautical-data-specification

EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010

Url : http://www.eurocontrol.int/adq-library

Finalisation criteria : 1 - Data quality requirements have been implemented and are documented for verification and audit.

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.

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.

4 - (For Manufacturers of constituents): An EC declaration of conformity of constituents or of suitability for use has been issued.

5 - (For IND certified as ANS): A safety assessment report, including safety arguments where applicable, has been provided to the NSA.

ITY-ADQ-IND02	Implement personnel and performance requirements	(Regulated) completion date(s)
		07/2013

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.

Derogations : None

Supporting material(s) : EUROCONTROL - AIS Training Development Guidelines - Edition 1.1 / 10/2011

Url : http://www.eurocontrol.int/documents/ais-training-development-guidelines-ais-tdg

EUROCONTROL - Common AIS Staff Profiling (CASP) - Edition 1.0 / 08/2004

Url : http://www.eurocontrol.int/documents/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	(Regulated) completion date(s)
		07/2013

Action by : **Public/private entities providing services for the origination/provision of survey, electronic terrain & obstacle data and procedures design services**

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

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

Derogations : None

Supporting material(s) : ISO - 9000 series of quality assurance standard

Url : http://www.iso.org/iso/iso_catalogue/management_and_leadership_standards/quality_management.htm

EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2013) - Edition 1.3 / 06/2010

Url : http://www.eurocontrol.int/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	(Regulated) completion date(s)
		07/2014

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).

Derogations : None

Supporting material(s) : EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 10/2006

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case - Edition 2.3 / 09/2009

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 12/2010

Url : http://www.eurocontrol.int/adq-library

EUROCONTROL - SPEC 151 - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 1.0 / 12/2012

Url : http://www.eurocontrol.int/documents/aeronautical-information-exchange-aix-specification

EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 03/2012

Url : http://www.eurocontrol.int/documents/data-assurance-levels-specification

EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 02/2011

Url : http://www.eurocontrol.int/documents/eaip-specification

EUROCONTROL - SPEC 154 - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 1.0 / 02/2013

Url : http://www.eurocontrol.int/documents/origination-aeronautical-data-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.

ESSIP Plan Edition 2013

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

ITY-ADQ-IND05	Implement all data quality requirements	(Regulated) completion date(s)
		07/2017

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.

Derogations : None

Finalisation criteria : 1 - All electronic data is compliant to all requirements and a statement of compliance has been provided to the NSA.

ESSIP Plan Edition 2013

SES	Active		EU+
ITY-AGDL	**Initial ATC air-ground data link services above FL-285**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Subject matter and scope

This SES-related implementation objective is derived from Regulation (EC) No 29/2009 of 16 January 2009 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(30)].

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.

This SES-related implementation objective does not replace the EC legislation. It aims at facilitating the monitoring and reporting of the implementation of data link services in European ATM in line with the EC regulations and through the SES implementation monitoring and reporting mechanism. It supersedes 'ECIP' objective ATC06 'Implement ATC air-ground data link services (Phase 1)'.

Applicable Area(s)

All EU+ States

Timescales

Retrofit aircraft capability:	02/2015
ATS unit operational capability - Regulation (EC) 29/2009, Annex I, Part B:	02/2015
Entry into force of regulation:	02/2009
New aircraft capability:	01/2011
ATS unit operational capability - Regulation (EC) 29/2009, Annex I, Part A:	02/2013

References

European ATM Master Plan relationship

OI step -   [AUO-0301]-Voice Controller-Pilot Communications (En Route) Complemented by Data Link   ESSENTIAL

Applicable legislation

Regulation (EC) No 29/2009 of 16 January 2009 laying down requirements on data link services for the single European sky

Applicable ICAO Annexes and other references

EUROCAE Documents ED-120, ED-111.

ETSI EN 303 214 V1.2.1 Data Link Services (DLS) System;

Stakeholder Lines of Action (SloA)

SloA ref.	Title	(Regulated) completion date(s)
ITY-AGDL-REG01	Ensure that safety is assessed before any change to the existing system	02/2013 02/2015
ITY-AGDL-REG02	Ensure the processing and the distribution of the information on the data link capability by the IFPS	02/2013
ITY-AGDL-REG03	Ensure the publication of relevant information in the national aeronautical information publication	02/2013 02/2015
ITY-AGDL-REG04	Ensure ATN/VDL-2 availability, security policy and address management procedures	02/2013 02/2015
ITY-AGDL-REG05	Approve the operational use of air-ground data link services	02/2013 02/2015
ITY-AGDL-REG06	Notify potential exemption cases to the European Commission	12/2012
ITY-AGDL-ASP01	Ensure the conformity of communications, flight data and initial flight plan processing systems and associated procedures	02/2013 02/2015

ESSIP Plan Edition 2013

ITY-AGDL	Initial ATC air-ground data link services above FL-285

ITY-AGDL-ASP02	Organise personnel awareness and training	02/2013 02/2015
ITY-AGDL-ASP03	Ensure ground communication systems comply with air-ground communication requirements	02/2013 02/2015
ITY-AGDL-ASP04	Deploy communication infrastructure to handle air-ground data link services	02/2013 02/2015
ITY-AGDL-MIL01	Equip transport-type State aircraft	01/2014
ITY-AGDL-USE01	Equip aircraft with data link equipment supporting the identified services	01/2011 02/2015
ITY-AGDL-USE02	Specify relevant operational procedures	01/2011 02/2015
ITY-AGDL-USE03	Arrange air-ground ATS data link service provision	02/2013 02/2015
ITY-AGDL-USE04	Organise personnel awareness and training	02/2013 02/2015
ITY-AGDL-IND01	Provide avionics and ground systems for data link services	01/2011

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **CNS / COM SG**
Outline description approved in: -
Latest objective review at expert level in: 04/2009

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2009
Latest change to objective approved/endorsed in: -

Expected performance benefits (for information)

Safety :
Through the delivery of standard and unambiguous messages (entailing significant error and fatigue reduction), the provision of a communications back up and the possibility of immediate message retrieval, data link communications are a major safety enhancement.

Capacity :
Increased capacity through both reduction of voice congestion and increase in controller efficiency. Capacity gain is expected from 3.4 % (if 25% of flights is equipped) up to 11% (if 75% of flights is equipped).

Cost effectiveness :
Data link is a cost-effective capacity increase enabler through sector productivity increase and delay cost savings. ANSPs savings derived from staff cost avoidance. Aircraft operators will benefit of en route cost savings and reduction of delays.

Environment :   N/A

Security :   N/A

Detailed SloA descriptions

ITY-AGDL-REG01	Ensure that safety is assessed before any change to the existing system	(Regulated) completion date(s) 02/2013 02/2015

Action by :   **National Supervisory Authorities (NSAs)**

Description & purpose :   Take the necessary measures to ensure that any changes to the existing systems (FDPS, HMI, air-ground communication systems) or the introduction of new systems are preceded by a safety assessment, including hazard identification, risk assessment and mitigation, conducted by the parties concerned [Regulation (EC) No 29/2009, Article 10].

Derogations :   None

ESSIP Plan Edition 2013

ITY-AGDL	Initial ATC air-ground data link services above FL-285

Finalisation criteria : 1 - Member States have produced a positive safety assessment.

ITY-AGDL-REG02	Ensure the processing and the distribution of the information on the data link capability by the IFPS	(Regulated) completion date(s) 02/2013

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Take the necessary measures to ensure that:
- the personnel involved in flight planning who operate the IFPS are made duly aware of the requirements laid down in Regulation (EC) No 29/2009 and that they are adequately trained for their job functions [Article 13(7)];
- the centralised flight planning processing and distribution service: (a) develops and maintains operations manuals which are accessible and kept up to date within appropriate quality and documentation configuration management and (b) implements working methods and operating procedures to enable all personnel concerned to apply Regulation (EC) No 29/2009 [Article 13(4)].

Note : States may delegate the measures above to a centralised body such as EUROCONTROL.

Derogations : None

Finalisation criteria : 1 - Availability of centralised flight planning processing and distribution service supporting information needed for implementation of Regulation (EC) No 29/2009.

2 - Training materials are available.

3 - Updated operations manuals are available.

ITY-AGDL-REG03	Ensure the publication of relevant information in the national aeronautical information publication	(Regulated) completion date(s) 02/2013 02/2015

Action by : **National Supervisory Authorities (NSAs)**

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)].

Derogations : None

Finalisation criteria : 1 - National aeronautical information publication have been updated appropriately.

ITY-AGDL-REG04	Ensure ATN/VDL-2 availability, security policy and address management procedures	(Regulated) completion date(s) 02/2013 02/2015

Action by : **National Supervisory Authorities (NSAs)**

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)];
- 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)].

Derogations : None

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 is available.

ITY-AGDL-REG05	Approve the operational use of air-ground data link services	(Regulated) completion date(s) 02/2013 02/2015

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Approve the operational use of air/ground data link services to enable ATC to safely handle aircraft by using air-ground data link services.

Derogations : None

ITY-AGDL	Initial ATC air-ground data link services above FL-285

Supporting material(s) : EASA - AMC 20-11 - Acceptable Means of Compliance for the Approval of use of Initial Services for Air-Ground Data Link in Continental Airspace - ED Decision 2007/019/R / 12/2007

Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20

ETSI - EN 303 214 - Data Link Services (DLS) System; Requirements for ground constituents and system testing; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.2.1 - OJ 2011/C 183/06 / 04/2012

Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp

ICAO - EUR-Doc 011 - EUR Frequency Management Manual - Edition 2012 / 12/2012

Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=96

JAA - TGL 40 - Operational Considerations for the Use of Initial Services for Air-Ground Data Link Communications in European Airspace 06/2006

Url : http://easa.europa.eu/certification/experts/OEB-supporting-documents.php

Finalisation criteria : 1 - Operational use has been approved.

ITY-AGDL-REG06	Notify potential exemption cases to the European Commission	(Regulated) completion date(s)
		12/2012

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Where applicable, provide detailed information justifying the need for granting exemptions for aircraft types: (a) reaching the end of their production life and being produced in limited numbers; and (b) for which re-engineering costs required would be disproportionate due to old design, in cases where these circumstances prevent aircraft of specific types from complying with the requirements of Regulation (EC) No 29/2009 [Article 14(1)].

Derogations : None

Finalisation criteria : 1 - Associated Commission decision has been published.

ITY-AGDL-ASP01	Ensure the conformity of communications, flight data and initial flight plan processing systems and associated procedures	(Regulated) completion date(s)
		02/2013
		02/2015

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:

- 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.

Derogations : None

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/mainpage.ch2

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 : Enabler - [ER APP ATC 119]-Enhance En-route ATC sub-systems (mainly communication and Controller workstation) to enable CPDLC dialog with Pilot

Enabler - [PRO-044b]-ATC Procedures involving protocol for utilization of DataLink communications, message composition, receipt acknowledgement

ITY-AGDL	Initial ATC air-ground data link services above FL-285

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	(Regulated) completion date(s) 02/2013 02/2015

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)

Derogations :   None

Finalisation criteria :   1 - Air Navigation Service Providers have produced the operations manuals and the training programmes.

ITY-AGDL-ASP03	Ensure ground communication systems comply with air-ground communication requirements	(Regulated) completion date(s) 02/2013 02/2015

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.

Derogations :   None

ATM Master Plan relationship :   Enabler - [ER APP ATC 154]-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	(Regulated) completion date(s) 02/2013 02/2015

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).

Derogations :   None

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

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

EUROCONTROL - LINK 2000+ Network Planning Document - Edition 3.6 / 12/2012

Url : http://www.eurocontrol.int/articles/link-2000-guidance-material

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

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

ATM Master Plan relationship :   Enabler - [CTE-C2a]-Air-Ground existing datalink (VDL2 and AOA)

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-MIL01	Equip transport-type State aircraft	(Regulated) completion date(s) 01/2014

Action by :   **Military Authorities**

ITY-AGDL	Initial ATC air-ground data link services above FL-285

Description & purpose :   States which decide to equip new transport type State aircraft entering into service from 1 January 2014 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) 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.

Derogations :   None

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	(Regulated) completion date(s) 01/2011 02/2015

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 [Regulation (EC) No 29/2009, Articles 3(2) and 3(3)*];
- 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.

*For aircraft with an individual certificate of airworthiness first issued before 01.01.11 the retrofit date of 05.02.15 is applicable; for other aircraft the forward fit date of 01.01.11 applies.

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 3(4)(a)];
- Aircraft with an individual certificate of airworthiness first issued before 01.01.98 which will cease operation in the applicable airspace by 31.12.17 [Article 3(4)(b)];
- State aircraft [Article 3(4)(c)];
- 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 3(4)(d)];
- 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

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	(Regulated) completion date(s) 01/2011 02/2015

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.

Derogations :   None

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	(Regulated) completion date(s) 02/2013 02/2015

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)].

Derogations :   None

ITY-AGDL	Initial ATC air-ground data link services above FL-285

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**	(Regulated) completion date(s) 02/2013 02/2015

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)].

Derogations :   None

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.

ITY-AGDL-IND01	**Provide avionics and ground systems for data link services**	(Regulated) completion date(s) 01/2011

Action by :   **Aeronautics Industry**

Description & purpose :   Develop and supply airborne and ground equipment for data link services.

Derogations :   None

Supporting material(s) :   ETSI - EN 303 214 - Data Link Services (DLS) System; Requirements for ground constituents and system testing; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.2.1 - OJ 2011/C 183/06 / 04/2012

Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp

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-110B - Interoperability Requirements Standard for Aeronautical Telecommunication Network Baseline 1 (Interop ATN B1) 12/2007

Url : http://boutique.eurocae.net/catalog/index.php

Finalisation criteria :   1 - Certified equipment is available.

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SES	Active		EU+
ITY-AGVCS2	**Implement air-ground voice channel spacing requirements below FL195**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Subject matter and scope

* The extension of the applicability area to non-EU ECAC States that have not signed an aviation agreement with EU, as well as material not included in the legislation, are highlighted in blue font italics.

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.

Applicable Area(s)

All EU+ States except: Maastricht UAC

Timescales

Entry into force:	12/2012
New and upgraded radio equipment:	11/2013
Interim target for freq. conversions:	12/2014
All radio equipment:	12/2017
All frequencies converted:	12/2018
New or upgraded radios on State aircraft:	01/2014
State aircraft equipped, except those notified to EC:	12/2018
State aircraft equipped, except those exempted [Art 9(11)]:	12/2020

References

European ATM Master Plan relationship

Enabler - [CTE-C5]-8.33 kHz Voice communications Air-Ground

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

Applicable ICAO Annexes and other references

ICAO Annex 10;
ICAO PANS-ATM Doc. 4444.

Stakeholder Lines of Action (SloA)

SloA ref.	Title	(Regulated) completion date(s)	
ITY-AGVCS2-REG01	Ensure radios have 8,33 kHz channel spacing capability	12/2017	**M**

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ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195

ITY-AGVCS2-REG02	Ensure the achievement of the interim target for 8,33 kHz frequency conversions	12/2014	
ITY-AGVCS2-REG03	Ensure compliance with the requirements on 8,33 kHz frequency conversions	12/2018	**M**
ITY-AGVCS2-ASP01	Ensure conformity of voice communications systems and associated procedures	12/2017	**M**
ITY-AGVCS2-ASP02	Convert 25 kHz frequencies to 8,33 kHz to achieve the interim target	12/2014	
ITY-AGVCS2-ASP03	Convert all 25 kHz frequencies to 8,33 kHz	12/2018	**M**
ITY-AGVCS2-ASP04	Develop safety assessment	12/2018	**M**
ITY-AGVCS2-ASP05	Organise personnel training and awareness	12/2017	**M**
ITY-AGVCS2-MIL01	Equip State aircraft with radio equipment with 8,33 kHz channel spacing capability	12/2020	
ITY-AGVCS2-MIL02	Organise personnel training and awareness of military aircrew	12/2020	
ITY-AGVCS2-APO01	Convert all 25 kHz frequencies to 8,33 kHz	12/2018	**M**
ITY-AGVCS2-APO02	Accommodate non-equipped vehicles	12/2017	**M**
ITY-AGVCS2-APO03	Organise personnel training and awareness	12/2018	**M**
ITY-AGVCS2-USE01	Equip aircraft with radio equipment with 8,33 kHz channel spacing capability	12/2017	
ITY-AGVCS2-USE02	Organise personnel training and awareness	12/2017	
ITY-AGVCS2-NM01	Ensure the centralised flight planning processing and distribution service complies with the Regulation	12/2012	

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **CNS / COM SG**
Outline description approved in: -
Latest objective review at expert level in: 04/2013

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2013
Latest change to objective approved/endorsed in: -

Expected performance benefits (for information)

Safety :   N/A
Capacity :   Increased capacity by satisfying the demand for new frequency assignments in the VHF band
Cost effectiveness :   N/A
Environment :   N/A
Security :   N/A

Detailed SloA descriptions

ITY-AGVCS2-REG01	Ensure radios have 8,33 kHz channel spacing capability	(Regulated) completion date(s) 12/2017

Action by :   **National Supervisory Authorities (NSAs)**

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ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195

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:
i) From entry into force of the Regulation, ensure that all radios having the 8,33 kHz channel spacing capability:
   - 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)].
ii) From 17 November 2013:
   - 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)].
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)].
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.

Derogations : None

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/mainpage.ch2

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 - Where applicable, the State has published the additional local exemptions as per Article 14 of Regulation (EU) No 1079/2012.

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.

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.

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.

ITY-AGVCS2-REG02	Ensure the achievement of the interim target for 8,33 kHz frequency conversions	(Regulated) completion date(s)
		12/2014

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Ensure the requirements of Article 6(3) to 6(9) of the of Regulation (EU) No 1079/2012 on 8,33 kHz conversions are met. In particular:
i) By 31 December 2013:
   - With the support of the ANSP, establish the 25% target for frequency conversions as specified by Articles 6(3) and 6(4) of the Regulation;
   - Notify the Commission of the 25% target including, if this target cannot be met, a justification for not being able to achieve the target and an alternative date for achieving it. The communication shall also identify the frequency assignments that cannot be converted and the reasons for it [Art. 6(5), 6(6) & 6(7)].
ii) By 31 December 2014:
   - Ensure the 25% target for frequency conversions has been achieved. These conversions shall not be limited to ACC frequency assignments and shall not include operational control communication frequency assignments [Art 6(3)];
   - Ensure all operational control communication (OPC) frequency assignments in the central register are 8,33 kHz [Art 6(8)];
   - Where due to technical reasons, not all operational control communication frequency assignments can be converted, notify the Commission which frequency assignments will not be converted and a justification for it [Art 6(9)].

