



European Single Sky ImPlementation

ESSIP Plan – Edition 2012



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ESSIP Plan - Edition 2012

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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 coordinate 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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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 Plan (ESSIP) is instrumental in ensuring that this perspective is duly adopted when defining the improvements required by European ATM.

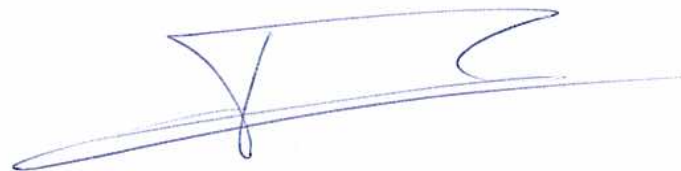
I have pleasure in confirming that the harmonised implementation of the ESSIP Plan across the ECAC area will enable the achievement of the demanding performance targets agreed within the recently adopted European performance scheme framework, **in line with the overarching European ATM Master Plan** for which it represents the detailed 'Level 3'.

Through a high-level description of the alignment process with the European ATM Master Plan, and notably through its mapping between the Operational Improvements (OI) steps and the **ESSIP objectives**, Edition 2012 of the ESSIP Plan provides a truly comprehensive view of the European implementation roadmap for the Single Sky.

This new edition of the ESSIP Plan includes a detailed description of all '**Active**' **objectives** (those for which implementation actions at local level need to take place), as endorsed by the Provisional Council of EUROCONTROL. This gives me the opportunity to highlight that these actions form together the crucial elements of the common European implementation plan to which all stakeholders, such as Airspace Users, National Administrations, Military Authorities, Air Navigation Service Providers and Airport Authorities have committed themselves to adhere.

The ESSIP Plan – Edition 2012 has been developed following an exercise of gap analysis against the full set of 66 OI Steps defined in the SESAR Deployment Baseline. In confirmation to the endeavour of mapping the European ATM Master Plan, the number of ESSIP objectives directly related to it or developed on the basis of existing Single European Sky legislation has consistently grown in the past years, with, for the current Edition 2012, about 85% of the objectives now being labelled either as 'SES' or 'SESAR' objectives. I see this evolution as the sign of a planning being consistently streamlined at the European level towards the efficient achievement of the Single Sky.

Finally, as a result of this approach, together with the consultation of stakeholders via the EUROCONTROL working arrangements, it can be considered that the ESSIP Plan – Edition 2012 does take 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. This alignment means that the ESSIP/LSSIP process and its deliverables (ESSIP Plan, LSSIP Documents, and ESSIP Report) can be used to monitor the progress of **implementation of the SESAR Deployment Baseline**. This is another positive evolution which I warmly welcome since it brings a key contribution to the efficient implementation of the Single European Sky.



Luc Tytgat
Director of Directorate Single Sky, EUROCONTROL

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ESSIP Plan

Edition 2012

▼ GEOGRAPHICAL AREA

41

STATES

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

▼ COMMITMENT FOR IMPLEMENTATION

46

'ACTIVE'
OBJECTIVES

- **10** SES RELATED OBJECTIVES
- **30** SESAR OBJECTIVES
- **6** ECIP OBJECTIVES

▼ DOMAINS (No of objectives)

13

ATM AREAS

- | | | |
|-----------|-----------|-----------|
| ■ AOM (3) | ■ FCM (2) | ■ NAV (2) |
| ■ AOP (7) | ■ GEN (1) | ■ SAF (3) |
| ■ ATC (9) | ■ HUM (3) | ■ SRC (5) |
| ■ COM (3) | ■ INF (1) | |
| ■ ENV (2) | ■ ITY (5) | |

▼ STAKEHOLDERS

1

PLAN FOR ALL

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

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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, leads to the need to apply 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 and to decide which elements are mature for actual 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 part of the SESAR WP C.02 in order 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 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 two years, the ESSIP Plan and ESSIP Report represent the 'Level 3' - Implementation view of the European ATM Master Plan (see [Figure 1](#) below). This lower level of the European ATM Master Plan contains the elements which have reached a necessary level of maturity to be included in the Deployment Baseline. All these elements are linked to ESSIP "Implementation Objectives" included in the ESSIP Plan document.

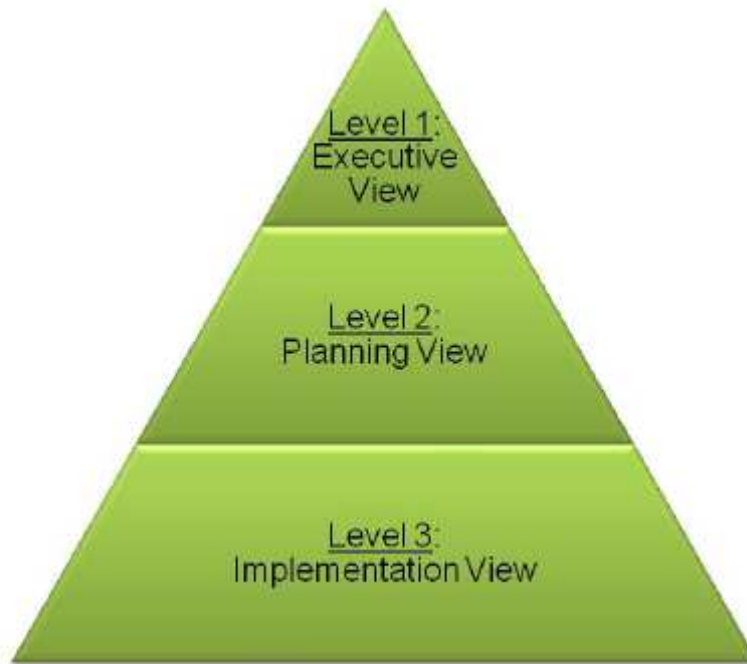


Figure 1: European ATM Master Plan

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).

The IDSG is developing an Interim Deployment Programme that will be derived from and kept consistent with the ESSIP Plan, level 3 of the European ATM Master Plan, and will address the implementation activities in support to short term deployment priorities.

Building mainly on the ESSIP objectives related to essential operational changes, the Deployment Programme will define and organise common implementation projects that address and are aligned with SESAR key features.

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, from the next cycle (ESSIP Plan edition 2013), specific Stakeholder Lines of Action (SLoAs) will be developed to address elements of the Network Strategy Plan¹, which is part of this wider change process driven through the Master Plan.

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.

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 2012 contains 46 'Active' objectives² having Full Operational Capability (FOC) dates spanning over the next eight years, with most of the planning activity focussed on the next five years ahead. To note that for five ESSIP objectives, the FOC date is shown as N/A. They refer to Interoperability (ITY) objectives, which have multiple dates for accomplishing their SLoAs, as indicated by the relevant EU Regulations of reference (Figure 2).

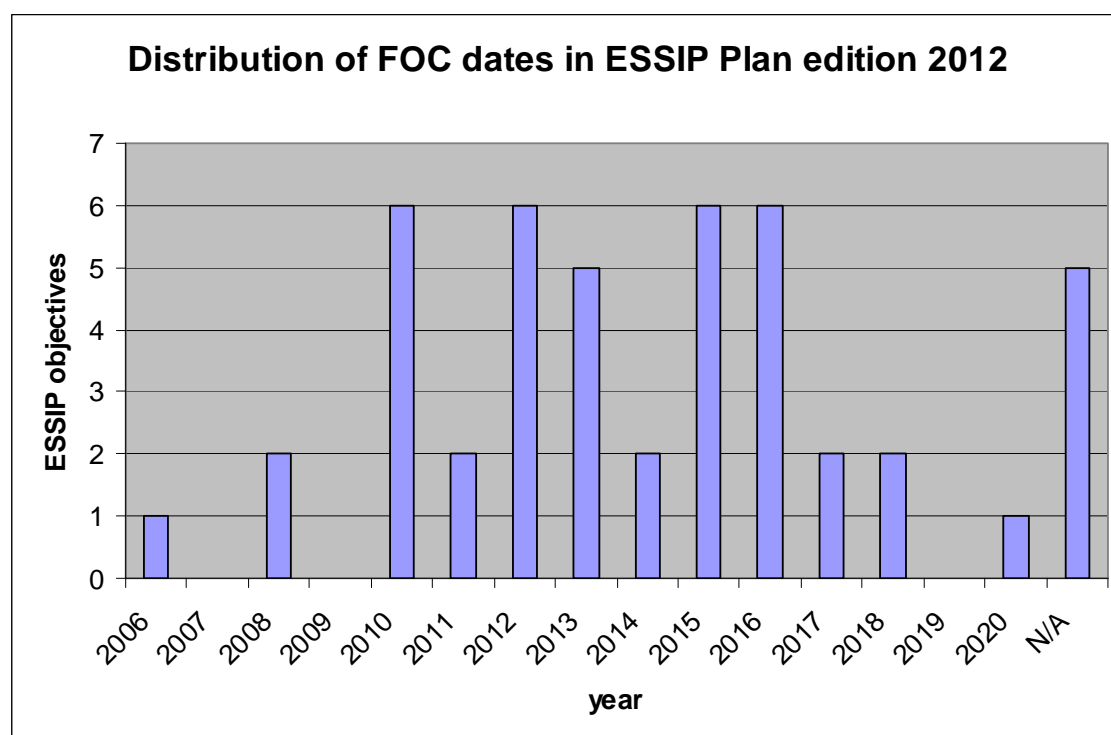


Figure 2: Distribution of Full Operational Capability dates

THE ESSIP PLAN EDITION 2012 DEVELOPMENT

The ESSIP Plan Edition 2012 development was done through a robust process involving a wide range of Stakeholders. [Figure 3](#) represents the development process.

² The ESSIP Plan Edition 2012 contains 5 SRC objectives which used to be applicable to all ECAC States. As requested by some States, and from this edition of the ESSIP Plan, these objectives have been re-scoped to be only applicable to non-EU ECAC States not signatory of the European Common Aviation Area Agreement (see also Annex A of this document).

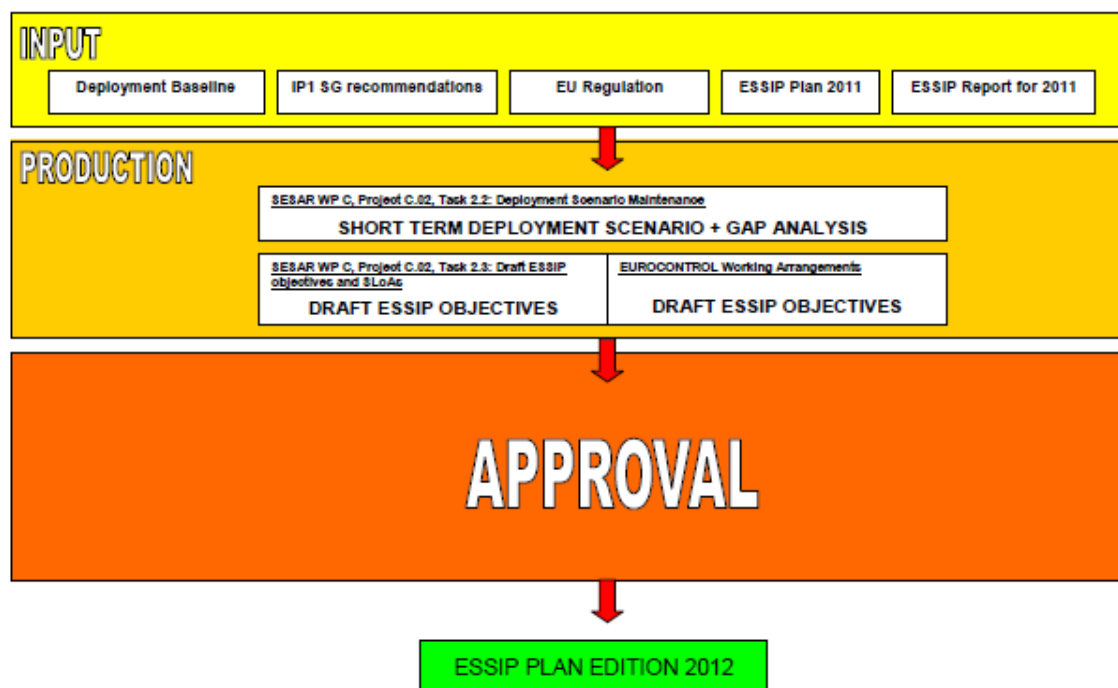


Figure 3: The ESSIP Plan Edition 2012 development

The main inputs for the ESSIP Plan Edition 2012 development were SESAR Deployment Baseline elements (extracted from the level 2 of the draft Edition 2 of the European ATM Master Plan), EU Regulation, recommendations of the IP1 Steering Group and the ESSIP Report for 2011. The development process always starts from the last year's version of the ESSIP Plan (for this document, the ESSIP Plan Edition 2011).

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 Level 3 of the European ATM Master Plan, this was done by a specific task (Task 2.2) of SESAR project C.02 in support to the European ATM Master Plan Maintenance. This task provided the list of priorities defined in the Short Term Deployment Scenario, which focused the work of the gap analysis. The ESSIP outline descriptions, when necessary, were then developed into new or changed ESSIP implementation objectives also within SESAR project C.02 (by Task 2.3) with the contribution of SESAR partners, and involving EUROCONTROL working arrangements. The outcome of this work consisted of new draft ESSIP objectives and proposed changes to existing ESSIP objectives. This was an input to the approval phase of the ESSIP Plan.

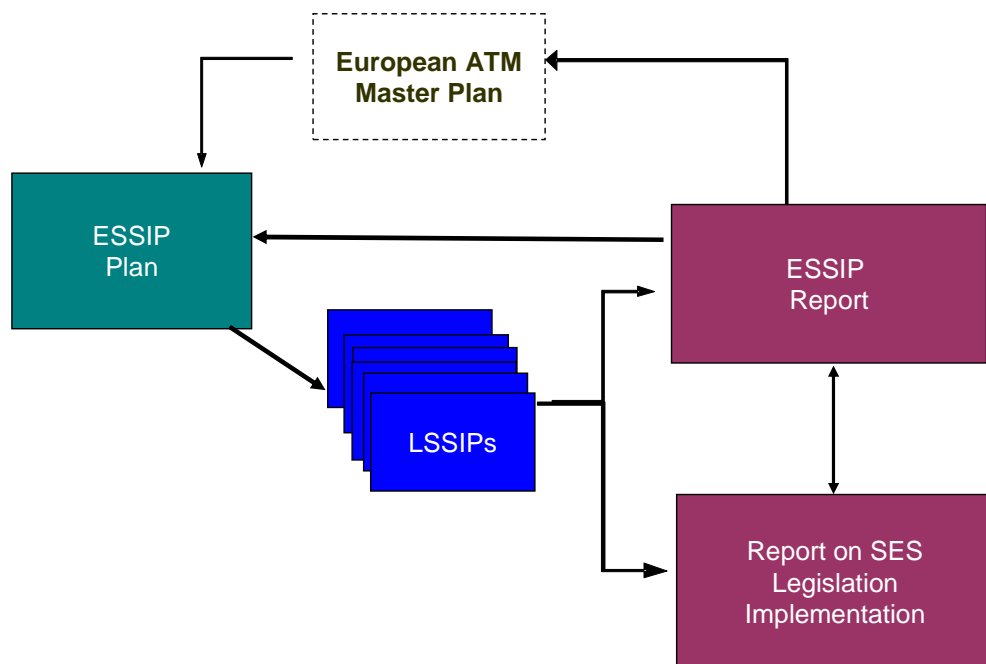
This document has been approved by the Provisional Council of EUROCONTROL and accepted by the SESAR JU Administrative Board as part of the European ATM Master Plan update.

Note: Before the publication of the 2013 Edition, subsequent changes to this 2012 Edition document (derived from e.g. the evolution of the Interim Deployment Programme or the hyperlinks included in Part III "Active Implementation Objectives") will be disseminated through addendums available on the EUROCONTROL web-site at the address: <http://www.eurocontrol.int/articles/endorsed-essip-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 documents (LSSIP) 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.



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 Table 1 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 2011

Annex B includes a single list of airports, which participate in a certain implementation objective. The list consists of 72 airports out of which 54 airports were defined in the initial IP1 Deployment Criteria for Airports and Aerodrome ATC ('APT' – related list of airports) while other 18 airports subscribed themselves individually to a given 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
- ECIP objectives (legacy objectives which are gradually transformed into either a SES or SESAR type – this process is almost complete).

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

AOP = Airport Operations

ATC = Air Traffic Control

COM = Communications

ENV = Environment

FCM = Flow and Capacity Management

GEN = General

HUM = Human Factors

INF = Information Management

ITY = Interoperability

NAV = Navigation

SAF = Safety Management

SRC = Safety Regulation

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 four 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	<p>Indicates stakeholders for which the respective objective is applicable. The following groups of stakeholders are represented:</p> <ul style="list-style-type: none"> • 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 (including NMN – Network MaNager) <p>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.:</p>

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

Scope	<p>Varies according to the strategic aim being met and the nature of the objectives:</p> <p>The colour-coding used both in ESSIP Plan and ESSIP Report to identify the scope of each individual objective, is as follows:</p>
--------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

ECAC or PE	<p>'ECAC' - European Civil Aviation Conference (for SES and SESAR objectives)</p> <p>'PE' - Pan-European (for 'ECIP' objectives)</p> <p>Objective to be applied in all ECAC States (e.g.: AOM20 Implement ATS Route Network ARN Version 7) within a common time scale (i.e.: the same date or a commonly agreed and coordinated completion by a common target date). In some instances the mandate is limited to EUROCONTROL Member States. Then it is specified in the Applicability area entry.</p>
EU+	<p>'EU+' – European Union extended to other States</p> <p>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, Croatia, FYROM, Georgia, Montenegro and Serbia .</p>
Multi-N or MN	<p>'Multi-N' – Multi-National (for SES and SESAR objectives)</p> <p>'MN' – Multi-National (for 'ECIP' objectives)</p> <p>Objective to be applied in some ECAC States (e.g.: SAF10 Implement measures to reduce the risk to aircraft operations caused by airspace infringements) within a common time scale (i.e.: the same date or a commonly agreed and coordinated completion by a common target date).</p>
APT	<p>'APT'- Airport</p> <p>Airport related ESSIP objective. Scope introduced in the ESSIP cycle 2011-2015, it applies to all existing AOP and ENV objectives. Introduction of this scope is a result of the creation of the IP1 Deployment Criteria for Airports and Aerodrome ATC. (See Annex B for full list of the airports).</p>

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 ECIP 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,

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/YYYYY):

- 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:

- ABCXY** is the designator of the implementation objective associated with the SLoA (see above)
- ZZZ** is the acronym of the stakeholder involved
- 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, PE, EU+, APT, MN 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	State authorities, including Military 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 (NSA).
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 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, RTCA, 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 or EUROCAE.
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	<p>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.</p> <p>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.</p>
Finalisation criteria	<p>Statements as evidence that the SLoA is finalised, specified in such a way that its progress can be monitored and reported.</p> <p>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.</p>
	SLoA is also applicable to subscribing military authorities

OVERVIEW

OVERVIEW OF THE ESSIP PLAN - EDITION 2012

European ATM Master Plan Relationship	ESSIP PLAN EDITION 2012 - OVERVIEW ACTIVE IMPLEMENTATION OBJECTIVES																	
	SES				SESAR				ECIP									
	ECAC	EU+	Multi-N	APT	ECAC	EU+	Multi-N	APT	PE	MN	H							
Depl.Baseline OI Steps related		ITY-ADQ			AOM13.1			AOP01.2	FCM03									
		ITY-AGDL			AOM19			AOP03										
		ITY-COTR			AOM20			AOP04.1										
		ATC02.2			AOP04.2													
		ATC02.5			AOP05													
		ATC02.6			AOP08													
		ATC02.7			AOP09													
		ATC07.1			ENV01													
		ATC12			ENV02													
		ATC15																
		ATC17																
		COM10																
		INF04																
		NAV03																
		NAV10																
		Enablers related						ITY-FMTP						ATC16				
					COM09													
COM11																		
HUM01.1																		
HUM02.1																		
HUM03.1																		
Non Depl.Baseline related		ITY-SPI	SRC-AUDI					FCM01	SAF10									
			SRC-CHNG					GEN01										
			SRC-OVCA					SAF04										
			SRC-RMLK					SAF05										
			SRC-SLRD															

Table 1: Overview of ESSIP Plan - Edition 2012

LIST OF ACTIVE OBJECTIVES PER TYPE – IDSG PRIORITIES

Table 2: Active ESSIP objectives sorted by type (SES, SESAR, and ECIP)

Objective Type	IDSG (*)	Objective Designator	Objective title	Page No.
SES (10)		ITY-ADQ	Ensure quality of aeronautical data and aeronautical information	169
	P	ITY-AGDL	Initial ATC air-ground data link services above FL-285	181
	P	ITY-COTR	Implementation of ground-ground automated co-ordination processes	187
		ITY-FMTP	Apply a common flight message transfer protocol (FMTP)	195
		ITY-SPI	Surveillance performance and interoperability	199
		SRC-AUDI	Implementation of Safety Regulatory Auditing by National Supervisory Authorities (NSA)	227
		SRC-CHNG	Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities (NSA)	231
		SRC-OVCA	Implementation of ATM Oversight Capabilities by NSAs	235
		SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)	239
		SRC-SLRD	Safety Levels and Resolution of Deficiencies	247
SESAR (30)	P	AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling	29
	P	AOM19	Implement Advanced Airspace Management	33
	P	AOM20	Implement ATS Route Network (ARN) - Version 7	39
		AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual	43
		AOP03	Improve runway safety by preventing runway incursions	47
		AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level I	53
		AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2	63
	P	AOP05	Implement airport Collaborative Decision Making (CDM)	69
		AOP08	Implement Airport Airside Capacity Planning Method	79
		AOP09	Implement Optimised Dependent Parallel Operations	83
		ATC02.2	Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2	91
		ATC02.5	Implement ground based safety nets - Area Proximity Warning - level 2	95
		ATC02.6	Implement ground based safety nets - Minimum Safe Altitude Warning - level 2	97
		ATC02.7	Implement ground based safety nets - Approach Path Monitor - level 2	99
		ATC07.1	Implement arrival management tools	101
		ATC12	Implement automated support for conflict detection and conformance monitoring	103
	P	ATC15	Implement, in En Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations	107
		ATC16	Implement ACAS II compliant with TCAS II change 7.1	111
		ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer	117
	P	COM09	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)	121
		COM10	Migrate from AFTN (Aeronautical Fixed Telecommunication Network) to AMHS (ATS Message Handling System)	125
		COM11	Implementation of Voice over Internet Protocol (IP) in ATM	131
	P	ENV01	Implement Continuous Descent Approach (CDA) techniques for environmental improvements	135
		ENV02	Implement Collaborative Environmental Management (CEM) at Airports	139
		HUM01.1	Ensure timely availability of Air Traffic Controllers	155
		HUM02.1	Integrate Human Factors into ATM Operations	159
		HUM03.1	Integrate Human Factors into the lifecycle of ATM systems	163
		INF04	Implement integrated briefing	167
	P	NAV03	Implementation of Precision Area Navigation RNAV (P-RNAV)	207
	P	NAV10	Implement Approach Procedures with Vertical Guidance (APV)	211
ECIP (6)		FCM01	Implement enhanced tactical flow management services	143
	P	FCM03	Implement collaborative flight planning	147
		GEN01	Implement European ANS contingency measures for Safety Critical Modes of Operation	151
		SAF04	Implement measures to reduce the risk of level bust occurrences	215
		SAF05	Implement measures to prevent air/ground communications induced safety occurrences	219
		SAF10	Implement measures to reduce the risk to aircraft operations caused by airspace infringements	223

(*): ESSIP objectives initially identified as core priority items by IDSG for possible inclusion in the draft Interim Deployment Programme (IDP). The final IDP is planned to be approved by the Single Sky Committee in October 2012. If necessary this table will be updated accordingly.

PART II
Mapping
European ATM Master Plan (Level 2)
with
ESSIP Plan - Edition 2012 (Level 3)

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MAPPING THE EUROPEAN ATM MASTER PLAN LEVEL 2 WITH THE ESSIP PLAN - EDITION 2012

This part of the document provides the full picture on current coverage of the elements of European ATM Master Plan (Level 2) in ESSIP Plan - Edition 2012.

Table 3 shows a one-to-one relationship between the Deployment Baseline OI steps as in Dataset 7 of the European ATM Master Plan Portal, supporting the May/June 2012 draft for consultation of the 2nd Edition of the European ATM Master Plan, and ESSIP implementation objectives or Outline Descriptions. For the OI steps where neither ESSIP implementation objective nor Outline description currently exists, explanations are included.

It also indicates for each OI step if there is a proposal given by Task 2.2 “Short-Term Deployment Scenario Maintenance”. of SESAR project C.02 to the Master Plan Update Campaign to review or reassess an OI step.

Table 3 shows that, of the 66 OI steps currently being part of the Deployment Baseline, 43 of them are covered (fully or partly) by ‘Active’ ESSIP objectives. Another 7 have an Outline description associated to them. For the remaining ones, the analyses carried out in the context of Project C.02 have indicated that an ESSIP objective would either be premature or not necessary. Some of these will be re-assessed in preparing the next edition of the Plan.

The mapping of some OI steps to ESSIP objectives could not be confirmed by Task 2.2 when preparing the ESSIP Plan edition 2012. These elements are identified with an asterisk (*) and will be subject to specific analysis in preparation of the ESSIP Plan ed. 2013.

Finally, those OI steps indicated as ‘Priority’ by Task 2.2 have also been identified.

Table 4 shows those enablers in the Deployment Baseline that are specifically covered by an ESSIP implementation objective (i.e. relationship enabler – ESSIP objective instead of OI step – ESSIP objective).

In addition to coverage of OI steps and enablers in the Deployment Baseline there are a number of ESSIP implementation objectives that address Step 1 enablers. They are presented in Table 5.

Table 6 addresses ‘Human factors’ enablers covered in the ESSIP Plan.

Six ESSIP objectives are related to SES legislation, with no direct link to Eur. ATM Master Plan elements. This is shown in Table 7.

Finally, the group of five 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 8.

Table 3: Deployment Baseline OI steps versus ESSIP

Item No.	European ATM Master Plan update - May 2012		
	Deployment Baseline OI step		
	Code	Title	Priorities
1	AO-0101	Reduced Risk of Runway Incursions through Improved Procedures and Best Practices on the Ground	-
2	AO-0102	Automated Alerting of Controller in Case of Runway Incursion or Intrusion into Restricted Areas	-
3	AO-0201	Enhanced Ground Controller Situational Awareness in all Weather Conditions	■
4	AO-0202	Detection of FOD (Foreign Object Debris) on the Airport Surface	-
5	AO-0301	Crosswind Reduced Separations for Departures and Arrivals	-
6	AO-0302	Time Based Separation for Final Approach	-
7	AO-0305	Additional Rapid Exit Taxiways (RET) and Entries	-
8	AO-0403	Optimised Dependent Parallel Operations	■
9	AO-0501	Improved Operations in Adverse Conditions through Airport Collaborative Decision Making	■
10	AO-0502	Improved Operations in Low Visibility Conditions	-
11	AO-0601	Improved Turn-Round Process through Collaborative Decision Making	■
12	AO-0602	Collaborative Pre-departure Sequencing	■
13	AO-0603	Improved De-icing Operation through Collaborative Decision Making	■
14	AO-0703	Aircraft Environmental Impact Management and Mitigation at and around Airports	-
15	AO-0705	Reduced Water Pollution	-
16	AO-0706	(Local) Monitoring of Environmental Performance	-
17	AOM-0101	Uniform Application of 7 ICAO Airspace Classes at FL195 and below	-
18	AOM-0201	Moving Airspace Management Into Day of Operation	-
19	AOM-0202	Enhanced Real-time Civil-Military Coordination of Airspace Utilisation	■
20	AOM-0203	Cross-Border Operations Facilitated through Collaborative Airspace Planning with Neighbours	■
21	AOM-0205	Modular Temporary Airspace Structures and Reserved Areas	■

ESSIP Plan - Edition 2012		
ESSIP objective covering Deployment Baseline OI steps		
Designator	Title	Full Ops. Capab. date
AOP03	Improve runway safety by preventing runway incursions	2013
AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level2	2017
AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level I	2011
None	No ESSIP objective required - SESAR Project C0.2 Report to SCG16 (ESSIP Plan ed. 2011)	
OD AO-0301	Outline description	-
OD AO-0302	Outline description	-
AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual	2013
AOP09	Implement Optimised Dependent Parallel Operations	2015
AOP05	Implement airport Collaborative Decision Making (CDM)	2016
None	Not assessed by Task 2.2 for edition 2012. as not in the priority list.	
AOP05	Implement airport Collaborative Decision Making (CDM)	2016
AOP05	Implement airport Collaborative Decision Making (CDM)	2016
AOP05	Implement airport Collaborative Decision Making (CDM)	2016
ENV02	Implement Collaborative Environmental Management (CEM) at Airports	2015
ENV02	Implement Collaborative Environmental Management (CEM) at Airports	2015
ENV02	Implement Collaborative Environmental Management (CEM) at Airports	2015
None	Not assessed by Task 2.2 for edition 2012. as not in the priority list.	
AOM19	Implement Advanced Airspace Management	2015
AOM19	Implement Advanced Airspace Management	2015
COM10	Migrate from AFTN to AMHS	2014
None	Information available to Task 2.2 not consistent: not possible to develop an Outline description for edition 2012	
AOM20	Implement ATS Route Network (ARN) – Version 7	2013
AOM19	Implement Advanced Airspace Management	2015

Item No.	European ATM Master Plan update - May 2012		
	Deployment Baseline OI step		
	Code	Title	Priorities
22	AOM-0301	Harmonised EUROCONTROL ECAC Area Rules for OAT-IFR and GAT Interface	-
23	AOM-0401	Multiple Route Options & Airspace Organisation Scenarios	■
24	AOM-0402	Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routeing Options	-
25	AOM-0504	Optimum Trajectories in Defined Airspaces at Particular Times	■
26	AOM-0601	Terminal Airspace Organisation Adapted through Use of Best Practice	■
27	AOM-0602a	Enhanced terminal operations with APV using Barometric VNAV	■
28	AOM-0602b	Enhanced terminal operations with LPV using SBAS	■
29	AOM-0701	Continuous Descent Approach (CDA)	-
30	AOM-0703	Continuous Climb Departure	■
31	AOM-0801	Flexible Sectorisation Management	■
32	AOM-0802	Modular Sectorisation Adapted to Variations in Traffic Flows	■
33	AUO-0101	ATFM Slot Swapping	-
34	AUO-0201	Enhanced Flight Plan Filing Facilitation	-
35	AUO-0301	Voice Controller-Pilot Communications (En Route) Complemented by Data Link	■
36	AUO-0401	Air Traffic Situational Awareness (ATSAW) on the Airport Surface	-
37	AUO-0402	Air Traffic Situational Awareness (ATSAW) during Flight Operations AIRB	-
38	AUO-0502	Enhanced Visual Separation on Approach (ATSA-VSA)	-
39	AUO-0503	In-trail Procedure in Oceanic Airspace (ATSA-ITP)	-
40	AUO-0701	Use of Runway Occupancy Time (ROT) Reduction Techniques	-

ESSIP Plan - Edition 2012		
ESSIP objective covering Deployment Baseline OI steps		
Designator	Title	Full Ops. Capab. date
AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling	2018
AOM20	Implement ATS Route Network (ARN) – Version 7	2013
AOM19	Implement Advanced Airspace Management	2015
AOM20	Implement ATS Route Network (ARN) – Version 7	2013
AOM20	Implement ATS Route Network (ARN) – Version 7	2013
NAV03	Implementation of Precision Area Navigation RNAV (P-RNAV)	2012
AOM19	Implement Advanced Airspace Management	2015
NAV10	Implement Approach Procedures with Vertical Guidance (APV)	2016
NAV10	Implement Approach Procedures with Vertical Guidance (APV)	2016
ENV01	Implement Continuous Descent Approach (CDA) techniques for environmental improvements	2013
OD AOM-0703	Outline Description	-
AOM20*	Implement ATS Route Network (ARN) – Version 7	2013
AOM19*	Implement Advanced Airspace Management	2015
AOM20*	Implement ATS Route Network (ARN) – Version 7	2013
None	Already implemented; NM day to day operations - SJU WP C0.2 Report to SCG16	
None	Not assessed by Task 2.2 for edition 2012. as not in the priority list.	
ITY-AGDL	Initial ATC air-ground data link services above FL-285	2009 to 2015
None	Not assessed by Task 2.2 for edition 2012. as not in the priority list.	
None	Not assessed by Task 2.2 for edition 2012. as not in the priority list.	
None	Not assessed by Task 2.2 for edition 2012. as not in the priority list.	
None	No ESSIP objective required - SESAR Project C0.2 Report to SCG16 (ESSIP Plan ed. 2011)	
AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual	2013

Item No.	European ATM Master Plan update - May 2012		
	Deployment Baseline OI step		
	Code	Title	Priorities
41	CM-0101	Automated Support for Traffic Load (Density) Management	-
42	CM-0201	Automated Assistance to Controller for Seamless Coordination, Transfer and Dialogue	■
43	CM-0202	Automated Assistance to ATC Planning for Preventing Conflicts in En Route Airspace	■
44	CM-0203	Automated Flight Conformance Monitoring	■
45	CM-0801	Ground Based Safety Nets (TMA, En Route)	■
46	CM-0803	Enhanced ACAS through Use of Autopilot or Flight Director	-
47	DCB-0101	Enhanced Seasonal NOP Elaboration	-
48	DCB-0102	Interactive Rolling NOP	■
49	DCB-0201	Interactive Network Capacity Planning	■
50	DCB-0203	Enhanced ASM/ATFCM Coordinated Process	■
51	DCB-0204	ATFCM Scenarios	■
52	DCB-0205	Short Term ATFCM Measures	■
53	DCB-0206	Coordinated Network Management Operations Extended Within Day of Operation	-
54	DCB-0207	Management of Critical Events	■
55	DCB-0301	Improved Consistency between Airport Slots and Flight Plans	■
56	DCB-0302	Collaborative Management of Flight Updates	■
57	IS-0101	Improved Flight Plan Consistency Pre-Departure	■
58	IS-0102	Improved Management of Flight Plan After Departure	■
59	IS-0201	Integrated Pre-Flight Briefing	-

ESSIP Plan - Edition 2012		
ESSIP objective covering Deployment Baseline OI steps		
Designator	Title	Full Ops. Capab. date
None	No ESSIP objective required - SESAR Project C0.2 Report to SCG16 (ESSIP Plan ed. 2011)	
ITY-COTR	Implementation of ground-ground automated co-ordination processes	2006 to 2015
ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer	2018
ATC12	Implement automated support for conflict detection and conformance monitoring	2016
ATC12	Implement automated support for conflict detection and conformance monitoring	2016
ATC02.2	Implement ground based safety nets – Short Term Conflict Alert (STCA) - level 2	2013
ATC02.5	Implement ground based safety nets - Area Proximity Warning - level 2	2016
ATC02.6	Implement ground based safety nets - Minimum Safe Altitude Warning - level 2	2016
ATC02.7	Implement ground based safety nets - Approach Path Monitor - level 2	2016
ATC16	Implement ACAS II compliant with TCAS II change 7.1	2015
None	No ESSIP objective required - SESAR Project C0.2 Report to SCG16 (ESSIP Plan ed. 2011)	
OD DCB-0102	Outline Description	-
AOP08*	Implement Airport Airside Capacity Planning Method	2015
AOM19	Implement Advanced Airspace Management	2015
AOM20	Implement ATS Route Network (ARN) - Version 7	2013
None	Information available to Task 2.2 not consistent: not possible to develop an Outline description for edition 2012	
OD DCB-0205	Outline Description	-
None	No ESSIP objective required – SESAR Project C0.2 Report to SCG16 (ESSIP Plan ed. 2011)	
OD DCB-0207	Outline Description	-
OD DCB-0207	Outline Description	-
AOP05	Implement airport Collaborative Decision Making (CDM)	2016
FCM03	Implement collaborative flight planning	2012
FCM03	Implement collaborative flight planning	2012
FCM03	Implement collaborative flight planning	2012
INF04	Implement integrated briefing	2012

Item No.	European ATM Master Plan update - May 2012		
	Deployment Baseline OI step		
	Code	Title	Priorities
60	IS-0202	Improved Supply Chain for Aeronautical Data through Common Quality Measures	-
61	IS-0204	Facilitated Aeronautical Data Exchanges through Digitalised Information	■
62	IS-0401	Automatic Terminal Information Service Provision through Use of Datalink	-
63	SDM-0101	Network Performance Assessment	■
64	SDM-0102	Civil-Military Cooperation Performance Assessment	-
65	TS-0102	Arrival Management Supporting TMA Improvements (incl. CDA, P-RNAV)	■
66	TS-0305	Arrival Management Extended to En Route Airspace	■

ESSIP Plan - Edition 2012		
ESSIP objective covering Deployment Baseline OI steps		
Designator	Title	Full Ops. Capab. date
ITY-ADQ	Ensure quality of aeronautical data and aeronautical information	2017
ITY-ADQ	Ensure quality of aeronautical data and aeronautical information	2017
None	No ESSIP objective required - SESAR Project C0.2 Report to SCG16 (ESSIP Plan ed. 2011)	
AOM20*	Implement ATS Route Network (ARN) - Version 7	2013
None	No ESSIP objective required - SESAR Project C0.2 Report to SCG16 (ESSIP Plan ed. 2011)	
ATC07.1	Implement Arrival Management Tools	2015
ATC15	Implement, in En Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations	2017

Table 4: Deployment Baseline enablers covered specifically by ESSIP objectives

Item No	European ATM Master Plan update - May 2012		
	IP1 Enabler with ESSIP objective		
	Code	Title	IOC
1	CTE-C10	AMH	2003
2	CTE-C11a	PENS	2009
3	ER APP ATC 128	Introduce Basic AMAN	-

ESSIP Plan - Edition 2012		
ESSIP objective covering an Enabler		
Designator	Title	Full Ops. Capab. date
COM10	Migrate from AFTN (Aeronautical Fixed Telecommunication Network) to AMHS (ATS Message Handling System)	2014
COM09	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)	2014
ATC07.1	Implement Arrival Management Tools	2015

Table 5: Step 1 enablers specifically addressed by ESSIP objectives

Item No	European ATM Master Plan update - May 2012			ESSIP Plan - Edition 2012		
	IP2 Enabler with ESSIP objective			ESSIP Initiative directly addressing an Enabler		
	Code	Title	IOC	Designator	Title	Full Ops. Capab. date
1	CTE-C8	VoIP for ground telephony	2013	COM11	Implementation of Voice over Internet Protocol (IP) in ATM	2020
2	CTE-C9	VoIP for ground segment of Air-Ground voice	2013	COM11	Implementation of Voice over Internet Protocol (IP) in ATM	2020
3	CTE-C11b	Ground IP network	2017	ITY-FMTP	Apply a common flight message transfer protocol (FMTP)	2007 to 2014

Table 6: 'Human factors' enablers specifically addressed by ESSIP objectives

Item No	European ATM Master Plan update - May 2012			ESSIP Plan - Edition 2012		
	IP2 Enabler with ESSIP objective			ESSIP Initiative directly addressing an Enabler		
	Code	Title	IOC	Designator	Title	Full Ops. Capab. date
1	HUM171-01	Competence requirements of affected groups of staff	-	HUM03.1	Integrate Human Factors into the lifecycle of ATM systems	2012
2	HUM171-02	Adaptation of procedures (nominal and non-nominal situations)	-			
3	HUM171-03	Acceptable task demand and complexity	-			
4	HUM171-06	Usable and acceptable Human Machine Interaction	-			
5	HUM171-07	Optimised automation support (nominal and non-nominal situations)	-	HUM02.1	Integrate Human Factors into ATM Operations	2012
6	HUM171-04	Manage changes in team interaction	-			
7	HUM171-05	Manage human performance consequences of changes in communication	-	HUM01.1	Ensure timely availability of Air Traffic Controllers	2012
8	HUM172-05	Recruitment and selection	-			
9	HUM172-06	Staffing	-			







Table 7: ESSIP objectives related to SES legislation but not related to European ATM Master Plan elements

Item No	ESSIP Plan - Edition 2012			SES Legislation		
	ESSIP objective not related to E ATM MP element			EC Regulation addressing ESSIP objective		
	Designator	Title	Full Ops. Capab. date	Category	Reference	Subject
1	ITY-SPI	Surveillance Performance and Interoperability	2010	IR	(EU) 1207/2011	Interoperability Regulation
2	SRC-AUDI	Implementation of Safety Regulatory Auditing by National Supervisory Authorities (NSA)	2010	IR	(EC) 1315/2007	Safety Oversight in ATM
3	SRC-CHNG	Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities (NSA)	2010	IR	(EC) 1315/2007	Safety Oversight in ATM
4	SRC-OVCA	Implementation of ATM Oversight Capabilities by NSAs	2010	IR	(EC) 1315/2007	Safety Oversight in ATM
5	SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)	2010	IR	(EC) 1315/2007	Safety Oversight in ATM
6	SRC-SLRD	Safety Levels and Resolution of Deficiencies	2010	IR	(EC) 1315/2007	Safety Oversight in ATM

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

Item No	ESSIP Plan - Edition 2012			SES Legislation or Eur. ATM Master Plan		
	ESSIP objective not related to E ATM MP element					
	Designator	Title	Full Ops. Capab. date	Category	Reference	Subject
1	FCM01	Enhanced tactical flow management services	2006	-	-	-
2	GEN01	Implement European ANS contingency measures for Safety Critical Modes of Operation	2008	-	-	-
3	SAF04	Implement measures to reduce the risk of level bust occurrences	2008	-	-	-
4	SAF05	Implement measures to prevent air/ground communications induced safety occurrences	2010	-	-	-
5	SAF10	Measures to reduce the risk caused by airspace infringements	2011	-	-	-

Legend :

	'ECAC' or 'Pan European' objective		'Multi-National' objective		Outline description		'EU+' objective		'APT' Airports objective
	An OI step indicated as Priority in the SESAR WP C/ Project C02, Task 2.2 "Short-Term Deployment Scenario Maintenance".								

