SESAR

THE ROADMAP FOR DELIVERING HIGH PERFORMING AVIATION FOR EUROPE

European ATM Master Plan

Implementation View

ESSIP Plan 2015

EUROPEAN UNION

EUROCONTROL

ESSIP Plan - Edition 2015

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Abstract

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

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ESSIP Plan
Edition 2015

GEOGRAPHICAL AREA

41
STATES

- **41** ECAC STATES + MUAC
- **28** EU STATES + Norway and Switzerland
- **7** ECAA STATES (outside EU)
- **4** NON-EU and NON-ECAA STATES
- Referenced to **56** ICAO EUR Region States for the purpose of ASBU monitoring

COMMITMENT FOR IMPLEMENTATION

41
OBJECTIVES

- **41** SESAR OBJECTIVES
- **27** PCP RELATED OBJECTIVES
- **7** SES INTEROPERABILITY RELATED OBJECTIVES

ATM Areas (No of Objectives)

11
ATM AREAS

- AOM (4)
- AOP (7)
- ATC (8)
- ITY (7)
- ENV (2)
- FCM (5)
- INF (2)
- NAV (2)
- SAF (2)
- COM (2)

STAKEHOLDERS

1
PLAN FOR ALL

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

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PART I
CONTEXT

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EXECUTIVE SUMMARY

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

The ESSIP (European Single Sky ImPlementation) Plan integrates the mature elements which are ready for deployment including those identified in the Deployment Programme – DP V1 - of the SESAR Deployment Manager (SDM), providing a clear and validated reference to the roadmap of the European ATM Master Plan (MP) and its technological elements (Level 2 containing OI steps and Enablers).

The Plan offers a set of common implementing actions which allow an easy traceability, agreed upon by all the implementing parties (including Air Navigation Service Providers (ANSPs), Airport Operators, Airspace Users, Regulators, both civil and military), for the individual States / National Supervisory Authorities (NSAs) to fulfil their roles with regard to the supervision of safe and efficient provision of air navigation services as well as to the timely and efficient implementation of SESAR.

The ESSIP mechanism provides a valuable instrument for States / NSAs to plan and monitor deployment since the ESSIP Plan is mirrored at national level by the LSSIP (Local Single Sky ImPlementation) tool – which assists individual States / NSAs in their monitoring and reporting efforts in order to meet their objectives and national performance targets, whilst also providing a holistic view of the short/medium term deployments.

It is important to note that the scope of the ESSIP Plan includes also planning actions derived from implementing rules for interoperability as well as planning actions related to other elements of the MP Level 2 mature for implementation.

The usage of the ESSIP Plan extends further than the ECAC area through the links it provides with the ICAO Global Air Navigation Plan (GANP) and Aviation System Block Upgrades (ASBU) and through the use of the information collected via the ESSIP and LSSIP mechanisms for the monitoring of the ASBU's implementation within the ICAO European Region.

With all its interdependencies the ESSIP process is one of the tools available, which promotes, together with the SDM tools, the links between European implementation decisions and stakeholders business plans and closes the loop between implementation reporting and implementation planning.

1. THE ROLE OF THE ESSIP PLAN WITHIN THE EUROPEAN ATM MASTER PLAN

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

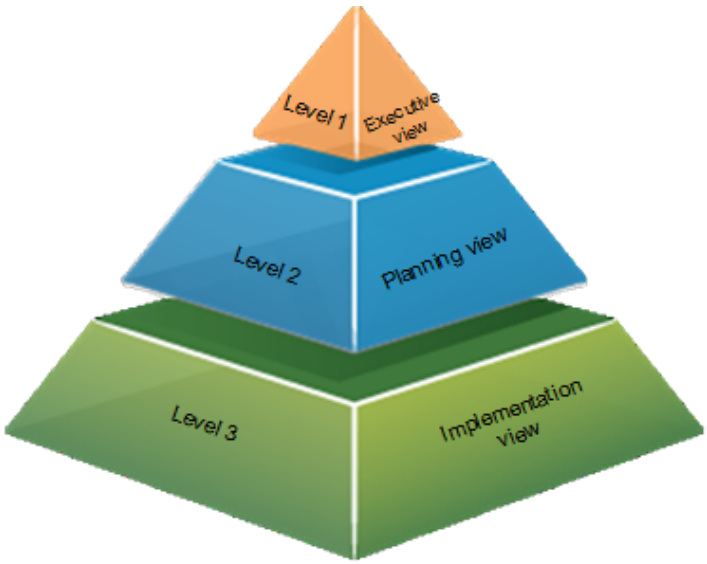

Figure 1: European ATM Master Plan

Being recognised as the Implementation View of the MP, the ESSIP Plan is a reference for the deployment planning at local level. This has been recognised by the Commission Implementing Regulation (EU) No. 409/2013 on the definition of common projects, where, in the Recital 16 it is stated that *"The Commission should oversee deployment activities making sure they follow the SES objectives and safeguard the public interest, by establishing appropriate reporting and monitoring mechanisms making the best use of existing instruments such as the European and Local Single Sky ImPlementation (ESSIP Plan and Report and LSSIP documents)".*

Moreover, the importance of the MP planning and reporting instruments has been further accentuated in the Commission Implementing Regulation on the establishment of Pilot Common Project (PCP) (EU) No. 716/2014 (PCP), where, in Article 5 on Monitoring, it is said that "*The monitoring by the Commission provided for in Article 6 of Implementing Regulation (EU) No 409/2013 shall be performed in particular through the following planning and reporting instruments: (a) the European ATM Master Plan planning and implementation reporting mechanisms; (b) …"*

In the light of the above, the ESSIP Plan - Edition 2015 is consistent with those elements of the PCP which are considered ready for deployment in the short term. This consistency has been strengthened with the creation of 6 new Objectives and with the substantial amendment of 8 existing Objectives, all in full coordination with the SESAR Deployment Manager (SDM).

The ESSIP Plan is a short/medium term implementation plan, therefore it includes Objectives having Full Operational Capabilities (FOC) dates for up to 8 years in the future, with an average of 5-6 years.

2. DEVELOPMENT OF THE ESSIP PLAN 2015 IN THE CONTEXT OF THE MP UPDATE CAMPAIGN

The ESSIP Plan is developed by Task 006, under the auspices of the SESAR Joint Undertaking (SJU) WP C02 – Deployment/Performance planning and reporting. The development cycle typically spans from October to August of the following year, when the Plan is handed over for further processing and approval by the EUROCONTROL Provisional Council (PC) and the SJU Admin Board.

With regard to the development of the ESSIP Plan Edition 2015, the process was fully integrated in the campaign for the development of the MP Edition 2015 therefore it followed the same development timeframes. The Plan has been delivered to the SJU at the end of June 2015, as part of the proposed MP Edition 2015.

In general, there are two main activities related to the development of the ESSIP Plan: the maintenance of existing ESSIP Objectives (including closure of Objectives, as achieved, when feedback from the field, obtained through the LSSIP (Local Single Sky ImPlementation) national reports and consolidated into the ESSIP Report shows that the Objective has been implemented throughout the applicability area) as well as the development of new Objectives, as appropriate.

The need for new Objectives or changes to existing ones is identified following the analysis of multiple inputs, at the beginning of each development cycle, notably: gap analysis between the latest MP data and the one used for the previous edition of the Plan, conclusions and recommendation of the ESSIP Report, inputs from the Expert Groups involved in the revision of the ESSIP Objectives (in particular the Interim Deployment Steering Group (IDSG) for the most recent versions of the Plan) and the issuing and coming into force of new EU (SES) Regulations. As from the 2016 cycle, it is expected that one of the main inputs to derive proposals for new Objectives will be based on the outcomes of the Deployment Packages / Deployment Scenarios development activity, which has evolved in parallel with the development of the ESSIP Plan 2015 and therefore could not be taken into account for the development of ESSIP Objectives in the 2015 Edition.

Taking into account the particularities of the 2015 development cycle, the following development approach has been followed by Task 006:

- The main driver behind the development of the ESSIP Plan 2015 is considered to be the publication of EU IR 716/2014 (Pilot Common Project (PCP) Regulation) and the related (draft) Deployment Programme (DP) V1 published by the SDM. In particular, close reference is made between new ESSIP Objectives and elements identified as ‘families’ by the SDM.
- The gap analysis between DS13 and DS11/12 has also been performed in order to identify the impact on the ESSIP Plan. The impact of these changes proved to be minimal.
- The analysis of the LSSIP data for 2014 has allowed to finalise 3 Objectives as ‘Achieved’.

As mentioned above, the development and consultation has been fully integrated within the MP update campaign for the MP Edition 2015, as shown in the next figure.

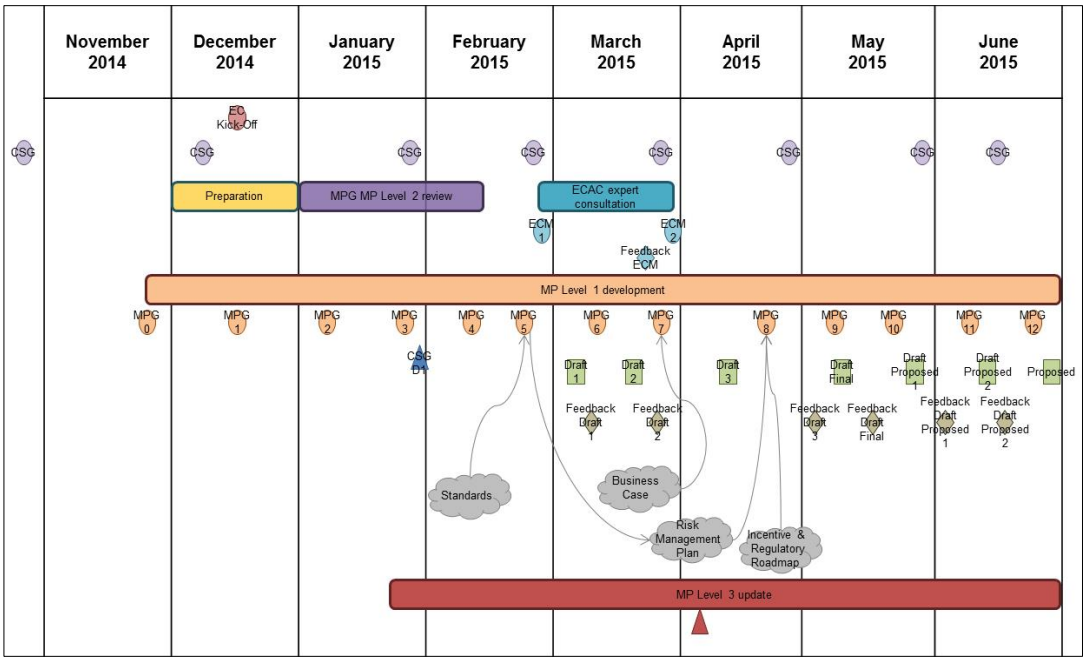

Figure 2: Development of the ESSIP Plan 2015 within the MP campaign

3. THE ESSIP PLAN EDITION 2015, PCP AND DP

General principles

The Commission Implementing Regulation on the establishment of PCP (EU) No. 716/2014 has identified a first set of ATM Functionalities (AF) to be deployed in a timely, coordinated and synchronised way so as to achieve the essential operational changes stemming from the MP and therefore to implement the SESAR Key Features.

The SDM synchronises and coordinates the modernisation of Europe's ATM system under the political oversight of the Commission. The main task of the SDM is to develop, submit to the Commission for its approval and execute the DP, a project view strictly drawn from the PCP. Through the DP, the SDM will ensure efficient synchronisation and coordination of implementation projects required to implement the PCP, as well as the related investments. So, whilst individual stakeholders will remain responsible for deployment of the PCP, the SDM will set up and execute an overall DP, providing synchronisation, coordination and support to stakeholders engaged in the execution of the implementation projects.

The PCP AFs have been further refined by the SDM into the DP V1, providing a project view, in order to support the successful implementation of the PCP Regulation.

The DP V1 has been developed around clusters of implementation projects, named "Families¨.

The DP has an important function in proposing a project view of PCP elements, which is complementary to the ESSIP Plan that, by its nature, has a broader scope than the DP, both in terms of content (it includes ESSIP objectives covering all essential elements of the ATM MP ready for implementation) and geographic applicability (ECAC Vs EU).

It is recognised that, some inconsistencies may exist between the ESSIP Plan Edition 2015 and the Deployment Programme, due to the parallel evolution and development of the two documents. It is expected that subsequent editions of the ESSIP Plan will consistently reflect the content of the Deployment Programme. However, for this edition of the ESSIP Plan, in case of inconsistencies, the information in the relevant sections of the DP takes precedence.

Lastly, the Memorandum of Understanding signed in March 2015 by the SJU and the SDM providing the platform on which to build cooperation for the smooth and timely delivery and deployment of SESAR Solutions to the ATM community including the specific necessary alignment between the ATM MP, SESAR2020 and the Deployment Programme, will set the basis for the evolution of the ESSIP plan in its future editions.

Specific changes for Edition 2015

In the process of development of the ESSIP Plan Edition 2015 it was considered of utmost importance to ensure that the Plan would be consistent with the DP V1. This has materialised in the creation of 6 new Objectives and with the substantial amendment of 9 existing Objectives, as follows:

1	AOM21.1	Implementation of Direct Routing
2	AOM21.2	Implement Free Route Airspace
3	AOP05	Implement Airport Collaborative Decision Making (CDM)
4	AOP10	Time-based separation
5	AOP11	Initial Airport Operations Plan
6	AOP 12	Improve runway and airfield safety with ATC clearances monitoring
7	ATC07.1	Implement arrival management tools
8	ATC12.1	Implement automated support for conflict detection and conflict monitoring
9	ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and proc's in support of Basic AMAN operations
10	FCM03	Implement collaborative flight planning
11	FCM05	Implement interactive rolling NOP
12	FCM06	Traffic Complexity Assessment
13	ITY-AGDL	Initial ATC air-ground data link services above FL-285 (N.B. Objective modified due to the amendment of the Data Link Services Regulation by Regulation (EU) 2015/310)
14	NAV03	Implement P-RNAV
15	NAV10	Implement APV procedures

New Objective derived from the PCP
Objective related[1] to the PCP, subject to substantial modification

Table 1: New and substantially amended Objectives related to the PCP

It should be noted that several other Objectives can be functionally related to the DP V1. These Objectives, which did not require substantial changes during the development of the ESSIP Plan 2015, are:

1	AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling
2	AOM19	Implement Advanced Airspace Management
3	AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 1
4	AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
5	ATC02.5	Implement ground based safety nets - APW level 2
6	ATC17	Electronic Dialogue as Automated Assistance to Controller during Coord and Transfer
7	FCM01	Implement enhanced tactical flow management services
8	FCM04	Implement Short Term ATFCM Measures - phase 1
9	INF07	Electronic Terrain and Obstacle Data (TOD)
10	ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
11	ITY-COTR	Implementation of ground-ground automated co-ordination processes
12	ITY-FMTP	Apply a common flight message transfer protocol (FMTP)

Table 2: Unchanged Objectives related to the PCP

In addition to the above 27 Objectives related to the PCP, the remaining Objectives are traceable and linked to the Level 2 of the MP, being outside the scope of the PCP. They are therefore reflected as such in the Level 3 of the MP.

The draft DP V1 has been released for consultation on 15 May 2015, towards the end of the development cycle of the ESSIP Plan. A full analysis of the DP V1 as well as of the subsequent

[1] 'Related' is to be understood as an ESSIP Objective leading into (i.e. pre-requisite to, facilitator for or part of) a DP family.

versions of the DP planned to be published in the next 10-12 months will be performed in the context of the development of the ESSIP Plan Edition 2016.

Overall, almost half of the Objectives included in the ESSIP Plan Edition 2015 (i.e. 26 Objectives) are related to the PCP. The consolidated list of PCP related Objectives and the links with the corresponding clusters of implementation activities (Families), representing the expert opinion of WP C2-T006, is shown in the following table:

Objective Designator	Objective title	Related Families (DP V1)
AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling	• 5.3.1
AOM19	Implement Advanced Airspace Management	• 3.1.1 • 3.1.2 • 3.1.3 • 3.1.4
AOM21.1	Implementation of Direct Routing	• 3.2.1 • 3.2.3
AOM21.2	Implement Free Route Airspace	• 3.2.1 • 3.2.4
AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 1	• 2.2.1 • 2.5.2
AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2	• 2.2.1 • 2.4.1
AOP05	Implement Airport Collaborative Decision Making (CDM)	• 2.1.1 • 2.1.3
AOP10	Time-based separation	• 2.3.1
AOP11	Initial Airport Operations Plan	• 2.1.4
AOP12	Improve runway and airfield safety with ATC clearances monitoring	• 2.1.2 • 2.5.1
ATC02.5	Implement ground based safety nets - APW level 2	• 3.2.1
ATC07.1	Implement arrival management tools	• 1.1.1
ATC12.1	Implement automated support for conflict detection and conflict monitoring	• 3.2.1
ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and proc's in support of Basic AMAN operations	• 1.1.2 • 4.3.1
ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer	• 3.2.1 • 5.6.1
FCM01	Implement enhanced tactical flow management services	• 2.1.3 • 4.2.3
FCM03	Implement collaborative flight planning	• 4.2.3
FCM04	Implement Short Term ATFCM Measures - phase 1	• 4.1.1 • 4.1.2
FCM05	Implement interactive rolling NOP	• 4.2.2 • 4.2.4 • 5.1.3 • 5.2.2 • 5.5.1
FCM06	Traffic Complexity Assessment	• 4.4.2
INF07	Electronic Terrain and Obstacle Data (TOD)	• 1.2.2
ITY-ADQ	Ensure quality of aeronautical data and aeronautical information	• 1.2.2 • 5.4.1
ITY-AGDL	Initial ATC air-ground data link services above FL-285	• 6.1.2
ITY-COTR	Implementation of ground-ground automated co-ordination processes	• 3.2.1
ITY-FMTP	Apply a common flight message transfer protocol (FMTP)	• 5.2.1
NAV03	Implement P-RNAV	• 1.2.3 • 1.2.4 • 1.2.5
NAV10	Implement APV procedures	• 1.2.1 • 1.2.2

Table 3: Objectives related to the PCP

The relationship between the ESSIP Objectives and the DP Families as identified in Table 3 is provided from a broad functionality perspective, without necessarily a complete overlap between the Objective and the related Family. These relationships will be further elaborated in the future edition(s) of the ESSIP Plan, with the aim to make them even more robust. This activity may lead to the development of new ESSIP Objectives or the substantial modification of existing ones, ultimately improving consistency between the ESSIP Plan and the Deployment Programme.

4. APPLICABILITY TO AIRPORTS

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

Airports with ESSIP Objectives			ESSIP Objectives applicable to the airports [1]								
State	Code	Airport	AOP04.1	AOP04.2	AOP05	AOP10	AOP11	AOP12	ATC07.1	ENV01	ENV02
AT	LOWW	Vienna	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
AM	UDYZ	Yerevan	X	X	X	X	-	X	X	√	√
BE	EBAW	Antwerp	X	X	X	X	-	X	X	√	X
BE	EBBR	Brussels	PCP	PCP	PCP	X	-	PCP	PCP	√	√
BE	EBCI	Charleroi	X	X	X	X	-	X	X	√	X
BE	EBLG	Liege	X	X	X	X	-	X	X	√	X
BE	EBOS	Ostende	X	X	X	X	-	X	X	√	X
BA	LQSA	Sarajevo	X	X	X	X	-	X	X	√	√
BG	LBSF	Sofia	√	√	X	X	-	X	X	X	X
CZ	LKPR	Prague	√	√	√	X	-	X	√	√	√
DK	EKCH	Copenhagen	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
EE	EETN	Tallinn	√	√	√	X	-	X	X	√	√
FI	EFHK	Helsinki	√	√	√	X	-	X	√	√	√
FR	LFBO	Toulouse	√	√	X	X	-	X	X	√	√
FR	LFLL	Lyon	√	√	√	X	-	X	X	√	√
FR	LFML	Marseille	√	√	X	X	-	X	X	√	√
FR	LFMN	Nice	PCP	PCP	PCP	X	-	PCP	PCP	√	√
FR	LFPG	Paris, Charles de Gaulle	√	PCP	√	X	-	PCP	PCP	√	√
FR	LFPO	Paris Orly	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
DE	EDDB	Berlin Brandenburg	√	PCP	√	X	-	PCP	PCP	√	√
DE	EDDF	Frankfurt Main	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
DE	EDDH	Hamburg	X	X	X	X	-	X	X	√	X
DE	EDDK	Cologne - Bonn	X	X	X	X	-	X	X	√	X
DE	EDDL	Düsseldorf	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
DE	EDDM	Munich	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
DE	EDDN	Nuremberg	X	X	X	X	-	X	X	√	X
DE	EDDS	Stuttgart	X	X	X	X	-	X	X	√	X
DE	EDDV	Hannover	X	X	X	X	-	X	X	√	X
GR	LGAV	Athens	√	√	√	X	-	X	X	X	√
GR	LGIR	Iraklion	X	X	√	X	-	X	X	X	X
GR	LGRP	Rhodes	X	X	√	X	-	X	X	X	X
GR	LGTS	Thessaloniki	√	√	X	X	-	X	X	X	X
HR	LDZA	Zagreb	X	X	X	X	-	X	X	√	X
HU	LHBP	Budapest	√	√	√	X	-	X	X	√	√
IE	EIDW	Dublin	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
IT	LIMC	Milan Malpensa	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√

[1] With the exception of ESSIP objective AOP03 and AOP11.
- The applicability area of AOP03 and of AOP11 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.
- As AOP11 is a new Objective in the ESSIP Plan Edition 2015, no airports have expressed a commitment yet.