Specific applicability: This SLoA only applies to the States listed in Annex I of the Regulation (i.e. Germany, Ireland, France, Italy, Luxembourg, Hungary, Netherlands, Austria, United Kingdom).

Derogations : None

Finalisation criteria : 1 - 25% target for frequency conversions as per Articles 6(5) to 6(7) of the Regulation notified to the Commission.

2 - 25% target for frequency conversions achieved.

3 - All OPC frequency assignments converted to 8,33 kHz or, where applicable, OPC frequencies not converted and justification for it notified to the Commission.

ITY-AGVCS2-REG03	Ensure compliance with the requirements on 8,33 kHz frequency conversions	(Regulated) completion date(s)
		12/2018

Action by : **National Supervisory Authorities (NSAs)**

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.

ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195

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").

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	(Regulated) completion date(s) 12/2017

Action by : **ANS Providers**

Description & purpose :
Ensure that voice communication systems and associated communication procedures comply 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;
    - 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.
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.

Derogations : None

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/mainpage.ch2

ICAO - Doc 4444 - Air Traffic Management, Section 12.3.1.4 '8,33 kHz channel spacing' - Edition 15

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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-ASP02	Convert 25 kHz frequencies to 8,33 kHz to achieve the interim target	(Regulated) completion date(s) 12/2014

Action by : **ANS Providers**

Description & purpose :
Ensure that the interim requirements for frequency conversions to 8,33 kHz channel spacing as specified in Articles 6(3) and 6(4) of Regulation (EU) No 1079/2012 are complied with. In particular:
- By 31 December 2013, support the Regulator in the calculation and establishment of the 25% target for frequency conversions as specified by Articles 6(3) and 6(4) of the Regulation;
- By 31 December 2014, ensure that the 25% target for frequency conversions referred to above and notified to the Commission is met. These conversions shall not be limited to ACC frequency assignments and shall not include operational control communication frequency assignments [Art 6(3)].

Specific applicability :
This SLoA only applies to the ANSPs providing services in the States listed in Annex I of the Regulation (i.e. Germany, Ireland, France, Italy, Luxembourg, Hungary, Netherlands, Austria, United Kingdom).

Derogations : None

ATM Master Plan relationship :
Enabler - [CTE-C5]-8.33 kHz Voice communications Air-Ground

Finalisation criteria :
1 - 25% target for frequency conversions has been achieved.

ITY-AGVCS2-ASP03	Convert all 25 kHz frequencies to 8,33 kHz	(Regulated) completion date(s) 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 - Radio Frequency Function Best Practices (to be published by July 2013)

ATM Master Plan relationship :
Enabler - [CTE-C5]-8.33 kHz Voice communications Air-Ground

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ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195

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	(Regulated) completion date(s)
		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.

Derogations : None

Supporting material(s) : EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006

Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html

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

ICAO - EUR-Doc 011 - EUR Frequency Management Manual - Edition 2011 / 12/2011

Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=96

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	(Regulated) completion date(s)
		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.

Derogations : None

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	(Regulated) completion date(s)
		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 Regulation (EU) No 1079/2012:
i) From entry into force of the Regulation, ensure that all radios having the 8,33 kHz channel spacing capability comply with:
  - 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.
ii) From 1 January 2014:
  - 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)].
iii) By 30 June 2018:
  - 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)].
iv) By 31 December 2018:
  - 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)].
v) By 31 December 2020:
  - 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 : The obligation does not apply to State aircraft that will be withdrawn from operational service by 31 December 2025 [Art 9(11)].
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.

ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195

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/mainpage.ch2

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 - List of State aircraft that cannot be equipped with 8,33 kHz radios by 31 December 2018 has been communicated to the Commission.

2 - State aircraft have been equipped.

ITY-AGVCS2-MIL02	Organise personnel training and awareness of military aircrew	(Regulated) completion date(s)
		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.

Derogations : None

Finalisation criteria : 1 - Training manuals have been updated, as required.

2 - All personnel operating radio equipment have been trained.

ITY-AGVCS2-APO01	Convert all 25 kHz frequencies to 8,33 kHz	(Regulated) completion date(s)
		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 : 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 - Radio Frequency Function Best Practices (to be published by July 2013)

ATM Master Plan relationship : Enabler - [CTE-C5]-8.33 kHz Voice communications Air-Ground

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	(Regulated) completion date(s)
		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].

Derogations : None

Finalisation criteria : 1 - Procedures for handling non-8,33 kHz equipped vehicles through airport areas using 8,33 kHz channel spacing have been published and are applied as appropriate.

ITY-AGVCS2-APO03	Organise personnel training and awareness	(Regulated) completion date(s)
		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)].

Derogations : None

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	(Regulated) completion date(s)
		12/2017

Action by : **Airspace Users**

ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195

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.

Derogations : None

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

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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	(Regulated) completion date(s)
		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.

Derogations : None

Finalisation criteria : 1 - Training manuals have been updated, as required.

2 - All personnel operating radio equipment have been trained.

ITY-AGVCS2-NM01	Ensure the centralised flight planning processing and distribution service complies with the Regulation	(Regulated) completion date(s)
		12/2012

Action by :

Description & purpose : The Network Manager shall ensure that the centralised flight planning processing and distribution service [Art. 13(4)]:
a) develops and maintains operations manuals containing the necessary instructions and information to enable all relevant personnel to apply Regulation (EU) No 1079/2012;
b) ensures that the manuals referred to in point (a) are accessible and kept up to date and that their update and distribution are subject to appropriate quality and documentation management;
c) ensures that its working methods and operating procedures comply with the Regulation.

Derogations : None

Finalisation criteria : 1 - Systems, operations manuals, working methods and operating procedures have been updated in compliance with the Regulation and documented.

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SES	Active		EU+
ITY-COTR	**Implementation of ground-ground automated co-ordination processes**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

This SES-related implementation objective is derived from:

- Regulation (EC) No 1032/2006 of 06 July 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, and
- Regulation (EC) No 30/2009 of 16 January 2009 amending Regulation (EC) No 1032/2006 as far as the requirements for automatic systems for the exchange of flight data supporting data link services are concerned.

Regulation (EC) No 1032/2006 applies to:

- Flight data processing systems serving air traffic control units providing services to general air traffic;
- Flight data exchange systems supporting the coordination procedures between air traffic services units and controlling military units.

This objective covers the following mandatory processes, supported by system information exchanges:
- Notification;
- Initial Coordination;
- Revision of Coordination;
- Abrogation of Coordination;
- Basic Flight Data;
- Changes to Basic Flight Data.
As described in Regulation (EC) No 1032/2006, Annex I (Parts A and B)

Also, this objective covers the following processes, supported by system information exchanges:
- Logon Forward;
- Next Authority Notified;
As described in Regulation (EC) No 30/2009, Annex (Part D).
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 1032/2006.
Regulation (EC) No 1032/2006 shall not apply to flight data processing systems for which the flight data are synchronised by means of a common system.

This SES-related implementation objective does not replace the EC legislation. It aims at facilitating the monitoring and reporting of the implementation of ground-ground coordination processes in European ATM in line with the EC regulations and through the SES implementation monitoring and reporting mechanism. It supersedes ECIP objective ATC03.1 'Implement automated ground-ground coordination processes'.

Applicable Area(s)	*Timescales*	
All EU+ States	Entry into force of regulation:	07/2006
	For putting into service of EATMN systems in respect of notification and initial coordination processes:	07/2006
	For putting into service of EATMN systems in respect of Revision of Coordination, Abrogation of Coordination, Basic Flight Data and Change to Basic Flight Data:	01/2009
	To all EATMN systems in operation by 12/2012 :	12/2012
	Systems serving ACCs providing services above FL 285 in the airspace identified in Annex I, Part A of Regulation (EC) 29/2009:	02/2013
	Systems serving ACCs providing services above FL 285 in the airspace identified in Annex I, Part B of Regulation (EC) 29/2009:	02/2015

References

European ATM Master Plan relationship

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

Applicable legislation

Regulation (EC) No 30/2009 of 16 January 2009 amending Regulation (EC) No 1032/2006 as far as the requirements for automatic systems for the exchange of flight data supporting data link services are concerned;
Regulation (EC) No 29/2009 of 16 January 2009 laying down requirements on data link services for the single European sky;
Regulation (EC) No 1032/2006 of 06 July 2006 laying down requirements for automatic systems for the exchange of flight data for the purpose of notification, coordination and transfer of flights between air traffic control units.

Applicable ICAO Annexes and other references

None

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ITY-COTR	Implementation of ground-ground automated co-ordination processes

Stakeholder Lines of Action (SloA)

SloA ref.	Title	(Regulated) completion date(s)	
ITY-COTR-REG01	Ensure oversight of changes to system	01/2009 12/2012	
ITY-COTR-ASP01	Implement flight data processing and exchange systems	01/2009 12/2012	
ITY-COTR-ASP02	Implement Notification process	07/2006 12/2012	
ITY-COTR-ASP03	Implement Initial Coordination process	07/2006 12/2012	
ITY-COTR-ASP04	Implement Revision of Coordination process	01/2009 12/2012	
ITY-COTR-ASP05	Implement Abrogation of Coordination process	01/2009 12/2012	
ITY-COTR-ASP06	Implement Basic Flight Data process	01/2009 12/2012	
ITY-COTR-ASP07	Implement Change to Basic Flight Data process	01/2009 12/2012	
ITY-COTR-ASP08	Implement Logon Forward process	02/2013 02/2015	
ITY-COTR-ASP09	Implement Next Authority Notified process	02/2013 02/2015	
ITY-COTR-ASP10	Develop safety assessment	01/2009 12/2012	
ITY-COTR-ASP11	Organise training to Air Traffic Control personnel		02/2015
ITY-COTR-MIL01	Implement Basic Flight Data process	01/2009 12/2012	
ITY-COTR-MIL02	Implement Change to Basic Flight Data process	01/2009 12/2012	

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **Unassigned**
Outline description approved in: -
Latest objective review at expert level in: 04/2009

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2009
Latest change to objective approved/endorsed in: -

Expected performance benefits (for information)

Safety :   Reduction of human error.

Capacity :   Reduction of controller workload.

Cost effectiveness :   More efficient planning and operational decision making.

Environment :   N/A

Security :   N/A

ESSIP Plan Edition 2013

ITY-COTR	Implementation of ground-ground automated co-ordination processes

Detailed SloA descriptions

ITY-COTR-REG01	Ensure oversight of changes to system	(Regulated) completion date(s) 01/2009 12/2012

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : The NSA shall oversee safety of changes induced by introduction automatic systems for the exchange of flight data for the purpose of notification, coordination and transfer of flights between air traffic control units. The tasks to be done are as follows:
- Analyse the safety case;
- Review safety arguments;
- Prepare the material for the acceptance of changes.

Derogations : None

Supporting material(s) : EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 12/2009

Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EUROCONTROL - EAM 1/GUI 1 - Explanatory Material on ESARR 1 Requirements - Edition 2.0 / 12/2010

Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011 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 case has been analysed; where necessary, safety arguments have been reviewed.

2 - Formal acceptance by the NSA of the proposed changes has been communicated to ANSP.

ITY-COTR-ASP01	Implement flight data processing and exchange systems	(Regulated) completion date(s) 01/2009 12/2012

Action by : **ANS Providers**

Description & purpose : The system shall provide all the information required for the display, processing and compilation of the system information exchanged in the process specified. [Regulation (EC) No 1032/2006, Annex I, Part A].

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 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/11 / 12/2010

Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - Flight data processing and exchange systems have been upgraded.

2 - The technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) have been delivered to the competent National Supervisory Authority (NSA).

3 - Upgraded flight data processing and exchange systems have been put into service.

ITY-COTR-ASP02	Implement Notification process	(Regulated) completion date(s) 07/2006 12/2012

Action by : **ANS Providers**

Description & purpose : Implement a process of notification of flight between ATC units.

The Notification process satisfies the following operational requirements:
- Provide for acquisition of missing flight plan data;
- Provide advance boundary information and revisions thereto for the next ATC unit;
- Update the basic flight plan data;
- Facilitate early correlation of radar tracks;
- Facilitate accurate short-term sector load assessment;
- Request the assignment of an SSR code from the unit to which the above notification is sent, if required.

This process shall comply with the interoperability and performance requirements specified in Art. 3 of Regulation (EC) No 1032/2006.

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/documents/ats-data-exchange-presentation-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/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - The Notification process has been implemented, documented and is in operational use.

ITY-COTR	Implementation of ground-ground automated co-ordination processes

ITY-COTR-ASP03	Implement Initial Coordination process	(Regulated) completion date(s) 07/2006 12/2012

Action by : **ANS Providers**

Description & purpose : Implement a process of initial coordination of flight between ATC units.

The Initial Coordination process satisfies the following operational requirements:
- Replace the verbal boundary estimate by transmitting automatically details of a flight from one ATC unit to the next prior to the transfer of control;
- Update the basic flight plan data in the receiving ATC unit with the most recent information;
- Facilitate distribution and display of flight plan data within the receiving ATC unit to the working positions involved;
- Enable display of correlation in the receiving ATC unit;
- Provide transfer conditions to the receiving ATC unit.

This process shall comply with the interoperability and performance requirements specified in Art. 3 of Regulation (EC) No 1032/2006.

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/documents/ats-data-exchange-presentation-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/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - The Initial Coordination process has been implemented, documented and is in operational use.

ITY-COTR-ASP04	Implement Revision of Coordination process	(Regulated) completion date(s) 01/2009 12/2012

Action by : **ANS Providers**

Description & purpose : Implement a process of revision of coordination of flight between ATC units.

The Revision of Coordination process is used to transmit revisions to co-ordination data previously sent in an Initial Coordination message provided that the accepting unit does not change as a result of the modification.

This process shall comply with the interoperability and performance requirements specified in Art. 3 of Regulation (EC) No 1032/2006.

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/documents/ats-data-exchange-presentation-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/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - The Revision of Coordination process has been implemented, documented and is in operational use.

ITY-COTR-ASP05	Implement Abrogation of Coordination process	(Regulated) completion date(s) 01/2009 12/2012

Action by : **ANS Providers**

Description & purpose : Implement a process of abrogation of coordination of flight between ATC units.

An Abrogation of Coordination process is used to indicate to the receiving unit that the co-ordination or notification previously effected for a flight is being abrogated.
The Abrogation of Coordination message is not a replacement for a Cancellation message, as defined by ICAO, and therefore, shall not be used to erase the basic flight plan data.

The abrogation of coordination process shall ensure association with the previous notification or coordination process that is being cancelled.

This process shall comply with the interoperability and performance requirements specified in Art. 3 of Regulation (EC) No 1032/2006.

Derogations : It shall not apply to flight data processing systems for which the flight data are synchronised by means of a common system.

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ITY-COTR	Implementation of ground-ground automated co-ordination processes

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/documents/ats-data-exchange-presentation-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/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - The Abrogation of Coordination process has been implemented, documented and is in operational use.

ITY-COTR-ASP06	Implement Basic Flight Data process	(Regulated) completion date(s) 01/2009 12/2012

Action by : **ANS Providers**

Description & purpose : Implement a process for the provision of basic flight data between ATC units which:

- Forwards basic flight data from civil units to military units and, if bilaterally agreed, from military units to civil units;
- Forwards basic flight data to an ATSU which requires information on the flight but whose airspace is not planned to be penetrated by the flight, e.g. where the route takes the flight close to the boundary and a Letter of Agreement exists requiring such flights to be notified of coordinated;
- Identifies the controller/console having the flight under control, particularly where it may not be apparent from the current position of the flight as is the case at a number of military units;
- Activates the system flight plan in the receiving unit, if necessary;
- Allows correlation of radar data with flight plan data.

This process shall comply with the interoperability and performance requirements specified in Art. 3 of Regulation (EC) No 1032/2006.

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/documents/ats-data-exchange-presentation-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/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - The Basic Flight Data process has been implemented, documented and is in operational use.

ITY-COTR-ASP07	Implement Change to Basic Flight Data process	(Regulated) completion date(s) 01/2009 12/2012

Action by : **ANS Providers**

Description & purpose : Implement a process for change to basic flight data between ATC units.

The Change to Basic Flight Data process is for the unit controlling the flight to notify the interested unit of:
- All significant changes to flight data previously sent to this unit with a Basic Flight Data / Change to Basic Flight Data;
- All flight data required to be notified by bilateral agreement and not included in the Basic Flight Data or previous Change to Basic Flight Data .

This process shall comply with the interoperability and performance requirements specified in Art. 3 of Commission Regulation (EC) No 1032/2006.

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/documents/ats-data-exchange-presentation-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/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - The Change to Basic Flight Data process has been implemented, documented and is in operational use.

ITY-COTR-ASP08	Implement Logon Forward process	(Regulated) completion date(s) 02/2013 02/2015

Action by : **ANS Providers**

ITY-COTR	Implementation of ground-ground automated co-ordination processes

Description & purpose :   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.

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).

This process shall comply with the interoperability and performance requirements specified in Art. 3 of Regulation (EC) No 1032/2006.

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/documents/ats-data-exchange-presentation-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/ses/public/standard_page/oldi_spec.html

Finalisation criteria :   1 - The Logon Forward process has been implemented, documented and is in operational use.

ITY-COTR-ASP09	Implement Next Authority Notified process	(Regulated) completion date(s) 02/2013 02/2015

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.

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.

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/documents/ats-data-exchange-presentation-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/ses/public/standard_page/oldi_spec.html

Finalisation criteria :   1 - The Next Authority Notified process has been implemented, documented and is in operational use.

ITY-COTR-ASP10	Develop safety assessment	(Regulated) completion date(s) 01/2009 12/2012

Action by :   **ANS Providers**

Description & purpose :   Develop a safety assessment of system's changes to support notification, coordination and transfer of flights between ATC units.

This safety assessment shall be carried out in accordance with Art. 6 of Commission Regulation (EC) No 1032/2006 (coordination and transfer) and Commission Implementing Regulation (EC) No 1034/2011 (safety oversight).

Derogations :   None

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

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

EUROCONTROL - Risk Analysis Tool (RAT) - Edition 1 / 09/2009

Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#15

Finalisation criteria :   1 - Safety assessment has been performed.

2 - If the conditions specified in Art. 9 of Regulation (EC) 1034/2011 are fulfilled: - Safety argument to be reviewed by the NSA;- Introduction into service of changes has been accepted by the NSA.