* Legacy relationship not analysed by Task 2.2. To be reassessed for the ESSIP Plan ed 2013 exercise.

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PART III

ACTIVE IMPLEMENTATION OBJECTIVES

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SESAR	Active					ECAC
AOM13.1	Harmonize 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.

Harmonization 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 separate rules and procedures (OAT);
- Defining common 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.
- Harmonization of military aeronautical information in Europe through European Aeronautical Service (EAD).

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2012
Full operational capability: 12/2018

References

European ATM Master Plan relationship

Ol 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)
COMMISSION 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

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
AOM13.1-REG01	Revise national legislation as required	01/2012	12/2018	▲
AOM13.1-ASP01	Apply common principles, rules and procedures for OAT handling and OAT/GAT interface	01/2012	12/2018	▲
AOM13.1-ASP02	Train staff as necessary	01/2012	12/2018	▲
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		▲

▲ Applicable to the military.

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

AOM13.1	Harmonize Operational Air Traffic (OAT) and General Air Traffic (GAT) handling
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Consultation & Approval

<u>Working arrangement in charge:</u>	NETOPS
<u>Outline description approved in:</u>	-
<u>Latest objective review at expert level in:</u>	04/2012
<u>Commitment decision body:</u>	Provisional Council (PC)
<u>Objective approved/endorsed in:</u>	07/2010
<u>Latest change to objective approved/endorsed in:</u>	07/2012

Expected performance benefits

<u>Safety :</u>	Less chance of error through the use of common rules and procedures for OAT handling and for OAT/GAT interface.
<u>Capacity :</u>	Potential increase through the use of common rules and procedures for OAT handling and for OAT/GAT interface.
<u>Cost-effectiveness :</u>	Improved through increased efficiency of operations.
<u>Environment :</u>	Improved through better use of airspace resources.
<u>Security :</u>	N/A

Detailed SloA descriptions

AOM13.1-REG01	Revise national legislation as required	Start:01/2012	Finish:12/2018
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<u>Action by :</u>	National Regulatory Authorities
<u>Description & purpose :</u>	<p>Enact regulatory material for implementation of new principles, rules and procedures for OAT/GAT handling in a mixed environment.</p> <p>Perform conformance analysis between existing rules and the EUROCONTROL ECAC Area Rules for OAT-IFR (EUROAT). Based on this findings, determine change of regulatory material, if required.</p> <p>Develop Annex with national regulations and rules pertinent to this specification.</p> <p>Upon official reception of the Implementation Draft, the States are asked to examine their implementation options and come to a respective decision latest within one year.</p> <p>Following the respective national implementation decision, inform EUROCONTROL about the official national implementation date and provide the additional required information as detailed in annex 1.</p>
<u>Finalisation criteria :</u>	<ul style="list-style-type: none"> - National publications have been updated in accordance with EUROAT. - Clear identification of pertinent and acknowledged documents stating the implementation of such OAT/GAT interfaces on a regulatory level has been provided. - Additionally the evidence of adequate procedures comprising their operational realization 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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Apply common principles, rules and procedures OAT/GAT interface.</p> <p>Define and develop additional or revised procedures to match local and regional organization ensuring that they do not conflict with those of adjacent States/Functional Airspace Blocks (FAB).</p>
<u>Finalisation criteria :</u>	<ul style="list-style-type: none"> - Clear identification of pertinent and acknowledged documents stating the implementation of such OAT/GAT interfaces on a regulatory level has been provided. - Additionally the evidence of adequate procedures comprising their operational realization has been provided.

AOM13.1-ASP02	Train staff as necessary	Start:01/2012	Finish:12/2018
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Establish the mechanism to ensure pertinent training for competent personal during initial and continuation training in order to train Air Traffic Services (ATS) personal in provision of ATS to OAT-IFR flights.</p> <p>Train ATS staff in new procedures that comprise OAT elements.</p>
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Air Traffic Controller Training at Operational Units - Edition 2.0 / 29-06-1999 Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - SPEC 113 - EUROCONTROL Specification for ATCO Common Core Content Initial Training (Main document plus 7 Annexes) - Edition 1.0 / 21-10-2008 Url : http://www.eurocontrol.int/documents/atco-common-core-content-initial-training-specification</p>

AOM13.1	Harmonize Operational Air Traffic (OAT) and General Air Traffic (GAT) handling
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Finalisation criteria :

1. The mechanism to train competent ATS personnel during initial and continuation training 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
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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 organization, ensuring that they do not conflict with those of adjacent States/FAB.

Finalisation criteria :

- Clear identification of pertinent and acknowledged documents stating the implementation of such OAT/GAT interfaces on a regulatory level has been provided.
- Additionally the evidence of adequate procedures comprising their operational realization has been provided.

AOM13.1-MIL02	Provide feedback on result of conformance analysis between national rules to EUROAT	Start:01/2011	Finish:12/2012
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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.

Finalisation criteria : Directorate of Civil-Military ATM Coordination (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
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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:

- Organize an EAD awareness campaign for the military stakeholder;
- Get commitment of military organizations to migrate to EAD;
- Develop customized migration plans for individual military organization following its commitment to migrate to EAD;
- Prepare expansion of the EAD SDO and Aeronautical Information Exchange Model (AIXM) 5 until 12/2010;
- Support & monitor the migration of military organizations to EAD.

Supporting material(s) : EUROCONTROL - EAD Safety Case - Edition 2.3 / 01-09-2009
[Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html](http://www.eurocontrol.int/adq/public/standard_page/adq_library.html)

Finalisation criteria :

- All Military Authorities responsible for AIS Data have signed a Data Provider Agreement with EUROCONTROL.
- 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].

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2011
Full operational capability: 12/2015

References

European ATM Master Plan relationship

- Ol step - [\[AOM-0201\]-Moving Airspace Management Into Day of Operation](#)
- Ol step - [\[AOM-0202\]-Enhanced Real-time Civil-Military Coordination of Airspace Utilisation \(Step to be reviewed\)](#)
- Ol step - [\[AOM-0205\]-Modular Temporary Airspace Structures and Reserved Areas \(to be reviewed\)](#)
- Ol step - [\[AOM-0401\]-Multiple Route Options & Airspace Organisation Scenarios](#)
- Ol step - [\[AOM-0601\]-Terminal Airspace Organisation Adapted through Use of Best Practice](#)
- Ol step - [\[AOM-0801\]-Flexible Sectorisation Management](#)
- Ol step - [\[DCB-0203\]-Enhanced ASM/ATFCM Coordinated Process](#)

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
AOM19-ASP01	Implement an improved ASM/ATFCM process	05/2009	12/2010	▲

AOM19	Implement Advanced Airspace Management			
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AOM19-ASP02	Implement CIAM Phase 1	05/2009	12/2010	▲
AOM19-ASP03	Implement CIAM Phase 2	05/2009	12/2011	▲
AOM19-ASP04	Implement Rolling ASM/ATFCM process	12/2011	12/2014	▲
AOM19-ASP05	Implement Interoperability of local system with ADR	01/2014	12/2015	▲
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	▲
AOM19-ASP09	Deploy automated ASM support systems	07/2010	12/2015	▲
AOM19-USE01	Implement an improved Notification Process	05/2009	12/2010	▲
AOM19-USE02	Implement improved notification process supporting the Rolling ASM/ATFCM process	01/2014	12/2015	▲

▲ 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>	NETOPS
Outline description approved in:	01/2010
Latest objective review at expert level in:	04/2012
<u>Commitment decision body:</u>	Provisional Council (PC)
Objective approved/endorsed in:	07/2010
Latest change to objective approved/endorsed in:	07/2012

Expected performance benefits

<u>Safety :</u>	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.
<u>Capacity :</u>	Increased through better utilization of airspace resources within and across airspace boundaries. Potential increase through dynamic adjustment of airspace resources.
<u>Cost-effectiveness :</u>	Potential cost reduction through the availability of more optimum routes/trajectories.
<u>Environment :</u>	Emissions reduced through the use of more optimum routes/trajectories.
<u>Security :</u>	N/A

Detailed SLoA descriptions

AOM19-ASP01	Implement an improved ASM/ATFCM process	Start:05/2009	Finish:12/2010
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Action by : ANS Providers

AOM19**Implement Advanced Airspace Management**

<u>Description & purpose :</u>	<p>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:</p> <ul style="list-style-type: none"> - Airspace Management Cell (AMC) to prepare draft AUP for consideration of Central Network Management Function (CNMF); - Consider advice by the CNMF to re-consider AUP; - Submit AUP to CNMF. <p>Implement Procedure 2 - The release of military airspace after Conditional Message Route Availability (CRAM) publication:</p> <ul style="list-style-type: none"> - AMC to prepare draft Updated Airspace Use Plan (UUP) 1 and UUP2 for CNMF reflecting release of airspace as planned in AUP; - Consider advice by the CNMF to re-consider UUP1 and UUP2; - Submit UUP1 and UUP2 to CNMF. <p>Implement Procedure 3 - The request for unplanned military activity after CRAM publication.</p> <ul style="list-style-type: none"> - AMC to prepare draft UUP1 and UUP2 for CNMF reflecting requests for additional booking of airspace not planned in AUP; - Consider advice by the CNMF to re-consider UUP1 and UUP2; - Submit UUP1 and UUP2 to CNMF.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - CFMU Handbook - Edition 15 / 15-03-2011 Url : http://www.cfm.eucontrol.int/cfm/public/standard_page/library_handbook_supplements.html</p> <p>EUROCONTROL - CIAM Web Based Training Url : http://www.cfm.eucontrol.int/cfm/public/standard_page/courses_refreshamc.html</p> <p>EUROCONTROL - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 21-05-2012 Url : http://www.eurocontrol.int/articles/airspace-management</p> <p>EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 10-01-2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification</p>
<u>Finalisation criteria :</u>	<ul style="list-style-type: none"> - Procedures to manage airspace configuration have been implemented. - Pre-defined Airspace solutions have been implemented. - Draft AUP and UUPs have been produced in accordance with timeframe defined in ASM Handbook. - Changes to airspace use planning are being notified to CNMF.

AOM19-ASP02	Implement CIAM Phase 1	Start:05/2009	Finish:12/2010
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Deploy and use the CFMU 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.</p>
<u>Supporting material(s) :</u>	<p>EUROCONTROL - CFMU Handbook - Edition 15 / 15-03-2011 Url : http://www.cfm.eucontrol.int/cfm/public/standard_page/library_handbook_supplements.html</p> <p>EUROCONTROL - CIAM Web Based Training Url : http://www.cfm.eucontrol.int/cfm/public/standard_page/courses_refreshamc.html</p> <p>EUROCONTROL - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 21-05-2012 Url : http://www.eurocontrol.int/articles/airspace-management</p> <p>EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 10-01-2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification</p>
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>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.</p>

AOM19	Implement Advanced Airspace Management
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Supporting material(s) : EUROCONTROL - CFMU Handbook - Edition 15 / 15-03-2011
[Url : http://www.cfm.eurocontrol.int/cfm/public/standard_page/library_handbook_supplements.html](http://www.cfm.eurocontrol.int/cfm/public/standard_page/library_handbook_supplements.html)
 EUROCONTROL - CIAM Web Based Training
[Url : http://www.cfm.eurocontrol.int/cfm/public/standard_page/courses_refreshmc.html](http://www.cfm.eurocontrol.int/cfm/public/standard_page/courses_refreshmc.html)
 EUROCONTROL - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 21-05-2012
[Url : http://www.eurocontrol.int/articles/airspace-management](http://www.eurocontrol.int/articles/airspace-management)

Finalisation criteria : 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
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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 CNMF to re-consider UUP;
 - Submit UUP to CNMF as described in the ASM Handbook.
Supporting material(s) : EUROCONTROL - CFMU Handbook - Edition 15 / 15-03-2011
[Url : http://www.cfm.eurocontrol.int/cfm/public/standard_page/library_handbook_supplements.html](http://www.cfm.eurocontrol.int/cfm/public/standard_page/library_handbook_supplements.html)
 EUROCONTROL - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 21-05-2012
[Url : http://www.eurocontrol.int/articles/airspace-management](http://www.eurocontrol.int/articles/airspace-management)
 EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 10-01-2009
[Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification](http://www.eurocontrol.int/documents/flexible-use-airspace-specification)

Finalisation criteria : 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
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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 CNMF;
 - Provide relevant Aeronautical information required to implement dynamic ASM/ATFCM process;
 - Use ADR in accordance with LoA with CNMF;
 - 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 / 10-06-2011
[Url : http://www.cfm.eurocontrol.int/cfm/public/standard_page/nos_work_programme_adr.html](http://www.cfm.eurocontrol.int/cfm/public/standard_page/nos_work_programme_adr.html)
 EUROCONTROL - CFMU Handbook - Edition 15 / 15-03-2011
[Url : http://www.cfm.eurocontrol.int/cfm/public/standard_page/library_handbook_supplements.html](http://www.cfm.eurocontrol.int/cfm/public/standard_page/library_handbook_supplements.html)
 EUROCONTROL - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 21-05-2012
[Url : http://www.eurocontrol.int/articles/airspace-management](http://www.eurocontrol.int/articles/airspace-management)
 EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 10-01-2009
[Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification](http://www.eurocontrol.int/documents/flexible-use-airspace-specification)

Finalisation criteria :
 - Local systems have been adapted to use ADR.
 - LoA has been concluded with CNMF.
 - Automatic airspace updates have been provided by means of ADR.

AOM19-ASP06	Simplify CDR categorisation	Start:07/2011	Finish:12/2015
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Action by : ANS Providers
Description & purpose : Implement revised CDR categorisation scheme as defined in ASM Handbook.

AOM19	Implement Advanced Airspace Management
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Supporting material(s) : EUROCONTROL - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 21-05-2012
[Url : http://www.eurocontrol.int/articles/airspace-management](http://www.eurocontrol.int/articles/airspace-management)
 EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 10-01-2009
[Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification](http://www.eurocontrol.int/documents/flexible-use-airspace-specification)

Finalisation criteria : CDR categorization scheme has been revised as defined in ASM Handbook.

AOM19-ASP07	Optimise CDRs design and availability	Start:01/2009	Finish:12/2013
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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.
Supporting material(s) : EUROCONTROL - European ATS Route Network (ARN) Version 7- Concept of Operations & Catalogue of Projects - Edition 1.1 / 10-01-2011
[Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/arn-v7-concept-operations-catalogue-projects-jan2011.pdf](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 / 21-05-2012
[Url : http://www.eurocontrol.int/articles/airspace-management](http://www.eurocontrol.int/articles/airspace-management)
Finalisation criteria : - CDRs have been created as a function of vertical and lateral sub-modular TRA/TSA design.
 - CDRs consistency achieved at national, bilateral or sub-regional level.

AOM19-ASP08	Improve accuracy of airspace booking	Start:12/2010	Finish:12/2015
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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 - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 21-05-2012
[Url : http://www.eurocontrol.int/articles/airspace-management](http://www.eurocontrol.int/articles/airspace-management)
 EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 10-01-2009
[Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification](http://www.eurocontrol.int/documents/flexible-use-airspace-specification)
Finalisation criteria : 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
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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 - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 21-05-2012
[Url : http://www.eurocontrol.int/articles/airspace-management](http://www.eurocontrol.int/articles/airspace-management)
 EUROCONTROL - Local And Regional Airspace Management Supporting System Conceptual Description - Edition 2.0 / 11-11-2008
[Url : http://www.eurocontrol.int/articles/dsscm-library](http://www.eurocontrol.int/articles/dsscm-library)
 EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 10-01-2009
[Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification](http://www.eurocontrol.int/documents/flexible-use-airspace-specification)
Finalisation criteria : National or EUROCONTROL (LARA) automated support system in airspace planning and allocation has been deployed.

AOM19	Implement Advanced Airspace Management
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AOM19-USE01	Implement an improved Notification Process	Start:05/2009	Finish:12/2010
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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 / 15-03-2011
[Url : http://www.cfm.europa.eu/cfm/public/standard_page/library_handbook_supplements.html](http://www.cfm.europa.eu/cfm/public/standard_page/library_handbook_supplements.html)

Finalisation criteria : 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
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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 CNMF whenever required.
Use ADR in accordance with service agreement with CNMF.
Use ADR for optimisation of strategic, short term and actual flight planning.

Supporting material(s) : EUROCONTROL - CFMU Handbook - Edition 15 / 15-03-2011
[Url : http://www.cfm.europa.eu/cfm/public/standard_page/library_handbook_supplements.html](http://www.cfm.europa.eu/cfm/public/standard_page/library_handbook_supplements.html)
EUROCONTROL - Handbook for Airspace Management - Guidelines for Airspace Management - Edition 4.0 / 21-05-2012
[Url : http://www.eurocontrol.int/articles/airspace-management](http://www.eurocontrol.int/articles/airspace-management)
EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 10-01-2009
[Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification](http://www.eurocontrol.int/documents/flexible-use-airspace-specification)

Finalisation criteria :

- Flight planning systems have been adapted to use ADR.
- Appropriate service agreement has been concluded with CNMF.

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 ASS 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 IP1.

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

- Ol step - [\[AOM-0205\]-Modular Temporary Airspace Structures and Reserved Areas \(to be reviewed\)](#)
- Ol step - [\[AOM-0401\]-Multiple Route Options & Airspace Organisation Scenarios](#)
- Ol step - [\[AOM-0402\]-Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routeing Options](#)
- Ol step - [\[AOM-0504\]-Optimum Trajectories in Defined Airspaces at Particular Times](#)
- Ol step - [\[AOM-0801\]-Flexible Sectorisation Management](#)
- Ol step - [\[AOM-0802\]-Modular Sectorisation Adapted to Variations in Traffic Flows](#)
- Ol step - [\[DCB-0203\]-Enhanced ASM/ATFCM Coordinated Process](#)
- Ol step - [\[SDM-0101\]-Network Performance Assessment](#)

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
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	▲
AOM20-USE01	Adapt flight planning	05/2011	10/2013	▲
AOM20-INT01	Amend ICAO EUR Regional Plan	FINALISED		▲
AOM20-AGY01	Adapt Flight Planning and ATFCM systems, processes and procedures	05/2010	10/2012	

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

NETOPS / RNDSG

01/2010

04/2012

Commitment decision body:

Objective approved/endorsed in:

Provisional Council (PC)

08/2011

AOM20	Implement ATS Route Network (ARN) - Version 7
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Latest change to objective approved/endorsed in: 07/2012

Expected performance benefits

<u>Safety :</u>	Some enhancement through reduction in controller workload.
<u>Capacity :</u>	Increased through reduction in conflict points, and specialization of routes and sectors to enhance productivity and reduce controller workload.
<u>Cost-effectiveness :</u>	Savings in route distances in some States as well as better fuel efficiency through increased use of preferred flight profiles and improved sectorisation.
<u>Environment :</u>	Reductions in emissions through use of more optimal routes.
<u>Security :</u>	N/A

Detailed SloA descriptions

AOM20-ASP01	Implement national airspace structure changes	Start:05/2011	Finish:10/2013
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Guidelines on Generic Military Requirements To Be Considered When Establishing A Functional Airspace Block - Edition 1.1 / 31-10-2010 Url : http://www.eurocontrol.int/articles/dsscm-library</p> <p>EUROCONTROL - European ATS Route Network (ARN) Version 7- Concept of Operations & Catalogue of Projects - Edition 1.1 / 10-01-2011 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/arm-v7-concept-operations-catalogue-projects-jan2011.pdf</p> <p>EUROCONTROL - The 2015 Airspace Concept & Strategy for the ECAC Area - Edition 2.0 / 28-02-2008 Url : http://www.eurocontrol.int/articles/airspace-management</p> <p>EUROCONTROL - SPEC 112 - EUROCONTROL Specifications for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 - OJ 2009/C 196/05 / 10-01-2009 Url : http://www.eurocontrol.int/documents/flexible-use-airspace-specification</p>

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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Ensure viability and connectivity between en-route and terminal airspace changes.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - European ATS Route Network (ARN) Version 7- Concept of Operations & Catalogue of Projects - Edition 1.1 / 10-01-2011 Url : http://www.eurocontrol.int/sites/default/files/content/documents/nm/airspace/arm-v7-concept-operations-catalogue-projects-jan2011.pdf</p> <p>EUROCONTROL - European Route Network Improvement Plan - Framework Document - Edition 1.1 / 21-05-2012 Url : http://www.eurocontrol.int/articles/operations-planning</p> <p>EUROCONTROL - European Airspace Design Methodology Guidelines - General Principles and Technical Specifications for Airspace Design - Edition 1.1 / 21-05-2012 Url : http://www.eurocontrol.int/articles/operations-planning</p> <p>EUROCONTROL - Route Availability Document (RAD) - Edition 1.1 / 21-05-2012 Url : http://www.eurocontrol.int/articles/operations-planning</p>

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
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<u>Action by :</u>	Airspace Users
<u>Description & purpose :</u>	Adapt flight planning procedures and systems to take account of ARN V7 airspace structure.

Supporting material(s) : EUROCONTROL - Air Traffic Flow and Capacity management - Evolution Plan for the ECAC States - Edition 1.0 / 29-09-2004
 Url : http://www.cfm.eurocontrol.int/j_nip/cfmu/public/standard_page/atfcmstrategy_index.html
 EUROCONTROL - DMEAN Concept of Operations - Edition P1 / 16-09-2004
 Url : http://www.eurocontrol.int/dmean/public/standard_page/Concept_of_operations.html
 EUROCONTROL - CFMU 2012 Requirements - Edition 1.42 / 25-06-2012
 Url : <http://www.eurocontrol.int/articles/icao-flight-planning-modifications-2012-documentation-related-links>
 EUROCONTROL - CFMU Interface Manual for ICAO 2012 - Edition 1.32 / 25-06-2012
 Url : <http://www.eurocontrol.int/articles/icao-flight-planning-modifications-2012-documentation-related-links>
 EUROCONTROL - CFMU - IFPS and RPL Dictionary of Messages - ICAO 2012 Special edition - Edition 2012 v2.003 / 18-11-2011
 Url : <http://www.eurocontrol.int/articles/icao-flight-planning-modifications-2012-documentation-related-links>
 EUROCONTROL - Guidance for the provision of NAV/COM/SUR information in the New ICAO 2012 Flight Plan - Edition d2 / 26-06-2012
 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 / 25-06-2012
 Url : <http://www.eurocontrol.int/articles/icao-flight-planning-modifications-2012-documentation-related-links>
 ICAO - Flight Plan Implementation Tracking System (FITS) - Edition 1.0 / 03-12-2009
 Url : <http://www2.icao.int/en/fits/pages/home.aspx>
 EUROCONTROL - IFPS USERS MANUAL - Edition 16.0 / 19-03-2012
 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
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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 / 01-12-2004
 Url : http://www.eurocontrol.int/airspace/public/site_preferences/display_library_list_public.html
 EUROCONTROL - DMEAN Concept of Operations - Edition P1 / 16-09-2004
 Url : http://www.eurocontrol.int/dmean/public/standard_page/Concept_of_operations.html

Finalisation criteria : 1 - CFMU Flight Planning systems, processes and procedures have been adapted to support the various elements of ARN V7 implementation, including FRA.
 2 - CFMU 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					APT
AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual					
REG	ASP	MIL	APO	USE	INT	IND

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)

APT - related list of airports
Refer to the airports list

Operational capability dates FOR THIS OBJECTIVE

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

References

European ATM Master Plan relationship

Ol step - [\[AO-0305\]-Additional Rapid Exit Taxiways \(RET\) and Entries](#)
Ol 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)

<u>SloA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>
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	

▲ Applicable to the military.

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

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:

07/2012

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
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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.

Supporting material(s) :

EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 14-10-2003

Finalisation criteria :

- Proven record of participation in local steering groups.
- 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
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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 / 14-10-2003

Finalisation criteria :

- Proven record of participation in both the Air Traffic Control Officer (ATCO) and joint forums.
- Number of forum meetings per annum.

AOP01.2-ASP03	Approve and Implement the locally defined action plan	Start:05/2007	Finish:08/2011
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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 / 14-10-2003

Finalisation criteria :

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
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Action by :

Airport Operators

AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual
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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 / 14-10-2003

Finalisation criteria :

- Steering group effective, capacity enhancement exercise completed and local action plan defined.
- Attendance of the steering group members recorded.

AOP01.2-APO02	Conduct annual capacity assessment	Start:03/2007	Finish:08/2011
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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 / 14-10-2003

Finalisation criteria : Annual capacity assessments completed.

AOP01.2-APO03	Collect and analyse capacity and performance data	Start:05/2007	Finish:08/2011
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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 / 14-10-2003

EUROCONTROL - Measurement of Pilot Reaction Times and Runway Occupancy Times - The complete Guide - Edition 1.0 / 14-10-2003

Url : http://www.eurocontrol.int/airports/public/standard_page/ace_library.html

Finalisation criteria : Data measurement campaigns and resulting analysis effected.

AOP01.2-APO04	Facilitate forums with pilots and ATCOs	Start:05/2007	Finish:08/2011
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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 / 14-10-2003

Finalisation criteria :

- Forums held.
- Action plan completed.

AOP01.2-APO05	Develop and Implement a commonly agreed local action plan	Start:05/2007	Finish:08/2011
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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 / 14-10-2003

Finalisation criteria : Action plan 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
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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 / 14-10-2003

Finalisation criteria : Awareness leaflet distributed to concerned stakeholders.

AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual
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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
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Action by : ANS Providers
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.

Supporting material(s) : EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 14-10-2003
EUROCONTROL - CFMU Network Operation Plan (NOP) Portal
[Url : https://www.public.cfm.eurocontrol.int/PUBPORTAL/gateway/spec/index.html](https://www.public.cfm.eurocontrol.int/PUBPORTAL/gateway/spec/index.html)

Finalisation criteria : 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
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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 / 14-10-2003

Finalisation criteria : Local steering groups regularly attended.

AOP01.2-USE02	Facilitate the involvement of operational pilots in the Forums	Start:05/2007	Finish:08/2011
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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 / 14-10-2003

Finalisation criteria : Local steering groups regularly attended.

AOP01.2-USE03	Approve and Implement the locally defined action plan	Start:05/2007	Finish:12/2013
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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 / 14-10-2003

Finalisation criteria : Action plan signed and implemented.

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 to require replacing or new wording. 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)

APT - related list of airports

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.

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:

04/2003

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) 569/2009

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
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	▲
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	▲
AOP03-ASP02	Ensure Air Traffic Controller Best Practices are implemented	04/2003	12/2013	▲
AOP03-ASP03	Implement Communication recommendations	04/2003	12/2013	▲
AOP03-ASP04	Implement Aeronautical information management	04/2003	12/2013	▲
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	▲
AOP03-APO02	Ensure that all airport infrastructure, practices and procedures are in accordance with ICAO provisions	04/2003	12/2013	▲
AOP03-APO03	Implement Communication recommendations	04/2003	12/2013	▲
AOP03-APO04	Implement Aeronautical information management	04/2003	12/2013	▲
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	▲
AOP03-APO06	Implement Safety Management Systems (SMS) in accordance with ICAO provisions for its aerodrome operations	04/2003	12/2013	▲

AOP03	Improve runway safety by preventing runway incursions
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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	▲
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▲ 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:	07/2004
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
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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.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions
Finalisation criteria :	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 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
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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.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions
Finalisation criteria :	Recommendations 1.1.1 to 1.1.7 implemented.

AOP03-ASP02	Ensure Air Traffic Controller Best Practices are implemented	Start:04/2003	Finish:12/2013
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Action by :	ANS Providers
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AOP03	Improve runway safety by preventing runway incursions
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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.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions>

Finalisation criteria : 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 implemented.

AOP03-ASP03	Implement Communication recommendations	Start:04/2003	Finish:12/2013
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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.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions>

Finalisation criteria : 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 implemented

AOP03-ASP04	Implement Aeronautical information management	Start:04/2003	Finish:12/2013
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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.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions>

Finalisation criteria : Recommendations 1.1.3, 1.3.9, 1.8.1, 1.8.4, 1.8.5 and 1.8.6 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
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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.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions>

Finalisation criteria : Recommendations 1.1.1 to 1.1.7 Implemented.

AOP03-APO02	Ensure that all airport infrastructure, practices and procedures are in accordance with ICAO provisions	Start:04/2003	Finish:12/2013
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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.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions>

Finalisation criteria : Recommendations 1.2.1, 1.2.2, 1.2.4 to 1.2.16, 1.10.2, 1.10.5, 1.10.10 and 1.10.12 implemented.

AOP03-APO03	Implement Communication recommendations	Start:04/2003	Finish:12/2013
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AOP03	Improve runway safety by preventing runway incursions
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<u>Action by :</u>	Airport Operators
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0 Url : http://www.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions
<u>Finalisation criteria :</u>	Recommendations 1.3.1 to 1.3.7, 1.3.9 and 1.10.7 implemented.

AOP03-APO04	Implement Aeronautical information management	Start:04/2003	Finish:12/2013
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<u>Action by :</u>	Airport Operators
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0 Url : http://www.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions
<u>Finalisation criteria :</u>	Recommendations 1.8.1, 1.8.3, 1.8.4, 1.8.5, 1.8.6 and 1.10.3 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
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<u>Action by :</u>	Airport Operators
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0 Url : http://www.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions
<u>Finalisation criteria :</u>	Recommendations 1.1.4, 1.1.5, 1.2.6, 1.2.7, 1.2.10, 1.2.13 and 1.2.16 implemented.

AOP03-APO06	Implement Safety Management Systems (SMS) in accordance with ICAO provisions for its aerodrome operations	Start:04/2003	Finish:12/2013
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<u>Action by :</u>	Airport Operators
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0 Url : http://www.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions
<u>Finalisation criteria :</u>	Recommendation 1.2.3 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
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<u>Action by :</u>	Airspace Users
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	EUROCONTROL - European Action Plan for the Prevention of Runway Incursions - Edition 2.0 Url : http://www.eurocontrol.int/documents/european-action-plan-prevention-runway-incursions
<u>Specific applicability :</u>	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.

AOP03	Improve runway safety by preventing runway incursions
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Finalisation criteria :

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 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)

APT - related list of airports plus: EVRA - Riga, EYVI - Vilnius, LROP - Bucharest,

LTAC - Ankara

Refer to the airports list

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:

01/2007

Full operational capability:

12/2011

References

European ATM Master Plan relationship

Ol step - [IAO-02011-Enhanced Ground Controller Situational Awareness in all Weather Conditions](#)

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
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	▲
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	▲
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	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1			
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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	▲
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		
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		

▲ 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:	07/2012

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
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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
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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 / 27-04-2012
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 / 21-10-2010
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 / 21-10-2010
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 / 21-10-2010
Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166

EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 31-01-2004
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) 30-11-2003
Url : <http://boutique.eurocae.net/catalog/index.php>

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 31-08-2008
Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011
Url : <http://www.eurocontrol.int/articles/a-smgcs>

ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 31-12-2004
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria :

- 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.
- 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
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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.

AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
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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 / 27-04-2012
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 / 21-10-2010
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 / 21-10-2010
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 / 21-10-2010
Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166

EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 31-01-2004
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) 30-11-2003
Url : <http://boutique.eurocae.net/catalog/index.php>

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 31-08-2008
Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011
Url : <http://www.eurocontrol.int/articles/a-smgcs>

ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 31-12-2001
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 31-12-2004
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria :

- 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.
- 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
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Action by : National Regulatory Authorities

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

AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
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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 / 27-04-2012
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 / 21-10-2010
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 / 21-10-2010
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 / 21-10-2010
Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166

EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 31-01-2004
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) 30-11-2003
Url : <http://boutique.eurocae.net/catalog/index.php>

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 31-08-2008
Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011
Url : <http://www.eurocontrol.int/articles/a-smgcs>

ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 31-12-2001
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 31-12-2004
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria : 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
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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).

AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
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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 / 27-04-2012
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 / 21-10-2010
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 / 21-10-2010
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 / 21-10-2010
Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166

EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 31-01-2004
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) 30-11-2003
Url : <http://boutique.eurocae.net/catalog/index.php>

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 31-08-2008
Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011
Url : <http://www.eurocontrol.int/articles/a-smgcs>

ICAO - Doc 9774 - Manual on Certification of Aerodromes - Edition 1 / 31-12-2001
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 31-12-2004
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria : 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
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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).

AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
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<u>Supporting material(s) :</u>	<p>ETSI - EN 303 213-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 1: A-SMGCS Level 1 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.3.1 / 27-04-2012 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 21-10-2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 21-10-2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 21-10-2010 Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166</p> <p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 31-01-2004 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-117 - Minimum Operational Performance Specification for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS) 30-11-2003 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>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 31-08-2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011 Url : http://www.eurocontrol.int/articles/a-smgcs</p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 31-12-2004 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>
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<u>Finalisation criteria :</u>	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).
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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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Train aerodrome controllers in the use of A-SMGCS Level 1 tools and procedures (including phraseology) in accordance with agreed training requirements.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011 Url : http://www.eurocontrol.int/articles/a-smgcs</p> <p>EUROCONTROL - ATCO Rating Training - Training Plans: Aerodrome Training - Annex B: Detailed Training Plans - Edition 1.0 / 26-03-2004 Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - Guidance on Training Requirements for Operational Users of A-SMGCS Levels 1 & 2 - Edition 1.1 / 27-11-2006 Url : http://www.eurocontrol.int/airports/public/standard_page/surface_library.html</p>

<u>Finalisation criteria :</u>	Controllers training has been completed in accordance with agreed training requirements and programme.
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AOP04.1-ASP03	Implement approved A-SMGCS operational procedures at airports equipped with A-SMGCS	Start:01/2007	Finish:12/2011
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Develop and apply agreed and validated A-SMGCS Level 1 procedures as an integral part of the aerodrome control service.

AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
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Supporting material(s) : EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011
Url : <http://www.eurocontrol.int/articles/a-smgcs>

Finalisation criteria :

- Implementation of the procedures at airports equipped with A-SMGCS Level 1 has been completed.
- 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
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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 / 27-04-2012
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 / 21-10-2010
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 / 21-10-2010
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 / 21-10-2010
Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166

EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 31-01-2004
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) 30-11-2003
Url : <http://boutique.eurocae.net/catalog/index.php>

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 31-08-2008
Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011
Url : <http://www.eurocontrol.int/articles/a-smgcs>

ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 31-12-2004
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria : 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
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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 / 30-06-2010
Url : http://www.eurocontrol.int/airports/public/standard_page/surface_library.html

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

AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
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AOP04.1-APO03	Train Ground Vehicle Drivers	Start:01/2007	Finish:12/2010
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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 / 15-04-2011
 Url : <http://www.eurocontrol.int/articles/a-smgcs>
 EUROCONTROL - Mode S Transponder in an Airport/A-SMGCS Environment - Edition 1.1 / 03-05-2005
 Url : http://www.eurocontrol.int/airports/gallery/content/public/a_smgcs/index.html

Finalisation criteria : Vehicle drivers are 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
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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 / 03-05-2005
 Url : http://www.eurocontrol.int/airports/gallery/content/public/a_smgcs/index.html

Finalisation criteria : Procedures for use of correct Mode-S transponder setting for enabling co-operative A-SMGCS detection on the movement area 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
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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 / 15-04-2011
 Url : <http://www.eurocontrol.int/articles/a-smgcs>

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

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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 an A-SMGCS control tool 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)

APT - related list of airports plus: EVRA - Riga, EYVI - Vilnius, LROP - Bucharest,
LTAC - Ankara
Refer to the airports list

Operational capability dates FOR THIS OBJECTIVE

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

References

European ATM Master Plan relationship

Ol 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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>
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	

▲ Applicable to the military.

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

Consultation & Approval

AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
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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: 07/2012

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
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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)

AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
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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 / 27-04-2012
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 / 21-10-2010
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 / 21-10-2010
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 / 21-10-2010
Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166

EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 31-01-2004
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) 30-11-2003
Url : <http://boutique.eurocae.net/catalog/index.php>

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 31-08-2008
Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011
Url : <http://www.eurocontrol.int/articles/a-smgcs>

EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 30-06-2010
Url : http://www.eurocontrol.int/airports/public/standard_page/surface_library.html

ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 31-12-2004
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria : 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
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Action by : ANS Providers

Description & purpose : Install A-SMGCS control function systems in order to enable the detection of conflicts & intrusions in accordance with A-SMGCS Level 2 requirements (in co-operation with Airport Operators, as appropriate). Such equipment should be provided in addition to the equipment requirements for A-SMGCS Level 1

AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
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<u>Supporting material(s) :</u>	<p>ETSI - EN 303 213-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 2: Level 2 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.2.1 / 27-04-2012 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 21-10-2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 21-10-2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 2: Specific requirements for a deployed Surface Movement Radar sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 21-10-2010 Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166</p> <p>EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 31-01-2004 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-117 - Minimum Operational Performance Specification for Mode S Multilateration Systems for Use in Advanced Surface Movement Guidance and Control Systems (A-SMGCS) 30-11-2003 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>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 31-08-2008 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011 Url : http://www.eurocontrol.int/articles/a-smgcs</p> <p>EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 30-06-2010 Url : http://www.eurocontrol.int/airports/public/standard_page/surface_library.html</p> <p>ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 31-12-2004 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>
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Finalisation criteria : Equipment that meets agreed performance requirements and specifications of A-SMGCS Level 2 is 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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Train aerodrome controllers in the use of A-SMGCS Level 2 systems and procedures (including phraseology) in accordance with agreed training requirements.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011 Url : http://www.eurocontrol.int/articles/a-smgcs</p> <p>EUROCONTROL - ATCO Rating Training - Training Plans: Aerodrome Training - Annex B: Detailed Training Plans - Edition 1.0 / 26-03-2004 Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - Guidance on Training Requirements for Operational Users of A-SMGCS Levels 1 & 2 - Edition 1.1 / 27-11-2006 Url : http://www.eurocontrol.int/airports/public/standard_page/surface_library.html</p>

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

AOP04.2-ASP03	Implement approved A-SMGCS Level 2 operational procedures at airports equipped with A-SMGCS Level 2	Start:01/2007	Finish:12/2017
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Apply agreed and validated A-SMGCS Level 2 procedures as an integral part of the aerodrome control service.

AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
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Supporting material(s) : EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011
 Url : <http://www.eurocontrol.int/articles/a-smgcs>
 EUROCONTROL - Mode S Transponder in an Airport/A-SMGCS Environment - Edition 1.1 / 03-05-2005
 Url : http://www.eurocontrol.int/airports/gallery/content/public/a_smgcs/index.html

Finalisation criteria : 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
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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 / 27-04-2012
 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 / 21-10-2010
 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 / 21-10-2010
 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 / 21-10-2010
 Url : http://webapp.etsi.org/workprogram/Report_WorkItem.asp?WKI_ID=37166
 EUROCAE - ED-116 - Minimum Operational Performance Specification for Surface Movement Radar Sensor Systems for Use in A-SMGCS 31-01-2004
 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) 30-11-2003
 Url : <http://boutique.eurocae.net/catalog/index.php>
 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 31-08-2008
 Url : <http://boutique.eurocae.net/catalog/index.php>
 EUROCONTROL - Advanced Surface Movement, Guidance and Control Systems (A-SMGCS) Implementation Manual - Edition 1.0 / 15-04-2011
 Url : <http://www.eurocontrol.int/articles/a-smgcs>
 EUROCONTROL - Functional Requirements for A-SMGCS Implementation Level 2 - Edition 2.1 / 30-06-2010
 Url : http://www.eurocontrol.int/airports/public/standard_page/surface_library.html
 ICAO - Doc 9830 - Advanced Surface Movement Guidance and Control Systems (A-SMGCS) Manual - Edition 1 / 31-12-2004
 Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria : 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
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Action by : EUROCONTROL Agency

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

Finalisation criteria : Proposed procedures 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, CFMU 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 CFMU. 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)

APT - related list of airports plus:EYVI - Vilnius
Refer to the airports list

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2004
Full operational capability: 01/2016

References

European ATM Master Plan relationship

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

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>
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
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	Implement Airport Collaborative Decision Making (CDM)		
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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	▲
AOP05-USE03	Define and implement local procedures for turnaround processes in accordance with A-CDM manual guidelines	01/2004	01/2016	▲
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	

▲ Applicable to the military.

Description of finalised SLOs 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:	07/2012

Expected performance benefits

Safety :	The more effective airside and landside operations management, improved situational awareness of all actors and resulting reduced congestion has a positive effect on safety
Capacity :	Enhanced airport capacity through optimal use of airside and landside facilities and services, better use of airport and ATFM slots
Cost-effectiveness :	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.
Environment :	Reduced noise and emissions due to limiting engine ground running time due to better timed operations
Security :	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
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Action by : ANS Providers

Description & purpose : Agree and define specific performance objectives and KPIs through a local A-CDM committee, in co-operation with other stakeholders involved.

AOP05	Implement Airport Collaborative Decision Making (CDM)
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Supporting material(s) : 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 / 01-06-2010
[Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp](http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp)

EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCAE - ED-145 - Airport-CDM Interface Specification 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 01-04-2012
[Url : http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4](http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4)

EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 01-05-2009
[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

Finalisation criteria : Agreed list of performance objectives and KPIs.

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
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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) : 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 / 01-06-2010
[Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp](http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp)

EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCAE - ED-145 - Airport-CDM Interface Specification 31-10-2008
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[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 01-04-2012
[Url : http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4](http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4)

EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 01-05-2009
[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

Finalisation criteria : Agreed LoA or MoU signed between the Airport CDM Partners.

AOP05-ASP03	Define and implement local procedures for turnaround processes in accordance with CDM manual guidelines	Start:01/2004	Finish:01/2016
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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)
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Supporting material(s) : 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 / 01-06-2010
[Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp](http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp)

EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCAE - ED-145 - Airport-CDM Interface Specification 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 01-04-2012
[Url : http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4](http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4)

EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 01-05-2009
[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

Finalisation criteria : Agreed LoA or MoU signed between the A-CDM Partners.

AOP05-ASP04	Continually review and measure airport performance in accordance with Airport CDM Manual guidelines	Start:01/2004	Finish:01/2013
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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) : 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 / 01-06-2010
[Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp](http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp)

EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

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[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

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[Url : http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4](http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4)

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[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

Finalisation criteria : Published results/benefits at airport.