Airports with ESSIP Objectives			ESSIP Objectives applicable to the airports [1]								
State	Code	Airport	AOP04.1	AOP04.2	AOP05	AOP10	AOP11	AOP12	ATC07.1	ENV01	ENV02
IT	LIME	Bergamo Orio al Serio	X	X	√	X	-	X	X	X	X
IT	LIML	Milan Linate	√	√	√	X	-	X	X	√	√
IT	LIPZ	Venezia	√	√	√	X	-	X	X	√	√
IT	LIRF	Rome Fiumicino	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
IT	LIRN	Napoli Capodichino	X	X	√	X	-	X	X	X	X
LV	EVRA	Riga	√	√	X	X	-	X	√	X	X
LT	EYVI	Vilnius	√	√	√	X	-	X	X	√	√
NL	EHAM	Amsterdam Schiphol	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
NO	ENGM	Oslo Gardermoen	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
PL	EPWA	Warsaw	√	√	√	X	-	X	√	√	√
PT	LPPT	Lisbon	√	√	√	X	-	X	√	√	√
RO	LROP	Bucharest	√	√	X	X	-	X	√	√	X
RS	LYBE	Belgrade	X	X	X	X	-	X	X	√	X
ES	LEBL	Barcelona	PCP	PCP	PCP	X	-	PCP	PCP	√	√
ES	LEMD	Madrid Barajas	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
ES	LEPA	Palma de Mallorca	PCP	PCP	PCP	X	-	PCP	PCP	√	√
SE	ESGG	Göteborg	X	X	X	X	-	X	X	√	X
SE	ESMS	Malmö-Sturup	X	X	X	X	-	X	X	√	X
SE	ESNU	Umea	X	X	X	X	-	X	X	√	X
SE	ESSA	Stockholm Arlanda	PCP	PCP	PCP	X	-	PCP	PCP	√	√
CH	LSGG	Geneva	√	√	√	X	-	X	√	√	√
CH	LSZH	Zurich	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
TR	LTAC	Ankara	√	√	X	X	-	X	X	X	X
TR	LTAI	Antalya	√	√	√	X	-	X	X	√	√
TR	LTBA	Istanbul	√	√	√	-	-	-	√	√	√
UA	UKBB	Kyiv Boryspil	√	√	√	X	-	X	√	√	X
GB	EGBB	Birmingham	X	X	√	X	-	X	X	√	√
GB	EGCC	Manchester	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
GB	EGGW	London Luton	X	X	√	X	-	X	X	√	√
GB	EGGD	Bristol	X	X	X	X	-	X	X	√	√
GB	EGKK	London Gatwick	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
GB	EGLC	London City	X	X	X	X	-	X	X	X	√
GB	EGLL	London Heathrow	PCP	PCP	PCP	PCP	-	PCP	PCP	√	√
GB	EGNT	Newcastle	X	X	X	X	-	X	X	√	√
GB	EGNX	Nottingham East Midlands	X	X	X	X	-	X	X	√	X
GB	EGPF	Glasgow	X	X	X	X	-	X	X	√	√
GB	EGPH	Edinburgh	√	√	√	X	-	X	X	√	√
GB	EGSS	London Stansted	PCP	PCP	PCP	X	-	PCP	PCP	√	√

Legend:

√	Objective directly applicable to the airport or which is being implemented even if the airport is not in the applicability area.
PCP	Objective applicable due to the PCP
X	Objective not applicable to the airport
-	Applicability will be evaluated based on information collected from LSSIP 2015 cycle

Table 4: Participation of the airports in ESSIP Objectives

5. THE ESSIP PLAN IN THE ICAO CONTEXT

The ICAO Global Air Navigation Plan (GANP) including the Aviation System Block Upgrades (ASBUs) has been endorsed by the 38th ICAO Assembly. It was notably agreed to call upon States, planning and implementation regional groups (PIRGs), and the aviation industry to provide timely information to ICAO, regarding the implementation status of the GANP, and to invite PIRGs to use ICAO standardised tools or adequate regional tools to monitor and, in collaboration with ICAO, analyse the implementation status of air navigation systems.

At the 55th Meeting of the European Air Navigation Planning Group (EANPG) in 2013 a cooperative arrangement on the collection and monitoring of the implementation status of ASBU in ICAO EUR/NAT Region was agreed between ICAO and EUROCONTROL. These reporting mechanisms adopt the combined versions of the ESSIP/LSSIP process/mechanism for the ECAC States and a specific ICAO EUR ASBU questionnaire for the non-ECAC States, which has been a successful example and effort to use existing resources and avoid unnecessary duplication of reporting. On the basis of this data collection, an ICAO ASBU Implementation Monitoring Report for 2014 was developed, by EUROCONTROL, for the ICAO EUR/NAT office.

In order to support this approach the ESSIP Plan identifies the links between the ASBUs Block 0 and the associated subset of ESSIP Objectives which will be used for the collection of information.

Block 0 Priority 1 Modules[3]	**B0-ACAS** *ACAS Improvements*	**ATC16** *Implement ACAS II compliant with TCAS II change 7.1*
	B0-APTA *Optimization of Approach Procedures including vertical guidance*	**NAV10** *Implement APV procedures*
	B0-DATM *Service Improvement through Digital Aeronautical Information Management*	**INF04** *Implement integrated briefing*
		ITY-ADQ *Ensure quality of aeronautical data and aeronautical information*
	B0-FICE *Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration*	**ATC17** *Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer*
		ITY-COTR *Implementation of ground-ground automated co-ordination processes*
		ITY-FMTP *Apply a common flight message transfer protocol (FMTP)*
	B0-SNET *Increased Effectiveness of Ground-Based Safety Nets – STCA* *Increased Effectiveness of Ground-Based Safety Nets – APW* *Increased Effectiveness of Ground-Based Safety Nets – MSAW*	**ATC02.2 (This objective is finalised in ECAC area)** *Implement ground based safety nets - Short Term Conflict Alert (STCA) - level 2*
		ATC02.5 *Implement ground based safety nets - Area Proximity Warning - level 2*
		ATC02.6 *Implement ground based safety nets - Minimum Safe Altitude Warning - level 2*
	B0-SURF *Safety and Efficiency of Surface Operations (A-SMGCS Level 1-2)*	**AOP04.1** *Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1*
		AOP04.2 *Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2*

[3] Priority of the Modules were defined by ICAO at EANPG/55, taken into consideration that Priority 1 Modules would offer significant benefits and a highest safety contribution.

Other Block 0 Modules	**B0-ACDM** *Improved Airport Operations through Airport-CDM*	**AOP05** *Implement Airport Collaborative Decision Making (CDM)*
	B0-ASUR *Initial capability for ground surveillance*	**ITY-SPI** *Surveillance performance and interoperability*
	B0-CDO *Improved Flexibility and Efficiency in Descent Profiles (CDO)*	**ENV-01** *Implement Continuous Descent Operations (CDO) techniques for environmental improvements*
	B0-FRTO *Improved Operations through Enhanced En-Route Trajectories*	**AOM19** *Implement Advanced Airspace Management*
		NAV03 *Improved Operations through Enhanced En-Route Trajectories*
	B0-NOPS *Improved Flow Performance through Planning based on a Network-Wide view*	**FCM01** *Implement enhanced tactical flow management services*
		FCM06 *Traffic Complexity Assessment*
	B0-RSEQ *Improve Traffic flow through Runway Sequencing (AMAN/DMAN)*	**ATC07.1** *Implement arrival management tools*
		ATC15 *Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations*
	B0-TBO *Improved Safety and Efficiency through the initial application of Data Link En-Route*	**ITY-AGDL** *Initial ATC air-ground data link services above FL-285*

Table 5: link between ICAO ASBU B0 and ESSIP Objectives

6. THE CONTENT OF THE ESSIP PLAN

The ESSIP mechanism sits at the crossroads of multiple performance improvement initiatives synergising the planning and monitoring activities of all stakeholders involved: State civil and military authorities, air navigation service providers and airport operators, all categories of airspace users. The ESSIP Objectives are related to multiple deployment initiatives, starting with notably the PCP, but also driven by SES Interoperability Regulations or by mature elements of the Level 2 of the MP which are being implemented even if not within the scope of the PCP. Last but not least, some of the ESSIP Objectives are used by ICAO for the monitoring of the ASBU implementation in the ICAO European Region. The following table shows in a consolidate way the interdependencies between the ESSIP Objectives and the initiatives enumerated above:

Objective Category	Objective Designator	Objective title	Page No.
Objectives related to the PCP	AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling	25
	AOM19	Implement Advanced Airspace Management	27
	AOM21.1	Implementation of Direct Routes	29
	AOM21.2	Implementation of Free Route Airspace	31
	AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 1	33
	AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2	35
	AOP05	Implement Airport Collaborative Decision Making (CDM)	37
	AOP10	Time-based separation	39
	AOP11	Initial Airport Operational Plan	41
	AOP12	Improve runway and airfield safety with ATC clearances monitoring	43
	ATC02.5	Implement ground based safety nets - APW level 2	45
	ATC07.1	Implement arrival management tools	47
	ATC12.1	Implement automated support for conflict detection and conflict monitoring	49
	ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and proc's in support of Basic AMAN operations	51
	ATC17	Electronic Dialogue as Automated Assistance to Controller during Coord and Transfer	53
	FCM01	Implement enhanced tactical flow management services	55
	FCM03	Implement collaborative flight planning	57
	FCM04	Implement Short Term ATFCM Measures - phase 1	59
	FCM05	Implement interactive rolling NOP	61
	FCM06	Traffic Complexity Assessment	63
	INF07	Electronic Terrain and Obstacle Data (TOD)	65
	ITY-ADQ*	Ensure quality of aeronautical data and aeronautical information	67
	ITY-AGDL*	Initial ATC air-ground data link services above FL-285	69
	ITY-COTR*	Implement ground-ground automated co-ordination processes	71
	ITY-FMTP*	Apply a common flight message transfer protocol (FMTP)	73
	NAV03	Implement P-RNAV	75
	NAV10	Implement APV procedures	77
Objectives related to SES interoperability	ITY-ACID	Aircraft Identification	81
	ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195	83
	ITY-SPI	Surveillance performance and interoperability	85
Other Essential Master Plan related Objectives	AOP03	Improve runway safety by preventing runway incursions	89
	ATC02.6	Implement ground based safety nets - MSAW level 2	91
	ATC02.7	Implement ground based safety nets - APM level 2	96
	ATC16	Implement ACAS II compliant with TCAS II change 7.1	95
	COM10	Migrate from AFTN to AMHS	97
	COM11	Implement Voice over Internet Protocol (VOIP) in ATM	99
	ENV01	Implement Continuous Descent Operations (CDO) techniques for environmental improvements	101
	ENV02	Implement Collaborative Environmental Management (CEM) at Airports	103
	INF04	Implement integrated briefing	105
	SAF10	Implement measures to reduce the risk to aircraft operations caused by airspace infringements	107
	SAF11	Improve runway safety by preventing runway excursions	109

Indicates an Objective linked to ICAO ASBUs

ITY-ABC indicates an Objective related to the PCP which is also related to SES interoperability*

Table 6: Overview of ESSIP Objectives

7. THE DELIVERABLES OF THE MASTER PLAN LEVEL3

This document is one of the two that, together, make the ESSIP deliverables representing the Level 3 of the European ATM Master Plan. Both documents are deliverables of SJU WP C0.2 and are covering the full planning and reporting cycle:

- The **ESSIP Plan** - this document - contains the detailed implementation Objectives and Stakeholder Lines of Action (SLoAs) 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 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 LSSIP documents and closes the loop between the monitoring and planning phases of the ESSIP/LSSIP yearly cycle. Understanding what happened during the reporting period puts into perspective the investments and actions to real benefits and enables to steer implementation.

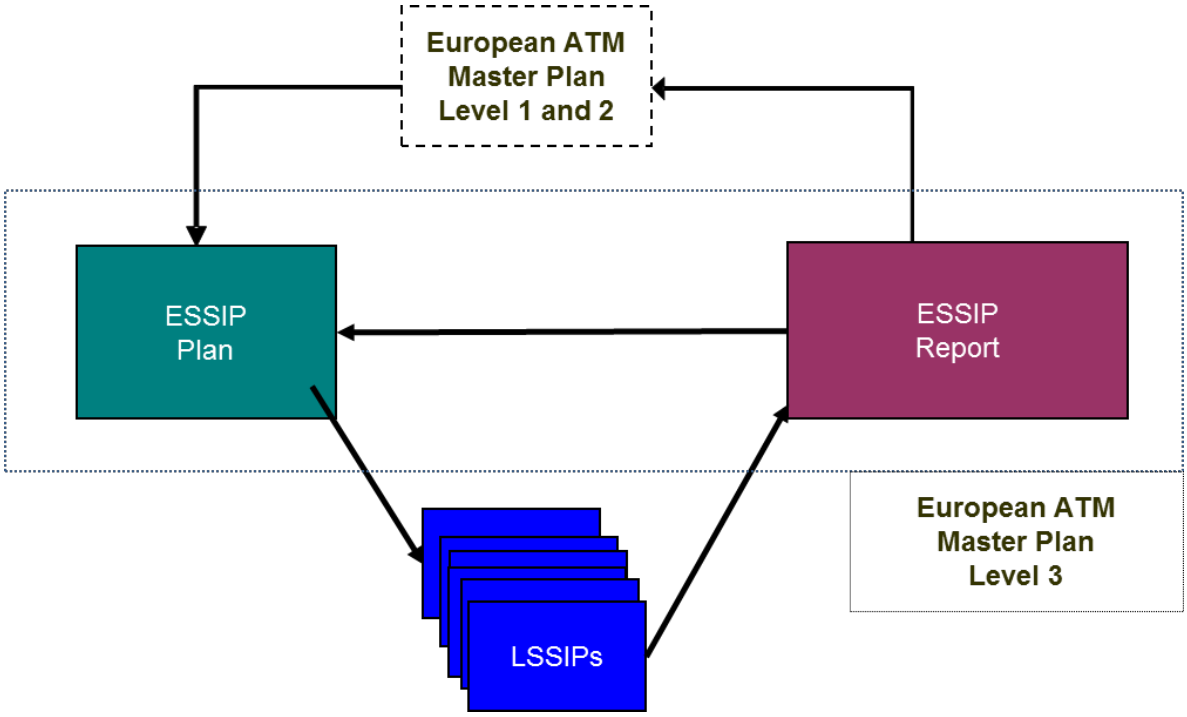

Figure 3: The Master Plan deliverables

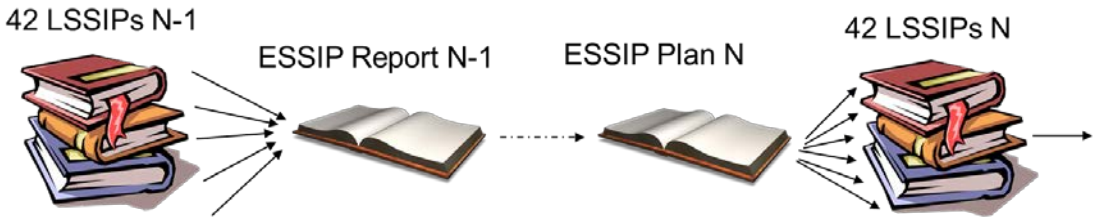

Figure 4: The ESSIP/LSSIP Chain of events

8. RECOMMENDATIONS OF THE ESSIP REPORT 2013

The information provided throughout the LSSIP 2013 cycle has been compiled into the ESSIP Report 2013, published in June 2014. The Report has identified several recommendations, including some applicable to the ESSIP Plan Edition 2014, notably with regard to the achievement of existing Objectives. As the recommendations have only been made available after the closure of the LSSIP reporting cycle, therefore towards the end of the development period of the ESSIP plan, two of the recommendations (REC-2013-10 and REC-2013-11) have not been addressed in the ESSIP Plan Edition 2014 and have therefore been fed into the development process of ESSIP Plan Edition 2015.

Recommendation ID	Text of recommendation	Status in ESSIP Plan – Edition 2015
REC-2013-10	To consider ESSIP Objective ATC07.1 as an airport related Objective.	This recommendation has been implemented.
REC-2013-11	To consider the EFS (Electronic Flight Strips) and initial DMAN as candidates to be included in ESSIP.	This recommendation has been implemented.

Table 7: ESSIP Report 2013 recommendations

Note: Due to the integration of the ESSIP Plan development within the MP Edition 2015, the ESSIP Plan has been made available before the finalisation of the ESSIP Report for 2014 therefore the recommendations of this report were not addressed. They will be dealt with, as appropriate in the edition 2016 of the ESSIP Plan.

9. STRUCTURE OF THE DOCUMENT

The ESSIP Plan document is structured in three main parts.

Part I, as an introduction to the main body of the document provides the contextual information as well as the interdepencencies related to the ESSIP Plan.
Part II, presents the high level description the ESSIP implementation Objectives. The full description of the ESSIP Objectives, including the detailed description of SLoAs, is available at http://www.eurocontrol.int/articles/essip-plan as well as at https://www.eatmportal.eu/working. This part is further structured based on the relationship between the ESSIP Objectives and the SES Regulations as well as the MP. Wthin each sub-part, the ESSIP obbjectives are listed in alpahbetical order.

- **Part II A**– ESSIP Objectives related to the PCP;
- **Part II B** - ESSIP Objectives related to SES interoperability Regulation (ITY Objectives);
- **Part II C** - ESSIP Objectives related to other elements of the MP.

Part III includes the annexes to the document:

- Annex A includes a description of how to use the document as well as the key definitions important for the clear understanding of ESSIP Objectives.
- Annex B includes the consolidated list of substantial changes since the previous edition of the ESSIP Plan.
- Annex C presents the status of implementation of the current ESSIP Objectives, based on the information collected during the reporting cycle of the previous year (implementation status on 31.12.2014). Full information is available in the ESSIP Report available at http://www.eurocontrol.int/articles/essip-report.
- Annex D provides an example of a full detailed ESSIP Objective.
- Annex E presents the mapping between the MP Level 2 and the ESSIP Plan (MP Level 3).
- Annex F includes a list of acronyms and abbreviations.

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

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PART II
HIGH-LEVEL DESCRIPTION OF IMPLEMENTATION OBJECTIVES

Note: Part II only presents a high-level description of the implementation objectives. A detailed example is provided in Part III Annex D. Full detail of each objective, including the full description of the Stakeholder Lines of Action is available at http://www.eurocontrol.int/articles/essip-plan as well as at https://www.eatmportal.eu/working

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OVERVIEW OF IMPLEMENTATION OBJECTIVES

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PART II A
OJECTIVES RELATED TO THE PCP

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

Subject matter and scope

This objective is functionally related to ATM Functionality 5 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

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

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

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

- Identifying the various types of military operations which cannot be accommodated applying GAT rules and require additional rules and procedures (OAT);

- Defining EUROAT rules and procedures for handling military operations in European Civil Aviation Conference (ECAC) airspace whilst developing common civil military principles for the safe handling of civil and military traffic in one continuum of airspace.

- Harmonisation of military aeronautical information in Europe through European Aeronautical Service (EAD).