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ITY-COTR	Implementation of ground-ground automated co-ordination processes

ITY-COTR-ASP11	Organise training to Air Traffic Control personnel	(Regulated) completion date(s) 02/2015

Action by : **ANS Providers**

Description & purpose : In line with the date of applicability for the putting into service of the system, develop and maintain operations manuals and ensure that:
- All personnel are made aware of the requirements laid down in Regulation (EC) No 1032/2006 and adequately trained;
- Operations manuals and working methods comply with requirements specified in Regulation (EC) No 1032/2006 Annex I, Parts A, B and D.

Derogations : None

Finalisation criteria : 1 - Air Navigation Service Providers have produced the operations manuals and the training programmes.

2 - All relevant personnel have been trained.

ITY-COTR-MIL01	Implement Basic Flight Data process	(Regulated) completion date(s) 01/2009 12/2012

Action by : **Military Authorities**

Description & purpose : Implement a process for the transmission of basic flight data between ATC units (civil and military) which:
- Forwards basic flight data from civil units to military units and, if bilaterally agreed, from military units to civil units;
- Forwards basic flight data to an ATSU which requires information on the flight but whose airspace is not planned to be penetrated by the flight, e.g. where the route takes the flight close to the boundary and a LoA exists requiring such flights to be notified of coordinated;
- Identifies the controller/console having the flight under control, particularly where it may not be apparent from the current position of the flight as is the case at a number of military units;
- Activates the system flight plan in the receiving unit, if necessary;
- Allows correlation of radar data with flight plan data.

Information subject to the basic flight data process shall provide as a minimum: aircraft identification, SSR mode and code.
This process shall comply with the interoperability and performance requirements specified in Art. 3 of Regulation (EC) No 1032/2006.

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/documents/ats-data-exchange-presentation-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/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - The Basic Flight Data process has been implemented, documented and is in operational use.

ITY-COTR-MIL02	Implement Change to Basic Flight Data process	(Regulated) completion date(s) 01/2009 12/2012

Action by : **Military Authorities**

Description & purpose : Implement a process for the transmission of changes to basic flight data between ATC units (civil and military).

The Change to Basic Flight Data process is for the unit controlling the flight to notify the interested unit of:
- All significant changes to flight data previously sent to this unit with a Basic Flight Data / Change to Basic Flight Data ;
- All flight data required to be notified by bilateral agreement and not included in the Basic Flight Data or previous Change to Basic Flight Data

Information subject to the basic flight data process shall provide as a minimum: aircraft identification, SSR mode and code.
The process shall comply with the interoperability and performance requirements specified in Art. 3 of Commission Regulation (EC) No 1032/2006.

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/documents/ats-data-exchange-presentation-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/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - The Change to Basic Flight Data process has been implemented, documented and is in operational use.

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SES	Active		ECAC
ITY-FMTP	**Apply a common flight message transfer protocol (FMTP)**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Subject matter and scope

* The extension of the applicability area to non-EU ECAC States that have not signed an aviation agreement with EU, as well as material not included in the legislation, are highlighted in blue font italics.

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.

Applicable Area(s)

All ECAC States

Timescales

Entry into force of regulation:	06/2007
All EATMN systems put into service after 01/01/09:	01/2009
All EATMN systems in operation by 20/04/11:	04/2011
Transitional arrangements:	12/2012
Transitional arrangements:	12/2014

References

European ATM Master Plan relationship

Enabler -   [CTE-C11b]-Expand the network communication services offered by PENS and enlarge the scope to other non-ANSP users (within and outside ECAC)

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.

Applicable ICAO Annexes and other references

Covers ICAO Global Plan Initiative GP-22;
ICAO Doc. 9896; Manual for the ATN using IPS Standards and Protocols; Edition 1.0/2010
EUROCONTROL Integration Test Plan Edition 1.0, 06/2005
ETIC Test tool Edition 3.2.2, 10/2008

Stakeholder Lines of Action (SloA)

SloA ref.	Title	(Regulated) completion date(s)	
ITY-FMTP-REG02	Ensure that the verification of systems has been conducted	04/2011	**M**
		12/2012	
		12/2014	
ITY-FMTP-REG03	Conduct safety oversight of the changes	04/2011	**M**
		12/2012	
		12/2014	

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ITY-FMTP	Apply a common flight message transfer protocol (FMTP)

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	04/2011 12/2012 12/2014	**M**
ITY-FMTP-ASP02	Develop safety assessment for the changes	04/2011 12/2012 12/2014	**M**
ITY-FMTP-ASP03	Train technical staff	04/2011 12/2012 12/2014	**M**
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	04/2011 12/2012 12/2014	

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **CNS / COM SG**
Outline description approved in: -
Latest objective review at expert level in: 10/2008

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2009
Latest change to objective approved/endorsed in: -

Expected performance benefits (for information)

Safety :   N/A

Capacity :   N/A

Cost effectiveness :   More cost efficient as X.25 maintenance costs are increasing while TCP/IP costs are lower.

                      CBA or business case reference: (if available).

Environment :   N/A

Security :   N/A

Detailed SloA descriptions

ITY-FMTP-REG02	Ensure that the verification of systems has been conducted	(Regulated) completion date(s) 04/2011 12/2012 12/2014

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Assess the content of the EC declaration of verification of systems (DoV) and the technical file (TF) which has been submitted in order to verify compliance with the requirements set out in Regulation (EC) No 633/2007 and Regulation (EU) No 283/2011. The verification activities need to be performed on the systems implementing the flight message transfer protocol.

Derogations : None

Supporting material(s) : EUROCONTROL - SPEC 100A - EUROCONTROL Specification of Interoperability and Performance Requirements for the Flight Message Transfer Protocol (FMTP) – Annex A: Implementation Conformity Statement
- Edition 2.0 - OJ 2007/C 188/03 / 06/2007
Url : http://www.eurocontrol.int/ses/public/standard_page/fmtp_spec.htm

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
Url : http://www.eurocontrol.int/ses/public/standard_page/fmtp_spec.html

Finalisation criteria : 1 - Assessment of the EC declaration of verification of systems and technical file.

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ITY-FMTP	Apply a common flight message transfer protocol (FMTP)

ITY-FMTP-REG03	Conduct safety oversight of the changes	(Regulated) completion date(s)
		04/2011
		12/2012
		12/2014

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Oversee safety of changes induced by introduction of communication systems which support information exchange via FMTP between FDPS(s). The tasks to be done are as follows:
- Analyse the safety case;
- Review safety arguments;
- Prepare the material for the acceptance of changes.

Derogations : None

Supporting material(s) : EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 12/2009

Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EUROCONTROL - EAM 1/GUI 1 - Explanatory Material on ESARR 1 Requirements - Edition 2.0 / 12/2010

Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EC - Regulation (EU) No 1034/2011-(OJ L 271, 18.10.2011, p.15) - Regulation (EU) No 1034/2011 of 17 October 2011 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 - Formal acceptance by the NSA of the proposed changes has been communicated to ANSP.

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	(Regulated) completion date(s)
		04/2011
		12/2012
		12/2014

Action by : **ANS Providers**

Description & purpose : 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).

The tasks to be performed are as follows:
- 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.

The application of FMTP shall be in accordance with the interoperability requirements specified in Annex I of Regulation (EC) No 633/2007.

The verification of the systems shall be done as defined in Annex II and IV of Regulation (EC) No 633/2007.

Derogations : None

Supporting material(s) : EUROCONTROL - EUROCONTROL Inter Centre Test Tool (ETIC) - Version 3.2.2. / 08/2012

Url : http://www.eurocontrol.int/communications/public/standard_page/com_network.html

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

Url : http://www.eurocontrol.int/ses/public/standard_page/fmtp_spec.html

EUROCONTROL - Guidelines for Implementation Support (EGIS) Part 5 Communication & Navigation Specifications Chapter 13 Flight Message Transfer Protocol (FMTP) - Edition 2.0 / 12/2008

Url : http://www.eurocontrol.int/cnd/public/standard_page/cnd_sis_aegis.html

ATM Master Plan relationship : Enabler - [ARCH-0304]-Implementig Rules for FDE/FMTP Interconnections

Finalisation criteria : 1 - Communications 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.

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.

ITY-FMTP-ASP02	Develop safety assessment for the changes	(Regulated) completion date(s)
		04/2011
		12/2012
		12/2014

Action by : **ANS Providers**

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ITY-FMTP	Apply a common flight message transfer protocol (FMTP)

Description & purpose : 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).

The tasks to be performed are as follows:
- 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.

This safety assessment shall be based on fully validated/recognised method.

Derogations : None

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 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

Url : http://www.eurocontrol.int/ses/public/standard_page/fmtp_spec.html

EUROCONTROL - Guidelines for Implementation Support (EGIS) Part 5 Communication & Navigation Specifications Chapter 13 Flight Message Transfer Protocol (FMTP) - Edition 2.0 / 12/2008

Url : http://www.eurocontrol.int/cnd/public/standard_page/cnd_sis_aegis.html

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 report including safety arguments for the changes has been submitted to the NSA.

ITY-FMTP-ASP03	Train technical staff	(Regulated) completion date(s)
		04/2011
		12/2012
		12/2014

Action by : **ANS Providers**

Description & purpose : Train technical staff to supervise and maintain communication systems which support information exchange via FMTP between FDPS(s).

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.

Derogations : None

Supporting material(s) : 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

Url : http://www.eurocontrol.int/ses/public/standard_page/fmtp_spec.html

EUROCONTROL - Guidelines for Implementation Support (EGIS) Part 5 Communication & Navigation Specifications Chapter 13 Flight Message Transfer Protocol (FMTP) - Edition 2.0 / 12/2008

Url : http://www.eurocontrol.int/cnd/public/standard_page/cnd_sis_aegis.html

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	(Regulated) completion date(s)
		04/2011
		12/2012
		12/2014

Action by : **ANS Providers**

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ITY-FMTP	**Apply a common flight message transfer protocol (FMTP)**

Description & purpose : 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).

The application of FMTP shall be in accordance with the interoperability requirements specified in Annex I of Regulation (EC) No 633/2007.

The verification of the systems shall be done as defined in Annex II and IV of Regulation (EC) No 633/2007.

The tasks to be done are as follows:
- 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.

Derogations : None

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.

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Subject matter and scope

* The extension of the applicability area to non-EU ECAC States that have not signed an aviation agreement with EU, as well as material not included in the legislation, are highlighted in blue font italics.

This SES-related implementation objective is derived from Regulation (EU) No 1207/2011, 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 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 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 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.

Applicable Area(s)

All EU+ States

Timescales

Entry intro force of regulation:	12/2011
ATS unit operational capability:	12/2013
New aircraft capability:	01/2015
Retrofit aircraft capability:	12/2017
ELS in transport-type State aircraft :	12/2017
EHS and ADS-B Out in transport-type State aircraft :	01/2019
Ensure training of MIL personnel:	12/2019

References

European ATM Master Plan relationship

None   -   None

Applicable legislation

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

Applicable ICAO Annexes and other references

ICAO Annex 10

Stakeholder Lines of Action (SloA)

SloA ref.	Title	(Regulated) completion date(s)
ITY-SPI-REG01	Conduct Safety Oversight	12/2013
ITY-SPI-ASP01	Ensure interoperability of surveillance data	12/2013
ITY-SPI-ASP02	Conduct Safety Assessment for the existing surveillance infrastructure	02/2015
ITY-SPI-ASP03	Conduct Safety Assessment for changes introduced to the surveillance infrastructure	12/2013
ITY-SPI-ASP04	Ensure the training of personnel	12/2013
ITY-SPI-MIL01	Carriage and operation of Mode S Elementary Surveillance avionics	12/2017
ITY-SPI-MIL02	Carriage and operation of Mode S Enhanced Surveillance and ADS-B Out avionics	01/2019

ITY-SPI	Surveillance performance and interoperability

ITY-SPI-MIL03	Ensure the training of personnel	12/2019
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	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 January 2015	01/2015
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 January 2015	01/2015
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	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 January 2015	12/2017
ITY-SPI-USE06	Carriage and operation of Mode S Enhanced Surveillance avionics by aircraft with an individual certificate of airworthiness first issued before 8 January 2015	12/2017
ITY-SPI-USE07	Ensure the training of personnel	12/2017

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **CNS / SUR SG**
Outline description approved in: -
Latest objective review at expert level in: 05/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2012
Latest change to objective approved/endorsed in: -

Expected performance benefits (for information)

Safety :   Improved safety through the deployment of surveillance solutions in non radar areas.

Capacity :   Potential for capacity increase through the deployment of surveillance solutions in areas where currently procedural separation is applied.

Cost effectiveness :   Facilitate the deployment of the most efficient surveillance solutions by the ANSPs.

Environment :   N/A

Security :   N/A

Detailed SloA descriptions

ITY-SPI-REG01	**Conduct Safety Oversight**	(Regulated) completion date(s) 12/2013

Action by :   **National Supervisory Authorities (NSAs)**

Description & purpose :   Verify that the necessary safety assessments for the systems identified in Art. 2.1 (b), (c) and (d) of Regulation (EU) No 1207/2011 (SPI-IR) are conducted by the parties concerned and review the safety assessment report(s) before their acceptance.

Derogations :   None

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 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 - Formal acceptance of the ANSPs safety assessment reports has been communicated to the ANSP.

ITY-SPI-ASP01	**Ensure interoperability of surveillance data**	(Regulated) completion date(s) 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.

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ITY-SPI	**Surveillance performance and interoperability**

Derogations : None

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/documents/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 infrastructure**	(Regulated) completion date(s) 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.

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/documents/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**	(Regulated) completion date(s) 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 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.

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/documents/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 - The safety assessment report including safety arguments for the changes has been delivered to the NSA and a notification of acceptance was received.

ITY-SPI	Surveillance performance and interoperability

ITY-SPI-ASP04	Ensure the training of personnel	(Regulated) completion date(s)
		12/2013

Action by : **ANS Providers**

Description & purpose : Ensure the training of their personnel affected by system and procedural 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.

Derogations : None

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 infrastructure have been trained.

ITY-SPI-MIL01	Carriage and operation of Mode S Elementary Surveillance avionics	(Regulated) completion date(s)
		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 : In line with Art. 8.3 of SPI-IR and communication to the European Commission:
a) compelling technical reasons;
b) State aircraft out of service by 01 January 2020;
c) Procurement constraints.

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*

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	(Regulated) completion date(s)
		01/2019

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).

Note :An EASA Certification Specification CS-ACNS is currently under development

Derogations : In line with Art. 8.3 of SPI-IR and communication to the European Commission:
a) compelling technical reasons;
b) State aircraft out of service by 01 January 2020;
c) Procurement constraints.

Supporting material(s) : 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*

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.

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ITY-SPI	Surveillance performance and interoperability

ITY-SPI-MIL03	Ensure the training of personnel	(Regulated) completion date(s)
		12/2019

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.

Derogations : None

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	(Regulated) completion date(s)
		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.

Note :An EASA Certification Specification CS-ACNS is currently under development

Derogations : None

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

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 January 2015	(Regulated) completion date(s)
		01/2015

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 January 2015.

Note :An EASA Certification Specification CS-ACNS is currently under development

Derogations : None

Supporting material(s) : 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

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.

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ITY-SPI	Surveillance performance and interoperability

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 January 2015	(Regulated) completion date(s) 01/2015

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 January 2015.

Note :An EASA Certification Specification CS-ACNS is currently under development

Derogations : None

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

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	(Regulated) completion date(s) 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.

Note :An EASA Certification Specification CS-ACNS is currently under development

Derogations : None

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

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 January 2015	(Regulated) completion date(s) 12/2017

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 January 2015.

Note :An EASA Certification Specification CS-ACNS is currently under development

Derogations : None

Supporting material(s) : 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

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 and certified as appropriate.

2 - Aircraft have obtained airworthiness approval.

ITY-SPI	Surveillance performance and interoperability

ITY-SPI-USE06	Carriage and operation of Mode S Enhanced Surveillance avionics by aircraft with an individual certificate of airworthiness first issued before 8 January 2015	(Regulated) completion date(s)
		12/2017

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 January 2015.
	Note :An EASA Certification Specification CS-ACNS is currently under development
Derogations :	Aircraft of specific types with a first certificate of airworthiness issued before 8 January 2015 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) :	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-USE07	**Ensure the training of personnel**	(Regulated) completion date(s)
		12/2017

Action by :	**Airspace Users**
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.
Derogations :	None
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 infrastructure have been trained.

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SESAR	Active			ECAC
NAV03	**Implementation of P-RNAV**			
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Implement P-RNAV procedures to capitalise on the performance benefits offered by approved aircraft. This is an interim objective aimed towards establishing a global RNP-RNAV environment, and individual States, airports and aircraft operators will need to evaluate the business need for P-RNAV procedures according to local circumstances.

Note: (1). From 10/2005 all new RNAV implementation should be in accordance with the RNAV Integrated Initiative. The business case for RNAV procedures will need to be determined locally. This objective does not make RNAV mandatory in terminal airspace, however where RNAV procedures are provided, they shall be P-RNAV unless they are above MRA/MSA and designed in accordance with en-route design principles in respect of maximum turn angle and minimum straight legs and the minimum number of waypoints.

Note: (2). Procedures will need to be designed in accordance with EUROCONTROL guidance material and JAA TGL10 as appropriate.

Note: (3). This is an interim step on the path towards a global RNAV environment based on the Performance Based Navigation concept and is aimed at providing short term operational benefits to aircraft equipped with appropriately approved RNAV equipment. No specific or co-ordinated time for the change is planned and it is expected that airports will implement RNAV procedures in accordance with the findings of local business cases.

Note: (4). Aircraft operators who wish to equip their aircraft to derive benefit from the P-RNAV procedures are encouraged to consider the business case for fitting RNP equipment that will enable them to eventually proceed to the RNP environment.

Note: (5). The continuation of this ESSIP objective will be re-assessed on publication of the PBN Implementing Rule targeting RNP implementation in the 2020 time frame. This IR is currently under development.