AOP05-ASP05	Define and implement variable taxi-time and predeparture sequencing procedure according to airport CDM Manual guidelines	Start:06/2006	Finish:01/2016
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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) : 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 / 01-06-2010
[Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp](http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp)

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[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCAE - ED-145 - Airport-CDM Interface Specification 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

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[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

EUROCONTROL - Airport CDM Implementation Manual - Edition 4.0 / 01-04-2012
[Url : http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4](http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4)

EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 01-05-2009
[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

AOP05	Implement Airport Collaborative Decision Making (CDM)
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Finalisation criteria : Published procedure in 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
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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) : 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 / 01-06-2010
[Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp](http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp)
EUROCAE - ED-141 - Minimum Technical Specifications for Airport Collaborative Decision Making (Airport-CDM) Systems 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
EUROCAE - ED-145 - Airport-CDM Interface Specification 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
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[Url : http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4](http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4)
EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 01-05-2009
[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

Finalisation criteria : - Agreed LoA or MoU between the Airport CDM Partners,
- Established CDM procedures for the management of adverse conditions.

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
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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) : 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 / 01-06-2010
[Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp](http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp)
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[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
EUROCAE - ED-145 - Airport-CDM Interface Specification 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
EUROCAE - ED-146 - Guidelines for Test and Validation Related to Airport CDM Interoperability 31-10-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
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EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 01-05-2009
[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

Finalisation criteria : Agreed list of performance objectives and KPIs.

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
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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.

AOP05	Implement Airport Collaborative Decision Making (CDM)
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Supporting material(s) :

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 / 01-06-2010
Url : <http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp>

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EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 01-05-2009
Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php

Finalisation criteria :

- Agreed LoA or MoU between the A-CDM Partners.
- Implementation of information sharing.

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

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 / 01-06-2010
Url : <http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp>

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EUROCAE - ED-145 - Airport-CDM Interface Specification 31-10-2008
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EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 01-05-2009
Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php

Finalisation criteria : Agreed LoA or MoU between the A-CDM Partners.

AOP05-APO04	Continually review and measure airport performance	Start:01/2004	Finish:01/2013
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Action by : Airport Operators

Description & purpose : Measure performance (KPIs) according to agreed success criteria, and quantify the benefits at local airport after implementation and through a local A-CDM committee.

Supporting material(s) :

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 / 01-06-2010
Url : <http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp>

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Url : <http://boutique.eurocae.net/catalog/index.php>

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Url : <http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4>

EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 01-05-2009
Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php

AOP05	Implement Airport Collaborative Decision Making (CDM)
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Finalisation criteria : Published results/benefits at airport.

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
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Action by : Airport Operators

Description & purpose : Agree, define and implement local procedures for exchange of messages (FUMs and DPIs) between CFMU and the airport based on A-CDM Implementation Manual, in co-operation with other stakeholders involved.

Supporting material(s) : 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 / 01-06-2010

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EUROCONTROL - Airport CDM Functional Requirements Document - 4.0 / 01-05-2009

Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php

Finalisation criteria : - Agreed LoA or MoU between the A-CDM Partners and the CFMU.
- Implementation of exchange of messages.

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
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Action by : Airport Operators

Description & purpose : Agree, define and implement local CDM procedures to manage adverse conditions based on A-CDM Implementation Manual, in co-operation with other stakeholders involved.

Supporting material(s) : ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004
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Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php

Finalisation criteria : - Agreed LoA or MoU between the A-CDM partners.
- Established CDM procedures for the management of adverse conditions.

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
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Action by : Airspace Users

Description & purpose : Agree and define specific performance objectives and KPIs at local level, in co-operation with airport and ANSP.

AOP05	Implement Airport Collaborative Decision Making (CDM)
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Supporting material(s) : 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 / 01-06-2010
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[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

Finalisation criteria : List of performance objectives and KPIs 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
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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) : 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 / 01-06-2010
[Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp](http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp)

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Finalisation criteria : Agreed LoA or MoU between the A-CDM partners.

AOP05-USE03	Define and implement local procedures for turnaround processes in accordance with A-CDM manual guidelines	Start:01/2004	Finish:01/2016
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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.

AOP05	Implement Airport Collaborative Decision Making (CDM)
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Supporting material(s) : 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 / 01-06-2010
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[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

Finalisation criteria : Agreed LoA or MoU between the A-CDM partners.

AOP05-USE04	Continually review and measure airport performance	Start:01/2004	Finish:01/2013
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Action by : Airspace Users

Description & purpose : Measure performance (KPIs) according to agreed success criteria and quantify the benefits at local airport after implementation and through a local A-CDM committee.

Supporting material(s) : ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004
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[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

Finalisation criteria : Published results/benefits at airport.

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
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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) : ETSI - EN 303 212 - Airport Collaborative Decision Making (A-CDM); Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004
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[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

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[Url : http://www.euro-cdm.org/library_eurocontrol_implementation.php](http://www.euro-cdm.org/library_eurocontrol_implementation.php)

AOP05	Implement Airport Collaborative Decision Making (CDM)
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Finalisation criteria :

- Agreed LoA or MoU between the A-CDM partners.
- Established CDM procedures for the management of adverse conditions.

SESAR	Active					APT
AOP08	Implement Airport Airside Capacity Planning Method					
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

Airports are required to engage in capacity planning in order to manage future traffic demand within existing constraints. This implementation objective is a method to provide a structure for identifying an imbalance between current or future capacity and demand. It starts by quantifying future demand and capacity for the short and medium term and then determines whether there are any factors that will impact on the ability of the airport to handle future demand. Remedial options are identified and their impact assessed against constraints such as cost, regulation, environmental impact, safety and passenger experience. For optimal results, it is necessary to organise round-table conferences to involve all key stakeholders from all areas of the airport including airlines, ramp handling agents, ATS provider and airport operators.

Note: This objective is an on-going yearly activity to be annually done after the first planned implementation that took place in 2006.

Applicable area(s)

APT - related list of airports
Refer to the airports list

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2006
Full operational capability: 12/2015

References

European ATM Master Plan relationship

Ol step - [\[DCB-0201\]-Interactive Network Capacity Planning](#)

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
AOP08-ASP01	Contribute to AOP08-APO01 to 03 as part of the stakeholder team to the five year rolling capacity planning process.	06/2006	12/2015	
AOP08-APO01	Conduct annual baseline capacity assessment with a view to update the 5-year rolling capacity planning period	01/2006	12/2015	
AOP08-APO02	Conduct annual assessment of future capacity requirements	01/2006	12/2015	
AOP08-APO03	Apply Airside Capacity Planning method for a five year rolling period.	06/2006	12/2015	
AOP08-USE01	Contribute to AOP08-APO01 to 03 as part of the stakeholder team to the five year rolling capacity planning process.	06/2006	12/2015	▲
AOP08-AGY01	Develop qualitative Airside Capacity Planning method	FINALISED		
AOP08-AGY02	Provide data concerning traffic forecast	FINALISED		

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

Airport Operations Team (AOT)

-

04/2012

Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2005

07/2012

Expected performance benefits

AOP08	Implement Airport Airside Capacity Planning Method
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<u>Safety :</u>	Capacity planning can be organised to prevent traffic overload and contributes therefore to safety of operations.
<u>Capacity :</u>	Provision of a plan in time to adapt local capacity to demand.
<u>Cost-effectiveness :</u>	Optimisation of remedial actions to local capacity constraints in function of costs. Compared to possible shortfalls in capacity and thus generating huge costly delays this capacity planning method itself is cost efficient.
<u>Environment :</u>	Allows remedial actions to be considered in relation to environmental aspects. Efficient capacity planning contributes to environmental benefits.
<u>Security :</u>	N/A

Detailed SloA descriptions

AOP08-ASP01	Contribute to AOP08-APO01 to 03 as part of the stakeholder team to the five year rolling capacity planning process.	Start:06/2006	Finish:12/2015
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Participate to the round-table exercise and share of ANSP expertise in order to target constraints and look for remedial actions.
<u>Supporting material(s) :</u>	EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 14-10-2003 EUROCONTROL - Enhancing Airside Capacity - the Complete Guide - Edition 2.0 / 15-09-2003 Url : http://www.eurocontrol.int/airports/public/standard_page/ace_library.html
<u>Finalisation criteria :</u>	Proven record that ANSP contribute to the annual round-table exercise to determine capacity requirements and identify constraints and remedial actions.

AOP08-APO01	Conduct annual baseline capacity assessment with a view to update the 5-year rolling capacity planning period	Start:01/2006	Finish:12/2015
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<u>Action by :</u>	Airport Operators
<u>Description & purpose :</u>	Assess airside capacity for capacity planning purposes, at least once a year to determine baseline capacity potential. This should be done in accordance with the assessment method described in AOP01.2. With a view to reduce costs either one of the two capacity assessments undertaken in the context of EC regulation 793/04 may be used.
<u>Supporting material(s) :</u>	EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 14-10-2003 EUROCONTROL - Enhancing Airside Capacity - the Complete Guide - Edition 2.0 / 15-09-2003 Url : http://www.eurocontrol.int/airports/public/standard_page/ace_library.html EUROCONTROL - Measurement of Pilot Reaction Times and Runway Occupancy Times - The complete Guide - Edition 1.0 / 14-10-2003 Url : http://www.eurocontrol.int/airports/public/standard_page/ace_library.html
<u>Finalisation criteria :</u>	- Annual baseline capacity assessment completed in accordance with method described in AOP01.2. - Capacity constraints are identified and remedial actions agreed upon with airport partners. - Contribution of the airport partners recorded.

AOP08-APO02	Conduct annual assessment of future capacity requirements	Start:01/2006	Finish:12/2015
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<u>Action by :</u>	Airport Operators
<u>Description & purpose :</u>	Determine on a rolling 5 year basis what demand and consequently what capacity is required to cater for the identified demand.
<u>Supporting material(s) :</u>	EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 14-10-2003 EUROCONTROL - Enhancing Airside Capacity - the Complete Guide - Edition 2.0 / 15-09-2003 Url : http://www.eurocontrol.int/airports/public/standard_page/ace_library.html EUROCONTROL - Measurement of Pilot Reaction Times and Runway Occupancy Times - The complete Guide - Edition 1.0 / 14-10-2003 Url : http://www.eurocontrol.int/airports/public/standard_page/ace_library.html
<u>Finalisation criteria :</u>	Annual assessment of future capacity requirements completed.

AOP08-APO03	Apply Airside Capacity Planning method for a five year rolling period.	Start:06/2006	Finish:12/2015
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<u>Action by :</u>	Airport Operators
<u>Description & purpose :</u>	Apply the step by step structured method that leads to identifying constraints for future growth, remedial activities versus cost and capacity improvements of each of the mitigation actions

AOP08	Implement Airport Airside Capacity Planning Method
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Supporting material(s) : EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 14-10-2003
EUROCONTROL - Enhancing Airside Capacity - the Complete Guide - Edition 2.0 / 15-09-2003
Url : http://www.eurocontrol.int/airports/public/standard_page/ace_library.html
EUROCONTROL - Measurement of Pilot Reaction Times and Runway Occupancy Times - The complete Guide - Edition 1.0 / 14-10-2003
Url : http://www.eurocontrol.int/airports/public/standard_page/ace_library.html

Finalisation criteria : Airside capacity planning method applied.

AOP08-USE01	Contribute to AOP08-APO01 to 03 as part of the stakeholder team to the five year rolling capacity planning process.	Start:06/2006	Finish:12/2015
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Action by : Airspace Users
Description & purpose : Participate to the round-table exercise and share of aircraft operator's expertise in order to target constraints and look for remedial actions.
Supporting material(s) : EUROCONTROL - Airside Capacity Enhancement (ACE) Implementation Manual - Edition 1.0 / 14-10-2003
EUROCONTROL - Enhancing Airside Capacity - the Complete Guide - Edition 2.0 / 15-09-2003
Url : http://www.eurocontrol.int/airports/public/standard_page/ace_library.html
EUROCONTROL - Measurement of Pilot Reaction Times and Runway Occupancy Times - The complete Guide - Edition 1.0 / 14-10-2003
Url : http://www.eurocontrol.int/airports/public/standard_page/ace_library.html

Finalisation criteria : On annual basis, capacity requirements are identified and fed to the local Airport Authority

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SESAR	Active					APT
AOP09	Implement Optimised Dependent Parallel Operations					
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

The purpose of this operational change is to increase utilisation of the parallel runway operations. It aims at reducing dependencies between the runways by implementing more accurate surveillance techniques and controller tools as well as associated procedures. Capacity gains can be achieved by increased utilisation of the combined runways. Dependencies between multiple runways determine the practical runway capacity which in most cases is lower than the combined single runway capacities.

Applicable area(s)

Refer to the airports list

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 12/2012
Full operational capability: 12/2015

References

European ATM Master Plan relationship

Ol step - [\[AO-0403\]-Optimised Dependent Parallel Operations](#)

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 Implementing Regulation (EU) N°1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) N°691/2010 18-10-2011

Applicable ICAO Annexes and other references

ICAO Annex 10 - Telecommunications
ICAO Annex 14 - Aerodromes
EUROCONTROL - ESARR 4 - Risk Assessment and Mitigation in ATM

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>
AOP09-REG01	Approve the procedures for optimised dependant parallel operations	01/2012	12/2015
AOP09-REG02	Conduct safety oversight of the changes	01/2012	12/2015
AOP09-REG03	Certify and deliver operational approval	01/2012	12/2015
AOP09-ASP01	Upgrade and put into service surveillance systems to support optimised dependent parallel operations	01/2012	12/2015
AOP09-ASP02	Upgrade and put into service ATS systems to support optimised dependent parallel operations	01/2012	12/2015
AOP09-ASP03	Develop and validate procedures for optimised dependant parallel operations	01/2012	12/2015
AOP09-ASP04	Develop safety assessment for the changes	01/2012	12/2015
AOP09-ASP05	Train operational and technical staff	01/2012	12/2015
AOP09-ASP06	Revise and publish Aeronautical Information documents	01/2012	12/2015
AOP09-USE01	Obtain airworthiness certification	01/2012	12/2015
AOP09-USE02	Obtain operational approval	01/2012	12/2015
AOP09-USE03	Update training manual and train crew	01/2012	12/2015

▲ Applicable to the military.

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

AOP09	Implement Optimised Dependent Parallel Operations
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Consultation & Approval

Working arrangement in charge: Airport Operations Team (AOT)
Outline description approved in: 03/2011
Latest objective review at expert level in: 04/2011

Commitment decision body: Provisional Council (PC)
Objective approved/endorsed in: 08/2011
Latest change to objective approved/endorsed in: -

Expected performance benefits

Safety : N/A
Capacity : Increased runway utilisation
Cost-effectiveness : N/A
Environment : N/A
Security : N/A

Detailed SloA descriptions

AOP09-REG01	Approve the procedures for optimised dependant parallel operations	Start:01/2012	Finish:12/2015
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Action by : National Supervisory Authorities (NSAs)
Description & purpose : Approve the procedures for optimised dependant parallel operations prior putting them in place at all eligible airports.
The tasks to be done are as follows:
- Analyse the specified procedure;
- Review available validation data and information;
- Prepare relevant information for the publication.

These procedures shall comply with the relevant requirements specified in the ICAO doc 9643 and ICAO PANS OPS. This procedure shall be used in the operational environment as specified in the safety assessment.

Supporting material(s) : ICAO - Doc 9643 - Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR) - Edition 1 / 31-12-2004
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>
ICAO - Doc 4444 - Air Traffic Management - Edition 15 / 18-11-2010
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>
ICAO - Doc 9906-Volume 1 - Quality Assurance Manual for Flight Procedure Design - Volume 1 - Flight Procedure Design Quality Assurance System - Edition 1 / 31-12-2009
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria : - Formal approval of the procedures for optimised dependant parallel operations has been delivered to ANSP.

AOP09-REG02	Conduct safety oversight of the changes	Start:01/2012	Finish:12/2015
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Action by : National Supervisory Authorities (NSAs)
Description & purpose : Oversee safety of changes induced by introduction of optimised dependant parallel operations. The tasks to be done are as follows:
- Analyse the safety case;
- Review safety arguments;
- Prepare the material for the acceptance of changes.

AOP09	Implement Optimised Dependent Parallel Operations
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Supporting material(s) : EUROCAE - ED-126 - Safety, Performance and Interoperability Requirements Document for ADS-B-NRA Application 31-12-2006
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
 EUROCAE - ED-161 - Safety, Performance and Interoperability Requirements Document for ADS-B-RAD Application 30-09-2009
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
 EUROCAE - ED-163 - Safety, Performance and Interoperability Requirements Document for ADS-B Airport Surface Surveillance Application (ADS-B-APT) 31-12-2010
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
 EUROCONTROL - EAM 4/AMC - Acceptable Means of Compliance with ESARR4 - Edition 4.0 / 26-10-2009
[Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm](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 / 21-03-2006
[Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm](http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm)

Finalisation criteria : 1 - Formal acceptance by the NSA of the proposed changes communicated to ANSP.

AOP09-REG03	Certify and deliver operational approval	Start:01/2012	Finish:12/2015
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Action by : National Supervisory Authorities (NSAs)
Description & purpose : Certify and deliver operational approval for ADS-B 1090 MHz out 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 ADS-B within the EU Member States, Norway and Switzerland are covered in EU-OPS 1.

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 31-01-2012
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
 EUROCAE - ED-129 - Technical Specification for a 1090 MHz Extended Squitter ADS-B Ground Station 30-06-2010
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

Finalisation criteria : 1 - Operational approval is delivered to aircraft operators having submitted an application as required by the competent authority.
 2 - Airworthiness certification is provided for ADS-B 1090 MHz out equipped aircraft.

AOP09-ASP01	Upgrade and put into service surveillance systems to support optimised dependent parallel operations	Start:01/2012	Finish:12/2015
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Action by : ANS Providers
Description & purpose : Upgrade and put into service surveillance systems to allow the deployment of system enablers associated with OI step listed in -References- section. The tasks to be done are as follows:
 - Define requirements which fit with local operational/technical context and are based on relevant standards;
 - Upgrade surveillance systems to comply with defined requirements;
 - Upgrade operator HMI to comply with defined requirements;
 - Verify compliance with Interoperability Regulation(s);
 - Integrate upgraded surveillance systems into the EATM Network;
 - Put into service upgraded surveillance systems.
 The upgraded surveillance systems and their HMI shall enable the operators to perform the operations defined in optimised dependant parallel operations procedures.

<u>Supporting material(s) :</u>	<p>EUROCAE - ED-102A - Minimum Operational Performance Specification for 1090 MHz Extended Squitter Automatic Dependant Surveillance – Broadcast (ADS-B) & Traffic Information Services – Broadcast (TIS-B) with Corrigendum 1 31-01-2012 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>ETSI - EN 303 213-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 1: A-SMGCS Level 1 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.3.1 / 27-04-2012 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 2: Level 2 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.2.1 / 27-04-2012 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 21-10-2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 21-10-2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-126 - Safety, Performance and Interoperability Requirements Document for ADS-B-NRA Application 31-12-2006 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-129 - Technical Specification for a 1090 MHz Extended Squitter ADS-B Ground Station 30-06-2010 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-161 - Safety, Performance and Interoperability Requirements Document for ADS-B-RAD Application 30-09-2009 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-163 - Safety, Performance and Interoperability Requirements Document for ADS-B Airport Surface Surveillance Application (ADS-B-APT) 31-12-2010 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCONTROL - Mode S Transponder in an Airport/A-SMGCS Environment - Edition 1.1 / 03-05-2005 Url : http://www.eurocontrol.int/airports/gallery/content/public/a-smgcs/index.html</p>
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<u>Finalisation criteria :</u>	<p>1 - The surveillance systems upgraded. For EU+ States: For the surveillance system, the technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) has been delivered to the National Supervisory Authority (NSA). Note: For states where Regulation (EC) No 552/2004 on the interoperability of the European Air Traffic Management network does not apply, ANSPs should apply compliance procedures as defined by their competent National Authority.</p> <p>2 - The surveillance systems put into operation.</p>
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AOP09-ASP02	Upgrade and put into service ATS systems to support optimised dependent parallel operations	Start:01/2012	Finish:12/2015
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Upgrade and put into service ATS systems to allow the deployment of system enablers associated with OI step listed in - References- section. The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Define requirements which fit with local operational/technical context and are based on relevant standards; - Upgrade ATS systems to comply with defined requirements; - Upgrade operator HMI to comply with defined requirements; - Verify compliance with Interoperability Regulation(s); - Integrate upgraded ATS systems into the EATM Network; - Put into service upgraded ATS systems. <p>The upgraded ATS systems and their HMI shall enable the operators to perform the operations defined in optimised dependant parallel operations procedures.</p>

AOP09	Implement Optimised Dependent Parallel Operations
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<u>Supporting material(s) :</u>	<p>EUROCAE - ED-102A - Minimum Operational Performance Specification for 1090 MHz Extended Squitter Automatic Dependant Surveillance – Broadcast (ADS-B) & Traffic Information Services – Broadcast (TIS-B) with Corrigendum 1 31-01-2012 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>ETSI - EN 303 213-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 1: A-SMGCS Level 1 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.3.1 / 27-04-2012 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-2 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 2: Level 2 including external interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.2.1 / 27-04-2012 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-3 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 3: Deployed cooperative sensor including its interfaces; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 21-10-2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>ETSI - EN 303 213-4-1 - Advanced Surface Movement Guidance and Control System (A-SMGCS); Part 4: Deployed non-cooperative sensor including its interfaces; Sub-part 1: Generic requirements for non-cooperative sensor; Community Specification for application under the Single European Sky Interoperability Regulation EC 552/2004 - Ver. 1.1.1 - OJ 2010/C 330/02 / 21-10-2010 Url : http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp</p> <p>EUROCAE - ED-126 - Safety, Performance and Interoperability Requirements Document for ADS-B-NRA Application 31-12-2006 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-129 - Technical Specification for a 1090 MHz Extended Squitter ADS-B Ground Station 30-06-2010 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-161 - Safety, Performance and Interoperability Requirements Document for ADS-B-RAD Application 30-09-2009 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCONTROL - Guidance for the Provision of Air Traffic Services Using ADS-B in Non Radar Airspace (NRA) - Edition 1.0 / 28-01-2008 Url : http://www.eurocontrol.int/cascade/public/standard_page/ads_b_ansp.html</p> <p>EUROCONTROL - Guidance for the Provision of Air Traffic Services Using ADS-B in Radar Airspace - Edition 1.0 / 28-12-2008 Url : http://www.eurocontrol.int/cascade/public/standard_page/ads_b_ansp.html</p> <p>EUROCONTROL - Mode S Transponder in an Airport/A-SMGCS Environment - Edition 1.1 / 03-05-2005 Url : http://www.eurocontrol.int/airports/gallery/content/public/a_smgcs/index.html</p>
<u>Finalisation criteria :</u>	<p>1 - ATS systems upgraded. For EU+ States, 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). Note: For states where Regulation (EC) No 552/2004 on the interoperability of the European Air Traffic Management network does not apply, ANSPs should apply compliance procedures as defined by their competent National Authority.</p> <p>2 - Upgraded ATS systems put into service.</p>

AOP09-ASP03	Develop and validate procedures for optimised dependant parallel operations	Start:01/2012	Finish:12/2015
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Design and develop procedures for optimised dependant parallel operations. Prepare necessary material to undertake required validation of the procedures Test and validate the established procedures and provide relevant results/data to the National Supervisory Authority.</p>
<u>Supporting material(s) :</u>	<p>ICAO - Doc 9643 - Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR) - Edition 1 / 31-12-2004 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 4444 - Air Traffic Management - Edition 15 / 18-11-2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p> <p>ICAO - Doc 9906-Volume 1 - Quality Assurance Manual for Flight Procedure Design - Volume 1 - Flight Procedure Design Quality Assurance System - Edition 1 / 31-12-2009 Url : http://www.icao.int/publications/Pages/catalogue.aspx</p>

<u>Finalisation criteria :</u>	1 - Successfully completed validation and tests for the procedures and results delivered to the NSA.
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AOP09	Implement Optimised Dependent Parallel Operations
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AOP09-ASP04	Develop safety assessment for the changes	Start:01/2012	Finish:12/2015
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Develop safety assessment of the changes, notably upgrades of ATS and surveillance systems and associated procedures for optimised dependant parallel operations. The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver safety assessment to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. <p>This safety assessment shall be based on fully validated/recognised method.</p>
<u>Supporting material(s) :</u>	<p>EUROCAE - ED-126 - Safety, Performance and Interoperability Requirements Document for ADS-B-NRA Application 31-12-2006 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCAE - ED-161 - Safety, Performance and Interoperability Requirements Document for ADS-B-RAD Application 30-09-2009 Url : http://boutique.eurocae.net/catalog/index.php</p> <p>EUROCONTROL - EAM 4/AMC - Acceptable Means of Compliance with ESARR4 - Edition 4.0 / 26-10-2009 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EUROCONTROL - EAM 4/GUI 2 - ESARR 4 and related Safety Oversight - Edition 4.0 / 21-03-2006 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p>
<u>Finalisation criteria :</u>	1 - Safety assessment report including safety arguments for the changes submitted to the NSA.

AOP09-ASP05	Train operational and technical staff	Start:01/2012	Finish:12/2015
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Train aerodrome control staff (tower runway controller and tower ground controller) in the use of optimised dependant parallel operations procedures for the provision of aerodrome control services.</p> <p>Train technical staff to supervise and maintain the upgraded surveillance systems.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Develop training package (material); - Update training plans; - Determine staff population to be trained; - Apply the training plan.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Guidance for ATSEP Training Progression and Concepts - Edition 1.0 / 14-10-2010 Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - Guidance for the Provision of Air Traffic Services Using ADS-B in Non Radar Airspace (NRA) - Edition 1.0 / 28-01-2008 Url : http://www.eurocontrol.int/cascade/public/standard_page/ads_b_ansp.html</p> <p>EUROCONTROL - Guidance for the Provision of Air Traffic Services Using ADS-B in Radar Airspace - Edition 1.0 / 28-12-2008 Url : http://www.eurocontrol.int/cascade/public/standard_page/ads_b_ansp.html</p> <p>EUROCONTROL - Guidelines for Air Traffic Safety Electronics Personnel System/Equipment Rating Training - Edition 3.0 / 14-10-2010 Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - Guidelines for the Development of Unit Training Plans - Edition 1.0 / 31-08-2005 Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - EAM 5/AMC - Acceptable means of Compliance with ESARR 5 - Edition 2.0 / 01-08-2007 Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel</p> <p>EUROCONTROL - EAM 5/GUI 3 - Explanatory Material on ESARR 5 Requirements for Engineers and Technical Personnel - Edition 2.0 / 17-02-2006 Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel</p> <p>EUROCONTROL - Training Progression and Concepts - Edition 1.0 / 26-03-2004 Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - Airport CDM Functional Requirements Document - Edition 4.0 / 01-04-2012 Url : http://www.eurocontrol.int/documents/airport-cdm-implementation-manual-version-4</p>
<u>Finalisation criteria :</u>	<p>- - The training plan and package have been developed by the ANSP.</p> <p>- All concerned personnel have been trained.</p>

AOP09-ASP06	Revise and publish Aeronautical Information documents	Start:01/2012	Finish:12/2015
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<u>Action by :</u>	ANS Providers
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AOP09	Implement Optimised Dependent Parallel Operations
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<u>Description & purpose :</u>	Revise and publish Aeronautical Information documents regarding the use of procedures for optimised dependant parallel operations. The tasks to be done are as follows: - Prepare necessary material for publication in AIP; - Publish relevant sections of AIP accordingly .
<u>Supporting material(s) :</u>	EUROCONTROL - Guidance for the Provision of Air Traffic Services Using ADS-B in Non Radar Airspace (NRA) - Edition 1.0 / 28-01-2008 Url : http://www.eurocontrol.int/cascade/public/standard_page/ads_b_ansp.html EUROCONTROL - Guidance for the Provision of Air Traffic Services Using ADS-B in Radar Airspace - Edition 1.0 / 28-12-2008 Url : http://www.eurocontrol.int/cascade/public/standard_page/ads_b_ansp.html EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 14-02-2011 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html ICAO - Doc 8126 - Aeronautical Information Services Manual - Edition 6 / 28-09-2009 Url : http://www.icao.int/publications/Pages/catalogue.aspx
<u>Finalisation criteria :</u>	1 - AIC and AIP has been published taking due account of the impact of this deployment.

AOP09-USE01	Obtain airworthiness certification	Start:01/2012	Finish:12/2015
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<u>Action by :</u>	Airspace Users
<u>Description & purpose :</u>	Obtain airworthiness certification and operational approval for ADS-B 1090 MHz out equipped aircraft. Obtain airworthiness certificate for the airframes equipped with ADS-B 1090 MHz out equipment as specified in EASA ETSO-C166a. 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 ADS-B 1090 MHz out equipment.
<u>Supporting material(s) :</u>	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 31-01-2012 Url : http://boutique.eurocae.net/catalog/index.php EASA - ETSO-C166a - Extended Squitter Automatic Dependent Surveillance - Broadcast (ADS-B) and Traffic Information Services (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz) - ED Decision 2008/012/R / 28-11-2008 Url : http://www.easa.europa.eu/agency-measures/certification-specifications.php
<u>Finalisation criteria :</u>	1 - Aircraft operators receive airworthiness certificate by the National Regulator, for ADS-B 1090 MHz out equipped aircraft.

AOP09-USE02	Obtain operational approval	Start:01/2012	Finish:12/2015
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<u>Action by :</u>	Airspace Users
<u>Description & purpose :</u>	Obtain operational approval for ADS-B 1090 MHz out equipped aircraft. In order to obtain operational approval by the National Regulator of the State from which they hold an Air Operator Certificate, operators must provide, to the competent authority for the state of registry of the aircraft, evidence which pertains to: - Changes to training and maintenance programmes; - Changes to manuals, operational procedures, minimum equipment lists; - Other areas necessary for safe and effective ADSB use and the qualification of aircrews through the approved training programmes, as specified by the competent authority.
<u>Supporting material(s) :</u>	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 31-01-2012 Url : http://boutique.eurocae.net/catalog/index.php EASA - AMC 20-24 - Certification Considerations for the Enhanced ATS in Non-Radar Areas using ADS-B Surveillance (ADS-B-NRA) Application via 1090 MHz Extended Squitter - ED Decision 2008/004/R / 02-05-2008 Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20 EASA - ETSO-C166a - Extended Squitter Automatic Dependent Surveillance - Broadcast (ADS-B) and Traffic Information Services (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz (MHz) - ED Decision 2008/012/R / 28-11-2008 Url : http://www.easa.europa.eu/agency-measures/certification-specifications.php
<u>Finalisation criteria :</u>	1 - Aircraft operators received operational approval by the National Regulator, for ADS-B 1090 MHz out equipped aircraft.

AOP09-USE03	Update training manual and train crew	Start:01/2012	Finish:12/2015
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AOP09	Implement Optimised Dependent Parallel Operations
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Action by :

Airspace Users

Description & purpose :

Update aircrew training manual and train crew to include procedures for optimised dependant parallel operations. The manual shall assist pilots when performing optimised dependant parallel operations.

Finalisation criteria :

1 - Aircrew training manual has been updated and crew has been trained.

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

Ol step - [\[CM-0801\]-Ground Based Safety Nets \(TMA, En Route\)](#)

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 Implementing Regulation (EU) N°1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) N°691/2010 18-10-2011

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SLoA)

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

▲ 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:

Outline description approved in:

SAFETY / SPIN SG

Latest objective review at expert level in:

05/2006

Commitment decision body:

Objective approved/endorsed in:

Provisional Council (PC)

Latest change to objective approved/endorsed in:

07/2000

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

Detailed SLoA descriptions

ATC02.2	Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2
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ATC02.2-REG01	Conduct safety oversight of the changes	Start:01/2012	Finish:01/2013
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<u>Action by :</u>	National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	<p>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.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - 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. <p>The safety case shall be developed in accordance with a validated / recognised safety assessment method.</p>
<u>Supporting material(s) :</u>	<p>EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 02-12-2009</p> <p>Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm</p>
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Implement STCA in line with EUROCONTROL Specification and related guidance material in En-Route airspace, applicable TMAs and Military ATC units providing radar services.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - SPEC 122 - EUROCONTROL Specification for Short Term Conflict Alert - Edition 1.1 / 19-05-2009</p> <p>Url : http://www.eurocontrol.int/documents/short-term-conflict-alert-specification</p>
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Train operational staff in the use of STCA in line with guidelines based on the EUROCONTROL Specification for STCA and related guidance material.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - SPEC 122 - EUROCONTROL Specification for Short Term Conflict Alert - Edition 1.1 / 19-05-2009</p> <p>Url : http://www.eurocontrol.int/documents/short-term-conflict-alert-specification</p>
<u>Finalisation criteria :</u>	The training plans have been updated and a training package has been developed by the ANSP.

ATC02.2-ASP03	Develop safety assessment for the changes	Start:01/2012	Finish:01/2013
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>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.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. <p>This safety assessment shall be based on fully validated/recognised method.</p>
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 01-11-2006</p> <p>Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html</p> <p>EUROCONTROL - Safety Assessment Made Easier (SAME), Part 1 - Edition 1.0 / 15-01-2010</p> <p>Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#15</p> <p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 05-04-2001</p> <p>Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p>

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

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

(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

Ol step - [\[CM-0801\]-Ground Based Safety Nets \(TMA, En Route\)](#)

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)

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

▲ 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:

Outline description approved in:
Latest objective review at expert level in:

SAFETY / SPIN SG
03/2012
04/2012

Commitment decision body:

Objective approved/endorsed in:
Latest change to objective approved/endorsed in:

Provisional Council (PC)
07/2006
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.

ATC02.5	Implement ground based safety nets - Area Proximity Warning - level 2
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Environment : N/A
Security : N/A

Detailed SLoA descriptions

ATC02.5-ASP01	Implement the APW function	Start:01/2009	Finish:12/2016
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Action by : ANS Providers
Description & purpose : Put into service ground-based safety tool systems supporting the APW function in En-Route airspace, applicable TMAs and Military ATC units providing surveillance services.
Notes : [this SLoA is linked to ER APP ATC 133](#)
Supporting material(s) : EUROCONTROL - SPEC 124 - EUROCONTROL Specification for Area Proximity Warning - Edition 0.5 / 19-05-2009
Url : http://www.eurocontrol.int/safety-nets/public/standard_page/apw_01.html
Finalisation criteria :

- 1 - Ground systems 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
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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 / 19-05-2009
Url : http://www.eurocontrol.int/safety-nets/public/standard_page/apw_01.html
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.

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

(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

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

Ol step - [\[CM-0801\]-Ground Based Safety Nets \(TMA, En Route\)](#)

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)

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

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

SAFETY / SPIN SG

03/2012

04/2012

Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2006

07/2012

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

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

ATC02.6-ASP01	Implement the MSAW function	Start:01/2009	Finish:12/2016
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Action by : ANS Providers

Description & purpose : Put into service ground-based safety tool systems supporting the MSAW function.

Notes : [this SLoA is linked to ER APP ATC 133](#)

Supporting material(s) : EUROCONTROL - SPEC 126 - EUROCONTROL Specification for Minimum Safe Altitude Warning - Edition 0.9 / 19-09-2009
[Url : http://www.eurocontrol.int/safety-nets/public/standard_page/msaw_01.html](http://www.eurocontrol.int/safety-nets/public/standard_page/msaw_01.html)

Finalisation criteria :

- 1 - Ground systems 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
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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 / 19-09-2009
[Url : http://www.eurocontrol.int/safety-nets/public/standard_page/msaw_01.html](http://www.eurocontrol.int/safety-nets/public/standard_page/msaw_01.html)

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

(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

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

Ol step - [\[CM-0801\]-Ground Based Safety Nets \(TMA, En Route\)](#)

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)

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

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

SAFETY / SPIN SG

03/2012

04/2012

Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2006

05/2012

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.

Environment :

N/A

Security :

N/A

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

ATC02.7-ASP01	Implement the APM function	Start:01/2009	Finish:12/2016
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Action by : ANS Providers

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

Notes : [this SLoA is linked to ER APP ATC 133](#)

Supporting material(s) : EUROCONTROL - SPEC 128 - EUROCONTROL Specification for Approach Path Monitor - Edition 0.9 / 19-05-2009
[Url : http://www.eurocontrol.int/safety-nets/public/standard_page/apm_01.html](http://www.eurocontrol.int/safety-nets/public/standard_page/apm_01.html)

Finalisation criteria :

- APM is implemented, documented and in operational use.
- 1 - Ground systems 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 in operational use.

ATC02.7-ASP02	Align ATCO training with the use of APM ground-based safety tools	Start:01/2009	Finish:12/2016
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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 / 19-05-2009
[Url : http://www.eurocontrol.int/safety-nets/public/standard_page/apm_01.html](http://www.eurocontrol.int/safety-nets/public/standard_page/apm_01.html)

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.

SESAR	Active					ECAC
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 ECAC States
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

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

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>
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

▲ 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:

07/2012

Expected performance benefits

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

Detailed SLoA descriptions

ATC07.1	Implement arrival management tools
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ATC07.1-ASP01	Implement initial basic arrival management tools	Start:12/1998	Finish:12/2015
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Action by : ANS Providers

Description & purpose : Implement initial basic arrival management tools

Supporting material(s) : EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 25-01-1999
[Url : http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html](http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html)
 EUROCONTROL - Arrival Manager - Implementation Guidelines and Lessons Learned Edition 0.1 17-12-2010
[Url : http://www.eurocontrol.int/articles/fasti-documents](http://www.eurocontrol.int/articles/fasti-documents)

Finalisation criteria : Function is implemented, documented and in operational use.

ATC07.1-ASP02	Implement initial basic AMAN procedures	Start:01/2005	Finish:12/2015
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Action by : ANS Providers

Description & purpose : Define, validate and implement ATC procedures for operational use of basic AMAN tools.

Supporting material(s) : EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 25-01-1999
[Url : http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html](http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html)
 EUROCONTROL - Arrival Manager - Implementation Guidelines and Lessons Learned Edition 0.1 17-12-2010
[Url : http://www.eurocontrol.int/articles/fasti-documents](http://www.eurocontrol.int/articles/fasti-documents)

Finalisation criteria : Procedures are implemented, documented and in operational use.

ATC07.1-ASP03	Adapt TMA organisation to accommodate use of basic AMAN	Start:01/2005	Finish:12/2015
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Action by : ANS Providers

Description & purpose : Adapt TMA organisation, where necessary, to accommodate the use of basic AMAN.

Supporting material(s) : EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 25-01-1999
[Url : http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html](http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html)
 EUROCONTROL - Arrival Manager - Implementation Guidelines and Lessons Learned Edition 0.1 17-12-2010
[Url : http://www.eurocontrol.int/articles/fasti-documents](http://www.eurocontrol.int/articles/fasti-documents)

Finalisation criteria : 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
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Action by : ANS Providers

Description & purpose : Prepare and adapt ground ATC systems to support and implement basic AMAN functions.

Supporting material(s) : EUROCONTROL - Operational Requirements for EATCHIP Phase III ATM Added functions - Volume 3: Arrival Manager, Functional Specifications for Arrival Manager - Edition 2.0 / 25-01-1999
[Url : http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html](http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html)
 EUROCONTROL - Arrival Manager - Implementation Guidelines and Lessons Learned Edition 0.1 17-12-2010
[Url : http://www.eurocontrol.int/articles/fasti-documents](http://www.eurocontrol.int/articles/fasti-documents)

Finalisation criteria : 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)

All ECAC States
In En-Route airspace

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2008
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](#)
OI step - [\[CM-0203\]-Automated Flight Conformance Monitoring](#)

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 Implementing Regulation (EU) N° 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) N° 691/2010 18-10-2011

Applicable ICAO Annexes and other references

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

Stakeholder Lines of Action (SLoA)

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

▲ 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:

Outline description approved in: Unassigned
Latest objective review at expert level in: 04/2012

Commitment decision body:

Objective approved/endorsed in: Provisional Council (PC)
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.

ATC12	Implement automated support for conflict detection and conformance monitoring
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Environment : N/A.

Security : N/A

Detailed SloA descriptions

ATC12-REG01	Approve use of MTCD and conformance monitoring functions and associated operational procedures	Start:01/2008	Finish:12/2016
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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 / 02-12-2009

Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

Finalisation criteria : The introduction of the change into service was accepted and a notification of acceptance has been provided to the ANSP.

ATC12-ASP01	Implement MTCD functions	Start:01/2008	Finish:12/2016
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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 / 15-07-2010

Url : <http://www.eurocontrol.int/articles/fasti-documents>

EUROCONTROL - SPEC 142 - EUROCONTROL Specification for Monitoring Aids - Edition 1.0 / 15-07-2010

Url : <http://www.eurocontrol.int/articles/fasti-documents>

EUROCONTROL - SPEC 143 - EUROCONTROL Specification for Trajectory Prediction - Edition 1.0 / 15-07-2010

Url : <http://www.eurocontrol.int/articles/fasti-documents>

Finalisation criteria : MTCD and Conformance Monitoring function is implemented, documented and in operational use.

ATC12-ASP02	Perform ATCO training for the use of FASTI related functions	Start:01/2008	Finish:12/2016
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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 - Good Practice Guidelines for First ATC Support Tools Implementation (FASTI) with a Focus on Human Factors and Managing the Transition - Edition 1.0 / 18-06-2007

Url : <http://www.eurocontrol.int/articles/fasti-documents>

EUROCONTROL - SPEC 139 - EUROCONTROL Specification for Medium-Term Conflict Detection - Edition 1.0 / 15-07-2010

Url : <http://www.eurocontrol.int/articles/fasti-documents>

EUROCONTROL - SPEC 142 - EUROCONTROL Specification for Monitoring Aids - Edition 1.0 / 15-07-2010

Url : <http://www.eurocontrol.int/articles/fasti-documents>

EUROCONTROL - SPEC 143 - EUROCONTROL Specification for Trajectory Prediction - Edition 1.0 / 15-07-2010

Url : <http://www.eurocontrol.int/articles/fasti-documents>

Finalisation criteria : ATCOs are trained for the use of FASTI related functions.