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2012		Applicability Area
Full operational capability		31/12/2018	Applicability Area

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	AAMS-10a	AIMS-19b							

OI step -	[AOM-0301]-Harmonised EUROCONTROL ECAC Area Rules for OAT-IFR and GAT Interface									
	Enablers -	PRO-181								

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
Regulation (EU) No 805/2011 of 10 August 2011 laying down detailed rules for air traffic controllers- licences and certain certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council
Regulation (EC) No 2150/2005 of 23 December 2005 laying down common rules for the flexible use of airspace
Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

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

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

None

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

Subject matter and scope

This objective is functionally related to ATM Functionality 3 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

Establish a collaborative civil-military airspace planning at the European Network level through an integrated Airspace Management/Air Traffic Flow Capacity Management (ASM/ATFCM) process and an extended planning phase into the day of operations.
Ensure full exploitation of capacity becoming available through the identification of efficient combinations of areas allocation, routes availability, including CDRs, and sector configurations able to cope with traffic demand. The process will be applied also for improving the planning activities related to the updates to airspace status.
Foster a consistent application of the Flexible Use of Airspace (FUA) Concept across the European network, and support a safe, efficient and accurate flow of ASM data.
This will support the ECAC States collective responsibility for European airspace planning and management that provides for a continuum and transparency of airspace structures and rules at boundaries while satisfying national security and defence requirements.
The improved planning process refers to the use of specific procedures allowing Airline Operators (AOs) to optimise their flight planning in order to achieve a more efficient utilization of available airspace through more dynamic responses to specific short notice or real-time airspace status changes, requirements and route optimisation at the pre-tactical and/or tactical levels.
Develop, validate and implement ASM/ATFCM processes, procedures and supporting tools at national, sub-regional and the European Network level to ensure that airspace is used more flexibly, capacity is better balanced and predictability is enhanced through greater adherence to planned activities as a result of better planning and notification.
It will provide a coherent response to the recommendations of the Performance Review Commission (PRC) report on Civil-Military Airspace Utilisation (2007) in accordance with the Dynamic Management of the European Airspace Network (DMEAN) Framework Programme and DMEAN Conception of Operations (CONOPS) and supporting expected deliverables of SESAR WP7 [Network Operations] in particular P7.5.2 [Advanced FUA Concept].
Ultimately, the ASM operations continue until the real-time activation of airspaces or routes. The alignment between both ASM/ATFCM processes shall continue to ensure the assessment of the network impact, the identification of flights affected by real-time modifications, as well as the timely dissemination of the decisions. Airspace uses (allocations, activations, deactivations) are issued from the ASM tools (LARA, STANLY, etc) via B2B.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2011		Applicability Area
Full operational capability		31/12/2016	Applicability Area

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	AAMS-11								

OI step -	[AOM-0201]-Moving Airspace Management Into Day of Operation									
	Enablers -	PRO-184	PRO-185							

OI step -	[AOM-0202]-Enhanced Real-time Civil-Military Coordination of Airspace Utilisation									
	Enablers -	AAMS-06a	AAMS-08	AAMS-09	AAMS-10a AOM13.1	AAMS-15 FCM05	AIMS-21	AIMS-22	GGSWIM-49	PRO-184

OI step -	[AOM-0205]-Modular Temporary Airspace Structures and Reserved Areas									
	Enablers -	AAMS-08	AIMS-20 FCM05	NIMS-14a	NIMS-14b FCM05	PRO-009	PRO-082	PRO-185		

AOM19	Implement Advanced Airspace Management

OI step -	[AOM-0401]-Multiple Route Options & Airspace Organisation Scenarios									
	Enablers -									

OI step -	[DCB-0203]-Enhanced ASM/ATFCM Coordinated Process									
	Enablers -	AAMS-06a	AIMS-21	AIMS-22	PRO-010					

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SloA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
AOM19-ASP01	Implement an improved ASM/ATFCM process	**DELETED**	
AOM19-ASP02	Implement CIAM Phase 1	**DELETED**	
AOM19-ASP03	Implement CIAM Phase 2	**DELETED**	
AOM19-ASP04	Implement Rolling ASM/ATFCM process	01/12/2011	31/12/2016
AOM19-ASP05	Implement Interoperability of local ASM support system with NM system	01/01/2014	31/12/2015
AOM19-ASP06	Simplify CDR categorisation	**DELETED**	
AOM19-ASP07	Optimise flexible airspace structure design and availability	01/01/2009	31/12/2015
AOM19-ASP08	Improve accuracy of airspace booking	01/12/2010	31/12/2015
AOM19-ASP09	Deploy automated ASM support systems	01/07/2010	31/12/2015
AOM19-ASP10	Improve notification to airspace users	01/07/2011	31/12/2016
AOM19-USE01	Implement an improved Notification Process supporting the Rolling ASM/ATFCM process	01/05/2009	31/12/2016
AOM19-USE02	Implement improved notification process supporting the Rolling ASM/ATFCM process	**DELETED**	
AOM19-NM01	Develop System and procedures for an improved ASM/ATFCM process	01/12/2010	31/12/2015
AOM19-NM02	Upgrade NM systems to allow exchange in real-time of ASM information	01/09/2014	31/12/2016

Expected performance benefits (for information)

Safety : Improved through better co-ordination of civil and military airspace needs at the European Network level. Potential gains through more efficient airspace allocation and better knowledge of traffic environment and some enhancement through reduction in controller workload.

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

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

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

Security : N/A

Substantial changes since ESSIP Plan 2014

None

PCP	Active						ECAC
AOM21.1	Implement of Direct Routing						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

This objective is functionally related to ATM Functionality 3 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, and is bound to its deployment target dates.

Direct Routing is foreseen as a first step towards Free Routing in Free Route Airspace (FRA). The geographical scope for Direct Routing is defined by PCP IR as the airspace for which the Member States are responsible at and above flight level 310 in the ICAO EUR Region. Direct Route Airspace is described as an airspace defined laterally and vertically with a set of entry/exit conditions where published direct routings are available. Within this airspace, flights remain subject to air traffic control.

The Direct Routing implementation is coordinated through the NM European Route Network Improvement Plan (ERNIP) and the Network Operations Plan following the Strategic Objectives and Targets set in the Network Strategic Plan and in the Network Manager Performance Plan. Some European ANSPs have included in the ERNIP Part 2 – ARN Version 2014-2019 projects for full or partial implementation of Direct Routing selecting their implementation steps.

The Direct Routing ESSIP Objective is derived from the ATMMP OI step AOM-500 (Direct Routing for flights both in cruise and vertically evolving for cross ACC borders and in high & very high complexity environments) supplemented by the provisions of the Pre-Step 1 OI steps AOM-0401 (Multiple Route Options & Airspace Organisation Scenarios) and AOM-0402 (Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routeing Options).

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

Applicability Area(s) & Timescale(s)

Applicability Area

All ECAC States, at and above FL310 (not applicable for those States that have already implement FRA or planned to deploy FRA at and above FL310 before 1 January 2018)

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2015		Applicability Area
Full operational capability		31/12/2017	Applicability Area

References

European ATM Master Plan relationship

OI step -	[AOM-0401]-Multiple Route Options & Airspace Organisation Scenarios									
	Enablers -									

OI step -	[AOM-0402]-Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routing Options									
	Enablers -									

OI step -	[AOM-0500]-Direct Routing for flights both in cruise and vertically evolving for cross ACC borders and in high & very high complexity environments.									
	Enablers -	AAMS-06b	AAMS-06c	AAMS-09a	AAMS-11 AOM19	A/C-04a	ER APP ATC 15	ER ATC 157 ATC12.1	ER APP ATC 75	
		ER ATC 91 ATC12.1	NIMS-21a FCM06	NIMS-29	NIMS-37 FCM06	NIMS-42				

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

AOM21.1	Implementation of Direct Routing

Applicable legislation

Commission Regulation (EU) No 677/2011 of 7 July 2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010
Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

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

Expected performance benefits

Safety : Maintaining the safety levels
Capacity : Slightly increased through the better airspace utilisation to enhance productivity and reduce controller workload.
Cost effectiveness : Savings in route distances as well as better fuel efficiency through increased use of preferred flight profiles and improved sectorisation.
Environment : Reductions in emissions through use of more optimal routes.
Security : N/A

Substantial changes since ESSIP Plan 2014

New Objective evolved from former AOM21 as a predecessor of Free Routing implementation

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

Subject matter and scope

This objective is functionally related to ATM Functionality 3 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, and is bound to its deployment target dates.

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

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

Several ACCs and ANSPs already fully or partially implemented FRA with further phased implementations planned by all FABs/ANSPs over the period 2015-2019. The following FRA deployments have already been done as:

- Free Route Airspace (FRA) H24 Denmark and Sweden within DK-SE FAB , SW FAB (Portugal and Madrid FIR sectors of Santiago and Asturias- FRASAI project-), Ireland, and Hungary
- FRA night: Romania, Bulgaria, Finland, Moldova

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

The FRA ESSIP Objective is derived from the ATMMP OI step AOM-501 (Free Routing for Flights both in cruise and vertically evolving within low to medium complexity environments) supplemented by the provision of AOM-500 (Direct Routing for flights both in cruise and vertically evolving for cross ACC borders and in high & very high complexity environments) and Pre-Step 1 OI steps AOM-0401 (Multiple Route Options & Airspace Organisation Scenarios) and AOM-0402 (Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routeing Options).

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States except: Armenia, Azerbaijan, Georgia

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

References

European ATM Master Plan relationship

OI step -	[AOM-0401]-Multiple Route Options & Airspace Organisation Scenarios									
	Enablers -									

OI step -	[AOM-0402]-Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routing Options									
	Enablers -									

OI step -	[AOM-0501]-Free Routing for Flights both in cruise and vertically evolving within low to medium complexity environments									
	Enablers -	AAMS-06b	AAMS-16a	A/C-04a	A/C-37a	ER APP ATC 100	ER ATC 157 ATC12.1	ER APP ATC 160	NIMS-21a FCM06	
		PRO-085	SWIM-APS-01a FCM05	SWIM-APS-02a	SWIM-APS-03a FCM05	SWIM-APS-04a	SWIM-APS-05a	SWIM-INFR-01a	SWIM-INFR-05a	
		SWIM-NET-01a	SWIM-SUPT-01a	SWIM-SUPT-03a	SWIM-SUPT-05a					

AOM21.2	Implement Free Route Airspace

OI step -	[AOM-0502]-Free Routing for Flights both in cruise and vertically evolving within high & very high-complexity environments									
	Enablers -	AOC-ATM-10	ER APP ATC 78	NIMS-21b	PRO-148	PRO-149				

OI step -	[CM-0102-A]-Automated Support for Dynamic Sectorisation and Dynamic Constraint Management									
	Enablers -	CTE-C05a COM11	CTE-C05b	ER APP ATC 15	ER APP ATC 93 FCM06	PRO-220a FCM06	PRO-220b FCM06	SWIM-APS-03a FCM05	SWIM-APS-04a	
		SWIM-INFR-05a	SWIM-NET-01a	SWIM-SUPT-01a	SWIM-SUPT-03a	SWIM-SUPT-05a				

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

Applicable legislation

Commission Regulation (EU) No 677/2011 of 7 July 2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010
Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

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

Expected performance benefits

Safety : Maintaining the safety levels
Capacity : Increased through the better airspace utilisation to enhance productivity and reduce controller workload.
Cost effectiveness : Savings in route distances as well as better fuel efficiency through increased use of preferred flight profiles and improved sectorisation.
Environment : Reductions in emissions through use of more optimal routes.
Security : N/A

Substantial changes since ESSIP Plan 2014

Objective evolved from former AOM21 into AOM21.2 as a successor of the new Objective AOM21.1 on Implementation of Direct Routing

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

Subject matter and scope

This objective is functionally related to ATM Functionality 2 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

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

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

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

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

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

All reference documentation listed in SLoAs is available via the EUROCONTROL website: https://www.eurocontrol.int/articles/advanced-surface-movement-guidance-and-control-systems-smgcs.

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

Applicability Area(s) & Timescale(s)

Applicability Area — See list of airports in ESSIP Plan – Part I Section 4

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2007		Applicability Area
Full operational capability		31/12/2011	Applicability Area

References

European ATM Master Plan relationship

OI step -	- No OI Link -								
	Enablers -	CTE-S02b	CTE-S03b	CTE-S04b					

OI step -	[AO-0201]-Enhanced Ground Controller Situational Awareness in all Weather Conditions								
	Enablers -	AERODROME-ATC-04	AERODROME-ATC-28	AERODROME-ATC-36	ER APP ATC 164	PRO-201a			

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002	Covered by SLoA(s) in another Objective	WXYZ-003	Not covered in the ESSIP Plan
			zzz01	ESSIP Objective covering the enabler		

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 716/2014 on the establishment of the Pilot Common Project

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

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
AOP04.1-REG01	Mandate the carriage of required aircraft equipment to enable location and identification of aircraft on the movement area (including military aircraft, as appropriate).	01/01/2007	31/12/2010
AOP04.1-REG02	Mandate the carriage of required vehicle equipment to enable location and identification of vehicles on the manoeuvring area	01/01/2007	31/12/2010
AOP04.1-REG03	Publish A-SMGCS Level 1 procedures (including transponder operating procedures) in national aeronautical information publications	01/01/2007	31/12/2010
AOP04.1-REG04	Approve A-SMGCS Level 1 implementations for operation	**DELETED**	
AOP04.1-ASP01	Install required surveillance equipment	01/01/2007	31/12/2010
AOP04.1-ASP02	Train aerodrome control staff in the use of A-SMGCS Level 1 surveillance in the provision of aerodrome control service	01/01/2007	31/12/2010
AOP04.1-ASP03	Implement approved A-SMGCS operational procedures at airports equipped with A-SMGCS	01/01/2007	31/12/2011
AOP04.1-APO01	Install required surveillance equipment	01/01/2007	31/12/2010
AOP04.1-APO02	Equip Ground Vehicles	01/01/2007	31/12/2010
AOP04.1-APO03	Train Ground Vehicle Drivers	01/01/2007	31/12/2010
AOP04.1-USE01	Update aircrew training manual to include procedures for use of correct Mode-S transponder setting for enabling cooperative A-SMGCS detection on the movement area	01/01/2004	31/12/2010
AOP04.1-INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS Level 1 procedures	01/11/2004	31/12/2011
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**	

Expected performance benefits (for information)

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

Capacity : 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.

Cost effectiveness : More efficient control of aerodrome surface traffic, leading to a reduction in delay and fuel burn.

Environment : Reduction of noise and emissions.

Security : N/A

Substantial changes since ESSIP Plan 2014

None

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

Subject matter and scope

This objective is functionally related to ATM Functionality 2 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

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

Since the ESSIP Plan ed. 2015 this Objective also covers the implementation of a digital system, such as Electronic Flights Strips (EFS), allowing the air traffic controller to input all clearances given to aircraft or vehicles into the ATC system.

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

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

Applicability Area(s) & Timescale(s)

Applicability Area See list of airports in ESSIP Plan – Part I Section 4

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2007		Applicability Area
Full operational capability		31/12/2017	Applicability Area

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	CTE-S02b	CTE-S03b	CTE-S04b						

OI step -	[AO-0102]-Automated Alerting of Controller in Case of Runway Incursion or Intrusion into Restricted Areas									
	Enablers -	ADSB-0003	ADSB-0102a	ADSB-0106	AERODROME-ATC-03	ASMGCS-0101	ASMGCS-0102	ASMGCS-0103	ASMGCS-0104	
		ASMGCS-0113	ASMGCS-0114	ASMGCS-0115	A/C-48	A/C-48a AOP09	ER APP ATC 164	PRO-139	PRO-201b	

OI step -	[AO-0201]-Enhanced Ground Controller Situational Awareness in all Weather Conditions									
	Enablers -	AERODROME-ATC-04 AOP04.1	AERODROME-ATC-28 AOP04.1	AERODROME-ATC-36 AOP04.1, AOP12	ER APP ATC 164	PRO-201a				

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

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

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

AOP04.2-ASP02	Train aerodrome control staff in the use of A-SMGCS Level 2 in the provision of an aerodrome control service	01/01/2007	31/12/2017
AOP04.2-ASP03	Implement approved A-SMGCS Level 2 operational procedures at airports equipped with A-SMGCS Level 2	01/01/2007	31/12/2017
AOP04.2-APO01	Install required A-SMGCS control function equipment	01/01/2007	31/12/2017
AOP04.2-INT01	Coordinate amendments to the related ICAO documentation to include A-SMGCS Level 2 procedures	01/11/2004	31/12/2017
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**	

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

None

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

Subject matter and scope

This objective is functionally related to ATM Functionality 2 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

Implement Airport CDM (A-CDM) to enhance the operational efficiency of airports and improve their integration into the Air Traffic Management Network (ATMN) while maintaining or improving the safety levels. These objectives are achievable by increasing the information sharing between the local ANSP, airport operator, aircraft operators, ground handlers, the NM and other airport service providers; and improving the cooperation between these partners to enhance the predictability of events and optimise the utilisation of resources.
The Airport CDM concept is built on the following elements:
- The foundations for Airport CDM are Information Sharing and the Milestone Approach. They consist in collaborative information sharing and monitoring of the progress of a flight from the initial planning to the take off. Those two elements allow the airport partners to achieve a common situational awareness and predict the forthcoming events for each flight.
- Variable Taxi Time Calculation, Collaborative Pre-Departure Sequencing and CDM in Adverse Conditions allow the airport partners to further improve the local management of airport operations, whatever the situation at the airport.
- Once A-CDM has been implemented locally, the link with the ATMN can be strengthened through the exchange of flight update messages between the CDM airport and the NM. This last building block of the A-CDM concept facilitates the flow and capacity management, helps reduce uncertainty and increases efficiency at the network level.

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

Applicability Area(s) & Timescale(s)

Applicability Area See list of airports in ESSIP Plan – Part I Section 4

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2004		Applicability Area
Full operational capability		31/12/2016	Applicability Area

References

European ATM Master Plan relationship

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

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By

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

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

Implementation date postponed by 12 months, until 12/2016

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

Subject matter and scope

This objective is functionally related to ATM Functionality 2 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, and is bound to its deployment target dates.

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

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

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area See list in ESSIP Plan - Part I Section 4

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2015		Applicability Area
Full operational capability		31/12/2023	Applicability Area

References

European ATM Master Plan relationship

OI step -	[AO-0303]-Time Based Separation for Final Approach - full concept									
	Enablers -	AERODROME-ATC-17	APP ATC 156							

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

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

AOP10	Time Based Separation

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
AOP10-REG01	Publish TBS operations procedures in national aeronautical information publications	01/01/2015	31/12/2023
AOP10-ASP01	Ensure AMAN system is compatible with TBS support tool	01/01/2015	31/12/2023
AOP10-ASP02	Modify CWP to integrate TBS Support tool with safety nets	01/01/2015	31/12/2023
AOP10-ASP03	Local MET info with actual glide-slope wind conditions to be provided into TBS Support tool	01/01/2015	31/12/2023
AOP10-ASP04	TBS Support tool to provide automatic monitoring and alerting of non-conformant behaviours, infringements, wrong aircraft	01/01/2015	31/12/2023
AOP10-ASP05	Implement procedures for TBS operations	01/01/2015	31/12/2023
AOP10-ASP06	Train controllers (Tower and Approach) on TBS operations	01/01/2015	31/12/2023
AOP10-USE01	Train flight crews on TBS operations	01/01/2015	31/12/2023

Expected performance benefits

Safety :	N/A
Capacity :	Improved aircraft landing rates.
Cost-effectiveness :	N/A
Environment :	Reduced emissions due to reduced holding times and stack entry to touchdown times
Security :	N/A

Substantial changes since ESSIP Plan 2014

New Objective

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

Subject matter and scope

This objective is functionally related to ATM Functionality 2 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, and is bound to its deployment target dates.

The Airport element that reflects the operational status of the Airport and therefore facilitates Demand and Capacity Balancing is the Airport Operations Plan (AOP). The Airport Operations Plan connects the relevant stakeholders, notably the Airspace Users' Flight Operations Centre (FOC). It contains data and information relating to the different status of planning phases and is in the format of a rolling plan, which naturally evolves over time.
The Airport Operations Plan is a single, common and collaboratively agreed rolling plan available to all airport stakeholders whose purpose is to provide common situational awareness and to form the basis upon which stakeholder decisions relating to process optimization can be made.

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area See list in ESSIP Plan - Part I Section 4

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

References

European ATM Master Plan relationship

OI step -	[AO-0801-A]-Collaborative Airport Planning Interface									
	Enablers -	AIRPORT-03	AIRPORT-31 AOP05	AIRPORT-38 FCM05	AIRPORT-41	AOC-ATM-13	HUM-007	HUM-008	HUM-009	
		HUM-010	HUM-011	HUM-012	HUM-013	NIMS-14b FCM05	PRO-028 FCM05	SWIM-APS-03a FCM05	SWIM-APS-04a	
		SWIM-INFR-05a	SWIM-NET-01a	SWIM-SUPT-01a	SWIM-SUPT-03a	SWIM-SUPT-05a				

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

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

AOP11	Initial Airport Operations Plan

Stakeholder Lines of Action (SloA)

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

Expected performance benefits (for information)

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.

Environment : Reduced noise and emissions due to limiting engine ground running time due to better timed operations

Security : TBD

Substantial changes since ESSIP Plan 2014

New Objective

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

Subject matter and scope

This objective is functionally related to ATM Functionality 2 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, and is bound to its deployment target dates.

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

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

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area See list in ESSIP Plan - Part I Section 4

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2015		Applicability Area
Full operational capability		31/12/2020	Applicability Area

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	AERODROME-ATC-36								

OI step -	[AO-0104-A]-Airport Safety Nets for Controllers in Step 1									
	Enablers -	AERODROME-ATC-06	AERODROME-ATC-07	REG-0200	REG-0201					

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

AOP12	Improve runway and airfield safety with ATC clearances monitoring

Applicable legislation

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

Stakeholder Lines of Action (SloA)

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

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
Environment :	Reduced noise and emissions due to limiting engine ground running time due to better timed operations
Security :	TBD

Substantial changes since ESSIP Plan 2014

New Objective

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

Subject matter and scope

This objective is functionally related to ATM Functionality 3 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, and is bound to its deployment target dates.

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.

An explanation of the difference between Level 1 and 2 is described below.

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

Safety nets performance must be monitored and regularly analysed, not only to improve the safety nets but also to identify other safety improvement opportunities. For example, "hot spots" could be identified and removed by making changes to airspace structure or procedures.

In order to avoid the "Cry Wolf" syndrome, the number of nuisance and false alerts must be reduced to a minimum. Air traffic controllers should be encouraged to report unexpected and unwanted safety nets behaviour and feedback should always be provided.

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

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

References

European ATM Master Plan relationship

OI step -	[CM-0801]-Ground Based Safety Nets (TMA, En Route)									
	Enablers -	CTE-S01 AOP04.1	CTE-S01a AOP04.1	ER APP ATC 133	PRO-059 SAF10	PRO-219				

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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

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 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
ATC02.5-REG01	Approve EUROCONTROL Specification for APW	**DELETED**	
ATC02.5-ASP01	Implement the APW function	01/01/2009	31/12/2016
ATC02.5-ASP02	Align ATCO training with the use of APW ground-based safety tools	01/01/2009	31/12/2016
ATC02.5-INT01	Amend ICAO documentation if required	**DELETED**	
ATC02.5-AGY01	Produce EUROCONTROL Specification for APW and related guidance material	**DELETED**	

Expected performance benefits (for information)

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.