Applicable area(s)

All ECAC States except: Slovak Republic

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2001
Full operational capability: 12/2012

References

European ATM Master Plan relationship

OI step - [AOM-0601]-Terminal Airspace Organisation Adapted through Use of Best Practice   ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
None

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SloA)

SloA ref.	Title	Start	Finish	
NAV03-REG01	Ensure suppliers of navigation databases are accredited	**FINALISED**		M
NAV03-REG02	Ensure quality of published Navigation Data	**FINALISED**		M
NAV03-ASP01	Develop and implement RNAV arrival and departure procedures for P-RNAV approved aircraft	01/2001	12/2012	M
NAV03-ASP02	Provide appropriate terrestrial navigation infrastructure to support RNAV operations	01/2001	12/2012	M
NAV03-ASP03	Train air traffic controllers in RNAV procedures	01/2003	12/2012	M
NAV03-ASP04	Train procedure designers in RNAV capabilities	**FINALISED**		M
NAV03-ASP05	Implement P-RNAV routes where identified as providing benefit	01/2001	12/2012	M
NAV03-ASP06	Publish in AIPs all co-ordinate data in WGS-84 meeting the quality requirements set out in ICAO Annex 15	**FINALISED**		M
NAV03-ASP07	Define all RNAV procedures to be for P-RNAV approved aircraft and designed in accordance with the EUROCONTROL guidelines and ICAO PANS OPS	**DELETED**		M
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**		

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NAV03		Implementation of P-RNAV			

NAV03-ASP11	Develop a Local P-RNAV Safety Case	01/2001	12/2012	
NAV03-USE01	Install appropriate RNAV equipment	01/2001	12/2012	M
NAV03-USE02	Train aircrews in RNAV TMA procedures	01/2001	12/2012	M
NAV03-USE03	Ensure correctness of data before use	**FINALISED**		M
NAV03-IND01	Ensure that data meets specification of ED77 and is managed according to ED76	**FINALISED**		M
NAV03-IND02	Ensure that the navigation database is not corrupted when installed	**FINALISED**		M
NAV03-AGY01	Identify applicability of P-RNAV routes to en-route applications	**FINALISED**		
NAV03-AGY02	Investigate the requirements for additional R/T phraseology and flight planning methodology for RNAV operations in terminal airspace and develop as necessary	**FINALISED**		
NAV03-AGY03	Produce and maintain guidelines for the application and design of P-RNAV procedures	**FINALISED**		
NAV03-AGY04	Adapt OLDI Standard to ensure the automatic transfer of the FPL Item 10 Letters "S", "R", and "P"	**FINALISED**		
NAV03-AGY05	Develop Outline for TMA RNAV training material for ATC	**FINALISED**		

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **NETOPS**
Outline description approved in: -
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2001
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

Safety :   Increase safety of flight operations by increased situational awareness and indirect benefit to both ATC and pilot through reduction of workload during RNAV operations.

Capacity :   Indirect benefit by enabling optimisation of En-Route and terminal airspace.

Cost-effectiveness :   Fuel cost reduction through optimised routes and TMA procedures.

Environment :   Emissions and noise nuisance reduced by use of optimal flight procedures and routings.

Security :   N/A

Detailed SloA descriptions

NAV03-ASP01	Develop and implement RNAV arrival and departure procedures for P-RNAV approved aircraft	Start:01/2001	Finish:12/2012

Action by :   ANS Providers

Description & purpose :   Design, develop and implement RNAV 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 arrival and departures have been implemented in accordance with EUROCONTROL guidance material and JAA TGL 10 and declared in national AIP.

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NAV03	**Implementation of P-RNAV**

NAV03-ASP02	**Provide appropriate terrestrial navigation infrastructure to support RNAV operations**	Start:01/2001	Finish:12/2012

Action by :   ANS Providers

Description & purpose :   Implement P-RNAV 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/demeter-navigation-infrastructure-assessment-tool

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 :   Enabler - [CTE-N5a]-DME / DME 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**	Start:01/2003	Finish:12/2012

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 P-RNAV routes where identified as providing benefit**	Start:01/2001	Finish:12/2012

Action by :   ANS Providers

Description & purpose :   Implement P-RNAV routes where such implementation can be demonstrated to provide additional capacity and where the implementation of such routes can be identified as operationally acceptable.

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

JAA - TGL 10 Revision 1 - Airworthiness and Operational Approval for Precision RNAV Operations in Designated European Airspace 02/2005

Finalisation criteria :   1 - P-RNAV routes have been implemented in ECAC states in accordance with criteria developed in guidance material of the implementation of P-RNAV routes, and in use.

NAV03-ASP11	**Develop a Local P-RNAV Safety Case**	Start:01/2001	Finish:12/2012

Action by :   ANS Providers

Description & purpose :   Demonstrate that the implementation of the new P-RNAV 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 P-RNAV Safety Argument could be used as a basis for the development of the Local P-RNAV Safety Case.

NAV03	Implementation of P-RNAV

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 P-RNAV Safety Case has been finalised and approved by the National Supervisory Authority.

NAV03-USE01	Install appropriate RNAV equipment	Start:01/2001	Finish:12/2012

Action by : Airspace Users

Description & purpose : Install equipment meeting TGL 10. Where existing RNAV/FMS equipment meets only B-RNAV requirements, there will be a need to update or replace the systems. Many aircraft are already equipped with RNAV/FMS meeting TGL 10. For these it will be necessary to gain regulatory approval which will include operational approval for the application of the system on P-RNAV 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

JAA - TGL 10 Revision 1 - Airworthiness and Operational Approval for Precision RNAV Operations in Designated European Airspace 02/2005

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 : Enabler - [A/C-04]-Flight management and guidance to improve lateral navigation in approach (2D RNP)

Enabler - [CTE-N3a]-Aircraft-based augmentation system (ABAS)

Finalisation criteria : 1 - All civil transport aircraft operating in ECAC states are capable of P-RNAV operations.

NAV03-USE02	Train aircrews in RNAV TMA procedures	Start:01/2001	Finish:12/2012

Action by : Airspace Users

Description & purpose : Train aircrew in the application of RNAV TMA procedures.

Supporting material(s) : JAA - TGL 10 Revision 1 - Airworthiness and Operational Approval for Precision RNAV Operations in Designated European Airspace 02/2005

Finalisation criteria : 1 - Training manuals have been updated to include RNAV TMA procedures.

2 - The aircrew has been trained accordingly

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SESAR	Active					ECAC
NAV10	**Implement APV procedures**					
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

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 primarily objective 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.

Note: The implementation of APV/SBAS procedures may be restricted by the coverage limitation of EGNOS satellite signal within the concerned airspace.

Applicable area(s)   **Operational capability dates FOR THIS OBJECTIVE**

All ECAC States

Initial operational capability: 06/2011
Full operational capability: 12/2016

References

European ATM Master Plan relationship

OI step - [AOM-0602-A]-Enhanced terminal operations with APV using Barometric VNAV   ESSENTIAL
OI step - [AOM-0602-B]-Enhanced terminal operations with LPV using SBAS   ESSENTIAL

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
None

Applicable ICAO Annexes and other references

ICAO PBN Implementation
ICAO 37th Assembly resolution on APV
EC IR Mandate MOVE E2/EMM D(2011) issued on 06 April 2011 regarding the Performance Based Navigation (PBN)
EC CS Mandate 408 issued on 14 May 2007 for CS on GBAS Cat-1 and Approach with Vertical Guidance (APV)

Stakeholder Lines of Action (SIoA)

SIoA ref.	Title	Start	Finish	
NAV10-REG01	Apply EASA material to local national regulatory activities	06/2010	04/2016	
NAV10-ASP01	Design and Publish APV/Baro and/or APV/SBAS procedures	06/2008	12/2016	
NAV10-ASP02	Provide an approved SBAS Service to support APV/SBAS and declare the Service area	**FINALISED**		**M**
NAV10-ASP03	Develop National safety case for APV/Baro operations and/or APV/SBAS operations	01/2009	04/2015	
NAV10-USE01	Equip aircraft with systems approved for APV/Baro and/or APV/SBAS	04/2006	12/2016	**M**
NAV10-USE02	Get airworthiness certification and operational approval	04/2006	12/2016	**M**

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **NETOPS**
Outline description approved in: -
Latest objective review at expert level in: 04/2012

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2010
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits

Safety :   Reduction in CFIT occurrences. Improved pilot situation awareness and reduced crew workload.

Capacity :   Provides a procedure with potential to enhance capacity due to lower minima than can be achieved through conventional NPA.

Cost-effectiveness :   Improved operation for runways with only conventional NPA fallback during PA system outages

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NAV10	**Implement APV procedures**

Environment : Emissions and noise nuisance reduced by use of optimal flight procedures and routings and the elimination of step-down approach procedures.

Security : N/A

Detailed SloA descriptions

NAV10-REG01	**Apply EASA material to local national regulatory activities**	Start:06/2010	Finish:04/2016

Action by : National Regulatory 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.eu.int/agency-measures/certification-specifications.php#AMC-20

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**	Start:06/2008	Finish: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

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**	Start:01/2009	Finish:04/2015

Action by : ANS Providers

Description & purpose : Develop a generic safety case for APV/Baro and/or APV/SBAS procedures developed upon the EASA AMC for RNP APCH.

Identify and develop a means for mitigation of any issues requiring remedial action to ensure safety targets are met.

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.

Get an operational approval for APV/Baro and/or APV/SBAS operations.

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

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 - National Safety case for APV/Baro and/or APV/SBAS has been produced and an operational approval was issued by the regulator.

NAV10	Implement APV procedures

NAV10-USE01	**Equip aircraft with systems approved for APV/Baro and/or APV/SBAS**	Start:04/2006	Finish:12/2016

Action by :   Airspace Users

Description & purpose :   Fit the aircraft with suitably approved equipment (Stand alone or integrated with existing FMS) as follows:
- APV/Baro equipment compliant to AMC 20-27;
- APV/SBAS SBAS compliant to AMC 20-28.

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.

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.eu.int/agency-measures/certification-specifications.php#AMC-20

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

FAA - AC 90-105 - Approval Guidance for RNP Operations and Barometric Vertical Navigation in the U.S. National Airspace System 01/2009
Url : http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/128

ATM Master Plan relationship :   Enabler - [A/C-05a]-APV Barometric VNAV
Enabler - [CTE-N2]-Space Based Augmentation System (SBAS)

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**	Start:04/2006	Finish: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.eu.int/agency-measures/certification-specifications.php#AMC-20

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.

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-	Active		ECAC
SAF10	**Implement measures to reduce the risk to aircraft operations caused by airspace infringements**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

Involved aviation stakeholders should implement measures to reduce the risk to aircraft operations caused by airspace infringements. Airspace infringement occurrences include: unauthorised penetration of controlled airspace (ICAO classes A to E), restricted airspace (Temporary Reserved Airspaces, Prohibited, Restricted and Danger Areas) and Aerodrome Traffic Zones.

This work is conducted under the auspices of the PC-approved EUROCONTROL European Safety Programme for ATM Plus (ESP+) which seeks to facilitate safety management support in the deployments required by ATM Master Plan IP1, and to ensure that safety approaches are formalised and fully prepared to accommodate future ATM systems. As such, implementation of SAF10 acts as a bridge between current ATM operations and those foreseen from 2015.

Applicable area(s)	*Operational capability dates FOR THIS OBJECTIVE*	
All ECAC States except: France	*Initial operational capability:*	06/2008
	Full operational capability:	12/2011

References

European ATM Master Plan relationship

None -   None

Applicable legislation

-none-

Applicable ICAO Annexes and other references

European Safety Programme for ATM Plus - Activity Area 3 - Safe ATM Operation

Stakeholder Lines of Action (SloA)

SloA ref.	*Title*	*Start*	*Finish*
SAF10-REG01	Promulgate and verify the implementation of the European Action Plan - Airspace Infringement Risk Reduction	06/2008	12/2010
SAF10-REG02	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	06/2008	12/2011
SAF10-REG03	Monitor the implementation of planned airspace infringement risk reduction measures	06/2008	12/2011
SAF10-ASP01	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	01/2006	12/2011
SAF10-MIL01	Implement, as necessary, the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	06/2008	12/2011
SAF10-USE01	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	06/2008	12/2011
SAF10-AGY01	Develop a European action plan for reducing the risk of airspace infringements	**FINALISED**	
SAF10-AGY02	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	06/2008	12/2011

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge:	**Safety Team (SAFT)**
Outline description approved in:	-
Latest objective review at expert level in:	12/2010
Commitment decision body:	**Provisional Council (PC)**
Objective approved/endorsed in:	01/2008
Latest change to objective approved/endorsed in:	07/2009

Expected performance benefits

Safety :	Significant due to the reduction of a major key risk to aircraft operations.
Capacity :	Increased through reduction in controller workload caused by airspace infringements.

ESSIP Plan Edition 2013

SAF10	Implement measures to reduce the risk to aircraft operations caused by airspace infringements

Cost-effectiveness :   Significant:
- Significant reduction of the risk of accident/serious incident;
- Reduced fuel burn caused by arrivals delay or hold;
- Reduced negative financial impact on airport and aircraft operators caused by departure and arrival delays.

Environment :   Moderate resulting from reduction in extra fuel burn and noise caused by flights' deviation from arrival route, delays or holdings.

Security :   N/A

Detailed SloA descriptions

SAF10-REG01	Promulgate and verify the implementation of the European Action Plan - Airspace Infringement Risk Reduction	Start:06/2008	Finish:12/2010

Action by :   National Regulatory Authorities

Description & purpose :   Promulgate the Action plan and consult all concerned stakeholder groups for the adaptation as required of the Action plan measures to the specific operational environment.

Verify the implementation of the agreed measures.

Supporting material(s) :   EUROCONTROL - European Action Plan for Airspace Infringement Risk Reduction and Guidance Material
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/european-action-plan-for-airsapce-infringement-risk-reduction.pdf

Finalisation criteria :   1 - Documentation for the European Action Plan - Airspace Infringement Risk Reduction and Local action plan have been promulgated

2 - Action plan implementation verification report issued.

SAF10-REG02	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	Start:06/2008	Finish:12/2011

Action by :   National Supervisory Authorities (NSAs)

Description & purpose :   Verify that ANSPs and national airlines adapt according to the local needs and comply with the respective measures of the European Action Plan- Airspace Infringement Risk Reduction.

Supporting material(s) :   EUROCONTROL - European Action Plan for Airspace Infringement Risk Reduction and Guidance Material
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/european-action-plan-for-airsapce-infringement-risk-reduction.pdf

Finalisation criteria :   1 - The applicable measures of the Action plan have been implemented.

2 - Implementation is reported through the appropriate mechanism.

SAF10-REG03	Monitor the implementation of planned airspace infringement risk reduction measures	Start:06/2008	Finish:12/2011

Action by :   National Supervisory Authorities (NSAs)

Description & purpose :   Ensure that respective risk mitigation measures are being implemented by the concerned stakeholders in line with the agreed plan.
Appropriate follow-up and corrective actions might be identified if found necessary.

Supporting material(s) :   EUROCONTROL - European Action Plan for Airspace Infringement Risk Reduction and Guidance Material
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/european-action-plan-for-airsapce-infringement-risk-reduction.pdf

Finalisation criteria :   1 - Established monitoring arrangements.

2 - Monitoring reports published, including corrective actions if applicable.

SAF10-ASP01	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	Start:01/2006	Finish:12/2011

Action by :   ANS Providers

Description & purpose :   Adapt according to the local operational environment and implement the respective measures of European Action Plan - Airspace Infringement Risk Reduction

SAF10	Implement measures to reduce the risk to aircraft operations caused by airspace infringements

Supporting material(s) :   EUROCONTROL - European Action Plan for Airspace Infringement Risk Reduction and Guidance Material
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/european-action-plan-for-airsapce-infringement-risk-reduction.pdf

Finalisation criteria :   1 - The applicable measures of the Action plan have been implemented.

2 - Implementation is reported through the appropriate mechanism.

SAF10-MIL01	Implement, as necessary, the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	Start:06/2008	Finish:12/2011

Action by :   Military Authorities

Description & purpose :   Adapt according to the military needs and specific environment and implement the applicable measures of European Action Plan - Airspace Infringement Risk Reduction.

Supporting material(s) :   EUROCONTROL - European Action Plan for Airspace Infringement Risk Reduction and Guidance Material
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/european-action-plan-for-airsapce-infringement-risk-reduction.pdf

Finalisation criteria :   1 - The applicable measures of the Action plan have been implemented.

2 - Implementation is reported through the appropriate mechanism.

SAF10-USE01	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	Start:06/2008	Finish:12/2011

Action by :   Airspace Users

Description & purpose :   Implement the applicable measures of European Action Plan.- Airspace Infringement Risk Reduction

Civil users:
Verify and ensure the appropriate follow-up for the implemented measures to reduce the likelihood and the severity of airspace infringement safety occurrences in accordance with the action plan.
Military users:
Apply the action plan and/or standard Military aircrew procedures, as appropriate.

Supporting material(s) :   EUROCONTROL - European Action Plan for Airspace Infringement Risk Reduction and Guidance Material
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/european-action-plan-for-airsapce-infringement-risk-reduction.pdf

Finalisation criteria :   1 - The applicable measures of the Action plan, part 5.1 have been implemented.

2 - Implementation is reported through the appropriate mechanism.

SAF10-AGY02	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	Start:06/2008	Finish:12/2011

Action by :   EUROCONTROL Agency

Description & purpose :   Implement the applicable measures of European Action Plan - Airspace Infringement Risk Reduction

Supporting material(s) :   EUROCONTROL - European Action Plan for Airspace Infringement Risk Reduction and Guidance Material
Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/safety/european-action-plan-for-airsapce-infringement-risk-reduction.pdf

Finalisation criteria :   1 - The measures assigned for implementation to the EUROCONTROL Agency have been implemented.

2 - Report on the action plan implementation is produced.

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-	Active					ECAC
SAF11	**Improve runway safety by preventing runway excursions**					
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Description & purpose

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.

Applicable area(s)	*Operational capability dates FOR THIS OBJECTIVE*	
All ECAC States	*Initial operational capability:*	09/2013
Nevertheless, it is for the individual National Safety Authority to decide upon the strategy of implementation by the applicable organisations within its own State.	*Full operational capability:*	01/2018

References

European ATM Master Plan relationship

None - None

Applicable legislation

-none-

Applicable ICAO Annexes and other references

ICAO Annex 3 Meteorological Services for International Air Navigation
ICAO Annex 6 Operation of Aircraft
ICAO Annex 11 Air Traffic Services
ICAO Annex 13 Aircraft Accident and Incident Investigation
ICAO Annex 14 Aerodromes
ICAO Annex 15 Aeronautical Information Services

Stakeholder Lines of Action (SloA)

SloA ref.	**Title**	**Start**	**Finish**	
SAF11-REG01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	09/2013	01/2018	
SAF11-ASP01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	09/2013	12/2014	**M**
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	09/2013	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	09/2013	12/2014	

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SAF11	Improve runway safety by preventing runway excursions

SAF11-APO01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	09/2013	12/2014	**M**
SAF11-USE01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	09/2013	01/2018	**M**
SAF11-NM01	Maintain the European action plan for the Prevention of Runway Excursions	09/2013	01/2018	
SAF11-NM02	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	09/2013	01/2018	

M - Applicable to the military.
 Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **Safety Team (SAFT)**
Outline description approved in: -
Latest objective review at expert level in: 03/2013

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 07/2013
Latest change to objective approved/endorsed in: -

Expected performance benefits

Safety : Significant, through reduced risk of incidents and accidents on runways

Capacity : Indirect through prevention of delay problems caused by runway excursion incidents.