ATC12-ASP03	Develop safety assessment for the changes	Start:01/2008	Finish:12/2016
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Action by : ANS Providers

ATC12	Implement automated support for conflict detection and conformance monitoring
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<u>Description & purpose :</u>	<p>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.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. <p>This safety assessment shall be based on a fully validated/recognised method.</p>
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 01-11-2006 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html</p> <p>EUROCONTROL - Safety Assessment Made Easier (SAME), Part 1 - Edition 1.0 / 15-01-2010 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#15</p> <p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 05-04-2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p>
<u>Finalisation criteria :</u>	<p>The Safety assessment report including safety arguments for the changes has been delivered to the NSA and a notification of acceptance was received.</p>

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SESAR	Active					ECAC
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 ECAC States
In ECAC airspace, for 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

Ol step - [\[TS-0305\]-Arrival Management Extended to En Route Airspace](#)

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 Implementing Regulation (EU) N°1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) N°691/2010 18-10-2011

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>
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

▲ 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:

Outline description approved in: Unassigned
Latest objective review at expert level in: 02/2009
04/2012

Commitment decision body:

Objective approved/endorsed in: Provisional Council (PC)
Latest change to objective approved/endorsed in: 05/2009
07/2012

Expected performance benefits

ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations
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<u>Safety :</u>	Maintained or improved.
<u>Capacity :</u>	Improved airport/TMA capacity.
<u>Cost-effectiveness :</u>	Reduced costs through reduction in delays, reduction in low-level holding operations and reduction in low-level tactical vectoring for delay purposes.
<u>Environment :</u>	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.
<u>Security :</u>	N/A

Detailed SloA descriptions

ATC15-REG01	Conduct safety oversight of the changes	Start:01/2012	Finish:12/2017
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<u>Action by :</u>	National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	<p>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.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - 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.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 02-12-2009</p> <p>Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm</p>
<u>Finalisation criteria :</u>	1 - Formal acceptance by the NSA of the proposed changes 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
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<u>Action by :</u>	National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	<p>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.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Analyse the specified procedure; - Review available validated data and information; - Prepare relevant information for the publication.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - AMAN Information Extension to En Route Sectors - Concept of Operations - Edition 1.0 / 05-06-2009</p> <p>Url : http://www.eurocontrol.int/articles/fasti-documents</p>
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Develop safety assessment of the changes, notably ATC systems and procedures that will implement arrival management functionality in En-Route sectors and associated procedures.</p> <p>The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. <p>This safety assessment shall be based on fully validated/recognised method.</p>
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 01-11-2006</p> <p>Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html</p> <p>EUROCONTROL - Safety Assessment Made Easier (SAME), Part 1 - Edition 1.0 / 15-01-2010</p> <p>Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#15</p> <p>EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 05-04-2001</p> <p>Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p>
<u>Finalisation criteria :</u>	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	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations
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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
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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 / 05-06-2009
[Url : http://www.eurocontrol.int/articles/fasti-documents](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 / 25-01-1999
[Url : http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html](http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html)

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
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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 / 05-06-2009
[Url : http://www.eurocontrol.int/articles/fasti-documents](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 / 25-01-1999
[Url : http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html](http://www.eurocontrol.int/odt/public/standard_page/odt_library_operational_requir.html)

Finalisation criteria :

- 1 - Procedures are implemented, documented and 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
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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
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Action by : AIS Providers

ANS Providers

ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations
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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.

SESAR	Active					ECAC
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) 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) 1332/2011 shall apply 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) 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
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

Ol step - [\[CM-0803\]-Use of Autoflight systems for enhanced compliance with TCAS II RAs \(compliant with TCAS II Version 7\)](#)

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

EUROCAE-%20ED-143%20Minimum%20Operational%20Performance%20Standards%20For%20Traffic%20Alert%20and%20Collision%20Avoidance%20System%20II%20(TCAS%20II)
RTCA-DO-185B%20Minimum%20Operational%20Performance%20Standards%20(MOPS)%20for%20TCAS%20II

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>
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	Implement ACAS II compliant with TCAS II change 7.1
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ATC16-USE02 Obtain operational approval for ACAS II version 7.1 equipped aircraft 03/2012 12/2015

▲ 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
Commitment decision body:	Provisional Council (PC)
Objective approved/endorsed in:	08/2011
Latest change to objective approved/endorsed in:	07/2012

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
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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) :	EASA - AMC 20-15 - Airworthiness Certification Considerations for the Airborne Collision Avoidance System (ACAS II) with optional Hybrid Surveillance - ED Decision 2011/001/R / 30-03-2011 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 / 08-12-2009 Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO ICAO - Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual - Edition 2 / 01-01-2012 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 EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 30-09-2010 Url : http://boutique.eurocae.net/catalog/index.php
Finalisation criteria :	1 - Provide 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.

ATC16-REG02	Provide airworthiness certification	Start:03/2012	Finish:12/2015
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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.

ATC16	Implement ACAS II compliant with TCAS II change 7.1
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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 / 30-03-2011
[Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20](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 / 08-12-2009
[Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO](http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO)
ICAO - Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual - Edition 2 / 01-01-2012
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](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](http://store1.icao.int/mainpage.ch2)
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 30-09-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 30-09-2010
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 30-04-2009
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

Finalisation criteria : 1 - Airworthiness certification is provided for ACAS II (TCAS 7.1) aircraft in the State of Registry under its responsibility.

ATC16-REG03	Deliver operational approval for ACAS II version 7.1 equipped aircraft	Start:03/2012	Finish:12/2015
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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-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 30-09-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
RTCA - DO-185B - Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II) 19-08-2006
[Url : http://www.rtca.org/doclist.asp](http://www.rtca.org/doclist.asp)
EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 30-04-2009
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 30-09-2010
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
RTCA - DO-185B-Change 1 - Minimum Operational Performance Standards for Traffic Alert and Collision Avoidance System II (TCAS II) - Change 1 09-01-2007
[Url : http://www.rtca.org/doclist.asp](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 16-12-1997
[Url : http://www.rtca.org/doclist.asp](http://www.rtca.org/doclist.asp)

Finalisation criteria : 1 - Operational approval is delivered to aircraft operators having submitted an application.

ATC16-ASP01	Train controllers	Start:-	Finish:03/2012
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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
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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 / 30-03-2011
[Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20](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 / 08-12-2009
[Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO](http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO)
ICAO - Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual - Edition 2 / 01-01-2012
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](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](http://store1.icao.int/mainpage.ch2)

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
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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) : EASA - ETSO-C119c - Traffic Alert and Collision Avoidance System (TCAS) Airborne Equipment, TCAS II - ED Decision 2009/015/R / 08-12-2009
[Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO](http://www.easa.eu.int/agency-measures/certification-specifications.php#CS-ETSO)
ICAO - Doc 9863 - Airborne Collision Avoidance System (ACAS) Manual - Edition 2 / 01-01-2012
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](http://www.icao.int/publications/Pages/catalogue.aspx)
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 30-09-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 30-04-2009
[Url : http://boutique.eurocae.net/catalog/index.php](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, is 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
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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-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 30-09-2008
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 30-09-2010
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 30-04-2009
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)

Finalisation criteria : 1 - Transport-type aircraft 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
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Action by : Military Authorities

ATC16	Implement ACAS II compliant with TCAS II change 7.1
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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 / 01-01-2012
 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
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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) : EASA - ETSO-C119c - Traffic Alert and Collision Avoidance System (TCAS) Airborne Equipment, TCAS II - ED Decision 2009/015/R / 08-12-2009
 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 30-09-2008
 Url : <http://boutique.eurocae.net/catalog/index.php>
 EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 30-04-2009
 Url : <http://boutique.eurocae.net/catalog/index.php>
 EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 30-09-2010
 Url : <http://boutique.eurocae.net/catalog/index.php>

Finalisation criteria :

- 1 - Aircraft operators receive 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
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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 / 30-03-2011
 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 / 08-12-2009
 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 30-09-2008
 Url : <http://boutique.eurocae.net/catalog/index.php>
 EUROCAE - ED-181 - Guidance for the Development of Airborne Collision Avoidance Systems 30-09-2010
 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) 19-08-2006
 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 09-01-2007
 Url : <http://www.rtca.org/doclist.asp>
 EUROCAE - ED-143 Change 1 - Minimum Operational Performance Standards For Traffic Alert and Collision Avoidance 30-04-2009
 Url : <http://boutique.eurocae.net/catalog/index.php>

ATC16	Implement ACAS II compliant with TCAS II change 7.1
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Finalisation criteria :

1 - Aircraft operators receive operational approval by the Competent Authorities, for ACAS II version 7.1 equipped aircraft.

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) 1032/2006.

Applicable area(s)

All ECAC States

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

Ol step - [\[CM-0201\]-Automated Assistance to Controller for Seamless Coordination, Transfer and Dialogue](#)

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

Commission Implementing Regulation (EU) N° 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) N° 691/2010 18-10-2011

Applicable ICAO Annexes and other references

ICAO Doc 4444 - PANS ATM

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>
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	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer		
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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
ATC17-ASP05	Train ATC staff for applying electronic dialogue procedure	01/2013	12/2018

▲ 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>	Unassigned
<u>Outline description approved in:</u>	03/2012
<u>Latest objective review at expert level in:</u>	04/2012
<u>Commitment decision body:</u>	Provisional Council (PC)
<u>Objective approved/endorsed in:</u>	07/2012
<u>Latest change to objective approved/endorsed in:</u>	-

Expected performance benefits

Safety :

Capacity :

Cost-effectiveness :

Environment :

Security : N/A

Detailed SloA descriptions

ATC17-REG01	Conduct safety oversight of the changes	Start:01/2013	Finish:12/2018
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<u>Action by :</u>	National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 02-12-2009 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm

Finalisation criteria : 1 - Formal acceptance by the NSA of the proposed changes communicated to ANSP.

ATC17-ASP01	Develop safety assessment for the changes	Start:01/2013	Finish:12/2018
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	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.

ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer
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Supporting material(s) : EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 05-04-2001
 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 146/05 / 16-12-2010
 Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - The Safety argument for all changes, generated by the deployment of APW, 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
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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 - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 18-03-2011
 Url : <http://www.eurocontrol.int/articles/fasti-documents>
 EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010
 Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - Ground systems 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;
 are documented and 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
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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 - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 18-03-2011
 Url : <http://www.eurocontrol.int/articles/fasti-documents>
 EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010
 Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

Finalisation criteria : 1 - Ground systems 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.
 are documented and in operational use.

ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer
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ATC17-ASP04	Upgrade and put into service ATC system to support electronic dialogue procedure in Coordination process	Start:01/2013	Finish:12/2018
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	When bilaterally agreed between ANSPs, upgrade and put into service ATC system to support electronic dialogue procedure in Transfer of communication process using OLDI.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 18-03-2011 Url : http://www.eurocontrol.int/articles/fasti-documents</p> <p>EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010 Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html</p>
<u>Finalisation criteria :</u>	<p>1 - Ground systems 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 :</p> <ul style="list-style-type: none"> - RAP; - RRV; - CDN; - ACP; - RJC; and - SBY. <p>2 - The technical file (TF) with evidences of compliance and the EC declaration of verification of systems (DoV) has been delivered to the competent National Supervisory Authority (NSA).</p> <p>3 - The functions to support the coordination process as identified by the individual administration from the following list</p> <ul style="list-style-type: none"> - RAP; - RRV; - CDN; - ACP; - RJC; and - SBY; <p>are documented and in operational use.</p>

ATC17-ASP05	Train ATC staff for applying electronic dialogue procedure	Start:01/2013	Finish:12/2018
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Train operational staff in the use of electronic dialogue procedure. The tasks to be done are as follows:</p> <ul style="list-style-type: none"> - Develop a training package (material); - Update the training plans; - Determine staff population to be trained; - Apply the training plans.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - System Supported Coordination (SYSCO) Implementation Guidelines - Edition 2.0 / 18-03-2011 Url : http://www.eurocontrol.int/articles/fasti-documents</p> <p>EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010 Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html</p>
<u>Finalisation criteria :</u>	1 - The training plans have been updated and a training package has been developed by the ANSP for the use of electronic dialogue procedure

SESAR	Active					ECAC
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 (European Communities) 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.

This objective stipulates the actions put on ATM stakeholders in both cases:

- 1) States intending to participate in PENS;
- 2) All other ECAC States.

Note: 1. PENS will also support IP v4.

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)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2006
Full operational capability: 12/2014

References

European ATM Master Plan relationship

Enabler - [\[CTE-C11a\]-PENS](#)

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 (European Communities) 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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
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	▲
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	▲
COM09-AGY01	Report on PENS performance	09/2009	12/2011	

▲ Applicable to the military.

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

COM09	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)
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Consultation & Approval

<u>Working arrangement in charge:</u>	COM Steering Group (CSG) and PENS Steering Group (PSSG)
<u>Outline description approved in:</u>	-
<u>Latest objective review at expert level in:</u>	04/2012
<u>Commitment decision body:</u>	Provisional Council (PC)
<u>Objective approved/endorsed in:</u>	07/2009
<u>Latest change to objective approved/endorsed in:</u>	07/2012

Expected performance benefits

<u>Safety :</u>	N/A.
<u>Capacity :</u>	N/A.
<u>Cost-effectiveness :</u>	More cost efficient as X.25 maintenance costs are increasing while TCP/IP costs are lower.
<u>Environment :</u>	N/A.
<u>Security :</u>	N/A

Detailed SloA descriptions

COM09-REG01	Notify relevant National ANSPs of the mandate to migrate to IPv6	Start:09/2009	Finish:07/2010
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<u>Action by :</u>	National Regulatory Authorities
<u>Description & purpose :</u>	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 (European Communities) 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.
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	National Regulatory Authorities
<u>Description & purpose :</u>	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.
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	- 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.
<u>Finalisation criteria :</u>	The EUROCONTROL Agency (if PENS selected) informed by the National regulator of: - The planned means of compliance; - The target date of compliance.

COM09-ASP03	Migrate international or regional X.25 data networking facilities and/or services to IPv6	Start:01/2006	Finish:12/2014
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Implement or purchase IP network services to enable international communication exchange on IPS based protocol. Implement the necessary IPv4/IPv6 translation device if required.

COM09	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)
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Finalisation criteria : 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
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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 : This action will be stated finalised after acceptance 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](#)
OI step - [\[AOM-0202\]-Enhanced Real-time Civil-Military Coordination of Airspace Utilisation \(Step to be reviewed\)](#)

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
COM10-ASP01	Implement AMHS capability (Basic ATSMHS) and gateway facilities to AFTN	01/2002	12/2011	▲
COM10-ASP02	Implement regional boundary gateways	01/2002	12/2011	▲
COM10-ASP03	Enhance AMHS capability (Extended ATSMHS)	01/2012	12/2014	▲
COM10-ASP04	Ensure the conformity of AMHS systems and associated procedures	01/2002	12/2014	▲
COM10-ASP05	Organise personnel awareness and training	01/2002	12/2014	▲
COM10-ASP06	Participate in AMC activities for ATS Messaging Management	01/2007	12/2014	▲
COM10-IND01	Ensure the conformity of AMHS systems	01/2002	12/2014	

COM10	Migrate from AFTN to AMHS
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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

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

CNS / COM SG

01/2009

02/2010

Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2010

-

Expected performance benefits

<u>Safety :</u>	Benefits resulting from the application of a harmonised set of safety requirements
<u>Capacity :</u>	No or marginal benefits
<u>Cost-effectiveness :</u>	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.
<u>Environment :</u>	No or marginal benefits
<u>Security :</u>	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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Upgrade existing COM centres to provide AMHS capability and/or AFTN gateway facilities
<u>Supporting material(s) :</u>	EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 18-09-2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 7 / 07-05-2012 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=74 ICAO - EUR-Doc 021 - ATS Messaging Management Manual - Edition 8 / 26-04-2012 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114 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 / 31-12-2010 Url : http://www.icao.int/publications/Pages/catalogue.aspx

Finalisation criteria : AMHS capability has been implemented, documented and in operational service.

COM10-ASP02	Implement regional boundary gateways	Start:01/2002	Finish:12/2011
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	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.

COM10	Migrate from AFTN to AMHS
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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 / 18-09-2009
[Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification](https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification)
ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 7 / 07-05-2012
[Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=74](http://www.paris.icao.int/documents_open/files.php?subcategory_id=74)
ICAO - EUR-Doc 021 - ATS Messaging Management Manual - Edition 8 / 26-04-2012
[Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114](http://www.paris.icao.int/documents_open/files.php?subcategory_id=114)
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 / 31-12-2010
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](http://www.icao.int/publications/Pages/catalogue.aspx)

Finalisation criteria : Seamless cross-boundary operation of the ground ATS Messaging part of the AFS

COM10-ASP03	Enhance AMHS capability (Extended ATSMHS)	Start:01/2012	Finish:12/2014
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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) : EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 18-09-2009
[Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification](https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification)
ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 7 / 07-05-2012
[Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=74](http://www.paris.icao.int/documents_open/files.php?subcategory_id=74)
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 / 31-12-2010
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](http://www.icao.int/publications/Pages/catalogue.aspx)

Finalisation criteria : 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
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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 / 18-09-2009
[Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification](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 / 31-12-2010
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](http://www.icao.int/publications/Pages/catalogue.aspx)

Finalisation criteria : EC declaration of verification has been provided.

COM10-ASP05	Organise personnel awareness and training	Start:01/2002	Finish:12/2014
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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) : EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 18-09-2009
[Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification](https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification)
EUROCONTROL - IANS-COM-AMHS Course
[Url : https://trainingzone.eurocontrol.int](https://trainingzone.eurocontrol.int)
ICAO - EUR-Doc 020 - EUR AMHS Manual - Edition 7 / 07-05-2012
[Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=74](http://www.paris.icao.int/documents_open/files.php?subcategory_id=74)
ICAO - EUR-Doc 021 - ATS Messaging Management Manual - Edition 8 / 26-04-2012
[Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114](http://www.paris.icao.int/documents_open/files.php?subcategory_id=114)

COM10	Migrate from AFTN to AMHS
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Finalisation criteria :

- All COM Centre personnel have been adequately trained to AMHS technology.
- An AMHS "expertise cell" has been established in every COM Centre implementing AMHS.
- 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
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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 8 / 26-04-2012
 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114

Finalisation criteria : AMC Procedures for Cooperating COM Centres (CCC) operators have been implemented as defined in the ATS Messaging Management Manual.

COM10-IND01	Ensure the conformity of AMHS systems	Start:01/2002	Finish:12/2014
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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 / 18-09-2009
 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 / 31-12-2010
 Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria :

- Test reports have been completed in accordance with AMHS Community Specification and testing methodology and tools ensured by the EUROCONTROL Agency.
- An EC declaration of conformity has been provided.

COM10-AGY01	Provide AMC (ATS Messaging Management Centre) Service	Start:01/2007	Finish:12/2014
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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 8 / 26-04-2012
 Url : http://www.paris.icao.int/documents_open/files.php?subcategory_id=114

Finalisation criteria : Positive indication in AMC user's satisfaction surveys

COM10-AGY03	Enhance AMHS capability (Extended ATSMHS)	Start:01/2012	Finish:12/2014
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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 / 18-09-2009
 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 / 31-12-2010
 Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria : 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
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Action by : EUROCONTROL Agency

COM10	Migrate from AFTN to AMHS
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<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 18-09-2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	EUROCONTROL Agency
<u>Description & purpose :</u>	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
<u>Supporting material(s) :</u>	EUROCONTROL - SPEC 136 - EUROCONTROL Specification on the Air Traffic Services Message Handling System (AMHS) - Edition 2.0 - OJ 2009/C 323/06 / 18-09-2009 Url : https://www.eurocontrol.int/articles/air-traffic-services-message-handling-system-amhs-specification
<u>Finalisation criteria :</u>	Test tool has been made available.

COM10-AGY06	Support personnel training	Start:01/2002	Finish:12/2014
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<u>Action by :</u>	EUROCONTROL Agency
<u>Description & purpose :</u>	Support AMHS training of personnel in ANS Providers, including operational procedures
<u>Finalisation criteria :</u>	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 phase out analogue and digital 64k circuits that support current analogue and digital ATM voice services. It is expected that current services will begin to be phased out in a number of the ECAC States. A replacement of current analogue and digital ATM voice services with a common standard is therefore strongly needed at European level.

The objective forecasts that all ECAC States migrate their ATM voice services to VoIP by the specified Full Operational Capability (retrofit) dates: 12/ 2018 for inter-centre telephony and 12/2020 for links to the ground radio stations. Initial Operational Capability (Forward fit) date is 01/2013 for both inter-centre telephony and the links to the ground radio stations on the ground segment of the Air-Ground voice.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2013
Full operational capability: 12/2020

References

European ATM Master Plan relationship

Enabler - [\[CTE-C8\]-Digital/VoIP for ground telephony](#)
Enabler - [\[CTE-C9\]-VoIP for ground segment of Air-Ground voice](#)

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 Implementing Regulation (EU) N° 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) N° 691/2010 18-10-2011

Applicable ICAO Annexes and other references

- 1) Covers ICAO Global Plan Initiative GP-22.
- 2) 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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
COM11-REG01	Conduct safety oversight of the changes	01/2012	12/2018	
COM11-ASP01	Develop safety assessment for the changes	01/2012	12/2018	▲
COM11-ASP02	Notify to the Regulator the planned means & date of Initial and Full Operational Capability	01/2012	12/2012	▲
COM11-ASP03	Upgrade and put into service Voice Communication Systems to support VoIP inter-centre telephony	01/2013	12/2020	▲
COM11-ASP04	Upgrade and put into service Voice Communication Systems to support VoIP links to the ground radio stations	01/2013	12/2020	▲

▲ Applicable to the military.

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

COM11	Implementation of Voice over Internet Protocol (VoIP) in ATM
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Consultation & Approval

<u>Working arrangement in charge:</u>	CNS / COM SG
<i>Outline description approved in:</i>	02/2009
<i>Latest objective review at expert level in:</i>	10/2009
<u>Commitment decision body:</u>	Provisional Council (PC)
<i>Objective approved/endorsed in:</i>	08/2011
<i>Latest change to objective approved/endorsed in:</i>	-

Expected performance benefits

<u>Safety :</u>	Maintained or improved by providing enhanced signalisation functions.
<u>Capacity :</u>	Maintained or improved by providing enhanced signalisation functions. Prerequisite of dynamic sectorisation through dynamic allocation of voice resources.
<u>Cost-effectiveness :</u>	Reduced costs by reusing Internet off the shelf technologies that can be based on standard hardware.
<u>Environment :</u>	Enabler for dynamic sectorisations in Functional Block of Airspace (FAB).
<u>Security :</u>	N/A

Detailed SloA descriptions

COM11-REG01	Conduct safety oversight of the changes	Start:01/2012	Finish:12/2018
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<u>Action by :</u>	National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 02-12-2009 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm
<u>Finalisation criteria :</u>	1 - Formal acceptance by the NSA of the proposed changes communicated to ANSP.

COM11-ASP01	Develop safety assessment for the changes	Start:01/2012	Finish:12/2018
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 05-04-2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	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.

COM11	Implementation of Voice over Internet Protocol (VoIP) in ATM
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Supporting material(s) : EUROCAE - ED-136 - Voice over Internet Protocol (VoIP) Air Traffic Management (ATM) System Operational and Technical Requirements 28-02-2009
[Url : http://boutique.eurocae.net/catalog/index.php](http://boutique.eurocae.net/catalog/index.php)
 EUROCAE - ED-137B - Interoperability Standards for VoIP ATM Components (Part 1: Radio - Part 2: Telephone - Part 3: European Legacy Telephone Interworking - Part 4: Recording - Part 5: Supervision) 31-01-2012
[Url : http://boutique.eurocae.net/catalog/index.php](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](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
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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 - SIP v ATS-R2 Gateway Interworking Test Specification - Edition 1.2 / 01-09-2011
[Url : http://www.eurocontrol.int/communications/public/standard_page/com_voice.html](http://www.eurocontrol.int/communications/public/standard_page/com_voice.html)
 EUROCONTROL - Guidelines on Conformity Assessment for the Interoperability Regulation of the Single European Sky - Edition 3.0 / 20-02-2012
[Url : http://www.eurocontrol.int/ses/public/standard_page/ca_catf.html](http://www.eurocontrol.int/ses/public/standard_page/ca_catf.html)
 EUROCONTROL - VoIP in ATM Cross-Reference Matrix - Edition 1.0 / 01-09-2011
[Url : http://www.eurocontrol.int/communications/public/standard_page/com_voice.html](http://www.eurocontrol.int/communications/public/standard_page/com_voice.html)
 EUROCONTROL - VoIP in ATM Telephony Test case specification - Edition 1.1 / 01-09-2011
[Url : http://www.eurocontrol.int/communications/public/standard_page/com_voice.html](http://www.eurocontrol.int/communications/public/standard_page/com_voice.html)
 EUROCONTROL - SIP v ATS-QSIG Gateway Interworking Test Specification - Edition 1.2 / 01-09-2011
[Url : http://www.eurocontrol.int/communications/public/standard_page/com_voice.html](http://www.eurocontrol.int/communications/public/standard_page/com_voice.html)
 EUROCONTROL - VOTER - Edition 1.0.0 / 01-02-2012
[Url : http://www.eurocontrol.int/communications/public/standard_page/com_voice.html](http://www.eurocontrol.int/communications/public/standard_page/com_voice.html)

Finalisation criteria : 1 - Upgraded voice communication systems put into service.
 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 - Voice communications systems upgraded.

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
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Action by : ANS Providers

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 / 20-02-2012

Url : http://www.eurocontrol.int/ses/public/standard_page/ca_catf.html

EUROCONTROL - VoIP in ATM Cross-Reference Matrix - Edition 1.0 / 01-09-2011

Url : http://www.eurocontrol.int/communications/public/standard_page/com_voice.html

EUROCONTROL - VoIP in ATM Telephony Test case specification - Edition 1.1 / 01-09-2011

Url : http://www.eurocontrol.int/communications/public/standard_page/com_voice.html

EUROCONTROL - VOTER - Edition 1.0.0 / 01-02-2012

Url : http://www.eurocontrol.int/communications/public/standard_page/com_voice.html

Finalisation criteria :

- 1 - Voice communications systems upgraded.
- 2 - Upgraded voice communication systems put into service.
- 3 - 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).

SESAR	Active					APT
ENV01	Implement Continuous Descent Approach (CDA) techniques for environmental improvements					
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

When applied at an airport, CDA would offer 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: Since the publication of ICAO Doc 9931, the term Continuous Descent Operations (CDO) has generally replaced the term CDA (Continuous Descent Approach). However, the terms CDO - CDA are interchangeable and should be read and understood in the same context. For simplicity, the term CDA will be retained for this objective.

Applicable area(s)

APT - related list of airports plus: EBAW - Antwerp, EBCI - Charleroi, EBLG - Liege, EBOS - Ostende, EDDH - Hamburg, EDDK - Cologne - Bonn, EDDN - Nuremberg, EDDS - Stuttgart, EDDV - Hannover, EGNX - Nottingham - East Midlands, ESGG - Göteborg, ESMS - Malmö - Sturup, ESNU - Umea, LDSP - Split, LROP - Bucharest
A consolidated list of airports is available in Table 8 of Annex B of the ESSIP Plan - Edition 2012 document.

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 07/2007
Full operational capability: 12/2013

References

European ATM Master Plan relationship

Ol 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 on the establishment of rules and procedures in regards to introduction of noise-related operating restrictions at Community airports.
- EC Directive 2008/50/EC on Air Quality.

Applicable ICAO Annexes and other references

ICAO Doc 9931 - Continuous Descent Operations Manual

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>
ENV01-ASP01	Coordinate activities and implement rules and procedures for the application of CDA 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 CDA techniques whenever practicable	07/2007	12/2013
ENV01-APO01	Support CDA 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 CDA techniques in the aircrew training manual and support its implementation wherever possible	07/2007	12/2013

▲ 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:

07/2010

Expected performance benefits

ENV01	Implement Continuous Descent Approach (CDA) techniques for environmental improvements
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<u>Safety :</u>	Prevention of local rules and local procedures proliferation
<u>Capacity :</u>	Alleviating, avoiding and complying with environmental restrictions that may result in a capacity constraint at an airport.
<u>Cost-effectiveness :</u>	Reduction of fuel burn and potentially reduced mitigation costs, reduced social costs from adverse impacts and improved indirect/induced capacity related economic benefits. CDA is a low cost measure with no equipment upgrade needed.
<u>Environment :</u>	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
<u>Security :</u>	N/A

Detailed SloA descriptions

ENV01-ASP01	Coordinate activities and implement rules and procedures for the application of CDA techniques whenever practicable in Approach Control Service in close co-operation with aircraft operators	Start:07/2007	Finish:12/2013
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Provide the tactical and operational situational awareness support to allow aircrew to apply CDA.
<u>Supporting material(s) :</u>	EUROCONTROL - Implementation guidance, code of practice, procedures and techniques Url : http://www.eurocontrol.int/environment/public/subsite_homepage/homepage.html EUROCONTROL - European Joint Industry CDA Action Plan Url : http://www.eurocontrol.int/documents/european-joint-industry-cda-action-plan

<u>Finalisation criteria :</u>	CDA procedures published in the local/State AIP.
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ENV01-ASP02	Train controllers in the application of CDA techniques whenever practicable	Start:07/2007	Finish:12/2013
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Train controllers in the application of CDA.
<u>Supporting material(s) :</u>	EUROCONTROL - Implementation guidance, code of practice, procedures and techniques Url : http://www.eurocontrol.int/environment/public/subsite_homepage/homepage.html 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-learning training course 20-12-2012 Url : https://trainingzone.eurocontrol.int/

<u>Finalisation criteria :</u>	Approach Controllers suitably trained in the CDA techniques.
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ENV01-APO01	Support CDA 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
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<u>Action by :</u>	Airport Operators
<u>Description & purpose :</u>	In partnership with ANSP and airlines select the most appropriate form of CDA from guidance material, to support activities and to report performance feedback to allow continual improvement.
<u>Supporting material(s) :</u>	EUROCONTROL - Implementation guidance, code of practice, procedures and techniques Url : http://www.eurocontrol.int/environment/public/subsite_homepage/homepage.html EUROCONTROL - European Joint Industry CDA Action Plan Url : http://www.eurocontrol.int/documents/european-joint-industry-cda-action-plan

<u>Finalisation criteria :</u>	CDA procedures published in the local/State AIP.
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ENV01-USE01	Include CDA techniques in the aircrew training manual and support its implementation wherever possible	Start:07/2007	Finish:12/2013
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<u>Action by :</u>	Airspace Users
<u>Description & purpose :</u>	Provide suitable training, ensure awareness and encourage application of CDA techniques.

ENV01	Implement Continuous Descent Approach (CDA) techniques for environmental improvements
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Supporting material(s) : EUROCONTROL - European Joint Industry CDA Action Plan
 Url : <http://www.eurocontrol.int/documents/european-joint-industry-cda-action-plan>
 EUROCONTROL - Implementation guidance, code of practice, procedures and techniques
 Url : http://www.eurocontrol.int/environment/public/subsite_homepage/homepage.html
 EUROCONTROL - IANS-ENV-INTRO-Introduction to Environment -e-learning training course 20-12-2012
 Url : <https://trainingzone.eurocontrol.int/>

Finalisation criteria : CDA techniques are integrated in the aircrew training manual.

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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)

APT - related list of airports

A consolidated list of airports is available in Table 8 of Annex B of the ESSIP Plan - Edition 2012 document.

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:

09/2004

Full operational capability:

12/2015

References

European ATM Master Plan relationship

- Ol step - [\[AO-0703\]-Aircraft Environmental Impact Management and Mitigation at and around Airports](#)
- Ol step - [\[AO-0705\]-Reduced Water Pollution](#)
- Ol 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 on the establishment of rules and procedures in regards to introduction of noise-related operating restrictions at Community airports;

- EC Directive 2008/50/EC on Air Quality.

Applicable ICAO Annexes and other references

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Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
ENV02-ASP01	Participate actively in the formal partnership arrangements with the Airport and Aircraft Operators to control environmental impact of air traffic procedures	01/2009	12/2013	
ENV02-ASP02	Train controllers in the environmental implications of aircraft operations	01/2009	12/2013	
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	12/2013	▲
ENV02-APO02	Ensure appropriate and relevant performance information availability at Airports	01/2009	12/2013	
ENV02-APO03	Ensure appropriate Airport procedures and, if required, relevant infrastructures needed to manage and mitigate pollution due to de icing activities	01/2012	12/2015	
ENV02-APO04	Train Airport Operational staff in the environmental implications of aircraft operations	01/2012	12/2015	
ENV02-USE01	Participate actively in the formal partnership arrangements with the ANSP and Airport to control the environmental impact of aircraft movements	01/2009	12/2013	▲
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		

▲ Applicable to the military.

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

ENV02	Implement Collaborative Environmental Management (CEM) at Airports
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Consultation & Approval

<u>Working arrangement in charge:</u>	Airport Operations Team (AOT)
<i>Outline description approved in:</i>	-
<i>Latest objective review at expert level in:</i>	04/2012
<u>Commitment decision body:</u>	Provisional Council (PC)
<i>Objective approved/endorsed in:</i>	07/2003
<i>Latest change to objective approved/endorsed in:</i>	07/2012

Expected performance benefits

<u>Safety :</u>	Prevention of the risk of uncoordinated procedures design.
<u>Capacity :</u>	Alleviating or preventing environmental restrictions that may result in capacity constraints at airports.
<u>Cost-effectiveness :</u>	Reduction of fuel burn, 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.
<u>Environment :</u>	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.
<u>Security :</u>	N/A

Detailed SloA descriptions

ENV02-ASP01	Participate actively in the formal partnership arrangements with the Airport and Aircraft Operators to control environmental impact of air traffic procedures	Start:01/2009	Finish:12/2013
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Enter into formal CEM partnership arrangements, providing top management led proactive practical support designed to minimise environmental impact and secure or safeguard ATM capacity in the light of environmental regulations in accordance with guidelines; and, providing 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.
<u>Notes :</u>	Agreed environmental objectives and delivery plan, new procedures and trials, provision of data.
<u>Supporting material(s) :</u>	EUROCONTROL - CEM guidelines - 1.0 / 01-11-2008 Url : http://www.eurocontrol.int/articles/operational-measures-minimise-aviations-environmental-impact
<u>Finalisation criteria :</u>	Local Memorandum of Understanding (MoU) or Memorandum of Cooperation (MoC) dealing with the CEM implementation officially signed between CEM partners.

ENV02-ASP02	Train controllers in the environmental implications of aircraft operations	Start:01/2009	Finish:12/2013
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	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
<u>Finalisation criteria :</u>	Controller awareness training on the environmental implications of aircraft operations, 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:12/2013
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<u>Action by :</u>	Airport Operators
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ENV02	Implement Collaborative Environmental Management (CEM) at Airports
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Description & purpose : Initiate and promulgate formal CEM partnership arrangements, providing top management led proactive practical support designed to minimise environmental impact and secure or safeguard ATM capacity in the light of environmental regulations in accordance with existing guidelines. 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 / 01-11-2008
[Url : http://www.eurocontrol.int/articles/operational-measures-minimise-aviations-environmental-impact](http://www.eurocontrol.int/articles/operational-measures-minimise-aviations-environmental-impact)

Finalisation criteria : Local Memorandum of Understanding (MoU) or Memorandum of Cooperation (MoC) dealing with the CEM implementation officially signed between CEM partners.

ENV02-APO02	Ensure appropriate and relevant performance information availability at Airports	Start:01/2009	Finish:12/2013
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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.

Finalisation criteria : Environmental monitoring or information systems implemented and 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:12/2015
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Action by : Airport Operators

Description & purpose : Develop procedures and technical applications in collaboration with airlines 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.

Finalisation criteria : 1 - Information and procedures on de icing pollution mitigation agreed and available locally. Relevant infrastructure implemented, when and where required

ENV02-APO04	Train Airport Operational staff in the environmental implications of aircraft operations	Start:01/2012	Finish:12/2015
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Action by :

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 environment imperative locally planned.

Supporting material(s) : EUROCONTROL - Environmental Awareness Training Package
[Url : http://www.eurocontrol.int/environment/public/standard_page/training.html](http://www.eurocontrol.int/environment/public/standard_page/training.html)

Finalisation criteria : 1 - Airport Operational staff awareness training on the environmental implications of aircraft operations, 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:12/2013
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Action by : Airspace Users

Description & purpose : Enter into formal CEM partnership arrangements, providing top management led proactive practical support designed to manage and mitigate the environmental impact and secure or safeguard ATM capacity in the light of environmental regulations in accordance with guidelines; and, providing timely and accurate operational or environmental information that is relevant to local and jointly agreed CEM priorities. 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.](#)

Finalisation criteria : Local Memorandum of Understanding (MoU) or Memorandum of Cooperation (MoC) dealing with the CEM implementation officially signed between CEM partners.

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ECIP	Active					PE
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 CFMU (FCM01-ASP03) and sending of flight activations and estimates to the CFMU (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

None - [None](#)

Applicable legislation

None

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
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 CFMU	03/1995	12/2001	▲
FCM01-ASP04	Inform CFMU of flight activations and estimates for ATFM purposes	03/1995	12/1999	
FCM01-ASP05	Inform CFMU of flight activations and additional estimate updates for ATFM purposes	DELETED		
FCM01-ASP06	Inform CFMU of re-routings inside FDPA for ATFM purposes	03/2001	12/2006	
FCM01-ASP07	Inform CFMU of aircraft holding for ATFM purposes	03/2003	12/2006	
FCM01-ASP08	Supply CFMU 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		

▲ 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

FCM01	Implement enhanced tactical flow management services
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Commitment decision body: Provisional Council (PC)
Objective approved/endorsed in: 07/2000
Latest change to objective approved/endorsed in: 07/2008

Expected performance benefits

Safety : Reduced unexpected overload situations.
Capacity : Reduced wasted capacity; reduced delays.
Cost-effectiveness : Reduction of costs induced by delays.
Environment : N/A.
Security : N/A

Detailed SLoA descriptions

FCM01-ASP01	Supply ETFMS with basic correlated position data	Start:08/2001	Finish:12/2004
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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 CFMU 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 : Reception of CPRs by CFMU has been ensured.

FCM01-ASP02	Supply ETFMS with Standard Correlated Position Data	Start:08/2001	Finish:12/2006
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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 : Reception of CPRs in ASTERIX Category 062 format by CFMU has been ensured.

FCM01-ASP03	Receive and process ATFM data from the CFMU	Start:03/1995	Finish:12/2001
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Action by : ANS Providers
Description & purpose : Ensure that all ATFM messages received from the CFMU 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 : Automatic presentation of the ATFM data correlated to flight data to at least TWR controllers has been ensured.

FCM01-ASP04	Inform CFMU of flight activations and estimates for ATFM purposes	Start:03/1995	Finish:12/1999
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Action by : ANS Providers
Description & purpose : Send to CFMU a First System Activation (FSA) message as evidence of flight activations in the local ATC system. The FSA informs the CFMU 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 : Reception of FSA messages by CFMU has been ensured.

FCM01-ASP06	Inform CFMU of re-routings inside FDPA for ATFM purposes	Start:03/2001	Finish:12/2006
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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 : Reception of FSA messages by the CFMU for route changes has been ensured.

FCM01	Implement enhanced tactical flow management services
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FCM01-ASP07	Inform CFMU of aircraft holding for ATFM purposes	Start:03/2003	Finish:12/2006
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Action by : ANS Providers

Description & purpose : Send an FSA to inform the CFMU that the flight is holding.

Specific applicability : ECAC States, IFR/GAT only.

Finalisation criteria : Reception of FSA messages by the CFMU for holding of flights has been ensured.

FCM01-ASP08	Supply CFMU with Departure Planning Information (DPI)	Start:03/2005	Finish:-
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Action by : ANS Providers

Description & purpose : Supply the CFMU/ETFMS with flight data related updates that are only available shortly before departure. The DPI is used to supply the CFMU 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 CFMU and the airport in accordance with Airport CDM manual guidelines (enhanced CDM)".
No "By-date" is specified because implementation is linked to the implementation of departure management related procedures and tools which are currently being specified

Specific applicability : Airports that can provide DPI data with the required accuracy, IFR/GAT only.

Finalisation criteria : Reception of the DPI messages by CFMU has been ensured.

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ECIP	Active					PE
FCM03	Implement collaborative flight planning					
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

Improve the collaboration between the CFMU, 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 (CFMU 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:

12/2012

References

European ATM Master Plan relationship

- Ol step - [\[DCB-0302\]-Collaborative Management of Flight Updates](#)
- Ol step - [\[IS-0101\]-Improved Flight Plan Consistency Pre-Departure](#)
- Ol step - [\[IS-0102\]-Improved Management of Flight Plan After Departure](#)

Applicable legislation

- 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) 929/2010

Applicable ICAO Annexes and other references

DMEAN project 'Improve Management of Flight Plan after Departure'.

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
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	Provide AFP for missing flight plans	03/1998	12/2012	
FCM03-ASP06	Provide AFP message for change of route	03/2003	12/2012	
FCM03-ASP07	Provide AFP message for a diversion	03/2008	12/2012	
FCM03-ASP08	Provide AFP message for a change of flight rules or flight type	03/2003	12/2012	
FCM03-ASP09	Provide AFP message for a change of requested cruising level	03/2003	12/2012	
FCM03-ASP10	Provide AFP messages in ADEXP format	03/1998	12/2012	
FCM03-ASP11	Use IFPLID in all messages to ETFMS	03/2005	12/2006	▲
FCM03-ASP12	Use IFPLID in exchange of route-charge data	DELETED		▲
FCM03-ASP13	Provide AFP message for change of aircraft type	03/2003	12/2012	
FCM03-ASP14	Provide AFP message for change of aircraft equipment	03/2008	12/2012	

▲ Applicable to the military.