Environment : N/A

Security : N/A

Substantial changes since ESSIP Plan 2014

None

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

Subject matter and scope

This objective is functionally related to ATM Functionality 1 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

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

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

Applicability Area(s) & Timescale(s)

Applicability Area see list in ESSIP Plan - Part I Section 4

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/01/2007		Applicability Area
Full operational capability		31/12/2015	Applicability Area

References

European ATM Master Plan relationship

OI step -	[TS-0102]-Basic Arrival Management Supporting TMA Improvements (incl. CDA, P-RNAV)									
	Enablers -	AERODROME-ATC-08	ER APP ATC 128	PRO-049	PRO-050					

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
ATC07.1-ASP01	Implement initial basic arrival management tools	01/12/1998	31/12/2015
ATC07.1-ASP02	Implement initial basic AMAN procedures	01/01/2005	31/12/2015
ATC07.1-ASP03	Adapt TMA organisation to accommodate use of basic AMAN	01/01/2005	31/12/2015
ATC07.1-ASP04	Implement basic AMAN functions	01/01/2007	31/12/2015

ATC07.1	Implement arrival management tools

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

Alignment of the Applicability Area with the Pilot Common Project Regulation and reference to applicability airspace as “TMAs serving specific airports”

PCP	Active						ECAC
ATC12.1	**Implement automated support for conflict detection, resolution support information and conformance monitoring**						
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

This objective is functionally related to ATM Functionality 3 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, and is bound to its deployment target dates.

The Implementation of Free Route Airspace (FRA) needs to be supported by Conflict Detection Tools (CDT), Resolution Support Information and Conformance Monitoring.
The Conflict Detection tools (CDT) include the trajectory based Medium Conflict Detection Tool (MTCD) or/and Tactical Controller Tool (TCT).
The decision on whether to implement either one or both tools (MTCD and TCT) is left to the individual ANSP organisation as it depends on local conditions and systems in use.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/01/2015		Applicability Area
Full operational capability		31/12/2021	Applicability Area

References

European ATM Master Plan relationship

OI step -	[CM-0202]-Automated Assistance to ATC Planning for Preventing Conflicts in En Route Airspace									
	Enablers -	ER APP ATC 129	PRO-046b							

OI step -	[CM-0203]-Automated Flight Conformance Monitoring								
	Enablers -	CTE-S01a AOP04.1	CTE-S03	CTE-S03a	CTE-S04	CTE-S04a	CTE-S04b AOP04.1, AOP04.2	ER APP ATC 130	PRO-046b

OI step -	[CM-0205]-Conflict Detection and Resolution in En-Route using trajectory data in Predefined and User Preferred Routes environments								
	Enablers -	ER ATC 157							

OI step -	[CM-0207-A]-Automated Ground Based Flight Conformance Monitoring in En Route in Step 1								
	Enablers -	CTE-S03b AOP04.1, AOP04.2	ER ATC 91						

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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 716/2014 on the establishment of the Pilot Common Project

ATC12.1	Implement automated support for conflict detection and conformance monitoring

Stakeholder Lines of Action (SloA)

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

Expected performance benefits (for information)

Safety : Early and systematic conflict detection and conformance monitoring enabled by ground based automated tools will reduce the need for tactical interventions, conformance monitoring reduces the risk of the impact of controllers and pilots errors. Possibility to maintain high level of safety with an increase in capacity due to a reduction of controller workload per aircraft.

Capacity : Reduction of tactical controller workload, and better sector team productivity, compared to the conventional systems without automated support will open potential for capacity up to 15%.

Cost effectiveness : Early conflict detection will enable smoother flight patterns, without frequent and sudden control interventions. This will have a moderate influence on airline costs. Moderate benefits for ANSPs due to better deployment of the ATCO workforce, reduced workload per aircraft and workload distribution.

Environment : N/A.

Security : N/A

Substantial changes since ESSIP Plan 2014

New Objective, evolved from the former ATC12

PCP	Active					Multi-N	
ATC15	**Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations**						
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

This objective is functionally related to ATM Functionalities 1 and 4 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to their deployment target dates.

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

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

Applicability Area(s) & Timescale(s)

Applicability Area

All EU States except: Cyprus, Greece, Lithuania, Malta, Slovak Republic, Slovenia.

Plus: Bosnia and Herzegovina, Maastricht UAC, Norway, Switzerland, Turkey,

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/01/2012		Applicability Area
Full operational capability		31/12/2017	Applicability Area

References

European ATM Master Plan relationship

OI step -	[TS-0305]-Arrival Management Extended to En Route Airspace								
	Enablers -	ER APP ATC 111	HUM-TS-0305	PRO-052					

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

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

Stakeholder Lines of Action (SloA)

SloA ref.	**Title**	**From**	**By**
ATC15-REG01	Conduct safety oversight of the changes	**DELETED**	
ATC15-REG02	Approve the procedures for operation of AMAN tools in en route sectors supporting AMAN in adjacent/subjacent areas.	**DELETED**	
ATC15-ASP01	Develop safety assessment for the changes	01/01/2012	31/12/2017

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

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	01/01/2012	31/12/2017
ATC15-ASP03	Implement ATC procedures in En-Route airspace/sectors that will implement AMAN information and functionality	01/01/2012	31/12/2017
ATC15-ASP04	Train operational and technical staff and update Training Plans	01/01/2012	31/12/2017
ATC15-ASP05	Revise and publish Aeronautical Information documents	**DELETED**	

Expected performance benefits (for information)

Safety : Maintained or improved.

Capacity : Improved airport/TMA capacity.

Cost effectiveness : Reduced costs through reduction in delays, reduction in low-level holding operations and reduction in low-level tactical vectoring for delay purposes.

Environment : Reduction in holding and in low-level vectoring, by applying delay management at an early stage of flight, has a positive environmental effect in terms of noise and fuel usage.

Security : N/A

Substantial changes since ESSIP Plan 2014

Deletion of ASP05 SloA

PCP		Active					ECAC
ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

This objective is functionally related to ATM Functionalities 3 and 5 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to their deployment target dates.

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.

The new ESSIP Objective ATC17 complements the (mandatory) requirements of basic notification, coordination and transfer functionalities which are already covered in ESSIP Objective ITY- COTR and regulated by Commission Regulation (EC) No 1032/2006.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States except: Slovak Republic

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2013		Applicability Area
Full operational capability		31/12/2018	Applicability Area

References

European ATM Master Plan relationship

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

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

ATC17	Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer

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

Stakeholder Lines of Action (SloA)

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

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

None

PCP			Active				ECAC
FCM01			**Implement enhanced tactical flow management services**				
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

This objective is functionally related to ATM Functionality 2 and4 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

Implement enhanced tactical flow management services based on the introduction of real-time aircraft position and meteorological data to adjust flow regulation.

Out of all Stakeholder Lines of Action that are allocated to ANSPs, the most beneficial ones at European level are those dealing with correlated position data (FCM01-ASP01 & FCM01-ASP02), reception and processing ATFM data from the NM (FCM01-ASP03) and sending of flight activations and estimates to the NM (FCM01-ASP04). Therefore States are invited to complete them as a priority.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/08/2001		Applicability Area
Full operational capability		31/12/2006	Applicability Area

References

European ATM Master Plan relationship

OI step -	[IS-0102]-Improved Management of Flight Plan After Departure									
	Enablers -	NIMS-02 FCM03	NIMS-20 FCM06	PRO-005						

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
FCM01-ASP01	Supply ETFMS with Basic Correlated Position Data	01/08/2001	31/12/2004
FCM01-ASP02	Supply ETFMS with Standard Correlated Position Data	01/08/2001	31/12/2006
FCM01-ASP03	Receive and process ATFM data from the NM	01/03/1995	31/12/2001
FCM01-ASP04	Inform NM of flight activations and estimates for ATFM purposes	01/03/1995	31/12/1999
FCM01-ASP05	Inform NM of flight activations and additional estimate updates for ATFM purposes	**DELETED**	
FCM01-ASP06	Inform NM of re-routings inside FDPA for ATFM purposes	01/03/2001	31/12/2006
FCM01-ASP07	Inform NM of aircraft holding for ATFM purposes	01/03/2003	31/12/2006
FCM01-ASP08	Supply NM with Departure Planning Information (DPI)	01/03/2005	04/07/2014

FCM01	Implement enhanced tactical flow management services

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**

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

None

PCP			Active				ECAC
FCM03			**Implement collaborative flight planning**				
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

This objective is functionally related to ATM Functionality 4 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

Improve the collaboration between the NM, ANS providers, airports and airspace users in flight plan filing, in particular to assist airspace users in filing their flight plans and in re-routings according to the airspace availability and ATFM situation. Improve flight plan distribution to increase consistency of flight plan data amongst all parties involved (NM IFPS/ETFMS, ANS Providers, etc).
The objectives of AFP messages are to:

- Enable NM to provide to the downstream ATC Units with more accurate flight plan information, improving their traffic situation awareness and reducing the workload and disruption caused by last minute updates or missing flight plans.
- Update the ETFMS with flight plan information in order to reflect as accurately as possible the current and future trajectory of the flight, providing accurate sector load calculations thus improving the ATFCM performance.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

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

References

European ATM Master Plan relationship

OI step -	[IS-0102]-Improved Management of Flight Plan After Departure								
	Enablers -	PRO-005	NIMS-02	NIMS-20 FCM06					

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
Commission Regulation (EC) No 1033/2006 of 4 July 2006 laying down the requirements on procedures for flight plans in the pre-flight phase for the Single European Sky, as amended by Regulation (EC) No 929/2010
Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

FCM03	Implement collaborative flight planning

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
FCM03-ASP01	Provide flight plan message processing in ICAO format	**FINALISED**	
FCM03-ASP02	Automatically process FPLs derived from RPLs	**FINALISED**	
FCM03-ASP03	Provide flight plan message processing in ADEXP format	01/12/1997	31/12/2012
FCM03-ASP04	Processing of APL and ACH messages	**FINALISED**	
FCM03-ASP05	Automatically provide AFP for missing flight plans	01/03/1998	31/12/2017
FCM03-ASP06	Automatically provide AFP message for change of route	01/03/2003	31/12/2017
FCM03-ASP07	Automatically provide AFP message for a diversion	01/03/2008	31/12/2017
FCM03-ASP08	Automatically provide AFP message for a change of flight rules or flight type	01/03/2003	31/12/2017
FCM03-ASP09	Automatically provide AFP message for a change of requested cruising level	01/03/2003	31/12/2017
FCM03-ASP10	Provide AFP messages in ADEXP format	**DELETED**	
FCM03-ASP11	Use IFPLID in all messages to ETFMS	**DELETED**	
FCM03-ASP12	Use IFPLID in exchange of route-charge data	**DELETED**	
FCM03-ASP13	Automatically provide AFP message for change of aircraft type	01/03/2003	31/12/2017
FCM03-ASP14	Automatically provide AFP message for change of aircraft equipment	01/03/2008	31/12/2017
FCM03-NM1	Integration of Automatic AFP in NM systems	01/01/2010	31/12/2017

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

Explicit requirement for automation of AFP provision in SLoAs ASP08 and 09, new SLoA on NM on the integration of AFP message and new compliance date (12/2017) at Objective level due to alignment with the Pilot Common Project Regulation; Finalisation of SLoA ASP04 and deletion of SLoAs ASP10 and ASP11.

PCP			Active				Multi-N
FCM04			**Implement Short Term ATFCM Measures - phase 1**				
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

This objective is functionally related to ATM Functionality 4 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

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

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

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area France, Germany, Italy, Poland, Spain, Switzerland

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/09/2013		Applicability Area
Full operational capability		31/12/2015	Applicability Area

References

European ATM Master Plan relationship

OI step -	[DCB-0205]-Short Term ATFCM Measures									
	Enablers -	CTE-C06a	CTE-C06b COM09	NIMS-08	NIMS-13a	PRO-038				

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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 716/2014 on the establishment of the Pilot Common Project

FCM04	Implement Short Term ATFCM Measures - phase 1

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
FCM04-REG01	Review, as appropriate, the safety argument of the changes imposed by the implementation of Short Term ATFCM Measures Phase 1	**DELETED**	
FCM04-ASP01	Availability of demand-capacity balancing tools via CHMI	01/09/2013	31/12/2015
FCM04-ASP02	Provision of ANSPs sector and traffic occupancy parameters data to NM	01/09/2013	31/12/2015
FCM04-ASP03	Implement FCM Procedures to enable application of flow management techniques on traffic streams closer to real-time and including more accurate assessment of forecast sector loads and cooperative management of groups of sectors and ATCO resources.	01/09/2013	31/12/2015
FCM04-ASP04	Develop, and deliver as necessary, a safety assessment of the changes imposed by the implementation of Short Term ATFCM Measures Phase 1	01/09/2013	31/12/2015
FCM04-USE01	Availability of demand-capacity balancing tools	01/09/2013	31/12/2015
FCM04-NM01	Develop and implement demand-capacity balancing tools via CHMI	**FINALISED**	
FCM04-NM02	Integration of ANSPs sector and traffic occupancy parameters data into NM systems	01/09/2013	31/12/2015

Expected performance benefits (for information)

Safety : Some enhancement through reduction in controller workload.

Capacity : Increased through suppression of flight ATFM regulations thanks to local ATFCM measures with the same ATC sector manning

Cost effectiveness : Reduction of flight delays.

Environment : N/A.

Security : N/A.

Substantial changes since ESSIP Plan 2014

None

PCP	Active						ECAC
FCM05	Implementation of interactive rolling NOP						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

This objective is functionally related to ATM Functionalities 4 and 5 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to their deployment target dates.

The validated and consistent information relating to the intentions and decisions of stakeholders has to be available and widely shared in relation to the use and management of European airspace from strategic planning through to archiving data post flight. For example: military demand for route and airspace, implemented ATFCM scenarios to address demand/capacity imbalances.
The Network Operation Plan provides an overview of the ATFCM situation from strategic planning to real time operations (accessible from 6 months to the day of operation) with ever increasing accuracy up to and including the day of operations. The data is accessible online by stakeholders for consultation and update as and when needed, subject to access and security controls.
The elements and formats of the NOP will be established taking into account the requirements of the users of these plans. It will be possible for them to access and extract data for selected areas to support their operation and, if required, to create their specific operations plan. The NOP will also be updated taking into account the actual traffic situation and real time flow and capacity management.
The rolling NOP will also allow users to access simulations and to assess results.
The first steps of the interactive Rolling NOP were already implemented through the deployment of the NOP portal (through n-CONECT platform and B2B services). Further information and data are available or planned for deployment (between 2010/2013-15) to support the Interactive approach to the NOP (e.g. ADR, DDR2,...) and the access to the NOP data will be more and more available through B2B services. Most of the enablers required are expected to be gradually deployed over this period.
The Objective has been reviewed and aligned with the Deployment Programme developed by the Deployment Manager. The alignment concerns notably the implementation dates and the extension of scope so as to address the information sharing between the Airport Operations Plan (AOP) and the NOP. In addition it covers NOP B2B services.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/09/2013		Applicability Area
Full operational capability		31/12/2021	Applicability Area

References

European ATM Master Plan relationship

OI step -	[AOM-0202]-Enhanced Real-time Civil-Military Coordination of Airspace Utilisation									
	Enablers -	AAMS-06a	AAMS-08 AOM19	AAMS-09 AOM19	AAMS-10a AOM13.1	AAMS-15	AIMS-21	AIMS-22 AOM19	GGSWIM-49	PRO-184 AOM19

OI step -	[AOM-0205]-Modular Temporary Airspace Structures and Reserved Areas									
	Enablers -	AAMS-08 AOM19	AIMS-20	NIMS-14a	NIMS-14b	PRO-009 AOM19	PRO-082 AOM19	PRO-185 AOM19		

OI step -	[DCB-0102]-Interactive Rolling NOP									
	Enablers -	AAMS-06a	AIMS-21	PRO-035						

OI step -	[DCB-0103-A]-Collaborative NOP for Step 1									
	Enablers -	AIRPORT-38	METEO-06b	MIL-0501	MIL-0502	NIMS-13b	NIMS-14b	PRO-028	SWIM-APS-01a	
		SWIM-APS-02a	SWIM-APS-03a	SWIM-APS-04a	SWIM-INFR-05a	SWIM-NET-01a	SWIM-SUPT-01a	SWIM-SUPT-03a	SWIM-SUPT-05a	

FCM05	Implement interactive rolling NOP

OI step -	[IS-0901-A]-SWIM for Step1									
	Enablers -	AAMS-06b	MIL-0501	MIL-0502	REG-0300	SWIM-APS-01a	SWIM-APS-02a	SWIM-APS-03a	SWIM-APS-04a	
		SWIM-APS-05a	SWIM-APS-06a	SWIM-APS-07a	SWIM-GOV-05a	SWIM-INFR-01a	SWIM-INFR-05a	SWIM-NET-01a	SWIM-SUPT-01a	
		SWIM-SUPT-03a	SWIM-SUPT-05a							

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

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

Expected performance benefits (for information)

Safety : Enhanced by improved sharing of the network situation.

Capacity : Small benefits through improved use of the airport and airspace capacity resulting from a better knowledge of the airspace availability and of the traffic demand.

Cost effectiveness : Enhanced through use of cost effective tools to access network information instead of expensive local tools or procedures and through the improved capacity.

Environment : Marginal benefits resulting from better knowledge of Airspace status.

Security : N/A

Substantial changes since ESSIP Plan 2014

Scope of the Objective enlarged so as to cover the integration of Airport Operational Plans (new NM and APO SLoAs). Compliance date changed so as to address the new scope as defined the Pilot Common Project Regulation. Finalisation of SLoAs NM01, 02, 03, 07, 08.

PCP			Active				EU+
FCM06			**Traffic Complexity Assessment**				
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

This objective is functionally related to ATM Functionality 4 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, and is bound to its deployment target dates.

The Traffic Load management tool addressed by SESAR OI step CM-0101 (Automatic support for traffic load density management) is the predecessor of traffic complexity tools. The traffic complexity tools continuously monitor sector demand and evaluate traffic complexity (by applying predefined complexity metrics) according to a predetermined qualitative scale. The predicted complexity coupled with traffic demand enables ATFCM to take timely action to adjust capacity, or request the traffic profile changes in coordination with ATC and airspace users.
The rigid application of ATFCM regulations based on standard capacity thresholds as the pre-dominant tactical capacity measure needs to be replaced by a close working relationship between ANSPs and Network Manager, which would monitor both the real demand, the effective capacity of sectors having taken into account the complexity of expected traffic situation.

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

Applicability Area(s) & Timescale(s)

Applicability Area All EU+ States

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/01/2015		Applicability Area
Full operational capability		31/12/2021	Applicability Area

References

European ATM Master Plan relationship

OI step -	[CM-0101]-Automated Support for Traffic Load (Density) Management									
	Enablers -	ER APP ATC 124								

OI step -	[CM-0103-A]-Automated Support for Traffic Complexity Assessment									
	Enablers -	A/C-37a	ER APP ATC 100	ER APP ATC 149a	ER APP ATC 93	NIMS-37	PRO-220a	PRO-220b	SWIM-APS-03a FCM05	
		SWIM-APS-04a	SWIM-INFR-05a	SWIM-NET-01a	SWIM-SUPT-01a	SWIM-SUPT-03a	SWIM-SUPT-05a			

OI step -	[IS-0102]-Improved Management of Flight Plan After Departure									
	Enablers -	NIMS-02 FCM03	NIMS-20	PRO-005						

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

FCM06	Traffic Complexity Assessment

Applicable legislation

Commission Regulation (EU) No 677/2011 of 7 July 2011 laying down detailed rules for the implementation of air traffic management (ATM) network functions and amending Regulation (EU) No 691/2010
Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

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

Expected performance benefits

Safety : The better ATCO workload predictability via deployment of the traffic complexity assessment tool will lead to some safety gains. Some enhancement through reduction in controller workload.

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

Cost effectiveness : Optimising of ATCO resources will provide substantial cost effeteness if this tool is coupled with the resource management tool.

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

Security : N/A

Substantial changes since ESSIP Plan 2014

New Objective

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

Subject matter and scope

This objective is functionally related to ATM Functionality 1 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

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

ICAO Annex 15, Aeronautical Information Services, requires the States to provide TOD for their own territory and to announce it in the national AIPs. TOD is sub-divided into four areas:
- Area 1 - the entire territory of a State
- Area 2 - the terminal control area
- Area 3 - aerodromes/heliport area
- Area 4 - CAT II or CAT III operation area

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

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/11/2014		Applicability Area
Full operational capability		31/05/2018	Applicability Area

References

European ATM Master Plan relationship

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

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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)
EU Regulation 73/2010 - Requirements on the quality of aeronautical data and aeronautical information for the Single European Sky
EU Regulation 139/2014 - Requirements and administrative procedures related to aerodromes
Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

INF07	Electronic Terrain and Obstacle Data (TOD)

Stakeholder Lines of Action (SloA)

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

Expected performance benefits (for information)

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

Capacity : Efficient and reliable obstacle data collection processes as well as the provision of seamless terrain data supporting the increasingly demanding operational requirements will enhance the overall situational awareness in respect of terrain or obstacle hazards and separation assurance, thereby contributing to or enabling informed decisions, and facilitating better use of available capacity (e.g. improved flight procedure design).

Cost effectiveness : Digital obstacle and terrain data provides a means of allowing a number of advances in technology and the operating environment. Operating costs will decrease with the "paperless cockpit" trend, leading to a reduction in printing costs and weight, A more accurate obstacle and terrain dataset will enable more plausible aircraft operating limitation analysis allowing the design of fuel-effective performance based navigation procedures as well as optimized engine maintenance cycles through more accurate take-off performance calculations.