Cost-effectiveness : The prevention of accidents is a highly cost-effective measure and the application is based upon the implementation of existing ICAO provisions.

Environment : Negligible.

Security : N/A

Detailed SloA descriptions

SAF11-REG01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	Start:09/2013	Finish:01/2018

Action by : National Regulatory Authorities

Description & purpose : - 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)

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-ASP01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	Start:09/2013	Finish: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.

SAF11	Improve runway safety by preventing runway excursions

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 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	Start:09/2013	Finish: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) : 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	Start:09/2013	Finish: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)_

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	Start:09/2013	Finish: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)_

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-USE01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	Start:09/2013	Finish: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)_

SAF11	Improve runway safety by preventing runway excursions

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	Start:09/2013	Finish: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	Start:09/2013	Finish: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.

SES	Active		Multi-N
SRC-CHNG	**Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities (NSA)**		
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Subject matter and scope

This implementation objective has been introduced to help NSA to initiate a process that will be used to review proposals of new functional systems. This process will, in addition, cover changes to existing functional systems prior to their implementation by ATM organisations

The deployment date given for this objective (12/2010) is not meant to replace, amend or modify whatsoever, the deadline for implementation of the relevant Commission Regulations, particularly No 1315/2007 repealed by Commission Implementing Regulation (EU) No 1034/2011, or ESARR 1. The aim of this objective is to ensure that all NSAs in the ECAC area achieve as soon as possible the required level of competence and maturity to be able to perform their duties in line with the aforementioned EC Regulation and ESARR 1.

Applicable Area(s)

Armenia, Azerbaijan, Turkey, Ukraine

Timescales

Entry into force of ESARR 1:	11/2004
Entry into force of Commission Regulation (EC) No. 1315/2007 repealed by Commission Implementing Regulation (EU) No. 1034/2011::	11/2007
Objective Implementation completion date:	12/2010

References

European ATM Master Plan relationship

None - None

Applicable legislation

Regulation (EC) No 552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network, as amended;

Regulation (EC) No 2096/2005 of 20 December 2005 laying down common requirements for the provision of air navigation services repealed by Regulation (EU) No 1035/2011;

Regulation (EC) No 1315/2007of 8 November 2007 on safety oversight in air traffic management and amending Regulation (EC) No 2096/2005 repealed by Regulation No 1034/2011;

EUROCONTROL Safety Regulatory Requirement - ESARR 1-Safety Oversight in ATM, Edition 2.0, dated 02 December 2009;

EUROCONTROL Safety Regulatory Requirement - ESARR 3-Use of Safety Managment Systems by ATM Service Providers, Edition 1.0, dated 17 July 2000;

All other applicable EC legislation transposing ESARRs in accordance with Article 4 of Regulation (EC) No 550/2004 amended by Regulation (EC) No 1070/2009 for States where such legislation is applicable.

Applicable ICAO Annexes and other references

EUROCONTROL Permanent Commission (PC/CN) Decision No. 103 approving the EUROCONTROL Safety Regulatory Requirement 'ESARR 1 - Safety Oversight in ATM'.

Stakeholder Lines of Action (SloA)

SloA ref.	Title	(Regulated) completion date(s)	
SRC-CHNG-REG01	Ensure the notification of planned safety related changes by ATM organisations.	12/2010	**M**
SRC-CHNG-REG02	Establish a process for the review of safety arguments	12/2010	**M**
SRC-CHNG-REG03	Implement the process for the review of safety arguments	12/2010	**M**

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge:	**Safety Regulation Commission (SRC)**
Outline description approved in:	-
Latest objective review at expert level in:	12/2008
Commitment decision body:	**Provisional Council (PC)**
Objective approved/endorsed in:	07/2009
Latest change to objective approved/endorsed in:	07/2013

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SRC-CHNG	Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities (NSA)

Expected performance benefits (for information)

Safety : The application of ESARRs in the area of safety oversight aims to ultimately ensure that NSA monitor the safe provision of ATM services, and verify that the applicable safety regulatory requirements and any arrangements needed to implement them are effectively met.

Capacity : N/A

Cost effectiveness : N/A

Environment : N/A

Security : N/A

Detailed SloA descriptions

SRC-CHNG-REG01	Ensure the notification of planned safety related changes by ATM organisations.	(Regulated) completion date(s) 12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Establish a process and implement it, including appropriate interfaces with the relevant ATM organisations, to ensure that planned safety related changes to EATMN systems are notified by these organisations as required in the relevant requirements.

Derogations : None

Supporting material(s) : EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 06/2005

Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EUROCONTROL - EAM 2/GUI 7 - ESARR 2 and related Safety Oversight - Edition 1.0 / 03/2006

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 3/GUI 3 - ESARR 3 and related Safety Oversight - Edition 2.0 / 03/2006

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

EUROCONTROL - EAM 4/GUI 2 - ESARR 4 and related Safety Oversight - Edition 4.0 / 03/2006

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

EUROCONTROL - EAM 5/GUI 2 - ESARR 5 and Related Safety Oversight for Air Traffic Control Officers - Part A - Licensing Oversight - Edition 2.0 / 03/2006

Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel

EUROCONTROL - EAM 5/GUI 4 - ESARR 5 and Related Safety Oversight for Engineering and Technical Personnel - Edition 2.0 / 03/2006

Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel

EUROCONTROL - EAM 3/GUI 1 - Explanatory Material on ESARR 3 Requirements - Edition 1.0 / 06/2001

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

EUROCONTROL - IANS-NSA-SOCH NSA Oversight of Changes in ATM

Url : https://trainingzone.eurocontrol.int

EUROCONTROL - SRC DOC 48 - Safety Method Review - Edition 1.0 / 06/2011

Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4

EUROCONTROL - EAM 3/GUI 2 - Safety Regulatory Aspects of the ESARR 3 Implementation in Small Organisations - Edition 1.0 / 02/2003

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

EUROCONTROL - SRC DOC 46 - Safety Scanning - Edition 1.0 / 06/2011

Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4

EUROCONTROL - The Change & Transition Tools Compendium - Edition 1.0 / 10/2010

Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#15

Finalisation criteria : 1 - Documented and approved formal arrangements are in place between the NSA and the relevant ATM organisations.

2 - Regular and timely submission of information about any planned change to EATMN systems by the ANSP to the NSA.

3 - The notification arrangements should include the identification of focal points on both sides.

4 - Records at the NSA demonstrate that planned changes were effectively notified.

SRC-CHNG-REG02	Establish a process for the review of safety arguments	(Regulated) completion date(s) 12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Establish the set of actions to be followed to conduct the review of safety arguments (i.e. safety cases) developed by ATM organisations with regard to the introduction of changes to the ATM system, as required in the relevant requirements.

Derogations : None

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SRC-CHNG	Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities (NSA)

Supporting material(s) : EUROCONTROL - EAM 4/GUI 4 - A Method for States to determine National ATM Safety Minima - Edition 1.0 / 02/2004

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

EUROCONTROL - EAM 4/GUI 6 - Explanatory Material on Ground based Safety Nets - Edition 1.0 / 04/2010

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

EUROCONTROL - IANS-NSA-SOCH NSA Oversight of Changes in ATM

Url : https://trainingzone.eurocontrol.int

EUROCONTROL - SRC DOC 48 - Safety Method Review - Edition 1.0 / 06/2011

Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4

EUROCONTROL - SRC DOC 46 - Safety Scanning - Edition 1.0 / 06/2011

Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4

EUROCONTROL - The Change & Transition Tools Compendium - Edition 1.0 / 10/2010

Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#15

Finalisation criteria : 1 - Process documented and approved at the appropriate level.

2 - The review concerns at least the safety arguments of the changes planned by ATM organisations if a severity class 1 or severity class 2 (as defined in Commission Regulation (EC) No 1315/2007 repealed by Commission Implementing Regulation (EU) No 1034/2011 or ESARR 1 has been determined by the ATM organisation for the potential effects of the hazards related to the change.

3 - Guidance exists to support the safety oversight personnel conducting the review.

4 - The review assesses the acceptability of the safety arguments presented in accordance with the relevant requirements.

5 - The process foresees that the introduction into operational service of a change subject to review is to be accepted by the NSA.

SRC-CHNG-REG03	Implement the process for the review of safety arguments	(Regulated) completion date(s)
		12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Conducts the review of safety arguments in accordance with the relevant requirements and the process established for that purpose, and the changes subject to review are accepted if appropriate by the NSA in the light of that review before they are put into operational service by the ATM organisations.

Derogations : None

Supporting material(s) : EUROCONTROL - EAM 4/GUI 4 - A Method for States to determine National ATM Safety Minima - Edition 1.0 / 02/2004

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

EUROCONTROL - EAM 4/GUI 6 - Explanatory Material on Ground based Safety Nets - Edition 1.0 / 04/2010

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

EUROCONTROL - IANS-NSA-SOCH NSA Oversight of Changes in ATM

Url : https://trainingzone.eurocontrol.int

EUROCONTROL - SRC DOC 48 - Safety Method Review - Edition 1.0 / 06/2011

Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4

EUROCONTROL - SRC DOC 46 - Safety Scanning - Edition 1.0 / 06/2011

Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4

EUROCONTROL - The Change & Transition Tools Compendium - Edition 1.0 / 10/2010

Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#15

Finalisation criteria : 1 - Records at the NSA demonstrate that safety arguments are effectively reviewed.

2 - The actions effectively taken conform to the documented process.

3 - For each change reviewed, a final communication to the relevant ATM organisation should exist to communicate the acceptance (or not acceptance, or acceptance with conditions) of the introduction of the change into operational service in the light of the review conducted by the NSA.

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SRC-RLMK	**Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)**					
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**

Subject matter and scope

* The extension of the applicability area to non-EU ECAC States that have not signed an aviation agreement with EU, as well as material not included in the legislation, are highlighted in blue font italics.

This objective has been introduced in order to aid national safety regulatory authorities with the establishment of appropriate rules in the area of ATM Safety regulation.

ESARRs are binding for all EUROCONTROL Contracting Parties in relation to all organisations providing ATM to General Air Traffic. All other ECAC States are encouraged to implement it to ensure harmonisation.

In the States where EC legislation applies, it should be noted that Article 4 of Regulation (EC) No 550/2004 amended by Regulation (EC) No 1070/2009 addresses the transposition of ESARRs into Community law. This is specifically reflected in the criteria of the SLoAs below in accordance with the conclusions of the Report on the Resolution of Double ATM Safety Regulation in SES States (DRAHG Report) agreed by PC and SSC.

The deployment date given for this objective (12/2010) is not meant to replace, amend or modify whatsoever, the deadline for implementation of the relevant Commission Regulations, particularly No 1315/2007 repealed by Commission Implementing Regulation (EU) No 1034/2011, or ESARRs 1 to 5. The aim of this objective is to ensure that all NSAs in the ECAC area achieve as soon as possible the required level of competence and maturity to be able to perform their duties in line with the aforementioned EC Regulation and ESARRs.

Applicable Area(s)

Armenia, Azerbaijan, Turkey, Ukraine

Timescales

Entry into force of Regulation (EC) No 550/2004:	03/2004
Entry into force of ESARR 1:	11/2004
Entry into force of ESARR 2:	11/2000
Entry into force of ESARR 3:	07/2000
Entry into force of ESARR 4:	04/2001
Entry into force of ESARR 5:	04/2002
Entry into force of ESARR 6:	11/2003
Entry into force of Commission regulation (EC) No 1315/2007 repealed by Commission Implementing Regulation (EU) No 1034/2011:	11/2007
Objective Implementation completion date:	12/2010

References

European ATM Master Plan relationship

None - None

Applicable legislation

All applicable EC legislation transposing ESARRs in accordance with Article 4 of Regulation (EC) No 550/2004 amended by Regulation (EC) No 1070/2009 for those States where EC legislation is applicable;
All EUROCONTROL Safety Regulatory Requirements (ESARRs).

Applicable ICAO Annexes and other references

EUROCONTROL Permanent Commission (PC/CN) Decision Nos. 80, 84, 87, 91, 100 and 103.

Stakeholder Lines of Action (SloA)

SloA ref.	Title	(Regulated) completion date(s)	
SRC-RLMK-REG01	Assess existing applicable regulations against ESARRs and address any differences identified	12/2010	**M**
SRC-RLMK-REG02	Develop and publish new or modified regulations compliant with ESARR 1	12/2010	**M**
SRC-RLMK-REG03	Develop and publish new or modified regulations compliant with ESARR 2	12/2010	**M**
SRC-RLMK-REG04	Develop and publish new or modified regulations compliant with ESARR 3	12/2010	**M**
SRC-RLMK-REG05	Develop and publish new or modified regulations compliant with ESARR 4	12/2010	**M**
SRC-RLMK-REG06	Develop and publish new or modified regulations compliant with ESARR 5 for ATCOs	12/2010	**M**
SRC-RLMK-REG07	Develop and publish new or modified regulations compliant with ESARR 5 for engineering and technical personnel undertaking operational safety related tasks	12/2010	**M**
SRC-RLMK-REG08	Develop and publish new or modified regulations compliant with ESARR 6	12/2010	**M**

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SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)

SRC-RLMK-REG09   Notify ICAO of any differences between applicable safety regulations and   12/2010   **M**
ICAO SARPs

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

Working arrangement in charge: **Safety Regulation Commission (SRC)**
Outline description approved in: -
Latest objective review at expert level in: 12/2008

Commitment decision body: **Provisional Council (PC)**
Objective approved/endorsed in: 08/2009
Latest change to objective approved/endorsed in: 07/2013

Expected performance benefits (for information)

Safety :   The application of ESSARs aims to ultimately ensure the safe provision of ATM services in accordance with a set of harmonised rules at pan-European level.

Capacity :   N/A

Cost effectiveness :   N/A

Environment :   N/A

Security :   N/A

Detailed SloA descriptions

SRC-RLMK-REG01	**Assess existing applicable regulations against ESARRs and address any differences identified**	(Regulated) completion date(s)
		12/2010

Action by :   **Regulatory Authorities (rule maker at national or EC level, national supervisory authorities)**

Description & purpose :   Perform a comparison between the requirements of each ESARR and applicable national regulations where they exist. Differences detected during the assessment shall be documented and addressed in order to ensure full compliance with each ESARR.

Derogations :   None

Supporting material(s) :   EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 06/2005

     Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

     EUROCONTROL - EAM 2/GUI 4 - Explanatory Material on ESARR 2 Requirements - Edition 1.0 / 08/2004

     Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

     EUROCONTROL - EAM 3/GUI 1 - Explanatory Material on ESARR 3 Requirements - Edition 1.0 / 06/2001

     Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

     EUROCONTROL - EAM 4/GUI 1 - Explanatory Material on ESARR 4 Requirements - Edition 2.0 / 03/2005

     Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

     EUROCONTROL - EAM 5/GUI 3 - Explanatory Material on ESARR 5 Requirements for Engineers and Technical Personnel - Edition 2.0 / 02/2006

     Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel

Finalisation criteria :   1 - Results of the assessment, including a list of differences to each ESARR documented.

     2 - Formal Plan to address the differences detected during the assessment adopted.

     3 - New set of national regulatory requirements in the area covered by each ESARR adopted.

SRC-RLMK-REG02	**Develop and publish new or modified regulations compliant with ESARR 1**	(Regulated) completion date(s)
		12/2010

Action by :   **Regulatory Authorities (rule maker at national or EC level, national supervisory authorities)**

Description & purpose :   Publish new or modified regulations compliant with ESARR 1 based on appropriate preceding development, consultation and enactment.

Derogations :   None

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SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)

Supporting material(s) : EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 06/2005

Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EUROCONTROL - EAM 1/GUI 5 - ESARR 1 in the Certification and Designation of Service Providers - Edition 2.0 / 04/2006

Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EUROCONTROL - EAM 1/GUI 7 - Guidance on the Criteria for the Assessment of Compliance with the Standards of ICAO Annex 11 - Edition 1.0 / 04/2006

Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

Finalisation criteria : 1 - New or modified regulations officially promulgated.

2 - For States where EC regulations are directly applicable, this SLoA is considered complete in relation to organisations providing ATM primarily to General Air Traffic with the entry into force of Commission Regulation (EC) No 1315/2007 repealed by Commission Implementing Regulation (EU) No 1034/2011.

SRC-RLMK-REG03	Develop and publish new or modified regulations compliant with ESARR 2	(Regulated) completion date(s)
		12/2010

Action by : **Regulatory Authorities (rule maker at national and/or EC level, National Supervisory Authorities, Aircraft Accident Investigators)**

Description & purpose : Publish new or modified regulations compliant with ESARR 2 based on appropriate preceding development, consultation and enactment.

Derogations : None

Supporting material(s) : EUROCONTROL - EAM 2/GUI 9 - Annual Summary Template - Edition 3.0 / 03/2012

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 2/ICAO - Consistency Between ESARR 2 and ICAO Standards and recommended Practices - Edition 1.0 / 06/2005

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 2/GUI 7 - ESARR 2 and related Safety Oversight - Edition 1.0 / 03/2006

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 2/GUI 6 - Establishment of "Just Culture" - Principles in ATM Safety Data Reporting & Assessment - Edition 1.0 / 03/2006

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 2/GUI 4 - Explanatory Material on ESARR 2 Requirements - Edition 1.0 / 08/2004

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 2/GUI 5 - Guidance Material for Harmonisation of Safety Occurrence Severity and Risk Assessment - Edition 1.0 / 05/2005

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 2/GUI 8 - Guidelines on the Systematic Occurrence Analysis Methodology (SOAM) - Edition 1.0 / 11/2005

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 2/GUI 3 - Mapping between the EUROCONTROL Severity Classification Scheme & the ICAO AIRPROX Severity Scheme - Edition 1.0 / 11/2002

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 2/GUI 2 - Publication and Confidentiality Policy - Edition 1.0 / 11/1999

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 2/GUI 1 - Severity Classification Scheme for Safety Occurrences in ATM - Edition 1.0 / 11/1999

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

Finalisation criteria : 1 - New or modified regulations officially promulgated.