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

FCM03	Implement collaborative flight planning
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Consultation & Approval

<u>Working arrangement in charge:</u>	NETOPS / ODSG
<u>Outline description approved in:</u>	-
<u>Latest objective review at expert level in:</u>	04/2012
<u>Commitment decision body:</u>	Provisional Council (PC)
<u>Objective approved/endorsed in:</u>	07/2000
<u>Latest change to objective approved/endorsed in:</u>	07/2012

Expected performance benefits

<u>Safety :</u>	Prevention of overloads.
<u>Capacity :</u>	Better use of the available network capacity.
<u>Cost-effectiveness :</u>	Reduction of costs induced by delays.
<u>Environment :</u>	N/A
<u>Security :</u>	N/A

Detailed SloA descriptions

FCM03-ASP01	Provide flight plan message processing in ICAO format	Start:03/1995	Finish:12/1995
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	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).
<u>Notes :</u>	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.
<u>Specific applicability :</u>	ECAC States, IFR/GAT only.
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Receive and automatically process IFPS output derived from RPL to suppress the need for RPL bulk-output from IFPS.
<u>Notes :</u>	No longer requiring RPL bulk-output or transmission of FPLs derived from RPLs by the CFMU. The SloA can be considered as not applicable if the amount of IFR/GAT traffic does not justify automation.
<u>Specific applicability :</u>	ECAC States, IFR/GAT only.
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Receive and automatically process IFPS output of all defined flight plan messages for input into local ATC systems in ADEXP format in line with ICAO State Letter (AN 13/2.1-08/50) - 25 June 2008.
	<p>Impact of Flight Plan 2012 changes:</p> <p>The basic flight plan form and the field composition within the FPL message remains unchanged, but the content of some fields will change.</p> <ul style="list-style-type: none"> - changes to indications in Items 10 and 18 (including the use of digits) describing the precise NAV/COM/SUR capabilities of the flight - the ability to file a FPL up to 5 days (120 hours) before the flight, using the Date of Flight (DOF) in Item 18 - addition of new Item 18 indicators and changes to the contents of several existing indicators. - a change to the description of a significant point which may now be described by range and bearing <p>The field composition within associated messages (CHG, DEP, CNL, ARR, RQP) will change to include the EOBT and Item 18 DOF/ thus ensuring association to the correct FPL.</p>

FCM03	Implement collaborative flight planning
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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 : 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
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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 : Processing of APL and ACH messages by the ANSP is implemented.

FCM03-ASP05	Provide AFP for missing flight plans	Start:03/1998	Finish:12/2012
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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 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 : Reception of AFP messages by CFMU has been ensured.

FCM03-ASP06	Provide AFP message for change of route	Start:03/2003	Finish:12/2012
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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 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 : Transmission of AFP messages for route changes by the ANSP has been implemented.

FCM03-ASP07	Provide AFP message for a diversion	Start:03/2008	Finish:12/2012
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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 diversion. The related AFP message must be provided in ADEXP format only.

Specific applicability : ECAC States, IFR/GAT only.

Finalisation criteria : 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:12/2012
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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. ECAC States, IFR/GAT only.

Specific applicability : ECAC States, IFR/GAT only.

Finalisation criteria : 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:12/2012
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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 : Transmission of AFP messages for changes of requested cruising level by the ANSP has been implemented.

FCM03	Implement collaborative flight planning
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FCM03-ASP10	Provide AFP messages in ADEXP format	Start:03/1998	Finish:12/2012
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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 : Reception of AFP messages in ADEXP format by the CFMU has been ensured.

FCM03-ASP11	Use IFPLID in all messages to ETFMS	Start:03/2005	Finish:12/2006
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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 CFMU.

Notes : The SloA can be considered as not applicable if the amount of IFR/GAT traffic does not justify automation.

Finalisation criteria : Reception of messages by CFMU/ETFMS that include the IFPLID has been ensured.

FCM03-ASP13	Provide AFP message for change of aircraft type	Start:03/2003	Finish:12/2012
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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 aircraft type.

Specific applicability : ECAC States, IFR/GAT only.

Finalisation criteria : Transmission of AFP messages for changes of aircraft type by ANSP has been implemented.

FCM03-ASP14	Provide AFP message for change of aircraft equipment	Start:03/2008	Finish:12/2012
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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 aircraft equipment.
The related AFP message must be provided in ADEXP format only.

Specific applicability : ECAC States, IFR/GAT only.

Finalisation criteria : Transmission of AFP messages for changes of aircraft equipment by ANSP has been implemented.

ECIP	Active					PE
GEN01	Implement European ANS contingency measures for Safety Critical Modes of Operation					
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

Implement contingency measures to be applied in the event of disruption or potential disruption of Air Traffic Navigation Services at European network, flow and individual ATS units (TWR, APP, ACC, UAC, FIS, AIS, ATFM, CNS, MET) levels, during Emergency and degraded modes of operation and to ensure the return to normal operations.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 06/2007
Full operational capability: 12/2008

References

European ATM Master Plan relationship

None - [None](#)

Applicable legislation

Commission Regulation (EU) No 1035/2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
GEN01-REG01	Enact National contingency regulations and oversee plans based on the European regulation	06/2007	06/2008	▲
GEN01-ASP01	Implement contingency measures in accordance with ICAO, European Commission and EUROCONTROL regulation and deliverables	06/2007	06/2008	▲
GEN01-ASP02	Train Air Traffic Controllers for the application of contingency procedures	06/2007	06/2008	▲
GEN01-USE01	Update aircrew training manual to include the contingency measures occurrences	06/2007	06/2008	▲
GEN01-AGY01	Develop initial guidelines for Contingency Planning	FINALISED		
GEN01-AGY02	Develop final guidelines for Contingency Planning	FINALISED		

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

Agency Advisory Board (AAB)

-

12/2009

Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2007

-

Expected performance benefits

Safety :

The availability of organised measures for contingency at European level is expected to prevent the occurrence of incidents and accidents that could happen without set procedures.

Capacity :

Structured contingency plans will enable to optimise capacity despite disrupted services.

Cost-effectiveness :

The prevention of disorganised provision of ATS and the optimisation of capacity are cost/effective.

GEN01	Implement European ANS contingency measures for Safety Critical Modes of Operation
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Environment : N/A

Security : Structured and complete contingency plans enable to maintain security level of ATM service at the time of security event.

Detailed SloA descriptions

GEN01-REG01	Enact National contingency regulations and oversee plans based on the European regulation	Start:06/2007	Finish:06/2008
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Action by : National Regulatory Authorities

National Supervisory Authorities (NSAs)

Description & purpose : Transpose where required (e.g. non EU States) the contingency regulations compliant with Common Requirements and Annex 11.

Oversee the implementation of applicable regulations by ANSPs.

Supporting material(s) : EC - Regulation (EU) N° 1035/2011-(OJ L 271, 18.10. 2011, p. 23) - Commission Implementing Regulation (EU) N° 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) N° 482/2008 and (EU) N° 6 91/2010 18-10-2011

Url : http://eur-lex.europa.eu/RECH_menu.do

EUROCONTROL - Guidelines for Contingency Planning for Air Navigation Services (including Service Continuity) - Edition 2.0 / 06-04-2009

Url : http://www.eurocontrol.int/ses/public/standard_page/sk_sesis_guidelines.html

EUROCONTROL - Reference Guide to EUROCONTROL Guidelines for Contingency Planning of Air Navigation Services (including Service Continuity) - Edition 2.0 / 06-04-2009

Url : http://www.eurocontrol.int/ses/public/standard_page/sk_sesis_guidelines.html

ICAO - Annex 11 - Air Traffic Services

Url : <http://store1.icao.int/mainpage.ch2>

Finalisation criteria :

- Published AIP/AIC information.
- National legislation published.
- Contingency Plans approved by the regulators.

GEN01-ASP01	Implement contingency measures in accordance with ICAO, European Commission and EUROCONTROL regulation and deliverables	Start:06/2007	Finish:06/2008
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Action by : ANS Providers

Description & purpose : Implement contingency measures based on ICAO recommendations, European Commission Common Requirements addressing the measures to be taken in case of emergency, degraded mode of operation and enable the return to normal services

Supporting material(s) : EC - Regulation (EU) N° 1035/2011-(OJ L 271, 18.10. 2011, p. 23) - Commission Implementing Regulation (EU) N° 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) N° 482/2008 and (EU) N° 6 91/2010 18-10-2011

Url : http://eur-lex.europa.eu/RECH_menu.do

EUROCONTROL - Guidelines for Contingency Planning for Air Navigation Services (including Service Continuity) - Edition 2.0 / 06-04-2009

Url : http://www.eurocontrol.int/ses/public/standard_page/sk_sesis_guidelines.html

EUROCONTROL - Reference Guide to EUROCONTROL Guidelines for Contingency Planning of Air Navigation Services (including Service Continuity) - Edition 2.0 / 06-04-2009

Url : http://www.eurocontrol.int/ses/public/standard_page/sk_sesis_guidelines.html

ICAO - Annex 11 - Air Traffic Services

Url : <http://store1.icao.int/mainpage.ch2>

Finalisation criteria : Locally approved Contingency plans and procedures conformant with ICAO and Common Requirements documents.

GEN01-ASP02	Train Air Traffic Controllers for the application of contingency procedures	Start:06/2007	Finish:06/2008
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Action by : ANS Providers

Description & purpose : Train the ATC staff to apply contingency measures defined in the locally approved plans.

Finalisation criteria : Staff trained and competency recorded.

GEN01-USE01	Update aircrew training manual to include the contingency measures occurrences	Start:06/2007	Finish:06/2008
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Action by : Airspace Users

GEN01	Implement European ANS contingency measures for Safety Critical Modes of Operation
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Description & purpose : Train aircrews on how to apply contingency measures defined for the local ATS approved plans published through AIC/AIP publications and in accordance with airline and or aircraft operations manuals.

Finalisation criteria : Aircrew training manual updated with applicable contingency measures.

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SESAR	Active					ECAC
HUM01.1	Ensure timely availability of ATCOs					
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

The purpose of this objective is to ensure that ANSPs in the ECAC States plan, attract, select and recruit in timely manner resources needed for the ATCO Profession. They should have appropriate staffing and rostering arrangements as well as development plans in place in order to match the requirements set in the ATM Master Plan.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2009
Full operational capability: 12/2012

References

European ATM Master Plan relationship

Enabler - [\[HUM172-05\]-Recruitment and Selection](#)
Enabler - [\[HUM172-06\]-Staffing](#)

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 549/2004 of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation)
Commission Implementing Regulation (EU) 1035/2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010, Annex I, Section 5 'Human Resources'.
Directive 2003/88/EC concerning certain aspects of the organisation of working time.

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
HUM01.1-ASP01	Implement best practices and tools for ATCO Staff Planning	01/2009	12/2012	▲
HUM01.1-ASP02	Implement best practices for ATCO Job Marketing and Communication	01/2009	12/2012	▲
HUM01.1-ASP03	Implement best practices for ATCO selection and recruitment methods and tools	01/2009	12/2012	▲
HUM01.1-ASP04	Implement best practices for staffing and rostering	01/2009	12/2012	▲
HUM01.1-ASP05	Implement best practices for Personal and Career Development of ATCOs	01/2009	12/2012	▲

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

SAFETY / SHPSG

-

03/2009

Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2009

-

Expected performance benefits

Safety :

Increase safety levels through availability of ATCOs to:

- Assure manning of working positions according to safety requirements;
- Assure and increase safety related operational attitudes, knowledge, skills and behaviour through regular safety education and training.

HUM01.1	Ensure timely availability of ATCOs
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<u>Capacity :</u>	Meeting of capacity targets through: - Adequate staff planning of ATCOs - Implementing rostering arrangements based on operational requirements.
<u>Cost-effectiveness :</u>	Ensure cost-effectiveness through availability of adequate staff numbers to: - Reduce delay related costs, - Assure a more consistent and predictable long term cost basis for recruitment and training, - Best match staff related costs and safety / capacity targets.
<u>Environment :</u>	N/A.
<u>Security :</u>	N/A

Detailed SloA descriptions

HUM01.1-ASP01	Implement best practices and tools for ATCO Staff Planning	Start:01/2009	Finish:12/2012
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Implement best practices and tools to ensure that an appropriate number of qualified ATCOs is available at the right time and in all work locations to cover operational requirements. A process and tools need to be established to: - Ensure appropriate ATCO staff planning; - Mitigate staff shortages in a proactive manner. (Reference: Commission Regulation 2096/2005 Annex I, Section 5 - Human Resources)
<u>Supporting material(s) :</u>	EUROCONTROL - A Systems View of Manpower Planning and Management - Edition 1.0 / 21-04-1998 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#10 EUROCONTROL - ATS Manpower Planning in Practice: Introduction to a Qualitative and Quantitative Staffing Methodology - Edition 1.0 / 27-10-1998 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#10 EUROCONTROL - Collaborative and Harmonised ATCO Manpower Planning (CHAMP) Process - Edition 1.0 / 20-05-2003 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/ATCO_Planning.html EUROCONTROL - Guidelines for ATCO Manpower Planning Processes - Edition 1.0 / 09-06-2000 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#10 EUROCONTROL - LAMPS - Long Term ATCO Manpower Planning Simulation (user guide + simulation software package) - Edition 2.0 / 01-03-2006 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/ATCO_Planning.html
<u>Finalisation criteria :</u>	- Staff planning processes and tools are in place. - Staff planning processes are applied and have started. 1 - Appropriate ATCO Job Marketing and Communication strategies have been implemented. 2 - Appropriate ATCO Job Marketing and Communication strategies are in use.

HUM01.1-ASP02	Implement best practices for ATCO Job Marketing and Communication	Start:01/2009	Finish:12/2012
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Implement best practices for ATCO Job Marketing and Communication to increase awareness of the controller job amongst young people and to attract the right target population for this profession. A strategy needs to be established to: - Ensure that appropriate candidates are attracted to apply for the ATCO Profession; - Increase the selection ratio; - Have a more effective recruitment and selection process; - Fulfil the manpower targets and overcome the potential controller shortage.
<u>Supporting material(s) :</u>	EUROCONTROL - Marketing and Communication of the ATCO Job - Phase 1 Study - Edition 1.0 / 01-11-2000 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/Job_Marketing.html EUROCONTROL - Marketing and Communication of the ATCO Job - Phase 2 - Study - Edition 1.0 / 06-06-2003 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/Job_Marketing.html
<u>Finalisation criteria :</u>	- Appropriate ATCO Job Marketing and Communication strategy are in place. - Started applying the job marketing strategy. 1 - Appropriate ATCO Selection and recruitment processes have been implemented. 2 - Appropriate ATCO Selection and recruitment processes are in use.

HUM01.1-ASP03	Implement best practices for ATCO selection and recruitment methods and tools	Start:01/2009	Finish:12/2012
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HUM01.1	Ensure timely availability of ATCOs
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Implement best practices for selection and recruitment of suitable candidates to meet the current and future demands for operational staff in air traffic management.</p> <p>A process and tools need to be established to:</p> <ul style="list-style-type: none"> - Improve the quality of selection decision; - Contribute to the cost efficiency of the overall recruitment and selection process; - Reduce the costs associated with failure of ATC trainees. <p>(Reference: Commission Regulation 2096/2005 Annex I, Section 5 - Human Resources)</p>
<u>Supporting material(s) :</u>	<p>EUROCONTROL - First European ATCO Selection Test package (FEAST) Url : http://www.eurocontrol.int/humanfactors/public/standard_page/FEAST.html</p> <p>EUROCONTROL - Selection Tests, Interviews and Assessment Centres for Ab Initio Trainee Controllers: Guidelines for Implementation - Edition 2.0 / 17-09-2002 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/ATCO_Selection.html</p>
<u>Finalisation criteria :</u>	<ul style="list-style-type: none"> - Appropriate ATCO Selection and recruitment processes are in place. - Started applying process associated methods and tools. <p>1 - Appropriate ATCO Selection and recruitment processes have been implemented.</p> <p>2 - Appropriate ATCO Selection and recruitment processes are in use.</p>

HUM01.1-ASP04	Implement best practices for staffing and rostering	Start:01/2009	Finish:12/2012
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Implement best practices for staffing and rostering as well as shiftwork practices.</p> <p>A process need to be established to:</p> <ul style="list-style-type: none"> - Facilitate the planning and management of flexible working practices with a focus on shiftwork; - Prevent and mitigate hazard such as degraded systems operations, single person operations and during On-the-Job Training. <p>(Reference: Council Directive 93/104/EC and Directive 2003/88/EC)</p>
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Managing Shiftwork in European ATM: A Literature Review - Edition 1.0 / 14-04-2006 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/Shift_Work.html</p> <p>EUROCONTROL - Shiftwork Practices Study - ATM and related Industries - Edition 1.0 / 14-04-2006 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/Shift_Work.html</p> <p>EUROCONTROL - Study Report on Selected Safety Issues for Staffing ATC Operations - Edition 1.0 / 15-12-2006 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/Safe_Staffing.html</p>
<u>Finalisation criteria :</u>	<ul style="list-style-type: none"> - Appropriate staffing and rostering process is in place. - Started applying associated staffing and rostering methods and tools. <p>1 - Appropriate staffing and rostering processes have been implemented.</p> <p>2 - Appropriate staffing and rostering processes are in use.</p>

HUM01.1-ASP05	Implement best practices for Personal and Career Development of ATCOs	Start:01/2009	Finish:12/2012
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Implement best practices for Personal and Career Development of ATCOs and for proactive and flexible use of the ATCOs knowledge base to support system development, training and management needs.</p> <p>A process needs to be established to:</p> <ul style="list-style-type: none"> - Improve organisational effectiveness by harnessing the potential of its staff; - Adapt qualification and increase staff adaptability to better meet future business needs; - Meet personal development needs of individuals.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Guidelines for Personal and Career Development Processes - Edition 1.0 / 14-06-2000 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#11</p> <p>EUROCONTROL - Managing the ATCO career: Issues for Organisations, Managers and Staff - Edition 1.0 / 05-03-2004 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#11</p>
<u>Finalisation criteria :</u>	<ul style="list-style-type: none"> - Appropriate personal and career development process is in place. - Started applying associated practices. <p>1 - Appropriate personal and career development processes have been implemented.</p> <p>2 - Appropriate personal and career development processes are in use.</p>

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SESAR	Active					ECAC
HUM02.1	Integrate Human Factors into ATM Operations					
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

Ensure that ANS Providers integrate Human Factors into ATM Operations by applying safety related Human Factors Methods, Tools and Interventions.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2009
Full operational capability: 12/2012

References

European ATM Master Plan relationship

Enabler - [\[HUM171-04\]-Manage changes in team interaction](#)
Enabler - [\[HUM171-05\]-Manage human performance consequences of changes in communication](#)

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 549/2004 of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation)
Regulation (EU) No 996/2010 of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/EC

Applicable ICAO Annexes and other references

ICAO Annex 13 - Aircraft Accident and Incident Investigation

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
HUM02.1-ASP01	Implement best practices for Critical Incident Stress Management	01/2009	12/2012	▲
HUM02.1-ASP02	Implement best practices for Team Resource Management	01/2009	12/2012	▲
HUM02.1-ASP03	Implement best practices for Human Error Management	01/2009	12/2012	▲

▲ 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:

Outline description approved in:
Latest objective review at expert level in:

SAFETY / SHPSG

-
03/2009

Commitment decision body:

Objective approved/endorsed in:
Latest change to objective approved/endorsed in:

Provisional Council (PC)
07/2009
-

Expected performance benefits

<u>Safety :</u>	Increasing safety levels by reducing the number of incidents and accidents
<u>Capacity :</u>	Meeting of capacity targets and operational requirements by allowing ATCOs to cope with critical and/or stressful operational events more effectively.
<u>Cost-effectiveness :</u>	Contributing to cost-effectiveness by enhanced team work performance.
<u>Environment :</u>	N/A.
<u>Security :</u>	N/A

Detailed SLoA descriptions

HUM02.1	Integrate Human Factors into ATM Operations
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HUM02.1-ASP01	Implement best practices for Critical Incident Stress Management	Start:01/2009	Finish:12/2012
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Implement best practices for Critical Incident Stress Management in order to moderate the impact of Critical Incident Stress and to speed up the return to the pre-incident phase.</p> <p>A programme needs to be established to:</p> <ul style="list-style-type: none"> - Inform staff about potential reactions to critical incidents and explains the different CISM support mechanisms; - Train CISM volunteers to support their colleagues immediately after a critical incident; - Support staff after a critical event has appeared.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Critical Incident Stress Management User Implementation Guidelines - Edition 2.0 / 24-10-2008 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/CISM.html</p> <p>EUROCONTROL - HUM.ET1.ST13.3000-REP-01 - Human Factors Module: Critical Incident Stress Management - Edition 1.0 / 31-12-1997 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/CISM.html</p>
<u>Finalisation criteria :</u>	<ul style="list-style-type: none"> - Documented CISM programme is in place. - Adequately trained CISM volunteers are in place. <ol style="list-style-type: none"> 1 - A documented CISM programme has been implemented. 2 - CISM volunteers have been adequately trained.

HUM02.1-ASP02	Implement best practices for Team Resource Management	Start:01/2009	Finish:12/2012
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Implement best practices for Team Resource Management in order to reduce or minimise the impact of teamwork related errors within the ATM system.</p> <p>A process and material need to be established to:</p> <ul style="list-style-type: none"> - Reduce the number of teamwork related incidents; - Reduce consequences to unavoidable errors; - Enhance continuity and stability of teamwork in ATM.
<u>Supporting material(s) :</u>	<p>EUROCONTROL - Guidelines for Developing and Implementing Team Resource Management - Edition 1.0 / 15-03-1996 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/TRM.html</p> <p>EUROCONTROL - Team Resource Management Test and Evaluation - Edition 1.0 / 30-11-1999 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/TRM.html</p>
<u>Finalisation criteria :</u>	<ul style="list-style-type: none"> - TRM Process and material are in place. - Adequately trained TRM facilitators are in place. <ol style="list-style-type: none"> 1 - Team Resource Management material has been developed. 2 - Team Resource Management processes have been implemented. 3 - TRM facilitators have been adequately trained

HUM02.1-ASP03	Implement best practices for Human Error Management	Start:01/2009	Finish:12/2012
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	<p>Implement best practices for the integration of the human factors perspective in incident/accident investigation, safety management and prediction of potential new forms of errors arising from new technologies.</p> <p>Tools and methods need to be established to:</p> <ul style="list-style-type: none"> - Predict human error in ATM; - Detect human error in ATM; - Manage human error in ATM.

Supporting material(s) :

EUROCONTROL - HRS/HSP-002-REP-07 - A Method for Predicting Human Error in ATM (HERA-PREDICT) - Edition 1.0 / 05-03-2004

Url : http://www.eurocontrol.int/humanfactors/public/standard_page/HERA.html

EUROCONTROL - Short Report on Human Performance Models and Taxonomies of Human Error in ATM (HERA) - Edition 1.0 / 26-04-2002

Url : http://www.eurocontrol.int/humanfactors/public/standard_page/HERA.html

EUROCONTROL - Technical Review of Human Performance Models and Taxonomies of Human Error in ATM (HERA) - Edition 1.0 / 26-04-2002

Url : http://www.eurocontrol.int/humanfactors/public/standard_page/HERA.html

EUROCONTROL - The Development of a Safety Management Tool within ATM - Edition 1.0 / 12-05-2003

Url : http://www.eurocontrol.int/humanfactors/public/standard_page/HERA.html

EUROCONTROL - The Human Error in ATM Technique - Edition 1.0 / 21-02-2003

Url : http://www.eurocontrol.int/humanfactors/public/standard_page/HERA.html

EUROCONTROL - The Investigation of Human Error in ATM Simulation - The Toolkit - Edition 1.0 / 02-07-2002

Url : http://www.eurocontrol.int/humanfactors/public/standard_page/HERA.html

EUROCONTROL - The Investigation of Human Error in ATM Simulation - Edition 1.0 / 02-07-2002

Url : http://www.eurocontrol.int/humanfactors/public/standard_page/HERA.html

EUROCONTROL - Validation of the Human Error in ATM Technique - Edition 1.0 / 12-05-2003

Url : http://www.eurocontrol.int/humanfactors/public/standard_page/HERA.html

Finalisation criteria :

- Tools and methods for Human Error Management are in place.
 - Adequately trained incident investigators are in place.
 - Tools and method in case of an incident are applied.
- 1 - Tools and methods for Human Error Management have been implemented.
 - 2 - Incident Investigators have been adequately trained.
 - 3 - In case of an Incident the tools and methods for Human Error Management are used.

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SESAR	Active					ECAC
HUM03.1	Integrate Human Factors into the lifecycle of ATM systems					
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

The purpose of this objective is to ensure that ANSPs integrate Human Factors into the ATM system lifecycle by applying safety related Human Factors Methods, Tools & guidance material and by assessing and evaluating the human contribution to system performance throughout the introduction of enhanced ATM systems.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:

01/2009

Full operational capability:

12/2012

References

European ATM Master Plan relationship

- Enabler - [\[HUM171-01\]-Ergonomic adaptations of working environment](#)
- Enabler - [\[HUM171-02\]-Adaptation of procedures \(nominal and non-nominal situations\)](#)
- Enabler - [\[HUM171-03\]-Acceptable task demand and complexity](#)
- Enabler - [\[HUM171-06\]-Usable and acceptable Human Machine Interaction](#)
- Enabler - [\[HUM171-07\]-Optimised automation support \(nominal and non-nominal situations\)](#)

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 1035/2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010

Applicable ICAO Annexes and other references

None

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
HUM03.1-ASP01	Implement best practices for Human Factors Integration into the development and implementation of ATM systems	01/2009	12/2012	▲
HUM03.1-ASP02	Implement best practices for Human Automation Support	01/2009	12/2012	▲
HUM03.1-ASP03	Implement best practices for the design and evaluation of ATM working positions	01/2009	12/2012	▲

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

SAFETY / SHPSG

-

03/2009

Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2009

-

Expected performance benefits

Safety :

Increasing safety levels by assuring smooth introduction of and transition to new ATM systems.

Capacity :

Meeting of capacity targets and operational requirements through increased trust, acceptability and use of evolving technology including support to design of ATM working positions.

Cost-effectiveness :

Contributing to cost-effectiveness through early and consistent application of human factors principles to system design and system development.

Environment :

N/A.

Security :

N/A

Detailed SLoA descriptions

HUM03.1	Integrate Human Factors into the lifecycle of ATM systems		
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HUM03.1-ASP01	Implement best practices for Human Factors Integration into the development and implementation of ATM systems	Start:01/2009	Finish:12/2012
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Implement best practices in order to integrate human factors into ATM system development and implementation. A process needs to be established to: - Identify human factors aspects; - Mitigate human factors issues.
<u>Supporting material(s) :</u>	EUROCONTROL - HF Case Workarea descriptors - Version 3.0 / 01-09-2008 Url : http://www.eurocontrol.int/articles/human-factors-case EUROCONTROL - Support Material for Human Factors Case application - Edition 3.0 / 23-08-2011 Url : http://www.eurocontrol.int/articles/human-factors-case EUROCONTROL - The Human Factors Case: Guidance for Human Factors Integration - Edition 2.0 / 29-06-2007 Url : http://www.eurocontrol.int/articles/human-factors-case
<u>Finalisation criteria :</u>	- Description of the developed process in place. - Started applying the process. 1 - Human Factors aspects in the development and implementation of local ATM Systems have been identified and integrated. 2 - A description of the developed implementation process, including Human Factors aspect is in place. 3 - The implementation process is in use.

HUM03.1-ASP02	Implement best practices for Human Automation Support	Start:01/2009	Finish:12/2012
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Implement best practices addressing key impacts of automation on ATM Staff. Methodologies need to be established to assess the impact of automation on: - Team work; - Situation awareness and; - Trust building in developed systems.
<u>Supporting material(s) :</u>	EUROCONTROL - Age, Experience and Automation in European Air Traffic Control - Survey in the ECAC Area - Edition 1.0 / 20-08-2004 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/SHAPE.html EUROCONTROL - Age, Experience and Automation in European Air Traffic Control - Edition 1.2 / 22-08-2003 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/SHAPE.html EUROCONTROL - Guidelines for Trust in Future ATM Systems: A Literature Review - Edition 1.0 / 05-05-2003 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/SHAPE.html EUROCONTROL - Guidelines for Trust in Future ATM Systems: Principles - Edition 1.0 / 05-05-2003 Url : http://www.eurocontrol.int/humanfactors/public/standard_page/SHAPE.html EUROCONTROL - SHAPE Questionnaires Url : http://www.eurocontrol.int/humanfactors/public/standard_page/SHAPE.html
<u>Finalisation criteria :</u>	- Methodologies in place. - Started applying these methodologies. 1 - Methodologies addressing key impacts of automation on ATM Staff have been established. 2 - Methodologies assessing the impact of automation have been established. 3 - Methodologies for Human Automation Support are in use.

HUM03.1-ASP03	Implement best practices for the design and evaluation of ATM working positions	Start:01/2009	Finish:12/2012
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Implement best practices in order to integrate human factors into ATM system design and evaluation of ATM working positions. A process needs to be established to: - Identify human factors aspects; - Mitigate human factors issue; - Ensure usability of ATM working positions.
<u>Supporting material(s) :</u>	EUROCONTROL - CoRe Project - Baseline Exemplary Style Guide - Edition 1.0 / 16-08-2004 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html EUROCONTROL - Core Requirements for ATM Working Positions: An Overview of the Project Activity - Edition 1.0 / 13-02-2002 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html

Finalisation criteria :

- Description of the developed process in place.
- Started applying the process.
- 1 - Human factors aspects have been established and integrated into ATM system design
- 2 - Human factors aspects have been established and integrated into the evaluation of ATM working positions
- 3 - A process ensuring the usability of ATM working positions is in use.

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SESAR	Active					PE
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.

It comprises access to 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.

The ATM User Requirements document (Ed. 2.0) reconfirms the user need established in 1995. 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

Ol 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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
INF04-ASP01	Implement and provide integrated briefing function	07/2002	12/2012	▲
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		

▲ 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:

Outline description approved in:

AIM / SWIM

Latest objective review at expert level in:

04/2012

Commitment decision body:

Objective approved/endorsed in:

Provisional Council (PC)

Latest change to objective approved/endorsed in:

07/2002
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.

INF04	Implement integrated briefing
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Environment : N/A
Security : N/A

Detailed SloA descriptions

INF04-ASP01	Implement and provide integrated briefing function	Start:07/2002	Finish:12/2012
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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) : EUROCONTROL - Integrated Briefing Technical Concept Document - Edition 0.4 / 09-09-2002
Url : <http://www.eurocontrol.int/articles/integrated-briefing-phase-3-p-12>
ICAO - EUR-Doc 010 - Harmonized Access to AIS and MET Services relating to pre-flight planning - Edition 2.0 / 21-08-2007
Url : http://www.paris.icao.int/documents_open/show_file.php?id=132
EUROCONTROL - Integrated Briefing High Level Concept Document, Edition 0.8 / 28-08-2002
Url : <http://www.eurocontrol.int/articles/integrated-briefing-phase-3-p-12>

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 :

- 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 4, Article 5(1) and Article 5(2) applicable as from:

07/2013

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](#)

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>(Regulated) completion date(s)</u>
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 ▲
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	Ensure quality of aeronautical data and aeronautical information		
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ITY-ADQ-ASP01	Implement data quality and process requirements	07/2013	▲
ITY-ADQ-ASP02	Establish formal arrangements	07/2013	▲
ITY-ADQ-ASP03	Establish consistency mechanisms and implement timeliness requirements	07/2013	▲
ITY-ADQ-ASP04	Implement personnel and performance requirements	07/2013	▲
ITY-ADQ-ASP05	Implement a quality management system and fulfil safety and security objectives	07/2013	▲
ITY-ADQ-ASP06	Implement the common dataset and digital exchange format	07/2014	▲
ITY-ADQ-ASP07	Implement all data requirements	07/2017	▲
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	

▲ 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.

Detailed SloA descriptions

ITY-ADQ-REG01	Verify the compliance with data quality requirements and supervise safety assessments	(Regulated) completion date(s) 07/2013
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Action by : National Supervisory Authorities (NSAs)

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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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.

Note :EUROCONTROL Specifications are under development and foreseen to be published as follows:

- Quality Requirements (DQR), second quarter 2012;

- Data Origination (DO) fourth quarter 2012.

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 2012) - Edition 1.3 / 14-06-2010

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - EAD Safety Case - Edition 2.3 / 01-09-2009

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 24-10-2006

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 01-12-2010

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 15-03-2012

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - Guidelines on Conformity Assessment for the Interoperability Regulation of the Single European Sky - Edition 3.0 / 20-02-2012

Url : http://www.eurocontrol.int/ses/public/standard_page/ca_catf.html

Finalisation criteria :

- 1 - An EN ISO 9001 certificate was 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, received and reviewed.
- 3 - (For ANSPs, APOs and IND certified as ANS): Proposed changes 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 filed containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance received and assessed.
- 5 - (For other regulated, non-certified parties): A technical file containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance was received and assessed.

ITY-ADQ-REG02	Verify the establishment of formal arrangements	(Regulated) completion date(s) 07/2013
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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 Draft - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 0.2 / 30-01-2012

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - Service Level Agreements (SLA) package - Edition 1.0 / 30-08-2007

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2012) - Edition 1.3 / 14-06-2010

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria : 1 - Formal arrangements were established and signed by relevant parties.

ITY-ADQ-REG03	Verify the compliance with the common dataset specifications and the data exchange format requirements	(Regulated) completion date(s) 07/2014
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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.

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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Note :1) Digital NOTAM may be excluded from the data exchange format ref. Article 5(3) (subject to revision once digital NOTAM work progressed).
2) Electronic obstacle data, electronic terrain data and aerodrome mapping data are optional ref. Article 2(1)(b-d).
3) The EAD Service as an official centralised source of AIS Data for ECAC is in the scope of ADQ and has to comply with the applicable requirements.

EUROCONTROL Specifications are under development and foreseen to be published as follows:

- Aeronautical Information Exchange (AIX), fourth quarter 2012;
- Data Origination (DO) fourth quarter 2012.

Derogations :

None

Supporting material(s) :

EUROCONTROL - SPEC Draft - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 0.23 / 06-03-2012

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 15-03-2012

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - SPEC Draft - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 0.2 / 30-01-2012

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 14-02-2011

Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

EUROCONTROL - Guidelines on Conformity Assessment for the Interoperability Regulation of the Single European Sky - Edition 3.0 / 20-02-2012

Url : http://www.eurocontrol.int/ses/public/standard_page/ca_catf.html

Finalisation criteria :

- 1 - (For ANSPs, APOs and IND certified as ANS): A safety assessment report, including safety arguments where applicable, received and reviewed.
- 2 - (For ANSPs, APOs and IND certified as ANS): Proposed changes 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 filed containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance received and assessed.
- 4 - (For other regulated, non-certified parties): A technical file containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance was received and assessed.

ITY-ADQ-REG04	Verify that all parties comply with all data requirements	(Regulated) completion date(s) 07/2017
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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

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 was received.

ITY-ADQ-ASP01	Implement data quality and process requirements	(Regulated) completion date(s) 07/2013
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Action by :

AIS Providers

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

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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Supporting material(s) : EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 24-10-2006
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 01-12-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - EAD Safety Case - Edition 2.3 / 01-09-2009
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 15-03-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC Draft - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 0.2 / 30-01-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC Draft - EUROCONTROL Specification for Data Quality Requirements - Edition 0.9a / 01-07-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2012) - Edition 1.3 / 14-06-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria :
 1 - Data quality requirements were implemented and are documented for verification and audit.
 2 - A safety assessment report, including safety arguments where applicable, was provided to the NSA.
 3 - The introduction of the change into service was accepted by the NSA and a notification of acceptance was received.
 4 - An EC declaration of verification of systems and a technical file containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance was submitted to the NSA.

ITY-ADQ-ASP02	Establish formal arrangements	(Regulated) completion date(s) 07/2013
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Action by : **AIS Providers**
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 Draft - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 0.2 / 30-01-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - Service Level Agreements (SLA) package - Edition 1.0 / 30-08-2007
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2012) - Edition 1.3 / 14-06-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria : 1 - Formal arrangements signed by all relevant parties were established.

ITY-ADQ-ASP03	Establish consistency mechanisms and implement timeliness requirements	(Regulated) completion date(s) 07/2013
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Action by : **AIS Providers**
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 2012) - Edition 1.3 / 14-06-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria : 1 - Mechanisms ensuring consistency and, if relevant, annotating AIP items not meeting the data quality requirements were established and documented

ITY-ADQ-ASP04	Implement personnel and performance requirements	(Regulated) completion date(s) 07/2013
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Action by : **AIS Providers**
ANS Providers

Description & purpose : Develop and maintain awareness material and implement training and competence requirements in accordance with Articles 7(4) and 7(5) of Regulation (EU) No 73/2010.
 Develop and maintain operating manuals and request security clearances in accordance with Article 13 of Regulation (EU) No 73/2010.

Derogations : None

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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Supporting material(s) : EUROCONTROL - AIS Training Development Guidelines - Edition 1.1 / 01-10-2011
 Url : <http://www.eurocontrol.int/documents/ais-training-development-guidelines-ais-tdg>
 EUROCONTROL - Common AIS Staff Profiling (CASP) - Edition 1.0 / 18-08-2004
 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 / 14-02-2011
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria :
 1 - Awareness material and training records were published.
 2 - Competence requirements for staff were met.
 3 - Operating manuals were provided.
 4 - Security clearances for authorised staff were provided.

ITY-ADQ-ASP05	Implement a quality management system and fulfil safety and security objectives	(Regulated) completion date(s) 07/2013
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Action by :
AIS Providers
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 2012) - Edition 1.3 / 14-06-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria :
 1 - A quality management system meeting the safety and security management objectives was implemented, documented and is maintained.
 2 - An EN ISO 9001 certificate was obtained.
 3 - Documentation related to certification has been provided to the NSA.
 4 - Access authorisations were provided.

ITY-ADQ-ASP06	Implement the common dataset and digital exchange format	(Regulated) completion date(s) 07/2014
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Action by :
AIS Providers
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).
 2) Concerning the provision of Electronic obstacle data, electronic terrain data and aerodrome mapping data, ref. Article 2(1)(b-d).
 3) The EAD Service as an official centralised source of AIS Data for ECAC is in the scope of ADQ and has to comply with the applicable requirements.

Derogations : Refer to Article 15(2) of Regulation (EU) No 73/2010.

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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Supporting material(s) : EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 24-10-2006
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 01-12-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - EAD Safety Case - Edition 2.3 / 01-09-2009
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC Draft - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 0.23 / 06-03-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 15-03-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC Draft - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 0.2 / 30-01-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 14-02-2011
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria :
 1 - The common dataset and digital exchange format requirements were implemented.
 2 - A safety assessment report, including safety arguments where applicable, was provided to the NSA.
 3 - The introduction of the change into service was accepted by the NSA and a notification of acceptance was received.
 4 - An EC declaration of verification of systems and a technical file containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance was submitted to the NSA.

ITY-ADQ-ASP07	Implement all data requirements	(Regulated) completion date(s) 07/2017
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Action by : **AIS Providers**
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 was provided to the NSA.

ITY-ADQ-APO01	Implement data quality and process requirements	(Regulated) completion date(s) 07/2013
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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

Supporting material(s) : EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 24-10-2006
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 01-12-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - EAD Safety Case - Edition 2.3 / 01-09-2009
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 15-03-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC Draft - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 0.2 / 30-01-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC Draft - EUROCONTROL Specification for Data Quality Requirements - Edition 0.9a / 01-07-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2012) - Edition 1.3 / 14-06-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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Finalisation criteria :

- 1 - Data quality requirements were implemented and are documented for verification and audit.
- 2 - (For APOs certified as ANS): A safety assessment report, including safety arguments where applicable, was 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 was 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 part of EUROCONTROL specifications or other acceptable means of compliance was submitted to the NSA.
- 5 - (For APOs not certified as ANS): A technical file containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance was submitted to the NSA.

ITY-ADQ-APO02	Implement personnel and performance requirements	(Regulated) completion date(s) 07/2013
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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 / 01-10-2011
Url : <http://www.eurocontrol.int/documents/ais-training-development-guidelines-ais-tdg>
EUROCONTROL - Common AIS Staff Profiling (CASP) - Edition 1.0 / 18-08-2004
Url : <http://www.eurocontrol.int/documents/common-ais-staff-profiling-casp>

Finalisation criteria :

- 1 - Awareness material and training records were published.
- 2 - Competence requirements for staff were met.
- 3 - Operating manuals were provided.
- 4 - Security clearances for authorised staff were provided.

ITY-ADQ-APO03	Implement a quality management system and fulfil safety and security objectives	(Regulated) completion date(s) 07/2013
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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 2012) - Edition 1.3 / 14-06-2010
Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria :

- 1 - A quality management system meeting the safety and security management objectives was implemented, documented and is maintained.
- 2 - An EN ISO 9001 certificate was obtained.
- 3 - Documentation related to certification has been provided to the NSA.
- 4 - Access authorisations were provided.

ITY-ADQ-APO04	Implement the common dataset and digital exchange format requirements	(Regulated) completion date(s) 07/2014
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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.
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 : 1) Digital NOTAM may be excluded from the data exchange format ref. Article 5(3) (subject to revision once digital NOTAM work progressed).
2) Electronic obstacle data, electronic terrain data and aerodrome mapping data are optional ref. Article 2(1)(b-d).
3) The EAD Service as an official centralised source of AIS Data for ECAC is in the scope of ADQ and has to comply with the applicable requirements.