Environment : The availability of more accurate digital terrain and obstacle data would potentially enable the design of more fuel-effective and noise-reduced performance based approach procedures.

Security : State provision of TOD is to be made in compliance with EU Regulation 73/2010, which includes requirements for data security.

Substantial changes since ESSIP Plan 2014

None

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

Subject matter and scope

This objective is functionally related to ATM Functionalities 1 and 5 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to their deployment target dates.

This SES-related implementation Objective is derived from Regulation (EU) No 73/2010 of 26 January 2010, amended by Commission Implementing Regulation (EU) No 1029 of 26 September 2014, laying down requirements on the quality of aeronautical data and aeronautical information for the single European sky (Official Journal L23/6, dated 27.01.2010). The Regulation lays down the requirements on the quality of aeronautical data and aeronautical information in terms of accuracy, resolution and integrity [Article 1].
It applies to European Air Traffic Management Network (EATM Network) systems, their constituents and associated procedures involved in the origination, production, storage, handling, processing, transfer and distribution of aeronautical data and aeronautical information [Article 2(1)].
The Regulation applies to the following aeronautical data and aeronautical information [Article 2(1)]:
- the integrated aeronautical information package (IAIP) made available by Member States, with the exception of aeronautical information circulars;
- electronic obstacle and electronic terrain data or elements thereof, where made available by Member States;
- aerodrome mapping data, where made available by Member States.

It applies to ANSPs, AIS Providers, operators of those aerodromes and heliports for which IFR or Special-VFR procedures have been published in national aeronautical information publications, public or private entities providing services for the origination and provision of survey data, procedure design services, electronic terrain data, electronic obstacle data and manufacturing industry [Article 2(2)].
It applies up to the moment when the aeronautical data and/or aeronautical information are made available by the aeronautical information service to the next intended user [Article 2(3)].
The terms used in this Objective are defined in Article 2 of Regulation (EC) No 549/2004, complemented by definitions set in Article 3 of Regulation (EU) No 73/2010, amended by Commission Implementing Regulation (EU) No 1029 of 26 September 2014.

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

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

Applicability Area(s) & Timescale(s)

Applicability Area All EU+ States

Timescales:	From:	By:	Applicable to:
Entry into force of the regulation	16/02/2010		Applicability Area
Article 5(4)(a), Article 5(4)(b) and Article 6 to 13 to be implemented by		30/06/2013	Applicability Area
Article 4, Article5(1) and Article 5(2), Article 5(3) and Article 5(4)(c) to be implemented by		30/06/2014	Applicability Area
All data requirements implemented by		30/06/2017	Applicability Area

References

European ATM Master Plan relationship

OI step -	[IS-0202]-Improved Supply Chain for Aeronautical Data through Common Quality Measures									
	Enablers -	AIMS-13								

OI step -	[IS-0204]-Facilitated Aeronautical Data Exchanges through Digitalised/Electronic Information									
	Enablers -	AIMS-19a	AIMS-19b AOM13.1	CTE-C06c COM10	GGSWIM-11	GGSWIM-26a	GGSWIM-52	GGSWIM-53		

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

Applicable legislation

Regulation (EU) No 73/2010 of 26 January 2010 laying down requirements on the quality of aeronautical data and aeronautical information for the single European sky, amended by Regulation (EU) No 1029/2014 of 26 September 2014
Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

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

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.

Substantial changes since ESSIP Plan 2014

None

PCP	Active					EU+	
ITY-AGDL	Initial ATC air-ground data link services above FL-285						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

This objective is functionally related to ATM Functionalities 6 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to their deployment target dates.

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

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

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

This regulation applies to all flights operating as general air traffic in accordance with instrument flight rules above FL 285, within the defined airspace areas [Ref. Article 1.1 of COMMISSION IMPLEMENTING REGULATION (EU) 2015/310 of 26 February 2015)].

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)'.

The ESSIP Objective is aligned with the COMMISSION IMPLEMENTING REGULATION (EU) 2015/310 of 26 February 2015 amending Regulation (EC) No 29/2009 and repealing Implementing Regulation (EU) No 441/2014.

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

Applicability Area(s) & Timescale(s)

Applicability Area All EU+ States

Timescales:	From:	By:	Applicable to:
ATS unit operational capability		05/02/2018	Applicability Area
Aircraft capability		05/02/2020	Applicability Area

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	CTE-C02b								

OI step -	[AUO-0301]-Voice Controller-Pilot Communications (En Route) Complemented by Data Link									
	Enablers -	A/C-31	ER ATC 154a	ER ATC 154b	PRO-044b	PRO-228a				

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

Applicable legislation

COMMISSION IMPLEMENTING REGULATION (EU) 2015/310 of 26 February 2015 amending Regulation (EC) No 29/2009 and repealing Implementing Regulation (EU) No 441/2014, laying down requirements on data link services for the single European sky laying down requirements on data link services for the single European sky
Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

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

Stakeholder Lines of Action (SloA)

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

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

Substantial changes since ESSIP Plan 2014

Change of completion dates so as to reflect the amendment of Regulation (EC) No 29/2009 (new Regulation (EU) 2015/310). Deletion of the IND SLoA pending the clarification of the technical solution.

PCP	Active						EU+
ITY-COTR	Implement ground-ground automated co-ordination processes						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

This objective is functionally related to ATM Functionality 3 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

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.

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

Applicability Area(s) & Timescale(s)

Applicability Area All EU+ States

Timescales:	From:	By:	Applicable to:
For putting into service of EATMN systems in respect of notification and initial coordination processes		27/07/2006	Applicability Area
Entry into force of regulation	27/07/2006		Applicability Area
For putting into service of EATMN systems in respect of Revision of Coordination, Abrogation of Coordination, Basic Flight Data and Change to Basic Flight Data		01/01/2009	Applicability Area
To all EATMN systems in operation by 12/2012		31/12/2012	Applicability Area
Systems serving ACCs providing services above FL 285 in the airspace defined Regulation (EU) 2015/310		05/02/2018	Applicability Area

References

European ATM Master Plan relationship

OI step -	[CM-0201]-Automated Assistance to Controller for Seamless Coordination, Transfer and Dialogue									
	Enablers -	PRO-048 ATC17								

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

Regulation (EC) No 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 (EU) 2015/310 amending 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 Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ITY-COTR	Implement ground-ground automated co-ordination processes

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
ITY-COTR-REG01	Ensure oversight of changes to system	**DELETED**	
ITY-COTR-ASP01	Implement flight data processing and exchange systems		01/01/2009 31/12/2012
ITY-COTR-ASP02	Implement Notification process		27/07/2006 31/12/2012
ITY-COTR-ASP03	Implement Initial Coordination process		27/07/2006 31/12/2012
ITY-COTR-ASP04	Implement Revision of Coordination process		01/01/2009 31/12/2012
ITY-COTR-ASP05	Implement Abrogation of Coordination process		01/01/2009 31/12/2012
ITY-COTR-ASP06	Implement Basic Flight Data process		01/01/2009 31/12/2012
ITY-COTR-ASP07	Implement Change to Basic Flight Data process		01/01/2009 31/12/2012
ITY-COTR-ASP08	Implement Logon Forward process		05/02/2018
ITY-COTR-ASP09	Implement Next Authority Notified process		05/02/2018
ITY-COTR-ASP10	Develop safety assessment		01/01/2009 31/12/2012
ITY-COTR-ASP11	Organise training to Air Traffic Control personnel		05/02/2018
ITY-COTR-MIL01	Implement Basic Flight Data process		01/01/2009 31/12/2012
ITY-COTR-MIL02	Implement Change to Basic Flight Data process		01/01/2009 31/12/2012

Expected performance benefits (for information)

Safety : Reduction of human error.

Capacity : Reduction of controller workload.
Reduction in aircrew workload as regards the AGDL login messages (ASP08 and ASP09);

Cost effectiveness : More efficient planning and operational decision making.

Environment : N/A

Security : N/A

Substantial changes since ESSIP Plan 2014

Change of completion dates and definition or areas of applicability so as to reflect the amendment of Regulation (EC) No 29/2009 (new Regulation (EU) 2015/310) in relation with the implementation of “Logon Forward” and “Next Authority Notified” processes.

PCP			Active				ECAC
ITY-FMTP	Apply a common flight message transfer protocol (FMTP)						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

This objective is functionally related to ATM Functionality 5 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

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

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

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

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

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

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

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	CTE-C06								

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

Regulation (EC) No 633/2007 of 07 June 2007;
Regulation (EC) No 283/2011 of 22 March 2011 amending Regulation No 633/2007;
Commission Communication (OJ No 2007/C 188/03) concerning the implementation of Article 4 of Regulation (EC) No 552/2004 referring to EUROCONTROL Spec-0100 Edition No 2.0 as Community Specification.
Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project

ITY-FMTP	Apply a common flight message transfer protocol (FMTP)

Stakeholder Lines of Action (SloA)

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

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

Substantial changes since ESSIP Plan 2014

None

PCP	Active						ECAC
NAV03	Implement P-RNAV						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

This objective is functionally related to ATM Functionality 1 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

Implement P-RNAV procedures to capitalise on the performance benefits offered by approved aircraft. This is an interim Objective aimed towards establishing a global RNP-RNAV environment, and individual States, airports and aircraft operators will need to evaluate the business need for P-RNAV procedures according to local circumstances.

Note: (1). From 10/2005 all new RNAV implementation should be in accordance with the RNAV Integrated Initiative. The business case for RNAV procedures will need to be determined locally. This Objective does not make RNAV mandatory in terminal airspace, however where RNAV procedures are provided, they shall be P-RNAV unless they are above MRA/MSA and designed in accordance with en-route design principles in respect of maximum turn angle and minimum straight legs and the minimum number of waypoints.
Note: (2). Procedures will need to be designed in accordance with EUROCONTROL guidance material and JAA TGL10 as appropriate.
Note: (3). This is an interim step on the path towards a global RNAV environment based on the Performance Based Navigation concept and is aimed at providing short term operational benefits to aircraft equipped with appropriately approved RNAV equipment. No specific or co-ordinated time for the change is planned and it is expected that airports will implement RNAV procedures in accordance with the findings of local business cases.
Note: (4). Aircraft operators who wish to equip their aircraft to derive benefit from the P-RNAV procedures are encouraged to consider the business case for fitting RNP equipment that will enable them to eventually proceed to the RNP environment.
Note: (5). The continuation of this ESSIP Objective will be re-assessed on publication of the PBN Implementing Rule targeting RNP implementation in the 2020 time frame. This IR is currently under development.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States except: Slovak Republic

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/01/2001		Applicability Area
Full operational capability		31/12/2023	Applicability Area

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	CTE-N08								

OI step -	[AOM-0601]-Terminal Airspace Organisation Adapted through Use of Best Practice									
	Enablers -	A/C-71	PRO-021							

OI step -	[AOM-0602]-Enhanced terminal operations with APV using Barometric VNAV									
	Enablers -	A/C-04	A/C-05a NAV10	A/C-71	CTE-N06 NAV10	MIL-STD-02	PRO-AC-05a			

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
NAV03-REG01	Ensure suppliers of navigation databases are accredited	**DELETED**	

NAV03	Implement P-RNAV		
NAV03-REG02	Ensure quality of published Navigation Data	**DELETED**	
NAV03-ASP01	Develop and implement RNAV arrival and departure procedures for P-RNAV approved aircraft	01/01/2001	31/12/2023
NAV03-ASP02	Provide appropriate terrestrial navigation infrastructure to support RNAV operations	01/01/2001	31/12/2023
NAV03-ASP03	Train air traffic controllers in RNAV procedures	01/01/2003	31/12/2023
NAV03-ASP04	Train procedure designers in RNAV capabilities	**FINALISED**	
NAV03-ASP05	Implement P-RNAV routes where identified as providing benefit	01/01/2001	31/12/2023
NAV03-ASP06	Publish in AIPs all co-ordinate data in WGS-84 meeting the quality requirements set out in ICAO Annex 15	**FINALISED**	
NAV03-ASP07	Define all RNAV procedures to be for 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-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	01/01/2001	31/12/2023
NAV03-USE01	Install appropriate RNAV equipment	01/01/2001	31/12/2023
NAV03-USE02	Train aircrews in RNAV TMA procedures	01/01/2001	31/12/2023
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**	

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

Alignment of the completion dates with the Pilot Common Project Regulation.

PCP	Active						ECAC
NAV10	Implement APV procedures						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

This objective is functionally related to ATM Functionality 1of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, but it is not bound to its deployment target dates.

Implement RNAV(GNSS) APV procedures based on APV/Baro and/or APV/SBAS. The intention is to transition from conventional NPA to APV procedures.

The primarily objective to enhance safety but there are potential benefits in terms of reduced minima and better access to airports without precision approach and landing capabilities. This objective is in line with the ICAO 37th Assembly resolution which recommends States to implement APV procedures at all IFR runways by 2016. It also supports the Performance Based Navigation implementation and harmonisation strategy of the ICAO European Region.

The implementation of APV/SBAS procedures may be restricted by the coverage limitation of EGNOS satellite signal within the concerned airspace.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/06/2011		Applicability Area
Full operational capability		31/12/2016	Applicability Area

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	CTE-N06a	CTE-N06b							

OI step -	[AOM-0602]-Enhanced terminal operations with APV using Barometric VNAV									
	Enablers -	A/C-04 NAV03	A/C-05a	A/C-71 NAV03	CTE-N06	MIL-STD-02	PRO-AC-05a			

OI step -	[AOM-0604]-Enhanced terminal operations with LPV using SBAS									
	Enablers -	A/C-01	A/C-06	CTE-N06	MIL-STD-02	PRO-AC-06				

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
NAV10-REG01	Apply EASA material to local national regulatory activities	01/06/2010	30/04/2016
NAV10-ASP01	Design and Publish APV/Baro and/or APV/SBAS procedures	01/06/2008	31/12/2016
NAV10-ASP02	Provide an approved SBAS Service to support APV/SBAS and declare the Service area	**FINALISED**	

NAV10	Implement APV procedures

NAV10-ASP03	Develop National safety case for APV/Baro operations and/or APV/SBAS operations	01/01/2009	30/04/2015
NAV10-ASP04	Publish in AIPs all coordinates data in WGS-84 in accordance with ICAO Annex 15 requirements and Article 14 of Regulation (EU) No 73/2010	01/01/2009	31/12/2016
NAV10-USE01	Equip aircraft with systems approved for APV/Baro and/or APV/SBAS	01/04/2006	31/12/2016
NAV10-USE02	Get airworthiness certification and operational approval	01/04/2006	31/12/2016

Expected performance benefits (for information)

Safety : Reduction in CFIT occurrences. Improved pilot situation awareness and reduced crew workload.

Capacity : Provides a procedure with potential to enhance capacity due to lower minima than can be achieved through conventional NPA.

Cost effectiveness : Improved operation for runways with only conventional NPA fall back during PA system outages

Environment : Emissions and noise nuisance reduced by use of optimal flight procedures and routings and the elimination of step-down approach procedures.

Security : N/A

Substantial changes since ESSIP Plan 2014

New ASP SLoA addressing the data publication.

PART II B
OJECTIVES RELATED TO SES INTEROPERABILITY

Note: ITY-ADQ,ITY-AGDL, ITY-COTR, ITY-FMTP are covered in the PART II A

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

Subject matter and scope

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

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

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

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

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

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area All EU+ States

Timescales:	From:	By:	Applicable to:
Entry into force of the Regulation	13/12/2011		Applicability Area
System capability		02/01/2020	Applicability Area
Possible deferred compliance, only for services provided by military units or under military supervision, subject to conditions:		02/01/2025	Applicability Area

References

European ATM Master Plan relationship

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

ITY-ACID	Aircraft identification

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

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

Stakeholder Lines of Action (SloA)

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

Expected performance benefits (for information)

Safety : Enhanced safety levels by ensuring that unambiguous individual aircraft identification is achieved, maintained and shared accurately throughout EATMN airspace

Capacity : Avoidance of delays and of reduction in the network capacity caused by the shortage of SSR transponder codes or by increased controller workload caused by code changes.

Cost effectiveness : The use of downlinked aircraft identification represents the most efficient long term solution as shown in the impact assessment of Regulation (EU) No 1206/2011

Environment : N/A

Security : N/A

Substantial changes since ESSIP Plan 2014

None

SES	Active						EU+
ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

This SES-type Objective is derived from Implementing Regulation (EU) No 1079/2012 of 16 November 2012 laying down requirements for voice channels spacing for the single European sky.
The Regulation applies to:
1. all radios operating in the 117,975-137 MHz band ('the VHF band') allocated to the aeronautical mobile route service, including systems, their constituents and associated procedures;
2. all flights operating as general air traffic, within the airspace of the ICAO EUR region where States are responsible for the provision of air traffic services in accordance with Regulation (EC) No 550/2004.
The conversion requirements of the Regulation do NOT apply to frequency assignments:
(a) that will remain in 25 kHz channel spacing on the following frequencies:
(i) the emergency frequency (121,5 MHz);
(ii) the auxiliary frequency for search and rescue operations (123,1 MHz);
(iii) the VHF digital link (VDL) frequencies (136,725 MHz, 136,775 MHz, 136,825 MHz, 136,875 MHz, 136,925 MHz and 136,975 MHz);
(iv) the aircraft communications addressing and reporting system (ACARS) frequencies (131,525 MHz, 131,725 MHz and 131,825 MHz);
(b) where offset carrier operation within a 25 kHz channel spacing is utilised.
According to Article 14 of Regulation (EU) No 1079/2012, for cases having limited impact on the network, States may take local measures granting exemptions from compliance with:
- Article 4(5) on the obligation for all radios to have 8,33 kHz channel spacing capability by 31 December 2017 at the latest (except ground radios operated by air navigation service providers);
- Article 5(4) on the obligation for aircraft to be equipped with an 8,33 kHz-capable radio from 1 January 2018 to operate in airspace where carriage of radio is required;
- and 6(10) on the obligation to convert all frequency assignments to 8,33 kHz channel spacing by 31 December 2018 at the latest (except frequency assignments that stay in 25 kHz as a result of a safety requirement, or 25 kHz frequency assignments used to accommodate State aircraft).
However, the State shall provide the Commission with detailed information justifying the exemption at the latest one year before the dates identified in the relevant articles. Within six months of receiving the information and after consultation with the Network Manager, the Commission may review the exemption if the impact on the network is not limited.
The terms used in this Objective are defined in Article 2 of Regulation (EC) No 549/2004 and Article 2 of Regulation (EU) No 1079/2012.

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

Applicability Area(s) & Timescale(s)

Applicability Area All EU+ States except: Maastricht UAC

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

References

European ATM Master Plan relationship

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

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195

Applicable legislation

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

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
ITY-AGVCS2-REG01	Ensure radios have 8,33 kHz channel spacing capability		31/12/2017
ITY-AGVCS2-REG02	Ensure the achievement of the interim target for 8,33 kHz frequency conversions		31/12/2014
ITY-AGVCS2-REG03	Ensure compliance with the requirements on 8,33 kHz frequency conversions		31/12/2018
ITY-AGVCS2-ASP01	Ensure conformity of voice communications systems and associated procedures		31/12/2017
ITY-AGVCS2-ASP02	Convert 25 kHz frequencies to 8,33 kHz to achieve the interim target		31/12/2014
ITY-AGVCS2-ASP03	Convert all 25 kHz frequencies to 8,33 kHz		31/12/2018
ITY-AGVCS2-ASP04	Develop safety assessment		31/12/2018
ITY-AGVCS2-ASP05	Organise personnel training and awareness		31/12/2017
ITY-AGVCS2-MIL01	Equip State aircraft with radio equipment with 8,33 kHz channel spacing capability		31/12/2020
ITY-AGVCS2-MIL02	Organise personnel training and awareness of military aircrew		31/12/2020
ITY-AGVCS2-APO01	Convert all 25 kHz frequencies to 8,33 kHz		31/12/2018
ITY-AGVCS2-APO02	Accommodate non-equipped vehicles		31/12/2017
ITY-AGVCS2-APO03	Organise personnel training and awareness		31/12/2018
ITY-AGVCS2-USE01	Equip aircraft with radio equipment with 8,33 kHz channel spacing capability		31/12/2017
ITY-AGVCS2-USE02	Organise personnel training and awareness		31/12/2017
ITY-AGVCS2-NM01	Ensure the centralised flight planning processing and distribution service complies with the Regulation		07/12/2012

Expected performance benefits (for information)

Safety : N/A
Capacity : Increased capacity by satisfying the demand for new frequency assignments in the VHF band
Cost effectiveness : N/A
Environment : N/A
Security : N/A

Substantial changes since ESSIP Plan 2014

None

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

Subject matter and scope

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

Regulation (EU) No 1207/2011 (as amended) applies to the surveillance chain (as defined in Article 3(6) of the Regulation) constituted of:
(a) airborne surveillance systems, their constituents and associated procedures;
(b) ground-based surveillance systems, their constituents and associated procedures;
(c) surveillance data processing systems, their constituents and associated procedures;
(d) ground-to-ground communications systems used for distribution of surveillance data, their constituents and associated procedures.

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

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

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area All EU+ States

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

References

European ATM Master Plan relationship

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

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan	

Applicable legislation

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

ITY-SPI	Surveillance performance and interoperability

Stakeholder Lines of Action (SloA)

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

Expected performance benefits (for information)

Safety : Improved safety through the deployment of surveillance solutions in non-radar areas.