2 - For States where EC regulations are directly applicable, new or modified national regulations transposing EC Directives 2003/42/EC and 94/56/EC are sufficient to address the ESARR 2 requirements covered in those Directives in relation to civil aviation. New or modified national regulations can complement them to address those areas of ESARR 2 not covered in these Directives.

SRC-RLMK-REG04	Develop and publish new or modified regulations compliant with ESARR 3	(Regulated) completion date(s)
		12/2010

Action by : **Regulatory Authorities (rule maker at national or EC level, national supervisory authorities)**

Description & purpose : Publish new or modified regulations compliant with ESARR 3 based on appropriate preceding development, consultation and enactment.

Derogations : None

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SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)

Supporting material(s) :   EUROCONTROL - EAM 3/ICAO - Consistency Between ESARR 3 and ICAO Standards and recommended Practices - Edition 2.0 / 06/2005

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

EUROCONTROL - EAM 3/GUI 3 - ESARR 3 and related Safety Oversight - Edition 2.0 / 03/2006

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

EUROCONTROL - EAM 3/GUI 1 - Explanatory Material on ESARR 3 Requirements - Edition 1.0 / 06/2001

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

EUROCONTROL - EAM 3/GUI 5 - Mapping between ESARR 3 and ICAO Provisions on Safety Management Systems at Aerodromes - Edition 1.0 / 03/2004

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

EUROCONTROL - EAM 3/GUI 4 - Mapping between ISO 9001:2000 and ESARR 3 - Edition 1.0 / 05/2004

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

EUROCONTROL - EAM 3/GUI 2 - Safety Regulatory Aspects of the ESARR 3 Implementation in Small Organisations - Edition 1.0 / 02/2003

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

Finalisation criteria :   1 - New or modified regulations officially promulgated.

2 - For States where EC regulations are directly applicable, Commission Regulation (EC) No 2096/2005 repealed by Commission Implementing Regulation (EU) No 1033/2011 satisfactorily covers the implementation of ESARR 3 as regards organisations providing ATS primarily to General Air Traffic. Those areas of ESARR 3 not covered by EC legislation (e.g. ATFM, ASM) can be addressed through new or modified national regulatory requirements.

SRC-RLMK-REG05	Develop and publish new or modified regulations compliant with ESARR 4	(Regulated) completion date(s) 12/2010

Action by :   **Regulatory Authorities (rule maker at national or EC level, national supervisory authorities)**

Description & purpose :   Publish new or modified regulations compliant with ESARR 4 based on appropriate preceding development, consultation and enactment.

Derogations :   None

Supporting material(s) :   EUROCONTROL - EAM 4/GUI 4 - A Method for States to determine National ATM Safety Minima - Edition 1.0 / 02/2004

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

EUROCONTROL - EAM 4/ICAO - Consistency Between ESARR 4 and ICAO Standards and recommended Practices - Edition 2.0 / 06/2005

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

EUROCONTROL - EAM 4/GUI 2 - ESARR 4 and related Safety Oversight - Edition 4.0 / 03/2006

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

EUROCONTROL - EAM 4/GUI 1 - Explanatory Material on ESARR 4 Requirements - Edition 2.0 / 03/2005

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

EUROCONTROL - EAM 4/GUI 6 - Explanatory Material on Ground based Safety Nets - Edition 1.0 / 04/2010

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

Finalisation criteria :   1 - New or modified regulations officially promulgated.

2 - For States where EC regulations are directly applicable, Commission Regulation (EC) No 2096/2005 repealed by Commission Implementing Regulation (EU) No 1033/2011 satisfactorily covers the implementation of ESARR 4 as regards organisations providing ATS primarily to General Air Traffic. Those areas of ESARR 4 not covered by EC legislation (e.g. applicability to ATFM/ASM and risk classification scheme) can be addressed through new or modified national regulatory requirements.

SRC-RLMK-REG06	Develop and publish new or modified regulations compliant with ESARR 5 for ATCOs	(Regulated) completion date(s) 12/2010

Action by :   **Regulatory Authorities (rule maker at national or EC level, national supervisory authorities)**

Description & purpose :   Publish new or modified regulations compliant with ESARR 5 (Edition 2.0), Sections 5.1 and 5.2 based on appropriate preceding development, consultation and enactment.

Derogations :   None

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SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)

Supporting material(s) :	EUROCONTROL - EAM 5/ICAO - Consistency between ESARR 5 and ICAO Standards and recommended Practices - Edition 2.0 / 06/2005
	Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel
	EUROCONTROL - EAM 5/GUI 2 - ESARR 5 and Related Safety Oversight for Air Traffic Control Officers - Part A - Licensing Oversight - Edition 2.0 / 03/2006
	Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel
	EUROCONTROL - EAM 5/GUI 1 - Explanatory Material on ESARR 5 Requirements for Air Traffic Control Officers - Part A - Edition 1.0 / 03/2004
	Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel
	EUROCONTROL - EAM 5/GUI 1 - Explanatory Material on ESARR 5 Requirements for Air Traffic Control Officers - Part B - Edition 1.0 / 03/2004
	Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel
Finalisation criteria :	1 - New or modified regulations in the area covered by ESARR 5 (Edition 2.0), Sections 5.1 and 5.2 officially promulgated.
	2 - For States where EU legislation is applicable, verify if Regulation 805/2011 sufficiently covers the ESARR 5 requirements in relation to ATC provided primarily to General Air Traffic.

SRC-RLMK-REG07	Develop and publish new or modified regulations compliant with ESARR 5 for engineering and technical personnel undertaking operational safety related tasks	(Regulated) completion date(s) 12/2010

Action by :	**Regulatory Authorities (rule maker at national or EC level, national supervisory authorities)**
Description & purpose :	Publish new or modified regulations compliant with ESARR 5 (Edition 2.0), Section 5.3 based on appropriate preceding development, consultation and enactment.
	Note :For States where EU legislation is directly applicable, it is considered that Commission Regulation (EC) No 2096/2005 repealed by Commission Implementing Regulation (EU) No 1033/2011 satisfactorily addresses the establishment of basic legislation for engineering and technical personnel undertaking operational safety-related tasks in relation to organisations providing ATS/CNS primarily to General Air Traffic.
	Further national safety rules are necessary as required in Article 8 of Commission Regulation (EU) No 2096/2005 repealed by Commission Implementing Regulation (EC) No 1033/2011 and ESARR 5, Section 5.3.1.
Derogations :	None
Supporting material(s) :	EUROCONTROL - EAM 5/ICAO - Consistency between ESARR 5 and ICAO Standards and recommended Practices - Edition 2.0 / 06/2005
	Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel
	EUROCONTROL - EAM 5/GUI 4 - ESARR 5 and Related Safety Oversight for Engineering and Technical Personnel - Edition 2.0 / 03/2006
	Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel
	EUROCONTROL - EAM 5/GUI 3 - Explanatory Material on ESARR 5 Requirements for Engineers and Technical Personnel - Edition 2.0 / 02/2006
	Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel
Finalisation criteria :	1 - New or modified regulations in the area covered by ESARR 5 (Edition 2.0), Sections 5.3 officially promulgated.

SRC-RLMK-REG08	Develop and publish new or modified regulations compliant with ESARR 6	(Regulated) completion date(s) 12/2010

Action by :	**Regulatory Authorities (rule maker at national or EC level, national supervisory authorities)**
Description & purpose :	Publish new or modified regulations compliant with ESARR 6 based on appropriate preceding development, consultation and enactment.
Derogations :	None
Supporting material(s) :	EUROCONTROL - Requirements Application Document (RAD)-RAD- 8.33-SRC Harmonised Regulatory Criteria for 8.33 HEP - Edition 1.0 / 02/2003
	Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#2
	EUROCONTROL - Requirements Application Document (RAD)-RAD-Link 2000+SRC Harmonised Criteria for the Introduction of Link 2000+ - Edition 1.0 / 02/2003
	Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#2
	EUROCONTROL - Requirements Application Document (RAD)-RAD-RVSM-SRC Harmonised Regulatory Criteria for the Introduction of RVSM within the ECAC Region - Edition 1.0 / 05/2001
	Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#2
Finalisation criteria :	1 - New or modified regulations in the area covered by ESARR 6 officially promulgated.
	2 - For States where EC regulations are directly applicable, this SLoA is considered complete in relation to organisations providing ATM primarily to General Air Traffic with the entry into force of Commission Regulation (EC) No 482/2008.

SRC-RLMK-REG09	Notify ICAO of any differences between applicable safety regulations and ICAO SARPs	(Regulated) completion date(s) 12/2010

Action by :	**National Regulatory Authorities**

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SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)

Description & purpose : Following implementation, notify ICAO of any differences between ICAO SARPs and the regulations transposing ESARRs 2, 3, 4 and ESARR 5 (Edition 2.0), Sections 5.1 and 5.2 as required.

Note : This action is also recommended to be carried out when full compliance is achieved in order to correctly complete the ICAO Annex Supplements.

Derogations : None

Supporting material(s) : EUROCONTROL - EAM 2/ICAO - Consistency Between ESARR 2 and ICAO Standards and recommended Practices - Edition 1.0 / 06/2005

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

EUROCONTROL - EAM 3/ICAO - Consistency Between ESARR 3 and ICAO Standards and recommended Practices - Edition 2.0 / 06/2005

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

EUROCONTROL - EAM 4/ICAO - Consistency Between ESARR 4 and ICAO Standards and recommended Practices - Edition 2.0 / 06/2005

Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm

EUROCONTROL - EAM 5/ICAO - Consistency between ESARR 5 and ICAO Standards and recommended Practices - Edition 2.0 / 06/2005

Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel

EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 06/2005

Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EUROCONTROL - EAM 1/GUI 7 - Guidance on the Criteria for the Assessment of Compliance with the Standards of ICAO Annex 11 - Edition 1.0 / 04/2006

Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

EUROCONTROL - EAM 3/GUI 5 - Mapping between ESARR 3 and ICAO Provisions on Safety Management Systems at Aerodromes - Edition 1.0 / 03/2004

Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers

EUROCONTROL - EAM 2/GUI 3 - Mapping between the EUROCONTROL Severity Classification Scheme & the ICAO AIRPROX Severity Scheme - Edition 1.0 / 11/2002

Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

Finalisation criteria : 1 - Mappings between ICAO SARPs and applicable regulations transposing each ESARR performed.

2 - Letter(s) to ICAO sent.

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SES	Active		Multi-N
SRC-SLRD	**Safety Levels and Resolution of Deficiencies**		
REG	**ASP**	**MIL** **APO**	**USE** **INT** **IND**

Subject matter and scope

* The extension of the applicability area to non-EU ECAC States that have not signed an aviation agreement with EU, as well as material not included in the legislation, are highlighted in blue font italics.

This objective has been introduced to assist national regulatory authorities to establish a robust system that will ensure required levels of safety. In addition, it has also been developed in order to encourage national authorities to develop a philosophy towards a 'just culture'.

ESARRs are binding for all EUROCONTROL Contracting Parties in relation to all organisations providing ATM to General Air Traffic. All other ECAC States are encouraged to implement them to ensure harmonisation.

The deployment date (12/2010) given for this objective is not meant to replace, amend or modify whatsoever, the deadline for implementation of the relevant Commission Regulations, particularly No 1315/2007 repealed by Commission Implementing Regulation (EU) No 1034/2011, or ESARRs 1& 2. The aim of this objective is to ensure that all NSAs in the ECAC area achieve as soon as possible the required level of competence and maturity to be able to perform their duties in line with the aforementioned EC Regulation and ESARRs 1&2.

Applicable Area(s)

Armenia, Azerbaijan, Turkey, Ukraine

Timescales

Entry into force of ESARR1:	11/2004
Entry into force of Commission Regulation (EC) No 1315/2007	11/2007
repealed by Commission Implementing Regulation (EU) No 1034/2011:	
Objective Implementation completion date:	12/2010

References

European ATM Master Plan relationship

None -   None

Applicable legislation

Regulation (EC) No 1315/2007 on safety oversight in air traffic management and amending Regulation (EC) No 2096/2005 repealed by Commission Implementing Regulation (EU) No 1034/2011;
Regulation (EC) No 1321/2007 for the integration into a central repository of information on civil aviation occurrences;
Regulation (EC) No 1330/2007 for the dissemination to interested parties of information on civil aviation occurrences;
Directive 94/56/EC establishing the fundamental principles governing the investigation of civil aviation accidents and incidents;
Directive 2003/42/EC on occurrence reporting in civil aviation;
All other applicable EC legislation transposing ESARRs in accordance with Article 4 of Regulation (EC) No 550/2004 amended by Regulation (EC) No 1070/2009 on the provision of air navigation services in the single European sky, for those States where such legislation is applicable.

Applicable ICAO Annexes and other references

Annex 11 to the Chicago Convention on International Civil Aviation, Section 2.27
EUROCONTROL Permanent Commission (PC/CN) Decision No. 103 approving the EUROCONTROL Safety Regulatory Requirement ESARR 1 - Safety Oversight in ATM.
EUROCONTROL Permanent Commission (PC/CN) Decision No. 80 approving the EUROCONTROL Safety Regulatory Requirement ESARR 2 - Reporting and Assessment of Safety Occurrences in ATM.

Stakeholder Lines of Action (SloA)

SloA ref.	Title	(Regulated) completion date(s)	
SRC-SLRD-REG01	Develop and establish an acceptable level of safety and ensure its constant review	12/2010	**M**
SRC-SLRD-REG02	Establish national institutional arrangements for the implementation of a reporting and investigation system in a 'Just Culture' environment	12/2010	**M**
SRC-SLRD-REG03	Ensure the availability of comprehensive aviation safety data	12/2010	**M**
SRC-SLRD-REG04	Monitor safety performance	12/2010	**M**
SRC-SLRD-REG05	Implement a process to issue Safety Directives wherever immediate action is required	12/2010	**M**
SRC-SLRD-REG06	Publish an Annual Safety Oversight Report	12/2010	**M**

M - Applicable to the military.
Description of finalised SLoAs is available on the EIPR website at http://www.eurocontrol.int/articles/essip-plan/

Consultation & Approval

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SRC-SLRD	Safety Levels and Resolution of Deficiencies

Expected performance benefits (for information)

Safety :   The application of ESSARs in the area of safety oversight aims to ultimately ensure that National Supervisory Authorities monitor the safe provision of ATM services, and verify that the applicable safety regulatory requirements and any arrangements needed to implement them are effectively met.

Capacity :   N/A

Cost effectiveness :   N/A

Environment :   N/A

Security :   N/A

Detailed SloA descriptions

SRC-SLRD-REG01	Develop and establish an acceptable level of safety and ensure its constant review	(Regulated) completion date(s) 12/2010

Action by :   **National Supervisory Authorities (NSAs)**

Description & purpose :   Develop and establish an acceptable level of safety, in terms of safety goals, for the provision of ATS and ensure its constant review.

Derogations :   None

Supporting material(s) :   EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 06/2005

     Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

Finalisation criteria :   1 - The acceptable level of safety to be achieved is formally established by the State(s) concerned as required in ICAO Annex 11, Section 2.27.2.

     2 - Formal process in place to keep the acceptable levels of safety under review, to reflect changes in the aviation environment, national and international safety experience, and governmental or public expectations.

SRC-SLRD-REG02	Establish national institutional arrangements for the implementation of a reporting and investigation system in a 'Just Culture' environment	(Regulated) completion date(s) 12/2010

Action by :   **National Supervisory Authorities (NSAs)**

Description & purpose :   Establish national institutional arrangements, ensuring appropriate coordination, interfaces and allocation of responsibilities, for the implementation of a robust reporting and investigation system in a 'Just Culture' environment.

Derogations :   None

Supporting material(s) :   EUROCONTROL - EAM 2/GUI 6 - Establishment of "Just Culture" - Principles in ATM Safety Data Reporting & Assessment - Edition 1.0 / 03/2006

     Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

     EUROCONTROL - EAM 2/GUI 4 - Explanatory Material on ESARR 2 Requirements - Edition 1.0 / 08/2004

     Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

     EUROCONTROL - EAM 2/GUI 2 - Publication and Confidentiality Policy - Edition 1.0 / 11/1999

     Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm

Finalisation criteria :   1 - The State has designated one or more competent authorities to put in place a mechanism to collect, evaluate, process and store occurrences in aviation (including ATM). A 'Just Culture' environment is supported, established and preserved.

     2 - Formalised interfaces and working arrangements established between ANSPs, the AIB and Regulatory Authorities to facilitate and ensure the flow of reports and data and their assessment. Appointment of a National Focal Point for safety data.

     3 - Arrangements in place to ensure the follow up of implementation of measures resulting from the assessment of occurrences.

SRC-SLRD-REG03	Ensure the availability of comprehensive aviation safety data	(Regulated) completion date(s) 12/2010

Action by :   **National Supervisory Authorities (NSAs)**

Description & purpose :   Identify adequately all aviation safety data (including for ATM) , with the data being secured, recorded and stored in a manner which ensures their quality and confidentiality as well as permitting subsequent collation and assessment.

Derogations :   None

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SRC-SLRD	Safety Levels and Resolution of Deficiencies

Finalisation criteria :

1 - The NSA requires aviation entities (incl. ANSPs) to have reporting and assessment processes and procedures in place to ensure the correct reporting of all relevant safety data (as per national and international requirements).

2 - The NSA requires aviation entities (incl. ANSPs) to assess those occurrences that are considered to have a significant effect on flight safety and/or on the ability to provide safe ATM services, by investigators with the necessary expertise.

3 - The NSA requires that the causes of such occurrences are analysed and the severity of the occurrences is determined.

4 - The NSA requires that the occurrences analysis results are used for necessary remedial action and that all results are secured, recorded and stored.

SRC-SLRD-REG04	Monitor safety performance	(Regulated) completion date(s)
		12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Provide regular monitoring and assessment of the levels of safety achieved against the tolerable levels of safety wherever determined for the airspace blocks under their responsibility and uses the results to determine areas where the verification of compliance with safety regulatory requirements is necessary as a matter of priority.

Derogations : None

Finalisation criteria :

1 - Following the completion of SRC-SLRD-REG01, the NSA has established formal processes and related procedures to ensure the regular monitoring and assessment of the levels of safety achieved against the acceptable level of safety established.

2 - Following the completion of SRC-SLRD-REG01, the NSA has established a formal process to ensure that the results of the monitoring and assessment of achieved safety levels are utilised to support its processes to verify compliance with safety regulatory requirements.

3 - Records show that data from the monitoring process is used to support the determination of areas to be primarily subject to auditing by NSAs or recognised organisations.