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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<u>Derogations :</u>	None
<u>Supporting material(s) :</u>	<p>EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 24-10-2006 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html</p> <p>EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 01-12-2010 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html</p> <p>EUROCONTROL - EAD Safety Case - Edition 2.3 / 01-09-2009 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html</p> <p>EUROCONTROL - SPEC Draft - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 0.23 / 06-03-2012 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html</p> <p>EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 15-03-2012 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html</p> <p>EUROCONTROL - SPEC Draft - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 0.2 / 30-01-2012 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html</p> <p>EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 14-02-2011 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html</p> <p>EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2012) - Edition 1.3 / 14-06-2010 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html</p>
<u>Finalisation criteria :</u>	<p>1 - The common dataset and digital exchange format requirements were implemented.</p> <p>2 - (For APOs certified as ANS): A safety assessment report, including safety arguments where applicable, was provided to the NSA.</p> <p>3 - (For APOs certified as ANS): The introduction of the change into service was accepted by the NSA and a notification of acceptance was received.</p> <p>4 - (For APOs certified as ANS): An EC declaration of verification of systems and a technical file containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance was submitted to the NSA.</p> <p>5 - (For APOs not certified as ANS): A technical file containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance was submitted to the NSA.</p>

ITY-ADQ-APO05	Implement all data quality requirements	(Regulated) completion date(s) 07/2017
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<u>Action by :</u>	Aerodrome & heliport Operators for which IFR or Special-VFR procedures have been published in national AIPs
<u>Description & purpose :</u>	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.
<u>Derogations :</u>	None
<u>Finalisation criteria :</u>	1 - All electronic data is compliant to all requirements and a statement of compliance was provided to the NSA.

ITY-ADQ-IND01	Implement data quality and process requirements	(Regulated) completion date(s) 07/2013
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<u>Action by :</u>	Public/private entities providing services for the origination/provision of survey, electronic terrain & obstacle data and procedures design services
<u>Description & purpose :</u>	<p>Implement the data quality and data origination requirements in accordance with Article 6 and Annex IV Parts A - F of Regulation (EU) No 73/2010 and provide written evidence that the requirements are met.</p> <p>Validate and verify all tools used to support or automate processes in the origination, production, storage, handling, processing and transfer of aeronautical data and/or aeronautical information in accordance with Article 8 and Annex V of Regulation (EU) No 73/2010. Protect data against loss or alteration in accordance with Article 9 and Annex VI of Regulation (EU) No 73/2010.</p> <p>Conduct a safety assessment including hazard identification, risk assessment and mitigation in accordance with Article 10 of Regulation (EU) No 73/2010. If certified as an ANS, provide a safety assessment report to the NSA and if applicable provide safety arguments to the NSA.</p> <p>Assess the conformity or suitability for use of constituents in accordance with Article 11 and Annex VIII of Regulation (EU) No 73/2010 and issue an EC declaration of conformity or suitability for use of constituents together with a technical file.</p>
<u>Derogations :</u>	None

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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Supporting material(s) : EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 24-10-2006
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 01-12-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - EAD Safety Case - Edition 2.3 / 01-09-2009
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 15-03-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC Draft - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 0.2 / 30-01-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC Draft - EUROCONTROL Specification for Data Quality Requirements - Edition 0.9a / 01-07-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2012) - Edition 1.3 / 14-06-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - Guidelines supporting the implementation of the Regulation on Aeronautical Data and Information Quality (a revised ADQ Guide is foreseen to be published mid 2012) - Edition 1.3 / 14-06-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria :

- 1 - Data quality requirements were implemented and are documented for verification and audit.
- 2 - (For IND certified as ANS): The introduction of the change into service was 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 part of EUROCONTROL specifications or other acceptable means of compliance was submitted to the NSA.
- 4 - (For IND not certified as ANS): A technical file containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance was submitted to the NSA.
- 5 - (For Manufacturers of constituents): An EC declaration of conformity of constituents or of suitability for use was issued.
- 6 - (For IND certified as ANS): A safety assessment report, including safety arguments where applicable, was provided to the NSA.

ITY-ADQ-IND02	Implement personnel and performance requirements	(Regulated) completion date(s) 07/2013
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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 / 01-10-2011
 Url : <http://www.eurocontrol.int/documents/ais-training-development-guidelines-ais-tdg>

EUROCONTROL - Common AIS Staff Profiling (CASP) - Edition 1.0 / 18-08-2004

Url : <http://www.eurocontrol.int/documents/common-ais-staff-profiling-casp>

Finalisation criteria :

- 1 - Awareness material and training records were published.
- 2 - Competence requirements for staff were met.
- 3 - Operating manuals were provided.
- 4 - Security clearances for authorised staff were provided.

ITY-ADQ-IND03	Implement a quality management system and fulfil safety and security objectives	(Regulated) completion date(s) 07/2013
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Action by : **Public/private entities providing services for the origination/provision of survey, electronic terrain & obstacle data and procedures design services**

Description & purpose : Implement and maintain a quality management system meeting the safety management and the security management objectives in accordance with Article 10 and Annex VII of Regulation (EU) No 73/2010

Derogations : None

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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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 2012) - Edition 1.3 / 14-06-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria :
 1 - A quality management system meeting the safety and security management objectives was implemented documented and is maintained.
 2 - Access authorisations were provided.
 3 - An EN ISO 9001 certificate was 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
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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.
 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).
 2) Concerning the provision of Electronic obstacle data, electronic terrain data and aerodrome mapping data, ref. Article 2(1)(b-d).
 3) The EAD Service as an official centralised source of AIS Data for ECAC is in the scope of ADQ and has to comply with the applicable requirements.

Derogations : None

Supporting material(s) : EUROCONTROL - CHAIN Preliminary Safety Case - Edition 0.4 / 24-10-2006
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - EAD Safety Case Guidance - Edition 1.0 / 01-12-2010
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - EAD Safety Case - Edition 2.3 / 01-09-2009
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC Draft - EUROCONTROL Specification for Aeronautical Information Exchange - Edition 0.23 / 06-03-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC 148 - EUROCONTROL Specification for Data Assurance Levels - Edition 1.0 / 15-03-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC Draft - EUROCONTROL Specification for the Origination of Aeronautical Data - Edition 0.2 / 30-01-2012
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html
 EUROCONTROL - SPEC 146 - EUROCONTROL Specification for the Electronic Aeronautical Information Publication (eAIP) - Edition 2.0 / 14-02-2011
 Url : http://www.eurocontrol.int/adq/public/standard_page/adq_library.html

Finalisation criteria :
 1 - The common dataset and digital exchange format requirements were implemented.
 2 - (For IND certified as ANS): A safety assessment report, including safety arguments where applicable, was provided to the NSA.
 3 - (For IND certified as ANS): The introduction of the change into service was accepted by the NSA and a notification of acceptance was received.
 4 - (For IND certified as ANS): An EC declaration of verification of systems and a technical file containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance was submitted to the NSA.
 5 - (For IND not certified as ANS): A technical file containing evidence of compliance with the relevant part of EUROCONTROL specifications or other acceptable means of compliance was submitted to the NSA.
 6 - (For Manufacturers of constituents): An EC declaration of conformity of constituents or of suitability for use was issued.

ITY-ADQ-IND05	Implement all data quality requirements	(Regulated) completion date(s) 07/2017
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ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
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<u>Action by :</u>	Public/private entities providing services for the origination/provision of survey, electronic terrain & obstacle data and procedures design services
<u>Description & purpose :</u>	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.
<u>Derogations :</u>	None
<u>Finalisation criteria :</u>	1 - All electronic data is compliant to all requirements and a statement of compliance was provided to the NSA.

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

** 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 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

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
ATS unit operational capability - Regulation (EC) 29/2009, Annex I, Part B:	02/2015
Retrofit aircraft capability:	02/2015

References

European ATM Master Plan relationship

Ol step - [\[AUO-0301\]-Voice Controller-Pilot Communications \(En Route\) Complemented by Data Link](#)

Applicable legislation

Commission Regulation (EC) No 29/2009 of 16 January 2009 (the AG-DLS Regulation);
Commission Implementing Regulation (EU) N° 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) N° 691/2010 18-10-2011

Applicable ICAO Annexes and other references

EUROCAE Documents ED-120, ED-111.
ETSI EN 303 214 V1.1.1 Data Link Services (DLS) System;

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>(Regulated) completion date(s)</u>
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

ITY-AGDL	Initial ATC air-ground data link services above FL-285	
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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		01/2013
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	

▲ 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
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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
Finalisation criteria :	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
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Action by :	National Supervisory Authorities (NSAs)
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ITY-AGDL	Initial ATC air-ground data link services above FL-285
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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 :

- Availability of centralised flight planning processing and distribution service supporting information needed for implementation of Regulation (EC) No 29/2009.
- Training materials available.
- Updated operations manuals 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 : National aeronautical information publication is 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 :

- Availability of ATN/VDL-2 service is published in national aeronautical information publication.
- Security policy available.
- Harmonised addressing procedures 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

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 / 26-12-2007

Url : <http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20>

ICAO - EUR-Doc 011 - EUR Frequency Management Manual - Edition 2011 / 28-12-2011

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 01-01-2006

Url : <http://easa.europa.eu/certification/experts/OEB-supporting-documents.php>

Finalisation criteria : Operational use 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)].

ITY-AGDL	Initial ATC air-ground data link services above FL-285
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Derogations : None
Finalisation criteria : [Associated Commission decision 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 - 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) : EUROCAE - ED-111 - Functional specifications for CNS/ATM Recording - Including Amendment N°1 – 30 July 2003 31-07-2002
Url : <http://boutique.eurocae.net/catalog/index.php>
EUROCONTROL - SPEC 116 - EUROCONTROL Specification on Data Link Services - Edition 2.1 / 28-01-2009
Url : <http://www.eurocontrol.int/articles/link-2000-library>
ICAO - Annex 10, Volume III - Aeronautical Telecommunications, Volume III, Part 1 (incorporating Amendment 81) - Edition 1.0
Url : <http://store1.icao.int/mainpage.ch2>
Finalisation criteria : - Air-ground ANSP communications systems enable data link communication between controllers and operators of equipped aircraft.
- Flight data and initial flight plan processing systems are able to handle the information about the data link capability of flights.
- 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 : [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

ITY-AGDL	Initial ATC air-ground data link services above FL-285
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Finalisation criteria : 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) 01/2013
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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) : ARINC - 631-5 - VHF Digital Link (VDL) Mode 2 Implementation Provisions - ARINC 600 Series / Dec-2008

Url : https://www.arinc.com/cf/store/catalog.cfm?prod_group_id=1&category_group_id=3

EUROCONTROL - Generic Requirements for a LINK 2000+ Air/Ground Communications Service Provider (ACSP) - Edition 1.6 / 09-12-2009

Url : <http://www.eurocontrol.int/articles/link-2000-guidance-material>

EUROCONTROL - LINK 2000+ Network Planning Document - Edition 3.4 / 01-05-2007

Url : <http://www.eurocontrol.int/articles/link-2000-guidance-material>

EUROCONTROL - SPEC 116 - EUROCONTROL Specification on Data Link Services - Edition 2.1 / 28-01-2009

Url : <http://www.eurocontrol.int/articles/link-2000-library>

ARINC - 631-6 - VHF Digital Link (VDL) Mode 2 Implementation Provisions Standards - ARINC 600 Series / Nov-2010

Url : https://www.arinc.com/cf/store/catalog.cfm?prod_group_id=1&category_group_id=3

Finalisation criteria : Appropriate telecommunication infrastructure is 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
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Action by : **Military Authorities**

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 / 28-01-2009

Url : <http://www.eurocontrol.int/articles/link-2000-library>

Finalisation criteria : Transport-type aircraft are 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
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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].

ITY-AGDL	Initial ATC air-ground data link services above FL-285
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Supporting material(s) : EUROCONTROL - SPEC 116 - EUROCONTROL Specification on Data Link Services - Edition 2.1 / 28-01-2009

Url : <http://www.eurocontrol.int/articles/link-2000-library>

Finalisation criteria : 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
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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 / 28-01-2009

Url : <http://www.eurocontrol.int/articles/link-2000-library>

Finalisation criteria : 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
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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

Finalisation criteria : 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
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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, Article 13(6)].

Derogations : None

Finalisation criteria : Operators have:
- Training package added to training courses;
- Training plans;
- 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
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Action by : **Aeronautics Industry**

Description & purpose : Develop and supply airborne and ground equipment for data link services.

Derogations : None

Supporting material(s) : EUROCAE - ED-110B - Interoperability Requirements Standard for Aeronautical Telecommunication Network Baseline 1 (Interop ATN B1) 31-12-2007

Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCONTROL - SPEC 116 - EUROCONTROL Specification on Data Link Services - Edition 2.1 / 28-01-2009

Url : <http://www.eurocontrol.int/articles/link-2000-library>

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 / 12-04-2012

Url : <http://webapp.etsi.org/workprogram/SimpleSearch/QueryForm.asp>

Finalisation criteria : Certified equipment available.

SES	Active					EU+
ITY-COTR	Implementation of ground-ground automated co-ordination processes					
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 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)

All EU+ States

Timescales

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](#)

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;
- Commission Implementing Regulation (EU) N° 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) N° 691/2010 18-10-2011

Applicable ICAO Annexes and other references

None

ITY-COTR	Implementation of ground-ground automated co-ordination processes
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Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>(Regulated) completion date(s)</u>	
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	▲

▲ 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>	Unassigned
Outline description approved in:	-
Latest objective review at expert level in:	04/2009
<u>Commitment decision body:</u>	Provisional Council (PC)
Objective approved/endorsed in:	07/2009
Latest change to objective approved/endorsed in:	-

Expected performance benefits (for information)

<u>Safety :</u>	Reduction of human error.
<u>Capacity :</u>	Reduction of controller workload.
<u>Cost effectiveness :</u>	More efficient planning and operational decision making
<u>Environment :</u>	N/A
<u>Security :</u>	N/A

Detailed SLoA descriptions

ITY-COTR-REG01	Ensure oversight of changes to system	(Regulated) completion date(s) 01/2009
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ITY-COTR	Implementation of ground-ground automated co-ordination processes
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	12/2012
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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/GUI 1 - Explanatory Material on ESARR 1 Requirements - Edition 2.0 / 13-12-2010 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 02-12-2009 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm
Finalisation criteria :	- Safety case analysed; where necessary, safety arguments reviewed. - Formal acceptance by the NSA of the proposed changes communicated to ANSP.

ITY-COTR-ASP01	Implement flight data processing and exchange systems	(Regulated) completion date(s) 01/2009 12/2012
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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 146/05 / 16-12-2010 Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html
Finalisation criteria :	- Flight data processing and exchange systems upgraded. - 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). - Upgraded flight data processing and exchange systems put into service.

ITY-COTR-ASP02	Implement Notification process	(Regulated) completion date(s) 07/2006 12/2012
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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 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010 Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html EUROCONTROL - SPEC 107 - EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) - Edition 3.1 - OJ 2008/C 68/03 / 20-10-2007 Url : http://www.eurocontrol.int/documents/ats-data-exchange-presentation-specification
Finalisation criteria :	The Notification process is implemented, documented and in operational use.

ITY-COTR-ASP03	Implement Initial Coordination process	(Regulated) completion date(s) 07/2006 12/2012
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Action by :	ANS Providers
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ITY-COTR	Implementation of ground-ground automated co-ordination processes
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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 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010

Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

EUROCONTROL - SPEC 107 - EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) - Edition 3.1 - OJ 2008/C 68/03 / 20-10-2007

Url : <http://www.eurocontrol.int/documents/ats-data-exchange-presentation-specification>

Finalisation criteria : The Initial Coordination process is implemented, documented and 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 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010

Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

EUROCONTROL - SPEC 107 - EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) - Edition 3.1 - OJ 2008/C 68/03 / 20-10-2007

Url : <http://www.eurocontrol.int/documents/ats-data-exchange-presentation-specification>

Finalisation criteria : The Revision of Coordination process is implemented, documented and 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.

Supporting material(s) : EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010

Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

EUROCONTROL - SPEC 107 - EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) - Edition 3.1 - OJ 2008/C 68/03 / 20-10-2007

Url : <http://www.eurocontrol.int/documents/ats-data-exchange-presentation-specification>

Finalisation criteria : The Abrogation of Coordination process is implemented, documented and in operational use.

ITY-COTR	Implementation of ground-ground automated co-ordination processes
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ITY-COTR-ASP06	Implement Basic Flight Data process	(Regulated) completion date(s) 01/2009 12/2012
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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 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010

Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

EUROCONTROL - SPEC 107 - EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) - Edition 3.1 - OJ 2008/C 68/03 / 20-10-2007

Url : <http://www.eurocontrol.int/documents/ats-data-exchange-presentation-specification>

Finalisation criteria :

The Basic Flight Data process is implemented, documented and in operational use.

ITY-COTR-ASP07	Implement Change to Basic Flight Data process	(Regulated) completion date(s) 01/2009 12/2012
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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 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010

Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

EUROCONTROL - SPEC 107 - EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) - Edition 3.1 - OJ 2008/C 68/03 / 20-10-2007

Url : <http://www.eurocontrol.int/documents/ats-data-exchange-presentation-specification>

Finalisation criteria :

The Change to Basic Flight Data process is implemented, documented and in operational use.

ITY-COTR-ASP08	Implement Logon Forward process	(Regulated) completion date(s) 02/2013 02/2015
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Action by :

ANS Providers

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

ITY-COTR	Implementation of ground-ground automated co-ordination processes
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Supporting material(s) : EUROCONTROL - SPEC 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010
 Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html
 EUROCONTROL - SPEC 107 - EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) - Edition 3.1 - OJ 2008/C 68/03 / 20-10-2007
 Url : <http://www.eurocontrol.int/documents/ats-data-exchange-presentation-specification>
Finalisation criteria : The Logon Forward process is implemented, documented and in operational use.

ITY-COTR-ASP09	Implement Next Authority Notified process	(Regulated) completion date(s) 02/2013 02/2015
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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 106 - EUROCONTROL Specification for On-Line Data Interchange (OLDI) - Edition 4.2 - OJ 2011/C 146/05 / 16-12-2010
 Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html
 EUROCONTROL - SPEC 107 - EUROCONTROL Specification for ATS Data Exchange Presentation (ADEXP) - Edition 3.1 - OJ 2008/C 68/03 / 20-10-2007
 Url : <http://www.eurocontrol.int/documents/ats-data-exchange-presentation-specification>
Finalisation criteria : The Next Authority Notified process is implemented, documented and in operational use.

ITY-COTR-ASP10	Develop safety assessment	(Regulated) completion date(s) 01/2009 12/2012
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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 / 01-11-2006
 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html
 EUROCONTROL - Risk Analysis Tool (RAT) - Edition 1 / 14-09-2009
 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#15
Finalisation criteria :
 1 - Safety assessment 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 accepted by the NSA.

ITY-COTR-ASP11	Organise training to Air Traffic Control personnel	(Regulated) completion date(s) 02/2015
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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 :
 - Air Navigation Service Providers have produced the operations manuals and the training programmes.
 - All relevant personnel trained.

ITY-COTR-MIL01	Implement Basic Flight Data process	(Regulated) completion date(s) 01/2009 12/2012
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Action by : **Military Authorities**

ITY-COTR	Implementation of ground-ground automated co-ordination processes
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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 / 20-10-2007

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 146/05 / 16-12-2010

Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

Finalisation criteria : The Basic Flight Data process is implemented, documented and 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 / 20-10-2007

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 146/05 / 16-12-2010

Url : http://www.eurocontrol.int/ses/public/standard_page/oldi_spec.html

Finalisation criteria : The Change to Basic Flight Data process is implemented, documented and 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)]:

- 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;
- 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 - [\[CTE-C11b\]-Gateway to interconnect the Stakeholder's Networks \(ANSP/PENS, Airport, Airspace Users, MIL authorities \[Ground IP Network\]\)](#)

Applicable legislation

- Regulation (EU) No 283/2011 of 23 March 2011 amending Regulation (EC) No 633/2007 as regards the transitional arrangements referred to in Article 7;
- Regulation (EC) No 633/2007 of 26 June 2007;
- Regulation (EU) N° 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) N° 691/2010 18-10-2011

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;
- EUROCONTROL- Strategic Guidance in Support of the Execution of the European ATM Master Plan Ed. 1.0 (05/2009), Annex D (ATM Infrastructure);
- EUROCAE EDs for VoIP in ATM Ed.02/2009:
 - ED-136 Voice over Internet Protocol (VoIP) Air Traffic Management (ATM) System Operational and Technical Requirements;
 - ED-137A Interoperability Standards for VoIP ATM Components (Part 1: Radio - Part 2: Telephone - Part 2A: Telephone Legacy Interworking SIP/ATS-R2 - Part 2B: Telephone Legacy Interworking SIP/ATS-NO.5 - Part 2C: Telephone Legacy Interworking SIP/ATS-QSIG - Part 3: Recording - Part 4: Supervision);
 - 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).

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>(Regulated) completion date(s)</u>	
ITY-FMTP-REG02	Ensure that the verification of systems has been conducted	04/2011	▲
		12/2012	
		12/2014	

ITY-FMTP	Apply a common flight message transfer protocol (FMTP)		
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ITY-FMTP-REG03	Conduct safety oversight of the changes	04/2011	▲
		12/2012	
		12/2014	
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	
ITY-FMTP-ASP02	Develop safety assessment for the changes	04/2011	▲
		12/2012	
		12/2014	
ITY-FMTP-ASP03	Train technical staff	04/2011	▲
		12/2012	
		12/2014	
ITY-FMTP-MIL01	Upgrade and put into service communication systems to support information exchange via FMTP between FDPS(s) for the purpose of notification, coordination, transfer of the flights and civil-military coordination between ATS units and controlling military units	04/2011	▲
		12/2012	
		12/2014	

▲ 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. The verification activities need to be performed on the systems implementing the flight message transfer protocol.
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 / 14-06-2007 Url : http://www.eurocontrol.int/ses/public/standard_page/fmtp_spec.html 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 / 14-06-2007 Url : http://www.eurocontrol.int/ses/public/standard_page/fmtp_spec.htm
Finalisation criteria :	Assessment of the EC declaration of verification of systems and technical file.

ITY-FMTP-REG03	Conduct safety oversight of the changes	(Regulated) completion date(s)
		04/2011 12/2012

ITY-FMTP	Apply a common flight message transfer protocol (FMTP)
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	12/2014
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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: <ul style="list-style-type: none"> - Analyse the safety case; - Review safety arguments; - Prepare the material for the acceptance of changes.
Derogations :	None
Supporting material(s) :	EUROCONTROL - EAM 1/GUI 1 - Explanatory Material on ESARR 1 Requirements - Edition 2.0 / 13-12-2010 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm EUROCONTROL - EAM 1 - ESARR 1 - Safety Oversight in ATM - Edition 2.0 / 02-12-2009 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm
Finalisation criteria :	Formal acceptance by the NSA of the proposed changes 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: <ul style="list-style-type: none"> - Define requirements based on relevant standards/regulations; - Upgrade communication systems to comply with defined requirements; - Verify compliance with Interoperability Regulation(s); - Integrate upgraded communication systems into the EATM Network; - Put into service upgraded communication systems. <p>The application of FMTP shall be in accordance with the interoperability requirements specified in Annex I of Regulation (EC) No 633/2007. The verification of the systems shall be done as defined in Annex II and IV of Regulation (EC) No 633/2007.</p>
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 / 14-06-2007 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 / 12-12-2008 Url : http://www.eurocontrol.int/cnd/public/standard_page/cnd_sis_aegis.html EUROCONTROL - Eurocontrol Inter Centre Test Tool (ETIC) - Version 3.2.2. / 31-08-2012 Url : http://www.eurocontrol.int/communications/public/standard_page/com_network.html
Finalisation criteria :	<ul style="list-style-type: none"> - Communications systems upgraded. - 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). - Upgraded communication systems put into service. <p>Note: For states where Regulation (EC) No 552/2004 on the interoperability of the European Air Traffic Management network does not apply, ANSPs should apply compliance procedures as defined by their competent National Authority.</p>

ITY-FMTP-ASP02	Develop safety assessment for the changes	(Regulated) completion date(s)
		04/2011
		12/2012
		12/2014

Action by :	ANS Providers
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: <ul style="list-style-type: none"> - Notify the NSA of planned changes; - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. <p>This safety assessment shall be based on fully validated/recognised method.</p>
Derogations :	None

ITY-FMTP	Apply a common flight message transfer protocol (FMTP)
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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 / 14-06-2007

Url : http://www.eurocontrol.int/ses/public/standard_page/fmtp_spec.html

EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 01-11-2006

Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html

EUROCONTROL - Guidelines for Implementation Support (EGIS) Part 5 Communication & Navigation Specifications Chapter 13 Flight Message Transfer Protocol (FMTP) - Edition 2.0 / 12-12-2008

Url : http://www.eurocontrol.int/cnd/public/standard_page/cnd_sis_aegis.html

EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 05-04-2001

Url : <http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm>

Finalisation criteria : Safety assessment report including safety arguments for the changes 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 / 14-06-2007

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 / 12-12-2008

Url : http://www.eurocontrol.int/cnd/public/standard_page/cnd_sis_aegis.html

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

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 :
- Communications systems upgraded.
- 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.
- Upgraded communication systems put into service.

SES	Active					EU+
ITY-SPI	Surveillance performance and interoperability					
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 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 into 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

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)
Regulation (EU) No 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services

Applicable ICAO Annexes and other references

ICAO Annex 10

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>(Regulated) completion date(s)</u>
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	Surveillance performance and interoperability	
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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-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

▲ 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 :

Capacity :

Cost effectiveness :

Environment : N/A

Security : N/A

Detailed SLoA descriptions

ITY-SPI-REG01	Conduct Safety Oversight	(Regulated) completion date(s) 12/2013
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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) 1207/2011 (SPI-IR) are conducted by the parties concerned and review the safety assessment report(s) before their acceptance.

Derogations : None

Finalisation criteria : 1 - Formal acceptance of the ANSPs safety assessment reports is communicated to the ANSP

ITY-SPI-ASP01	Ensure interoperability of surveillance data	(Regulated) completion date(s) 12/2013
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Action by : ANS Providers

Description & purpose : As required by Article 5(1) of the 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.

ITY-SPI	Surveillance performance and interoperability
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Note :The ASTERIX Standard is in the process of being transposed into a EUROCONTROL Specification which may be considered for recognition as Community Specification by the European Commission.

<u>Derogations :</u>	None
<u>Supporting material(s) :</u>	EUROCONTROL - The EUROCONTROL ASTERIX Standard All Purpose Structured Eurocontrol SuRveillance Information Exchange, including its categories - Edition 1.3 / 01-11-2007 Url : http://www.eurocontrol.int/articles/previous-editions-asterix-documents EUROCONTROL - SPEC 147 - EUROCONTROL ATM Surveillance System Performance Specification (Volume 1 & Volume 2) - Edition 1.0 / 30-03-2012 Url : http://www.eurocontrol.int/documents/eurocontrol-specification-atm-surveillance-system-performance
<u>Finalisation criteria :</u>	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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	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.
<u>Derogations :</u>	The SLoA does not apply to ANSP which do not use or do not provide surveillance data.
<u>Supporting material(s) :</u>	EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 01-11-2006 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 / 05-04-2001 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 / 30-03-2012 Url : http://www.eurocontrol.int/documents/eurocontrol-specification-atm-surveillance-system-performance
<u>Finalisation criteria :</u>	1 - Safety assessment to all existing systems (see SLoA description) 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
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Conduct a safety assessment of the changes introduced to systems and associated procedures, identified in Art. 2.1 (b), (c) and (d) of Regulation (EU) 1207/2011 (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.
<u>Derogations :</u>	The SLoA does not apply to ANSP which do not use or do not provide surveillance data.
<u>Supporting material(s) :</u>	EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 01-11-2006 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 / 05-04-2001 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 / 30-03-2012 Url : http://www.eurocontrol.int/documents/eurocontrol-specification-atm-surveillance-system-performance
<u>Finalisation criteria :</u>	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-ASP04	Ensure the training of personnel	(Regulated) completion date(s) 12/2013
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<u>Action by :</u>	ANS Providers
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ITY-SPI	Surveillance performance and interoperability
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Description & purpose : Ensure the training of their personnel affected by system and procedural changes introduced by compliance to Regulation (EU) 1207/2011 (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
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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 Regulation (EU) 1207/2011 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 31-05-2011
Url : <http://boutique.eurocae.net/catalog/index.php>
ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 20-04-2012
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>

Finalisation criteria : 1 - Aircraft are 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
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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 Regulation (EU) 1207/2011 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 31-05-2011
Url : <http://boutique.eurocae.net/catalog/index.php>
ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 20-04-2012
Url : <http://www.icao.int/publications/Pages/catalogue.aspx>
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 31-01-2012
Url : <http://boutique.eurocae.net/catalog/index.php>
EUROCAE - ED-126 - Safety, Performance and Interoperability Requirements Document for ADS-B-NRA Application 31-12-2006
Url : <http://boutique.eurocae.net/catalog/index.php>
EUROCAE - ED-161 - Safety, Performance and Interoperability Requirements Document for ADS-B-RAD Application 30-09-2009
Url : <http://boutique.eurocae.net/catalog/index.php>

Finalisation criteria : 1 - Aircraft are equipped with Mode S Enhanced Surveillance and ADS-B Out (1090 extended squitter) equipment, and certified for operational use.

ITY-SPI-MIL03	Ensure the training of personnel	(Regulated) completion date(s) 12/2019
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Action by : Military Authorities

ITY-SPI	Surveillance performance and interoperability
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Description & purpose : Ensure the training of all their personnel affected by changes introduced by compliance to Regulation (EU) 1207/2011 (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-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
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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 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 31-05-2011

Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCAE - ED-82A - Minimum Operational Performance Specification for Mode S Aircraft Data Link Processors 30-11-1999

Url : <http://boutique.eurocae.net/catalog/index.php>

ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 20-04-2012

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

Finalisation criteria :
1 - Aircraft are equipped with Mode S Elementary Surveillance equipment and certified as appropriate
2 - Aircraft obtain 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
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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-73E - Minimum Operational Performance Specification for Secondary Surveillance Radar Mode S Transponders 31-05-2011

Url : <http://boutique.eurocae.net/catalog/index.php>

ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 20-04-2012

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

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 31-01-2012

Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCAE - ED-126 - Safety, Performance and Interoperability Requirements Document for ADS-B-NRA Application 31-12-2006

Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCAE - ED-161 - Safety, Performance and Interoperability Requirements Document for ADS-B-RAD Application 30-09-2009

Url : <http://boutique.eurocae.net/catalog/index.php>

Finalisation criteria :
1 - Aircraft are equipped with ADS-B Out on 1090 Extended Squitter equipment certified as appropriate.
2 - Aircraft obtain airworthiness approval

ITY-SPI-USE03	Carriage and operation of Mode S Enhanced Surveillance avionics by aircraft with an individual certificate of airworthiness first issued on or after 8 January 2015	(Regulated) completion date(s) 01/2015
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Action by : **Airspace Users**

ITY-SPI	Surveillance performance and interoperability
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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 31-05-2011

Url : <http://boutique.eurocae.net/catalog/index.php>

ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 20-04-2012

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

Finalisation criteria : 1 - Aircraft are equipped with Mode S Enhanced Surveillance equipment certified as appropriate.

2 - Aircraft obtain 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
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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 31-05-2011

Url : <http://boutique.eurocae.net/catalog/index.php>

ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 20-04-2012

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

Finalisation criteria : 1 - Aircraft are equipped with Mode S Elementary Surveillance equipment certified as appropriate

2 - Aircraft obtain 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
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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-73E - Minimum Operational Performance Specification for Secondary Surveillance Radar Mode S Transponders 31-05-2011

Url : <http://boutique.eurocae.net/catalog/index.php>

ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 20-04-2012

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

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 31-01-2012

Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCAE - ED-126 - Safety, Performance and Interoperability Requirements Document for ADS-B-NRA Application 31-12-2006

Url : <http://boutique.eurocae.net/catalog/index.php>

EUROCAE - ED-161 - Safety, Performance and Interoperability Requirements Document for ADS-B-RAD Application 30-09-2009

Url : <http://boutique.eurocae.net/catalog/index.php>

Finalisation criteria : 1 - Aircraft are equipped with ADS-B Out on 1090 Extended Squitter equipment and certified as appropriate

2 - Aircraft obtain airworthiness approval

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
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Action by : Airspace Users

ITY-SPI	Surveillance performance and interoperability
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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 31-05-2011

Url : <http://boutique.eurocae.net/catalog/index.php>

ICAO - Doc 9871 - Technical Provisions for Mode S Services and Extended Squitter - Advanced Edition / 20-04-2012

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

Finalisation criteria : 1 - Aircraft are equipped with Mode S Enhanced Surveillance equipment certified as appropriate

2 - Aircraft obtain 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 Regulation (EU) 1207/2011 (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					PE
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.

(2) Procedures will need to be designed in accordance with EUROCONTROL guidance material and JAA TGL10 as appropriate.

(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.

(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.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability:

01/2001

Full operational capability:

12/2012

References

European ATM Master Plan relationship

Ol step - [\[AOM-0601\]-Terminal Airspace Organisation Adapted through Use of Best Practice](#)

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)

<u>SloA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
NAV03-REG01	Ensure suppliers of navigation databases are accredited	FINALISED		▲
NAV03-REG02	Ensure quality of published Navigation Data	FINALISED		▲
NAV03-ASP01	Develop and implement RNAV arrival and departure procedures for P-RNAV approved aircraft	01/2001	12/2012	▲
NAV03-ASP02	Provide appropriate terrestrial navigation infrastructure to support RNAV operations	01/2001	12/2012	▲
NAV03-ASP03	Train air traffic controllers in RNAV procedures	01/2003	12/2012	▲
NAV03-ASP04	Train procedure designers in RNAV capabilities	FINALISED		▲
NAV03-ASP05	Implement P-RNAV routes where identified as providing benefit	01/2001	12/2012	▲
NAV03-ASP06	Publish in AIPs all co-ordinate data in WGS-84 meeting the quality requirements set out in ICAO Annex 15	FINALISED		▲
NAV03-ASP07	Define all RNAV procedures to be for P-RNAV approved aircraft and designed in accordance with the EUROCONTROL guidelines and ICAO PANS OPS	DELETED		▲
NAV03-ASP08	Adapt ATS automated systems to ensure the availability of information regarding aircraft RNAV equipage for systematic display to relevant control positions	FINALISED		

NAV03	Implementation of P-RNAV			
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NAV03-ASP09	Implement adaptations to ATS systems to permit the display on flight strips (and extended track labels) radar labels and/or radar position symbols, of aircraft RNAV equipage	DELETED		
NAV03-ASP10	Recommend to adapt ATS radar display systems to permit the display, on radar labels and/or radar position symbols, of aircraft RNAV equipage. Such display should be automatic. Manual updates should be possible	DELETED		
NAV03-ASP11	Develop a Local P-RNAV Safety Case	01/2001	12/2012	
NAV03-USE01	Install appropriate RNAV equipment	01/2001	12/2012	▲
NAV03-USE02	Train aircrews in RNAV TMA procedures	01/2001	12/2012	▲
NAV03-USE03	Ensure correctness of data before use	FINALISED		▲
NAV03-IND01	Ensure that data meets specification of ED77 and is managed according to ED76	FINALISED		▲
NAV03-IND02	Ensure that the navigation database is not corrupted when installed	FINALISED		▲
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		

▲ Applicable to the military.

Description of finalised SLOs 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:	07/2012

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
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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.

NAV03	Implementation of P-RNAV
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Supporting material(s) : EUROCONTROL - Standard Document for Area Navigation Equipment - Operational and Functional Requirements - Edition 2.2 / 01-12-1998
[Url : http://www.ecacnav.com/content.asp?CatID=228](http://www.ecacnav.com/content.asp?CatID=228)
 EUROCONTROL - Guidance Material for the Design of Terminal Procedures for Area Navigation (DME/DME, B-GNSS, Baro-VNAV & RNP-RNAV) - Edition 3.0
[Url : http://www.ecacnav.com/Document_Library](http://www.ecacnav.com/Document_Library)
 EUROCONTROL - The Navigation Application and NAVAID Infrastructure Strategy up to 2020 - Edition 2.0 / 15-05-2008
[Url : http://www.ecacnav.com/Navigation/Navigation_Strategy](http://www.ecacnav.com/Navigation/Navigation_Strategy)
 ICAO - Doc 7030 - Regional supplementary Procedures - Edition 5 / 22-07-2011
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](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 / 17-04-2012
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](http://www.icao.int/publications/Pages/catalogue.aspx)

Finalisation criteria : RNAV arrival and departures implemented in accordance with EUROCONTROL guidance material and JAA TGL 10 and declared in national AIP, and in use.

NAV03-ASP02	Provide appropriate terrestrial navigation infrastructure to support RNAV operations	Start:01/2001	Finish:12/2012
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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 / 01-01-2012
[Url : http://www.ecacnav.com/Home/Tools/DEMETER/DEMETER.html](http://www.ecacnav.com/Home/Tools/DEMETER/DEMETER.html)
 EUROCONTROL - Standard Document for Area Navigation Equipment - Operational and Functional Requirements - Edition 2.2 / 01-12-1998
[Url : http://www.ecacnav.com/content.asp?CatID=228](http://www.ecacnav.com/content.asp?CatID=228)
 EUROCONTROL - Guidance Material for the Design of Terminal Procedures for Area Navigation (DME/DME, B-GNSS, Baro-VNAV & RNP-RNAV) - Edition 3.0
[Url : http://www.ecacnav.com/Document_Library](http://www.ecacnav.com/Document_Library)
 EUROCONTROL - The Navigation Application and NAVAID Infrastructure Strategy up to 2020 - Edition 2.0 / 15-05-2008
[Url : http://www.ecacnav.com/Navigation/Navigation_Strategy](http://www.ecacnav.com/Navigation/Navigation_Strategy)

Finalisation criteria : Infrastructure 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
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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 7030 - Regional supplementary Procedures - Edition 5 / 22-07-2011
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](http://www.icao.int/publications/Pages/catalogue.aspx)
 ICAO - Doc 4444 - Air Traffic Management - Edition 15 / 18-11-2010
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](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 / 17-04-2012
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](http://www.icao.int/publications/Pages/catalogue.aspx)

Finalisation criteria : The necessary training 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
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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.

NAV03	Implementation of P-RNAV
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Supporting material(s) : EUROCONTROL - The Navigation Application and NAVAID Infrastructure Strategy up to 2020 - Edition 2.0 / 15-05-2008
[Url : http://www.ecacnav.com/Navigation/Navigation_Strategy](http://www.ecacnav.com/Navigation/Navigation_Strategy)
 JAA - TGL 10 Revision 1 - Airworthiness and Operational Approval for Precision RNAV Operations in Designated European Airspace Feb-2005
[Url : http://www.ecacnav.com/Home/Documents](http://www.ecacnav.com/Home/Documents)

Finalisation criteria : P- RNAV routes 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
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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.
Supporting material(s) : EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 01-11-2006
[Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html](http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html)
 EUROCONTROL - Common Methodology for Implementing P-RNAV in ECAC Terminal Airspace 09-04-2003
[Url : http://www.ecacnav.com/content.asp?CatID=209](http://www.ecacnav.com/content.asp?CatID=209)
 EUROCONTROL - Safety Argument for Precision RNAV in Terminal Airspace - Edition 3.2
[Url : http://www.ecacnav.com/content.asp?PageID=362](http://www.ecacnav.com/content.asp?PageID=362)
 EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 05-04-2001
[Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm](http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm)

Finalisation criteria : Local P-RNAV Safety Case finalised and approved by the National Supervisory Authority.

NAV03-USE01	Install appropriate RNAV equipment	Start:01/2001	Finish:12/2012
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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) : JAA - TGL 10 Revision 1 - Airworthiness and Operational Approval for Precision RNAV Operations in Designated European Airspace Feb-2005
[Url : http://www.ecacnav.com/Home/Documents](http://www.ecacnav.com/Home/Documents)
 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 / 17-04-2012
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](http://www.icao.int/publications/Pages/catalogue.aspx)

Finalisation criteria : 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
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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 Feb-2005
[Url : http://www.ecacnav.com/Home/Documents](http://www.ecacnav.com/Home/Documents)

Finalisation criteria : - Training manuals have been updated to include RNAV TMA procedures.
 - The aircrew is trained accordingly

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 primary objective is to enhance safety but there are potential benefits in terms of reduced minima and better access to airports without precision approach and landing capabilities. This objective is in line with the ICAO 37th Assembly resolution which recommends States to implement APV procedures at all IFR runways by 2016. It also supports the Performance Based Navigation implementation and harmonisation strategy of the ICAO European Region.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 06/2011
Full operational capability: 12/2016

References

European ATM Master Plan relationship

Ol step - [\[AOM-0602a\]-Enhanced terminal operations with APV using Barometric VNAV](#)
Ol step - [\[AOM-0602b\]-Enhanced terminal operations with LPV using SBAS](#)

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

- 1) ICAO PBN Implementation
- 2) ICAO 37th Assembly resolution on APV
- 3) EC IR Mandate MOVE E2/EMM D(2011) issued on 06 April 2011 regarding the Performance Based Navigation (PBN)
- 4) 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 (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
NAV10-REG01	Apply EASA material to local national regulatory activities	06/2010	04/2011	
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		▲
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	12/2013	▲
NAV10-USE02	Get airworthiness certification and operational approval	04/2006	04/2015	▲

▲ 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:

07/2012

Expected performance benefits

NAV10	Implement APV procedures
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<u>Safety :</u>	Reduction in CFIT occurrences. Improved pilot situation awareness and reduced crew workload.
<u>Capacity :</u>	Provides a procedure with potential to enhance capacity due to lower minima than can be achieved through conventional NPA.
<u>Cost-effectiveness :</u>	Improved operation for runways with only conventional NPA fallback during PA system outages
<u>Environment :</u>	Emissions and noise nuisance reduced by use of optimal flight procedures and routings and the elimination of step-down approach procedures.
<u>Security :</u>	N/A

Detailed SloA descriptions

NAV10-REG01	Apply EASA material to local national regulatory activities	Start:06/2010	Finish:04/2011
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<u>Action by :</u>	National Regulatory Authorities
<u>Description & purpose :</u>	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).
<u>Supporting material(s) :</u>	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 / 23-12-2009 Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20 EASA - AMC 20-26 - Airworthiness Approval and Operational Criteria for RNP Authorisation Required (RNP AR) Operations - ED Decision 2009/019/R / 23-12-2009 Url : http://easa.europa.eu/agency-measures/certification-specifications.php#AMC-20

<u>Finalisation criteria :</u>	Published national regulatory material for APV procedures based on EASA AMC.20-27 and EASA AMC 20-28.
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NAV10-ASP01	Design and Publish APV/Baro and/or APV/SBAS procedures	Start:06/2008	Finish:12/2016
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	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.
<u>Supporting material(s) :</u>	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 / 17-04-2012 Url : http://www.icao.int/publications/Pages/catalogue.aspx

<u>Finalisation criteria :</u>	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.
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NAV10-ASP03	Develop National safety case for APV/Baro operations and/or APV/SBAS operations	Start:01/2009	Finish:04/2015
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	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
<u>Finalisation criteria :</u>	National Safety case for APV/Baro and/or APV/SBAS produced and an operational approval issued by the regulator.