Capacity : Potential for capacity increase through the deployment of surveillance solutions in areas where currently procedural separation is applied.

Cost effectiveness : Facilitate the deployment of the most efficient surveillance solutions by the ANSPs.

Environment : N/A

Security : N/A

Substantial changes since ESSIP Plan 2014

None

PART II C
OTHER MASTER PLAN RELATED OBJECTIVES

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

Subject matter and scope

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

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

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

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.

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

Applicability Area(s) & Timescale(s)

Applicability Area See list in ESSIP Plan - Part I Section 4

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/04/2003		Applicability Area
Full operational capability		31/12/2013	Applicability Area

References

European ATM Master Plan relationship

OI step -	[AO-0101]-Reduced Risk of Runway Incursions through Improved Procedures and Best Practices on the Ground									
	Enablers -	PRO-062b	PRO-062c							

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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)

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
AOP03-REG01	Implement recommendations contained in the European Action Plan for the Prevention of Runway Incursions in accordance with the explanatory notes	01/04/2003	31/12/2013
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	01/04/2003	31/12/2013
AOP03-ASP02	Ensure Air Traffic Controller Best Practices are implemented	01/04/2003	31/12/2013
AOP03-ASP03	Implement Communication recommendations	**FINALISED**	
AOP03-ASP04	Implement Aeronautical information management	01/04/2003	31/12/2013

AOP03	Improve runway safety by preventing runway incursions

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	01/04/2003	31/12/2013
AOP03-APO02	Ensure that all airport infrastructure, practices and procedures are in accordance with ICAO provisions	01/04/2003	31/12/2013
AOP03-APO03	Implement Communication recommendations	01/04/2003	31/12/2013
AOP03-APO04	Implement Aeronautical information management	01/04/2003	31/12/2013
AOP03-APO05	Put in place a formal training and assessment for drivers and all personnel who operate on or near the runway	01/04/2003	31/12/2013
AOP03-APO06	Implement Safety Management Systems (SMS) in accordance with ICAO provisions for its aerodrome operations	01/04/2003	31/12/2013
AOP03-USE01	Implement recommendations contained in the European Action Plan for the Prevention of Runway Incursions in accordance with the explanatory notes	01/04/2003	31/12/2013

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

None

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

Subject matter and scope

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.

An explanation of the difference between Level 1 and 2 is described below.

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

Safety nets performance must be monitored and regularly analysed, not only to improve the safety nets but also to identify other safety improvement opportunities. For example, "hot spots" could be identified and removed by making changes to airspace structure or procedures.

In order to avoid the "Cry Wolf" syndrome, the number of nuisance and false alerts must be reduced to a minimum. Air traffic controllers should be encouraged to report unexpected and unwanted safety nets behaviour and feedback should always be provided.

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States except: Greece, United Kingdom

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

References

European ATM Master Plan relationship

OI step -	[CM-0801]-Ground Based Safety Nets (TMA, En Route)									
	Enablers -	CTE-S01 AOP04.1	CTE-S01a AOP04.1	ER APP ATC 133	PRO-059 SAF10	PRO-219				

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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)

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

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
ATC02.6-REG01	Approve EUROCONTROL Specification for MSAW	**DELETED**	
ATC02.6-ASP01	Implement the MSAW function	01/01/2009	31/12/2016
ATC02.6-ASP02	Align ATCO training with the use of MSAW ground-based safety tools	01/01/2009	31/12/2016
ATC02.6-INT01	Amend ICAO documentation if required	**DELETED**	
ATC02.6-AGY01	Produce a EUROCONTROL Specification for MSAW	**DELETED**	

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

None

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

Subject matter and scope

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.

An explanation of the difference between Level 1 and 2 is described below.

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

Safety nets performance must be monitored and regularly analysed, not only to improve the safety nets but also to identify other safety improvement opportunities. For example, "hot spots" could be identified and removed by making changes to airspace structure or procedures.

In order to avoid the "Cry Wolf" syndrome, the number of nuisance and false alerts must be reduced to a minimum. Air traffic controllers should be encouraged to report unexpected and unwanted safety nets behaviour and feedback should always be provided.

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

Military ATC units are invited to consider implementation of APM level 2 when providing ATS surveillance services to GAT.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States except: Georgia, Greece, Slovak Republic

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

References

European ATM Master Plan relationship

OI step -	[CM-0801]-Ground Based Safety Nets (TMA, En Route)									
	Enablers -	CTE-S01 AOP04.1	CTE-S01a AOP04.1	ER APP ATC 133	PRO-059 SAF10	PRO-219				

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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)

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
ATC02.7-REG01	Approve EUROCONTROL Specification for APM	DELETED	

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

ATC02.7-ASP01	Implement the APM function	01/01/2009	31/12/2016
ATC02.7-ASP02	Align ATCO training with the use of APM ground-based safety tools	01/01/2009	31/12/2016
ATC02.7-INT01	Amend ICAO documentation if required	**DELETED**	
ATC02.7-AGY01	Produce EUROCONTROL Specification for APM and related guidance material	**DELETED**	

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

None

SESAR	Active						ECAC
ATC16	**Implement ACAS II compliant with TCAS II change 7.1**						
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

This implementation Objective is aligned to Regulation (EU) No 1332/2011 of 16 December 2011 laying down common airspace usage requirements and operating procedures for airborne collision avoidance.

This Objective is applicable to all flights performed by turbine-powered aeroplanes, regardless of State of Registry:
- with MTOW > 5700 kg, or
- authorised to carry more than 19 passengers; or
- any other aeroplane equipped on a voluntary basis with ACAS II.

This Objective is not applicable to unmanned aircraft systems

Regulation (EU) No 1332/2011 applies as of 01 March 2012. By way of derogation, for aircraft with individual certificate of airworthiness issued before 1 March 2012, the provisions in Regulation (EU) No 1332/2011 shall apply as of 1st December 2015.

For ACAS II (with 7.0 logic), Military Authorities of ECAC Member States previously agreed on a voluntary installation programme on military transport type aircraft from 01 January 2005. Germany made ACAS II mandatory within its airspace from 01 January 2000 for all aircraft including military transport type aircraft (DE AIC IFR 8 - 23 DEC 04).

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/03/2012		Applicability Area
Full operational capability		31/12/2015	Applicability Area

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	PRO-AC-21								

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
ATC16-REG01	Supervise compliance with regulatory provisions	01/03/2012	31/12/2015
ATC16-REG02	Provide airworthiness certification	01/03/2012	31/12/2015
ATC16-REG03	Deliver operational approval for ACAS II version 7.1 equipped aircraft	01/03/2012	31/12/2015
ATC16-ASP01	Train controllers		31/03/2012
ATC16-ASP02	Establish ACAS II (TCAS II version 7.1) performance monitoring		01/03/2012

ATC16	Implement ACAS II compliant with TCAS II change 7.1

ATC16-MIL01	Equip and put into service transport-type aircraft with ACAS II (TCAS II version 7.1) capability	01/03/2012	31/12/2015
ATC16-MIL02	Train aircrews of tactical aircraft (not ACAS II equipped)	04/07/2014	31/03/2012
ATC16-USE01	Obtain airworthiness certification for ACAS II version 7.1 equipped aircraft	01/03/2012	31/12/2015
ATC16-USE02	Obtain operational approval for ACAS II version 7.1 equipped aircraft	01/03/2012	31/12/2015

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

None

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

Subject matter and scope

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

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

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/12/2011		Applicability Area
Full operational capability		31/12/2014	Applicability Area

References

European ATM Master Plan relationship

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

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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)

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
COM10-ASP01	Implement AMHS capability (Basic ATSMHS) and gateway facilities to AFTN	01/01/2002	31/12/2011
COM10-ASP02	Implement regional boundary gateways	01/01/2002	31/12/2011
COM10-ASP03	Enhance AMHS capability (Extended ATSMHS)	01/01/2012	31/12/2014

COM10	Migrate from AFTN to AMHS

COM10-ASP04	Ensure the conformity of AMHS systems and associated procedures	01/01/2002	31/12/2014
COM10-ASP05	Organise personnel awareness and training	01/01/2002	31/12/2014
COM10-ASP06	Participate in AMC activities for ATS Messaging Management	01/01/2007	31/12/2014
COM10-IND01	Ensure the conformity of AMHS systems	01/01/2002	31/12/2014
COM10-AGY01	Provide AMC (ATS Messaging Management Centre) Service	01/01/2007	31/12/2014
COM10-AGY02	Implement AMHS capability (Basic ATSMHS) and gateway facilities to AFTN	**FINALISED**	
COM10-AGY03	Enhance AMHS capability (Extended ATSMHS)	01/01/2012	31/12/2014
COM10-AGY04	Develop further relevant elements of the Extended ATSMHS in AMHS Community Specification	01/01/2010	31/12/2011
COM10-AGY05	Implement AMHS-Community Specification compliance testing methodology and tools	01/01/2010	31/12/2011
COM10-AGY06	Support personnel training	01/01/2002	31/12/2014

Expected performance benefits (for information)

Safety :	Benefits resulting from the application of a harmonised set of safety requirements
Capacity :	No or marginal benefits
Cost effectiveness :	Use of de-facto COTS messaging systems will reduce the cost of messaging services and support any kind of message format including the exchange of new binary data.
Environment :	No or marginal benefits
Security :	Within the Extended ATSMHS, AMHS security services, when implemented, may help to protect against safety hazards such as accidental or deliberate message corruption and can provide protection against undetected misdelivery.

Substantial changes since ESSIP Plan 2014

None

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

Subject matter and scope

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

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

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

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

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	CTE-C05a								

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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)

Stakeholder Lines of Action (SloA)

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

COM11	Implement Voice over Internet Protocol (VoIP) in ATM

COM11-ASP04	Upgrade and put into service Voice Communication Systems to support VoIP links to the ground radio stations	01/01/2013	31/12/2020

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

None

SESAR	Active						APT
ENV01	**Implement Continuous Descent Operations (CDO) techniques for environmental improvements**						
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

When applied at an airport, CDO offers a flexible and simple continuous descent approach technique that does not adversely affect safety and capacity and will produce a number of environmental and cost benefits including reductions to fuel burn, gaseous emissions and noise impact.

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

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

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

Applicability Area(s) & Timescale(s)

Applicability Area See list of airports in ESSIP Plan – Part I Section 4

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/07/2007		Applicability Area
Full operational capability		31/12/2013	Applicability Area

References

European ATM Master Plan relationship

OI step -	[AOM-0701]-Continuous Descent Approach (CDA)									
	Enablers -	None								

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
EC Directive 2002/30/EC, dated 20.03.2002 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Community airports.
EC Directive 2002/49/EC, dated 25.06.2002 relating to the assessment and management of environmental noise

Stakeholder Lines of Action (SloA)

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

ENV01	Implement Continuous Descent Operations (CDO) techniques for environmental improvements

Expected performance benefits (for information)

Safety :	Prevention of local rules and local procedures proliferation
Capacity :	Alleviating, avoiding and complying with environmental restrictions that may result in a capacity constraint at an airport.
Cost effectiveness :	Reduction of fuel burn and potentially reduced mitigation costs, reduced social costs from adverse impacts and improved indirect/induced capacity related economic benefits. CDO is a low cost measure with no equipment upgrade needed.
Environment :	Reduction of fuel, noise and atmospheric emissions due to lower drag and thrust facilitated by this initiative. Indications are a reduction of around 40% fuel for the segments for flights affected, and 5-6 dB for noise
Security :	N/A

Substantial changes since ESSIP Plan 2014

None

SESAR	Active						APT
ENV02	**Implement Collaborative Environmental Management (CEM) at Airports**						
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

Formal working partnership arrangements between ANSP, Airport and Aircraft Operators will be established at individual airports to enable :
- the minimisation of noise and atmospheric emissions (including fuel burn); and
- the management of aircraft and airfield de-icing resulting from combined aircraft operations at the terminal airspace and ground.
These formal working arrangements will enable understanding and awareness of interdependencies and facilitate jointly agreed solutions for environmental improvements.

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

Applicability Area(s) & Timescale(s)

Applicability Area See list of airports in ESSIP Plan – Part I Section 4

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/09/2004		Applicability Area
Full operational capability		31/12/2016	Applicability Area

References

European ATM Master Plan relationship

OI step -	[AO-0703]-Aircraft Environmental Impact Management and Mitigation at and around Airports									
	Enablers -	A/C-53	ENV-05	ENV-06	ENV-08	ENV-17	PRO-AC-53	PRO-ENV-12a	PRO-ENV-12b	
		PRO-ENV-13a	PRO-ENV-13b	PRO-190						

OI step -	[AO-0705]-Reduced Water Pollution									
	Enablers -	AIRPORT-34	ENV-06	ENV-17	PRO-075					

OI step -	[AO-0706]-(Local) Monitoring of Environmental Performance									
	Enablers -	AIRPORT-34	ENV-06	ENV-07	ENV-17					

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

Council Decision of 30 March 2009 endorsing the European Air traffic Management Master Plan of the Single European Sky ATM Research (SESAR) project (2009/320/EC)
Regulation (EU) 598/2014 of the European Parliament and of the Council of 16 April 2014 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Union airports within a Balanced Approach and repealing Directive 2002/30/EC.
EC Directive 2002/30/EC, dated 20.03.2002 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Community airports.
EC Directive 2002/49/EC, dated 25.06.2002 relating to the assessment and management of environmental noise.
EC Directive 2008/50/EC, dated 21.05.2008 on ambient air quality and cleaner air for Europe.

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
ENV02-ASP01	Participate actively in formal working partnership arrangements with the Airport and Aircraft Operators to manage and control environmental impacts of air traffic procedures in and around the airport.	01/01/2009	31/12/2015

ENV02	Implement Collaborative Environmental Management (CEM) at Airports

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

Expected performance benefits (for information)

Safety :	Prevention of the risk of uncoordinated procedures design.
Capacity :	Alleviating or preventing environmental restrictions that may result in capacity constraints at airports.
Cost effectiveness :	Reduction of fuel burn and CO2, improved management efficiency, reduced social costs from adverse impacts and improved indirect/induced capacity related economic benefits. Improves awareness and understanding of interdependencies that can facilitate cost effective solutions. Overall benefits of ESAO identified within APR BCA document, CEM is fundamental to the achievement of these benefits.
Environment :	Reduction of fuel use, noise, emissions and de-icing water pollution resulting from a structured collaborative approach that jointly identifies effective operational solutions for implementation.
Security :	N/A

Substantial changes since ESSIP Plan 2014

None

SESAR			Active				ECAC
INF04			**Implement integrated briefing**				
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

Implement integrated briefing to allow integrated, flexible provision and presentation of data which are required during the pre-flight phase for the preparation and execution of a flight.
Integrated briefing is a system and/or service enabling the generic briefing process by enhancing the access to and provision of various data/information sources such as AIS, ARO, MET and ATFM which provide i.e. NOTAM, SNOWTAM, MET messages, FPL and related messages or ATFM messages.
Because of significant institutional and organisational constraints, implementation on a broad basis by ATM/CNS providers has not yet been achieved.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/07/2002		Applicability Area
Full operational capability		31/12/2012	Applicability Area

References

European ATM Master Plan relationship

OI step -	[IS-0201]-Integrated Pre-Flight Briefing									
	Enablers -	AIMS-07								

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

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)

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
INF04-ASP01	Implement and provide integrated briefing function	01/07/2002	31/12/2012
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**	

INF04	Implement integrated briefing

Expected performance benefits (for information)

Safety :	Improved, standardised flight preparation and planning ensures consistent, timely and complete provision of required pre-flight information.
Capacity :	N/A
Cost effectiveness :	Improved access and provision of information reduces duplication in data assembly, avoids ambiguities and inconsistencies and results in improved service.
Environment :	N/A
Security :	N/A

Substantial changes since ESSIP Plan 2014

None

SESAR	Active						ECAC
SAF10	**Implement measures to reduce the risk to aircraft operations caused by airspace infringements**						
REG	**ASP**	**MIL**	**APO**	**USE**	**INT**	**IND**	**NM**

Subject matter and scope

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.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States except: France

Timescales:	**From:**	**By:**	**Applicable to:**
Initial operational capability	01/06/2008		Applicability Area
Full operational capability		31/12/2011	Applicability Area

References

European ATM Master Plan relationship

OI step -	[CM-0801]-Ground Based Safety Nets (TMA, En Route)									
	Enablers -	CTE-S01 AOP04.1	CTE-S01a AOP04.1	ER APP ATC 133 ATC02.2, ATC02.5, ATC02.6, ATC02.7	PRO-059	PRO-219				

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

-none-

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
SAF10-REG01	Promulgate and verify the implementation of the European Action Plan - Airspace Infringement Risk Reduction	**DELETED**	
SAF10-REG02	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	01/06/2008	31/12/2011
SAF10-REG03	Monitor the implementation of planned airspace infringement risk reduction measures	01/06/2008	31/12/2011
SAF10-ASP01	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	01/01/2006	31/12/2011
SAF10-MIL01	Implement, as necessary, the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	01/06/2008	31/12/2011
SAF10-USE01	Implement the appropriate parts of the European Action Plan - Airspace Infringement Risk Reduction	01/06/2008	31/12/2011

SAF10	Implement measures to reduce the risk to aircraft operations caused by airspace infringements

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	01/06/2008	31/12/2011

Expected performance benefits (for information)

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

Substantial changes since ESSIP Plan 2014

None

SESAR	Active						ECAC
SAF11	Improve runway safety by preventing runway excursions						
REG	ASP	MIL	APO	USE	INT	IND	NM

Subject matter and scope

The EUROCONTROL "Study of Runway Excursions from a European Perspective" showed that the causal and contributory factors leading to a runway excursion were the same in Europe as in other regions of the world. The study findings made extensive use of lessons from more than a thousand accident and incident reports. Those lessons have been used to draft the recommendations contained in the European Action Plan for the Prevention of Runway Excursions, Edition 1.0 of which was published in January 2013.

The European Action Plan for the Prevention of Runway Excursions (EAPPRE) contains practical recommendations with guidance materials to assist operational staff with their implementation. According to ICAO, runway excursions are a persistent problem and their numbers have not decreased in more than 20 years.

The European Working Group for Runway Safety who developed the EAPPRE considered all practicable means available ranging from the design of aircraft, airspace, procedures and technologies to relevant training for operational staff associated with runway excursion prevention. The recommendations and guidance materials contained in the Action Plan are intended for implementation by the relevant stakeholder organisations with the aim of reducing the rate of runway excursions and the runway excursion risk incumbent upon them.

This European Action Plan, directed to all providers and users of European aerodromes and all European aircraft operators, is the result of the combined and sustained efforts of organisations involved in all areas of runway operations and has been co-developed with the European Commercial Aviation Safety Team (ECAST) which is the first pillar of the European Strategic Safety Initiative (ESSI). The EAPPRE is a deliverable of the European Aviation Safety Plan, Edition 2011-2014.

Additionally, the Network Strategy Plan (NSP), Edition 2012 - 2019 published in November 2012 addresses strategic objectives for runway excursions as part of the Operational Pan-European safety improvement action plans.

Note: Central to the recommendations contained in this Action Plan is the uniform and consistent application of ICAO provisions. The applicability area of this Objective is all ECAC States. Nevertheless, it is for the individual National Safety Authority to decide upon the strategy of implementation by the applicable organisations within its own State.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

Timescales:	From:	By:	Applicable to:
Initial operational capability	01/09/2013		Applicability Area
Full operational capability		31/01/2018	Applicability Area

References

European ATM Master Plan relationship

OI step -	- No OI Link -									
	Enablers -	PRO-006a								

Legend:	WXYZ-001	Covered by SLoA(s) in this Objective	WXYZ-002 zzz01	Covered by SLoA(s) in another Objective ESSIP Objective covering the enabler	WXYZ-003	Not covered in the ESSIP Plan

Applicable legislation

-none-

SAF11	Improve runway safety by preventing runway excursions

Stakeholder Lines of Action (SloA)

SloA ref.	Title	From	By
SAF11-REG01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	01/09/2013	31/01/2018
SAF11-ASP01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	01/09/2013	31/12/2014
SAF11-ASP02	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions with regard to the provision of aeronautical information services	01/09/2013	31/12/2014
SAF11-ASP03	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions with regard to the provision of meteorological services for international aviation	01/09/2013	31/12/2014
SAF11-APO01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	01/09/2013	31/12/2014
SAF11-USE01	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	01/09/2013	31/01/2018
SAF11-NM01	Maintain the European action plan for the Prevention of Runway Excursions	01/09/2013	31/01/2018
SAF11-NM02	Implement the appropriate parts of the European Action Plan for the Prevention of Runway Excursions	01/09/2013	31/01/2018

Expected performance benefits (for information)

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

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

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

Environment : Negligible.

Security : N/A

Substantial changes since ESSIP Plan 2014

None

PART III
ANNEXES

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ANNEX A

HOW TO USE THE DOCUMENT

PURPOSE

The ESSIP Plan contains the concise implementation Objectives and SLoAs and provides the link with the MP. Its target audience includes planning staff from various stakeholders participating in the ESSIP, both at European and National level. The full description of the ESSIP Objectives is available at: http://www.eurocontrol.int/articles/essip-plan and https://www.eatmportal.eu/working. The description of finalised SLoAs is also available at the same address.

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:

- PCP related Objectives (Objectives covering elements of the PCP)
- SES related Objectives (related to the SES legislation, in particular Interoperability);
- SESAR Objectives (related to the specific elements from the MP, including prerequisites and facilitators of the PCP implementation).