SRC-SLRD-REG05	Implement a process to issue Safety Directives wherever immediate action is required	(Regulated) completion date(s)
		12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Implement a process to issue Safety Directives when it has determined the existence of an unsafe condition in a functional system requiring immediate action.

Derogations : None

Finalisation criteria :

1 - Procedure(s) in place at the NSA for the issuance of a Safety Directive, to address the: conditions under which they are issued; special case of technical systems or constituents of a technical system; layout to be used; Identification of the responsible authority within the NSA for their approval.

2 - Copies of Safety Directives available (where applicable), which include details of the: unsafe condition; affected functional system; actions required and their rationale; date of entry into force.

3 - Arrangements in place to coordinate with other relevant authorities, including airworthiness authorities, as necessary.

SRC-SLRD-REG06	Publish an Annual Safety Oversight Report	(Regulated) completion date(s)
		12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Produce an annual safety oversight report to present relevant information on the status of its activities

Derogations : None

Finalisation criteria :

1 - Arrangements in place for the development of the Annual Safety Oversight Report including elements 2 to 6 below:

2 -   the identification of those responsible for providing the necessary information as per the requirements of ESARR 1 / Regulation (EC) No 1315/2007 repealed by Regulation (EU) No 1034/2011;

3 -   the identification of the person/entity responsible for its approval;

4 -   the timeframe for the collection of information necessary to develop the report;

5 -   providing a list of organisations/programmes/etc. to share the Annual Report;

6 -   the identification of those responsible for dispatching the report to the list of organisations/programmes/etc.

7 - Annual Safety Oversight Report published, to include relevant details of elements 8 to 17 below:

8 -   airspace and service providers under its responsibility;

9 -   organisation, structure and procedures of the NSA;

10 -   monitoring of tolerable levels of safety as regards the airspace blocks under its responsibility;

11 -   compliance with applicable safety regulatory requirements by those organisations providing ATM services in its area of responsibility;

12 -   programme of safety regulatory audits, including information about the audits conducted and/or planned, and their scope;

13 -   review of safety arguments for new systems and changes to the ATM system, including relevant information about the new systems and changes accepted by the NSA and an indication of those accepted by the ATM service providers;

14 -   recognised organisations commissioned to conduct safety regulatory audits, listing them and documenting the basis under which they decided to delegate the conduct of safety regulatory audits;

15 -   existing levels of resources within the organisation;

16 -   safety issues identified through the safety oversight processes operated by the NSA;

17 -   safety directives issued by the NSA.

PART IV
ANNEXES

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ANNEX A

SUBSTANTIAL CHANGES SINCE PREVIOUS ESSIP EDITION

Changes applied to the previous ESSIP Plan edition (2012) have been developed in close co-operation with the SESAR JU WP C02 Task T006 and relevant EUROCONTROL expert Teams. These changes were presented to the Agency Advisory Board in June 2013 (AAB/6) and endorsed by the Provisional Council in August 2013. The changes to the area of applicability of objectives are reflecting the information provided during the LSSIP 2012 cycle, further confirmed by the national Focal Points, before submission to the AAB/6.

New active objectives included in the ESSIP Plan - Edition 2013

Objective designator	Title	Scope
AOM21	Implementation of Free Route Airspace	**ECAC**
FCM04	Implementation of Short Term ATFCM Measures – phase 1	**ECAC**
FCM05	Implementation of interactive rolling NOP	**ECAC**
SAF11	Improve runway safety by preventing runway excursions	**ECAC**
ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195	**EU+**

Substantial changes to existing objectives

Objective designator	Title	Type/Scope in ESSIP 2012	Substantial change
AOM19	Implement Advanced Airspace Management	SESAR/ECAC	2 new NM SLoAs addressing the development of systems and procedures for an improved ASM/ATFCM process as well as the upgrade NM systems to allow exchange in real-time of ASM information.
AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual	SESAR/APT	Removal of Athens, Iraklion, Corfu, Rhodes, Thessaloniki, Faro, Porto, Barcelona, Madrid Barajas, Malaga, Palma de Majorca, Aberdeen, Bristol, Dublin, Schiphol airports from the applicability list. Inclusion of Kyib Boryspil airport on the applicability list.
AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1	SESAR/APT	Removal of Iraklion, Corfu, Rhodes, Faro, Porto, Malaga, Aberdeen, Birmingham, Bristol, Glasgow, London City, London Luton and Newcastle airports from the applicability list. Inclusion of Sofia, Tallinn and Kyib Boryspil airports on the applicability list.
AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level2	SESAR/APT	Removal of Iraklion, Corfu, Rhodes, Faro, Porto, Malaga, Aberdeen, Birmingham, Bristol, Glasgow, London City, London Luton and Newcastle airports from the applicability list. Inclusion of Sofia, Tallinn and Kyib

Objective designator	Title	Type/Scope in ESSIP 2012	Substantial change
			Boryspil airports on the applicability list.
AOP05	Implement Airport Collaborative Decision Making (CDM)	SESAR/APT	Removal of Nice, Corfu, Thessaloniki, Faro, Porto, Malaga, Aberdeen, Bristol, Glasgow, London City and Newcastle airports from the applicability list. Inclusion of Tallinn and Kyib Boryspil airports on the applicability list.
ATC02.6	Implement ground based safety nets - Minimum Safe Altitude Warning - level 2	SESAR/ECAC	Removal of GR and UK from the applicability list.
ATC02.7	Implement ground based safety nets - Approach Path Monitor - level 2	SESAR/ECAC	Removal of GE, GR and SK from the applicability list.
ATC07.1	Implement arrival management tools	SESAR/ECAC	Changed type/scope to 'SESAR/Multi-N'. Objective only applicable to AT, BA, BE, CH, CZ, DE, DK, ES, FI, FR, HR, IE, IT, LU, LV, NL, NO, PL, PT, RO, SE, TR, UA, UK.
ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations	SESAR/ECAC	Changed type/scope to 'SESAR/Multi-N'. Objective only applicable to AT, BA, BE, BG, CH, CZ, DE, DK, EE, ES, FI, FR, HR, HU, IE, IT, LU, LV, MUAC, ME, NL, NO, PL, PT, RO, RS, SE, TR, UA, UK.
ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer.	SESAR/ECAC	Removal of SK from the applicability list.
ENV01	Implement Continuous Descent Approach (CDA) techniques for environmental improvements.	SESAR/APT	Removal of Athens, Iraklion, Corfu, Rhodes, Thessaloniki, Faro, Porto, Malaga, Aberdeen, and London City airports from the applicability list. Inclusion of Belgrade, Kyib Boryspil, Sarajevo, Tallinn, Vilnius, and Yerevan airports on the applicability list.
ENV02	Implement Collaborative Environmental Management (CEM) at Airports	SESAR/APT	Change of FOC date from 2013/2015 to 2015/2016. Removal of Iraklion, Corfu, Rhodes, Thessaloniki, Faro, Porto, Malaga and Aberdeen airport from the applicability list. Inclusion of Sarajevo, Tallinn, Vilnius and Yerevan airports on the applicability list.
FCM01	Implement enhanced tactical flow management services	ECIP/PE	Changed type/scope to 'SESAR/ECAC'.
FCM03	Implement collaborative flight planning	ECIP/PE	Changed type/scope to 'SESAR/ECAC'. Change of FOC date from 12/2012 to 12/2015 and emphasis on the "automatic" provision of the AFP message
NAV03	Implementation of Precision Area Navigation RNAV (P-RNAV)	SESAR/ECAC	Removal of SK from the applicability list.

Objective designator	Title	Type/Scope in ESSIP 2012	Substantial change
NAV10	Implement Approach Procedures with Vertical Guidance (APV)	SESAR/ECAC	Align the FOC dates of REG01, USE01 and USE02 with the FOC date at objective level (12/2016)
SRC-CHNG	Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities	SES/Multi-N	Removal of MD from the applicability list.
SRC-RLMK	(Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)	SES/Multi-N	Removal of MD from the applicability list.
SRC-SLRD	Safety Levels and Resolution of Deficiencies	SES/Multi-N	Removal of MD from the applicability list.

ESSIP objectives closed as ACHIEVED in the ESSIP Plan edition 2013

Objective designator	Title	Rationale
AOP08	Implement Airport Airside Capacity Planning Method	As indicated in the ESSIP Report Ed 2012 (based on LSSIP Ed 2012), 80% of the SLoA have been finalised by 80% of the stakeholders, hence it is proposed not to monitor this anymore through the LSSIP mechanisms.
AOP09	Implement Optimised Dependent Parallel Operations	
GEN01	Implement European ANS contingency measures for Safety Critical Modes of Operation	
HUM01.1	Ensure timely availability of ATCOs	
SAF4	Implement measures to reduce the risk of level bust occurrences	
SAF5	Implement measures to prevent air/ground communications induced safety occurrences	
SRC-AUDI	Implementation of Safety Regulatory Auditing by National Supervisory Authorities	
SRC-OVCA	Implementation of ATM Safety Oversight Capabilities by NSAs	

ESSIP objectives removed from the ESSIP Plan edition 2013

Objective designator	Title	Rationale
HUM02.1	Integrate Human Factors into ATM Operations	Close to the 80% threshold and overtaken by the revised ATCO Licensing Regulation prepared by EASA (HUM02.1) as part of the required initial and continuation training of Air Traffic Controllers, and by the Regulation (EC) 552/2004 as amended by Regulation (EC) 1070/2009 as part of the Essential Safety Requirements and by Regulation EU 1035/2011 as part of the safety requirements for risk assessment and mitigation with regard to changes (HUM03.1).
HUM03.1	Integrate Human Factors into the lifecycle of ATM systems	

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ANNEX B

AIRPORTS APPLICABILITY

Table 8: Participation of the airports in ESSIP objectives AOP and ENV

Airports with ESSIP objective			Active ESSIP objectives applicable to the airports [2]					
State	**Code**	**Airport**	**AOP01.2**	**AOP04.1**	**AOP04.2**	**AOP05**	**ENV01**	**ENV02**
Armenia	UDYZ	Yerevan	X	X	X	X	√	√
Austria	LOWW	Vienna	√	√	√	√	√	√
Belgium	EBAW	Antwerp	X	X	X	X	√	X
Belgium	EBBR	Brussels	√	√	√	√	√	√
Belgium	EBCI	Charleroi	X	X	X	X	√	X
Belgium	EBLG	Liege	X	X	X	X	√	X
Belgium	EBOS	Ostende	X	X	X	X	√	X
Bosnia and Herzegovina	**LQSA**	Sarajevo	X	X	X	X	√	√
Bulgaria	LBSF	Sofia	X	√	√	X	X	X
Croatia	LDSP	Split	X	X	X	X	√	X
Czech Republic	LKPR	Prague	√	√	√	√	√	√
Denmark	EKCH	Copenhagen	√	√	√	√	√	√
Estonia	EETN	Tallinn	X	√	√	√	√	√
Finland	EFHK	Helsinki	√	√	√	√	√	√
France	LFBO	Toulouse	X	√	√	X	√	√
France	LFLL	Lyon	√	√	√	√	√	√
France	LFML	Marseille	X	√	√	X	√	√
France	LFMN	Nice	√	√	√	X	√	√
France	LFPG	Paris, Charles de Gaulle	√	√	√	√	√	√
France	LFPO	Paris Orly	√	√	√	√	√	√
Germany	EDDB	Berlin Brandenburg	√	√	√	√	√	√
Germany	EDDF	Frankfurt Main	√	√	√	√	√	√
Germany	EDDH	Hamburg	X	X	X	X	√	X
Germany	EDDK	Cologne - Bonn	X	X	X	X	√	X
Germany	EDDL	Düsseldorf	√	√	√	√	√	√
Germany	EDDM	Munich	√	√	√	√	√	√
Germany	EDDN	Nuremberg	X	X	X	X	√	X
Germany	EDDS	Stuttgart	X	X	X	X	√	X
Germany	EDDV	Hannover	X	X	X	X	√	X
Greece	LGAV	Athens	X	√	√	√	X	√
Greece	LGIR	Iraklion	√	√	√	√	√	√
Greece	LGKR	Corfu	√	√	√	√	√	√
Greece	LGRP	Rhodes	√	√	√	√	√	√
Greece	LGTS	Thessaloniki	√	√	√	√	√	√
Hungary	LHBP	Budapest	√	√	√	√	√	√
Ireland	EIDW	Dublin	X	√	√	√	√	√
Italy	LIMC	Milan Malpensa	√	√	√	√	√	√
Italy	LIML	Milan Linate	√	√	√	√	√	√

[2] With the exception of ESSIP objective AOP03.
- The applicability area of AOP03 is all ECAC aerodromes. Nonetheless, it is for the individual National safety authority to decide upon the strategy of implementation at aerodromes within its State.

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Airports with ESSIP objective			Active ESSIP objectives applicable to the airports [2]					
State	**Code**	**Airport**	**AOP01.2**	**AOP04.1**	**AOP04.2**	**AOP05**	**ENV01**	**ENV02**
Italy	LIPZ	Venezia	√	√	√	√	√	√
Italy	LIRF	Rome Fiumicino	√	√	√	√	√	√
Latvia	EVRA	Riga	X	√	√	X	X	X
Lithuania	EYVI	Vilnius	X	√	√	√	√	√
Netherlands	EHAM	Amsterdam Schiphol	X	√	√	√	√	√
Norway	ENGM	Oslo Gardermoen	√	√	√	√	√	√
Poland	EPWA	Warsaw	√	√	√	√	√	√
Portugal	LPPT	Lisbon	√	√	√	√	√	√
Romania	LROP	Bucharest	X	√	√	X	√	X
Serbia	LYBE	Belgrade	X	X	X	X	√	X
Spain	LEBL	Barcelona	X	√	√	√	√	√
Spain	LEMD	Madrid Barajas	X	√	√	√	√	√
Spain	LEPA	Palma de Mallorca	X	√	√	√	√	√
Sweden	ESGG	Göteborg	X	X	X	X	√	X
Sweden	ESMS	Malmö-Sturup	X	X	X	X	√	X
Sweden	ESNU	Umea	X	X	X	X	√	X
Sweden	ESSA	Stockholm Arlanda	√	√	√	√	√	√
Sweden	ESSB	Stockholm Broma	√	√	√	√	√	√
Switzerland	LSGG	Geneva	√	√	√	√	√	√
Switzerland	LSZH	Zurich	√	√	√	√	√	√
Turkey	LTAC	Ankara	X	√	√	X	X	X
Turkey	LTAI	Antalya	√	√	√	√	√	√
Turkey	LTBA	Istanbul	√	√	√	√	√	√
Ukraine	UKBB	Kyiv Boryspil	√	√	√	√	√	X
United Kingdom	EGBB	Birmingham	√	X	X	√	√	√
United Kingdom	EGCC	Manchester	√	√	√	√	√	√
United Kingdom	EGGW	London Luton	√	X	X	√	√	√
United Kingdom	EGGD	Bristol	X	X	X	X	√	√
United Kingdom	EGKK	London Gatwick	√	√	√	√	√	√
United Kingdom	EGLC	London City	√	X	X	X	X	√
United Kingdom	EGLL	London Heathrow	√	√	√	√	√	√
United Kingdom	EGNT	Newcastle	√	X	X	X	√	√
United Kingdom	EGNX	Nottingham East Midlands	X	X	X	X	√	X
United Kingdom	EGPF	Glasgow	√	X	X	X	√	√
United Kingdom	EGPH	Edinburgh	√	√	√	√	√	√
United Kingdom	EGSS	London Stansted	√	√	√	√	√	√

Legend:

√	Objective applicable to the airport
X	Objective not applicable to the airport

ANNEX C

DRAFT OBJECTIVES

None

OUTLINE DESCRIPTIONS

Designator	Outline Description title
OD AO-0301	Crosswind Reduced Separations for Departures and Arrivals
OD AO-0302	Basic Time Based Separations for Final Approach
OD AOM-0703	Continuous Climb Departure
OD DCB-0301	DCB-0301: Improved Consistency between Airport Slots and Flight Plans

Note: No detailed description of Draft objectives and Outline Descriptions are included in this document. To consult details of Draft objectives and Outline Descriptions please refer to web site http://www.eurocontrol.int/articles/essip-plan

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ANNEX D

OBJECTIVES ACHIEVED SINCE THE YEAR 2000

Designator	Objective title	Year of completion	Scope
AOP08	Implement Airport Airside Capacity Planning Method	2013	APT
AOP09	Implement Optimised Dependent Parallel Operations	2013	APT
GEN01	Implement European ANS contingency measures for Safety Critical Modes of Operation	2013	PE
HUM01.1	Ensure timely availability of ATCOs	2013	ECAC
SAF4	Implement measures to reduce the risk of level bust occurrences	2013	PE
SAF5	Implement measures to prevent air/ground communications induced safety occurrences	2013	PE
SRC-AUDI	Implementation of Safety Regulatory Auditing by National Supervisory Authorities	2013	Multi-N
SRC-OVCA	Implementation of ATM Safety Oversight Capabilities by NSAs	2013	Multi-N
COM06	Migrate to ATS-Qsig digital signalling for ground telephone applications	2012	MN
ITY-AGVCS	Air-Ground voice channel spacing above FL-195	2012	EU+
AOM18	Implement ATS Route Network (ARN) – Version 6	2010	ECAC
INF01	Implement the European Aeronautical Services (AIS) Database.	2010	PE
AOM10	Implement ATS Route Network (ARN) - Version 5	2008	PE
AOM14	Implement re-organisation of ECAC airspace to ensure a uniform & simplified application of ICAO ATS classes FL195 & below	2008	PE
COM07	Improve the management and optimise the operational use of the aeronautical frequency assignments in allocated bands	2008	PE
FCM02	Initial capacity management	2008	PE
INF03	Implement improved aeronautical information	2008	H
ATC01.2	Implement exemption process for Phase 2 of the ACAS II mandate	2007	PE
ATC02.1	Implement ground based safety nets – STCA level 1	2007	H
SPC01	Organise & implement the management of the aviation radio spectrum at European level	2007	PE
AOM07	Implement collaborative civil-military airspace planning at national level	2006	PE
AOM11	Extend the application of Flexible Use of Airspace (FUA) principles to the lower airspace	2006	MN
ATC03	Implement automated ground-ground coordination	2006	H
ATC01	Implement Airborne Collision Avoidance System (ACAS) II	2005	PE
DPS01	Implement Flight Data Processing (FDP) core functionality	2005	H
INF02	Implement ISO 9001:2000 in AIS	2005	H
AOM04	Implement ATS Route Network (ARN) – Version 4 and Version 4 bis	2004	PE
AOM05	Optimise airspace sectorisation	2004	H
AOM06	Implement Flexible Use or Airspace (FUA) Concept	2004	PE
AOM08	Optimise terminal airspace structure through use of best practice and RNAV	2004	H
AOM09	Implement re-organisation of ECAC airspace to ensure the application of a common ICAO ATS classification above a common agreed level	2004	PE
SUR03	Implement radar data processing and distribution systems	2004	H
COM02	Expansion of the use of 8.33 kHz VHF frequency channels	2003	MN
AOM01	Implement Reduced Vertical Separation Minima	2002	PE
ATC04	Achieve required radar separation minima	2002	H
SUR01	Implement dual Secondary Surveillance Radar (SSR) Coverage	2002	H
AOM03	Implement ATS route network Version 3	2000	PE