NAV10-USE01	Equip aircraft with systems approved for APV/Baro and/or APV/SBAS	Start:04/2006	Finish:12/2013
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<u>Action by :</u>	Airspace Users
<u>Description & purpose :</u>	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.

NAV10	Implement APV procedures
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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 / 23-12-2009
[Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20](http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20)
 FAA - AC 20-138C - Airworthiness Approval of Positioning and Navigation Systems 08-05-2012
[Url : http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/101](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 23-01-2009
[Url : http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/128](http://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.list/parentTopicID/128)
 EASA - AMC 20-26 - Airworthiness Approval and Operational Criteria for RNP Authorisation Required (RNP AR) Operations - ED Decision 2009/019/R / 23-12-2009
[Url : http://easa.europa.eu/agency-measures/certification-specifications.php#AMC-20](http://easa.europa.eu/agency-measures/certification-specifications.php#AMC-20)

Finalisation criteria : - Aircraft fitted with suitable APV/Baro equipment compliant to AMC 20-27 or APV/SBAS compliant to AMC 20-28 .
 - The AFM or the POH, whichever is applicable, updated according to AMC 20-27 and AMC 20-28.

NAV10-USE02	Get airworthiness certification and operational approval	Start:04/2006	Finish:04/2015
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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) : ARINC - 424-20 - Navigation System Data Base - ARINC 400 Series / Dec-2011
[Url : https://www.arinc.com/cf/store/catalog.cfm?prod_group_id=1&category_group_id=1](https://www.arinc.com/cf/store/catalog.cfm?prod_group_id=1&category_group_id=1)
 ARINC - 706-4 - Mark 5 Subsonic Air Data System (ADS) - ARINC 700 Series / Jan-1988
[Url : https://www.arinc.com/cf/store/catalog.cfm?prod_group_id=1&category_group_id=4](https://www.arinc.com/cf/store/catalog.cfm?prod_group_id=1&category_group_id=4)
 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 / 23-12-2009
[Url : http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20](http://www.easa.eu.int/agency-measures/certification-specifications.php#AMC-20)
 ICAO - Doc 9613 - Performance-based Navigation (PBN) Manual - Edition 3 / 31-12-2008
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](http://www.icao.int/publications/Pages/catalogue.aspx)
 EASA - AMC 20-26 - Airworthiness Approval and Operational Criteria for RNP Authorisation Required (RNP AR) Operations - ED Decision 2009/019/R / 23-12-2009
[Url : http://easa.europa.eu/agency-measures/certification-specifications.php#AMC-20](http://easa.europa.eu/agency-measures/certification-specifications.php#AMC-20)
 ICAO - Doc 8168-Volume II - Aircraft Operations - Volume II - Construction of Visual and Instrument Flight Procedures - Edition 5 / 17-11-2011
[Url : http://www.icao.int/publications/Pages/catalogue.aspx](http://www.icao.int/publications/Pages/catalogue.aspx)

Finalisation criteria : The airworthiness and operational approval has been granted by the competent National Authorities to the operator.

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ECIP	Active					PE
SAF04	Implement measures to reduce the risk of level bust occurrences					
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

Involved aviation stakeholders should apply, verify, and ensure the appropriate follow-up, of the implemented measures based on the 'European action plan for the prevention of level bust' and Level Bust Toolkit in order to reduce the number and potential consequences of level bust occurrences.

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 SAF04 acts as a -bridge- between current ATM operations and those foreseen from 2015.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2006
Full operational capability: 01/2008

References

European ATM Master Plan relationship

None - [None](#)

Applicable legislation

None

Applicable ICAO Annexes and other references

European Safety Programme for ATM Plus (ESP+) - Activity Area 3 - Safe ATM Operation

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
SAF04-REG01	Promulgate national documentation based on the action plan	01/2006	01/2007	▲
SAF04-REG02	Verify the implementation and application of nationally promulgated documentation by involved national stakeholders.	01/2007	01/2008	▲
SAF04-ASP01	Assess and ensure follow-up of the implemented measures to review Airspace design and ATC procedures.	01/2006	01/2007	▲
SAF04-ASP02	Assess and ensure follow-up of the implemented measures to ensure complete and correct reporting of the level bust occurrences.	01/2006	01/2007	▲
SAF04-ASP03	Assess and ensure follow-up of the implemented measures to improve the cooperation between ATC and Aircraft Operators in the investigation of level bust incidents.	01/2006	01/2007	▲
SAF04-ASP04	Assess and ensure follow-up of the implemented measures to improve ATC training.	01/2006	01/2007	▲
SAF04-USE01	Assess and ensure follow-up of the implemented measures to review Standard Operating Procedures (SOP) and flight crew tasks.	01/2006	01/2008	▲
SAF04-AGY01	Apply, verify and ensure the appropriate follow-up for the measures derived from the "European action plan for the prevention of level bust" which are under Agency's responsibility.	FINALISED		

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

Safety Team (SAFT)

-

12/2010

SAF04	Implement measures to reduce the risk of level bust occurrences
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Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2005

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Expected performance benefits

<u>Safety :</u>	Significant due to the reduced risk of loss of separation and mid-air collision, through the reduction of the likelihood and the severity of the level bust occurrences.
<u>Capacity :</u>	Indirect through reduction of reactive tactical ATC applied to recover from level busts events.
<u>Cost-effectiveness :</u>	Significant due to two effects: - Significant reduction of the risk of accident; - Indirect enhancement of business excellence through the application of the industry best practice.
<u>Environment :</u>	Not significant
<u>Security :</u>	N/A

Detailed SloA descriptions

SAF04-REG01	Promulgate national documentation based on the action plan	Start:01/2006	Finish:01/2007
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<u>Action by :</u>	National Regulatory Authorities National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	Promulgate the documentation applicable within the State on the basis of the action plan.
<u>Supporting material(s) :</u>	EUROCONTROL - European Action Plan for the Prevention of Level Bust and Level Bust Toolkit Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#10
<u>Finalisation criteria :</u>	Regulatory material covering the Recommendations 4.1.1, 4.2.1 to 4.2.7 of the action plan is promulgated.

SAF04-REG02	Verify the implementation and application of nationally promulgated documentation by involved national stakeholders.	Start:01/2007	Finish:01/2008
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<u>Action by :</u>	National Regulatory Authorities National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	Verify and ensure the appropriate follow-up for the implemented measures to reduce the likelihood and the severity of level bust occurrences: - Review Airspace Procedure & Design; - Review ATC Operating Procedures; - Improve cooperation between ATC and Aircraft Operators in the investigation of the level bust occurrences; - Improve reporting; - Improve training.
<u>Supporting material(s) :</u>	EUROCONTROL - European Action Plan for the Prevention of Level Bust and Level Bust Toolkit Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#10
<u>Finalisation criteria :</u>	- Report for the verification of the implemented measures has been issued. - Report for the implementation of the appropriate follow up measures has been issued. - Recommendations 4.1.1, 4.2.1 to 4.2.7 of the action plan are implemented.

SAF04-ASP01	Assess and ensure follow-up of the implemented measures to review Airspace design and ATC procedures.	Start:01/2006	Finish:01/2007
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Verify and ensure the appropriate follow-up for the implemented measures to reduce the likelihood and the severity of level bust occurrences: - Review Airspace design and procedures; - Review ATC Operating Procedures; - Ensure the use of ICAO standard phraseology; - Ensure the radio discipline and in particular avoiding giving multiple clearances in the same transmission.
<u>Supporting material(s) :</u>	EUROCONTROL - European Action Plan for the Prevention of Level Bust and Level Bust Toolkit Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#10

SAF04	Implement measures to reduce the risk of level bust occurrences
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Finalisation criteria :

- Report for the verification of the implemented measures within Airspace and Procedures Design has been issued.
- Report for the implementation of the appropriate follow up measures to improve Airspace and Procedures Design has been issued.
- Recommendations 4.1.1, 4.2.3, 4.2.6, 4.2.7 of the action plan are implemented.

SAF04-ASP02	Assess and ensure follow-up of the implemented measures to ensure complete and correct reporting of the level bust occurrences.	Start:01/2006	Finish:01/2007
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Action by : ANS Providers

Description & purpose : Verify and ensure the appropriate follow-up for the implemented measures to reduce the likelihood and the severity of level bust occurrences:

- Ensure complete and correct reporting of level bust occurrences;
- Ensure complete and correct reporting of level bust occurrences to the EUROCONTROL Agency;
- Ensure the exchange with the EUROCONTROL Agency and other ANSP of the lessons learned.

Supporting material(s) : EUROCONTROL - European Action Plan for the Prevention of Level Bust and Level Bust Toolkit
 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#10

Finalisation criteria :

- Report for the verification of the implemented measures within the safety occurrence reporting has been issued and lessons learned exchanged.
- Report for the implementation of the appropriate follow up measures to improve the reporting has been issued and lessons learned exchanged.
- Recommendation 4.2.1 of the action plan is implemented.

SAF04-ASP03	Assess and ensure follow-up of the implemented measures to improve the cooperation between ATC and Aircraft Operators in the investigation of level bust incidents.	Start:01/2006	Finish:01/2007
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Action by : ANS Providers

Description & purpose : Verify and ensure the appropriate follow-up for the implemented measures to reduce the likelihood and the severity of level bust occurrences:

- Improve the safety occurrence reporting between ANSP and Aircraft Operators;
- Improve the cooperation between ATC and Aircraft Operators in the investigation of level bust incidents;
- Improve the lessons learned sharing between the ANSP and Aircraft operators.

Supporting material(s) : EUROCONTROL - European Action Plan for the Prevention of Level Bust and Level Bust Toolkit
 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#10

Finalisation criteria :

- Report for the verification of the implemented measures to improve the cooperation between ATC and Aircraft Operators in the investigation of level bust incidents has been issued.
- Report for the implementation of the appropriate follow up measures to improve the cooperation between ATC and Aircraft Operators in the investigation of level bust incidents has been issued.
- Recommendation 4.2.2 of the action plan is implemented.

SAF04-ASP04	Assess and ensure follow-up of the implemented measures to improve ATC training.	Start:01/2006	Finish:01/2007
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Action by : ANS Providers

Description & purpose : Verify and ensure the appropriate follow-up for the implemented measures to reduce the likelihood and the severity of level bust occurrences:

- Review ATC training;
- Ensure that level bust issues are included in training and briefing for ATC staff;
- Introduce Team Resource Management (TRM) and reflect level bust issues in the TRM.

Supporting material(s) : EUROCONTROL - European Action Plan for the Prevention of Level Bust and Level Bust Toolkit
 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#10

Finalisation criteria :

- Report for the verification of the implemented measures within the Training has been issued.
- Report for the implementation of the appropriate follow up measures within the training has been issued.
- Recommendations 4.2.3, 4.2.4 and 4.2.5 of the action plan are implemented.

SAF04-USE01	Assess and ensure follow-up of the implemented measures to review Standard Operating Procedures (SOP) and flight crew tasks.	Start:01/2006	Finish:01/2008
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Action by : Airspace Users

SAF04	Implement measures to reduce the risk of level bust occurrences
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<u>Description & purpose :</u>	<p>Civil users: Verify and ensure the appropriate follow-up for the implemented measures to reduce the likelihood and the severity of level bust occurrences in accordance with actions 4.3.1. to 4.3.5. of the action plan.</p> <p>Military Airspace Users: Apply the action plan and/or standard Military aircrew procedures, as appropriate.</p>
<u>Supporting material(s) :</u>	<p>EUROCONTROL - European Action Plan for the Prevention of Level Bust and Level Bust Toolkit Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#10</p>
<u>Finalisation criteria :</u>	<ol style="list-style-type: none"> 1 - Report for the verification of the implemented measures. 2 - Report for the implementation of the appropriate follow up measures. 3 - Recommendations 4.3.1 to 4.3.5 of the action plan are implemented: <ul style="list-style-type: none"> - Review SOPs to reduce the likelihood of level busts; - Reduce flight deck workload by avoiding all activity not directly related to the safe conduct of the flight; - Ensure clear procedures for altimeter cross-checking and approaching level calls; - Always confirm the clearance if any doubt exist on the flight deck; - Always report the level cleared to when checking in on a new frequency while in the climb or descent.

ECIP	Active					PE
SAF05	Implement measures to prevent air/ground communications induced safety occurrences.					
REG	ASP	MIL	APO	USE	INT	IND

Description & purpose

Involved aviation stakeholders have to implement and apply measures to improve the overall air/ground communications domain in order to reduce the risk of incidents and accidents due to air/ground communications errors. Such occurrences cover pilot/controller communications, via voice and/or data link, communication infrastructure and related interfaces, air and ground systems and sub-systems, human factors, application of regulations, standards and operating practices.

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 SAF05 acts as a -bridge- between current ATM operations and those foreseen from 2015.

Applicable area(s)

All ECAC States

Operational capability dates FOR THIS OBJECTIVE

Initial operational capability: 01/2004
Full operational capability: 01/2010

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>
SAF05-REG01	Promulgate and verify the implementation of the action plan for reducing the risk of air-ground communications errors for the State's stakeholders involved.	01/2007	01/2010
SAF05-ASP01	Implement the action plan for reducing the risk of air-ground communications errors.	01/2007	01/2010
SAF05-USE01	Implement the action plan for reducing the risk of air-ground communications errors.	01/2007	01/2010
SAF05-AGY01	Produce a European action plan for the reduction of air/ground communications errors through a coordinated Air Ground Communications Safety Improvement initiative.	FINALISED	
SAF05-AGY02	Apply, verify and ensure the appropriate follow-up for the measures derived from the "European action plan for air/ground communications safety, which are under EUROCONTROL Agency's responsibility	01/2009	12/2012

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

Safety Team (SAFT)

-

12/2010

Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2005

-

SAF05	Implement measures to prevent air/ground communications induced safety occurrences.
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Expected performance benefits

<u>Safety :</u>	Significant due to the reduction of a major aviation safety risk.
<u>Capacity :</u>	Increase due to workload optimisation through the more efficient use of air ground communications.
<u>Cost-effectiveness :</u>	Significant due to two effects: - Significant reduction of the risk of incident and accident; - Indirect enhancement of business excellence through the application of the industry best practice.
<u>Environment :</u>	Not significant
<u>Security :</u>	N/A

Detailed SloA descriptions

SAF05-REG01	Promulgate and verify the implementation of the action plan for reducing the risk of air-ground communications errors for the State's stakeholders involved.	Start:01/2007	Finish:01/2010
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<u>Action by :</u>	National Regulatory Authorities National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	Promulgate and verify the implementation of the respective European plan for reducing the risk of air-ground communications errors for all involved stakeholders.
<u>Supporting material(s) :</u>	EUROCONTROL - ALLCLEAR Tool Kit Url : http://www.skybrary.aero/index.php/Solutions:ALLCLEAR EUROCONTROL - European Action Plan for Air Ground Communications Safety - Edition 1.0 / 01-05-2006 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#1
<u>Finalisation criteria :</u>	- Documentation for the European action plan for the reduction of air/ground communications errors has been promulgated. - Report for the verification of the implementation of the European action plan for the reduction of air/ground communications errors has been issued.

SAF05-ASP01	Implement the action plan for reducing the risk of air-ground communications errors.	Start:01/2007	Finish:01/2010
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<u>Action by :</u>	ANS Providers
<u>Description & purpose :</u>	Customise and implement the respective European plan for reducing the risk of incidents caused by air-ground communications deficiencies.
<u>Supporting material(s) :</u>	EUROCONTROL - ALLCLEAR Tool Kit Url : http://www.skybrary.aero/index.php/Solutions:ALLCLEAR EUROCONTROL - European Action Plan for Air Ground Communications Safety - Edition 1.0 / 01-05-2006 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#1
<u>Finalisation criteria :</u>	- The action plan is implemented. - Report for the implementation of the action plan has been issued.

SAF05-USE01	Implement the action plan for reducing the risk of air-ground communications errors.	Start:01/2007	Finish:01/2010
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<u>Action by :</u>	Airspace Users
<u>Description & purpose :</u>	Customise and implement the respective European plan for reducing the risk of air-ground communications errors. Particular attention should be paid to aircrew training and qualifications. Civil users: Verify and ensure the appropriate follow-up for the implemented measures to reduce the likelihood and the severity of air/ground communications induced safety occurrences in accordance with the action plan. Military Airspace Users: Apply the action plan and/or standard Military aircrew procedures, as appropriate.

SAF05	Implement measures to prevent air/ground communications induced safety occurrences.
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Supporting material(s) : EUROCONTROL - ALLCLEAR Tool Kit
 Url : <http://www.skybrary.aero/index.php/Solutions:ALLCLEAR>
 EUROCONTROL - European Action Plan for Air Ground Communications Safety - Edition 1.0 / 01-05-2006
 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#1

Finalisation criteria :

- The action plan is implemented.
- Report for the implementation of the action plan has been issued.

SAF05-AGY02	Apply, verify and ensure the appropriate follow-up for the measures derived from the "European action plan for air/ground communications safety, which are under EUROCONTROL Agency's responsibility	Start:01/2009	Finish:12/2012
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Action by : EUROCONTROL Agency

Description & purpose : Apply and monitor the implementation of the European action plan for air/ground communications safety such as the Call Sign Similarity Tool/Service and Undetected Double Transmissions. Ensure the appropriate reflections into the following editions of the Action Plan.

Supporting material(s) : EUROCONTROL - Call Sign Similarity (CSS) Project websites and CSS Rules
 Url : http://www.eurocontrol.int/safety/public/standard_page/Callsign_Similarity_project.html
 EUROCONTROL - European Action Plan for Air Ground Communications Safety - Edition 1.0 / 01-05-2006
 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#1

Finalisation criteria :

- Scale of the achieved implementation of the European action plan for air/ground communications safety.
- Call Sign Similarity Rules published.
- Call Sign Similarity Tool developed.
- Final report and possible technical solution related to Undetected Double Transmission has been issued.
- Recommendations 4.4.01 and 4.3.05 of the action plan are implemented.

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ECIP	Active					MN
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)

All ECAC States except: France

Operational capability dates FOR THIS OBJECTIVE

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Start</u>	<u>Finish</u>	
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	

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

Safety Team (SAFT)

-

12/2010

SAF10	Implement measures to reduce the risk to aircraft operations caused by airspace infringements
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Commitment decision body: Provisional Council (PC)
Objective approved/endorsed in: 01/2008
Latest change to objective approved/endorsed in: 07/2009

<i>Expected performance benefits</i>

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.
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

<i>Detailed SloA descriptions</i>

SAF10-REG01	Promulgate and verify the implementation of the European Action Plan - Airspace Infringement Risk Reduction	Start:06/2008	Finish:12/2010
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Action by : National Regulatory Authorities
National Supervisory Authorities (NSAs)
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/safety/public/site_preferences/display_library_list_public.html#2
Finalisation criteria : - Documentation for the European Action Plan - Airspace Infringement Risk Reduction and Local action plan have been promulgated
- 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
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Action by : National Regulatory Authorities
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/safety/public/site_preferences/display_library_list_public.html#2
Finalisation criteria : - The applicable measures of the Action plan have been implemented.
- 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
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Action by : National Regulatory Authorities
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/safety/public/site_preferences/display_library_list_public.html#2
Finalisation criteria : Established monitoring arrangements.
Monitoring reports published, including corrective actions if applicable.

SAF10	Implement measures to reduce the risk to aircraft operations caused by airspace infringements		
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SAF10-ASP01	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	Start:01/2006	Finish:12/2011
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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

Supporting material(s) : EUROCONTROL - European Action Plan for Airspace Infringement Risk Reduction and Guidance Material
 Url : http://www.eurocontrol.int/safety/public/site_preferences/display_library_list_public.html#2

Finalisation criteria :

- The applicable measures of the Action plan have been implemented.
- 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
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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/safety/public/site_preferences/display_library_list_public.html#2

Finalisation criteria :

- The applicable measures of the Action plan have been implemented.
- 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
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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/safety/public/site_preferences/display_library_list_public.html#2

Finalisation criteria :

- The applicable measures of the Action plan, part 5.1 have been implemented.
- 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
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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/safety/public/site_preferences/display_library_list_public.html#2

Finalisation criteria :

- The measures assigned for implementation to the EUROCONTROL Agency have been implemented.
- Report on the action plan implementation is produced.

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SES	Active					Multi-N
SRC-AUDI	Implementation of Safety Regulatory Auditing by National Supervisory Authorities (NSA)					
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 Commission Regulation (EC) No. 1315/2007 and ESARR 1. Its introduction is to assist with the implementation by National Supervisory Authorities of safety audits, to ensure an independent examination of the level of compliance with safety regulatory requirements achieved by ATM organisations.

The completion 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, 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, Moldova, Turkey, Ukraine

Timescales

Entry into force of Regulation (EC) Co. 550/2004:	03/2004
Entry into force of ESARR 1:	11/2004
Entry into force of Commission Regulation (EC) No. 1315/2007:	11/2007
Objective Implementation completion date:	12/2010

References

European ATM Master Plan relationship

None - [None](#)

Applicable legislation

Commission Regulation (EC) No 2096/2005 of 20 December 2005 laying down common requirements for the provision of air navigation services and all subsequent amendments
Commission Regulation (EC) No 1315/2007 of 8 November 2007 on safety oversight in air traffic management and amending Regulation (EC) No 2096/2005

EUROCONTROL Safety Regulatory Requirement- ESARR 1-Safety Oversight in ATM, Edition 2.0, dated 02 December 2009

All other applicable EC legislation transposing ESARRs in accordance with Article 4 of Regulation (EC) No. 550/2004 for those 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 entitled 'Safety Oversight in ATM'.

Stakeholder Lines of Action (SLoA)

<u>SLoA ref.</u>	<u>Title</u>	<u>Mandatory completion date</u>	
SRC-AUDI-REG01	Establish a programme of safety regulatory audits	12/2010	▲
SRC-AUDI-REG02	Implement the programme of safety regulatory audits	12/2010	▲
SRC-AUDI-REG03	Request and follow up of corrective actions	12/2010	▲

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

Safety Regulations Committee (SRC)

-

12/2008

Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2009

07/2012

Expected performance benefits (for information)

SRC-AUDI	Implementation of Safety Regulatory Auditing by National Supervisory Authorities (NSA)
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<u>Safety :</u>	The application of EUROCONTROL Safety Regulatory Requirements in the area of safety oversight aims to ultimately ensure that NSA monitors the safe provision of ATM services, and verify that the applicable safety regulatory requirements and any arrangements needed to implement them are effectively met.
<u>Capacity :</u>	N/A
<u>Cost effectiveness :</u>	N/A
<u>Environment :</u>	N/A
<u>Security :</u>	N/A

Detailed SloA descriptions

SRC-AUDI-REG01	Establish a programme of safety regulatory audits	Mandatory completion dates 12/2010
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<u>Action by :</u>	National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	<p>Establish a programme of safety regulatory audits which meets the relevant requirements applicable to it.</p> <p>Note : Once established, the actions mentioned in this objective should become part of a cycle that should be reviewed and updated annually.</p>
<u>Derogations :</u>	None
<u>Supporting material(s) :</u>	<p>EUROCONTROL - EAM 1/GUI 1 - Explanatory Material on ESARR 1 Requirements - Edition 2.0 / 13-12-2010 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm</p> <p>EUROCONTROL - EAM 1/GUI 3 - Guidelines for Safety Regulatory Auditing - Edition 2.0 / 13-12-2010 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm</p> <p>EUROCONTROL - IANS-NSA-AUDIT-1 Audit Techniques and Practice Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - IANS-NSA-AUDIT-3 Audit Techniques and Practice Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - SRC DOC 21 - ESARR Implementation Monitoring and Support Programme-Audit Guidelines - Edition 4.0 / 08-10-2008 Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4</p>
<u>Finalisation criteria :</u>	<p>1 - Programme or Schedule of audits, documented, approved at the appropriate level, in order to plan sufficient audits to:</p> <ul style="list-style-type: none"> - Address those areas where safety issues have been detected or reported; - Cover all the ATM organisations and services operating under the supervision of the NSA; - Once established, this should be reviewed over a period of 24 months to ensure the compliance of all those organisations with the relevant safety regulatory requirements; - Follow up the implementation of corrective action. <p>2 - Procedure for safety auditing of ATM organisations by the NSA, documented and approved at the right level, and supported by appropriate material to provide auditors with guidance to conduct audits. The procedure and supporting material should specify the sequence of actions and methodology to be necessarily followed to :</p> <ul style="list-style-type: none"> - Provide an independent examination conducted by, or on behalf of, the NSA by qualified auditors (see SRC-OVCA-REG06 in relation to the establishment by NSAs of criteria and means to achieve that qualification); - Determine whether the implementing arrangements of the organisation comply with safety regulatory requirements; whether the actions effectively taken by the organisation comply with those arrangements, and whether the results of those actions match the results expected from the implementing arrangements. <p>3 - Allocation of sufficient personnel holding an appropriate auditor qualification to implement the programme performed (see SRC-OVCA-REG06 in relation to the establishment by NSAs of criteria and means to achieve that qualification).</p>

SRC-AUDI-REG02	Implement the programme of safety regulatory audits	Mandatory completion dates 12/2010
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<u>Action by :</u>	National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	On the basis of the programme of audits the NSA conducts safety regulatory audits which meet the relevant requirements applicable to them.
<u>Derogations :</u>	None
<u>Supporting material(s) :</u>	<p>EUROCONTROL - EAM 1/GUI 1 - Explanatory Material on ESARR 1 Requirements - Edition 2.0 / 13-12-2010 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm</p> <p>EUROCONTROL - EAM 1/GUI 3 - Guidelines for Safety Regulatory Auditing - Edition 2.0 / 13-12-2010 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm</p> <p>EUROCONTROL - SRC DOC 21 - ESARR Implementation Monitoring and Support Programme-Audit Guidelines - Edition 4.0 / 08-10-2008 Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4</p>

SRC-AUDI	Implementation of Safety Regulatory Auditing by National Supervisory Authorities (NSA)
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Finalisation criteria :

- Audit reports produced to document the audit findings, including non conformities against relevant safety requirements wherever a lack of compliance was revealed.
- All non conformities are supported by objective evidence.
- The sequence of actions taken in each audit conforms to the procedure established for the safety auditing of ATM organisations.
- Subsequent audits should be effectively conducted over a period of 24 months to review the compliance of each ATM organisation operating under the supervision of the NSA with the relevant safety regulatory requirements.

SRC-AUDI-REG03	Request and follow up of corrective actions	Mandatory completion dates
		12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Following a safety regulatory audit, the NSA requests the organisation audited to address the audit findings revealed and corrective action is taken in accordance with the relevant requirements applicable to the audit process.

Derogations : None

Supporting material(s) : EUROCONTROL - EAM 1/GUI 1 - Explanatory Material on ESARR 1 Requirements - Edition 2.0 / 13-12-2010
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>
 EUROCONTROL - EAM 1/GUI 3 - Guidelines for Safety Regulatory Auditing - Edition 2.0 / 13-12-2010
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>
 EUROCONTROL - SRC DOC 21 - ESARR Implementation Monitoring and Support Programme-Audit Guidelines - Edition 4.0 / 08-10-2008
 Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4

Finalisation criteria :

- For each audit conducted, formal notification of audit findings to the organisation audited, including an explicit request to propose corrective actions to address any lack of compliance with the relevant requirements by a specified date.
- Assessment by the NSA of the corrective actions proposed by the organisation audited.
- Following that assessment, formal notification to the organisation audited of the NSA agreement, or lack of agreement, as regards the corrective actions proposed, including a timeframe accepted by the NSA for the implementation of the actions agreed.
- Closure of findings by the NSA following appropriate monitoring actions (that may include follow up audits if necessary) as regards the effective implementation of the corrective actions agreed by the NSA within the timeframe specified.

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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

** 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 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, 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, Moldova, Turkey, Ukraine

Timescales

Entry into force of ESARR 1:	11/2004
Entry into force of Commission Regulation (EC) No. 1315/2007:	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 and all subsequent amendments

Commission Regulation (EC) No 2096/2005 of 20 December 2005 laying down common requirements for the provision of air navigation services and all subsequent amendments

Commission Regulation (EC) No 1315/2007 of 8 November 2007 on safety oversight in air traffic management and amending Regulation (EC) No 2096/2005

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 Management 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 for those 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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Mandatory completion date</u>	
SRC-CHNG-REG01	Ensure the notification of planned safety related changes by ATM organisations.	12/2010	▲
SRC-CHNG-REG02	Establish a process for the review of safety arguments	12/2010	▲
SRC-CHNG-REG03	Implement the process for the review of safety arguments	12/2010	▲

▲ 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:

Outline description approved in:

Latest objective review at expert level in:

Safety Regulations Committee (SRC)

-

12/2008

Commitment decision body:

Objective approved/endorsed in:

Latest change to objective approved/endorsed in:

Provisional Council (PC)

07/2009

07/2012

SRC-CHNG	Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities (NSA)
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<i>Expected performance benefits (for information)</i>

<u>Safety</u> :	The application of ESARR 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.
<u>Capacity</u> :	N/A
<u>Cost effectiveness</u> :	N/A
<u>Environment</u> :	N/A
<u>Security</u> :	N/A

<i>Detailed SloA descriptions</i>

SRC-CHNG-REG01	Ensure the notification of planned safety related changes by ATM organisations.	Mandatory completion dates 12/2010
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<u>Action by</u> :	National Supervisory Authorities (NSAs)
<u>Description & purpose</u> :	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.
<u>Derogations</u> :	None
<u>Supporting material(s)</u> :	<p>EUROCONTROL - The Change & Transition Tools Compendium - Edition 1.0 / 27-10-2010 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#15</p> <p>EUROCONTROL - EAM 2/GUI 7 - ESARR 2 and related Safety Oversight - Edition 1.0 / 21-03-2006 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p> <p>EUROCONTROL - EAM 3/GUI 1 - Explanatory Material on ESARR 3 Requirements - Edition 1.0 / 01-06-2001 Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers</p> <p>EUROCONTROL - EAM 3/GUI 3 - ESARR 3 and related Safety Oversight - Edition 2.0 / 21-03-2006 Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers</p> <p>EUROCONTROL - EAM 4/GUI 2 - ESARR 4 and related Safety Oversight - Edition 4.0 / 21-03-2006 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EUROCONTROL - EAM 5/GUI 2 - ESARR 5 and Related Safety Oversight for Air Traffic Control Officers - Part A - Licensing Oversight - Edition 2.0 / 21-03-2006 Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel</p> <p>EUROCONTROL - EAM 5/GUI 4 - ESARR 5 and Related Safety Oversight for Engineering and Technical Personnel - Edition 2.0 / 21-03-2006 Url : http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel</p> <p>EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 23-06-2005 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm</p> <p>EUROCONTROL - IANS-NSA-SOCH NSA Oversight of Changes in ATM Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - SRC DOC 46 - Safety Scanning - Edition 1.0 / 14-06-2011 Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4</p> <p>EUROCONTROL - SRC DOC 48 - Safety Method Review - Edition 1.0 / 14-06-2011 Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4</p> <p>EUROCONTROL - EAM 3/GUI 2 - Safety Regulatory Aspects of the ESARR 3 Implementation in Small Organisations - Edition 1.0 / 18-02-2003 Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers</p>
<u>Finalisation criteria</u> :	<ul style="list-style-type: none"> - Documented and approve Formal arrangements are in place between the NSA and the relevant ATM organisations - Regular and timely submission of information about any planned change to EATMN systems by the ANSP to the NSA. - The notification arrangements should include an identification of focal points on both sides. - Records at the NSA demonstrate that planned changes were effectively notified.

SRC-CHNG-REG02	Establish a process for the review of safety arguments	Mandatory completion dates 12/2010
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<u>Action by</u> :	National Supervisory Authorities (NSAs)
<u>Description & purpose</u> :	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.
<u>Derogations</u> :	None

SRC-CHNG	Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities (NSA)
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<u>Supporting material(s)</u> :	<p>EUROCONTROL - The Change & Transition Tools Compendium - Edition 1.0 / 27-10-2010 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#15</p> <p>EUROCONTROL - EAM 4/GUI 4 - A Method for States to determine National ATM Safety Minima - Edition 1.0 / 17-02-2004 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EUROCONTROL - EAM 4/GUI 6 - Explanatory Material on Ground based Safety Nets - Edition 1.0 / 15-04-2010 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EUROCONTROL - IANS-NSA-SOCH NSA Oversight of Changes in ATM Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - SRC DOC 46 - Safety Scanning - Edition 1.0 / 14-06-2011 Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4</p> <p>EUROCONTROL - SRC DOC 48 - Safety Method Review - Edition 1.0 / 14-06-2011 Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4</p>
<u>Finalisation criteria</u> :	<ul style="list-style-type: none"> - Process documented and approved at the appropriate level. - 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 or ESARR 1) has been determined by the ATM organisation for the potential effects of the hazards related to the change. - Guidance exists to support the safety oversight personnel conducting the review. - The review assesses the acceptability of the safety arguments presented in accordance with the relevant requirements. - 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	Mandatory completion dates
		12/2010

<u>Action by</u> :	National Supervisory Authorities (NSAs)
<u>Description & purpose</u> :	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.
<u>Derogations</u> :	None
<u>Supporting material(s)</u> :	<p>EUROCONTROL - The Change & Transition Tools Compendium - Edition 1.0 / 27-10-2010 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#15</p> <p>EUROCONTROL - EAM 4/GUI 4 - A Method for States to determine National ATM Safety Minima - Edition 1.0 / 17-02-2004 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EUROCONTROL - EAM 4/GUI 6 - Explanatory Material on Ground based Safety Nets - Edition 1.0 / 15-04-2010 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm</p> <p>EUROCONTROL - IANS-NSA-SOCH NSA Oversight of Changes in ATM Url : https://trainingzone.eurocontrol.int</p> <p>EUROCONTROL - SRC DOC 46 - Safety Scanning - Edition 1.0 / 14-06-2011 Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4</p> <p>EUROCONTROL - SRC DOC 48 - Safety Method Review - Edition 1.0 / 14-06-2011 Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4</p>
<u>Finalisation criteria</u> :	<ul style="list-style-type: none"> - Records at the NSA demonstrate that safety arguments are effectively reviewed. - The actions effectively taken conform to the documented process. - 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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SES	Active					Multi-N	
SRC-OVCA	Implementation of ATM Safety Oversight Capabilities by NSAs						
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 ensure that the organisational and functional capabilities of the NSAs are of a standard that will enable them to effectively perform their ATM safety oversight responsibilities.

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 this objective to ensure harmonisation.

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, 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, Moldova, Turkey, Ukraine

Timescales

Entry into force of Regulation (EC) No 550/2004:	03/2004
Entry into force of ESARR1:	11/2004
Objective Implementation completion date:	12/2010

References

European ATM Master Plan relationship

None - [None](#)

Applicable legislation

Regulation(EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation)
Regulation(EC) No 550/2004 of the European Parliament and of the Council of 10 March 2004 on the provision of air navigation services in the single European sky (the service provision Regulation)
Commission Regulation (EC) No 2096/2005 of 20 December 2005 laying down common requirements for the provision of air navigation services and all subsequent amendments
Commission Regulation (EC) No 1315/2007 of 8 November 2007 on safety oversight in air traffic management and amending Regulation (EC) No 2096/2005
EUROCONTROL Safety Regulatory Requirement- ESARR 1-Safety Oversight in ATM, Edition 2.0, dated 02 December 2009

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)

<u>SLoA ref.</u>	<u>Title</u>	<u>Mandatory completion date</u>	
SRC-OVCA-REG01	Establish and empower a National Supervisory Authority (or equivalent body) to undertake ATM safety oversight in accordance with Regulations 549/2004 and 550/2004.	12/2010	▲
SRC-OVCA-REG02	Produce and/or update every two years an assessment of the human resources needed to perform ATM safety oversight and compare the results against actual staffing levels	12/2010	▲
SRC-OVCA-REG03	Publish details of the existing levels of resources within the National Supervisory Authority(ies)	12/2010	▲
SRC-OVCA-REG04	Define and document the education, training, technical and/or operational knowledge, experience and qualifications relevant to the duties of each position involved in safety oversight activities	12/2010	▲
SRC-OVCA-REG05	Ensure specific training for those involved in safety oversight activities	12/2010	▲
SRC-OVCA-REG06	Ensure that personnel designated to conduct safety regulatory audits, including auditing personnel from recognised organisations, meet specific qualification criteria defined by the National Supervisory Authority	12/2010	▲

▲ Applicable to the military.

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

SRC-OVCA	Implementation of ATM Safety Oversight Capabilities by NSAs
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Consultation & Approval

Working arrangement in charge: Safety Regulations Committee (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: 07/2012

Expected performance benefits (for information)

Safety : The application of EUROCONTROL Safety Regulatory Requirements 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-OVCA-REG01	Establish and empower a National Supervisory Authority (or equivalent body) to undertake ATM safety oversight in accordance with Regulations 549/2004 and 550/2004.	Mandatory completion dates
		12/2010

Action by : **State Authorities**

Description & purpose : Nominate, establish and empower a body(ies) in order to ensure the safety oversight of ATM.

Derogations : None

Supporting material(s) : EUROCONTROL - EAM 1/GUI 5 - ESARR 1 in the Certification and Designation of Service Providers - Edition 2.0 / 06-04-2006
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>
 EUROCONTROL - EAM 2/GUI 2 - Publication and Confidentiality Policy - Edition 1.0 / 12-11-1999
 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 / 31-03-2006
 Url : <http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm>
 EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>
 EUROCONTROL - IANS-NSA-ORG Functions of a National Supervisory Authority
 Url : <https://trainingzone.eurocontrol.int>
 EUROCONTROL - IANS-NSA-SES Introduction to the Single European Sky Framework
 Url : <https://trainingzone.eurocontrol.int>
 EUROCONTROL - IANS-NSA-SR1 Introduction to Safety Regulation (Open)-e-learning
 Url : <https://trainingzone.eurocontrol.int>

Finalisation criteria :

- Nomination or establishment by means of appropriate legal instruments (e.g. Regulation, Law, Decree, etc.) of a National Supervisory Authority(ies) [or equivalent body(ies)] to supervise the operation of all ATM service providers operating in the airspace blocks under the responsibility of the State has been done.
- For States where EC regulations are directly applicable, this SloA is completed in relation to the provision of ATM primarily to General Air Traffic, with the formal notification of the National Supervisory Authority(ies) to the EC in accordance with Article 4(3) of Regulation (EC) No. 549/2004.

SRC-OVCA-REG02	Produce and/or update every two years an assessment of the human resources needed to perform ATM safety oversight and compare the results against actual staffing levels	Mandatory completion dates
		12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : In order to ensure that NSA have, and continue to have, the necessary capabilities to undertake their ATM safety oversight activities. Once in place, an evaluation of the human resources is to be undertaken every two years and the results compared against actual staffing levels.

Derogations : None

SRC-OVCA	Implementation of ATM Safety Oversight Capabilities by NSAs
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Supporting material(s) : EUROCONTROL - A Systems View of Manpower Planning and Management - Edition 1.0 / 21-04-1998
 Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#10
 EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

EUROCONTROL - SRC DOC 48 - Safety Method Review - Edition 1.0 / 14-06-2011

Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#4

Finalisation criteria :
 - Human resource assessment performed, based on the analysis of the processes required by ESARR 1, their sequence and interaction, and their application throughout the organisation.
 - Documented comparison of the results with the actual staffing levels of the organisation provided.

SRC-OVCA-REG03	Publish details of the existing levels of resources within the National Supervisory Authority(ies)	Mandatory completion dates
		12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : As part of the NSA Annual Safety Oversight Report, it shall publish details of the existing levels of resources within the organisation based on the assessments carried out in SRC-OVCA-02.

Derogations : None

Supporting material(s) : EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 23-06-2005

Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

Finalisation criteria :
 - Details of the existing levels of resources within the organisation published in the National Supervisory Authorities Annual Safety Oversight Report.

SRC-OVCA-REG04	Define and document the education, training, technical and/or operational knowledge, experience and qualifications relevant to the duties of each position involved in safety oversight activities	Mandatory completion dates
		12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : Ensure the competence of all persons involved in safety oversight activities.
 Ensure that staff are suitably qualified/experienced in each of the areas they work in.
 Develop specific training criteria for each person and job function.

Derogations : None

Supporting material(s) : EUROCONTROL - Personnel Development: Identification of Human Potential - Edition 1.0 / 16-12-1998

Url : http://www.eurocontrol.int/humanfactors/public/site_preferences/display_library_list_public.html#9

EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 23-06-2005

Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

EUROCONTROL - IANS - NSA-Training Initiative courses

Url : <https://trainingzone.eurocontrol.int>

Finalisation criteria :
 - List of job positions defined.
 - Job description (or equivalent document) for each person and job function defined.
 - Qualification criteria (e.g. recruitment notices) defined.
 - Records of the assessment of the actual skills versus required skills or records of the actual skills available.

SRC-OVCA-REG05	Ensure specific training for those involved in safety oversight activities	Mandatory completion dates
		12/2010

Action by : **National Supervisory Authorities (NSAs)**

Description & purpose : As part of ensuring the competence of staff involved in safety oversight activities, NSAs should develop training criteria for each position and job function and monitor its implementation.

Derogations : None

Supporting material(s) : EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 23-06-2005

Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

EUROCONTROL - IANS-NSA-SOCA NSA Oversight of Competence Arrangements for ATM Staff

Url : <https://trainingzone.eurocontrol.int>

EUROCONTROL - IANS-NSA-SORA Safety Oversight / Occurrence Reporting and Assessment

Url : <https://trainingzone.eurocontrol.int>

EUROCONTROL - IANS-NSA-SOSM NSA Oversight of Safety Management Arrangements in ATM

Url : <https://trainingzone.eurocontrol.int>

Finalisation criteria :
 - Documented Training Plan produced (or equivalent document) covering all positions and job functions.
 - Training records available (e.g. course attendance sheets, training evaluation forms, certificates, etc.).