ESSIP designator

1) In the form **ABCXY** or **ABCd0** where:

- **ABC** is the acronym of one of the ESSIP designated ATM areas of work shown in the table below.
- **XY** is the serial number for the implementation Objective in the area of work it covers.

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

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

- **XYZ** is the acronym of the SES area covered by the legislation and
- **ABCD**…, an acronym that stipulates the subject.

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

Status

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

Active	The development work has started and the feasibility of the implementation Objectives have been confirmed and accepted by: WP C.02 and EUROCONTROL teams, and agreed by the Agency Advisory Body (AAB). Commitment to implement has been endorsed by the EUROCONTROL PC. Local implementation planning needs to be translated into implementation actions at national level.
Achieved	The Objective can be considered as completed, i.e. all applicable SLoAs have been implemented by the majority of States (80%) in the Applicable Area and the system is operational. Yet in some cases monitoring might continue through the LSSIP process for those stakeholders that have not yet finalised all SLoAs.
Removed	The Objective has been removed from the ESSIP Database because it has been replaced or renamed, or is considered as no longer contributing significantly to the European ATM network performance.

Objective title

Short text reference to the implementation goal.

Stakeholders involved

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

- **REG** – State Authorities
- **ASP** – ANSPs
- **MIL** – Military Authorities (the MIL SLoAs are actions applicable exclusively to Military Authorities)
- **APO** – Airport Operators
- **USE** – Airspace Users
- **INT** – International Organisations and Regional Bodies
- **IND** – Aeronautics Industry
- **AGY** - EUROCONTROL Agency (non Network Manager)
- **NM –** Network Manager

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

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

Note that the MIL box will be grey shaded in cases when the Objective does not contain SLoAs applicable exclusively to MIL Authorities. In this situation it is within the responsibility of each MIL Authority to review all SLoAs and address those that the MIL Authority considers as relevant for itself.

Scope

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

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

ECAC	**'ECAC'** - European Civil Aviation Conference Objective to be applied in at least 80% of the ECAC States within a common time scale (i.e.: the same date or a commonly agreed and coordinated completion by a common target date). The Applicability area entry is defined as "All ECAC States except X, Y, Z"

EU+	**'EU+'** – European Union extended to other States Objective to be applied in the Member States of the European Union, Norway, and Switzerland pursuant to their contractual commitment to implement the SES legislation and in the states signatory to the European Common Aviation Area Agreement (ECAA), Albania, Bosnia and Herzegovina, FYROM, Georgia, Montenegro, Serbia and Moldova.
Multi-N	**'Multi-N'** – Multi-National Objective to be applied in some ECAC States, representing less than 80% of the ECAC States (e.g. ATC07.1) within a common time scale (i.e.: the same date or a commonly agreed and coordinated completion by a common target date).
APT	**'APT'- Airport** Airport related ESSIP Objective. It applies to all existing AOP and ENV Objectives. See list of airports in Part I Section 4 of the ESSIP plan.

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

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

- **Applicable area(s)**

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

- **Operational capability dates for this Objective (SESAR and other non-SES Objectives)**

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

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

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

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

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

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

References

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

- **European ATM Master Plan relationship**

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

'Improvement steps/or systems enablers' indicate the Operational Improvement (OI) steps, or the enablers (EN) as defined in the MP.

- **Applicable legislation**

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

Non-mandatory actions

Appears in **SES related Objectives <u>only</u>**.

(complementing the SES legislation)

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

Expected performance benefits

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

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

SLoA ref.

The SLoA reference is in the form **ABCXY - ZZZ00** where:

a) **ABCXY** is the designator of the implementation Objective associated with the SLoA (see above)

b) **ZZZ** is the acronym of the stakeholder involved

c) **00** is the serial number of the SLoA within the stakeholder category it covers.

SLoA title

Text that briefly describes the goal of the SLoA.

SLoA Timescale (Start & Finish)

This entry includes two fields 'Start' and 'Finish'. Depending on the scope and maturity of the SLoA, none, one or both fields may be populated.

ECAC, EU+, APT and Multi-N Objectives: 'Start' indicates the date at which at least one State will commence the action and 'Finish' the date at which the action should be finalised by all States. For Objectives derived from the SES legislation, several 'Finish" dates may be identified for the same SLoA depending on the applicability of specific regulatory requirements (e.g. difference in the applicability dates applicable to new or to legacy EATMN systems).

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

Action by

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

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

Description & Purpose

Text describing the SLoA activity and purpose of its implementation.

Supporting material

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

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

Finalisation criteria

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

The SLoA is declared 'finalised' only when this has been validated at the level of appropriate working arrangement (Team, Task or specialist group). As long as a SLoA is not finalised, it remains active and if late is reported as such in the ESSIP Report. The description of finalised SLoAs is available at http://www.eurocontrol.int/articles/essip-plan.

NOTE specific to MIL Authorities	It is the responsibility of each Military Authority to review an ESSIP Objective IN ITS ENTIRETY and address each of the SLoAs that the Military Authority considers RELEVANT for itself. This has to be done on top and above of the review of 'MIL' SLoAs which identify actions EXCLUSIVE to MIL Authorities (ref Conclusions of Military Harmonisation Group MILHAG40, of Military ATM Board MAB14 and in the AAB consultation paper DPS/PEPR/055-14).

TRANVERSAL ACTIVITIES IN ESSIP OBJECTIVES DESCRIPTIONS

Transversal activities, namely safety assessment and training ones, are addressed on a case-by-case basis for the individual ESSIP Objectives. At first sight, this might be viewed as an inconsistent way of describing the required list of SLoAs per each ESSIP Objective. As a matter of fact, this is done for the purpose of only addressing those SLoAs which are considered fully meaningful in terms of coordinated planning among the Stakeholders.

ALIGNMENT BETWEEN THE ESSIP PLAN AND LEVEL 2 OF THE MP

Over the last few years a significant effort has been made to fully align the ESSIP Plan to the mature elements of the Level 2 of the MP.

Since the ESSIP Plan ed. 2014, by making good use of the working arrangements in place, both in the SJU and in EUROCONTROL, this alignment is considered **fully achieved**.

For new Objectives, SLoAs of a specific ESSIP Objective will only address those Enablers described as ‘Required’ for that specific operational change in the Level 2 of the Master Plan.

For ‘legacy’ Objectives (i.e. those Objectives created before the coming into existence of the MP and not yet fully achieved), their list of SLoAs in some cases does not include all the ‘Required’ Enablers. This is mainly due to two reasons: the first being that some of the Enablers described for that specific operational change had been already widely deployed/implemented by the time the ESSIP Objective was mapped to the OI Step in Level 2 of the MP; or the list of Enablers was considered by the experts as not fully appropriate for that specific operational change and therefore not taken into account when amending the description of the ESSIP Objective. The analysis of OI Steps/Enablers versus ESSIP Objectives has been carried out since 2011 under the remit of SESAR JU Work Package C02.

ANNEX B

SUBSTANTIAL CHANGES SINCE PREVIOUS ESSIP EDITION

Changes applied to the previous ESSIP Plan edition (2014) have been developed in close co-operation with the SESAR JU WP C02 Task T006 and relevant EUROCONTROL expert Teams. These changes were mostly triggered by the need to ensure that the ESSIP Plan is consistent with the DP V1 developed by the SDM.

New active Objectives included in the ESSIP Plan - Edition 2015

Objective Designator	Title	Scope
AOM21.1	Implementation of Direct Routing	**ECAC**
AOP10	Time-based separation	**APT**
AOP11	Initial Airport Operational Plan	**APT**
AOP12	Improve runway and airfield safety with ATC clearances monitoring	**APT**
ATC12.1	Implement automated support for conflict detection and conformance monitoring	**ECAC**
FCM06	Traffic Complexity Assessment	**EU+**

Substantial changes since ESSIP Plan 2014

Objective designator	Title	Substantial change
AOM21	Implementation of Free Route Airspace	Objective evolved into AOM21.2 as a successor of the new Objective AOM21.1 on Implementation of Direct Routing
AOP05	Implement Airport Collaborative Decision Making	Implementation date postponed by 12 months, until 12/2016.
ATC07.1	Implement arrival management tools	Alignment of the Applicability Area with the PCP Regulation and reference to applicability airspace as “TMAs serving specific airports”
ATC12	Implement automated support for conflict detection and conformance monitoring	Alignment of the Applicability Area and of the completion dates with the PCP Regulation. Review of the Objective description. Due to the extensive changes, the Objectives has evolved into ATC12.1
ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations	Deletion of ASP05 SLoA.
FCM03	Implement collaborative flight planning	Explicit requirement for automation of AFP provision in SLoAs ASP08 and 09, new SLoA on NM on the integration of AFP message and new compliance date (12/2017. Finalisation of SLoA ASP04 and deletion of SLoAs ASP10 and ASP11.
FCM05	Implementation of interactive rolling NOP	Scope of the Objective enlarged so as to cover the integration of Airport Operational Plans (new NM and APO SLoAs). Compliance date changed so as to address the new scope as defined in the PCP Regulation. Finalisation of SLoAs NM01, 02, 03, 07, 08.
ITY-AGDL	Initial ATC air-ground data link services above FL-285	Change of completion dates so as to reflect the amendment of Regulation (EC) No 29/2009 (new Regulation (EU) 2015/310). Deletion of the IND SLoA pending the clarification of the technical solution.

ITY-COTR	Implementation of ground-ground automated co-ordination processes	Change of completion dates and definition or areas of applicability so as to reflect the amendment of Regulation (EC) No 29/2009 (new Regulation (EU) 2015/310) in relation with the implementation of "Logon Forward" and "Next Authority Notified" processes.
NAV03	Implementation of Precision Area Navigation RNAV (P-RNAV)	Alignment of the completion dates with the PCP Regulation.
NAV10	Implement APV procedures	New ASP SLoA addressing the data publication.

ESSIP Objectives closed as ACHIEVED since the previous edition of the ESSIP Plan

Objective designator	Title	Rationale
ATC02.2	Implement ground based safety nets – STCA – level 2	Implementation of the Objective has been completed by at least 80% of the stakeholders in the area of applicability as indicated in the ESSIP Report
SRC-RLMK	Implement the EUROCONTROL Safety Regulatory Requirements - ESARRs	
SRC-SLRD	Safety levels and Resolution of Deficiencies	

ESSIP Objectives removed from the ESSIP Plan 2015

Objective designator	Title	Rationale
COM09	Migrate ground international or regional X.25 data networks or services to the internet protocol (IP)	Objective removed as not justified as a standalone Objective anymore. The migration to IP can be addressed through SLoAs when necessary.

ANNEX C

STATUS OF IMPLEMENTATION OF THE ESSIP OBJECTIVES

This annex shows the status of implementation of the ESSIP Objectives, based on the information collected during the reporting cycle of the previous year (implementation status on 31.12.2014). Full information is available in the ESSIP Report available at http://www.eurocontrol.int/articles/essip-report.

Objective Category	Objective Designator	Objective Progress	Status
Objectives related to the PCP	AOM13.1 - Harmonise OAT and GAT handling	**ESSIP FOC: 12/2018** **Planned Achievement: - no data - (80% completion)** **15% complete**	△ **(months):** 0 **On Time**
	AOM19 – Implement Advanced Airspace Management	**ESSIP FOC:** 12/2016 **Planned Achievement: - no data - (80% completion)** **10% complete**	△ **(months):** 0 **On Time**
	AOM21.1 - Implementation of Direct Routing	**New Objective**	-
	AOM21.2 - Implement Free Route Airspace	**New Objective**	-
	AOP04.1 - Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1	**ESSIP FOC:** 12/2011 **Planned Achievement: 12/2015 (80% completion)** **53% complete**	△ **(months):** +48 **Late**
	AOP04.2 - Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2	**ESSIP FOC:** 12/2017 Planned Achievement: 12/2017 (80% completion) **40% complete**	△ **(months):** 0 **On Time**
	AOP05 - Implement Airport Collaborative Decision Making (CDM)	**ESSIP FOC: 01/2016** **Planned Achievement: 06/2016 (80% completion)** **20% complete**	△ **(months):** +5 **Late**
	AOP10 - Time Based Separation	**New Objective**	-
	AOP11 – Airport Operations Plan	**New Objective**	-
	AOP12 - Improve runway and airfield safety with ATC clearances monitoring	**New Objective**	
	ATC07.1 - Implement arrival management tools	**ESSIP FOC: 12/2015** **Planned Achievement: - no data - (80% completion)** **39% complete**	△ **(months):** 0 **Risk of Delay**
	ATC12.1 - Implement automated support for conflict detection, resolution support information and conformance monitoring	**ESSIP FOC: 12/2016** **Planned Achievement: 12/2017 (80% completion)** **41% complete** **Comment: former Objective ATC12**	△ **(months):** +12 **Risk of Delay**

Objective Category	Objective Designator	Objective Progress	Status
Objectives related to the PCP	ATC15 - Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations	ESSIP FOC: 12/2017 Planned Achievement: - no data - (80% completion) 23% complete	△ (months): 0 On Time
	ATC17 - Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer	ESSIP FOC: 12/2018 Planned Achievement: 12/2018 (80% completion) 5% complete	△ (months): 0 On Time
	FCM03 - Implement collaborative flight planning	ESSIP FOC: 12/2015 Planned Achievement: 12/2016 (80% completion) 31% complete	△ (months): +12 Risk of Delay
	FCM04 - Implementation of Short Term ATFCM Measures - phase 1	ESSIP FOC: 12/2015 Planned Achievement: - no data - (80% completion) 0% complete	△ (months): 0 On Time
	FCM05 - Implementation of interactive rolling NOP	ESSIP FOC: 12/2016 Planned Achievement: - no data - (80% completion) 0% complete	△ (months): 0 On Time
	FCM06 - Traffic Complexity Assessment	New Objective	-
	INF07 - Electronic Terrain and Obstacle Data (TOD)	ESSIP FOC: 05/2018 Planned Achievement: - no data - (80% completion) 2% complete	△ (months): 0 Risk of Delay
	NAV03 - Implementation of P-RNAV	ESSIP FOC: 12/2012 Planned Achievement: 12/2016 (80% completion) 48% complete	△ (months): +48 Late
	NAV10 - Implement APV procedures	ESSIP FOC: 12/2016 Planned Achievement: 12/2016 (80% completion) 12% complete	△ (months): 0 On Time

Objective Category	Objective Designator	Objective Progress	Status
Objectives related to SES interoperability	ITY-ACID - Aircraft identification	ESSIP FOC: 01/2025 Planned Achievement: 01/2020 (80% completion) 18% complete	△ (months): -60 On Time
	ITY-ADQ - Ensure quality of aeronautical data and aeronautical information	ESSIP FOC: 06/2017 Planned Achievement: 07/2017 (80% completion) 0% complete	△ (months): +1 Late
	ITY-AGDL - Initial ATC air-ground data link services above FL-285	ESSIP FOC: 02/2016 Planned Achievement: 12/2018 (80% completion) 19% complete	△ (months): +34 Late
	ITY-AGVCS2 - Implement air-ground voice channel spacing requirements below FL195	ESSIP FOC: 12/2020 Planned Achievement: 12/2020 (80% completion) 0% complete	△ (months): 0 On Time
	ITY-COTR - Implementation of ground-ground automated co-ordination processes	ESSIP FOC: 02/2016 Planned Achievement: 06/2016 (80% completion) 29% complete	△ (months): +4 Late
	ITY-FMTP - Apply a common flight message transfer protocol (FMTP)	ESSIP FOC: 12/2014 Planned Achievement: 12/2015 (80% completion) 52% complete	△ (months): +12 Late
	ITY-SPI - Surveillance performance and interoperability	ESSIP FOC: 06/2020 Planned Achievement: 12/2019 (80% completion) 8% complete	△ (months): +48 Late
Other Essential Master Plan related Objectives	AOP03 - Improve runway safety by preventing runway incursions	ESSIP FOC: 12/2013 Planned Achievement: 12/2015 (80% completion) 55% complete	△ (months): +24 Late
	ATC02.5 - Implement ground based safety nets - Area Proximity Warning - level 2	ESSIP FOC: 12/2016 Planned Achievement: 12/2016 (80% completion) 50% complete	△ (months): 0 On Time
	ATC02.6 - Implement ground based safety nets - Minimum Safe Altitude Warning - level 2	ESSIP FOC: 12/2016 Planned Achievement: 12/2016 (80% completion) 49% complete	△ (months): 0 On Time

Other Essential Master Plan related Objectives	ATC02.7 - Implement ground based safety nets - Approach Path Monitor - level 2	ESSIP FOC: 12/2016 Planned Achievement: - no data - (80% completion) 24% complete	△ (months): 0 On Time
	ATC16 - Implement ACAS II compliant with TCAS II change 7.1	ESSIP FOC: 12/2015 Planned Achievement: 12/2015 (80% completion) 19% complete	△ (months): 0 On Time
	COM10 - Migrate from AFTN to AMHS	ESSIP FOC: 12/2014 Planned Achievement: 12/2016 (80% completion) 24% complete	△ (months): +24 Late
	COM11 - Implementation of Voice over Internet Protocol (VoIP) in ATM	ESSIP FOC: 12/2020 Planned Achievement: 12/2020 (80% completion) 2% complete	△ (months): 0 On Time
	ENV01 - Implement Continuous Descent Operations (CDO) techniques for environmental improvements	ESSIP FOC: 12/2013 Planned Achievement: 12/2015 (80% completion) 71% complete	△ (months): +24 Late
	ENV02 - Implement Collaborative Environmental Management (CEM) at Airports	ESSIP FOC: 12/2016 Planned Achievement: 12/2015 (80% completion) 58% complete	△ (months): -12 On Time
	FCM01 - Implement enhanced tactical flow management services	ESSIP FOC: 12/2006 Planned Achievement: 12/2015 (80% completion) 60% complete	△ (months): +108 Late
	INF04 - Implement integrated briefing	ESSIP FOC: 12/2012 Planned Achievement: 12/2015 (80% completion) 61% complete	△ (months): +36 Late
	SAF10 - Implement measures to reduce the risk to aircraft operations caused by airspace infringements	ESSIP FOC: 12/2011 Planned Achievement: 12/2015 (80% completion) 44% complete	△ (months): +48 Late
	SAF11 - Improve runway safety by preventing runway excursions	ESSIP FOC: 01/2018 Planned Achievement: 01/2018 (80% completion) 10% complete	△ (months): 0 On Time

Indicates an Objective linked to ICAO ASBUs

How to interpret the "Status" information:

△ **(months)** – indicates the delta between planned achievement date of ESSIP objective and estimated achievement date as reported by the Stakeholders

Implementation progress:

On Time	Implementation progressing on time. No delays expected.
Late	Estimated achievement date beyond ESSIP Panning date. Delayed implementation.
Risk of Delay	Estimated achievement date is in line with ESSIP FOC date but there are risks that could jeopardise timely implementation of the ESSIP objective. In exceptional cases, "Risk of Delay" status can be attributed to objectives that are estimated to be achieved beyond ESSIP FOC date. This is where experts decide that current delays will not impact the overall implementation. These intermediate delays can be max up to 12 months beyond ESSIP FOC. If more than 12 months, objective has to be declared as "late".

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ANNEX D

FULL DETAILED EXAMPLE OF AN IMPLEMENTATION OBJECTIVE

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

Subject matter and scope

This objective is functionally related to ATM Functionality 3 of Commission Regulation (EU) No 716/2014 on the establishment of the Pilot Common Project, and is bound to its deployment target dates.

The Implementation of Free Route Airspace (FRA) needs to be supported by Conflict Detection Tools (CDT), Resolution Support Information and Conformance Monitoring.
The Conflict Detection tools (CDT) include the trajectory based Medium Conflict Detection Tool (MTCD) or/and Tactical Controller Tool (TCT).
The decision on whether to implement either one or both tools (MTCD and TCT) is left to the individual ANSP organisation as it depends on local conditions and systems in use.

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

Applicability Area(s) & Timescale(s)

Applicability Area All ECAC States

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

References

European ATM Master Plan relationship

OI step -	[CM-0202]-Automated Assistance to ATC Planning for Preventing Conflicts in En Route Airspace									
	Enablers -	ER APP ATC 129	PRO-046b							

OI step -	[CM-0203]-Automated Flight Conformance Monitoring									
	Enablers -	CTE-S01a AOP04.1	CTE-S03	CTE-S03a	CTE-S04	CTE-S04a	CTE-S04b AOP04.1, AOP04.2	ER APP ATC 130	PRO-046b	

OI step -	[CM-0205]-Conflict Detection and Resolution in En Route using trajectory data in Predefined and User Preferred Routes environments									
	Enablers -	ER ATC 157								

OI step -	[CM-0207-A]-Automated Ground Based Flight Conformance Monitoring in En Route in Step 1									
	Enablers -	CTE-S03b AOP04.1, AOP04.2	ER ATC 91							

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

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 716/2014 on the establishment of the Pilot Common Project

Stakeholder Lines of Action (SloA)

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

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

Expected performance benefits

Safety : Early and systematic conflict detection and conformance monitoring enabled by ground based automated tools will reduce the need for tactical interventions, conformance monitoring reduces the risk of the impact of controllers and pilots errors. Possibility to maintain high level of safety with an increase in capacity due to a reduction of controller workload per aircraft.

Capacity : Reduction of tactical controller workload, and better sector team productivity, compared to the conventional systems without automated support will open potential for capacity up to 15%.