Note: No detailed description of achieved objectives is included in this document. To consult details of achieved objectives please refer to web site http://www.eurocontrol.int/articles/endorsed-essip-plan

OBJECTIVES REMOVED FROM ESSIP PLAN

Designator	Objective title	Year of removal	Remarks
HUM02.1	Integrate Human Factors into ATM Operations		Overtaken by the revised ATCO Licensing Regulation prepared by EASA
HUM03.1	Integrate Human Factors into the lifecycle of ATM systems		Overtaken by Regulation (EC) 552/2004 as amended by Regulation (EC) 1070/2009 as part of the Essential Safety Requirements and by Regulation EU 1035/2011 as part of the safety requirements for risk assessment and mitigation with regard to changes
SUR02	Implement Mode S elementary surveillance	2012	Replaced by ITY-SPI
SUR04	Implement Mode S enhanced surveillance	2012	
SUR05	Improve ground-based surveillance using ADS-B in Non Radar Airspace (NRA)	2012	
HUM04	Implement the European Air Traffic Controller Licence requirements and enhance training of Air Traffic Controllers	2011	Removed
HUM05	Enhance Training and Competence Assessment of ATM Staff other than Air Traffic Controllers	2011	Removed
INF05	Improve end-to-end integrity of aeronautical data	2011	Replaced by ITY-ADQ
NAV06	Rationalisation of navigation infrastructure	2011	Removed
AOM13	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling	2010	Replaced by AOM13.1
COM05	Migrate from AFTN/CIDIN to AMHS for international communications	2010	Replaced by COM10
NAV07	Implement RNAV Approach procedures based on Basic GNSS, with or without Barometric Vertical Guidance (ICAO RNP APCH)	2010	Replaced by NAV10
NAV08	Implement approach procedures with vertical guidance using SBAS (ICAO) LPV	2010	Replaced by NAV10
AOM16	Extend collaborative civil-military airspace planning with neighbours	2009	Removed
HUM01	Ensure timely availability of controllers	2009	Replaced by HUM01.1
HUM02	Implement harmonised selection, recruitment, training and development of ATM staff	2009	Replaced by HUM02.1
HUM03	Fully integrate human factors in the lifecycle of ATM systems	2009	Replaced by HUM03.1
SAF01.2	Implement a safety management system for ATM Service providers	2009	Removed
SAF03	Implement a harmonised methodology for incident reporting and data sharing	2009	Removed
SAF06	Facilitate the implementation of the Single European Sky (SES) safety provisions simultaneously with ESARRs through improved awareness and commitment	2009	Removed
SAF07	Develop, facilitate and implement 'Just culture' environment for supporting incident reporting and data sharing in ATM	2009	Removed
SAF08	Develop and implement best practices with regard to risk assessment mitigation in day to day operations	2009	Removed
SAF09	Adapt as appropriate, best practices to enhance safety management performance and processes associated with key risk areas	2009	Removed
SRC01	Implement ESARR 1 on safety oversight in ATM	2009	Replaced by: SRC-AUDI SRC-CHNG SRC-OVCA
SRC02	Implement ESARR 2 on reporting and analysis of safety occurrences in ATM	2009	
SRC03	Implement ESARR 3 on the use of safety management systems by ATM Service Providers	2009	
SRC04	Implement ESARR 4 on risk assessment and mitigation in ATM	2009	

Designator	Objective title	Year of removal	Remarks
SRC05.1	Implement ESARR 5 on ATM services' personnel	2009	SRC-RLMK
SRC05.2	Implement ESARR 5 on ATM services' personnel (engineering and technical personnel)	2009	SRC-SLRD
SRC06	Implement ESARR 6 on software in ATM systems	2009	
ATC07	Implement arrival management tools	2008	Replaced by ATC07.1
ATC14	Implement automated support for departure management	2008	Removed
COM03	Implement 8.33 kHz channel spacing above FL-195	2008	Replaced by ITY-AGVCS
COM04	Apply a common flight message transfer protocol (FMTP)	2008	Replaced by ITY-FMTP
FAC01	Implement common ATS provision in the Upper Airspace of the Central European States	2008	Removed
AOP02.2	Implement methodology for airside capacity assessment & provide information to the EUROCONTROL Agency	2007	Merged into AOP01.2
ATC13	Implement automated support for conflict resolution	2007	Removed
SAF02	Implement European ATS Contingency Measures	2007	Replaced by GEN01
AOM15	Implement re-organisation of ECAC airspace to ensure a uniform and simplified application of ICAO Air Traffic Service classes Flight Level 195 and below	2006	Combined with AOM14
AOP01	Implement Airside capacity enhancement guidelines and Implementation manual	2006	Superseded by AOP01.2
AOP02.1	Implement use of a methodology for Airport Airside Capacity Analysis (e.g. CAMACA)	2006	Merged into AOP02.2
ATC02.3	Implement ground based safety nets – Area Proximity Warning (APW)	2006	Replaced by ATC02.5
ATC02.4	Implement ground based safety nets – Minimum Safe Altitude Warning (MSAW)	2006	Replaced by ATC02.6
NAV05	Implementation of Required Navigation Performance Area Navigation (RNP-RNAV)	2006	Replaced by NAV05.1
SAF01	Implement a safety management system for ATM Service Providers.	2006	Superseded by SAF01.2
SUR06	Implement ADS-C to provide/improve surveillance in low air traffic density/non continental airspace	2006	Removed
AOM02	Free routes airspace in eight states airspace	2004	Removed
AOP04	Implement A-SMGCS Level 1	2004	Renamed AOP04.1
AOP06	Basic Continuous Descent Approach (BCDA) procedures	2004	Renamed ENV01
AOP07	Collaborative Environmental Management (CEM) at Airports	2004	Renamed ENV02
COM08	Management of the aviation radio spectrum	2004	Replaced by SPC01
MIS02	Implement contingency planning and procedures	2004	Removed
NAV01	Satellite-Based augmentation systems (SBAS) navigation	2004	NAV01,02 & 04
NAV02	GBAS Cat.1 based precision approach service for aviation	2004	have been replaced by
NAV04	Approach procedures using RNAV with vertical guidance	2004	NAV07,08 & 09

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ANNEX E

ACRONYMS AND ABBREVIATIONS

A

AAB	Agency Advisory Body (EUROCONTROL)
AAS	Advanced Airspace Scheme
ACAS	Airborne Collision Avoidance System
ACC	Area Control Centre
A-CDM	Airport Collaborative Decision Making
ACE	Airside Capacity Enhancement
ACH	ATC Flight Plan Change
ACL	ATC Clearance
ACM	ATC Communications Management
ACP	Accept Message
ADEXP	ATC Data Exchange Presentation
ADQ	Aeronautical Data Quality
ADR	Airspace Data Repository
ADS	Automatic Dependent Surveillance
ADS-B	Automatic Dependent Surveillance – Broadcast
ADS-C	Automatic Dependent Surveillance - Contract
AECMA	European Association of Aerospace Equipment Manufacturers
AFM	Aircraft Flight Manual
AFTN	Aeronautical Fixed Telecommunications Network
AFUAS	Advanced Flexible Use of Airspace Support Service
AGVN	ATS Ground Voice Network
AIC	Aeronautical Information Circular
AIM	Aeronautical Information Management
AIM/SWIM	Aeronautical Information Management & System Wide Information Management Team
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIRPROX	Aircraft Proximity Report
AIS	Aeronautical Information Service
AIXM	Aeronautical Information Exchange Model
AMAN	Arrival Manager
AMC	Acceptable Means of Compliance
AMC	ATC Microphone Check Service
AMC	Airspace Management Cell
AMHS	ATS Message Handling Service
ANS	Air Navigation Service
ANSP	Air Navigation Service Provider
AO	Airline Operator
AOM	Airspace Organisation and Management

AOP	Airport Operations Programme
AOT	Airport Operations Team
APL	ATC Flight Plan
APM	Approach Path Monitor
APO	Airport Operations
APP	Approach
APR BCA	Airport Operations Programme Business Case Assessment
APT	Airport
APV	Approach with Vertical Guidance
APW	Airborne Proximity Warning
ARINC	Aeronautical Radio Incorporated
ARN	ATS Route Network
ARO	ATS Reporting Offices
ASM	Airspace Management
A-SMCGS	Advanced Surface Movement Control and Guidance System
ASP	Air Navigation Service Providers
ASTERIX	All Purpose Structured EUROCONTROL Radar Information Exchange
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATFCM	Air Traffic Flow and Capacity Management
ATN	Aeronautical Telecommunications network
ATS	Air Traffic Services
ATSA	Airborne Traffic Situational Awareness
ATSA-AIRB	Air Traffic Situational Awareness Airborne
ATSAW	Air Traffic Situational Awareness
ATSMHS	ATS Message Handling Service
ATSP	Air Traffic Service Provider
ATS-QSIG	Air Traffic Services Signalling at the Q reference point
ATSU	Air Traffic Service Unit
AUP	Airspace Use Plan

B

B2B	Business to Business
BCDA	Basic Continuous Descent Approach

C

CAA	Civil Aviation Authority
CASP	Common AIS Staff Profiling
CBA	Cost Benefit Analysis
CCC	Common Core Content
CDA	Continuous Descent Approach
CDM	Collaborative Decision Making
CDN	Coordination Message
CDR	Conditional Route
CEM	Collaborative Environmental Management
CFIT	Controlled Flight Into Terrain
CHAIN	Controlled & Harmonised Aeronautical Information Network
CHMI	Collaboration Human Machine Interface

CIAM	Collaboration Interface for Airspace Management		ELFAA	European Low Fares Airline Association
CIDIN	Common ICAO Data Interchange Network		ERNIP	European Route Network Improvement Plan
CM	Configuration Management		ESAO	Environmentally Sustainable Airport Operations
CMAC	Civil-Military ATM Coordination		ESARR	EUROCONTROL Safety Regulatory Requirements
CNMF	Central Network Management Function		ESP	European Safety Programme for ATM
CNR	Management of Common Network Resources Service		ESSI	European Strategic Safety Initiative
CNS	Communications, Navigation and Surveillance		ESSIP	European Single Sky ImPlementation
COD	SSR Code Assignment		ETFMS	Enhanced Tactical Flow Management System
COF	Change of Frequency (message)		ETKR	European Tracker Service
COM	Communications		ETSI	European Telecommunications Standards Institute
CONOPS	Concept of Operations		ETSO	European Technical Standard Order
COTS	Connection-mode Transport Service		EU	European Union
CPDLC	Controller Pilot Data Link Communications		EUACA	European Union Airport Coordinators Association
CPR	Correlated Position Reports		EUROCAE	European Organisation for Civil Aviation Equipment
CRAM	Conditional Route Availability Message			

F

CS | Centralised Services

CSG | COM Steering Group

CSP | Communications Service Provider

D

DCS	Data Communications System		FAA	Federal Aviation Administration
DCT	Direct Routing		FAB	Functional Airspace Block
DDR	Demand Data Repository		FANS	Future Air Navigation Systems (ICAO)
DLIC	Data Link Initiation Capability		FAP	Future ATM Profile
DME	Distance Measuring Equipment		FAS	Flight Plan and Airport Slot Consistency Service
DMEAN	Dynamic Management of the European Airspace Network		FASTI	First ATC Support Tools Implementation
DNM	Directorate Network Management		FCM	Flow and Capacity Management
DOF	Date of Flight		FDP	Flight Data Processing
DPI	Departure Planning Information		FDPA	Flight Data Processing Area

E

EAD	European Aeronautical Database		FDPS	Flight Data Processing System
EAIMS	European ATM Information Management Service		FIS	Flight Information Services
EAMI	Electronic Airspace Management Information message		FL	Flight Level
EAPPRE	European Action Plan on the Prevention of Runway Excursion		FMS	Flight Management System
EAPPRI	European Action Plan for the Prevention of Runway Incursions		FMTP	Flight Message Transfer Protocol
EASA	European Aviation Safety Agency		FOC	Full Operational Capability
EATM	European Air Traffic Management		FOD	Foreign Object Debris
EATMN	European Air Traffic Management Network		FPL	Filed Flight Plan
EC	European Commission		FRA	Free Route Airspace
ECAA	European Common Aviation Area		FSA	First System Activation
ECAC	European Civil Aviation Conference		FUA	Flexible Use of Airspace
ECAST	European Commercial Aviation Safety Team		FUM	Flight Update Message
EGNOS	European Geostationary Navigation Overlay Service		FYROM	Former Yugoslavian Republic of Macedonia

G

EIPR	European Implementation Planning and Reporting Unit		GAT	General Air Traffic
			GBAS	Ground Based Augmentation System
			GEN	General
			GNSS	Global Navigation Satellite System
			GPS	Global Positioning System

H

HMI	Human Machine Interface
HOP	Hand-Over Proposal

HUM	Human Factors		NAV	Navigation
I			NETOPS	Network Operations Team
IAIP	Integrated Aeronautical Information Package		NIPS	Network Infrastructure Performance monitoring and analysis Service
IANS	Institute of Air Navigation Services		NM	Network Manager
IATA	International Air Transport Association		NOP	Network Operations Plan
ICAO	International Civil Aviation Organisation		NOTAM	Notice to Airmen
IDP	(Interim) Deployment Programme		NPA	Notice of Proposed Amendment
IDSG	Interim Deployment Steering Group		NPA	Non Precision Approach
IFPL	Individual Filed Flight Plan		NSA	National Supervisory Authority
IFPLID	Initial Flight Plan Identification		**O**	
IFPS	Initial Flight Plan Processing System		OAT	Operational Air Traffic
IFR	Instrument Flight Rules		OD	Outline Description
ILS	Instrument Landing System		OI	Operational improvements
IND	Aeronautics Industry		OLDI	On Line Data Interchange
INF	Information Management		OPC	Operational Communications
INT	International Organisations and Regional Bodies		**P**	
IP	Internet Protocol		PA	Precision Approach
IR	Implementing Rule		PAC	Preliminary Activation message
ISO	International Standardisation Organisation		PANS-OPS	Procedures for Air Navigation Services – Aircraft Operations
ITU	International Telecommunications Union		PBN	Performance Based Navigation
ITY	Interoperability		PC	Provisional Council
			PCP	Pilot Common Project
J			PENS	Pan-European Network Service
JAA	Joint Aviation Authority		PIATA	Performance Indicator Analysis Tool for Airports
JU	Joint undertaking		POH	Pilot's Operating Handbook
K			PRC	Performance Review Commission
KHz	Kilohertz		PRISMIL	Pan-European Repository of Information Supporting Military KPIs
KPI	Key Performance Indicator		P-RNAV	Precision RNAV
L			PSSG	PENS Service Providers
LARA	Local and Regional ASM application		**Q**	
LoA	Letter of Agreement		Qsig	Q-Reference Point Signalling
LPV	Lateral Precision with Vertical Guidance Approach		**R**	
LSSIP	Local Single Sky Implementation		RAD	Route Availability Document
M			RAIM	Receiver Autonomous Integrity Monitoring
MAS	Manual Assume of Control Message		RAP	Referred Activate Proposal message
MET	Meteorology		REG	National Regulatory Authorities/NSAs
MHz	Megahertz		RET	Rapid Exit Taxiway
MIL	Military Authorities		RF	Radio Frequency
MN	Multi-National		RJC	ReJect Coordination message
Mode S	SSR Selective Interrogation Mode		RNAV	Area Navigation
MONA	Monitoring Aids		RNDSG	Route Network Development Sub Group
MoU	Memorandum of Understanding		RNP	Required Navigation Performance
MSAW	Minimum Safe Altitude Warning		ROF	Request on Frequency
MTCD	Medium Term Conflict Detection		ROT	Runway occupancy time
MTOW	Maximum Take-Off Weight		RPL	Repetitive Flight Plan
MUAC	Maastricht Upper Area Control (Centre)		RRP	Re-routing Proposal Message
N			RRV	Referred ReVision message
N/A	Not applicable		R/T	Radio Telephony
NATO	North Atlantic Treaty Organisation			

RTCA	Requirements and Technical Concepts for Aviation

S

SAF	Safety
SAFT	Safety Management Team
SARPs	Standards and Recommended Practices (ICAO)
SBAS	Satellite Based Augmentation System
SBY	Stand-BY message
SCG	Stakeholder Consultation group
SDM	Supplementary Data Message
SES	Single European Sky
SESAR	Single European Sky ATM Research
SID	Standard Instrument Departure
SJU	SESAR Joint Undertaking
SLoA	Stakeholder Line(s) of Action
SMR	Surface Movement Radar
SMS	Safety Management System
SNOWTAM	NOTAM on Snow Conditions
SPI	Special Position Identification
SPIN	Safety Nets Performance Improvement Network
SRC	Safety Regulation Commission
SSIM	Standard Scheduling Information Manual
SSR	Secondary Surveillance Radar
STAM	Short-Term ATFCM Measures
STANLY	Statistics and Analysis
STATFOR	Statistics and Forecast
STCA	Short Term Conflict Alert
SUR	Surveillance
SWIM	System-Wide Information Management

T

TAS	Terminal Airspace
TBD	To Be Determined
TBS	Time Based Separation
TCAS	Traffic Alert and Collision Avoidance System
TCP/IP	Transmission Control Protocol / Internet Protocol
TELCO	TELephone Central Office
TGL	Temporary Guidance Leaflet
TIM	Transfer Initiation Message
TMA	Terminal Control Area
TRA	Temporary Reserved Area
TSA	Temporary Segregated Area
TWR	Tower Control Unit

U

UAC	Upper Area Control (Centre)
USE	Airspace Users
UUP	Updated Airspace Use Plan

V

VCS	Voice Communications System
VDL	VHF Digital Link
VFR	Visual Flight Rules
VHF	Very High Frequency
VNAV	Vertical Navigation
VoIP	Voice over Internet Protocol

W

WAM	Wide Area Multilateration
WP	Work Package