SRC-OVCA-REG06	Ensure that personnel designated to conduct safety regulatory audits, including auditing personnel from recognised organisations, meet specific qualification	Mandatory completion dates
		12/2010

SRC-OVCA	Implementation of ATM Safety Oversight Capabilities by NSAs
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	criteria defined by the National Supervisory Authority
<u>Action by :</u>	National Supervisory Authorities (NSAs)
<u>Description & purpose :</u>	Detail and implement criteria to ensure the competence of all staff involved in safety regulatory audits, including the definition of appropriate auditor training
<u>Derogations :</u>	None
<u>Supporting material(s) :</u>	EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 23-06-2005 Url : http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm EUROCONTROL - IANS - NSA-Training Initiative courses Url : https://trainingzone.eurocontrol.int
<u>Finalisation criteria :</u>	1 - Documented qualification criteria for auditors defined, inc. those from Recognised Organisations, which shall include: - knowledge and understanding of the ATM environment and the requirements against which safety regulatory audits may be performed; - use of assessment techniques; - skills required for managing an audit; - demonstration of competence of auditors through evaluation or other acceptable means. 2 - Means to achieve the qualification criteria established (e.g. formal training courses). 3 - Training records available (e.g. attendance sheets, training evaluation forms, certificates, etc.).

SES	Active					Multi-N
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) 550/2004 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, 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, Moldova, 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:	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 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	Mandatory completion date	
SRC-RLMK-REG01	Assess existing applicable regulations against ESARRs and address any differences identified	12/2010	▲
SRC-RLMK-REG02	Develop and publish new or modified regulations compliant with ESARR 1	12/2010	▲
SRC-RLMK-REG03	Develop and publish new or modified regulations compliant with ESARR 2	12/2010	▲
SRC-RLMK-REG04	Develop and publish new or modified regulations compliant with ESARR 3	12/2010	▲
SRC-RLMK-REG05	Develop and publish new or modified regulations compliant with ESARR 4	12/2010	▲
SRC-RLMK-REG06	Develop and publish new or modified regulations compliant with ESARR 5 for ATCOs	12/2010	▲
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	▲

SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)		
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SRC-RLMK-REG08	Develop and publish new or modified regulations compliant with ESARR 6	12/2010	▲
SRC-RLMK-REG09	Notify ICAO of any differences between applicable safety regulations and ICAO SARPs	12/2010	▲

▲ 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 Regulations Committee (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: 07/2012

Expected performance benefits (for information)

Safety : The application of ESSAR 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	Mandatory completion dates
		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 2/GUI 4 - Explanatory Material on ESARR 2 Requirements - Edition 1.0 / 09-08-2004
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 / 01-06-2001
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 / 01-03-2005
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 / 17-02-2006
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 / 23-06-2005
Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)
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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.
- 4 - For States where EC regulations are directly applicable in relation to organisations providing ATM primarily to General Air Traffic:
 - ESARR 1 is considered fully transposed with the entry into force of Commission Regulation (EC) No. 1315/2007;
 - New or modified national regulations transposing Directives 2003/42/EC and 94/56/EC are sufficient to address the ESARR 2 areas covered in those Directives. New or modified national regulations can complement them to address those areas of ESARR 2 not covered in these Directives;
 - Commission Regulation (EC) No. 2096/2005 satisfactorily covers the implementation of ESARR 3 as regards ATS service providers. Those areas of ESARR 3 not covered by EC legislation (e.g. ATFM, ASM) can be addressed through new or modified national regulatory requirements;
 - Commission Regulation (EC) No. 2096/2005 satisfactorily covers the implementation of ESARR 4 as regards ATS service providers. 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;
 - New or modified national regulations transposing Directive 2006/23/EC are sufficient to address the ESARR 5 areas covered in those directives. New or modified national regulations can complement them to address those areas of ESARR 5 Sections 5.1 and 5.2 not covered in this Directive;
 - Commission Regulation (EC) No. 2096/2005 satisfactorily addresses the establishment of basic legislation for engineering and technical personnel undertaking operational safety-related tasks. Further national safety rules are necessary as required in Article 8 of Commission Regulation (EC) No. 2096/2005 and ESARR 5, Section 5.3.1;
 - ESARR 6 is considered fully transposed with the entry into force of Commission Regulation (EC) No. 482/2008.

SRC-RLMK-REG02	Develop and publish new or modified regulations compliant with ESARR 1	Mandatory completion dates
		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

Supporting material(s) : EUROCONTROL - EAM 1/GUI 5 - ESARR 1 in the Certification and Designation of Service Providers - Edition 2.0 / 06-04-2006
 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 / 06-04-2006
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>
 EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

Finalisation criteria :
 - New or modified regulations officially promulgated.
 - 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.

SRC-RLMK-REG03	Develop and publish new or modified regulations compliant with ESARR 2	Mandatory completion dates
		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

SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)
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<u>Supporting material(s)</u> :	<p>EUROCONTROL - EAM 2/GUI 1 - Severity Classification Scheme for Safety Occurrences in ATM - Edition 1.0 / 12-11-1999 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p> <p>EUROCONTROL - EAM 2/GUI 2 - Publication and Confidentiality Policy - Edition 1.0 / 12-11-1999 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p> <p>EUROCONTROL - EAM 2/GUI 3 - Mapping between the EUROCONTROL Severity Classification Scheme & the ICAO AIRPROX Severity Scheme - Edition 1.0 / 07-11-2002 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p> <p>EUROCONTROL - EAM 2/GUI 4 - Explanatory Material on ESARR 2 Requirements - Edition 1.0 / 09-08-2004 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p> <p>EUROCONTROL - EAM 2/GUI 5 - Guidance Material for Harmonisation of Safety Occurrence Severity and Risk Assessment - Edition 1.0 / 31-05-2005 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p> <p>EUROCONTROL - EAM 2/GUI 6 - Establishment of "Just Culture" - Principles in ATM Safety Data Reporting & Assessment - Edition 1.0 / 31-03-2006 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p> <p>EUROCONTROL - EAM 2/GUI 7 - ESARR 2 and related Safety Oversight - Edition 1.0 / 21-03-2006 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p> <p>EUROCONTROL - EAM 2/GUI 8 - Guidelines on the Systematic Occurrence Analysis Methodology (SOAM) - Edition 1.0 / 17-11-2005 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p> <p>EUROCONTROL - EAM 2/GUI 9 - Annual Summary Template - Edition 2.0 / 24-03-2011 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p> <p>EUROCONTROL - EAM 2/ICAO - Consistency Between ESARR 2 and ICAO Standards and recommended Practices - Edition 1.0 / 23-06-2005 Url : http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm</p>
<u>Finalisation criteria</u> :	<p>- New or modified regulations officially promulgated.</p> <p>- 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.</p>

SRC-RLMK-REG04	Develop and publish new or modified regulations compliant with ESARR 3	Mandatory completion dates 12/2010
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<u>Action by</u> :	Regulatory Authorities (rule maker at national or EC level, national supervisory authorities)
<u>Description & purpose</u> :	Publish new or modified regulations compliant with ESARR 3 based on appropriate preceding development, consultation and enactment.
<u>Derogations</u> :	None
<u>Supporting material(s)</u> :	<p>EUROCONTROL - EAM 3/GUI 1 - Explanatory Material on ESARR 3 Requirements - Edition 1.0 / 01-06-2001 Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers</p> <p>EUROCONTROL - EAM 3/GUI 2 - Safety Regulatory Aspects of the ESARR 3 Implementation in Small Organisations - Edition 1.0 / 18-02-2003 Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers</p> <p>EUROCONTROL - EAM 3/GUI 3 - ESARR 3 and related Safety Oversight - Edition 2.0 / 21-03-2006 Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers</p> <p>EUROCONTROL - EAM 3/GUI 4 - Mapping between ISO 9001:2000 and ESARR 3 - Edition 1.0 / 18-05-2004 Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers</p> <p>EUROCONTROL - EAM 3/GUI 5 - Mapping between ESARR 3 and ICAO Provisions on Safety Management Systems at Aerodromes - Edition 1.0 / 18-03-2004 Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers</p> <p>EUROCONTROL - EAM 3/ICAO - Consistency Between ESARR 3 and ICAO Standards and recommended Practices - Edition 2.0 / 23-06-2005 Url : http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers</p>
<u>Finalisation criteria</u> :	<p>- New or modified regulations officially promulgated.</p> <p>- For States where EC regulations are directly applicable, Commission Regulation (EC) No. 2096/2005 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.</p>

SRC-RLMK-REG05	Develop and publish new or modified regulations compliant with ESARR 4	Mandatory completion dates 12/2010
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<u>Action by</u> :	Regulatory Authorities (rule maker at national or EC level, national supervisory authorities)
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SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)
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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 1 - Explanatory Material on ESARR 4 Requirements - Edition 2.0 / 01-03-2005
 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 / 21-03-2006
 Url : <http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm>
 EUROCONTROL - EAM 4/GUI 4 - A Method for States to determine National ATM Safety Minima - Edition 1.0 / 17-02-2004
 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 / 15-04-2010
 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 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm>

Finalisation criteria :
 - New or modified regulations officially promulgated.
 - For States where EC regulations are directly applicable, Commission Regulation (EC) No. 2096/2005 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	Mandatory completion dates
		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

Supporting material(s) : EUROCONTROL - EAM 5/GUI 1 - Explanatory Material on ESARR 5 Requirements for Air Traffic Control Officers - Part A - Edition 1.0 / 05-03-2004
 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 / 05-03-2004
 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 / 21-03-2006
 Url : <http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel>
 EUROCONTROL - EAM 5/ICAO - Consistency between ESARR 5 and ICAO Standards and recommended Practices - Edition 2.0 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel>

Finalisation criteria :
 - New or modified regulations in the area covered by ESARR 5 (Edition 2.0), Sections 5.1 and 5.2 officially promulgated.
 - 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	Mandatory completion dates
		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 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 (EC) No. 2096/2005 and ESARR 5, Section 5.3.1.

Derogations : None

SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)
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Supporting material(s) : EUROCONTROL - EAM 5/GUI 3 - Explanatory Material on ESARR 5 Requirements for Engineers and Technical Personnel - Edition 2.0 / 17-02-2006
 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 / 21-03-2006
 Url : <http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel>
 EUROCONTROL - EAM 5/ICAO - Consistency between ESARR 5 and ICAO Standards and recommended Practices - Edition 2.0 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-5-atm-services-personnel>
Finalisation criteria : - 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	Mandatory completion dates
		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 / 18-02-2003
 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 / 18-02-2003
 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 / 30-05-2001
 Url : http://www.eurocontrol.int/src/public/site_preferences/display_library_list_public.html#2
Finalisation criteria : - New or modified regulations in the area covered by ESARR 6 officially promulgated.
 - 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	Mandatory completion dates
		12/2010

Action by : **National Regulatory Authorities**
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 1/GUI 7 - Guidance on the Criteria for the Assessment of Compliance with the Standards of ICAO Annex 11 - Edition 1.0 / 06-04-2006
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>
 EUROCONTROL - EAM 2/GUI 3 - Mapping between the EUROCONTROL Severity Classification Scheme & the ICAO AIRPROX Severity Scheme - Edition 1.0 / 07-11-2002
 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 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm>
 EUROCONTROL - EAM 3/GUI 5 - Mapping between ESARR 3 and ICAO Provisions on Safety Management Systems at Aerodromes - Edition 1.0 / 18-03-2004
 Url : <http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers>
 EUROCONTROL - EAM 3/ICAO - Consistency Between ESARR 3 and ICAO Standards and recommended Practices - Edition 2.0 / 23-06-2005
 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 / 23-06-2005
 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 / 23-06-2005
 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 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs)
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Finalisation criteria :

- Mappings between ICAO SARPs and applicable regulations transposing each ESARR performed.
- Letter(s) to ICAO sent.

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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, 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, Moldova, Turkey, Ukraine

Timescales

Entry into force of ESARR1:	11/2004
Entry into force of Commission Regulation (EC) No. 1315/2007:	11/2007
Objective Implementation completion date:	12/2010

References

European ATM Master Plan relationship

None - [None](#)

Applicable legislation

- Commission Regulation (EC) No. 1315/2007 on safety oversight in air traffic management and amending Regulation (EC) No 2096/2005;
- Commission Regulation (EC) No. 1321/2007 for the integration into a central repository of information on civil aviation occurrences;
- Commission 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 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	Mandatory completion date	
SRC-SLRD-REG01	Develop and establish an acceptable level of safety and ensure its constant review	12/2010	▲
SRC-SLRD-REG02	Establish national institutional arrangements for the implementation of a reporting and investigation system in a 'Just Culture' environment	12/2010	▲
SRC-SLRD-REG03	Ensure the availability of comprehensive aviation safety data	12/2010	▲
SRC-SLRD-REG04	Monitor safety performance	12/2010	▲
SRC-SLRD-REG05	Implement a process to issue Safety Directives wherever immediate action is required	12/2010	▲
SRC-SLRD-REG06	Publish an Annual Safety Oversight Report	12/2010	▲

▲ Applicable to the military.

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

SRC-SLRD	Safety Levels and Resolution of Deficiencies
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Consultation & Approval

Working arrangement in charge: Safety Regulations Committee (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: 07/2012

Expected performance benefits (for information)

Safety : The application of ESSAR 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	Mandatory completion dates
		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 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

Finalisation criteria : - 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.
 - 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	Mandatory completion dates
		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 2 - Publication and Confidentiality Policy - Edition 1.0 / 12-11-1999
 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 / 09-08-2004
 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 / 31-03-2006
 Url : <http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm>

Finalisation criteria : - 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.
 - Formalised interfaces and working arrangements established between ANSPs, the AIB and Regulatory Authorities are established to facilitate and ensure the flow of reports and data and their assessment. Appointment of a National Focal Point for safety data.
 - 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	Mandatory completion dates
		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

SRC-SLRD	Safety Levels and Resolution of Deficiencies
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Supporting material(s) : EUROCONTROL - EAM 2/GUI 2 - Publication and Confidentiality Policy - Edition 1.0 / 12-11-1999
 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 / 09-08-2004
 Url : <http://www.eurocontrol.int/articles/esarr-2-reporting-and-assessment-safety-occurrences-atm>

Finalisation criteria :
 - 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).
 - 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.
 - The NSA requires that the causes of such occurrences are analysed and the severity of the occurrences is determined.
 - 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	Mandatory completion dates
		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

Supporting material(s) : EUROCONTROL - EAM 3/GUI 1 - Explanatory Material on ESARR 3 Requirements - Edition 1.0 / 01-06-2001
 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 / 21-03-2006
 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 / 18-03-2004
 Url : <http://www.eurocontrol.int/articles/esarr-3-use-safety-management-systems-atm-service-providers>

Finalisation criteria :
 - 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.
 - 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.
 - 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	Mandatory completion dates
		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

Supporting material(s) : EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

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	Mandatory completion dates
		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

Supporting material(s) : EUROCONTROL - EAM/ICAO (Combi) - Consistency between ESARRs and ICAO standards and recommended practices - Edition 1.0 / 23-06-2005
 Url : <http://www.eurocontrol.int/articles/esarr-1-safety-oversight-atm>

Finalisation criteria :

- 1 - Arrangements in place for the development of the Annual Safety Oversight Report including:
 - the identification of those responsible for providing the necessary information as per the requirements of ESARR 1 / Commission Regulation (EC) No. 1315/2007;
 - the identification of the person/entity responsible for its approval;
 - the timeframe for the collection of information necessary to develop the report;
 - providing a list of organisations/programmes/etc. to share the Annual Report;
 - the identification of those responsible for dispatching the report to the list of organisations/programmes/etc.
- 2 - Annual Safety Oversight Report published, to include relevant details of:
 - airspace and service providers under its responsibility;
 - organisation, structure and procedures of the NSA;
 - monitoring of tolerable levels of safety as regards the airspace blocks under its responsibility;
 - compliance with applicable safety regulatory requirements by those organisations providing ATM services in its area of responsibility;
 - programme of safety regulatory audits, including information about the audits conducted and/or planned, and their scope;
 - 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;
 - 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;
 - existing levels of resources within the organisation;
 - safety issues identified through the safety oversight processes operated by the NSA;
 - safety directives issued by the NSA.
- 3 - In the States where EC legislation is directly applicable, the reports produced by their NSAs are used when producing the States' annual reports to the Commission required by Article 12 of Reg 549/2004.

PART IV ANNEXES

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ANNEX A

SIGNIFICANT CHANGES SINCE PREVIOUS ESSIP EDITION

Changes applied to previous ESSIP edition (2011) have been developed in close co-operation with the SESAR JU WP C02 Task T2.3/006 and relevant EUROCONTROL expert Teams. These changes were presented to the Agency Advisory Board in June 2012 (AAB/3) and endorsed by the Provisional Council in August 2012.

New active objectives included in the ESSIP Plan - Edition 2012

Objective designator	Title	Scope
ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer	ECAC
ITY-SPI	Surveillance performance and interoperability	EU+

Significant changes to existing objectives

Objective designator	Title	Type/Scope in ESSIP 2011	Significant change
AOM13.1	Harmonize Operational Air Traffic (OAT) and General Air Traffic (GAT) handling	SESAR/ECAC	Alignment of objective Full Operational Capability (FOC) date and all SLoAs finalisation dates to OI step AOM-0301 FOC date. Removal of SLoAs MIL03 and MIL05 as a result of the European ATM Master Plan Update campaign (moving OI step AOM-0302 and AOM-0303 to Step 1).
AOM19	Implement Advanced Airspace Management	SESAR/ECAC	Removed wrong reference to OI step DCB-0204
AOM20	Implement ATS Route Network (ARN) - Version 7	SESAR/ECAC	Removed reference to OI steps AOM-0203, DCB-0204 and SDM-0103, as either wrong or OI step removed from the European ATM Master Plan.
AOP01.2	Implement airside capacity enhancement method and best practices based on Eurocontrol capacity and efficiency implementation manual	SESAR/APT	Alignment of objective FOC date and SLoA USE03 finalisation date to OI step AUO-0701 FOC date. SLoAs ASP03, APO05 and USE03 modified to explicitly link them to OI steps of reference.
AOP03	Improve runway safety by preventing runway incursions	SESAR/APT	Link to AO-0103 deleted as OI step moved outside the Deployment Baseline.
AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1	SESAR/APT	Objective FOC date and all SLoAs finalisation dates aligned with FOC date of OI step AO-0201.
AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level2	SESAR/APT	Objective FOC date and all SLoAs finalisation dates aligned with FOC date of OI step AO-0102.
AOP05	Implement Airport Collaborative Decision Making (CDM)	SESAR/APT	Objective FOC and SLoAs ASP03, ASP05, ASP06, APO03, APO05, APO06, USE03 and USE05 finish dates postponed to align with OI steps AO-0601, AO-0602a/b, AO0603, DCB-0302.

Objective designator	Title	Type/Scope in ESSIP 2011	Significant change
AOP08	Implement Airport Airside Capacity Planning Method	SESAR/APT	Objective FOC date and all SLoAs finalisation dates aligned with FOC date of OI step DCB-0201.
ATC02.5	Implement ground based safety nets - Area Proximity Warning - level 2	ECIP/MN	Changed type/scope to 'SESAR/ECAC'.
ATC02.6	Implement ground based safety nets - Minimum Safe Altitude Warning - level 2		FOC date and all SLoAs finalisation dates postponed from 2013 to 2016.
ATC02.7	Implement ground based safety nets - Approach Path Monitor - level 2		SLoAs REG01; AGY01 and INT01 deleted. Removed references to ECTL Draft Specs in the titles of relevant SLoAs. Reference kept in SLoAs supporting material.
ATC07.1	Implement arrival management tools	ECIP/MN	Changed type/scope to 'SESAR/ECAC'.
ATC12	Implement automated support for conflict detection and conformance monitoring	SESAR/ECAC	Objective FOC date and all SLoAs finalisation dates aligned with OI step TS-0203 FOC date.
ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations	SESAR/ECAC	Objective FOC date and all SLoAs finalisation dates aligned with OI step TS-0305 FOC date.
ATC16	Implement ACAS II compliant with TCAS II change 7.1	SESAR/ECAC	Objective FOC date and all SLoAs finalisation dates aligned with EU Regulation No 1332/2011
COM09	Migrate ground international or regional X.25 data networks or services to the Internet Protocol (IP)	SESAR/ECAC	Objective FOC date aligned with EU Regulation No 633/2007 (12/2014). Finalisation date of SLoA ASP03 postponed to 12/2014.
ENV02	Implement Collaborative Environmental Management (CEM) at Airports	SESAR/APT	Included link with OI step AO 0705 and new SLoAs APO03 and APO04 created to cover it.
FCM03	Implement collaborative flight planning	ECIP/PE	Finalisation date of SLoAs ASP03, ASP05, ASP06, ASP07, ASP08, ASP09, ASP10, ASP13 and ASP14 aligned to OI step IS-0102 FOC date (in accordance with ICAO FPL2012).
INF04	Implement integrated briefing	ECIP/H	Objective FOC date and SLoA ASP01 finalisation date aligned to OI step IS-0201 FOC date. Revision of SLoA INF04-ASP01.
ITY-ADQ	Ensure quality of aeronautical data and aeronautical information	SES/EU+	Delete link to OI step IS-0203 as this has been deleted from the European ATM Master Plan.
NAV03	Implementation of Precision Area Navigation RNAV (P-RNAV)	ECIP/H	Change type/scope to SESAR/ECAC. Objective FOC date and SLoA ASP01, ASP02, ASP03, ASP05 finalisation date aligned with OI step AOM-0601 FOC date. Deleted wrong link to OI step AOM-0602.
NAV10	Implement Approach Procedures with Vertical Guidance (APV)	SESAR/ECAC	Deleted wrong link to OI step AOM-0603.

<u>Objective designator</u>	<u>Title</u>	<u>Type/Scope in ESSIP 2011</u>	<u>Significant change</u>
SRC-AUDI	Implementation of Safety Regulatory Auditing by National Supervisory Authorities	SES/MN	<p>For EU+ States: All SRC Objectives are now overtaken by events due to the new EASA regulation 1034/2011 (Safety Oversight in ATM and ANS).</p> <p>SRC objectives remain of applicability for the following ECAC States: AM, AZ, MD, TK and UA.</p>
SRC-CHNG	Implementation of Safety Oversight of Changes to ATM by National Supervisory Authorities	SES/MN	
SRC-OVCA	Implementation of ATM Safety Oversight Capabilities by NSAs	SES/MN	
SRC-RLMK	(Implement the EUROCONTROL Safety Regulatory Requirements (ESARRs))	SES/MN	
SRC-SLRD	Safety Levels and Resolution of Deficiencies	SES/MN	

ESSIP objectives closed as ACHIEVED in the ESSIP Plan edition 2012

<u>Objective designator</u>	<u>Title</u>	<u>Rationale</u>
COM06	Migrate to ATS-Qsig digital signalling for ground telephone applications	As indicated in the ESSIP Report Ed 2011 (based on LSSIP Ed 2011), more than 80% of these Objectives has now been implemented by the stakeholders, hence it is proposed not to monitor this anymore through the LSSIP mechanism.
ITY-AGVCS	Air-Ground voice channel spacing above FL-195	

ESSIP objectives removed from the ESSIP Plan edition 2012

<u>Objective designator</u>	<u>Title</u>	<u>Rationale</u>
SUR02	Implement Mode S elementary surveillance	All SUR Objectives are now replaced by the ITY-SPI Objective based on SPI IR 1207/2011.
SUR04	Implement Mode S enhanced surveillance	
SUR05	Improve ground-based surveillance using ADS-B in Non Radar Airspace (NRA)	

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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	AOP08	AOP09	ENV01	ENV02
Austria	LOWW	Vienna	√	√	√	√	√	X	√	√
Belgium*	EBAW	Antwerp	X	X	X	X	X	X	√	X
Belgium	EBBR	Brussels	√	√	√	√	√	X	√	√
Belgium*	EBCI	Charleroi	X	X	X	X	X	X	√	X
Belgium*	EBLG	Liege	X	X	X	X	X	No info	√	X
Belgium*	EBOS	Ostende	X	X	X	X	X	X	√	X
Czech Republic	LKPR	Prague	√	√	√	√	√	X	√	√
Croatia*	LDSP	Split	X	X	X	X	X	X	√	X
Denmark	EKCH	Copenhagen	√	√	√	√	√	√	√	√
Finland	EFHK	Helsinki	√	√	√	√	√	√	√	√
France	LFBO	Toulouse	X	√	√	X	X	X	√	√
France	LFLL	Lyon	√	√	√	√	√	X	√	√
France	LFML	Marseille	X	√	√	X	X	X	√	√
France	LFMN	Nice	√	√	√	√	√	X	√	√
France	LFPG	Paris, Charles de Gaulle	√	√	√	√	√	√	√	√
France	LFPO	Paris Orly	√	√	√	√	√	√	√	√
Germany	EDDB	Berlin Brandenburg	√	√	√	√	√	X	√	√
Germany	EDDF	Frankfurt Main	√	√	√	√	√	√	√	√
Germany*	EDDH	Hamburg	X	X	X	X	X	X	√	X
Germany*	EDDK	Cologne - Bonn	X	X	X	X	X	X	√	X
Germany	EDDL	Düsseldorf	√	√	√	√	√	X	√	√
Germany	EDDM	Munich	√	√	√	√	√	X	√	√
Germany*	EDDN	Nuremberg	X	X	X	X	X	X	√	X
Germany*	EDDS	Stuttgart	X	X	X	X	X	X	√	X
Germany*	EDDV	Hannover	X	X	X	X	X	√	√	X
Greece	LGAV	Athens	√	√	√	√	√	X	√	√
Greece	LGIR	Iraklion	√	√	√	√	√	X	√	√
Greece	LGKR	Corfu	√	√	√	√	√	X	√	√
Greece	LGPR	Rhodes	√	√	√	√	√	X	√	√
Greece	LGTS	Thessaloniki	√	√	√	√	√	X	√	√
Hungary	LHBP	Budapest	√	√	√	√	√	X	√	√
Ireland	EIDW	Dublin	√	√	√	√	√	X	√	√
Italy	LIMC	Milan Malpensa	√	√	√	√	√	X	√	√
Italy	LIML	Milan Linate	√	√	√	√	√	X	√	√
Italy	LIPZ	Venezia	√	√	√	√	√	X	√	√
Italy	LIRF	Rome Fiumicino	√	√	√	√	√	X	√	√
Latvia*	EVRA	Riga	X	√	√	X	X	X	X	X

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.

- Deployment conditions for AOP09 to be determined locally. It is related to airports with simultaneous operations on closely spaced parallel or near-parallel instrument runways.

PART IV – ANNEX B

Airports with ESSIP objective			Active ESSIP objectives applicable to the airports ²							
State	Code	Airport	AOP01.2	AOP04.1	AOP04.2	AOP05	AOP08	AOP09	ENV01	ENV02
Lithuania*	EYVI	Vilnius	X	√	√	√	X	X	X	X
Netherlands	EHAM	Amsterdam Schiphol	√	√	√	√	√	√	√	√
Norway	ENGM	Oslo Gardermoen	√	√	√	√	√	X	√	√
Poland	EPWA	Warsaw	√	√	√	√	√	X	√	√
Portugal	LPFR	Faro	√	√	√	√	√	X	√	√
Portugal	LPPR	Porto	√	√	√	√	√	X	√	√
Portugal	LPPT	Lisbon	√	√	√	√	√	X	√	√
Romania*	LROP	Bucharest	X	√	√	X	X	X	√	X
Spain	LEBL	Barcelona	√	√	√	√	√	X	√	√
Spain	LEMD	Madrid Barajas	√	√	√	√	√	X	√	√
Spain	LEMG	Malaga	√	√	√	√	√	X	√	√
Spain	LEPA	Palma de Mallorca	√	√	√	√	√	X	√	√
Sweden*	ESGG	Göteborg	X	X	X	X	X	X	√	X
Sweden*	ESMS	Malmö-Sturup	X	X	X	X	X	X	√	X
Sweden*	ESNU	Umea	X	X	X	X	X	X	√	X
Sweden	ESSA	Stockholm Arlanda	√	√	√	√	√	X	√	√
Sweden	ESSB	Stockholm Bromma	√	√	√	√	√	X	√	√
Switzerland	LSGG	Geneva	√	√	√	√	√	X	√	√
Switzerland	LSZH	Zurich	√	√	√	√	√	X	√	√
Turkey*	LTAC	Ankara	X	√	√	X	X	No info	X	X
Turkey	LTAI	Antalya	√	√	√	√	√	No info	√	√
Turkey	LTBA	Istanbul	√	√	√	√	√	No info	√	√
United Kingdom	EGBB	Birmingham	√	√	√	√	√	X	√	√
United Kingdom	EGCC	Manchester	√	√	√	√	√	No info	√	√
United Kingdom	EGGW	London Luton	√	√	√	√	√	X	√	√
United Kingdom	EGGD	Bristol	√	√	√	√	√	X	√	√
United Kingdom	EGKK	London Gatwick	√	√	√	√	√	No info	√	√
United Kingdom	EGLC	London City	√	√	√	√	√	X	√	√
United Kingdom	EGLL	London Heathrow	√	√	√	√	√	X	√	√
United Kingdom	EGNT	Newcastle	√	√	√	√	√	X	√	√
United Kingdom*	EGNX	Nottingham East Midlands	X	X	X	X	X	X	√	X
United Kingdom	EGPD	Aberdeen	√	√	√	√	√	X	√	√
United Kingdom	EGPF	Glasgow	√	√	√	√	√	X	√	√
United Kingdom	EGPH	Edinburgh	√	√	√	√	√	X	√	√
United Kingdom	EGSS	London Stansted	√	√	√	√	√	X	√	√

Legend:

	The airport is part of the initial IP1 Deployment Criteria for Airports and Aerodrome ATC – List (APT List)
*	Airport subscribed itself to a selected objective. The airport is not part of the APT List
√	Objective applicable to the airport
No info	No information available
X	Objective not applicable to the airport

ANNEX C

DRAFT OBJECTIVES

None

OUTLINE DESCRIPTIONS

<i>Designator</i>	<i>Outline Description title</i>
<i>OD AO-0301</i>	Crosswind Reduced Separations for Departures and Arrivals
<i>OD AO-0302</i>	Basic Time Based Separations for Final Approach
<i>OD AOM-0703</i>	Continuous Climb Departure
<i>OD DCB-0102</i>	Interactive Rolling NOP
<i>OD DCB-0205</i>	DCB-0205: Short Term ATFCM Measures
<i>OD DCB-0207</i>	DCB-0207: Management of Critical events
<i>OD DCB-0301</i>	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

<i>Design.</i>	<i>Objective title</i>	<i>Year of completion</i>	<i>Scope</i>
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 of 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 are 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

<i>Design</i>	<i>Objective title</i>	<i>Year of removal</i>	<i>Remarks</i>
<i>SUR02</i>	Implement Mode S elementary surveillance	2012	Replaced by ITY-SPI
<i>SUR04</i>	Implement Mode S enhanced surveillance	2012	
<i>SUR05</i>	Improve ground-based surveillance using ADS-B in Non Radar Airspace (NRA)	2012	
<i>HUM04</i>	Implement the European Air Traffic Controller Licence requirements and enhance training of Air Traffic Controllers	2011	Removed
<i>HUM05</i>	Enhance Training and Competence Assessment of ATM Staff other than Air Traffic Controllers	2011	Removed
<i>INF05</i>	Improve end-to-end integrity of aeronautical data	2011	Replaced by ITY-ADQ
<i>NAV06</i>	Rationalisation of navigation infrastructure	2011	Removed
<i>AOM13</i>	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling	2010	Replaced by AOM13.1
<i>COM05</i>	Migrate from AFTN/CIDIN to AMHS for international communications	2010	Replaced by COM10
<i>NAV07</i>	Implement RNAV Approach procedures based on Basic GNSS, with or without Barometric Vertical Guidance (ICAO RNP APCH)	2010	Replaced by NAV10
<i>NAV08</i>	Implement approach procedures with vertical guidance using SBAS (ICAO) LPV	2010	Replaced by NAV10
<i>AOM16</i>	Extend collaborative civil-military airspace planning with neighbours	2009	Removed
<i>HUM01</i>	Ensure timely availability of controllers	2009	Replaced by HUM01.1
<i>HUM02</i>	Implement harmonised selection, recruitment, training and development of ATM staff	2009	Replaced by HUM02.1
<i>HUM03</i>	Fully integrate human factors in the lifecycle of ATM systems	2009	Replaced by HUM03.1
<i>SAF01.2</i>	Implement a safety management system for ATM Service providers	2009	Removed
<i>SAF03</i>	Implement a harmonised methodology for incident reporting and data sharing	2009	Removed
<i>SAF06</i>	Facilitate the implementation of the Single European Sky (SES) safety provisions simultaneously with ESARRs through improved awareness and commitment	2009	Removed
<i>SAF07</i>	Develop, facilitate and implement 'Just culture' environment for supporting incident reporting and data sharing in ATM	2009	Removed
<i>SAF08</i>	Develop and implement best practices with regard to risk assessment mitigation in day to day operations	2009	Removed
<i>SAF09</i>	Adapt as appropriate, best practices to enhance safety management performance and processes associated with key risk areas	2009	Removed
<i>SRC01</i>	Implement ESARR 1 on safety oversight in ATM	2009	Replaced by: SRC-AUDI SRC-CHNG SRC-OVCA SRC-RLMK SRC-SLRD
<i>SRC02</i>	Implement ESARR 2 on reporting and analysis of safety occurrences in ATM	2009	
<i>SRC03</i>	Implement ESARR 3 on the use of safety management systems by ATM Service Providers	2009	
<i>SRC04</i>	Implement ESARR 4 on risk assessment and mitigation in ATM	2009	
<i>SRC05.1</i>	Implement ESARR 5 on ATM services' personnel	2009	
<i>SRC05.2</i>	Implement ESARR 5 on ATM services' personnel (engineering and technical personnel)	2009	
<i>SRC06</i>	Implement ESARR 6 on software in ATM systems	2009	
<i>ATC07</i>	Implement arrival management tools	2008	Replaced by ATC07.1

Design	Objective title	Year of removal	Remarks
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 have been replaced by NAV07,08 & 09
NAV02	GBAS Cat.1 based precision approach service for aviation	2004	
NAV04	Approach procedures using RNAV with vertical guidance	2004	

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ANNEX E

ACRONYMS AND ABBREVIATIONS

A

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
ADEXP	ATC Data Exchange Presentation
ADS	Automatic Dependent Surveillance
ADS-B	Automatic Dependent Surveillance - Broadcast
AECMA	European Association of Aerospace Equipment Manufacturers
AFTN	Aeronautical Fixed Telecommunications Network
AFP	Flight Plan Proposal
AGY	EUROCONTROL Agency
AIC	Aeronautical Information Circular
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIRPROX	Aircraft Proximity Report
AIS	Aeronautical Information Service
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
ANT	Airspace and Navigation Team
AOM	Airspace organisation and management
AOP	Airport Operations Programme
AOT	Airport Operations Team
APL	ATC Flight Plan
APO	Airport Operations
APP	Approach Control Service Facility
APR BCA	Airport Operations Programme Business Case Assessment
AUP	Airspace Use Plan
APV	Approach with Vertical Guidance
APW	Airborne Proximity Warning
ARINC	Aeronautical Radio Incorporated
ARN	ATS Route Network
ARO	ATS Reporting Offices
ARTAS	ATM Surveillance Tracker and Server System
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
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATN	Aeronautical Telecommunications network
ATS	Air Traffic Services
ATSA	Airborne Traffic Situational Awareness

B

BCDA	Basic Continuous Descent Approach
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C

CAA	Civil Aviation Authority
CASP	Common AIS Staff Profiling
CAT 1	Category 1
CBA	Cost Benefit Analysis
CCC	Common Core Content
CDA	Continuous Descent Approach
CDM	Collaborative Decision Making
CEM	Collaborative Environmental Management
CESC	Chief Executive Officers Standing Conference
CFIT	Controlled Flight Into Terrain
CFMU	Central Flow Management Unit
CHAIN	Controlled & Harmonised Aeronautical Information Network
CIDIN	Common ICAO Data Interchange Network
CISM	Critical Incident Stress Management
CNMF	Central Network Management Function
CNS	Communications, Navigation and Surveillance
COM	Communications
CPDLC	Controller Pilot Data Link Communications
CPR	Correlated Position Reports
CSP	Communications Service Provider

D

DLIC	Data Link Initiation Capability
DMAN	Departure Manager
DME	Distance Measuring Equipment
DMEAN	Dynamic Management of the European Airspace Network
DPI	Departure Planning Information (CFMU message)

E

EAD	European Aeronautical Service
EAPPRI	European Action Plan for the Prevention of Runway Incursions
EATM	European Air Traffic Management
EC	European Commission
ECAA	European Common Aviation Area
ECAC	European Civil Aviation Conference
EANPG	European Air Navigation Planning Group (ICAO)
EASA	European Aviation Safety Agency
EATCHIP	European Air Traffic Control Harmonisation Integration Programme
ECIP	European Convergence and Implementation Plan
ENV	Environment
ESAO	Environmentally Sustainable Airport Operations
ESRA	EUROCONTROL Statistical Reference Area
ETSO	European Technical Standard Order
ETFMS	Enhanced Tactical Flow Management System
EUROCAE	European Organisation for Civil Aviation Equipment
ESARR	EUROCONTROL Safety Regulatory Requirements
ESP	European Safety Programme
ESSIP	European Single Sky Implementation
EU	European Union

F

FAA	Federal Aviation Administration
FAP	Future ATM Profile
FCM	Flow and Capacity Management
FDPA	Flight Data Processing Area
FDPS	Flight Data Processing System
FEAST	First European ATCO Selection Test
FIS	Flight Information Services
FL	Flight Level
FMTF	Flight Message Transfer Protocol
FMS	Flight Management System
FPL	Filed Flight Plan (Message Designator)
FSA	First System Activation (CFMU message)
FUA	Flexible Use of Airspace
FUM	Flight Update Message (CFMU message)
FYROM	Former Yugoslavian Republic of Macedonia

G

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
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HRT	Human Resource Team
HUM	Human Factors

I

IANAS	Institute of Air Navigation Services
ICAO	International Civil Aviation Organisation
IFPL	Individual Filed Flight Plan
IFPLID	Initial Flight Plan Identification
IFPS	Initial Flight Plan Processing System
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IND	Aeronautics Industry
INF	Information Management
INT	International Organisations and Regional Bodies
INTEROP	Interoperability
IP	Internet Protocol
IR	Implementing Rule
IRR	Internal Rate of Return
ISO	International Standardisation Organisation
ITU	International Telecommunications Union

J

JAA	Joint Aviation Authority
JAR	Joint Aviation Requirements
JU	Joint undertaking

K

KHz	Kilohertz
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L

LoA	Letter of Agreement
LSSIP	Local Single Sky Implementation

M

MAPSG	Mode S and ACAS Programme Steering Group
MET	Meteorology
MHz	Megahertz
MIL	Military Authorities
MLS	Microwave Landing System
MN	Multi-National
Mode S	SSR Selective Interrogation Mode
MOPS	Minimum Operational Performance Specifications
MoU	Memorandum of Understanding
MSAW	Minimum Safe Altitude Warning
MTCD	Medium Term Conflict Detection
MUAC	Maastricht Upper Area Control (Centre)

N

N/A	Not applicable
NATO	North Atlantic Treaty Organisation
NAV	Navigation
NOTAM	Notice to Airmen
NPA	Notice of Proposed Amendment
NPA	Non Precision Approach

O

OAT	Operational Air Traffic
OATTS	OAT-IFR Transit Service
OCG	Operations Coordination Group
OD	Outline Description
OI	Operational improvements
OLDI	On Line Data Interchange
OSD	Operational Service and Environmental Definition

P

PAMS	Published AIP Management System
PANS-OPS	Procedures for Air Navigation Services – Aircraft Operations
PA	Precision Approach
PC	Provisional Council
P-RNAV	Precision RNAV
PSG	Programme Steering Group

Q

Qsig	Q-Reference Point Signalling
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R

RA	Resolution Advisory
RAIM	Receiver Autonomous Integrity Monitoring
RDPS	Radar Data Processing System
REG	Regulatory Authorities
RF	Radio Frequency
RNAV	Area Navigation
RNDSG	Route Network Development Sub Group
ROT	Runway occupancy time
RPL	Repetitive Flight Plan
R/T	Radio Telephony
RTCA	Requirements and Technical Concepts for Aviation
RNP	Required Navigation Performance

S

SAF	Safety
SARPs	Standard and Recommended Practices (ICAO)
SBAS	Satellite Based Augmentation System
SCG	Stakeholder Consultation group
SDO	Static Data Operation
SDPD	Surveillance Data Processing and Distribution
SES	Single European Sky
SESAR	Single European Sky ATM Research
SID	Standard Instrument Departure
SLoA	Stakeholder Line of Action
SMR	Surface Movement Radar
SMS	Safety Management System
SNOWTAM	NOTAM on Snow Conditions
SOP	Standard Operating Procedure
SPR	Safety and Performance Requirements
STCA	Short Term Conflict Alert
SRC	Safety Regulation

SSR	Secondary Surveillance Radar
STATFOR	Statistics and Forecast
SUR	Surveillance
SWIM	System-Wide Information Management

T

TBD	To Be Determined
TCAS	Traffic Alert and Collision Avoidance System
TCP/IP	Transmission Control Protocol / Internet Protocol
TGL	Temporary Guidance Leaflet
TI	Transversal Improvement step

TRM	Team Resource Management
TMA	Terminal Control Area

U

UAC	Upper Area Control (Centre)
UHF	Ultra High Frequency
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

W

WAM	Wide Area Multilateration
WGS 84	World Global Coordinate System 1984
WP	Work Package