Cost effectiveness : Early conflict detection will enable smoother flight patterns, without frequent and sudden control interventions. This will have a moderate influence on airline costs. Moderate benefits for ANSPs due to better deployment of the ATCO workforce, reduced workload per aircraft and workload distribution.

Environment : N/A.

Security : N/A

Detailed SloA descriptions

ATC12.1-ASP01	**Implement MTCD and resolution support functions and associated procedures**	From: 01/01/2015	By: 31/12/2021

Action by : **ANS Providers**

Description & purpose : Deploy the MTCD related to :

* Detection conflicts and risks
  - between aircraft;
  - between aircraft and reserved airspace or area (such as Holding stack area), upon activation or de-activation
  - Including posting detection to the sector responsible for acting on it,
* Resolution support information which includes conflict probe and passive conflict resolution advisor(e.g. presentation of context traffic)

as appropriate and in accordance with the ANSP¿s Concept of Operation and identified needs.

Adapt the operational procedures and working methods to support the MTCD deployment.

Derogations : None

Supporting material(s) : EUROCONTROL - SPEC 139 - EUROCONTROL Specification for Medium-Term Conflict Detection - Edition 1.0 / 07/2010

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

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

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

EUROCONTROL - FASTI - Operational Performance Requirements Analysis for the Conflict Detection Tool - Final Draft - 2 / 12/2012

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

ATM Master Plan relationship : [ER APP ATC 129]-Upgrade FDP and provide Controller Tools to provide assistance to ATC Planning for Preventing Conflicts in En Route Airspace

[ER ATC 157]-ATC System Support for Medium-Term Conflict Detection and Resolution in Enroute Airspace

[PRO-046b]-ATC Procedures for Using Advanced System Assistance to Medium Term Conflict Detection and Resolution

Finalisation criteria : 1 - MTCD and resolution support functions have been implemented documented and is in operational use.

ATC12.1-ASP02	Implement TCT and associated procedures	From:	By:
		01/01/2015	31/12/2021

Action by : **ANS Providers**

Description & purpose : Deploy the Tactical Controller Tool (TCT) to :
- Detection conflicts between state vector trajectories(extended STCA);
- Detection conflicts between state vector trajectories and tactical trajectories;
- Detection conflicts between tactical trajectories;

as appropriate and in accordance with the ANSP¿s Concept of Operation and identified needs.
Adapt the operational procedures and working methods to support the TCT deployment.

Derogations : None

Supporting material(s) : EUROCONTROL - TCT RTS Final report - 0.3 / 04/2009

Url : http://www.eurocontrol.int/sites/default/files/article/content/documents/nm/fasti-tct-rts-2009.pdf

Finalisation criteria : 1 - TCT functions have been implemented documented and is in operational use.

ATC12.1-ASP03	Implement MONA functions	From:	By:
		01/01/2015	31/12/2021

Action by : **ANS Providers**

Description & purpose : Deploy MONA functions :
- Lateral deviation
- Longitudinal deviation
- Vertical deviation
- CFL deviation
- Aircraft Derived Data (ADD) deviations

as appropriate and in accordance with the ANSP¿s Concept of Operation and identified needs.
Adapt the operational procedures and working methods to support the MONA deployment

Derogations : None

Supporting material(s) : EUROCONTROL - SPEC 142 - EUROCONTROL Specification for Monitoring Aids - Edition 1.0 / 07/2010

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

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

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

ATM Master Plan relationship : [ER APP ATC 130]-Upgrade FDP and provide Controller Tools to provide Controller with warnings if aircraft deviate from a clearance or plan

[ER ATC 91]-ATC tools in support of RNP (e.g. RNP1, A-RNP) for En Route

[PRO-046b]-ATC Procedures for Using Advanced System Assistance to Medium Term Conflict Detection and Resolution

Finalisation criteria : 1 - Conformance Monitoring function has been implemented, documented and is in operational use.

ATC12.1-ASP04	Perform ATCO training for the use of CDT (MTCD and or TCT), resolution support and MONA related functions	From:	By:
		01/01/2015	31/12/2021

Action by : **ANS Providers**

Description & purpose : Perform ATCO training in line with EUROCONTROL Specifications and guidelines.

Derogations : None

Supporting material(s) : EUROCONTROL - SPEC 139 - EUROCONTROL Specification for Medium-Term Conflict Detection - Edition 1.0 / 07/2010

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

EUROCONTROL - Good Practice Guidelines for First ATC Support Tools Implementation (FASTI) with a Focus on Human Factors and Managing the Transition - Edition 1.0 / 06/2007

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

EUROCONTROL - FASTI - FASTI Specific Human Factors Guidelines for MTCD, MONA and SYSCO 06/2007

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

EUROCONTROL - FASTI - Completing the FASTI Safety Case: Guidance for Service Providers - 1.0 / 01/2009

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

Finalisation criteria : 1 - ATCOs have been trained for the use of CDT (MTCD and/or TCT), resolution support information and MONA.

ATC12.1-ASP05	Develop safety assessment for the changes	From:	By:
		01/01/2015	31/12/2021

Action by : **ANS Providers**

Description & purpose :	Develop safety assessment of the changes, notably ATC systems and procedures that will implement Conflict Detection Tools, resolution support function and conformance monitoring. The tasks to be done are as follows: - Conduct hazard identification, risk assessment in order to define safety objectives and safety requirements mitigating the risks; - Develop safety assessment; - Deliver a safety assessment report to the NSA, if new standards are applicable or if the severity class of identified risks is 1 or 2. This safety assessment shall be based on a fully validated/recognised method.
Derogations :	None
Supporting material(s) :	EUROCONTROL - FASTI - Completing the FASTI Safety Case: Guidance for Service Providers - 1.0 / 01/2009 Url : http://www.eurocontrol.int/articles/fasti-documents EUROCONTROL - Air Navigation Systems Safety Assessment Methodology (SAM) - Version 2.1 / 11/2006 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam EUROCONTROL - EAM 4 - ESARR 4 - Risk Assessment and Mitigation in ATM - Edition 1.0 / 04/2001 Url : http://www.eurocontrol.int/articles/esarr-4-risk-assessment-and-mitigation-atm EUROCONTROL - Safety Assessment Made Easier (SAME), Part 1 - Edition 1.0 / 01/2010 Url : http://www.eurocontrol.int/articles/safety-assessment-methodology-sam
Finalisation criteria :	1 - The safety assessment report including safety arguments for the changes has been delivered to the NSA and a notification of acceptance was received.

ANNEX E

LINK WITH THE ATM MASTER PLAN LEVEL 2

Mature OI Steps versus ESSIP based on Data Set 14

European ATM Master Plan update - apr2015		ESSIP Plan - Edition 2015	
Deployment Baseline OI Step		ESSIP objective(s) covering Deployment Baseline OI Steps	
Code	**Title**	**Designator**	**Title**
AO-0101	Reduced Risk of Runway Incursions through Improved Procedures and Best Practices on the Ground	**AOP03**	Improve runway safety by preventing runway incursions
AO-0102	Automated Alerting of Controller in Case of Runway Incursion or Intrusion into Restricted Areas	**AOP04.2**	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
AO-0104-A	Airport Safety Nets for Controllers in Step 1	**AOP12**	Improve runway and airfield safety with ATC clearances monitoring
AO-0201	Enhanced Ground Controller Situational Awareness in all Weather Conditions	**AOP04.1**	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
		AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
AO-0202	Detection of FOD (Foreign Object Debris) on the Airport Surface	None. No ESSIP Objective required as already agreed in the context of the ESSIP Plan edition 2011.	
AO-0301	Crosswind Reduced Separations for Arrivals	None. No need identified by WP C0.2 T006. Outline Description available (OD AO-0301).	
AO-0302	Time Based Separation (TBS) for Arriving Aircraft -Transitional Step	None. Not assessed by the working arrangements. Outline Description available (OD AO-0302).	
AO-0303	Time Based Separation for Final Approach - full concept	**AOP10**	Time Based Separation
AO-0305	Additional Rapid Exit Taxiways (RET) and Entries	Covered by the former Objective AOP01.2, closed as “achieved” in 2014	
AO-0403	Optimised Dependent Parallel Operations	Covered by the former Objective AOP09, closed as “achieved” in 2012.	
AO-0501	Improved Operations in Adverse Conditions through Airport Collaborative Decision Making	**AOP05**	Implement Airport Collaborative Decision Making (CDM)
AO-0502	Improved Operations in Low Visibility Conditions	None. No added value in the development of an Objective identified by T006 in 2012.	
AO-0601	Improved Turn-Round Process through Collaborative Decision Making	**AOP05**	Implement Airport Collaborative Decision Making (CDM)
AO-0602	Collaborative Pre-departure Sequencing	**AOP05**	Implement Airport Collaborative Decision Making (CDM)

AO-0603	Improved De-icing Operation through Collaborative Decision Making	**AOP05** Implement Airport Collaborative Decision Making (CDM)
AO-0703	Aircraft Environmental Impact Management and Mitigation at and around Airports	**ENV02** Implement Collaborative Environmental Management (CEM) at Airports
AO-0705	Reduced Water Pollution	**ENV02** Implement Collaborative Environmental Management (CEM) at Airports
AO-0706	(Local) Monitoring of Environmental Performance	**ENV02** Implement Collaborative Environmental Management (CEM) at Airports
AO-0801-A	Collaborative Airport Planning Interface	**AOP11** Initial Airport Operations Plan
AOM-0101	Uniform Application of 7 ICAO Airspace Classes at FL195 and below	None. OI Step to be clarified in the context of the ATM MP Level 2 maintenance.
AOM-0201	Moving Airspace Management Into Day of Operation	**AOM19** Implement Advanced Airspace Management
AOM-0202	Enhanced Real-time Civil-Military Coordination of Airspace Utilisation	**AOM19** Implement Advanced Airspace Management **FCM05** Implementation of interactive rolling NOP
AOM-0203	Cross-Border Operations Facilitated through Collaborative Airspace Planning with Neighbours	None. Covered by the former Objective AOM16. Enablers also covered by other Objectives.
AOM-0205	Modular Temporary Airspace Structures and Reserved Areas	**AOM19** Implement Advanced Airspace Management **FCM05** Implementation of interactive rolling NOP
AOM-0301	Harmonised EUROCONTROL ECAC Area Rules for OAT-IFR and GAT Interface	**AOM13.1** Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling
AOM-0401	Multiple Route Options & Airspace Organisation Scenarios	**AOM19** Implement Advanced Airspace Management **AOM21.1** Implementation of Direct Routing **AOM21.2** Implement Free Route Airspace
AOM-0402	Further Improvements to Route Network and Airspace incl. Cross-Border Sectorisation and Further Routing Options	**AOM21.1** Implementation of Direct Routing **AOM21.2** Implement Free Route Airspace

AOM-0301	Harmonised EUROCONTROL ECAC Area Rules for OAT-IFR and GAT Interface	**AOM13.1**	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling
AOM-0500	Direct Routing for flights both in cruise and vertically evolving for cross ACC borders and in high & very high complexity environments.	**AOM21.1**	Implementation of Direct Routing
AOM-0501	Free Routing for Flights both in cruise and vertically evolving within low to medium complexity environments	**AOM21.2**	Implement Free Route Airspace
AOM-0502	Free Routing for Flights both in cruise and vertically evolving within high & very high-complexity environments	**AOM21.2**	Implement Free Route Airspace
AOM-0504	Optimum Trajectories in Defined Airspaces at Particular Times	Covered by the former Objective AOM20, closed as “achieved” in 2014	
AOM-0601	Terminal Airspace Organisation Adapted through Use of Best Practice	**NAV03**	Implementation of P-RNAV
AOM-0602	Enhanced terminal operations with APV using Barometric VNAV	**NAV03** **NAV10**	Implementation of P-RNAV Implement APV procedures
AOM-0604	Enhanced terminal operations with LPV using SBAS	**NAV10**	Implement APV procedures
AOM-0701	Continuous Descent Approach (CDA)	**ENV01**	Implement Continuous Descent Operations (CDO) techniques for environmental improvements
AOM-0703	Continuous Climb Departure	None. Relevant information not available in time for the 2015 Edition. Outline Description available (OD AOM-0703).	
AOM-0801	Flexible Sectorisation Management	Covered by the former Objective AOM20, closed as “achieved” in 2014	
AOM-0802	Modular Sectorisation Adapted to Variations in Traffic Flows	Covered by the former Objective AOM20, closed as “achieved” in 2014	
AUO-0101	ATFM Slot Swapping	None. Already implemented	
AUO-0201	Enhanced Flight Plan Filing Facilitation	None. Not assessed for the 2015 edition, as local and non-priority.	
AUO-0301	Voice Controller-Pilot Communications (En Route) Complemented by Data Link	**ITY-AGDL**	Initial ATC air-ground data link services above FL-285
AUO-0401	Airborne Traffic Situational Awareness on the Airport Surface (ATSA-SURF)	None. Not assessed for the 2015 edition, as local and non-priority.	
AUO-0402	Air Traffic Situational Awareness (ATSAW) during Flight Operations (AIRB)	None. Not assessed for the 2015 edition, as local and non-priority.	
AUO-0502	Enhanced Visual Separation on Approach (ATSA-VSA)	None. Not assessed for the 2015 edition, as local and non-priority.	
AUO-0503	In-trail Procedure in Oceanic Airspace (ATSA-ITP)	None. Not assessed for the 2015 edition, as local and non-priority.	
AUO-0701	Use of Runway Occupancy Time (ROT) Reduction Techniques	Covered by the former Objective AOP01.2, closed as “achieved” in 2014	
CM-0101	Automated Support for Traffic Load (Density) Management	**FCM06**	Traffic Complexity Assessment
CM-0102-A	Automated Support for Dynamic Sectorisation and Dynamic Constraint Management	**AOM21.2**	Implement Free Route Airspace
CM-0103-A	Automated Support for Traffic Complexity Assessment	**FCM06**	Traffic Complexity Assessment

CM-0201	Automated Assistance to Controller for Seamless Coordination, Transfer and Dialogue	**ATC17** Electronic Dialogue as Automated Assistance to Controller during Coordination and Transfer **ITY-COTR** Implementation of ground-ground automated co-ordination processes
CM-0202	Automated Assistance to ATC Planning for Preventing Conflicts in En Route Airspace	**ATC12.1** Implement automated support for conflict detection, resolution support information and conformance monitoring
CM-0203	Automated Flight Conformance Monitoring	**ATC12.1** Implement automated support for conflict detection, resolution support information and conformance monitoring
CM-0205	Conflict Detection and Resolution in En-Route using trajectory data in Predefined and User Preferred Routes environments	**ATC12.1** Implement automated support for conflict detection, resolution support information and conformance monitoring
CM-0207-A	Automated Ground Based Flight Conformance Monitoring in En Route in Step 1	**ATC12.1** Implement automated support for conflict detection, resolution support information and conformance monitoring
CM-0801	Ground Based Safety Nets (TMA, En Route)	**ATC02.5** Implement ground based safety nets - Area Proximity Warning - level 2 **ATC02.6** Implement ground based safety nets - Minimum Safe Altitude Warning - level 2 **ATC02.7** Implement ground based safety nets - Approach Path Monitor - level 2 **SAF10** Implement measures to reduce the risk to aircraft operations caused by airspace infringements
DCB-0101	Enhanced Seasonal NOP Elaboration	None. Already implemented
DCB-0102	Interactive Rolling NOP	**FCM05** Implementation of interactive rolling NOP
DCB-0103-A	Collaborative NOP	**FCM05** Implementation of interactive rolling NOP **FCM06** Traffic Complexity Assessment
DCB-0201	Interactive Network Capacity Planning	None. Already implemented
DCB-0203	Enhanced ASM/ATFCM Coordinated Process	**AOM19** Implement Advanced Airspace Management
DCB-0204	ATFCM Scenarios	None. Enablers either already implemented or covered by other ESSIP Objectives (FCM05)
DCB-0205	Short Term ATFCM Measures	**FCM04** Implementation of Short Term ATFCM Measures - phase 1
DCB-0206	Co-ordinated Network Management Operation extended until the Day of operation	None. Already implemented
DCB-0207	Management of Critical Events	None. Already implemented

IS-0102	Improved Management of Flight Plan After Departure
IS-0201	Integrated Pre-Flight Briefing
IS-0202	Improved Supply Chain for Aeronautical Data through Common Quality Measures
IS-0204	Facilitated Aeronautical Data Exchanges through Digitalised/Electronic Information
IS-0401	Automatic Terminal Information Service Provision through Use of Datalink
IS-0901-A	SWIM for Step 1
SDM-0101	Network Performance Assessment
SDM-0102	Civil-Military Cooperation Performance Assessment
TS-0102	Basic Arrival Management Supporting TMA Improvements (incl. CDA, P-RNAV)
TS-0305	Arrival Management Extended to En Route Airspace

FCM01	Implement enhanced tactical flow management services
FCM03	Implement collaborative flight planning
FCM06	Traffic Complexity Assessment
INF04	Implement integrated briefing
ITY-ADQ	Ensure quality of aeronautical data and aeronautical information
ITY-ADQ	Ensure quality of aeronautical data and aeronautical information

None. No ESSIP Objective required as already agreed in the context of the ESSIP Plan edition 2011.

FCM05	Implementation of interactive rolling NOP

None. No need for ESSIP Objective identified by WP C0.2 T006.
None. No ESSIP Objective required as already agreed in the context of the ESSIP Plan edition 2011.

ATC07.1	Implement arrival management tools
ATC15	Implement, in En-Route operations, information exchange mechanisms, tools and procedures in support of Basic AMAN operations

Enablers covered specifically by ESSIP objectives based on Data Set 14

European ATM Master Plan update - apr2015	
Enabler with ESSIP objective	
Code	**Title**
AAMS-11	ASM support systems enhanced to exchange real-time airspace status updates
AERODROM E-ATC-36	Airport surveillance data processing and distribution upgraded to store and forward flight plan data
AIMS-16	Electronic Terrain and Obstacle Data (TOD)
AIMS-19b	Aeronautical Information system is interfaced to receive and distribute aeronautical information electronically to military systems.
CTE-C01a	Existing Voice radio (VHF 25/8.33KHz)

ESSIP Plan - Edition 2015	
ESSIP objective covering an Enabler	
Designator	**Title**
AOM19	Implement Advanced Airspace Management
AOP12	Improve runway and airfield safety with ATC clearances monitoring
INF07	Electronic Terrain and Obstacle Data (TOD)
AOM13.1	Harmonise Operational Air Traffic (OAT) and General Air Traffic (GAT) handling
ITY-AGVCS2	Implement air-ground voice channel spacing requirements below FL195

CTE-C02b	A/G datalink over ACARS (POA/AOA)
CTE-C05a	VoIP for ground telephony
CTE-C06	Ground ATM Data communication Network
CTE-C06c	AMHS
CTE-N06a	EGNOS V2.4.X
CTE-N06b	EGNOS V3
CTE-N08	DME Ground Infrastructure optimisation
CTE-S02b	Surface Movement Radar
CTE-S03b	ADS-B station for RAD and APT surveillance (ED-102A)
CTE-S04b	Airport Multilateration (MLAT))
PRO-006a	ATC Procedures to standardise phraseology, altitude usage (airport)
PRO-AC-21	Cockpit procedure for AP/FD TCAS

ITY-AGDL	Initial ATC air-ground data link services above FL-285
COM11	Implementation of Voice over Internet Protocol (VoIP) in ATM
ITY-FMTP	Apply a common flight message transfer protocol (FMTP)
COM10	Migrate from AFTN to AMHS
NAV10	Implement APV procedures
NAV10	Implement APV procedures
NAV03	Implementation of P-RNAV
AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
AOP04.1	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level1
AOP04.2	Implement Advanced Surface Movement Guidance and Control System (A-SMGCS) Level 2
SAF11	Improve runway safety by preventing runway excursions
ATC16	Implement ACAS II compliant with TCAS II change 7.1

Legend:

‘ECAC or ‘Pan European’ objective

‘Multi-National’ objective

‘EU+’ objective

‘APT’ Airports objective

ANNEX F

ACRONYMS AND ABBREVIATIONS

A	
AAB	Agency Advisory Body (EUROCONTROL)
AAS	Advanced Airspace Scheme
ACAS	Airborne Collision Avoidance System
ACC	Area Control Centre
A-CDM	Airport Collaborative Decision Making
ACE	Airside Capacity Enhancement
ACH	ATC Flight Plan Change
ACID	Aircraft Identification
ACL	ATC Clearance
ACM	ATC Communications Management
ACP	Accept Message
ADEXP	ATC Data Exchange Presentation
ADQ	Aeronautical Data Quality
ADR	Airspace Data Repository
ADS	Automatic Dependent Surveillance
ADS-B	Automatic Dependent Surveillance – Broadcast
ADS-C	Automatic Dependent Surveillance - Contract
AECMA	European Association of Aerospace Equipment Manufacturers
AFM	Aircraft Flight Manual
AFTN	Aeronautical Fixed Telecommunications Network
AFUAS	Advanced Flexible Use of Airspace Support Service
AGVN	ATS Ground Voice Network
AIC	Aeronautical Information Circular
AIM	Aeronautical Information Management
AIM/SWIM	Aeronautical Information Management & System Wide Information Management Team
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIRPROX	Aircraft Proximity Report
AIS	Aeronautical Information Service
AIXM	Aeronautical Information Exchange Model
AMAN	Arrival Manager
AMC	Acceptable Means of Compliance
AMC	ATC Microphone Check Service
AMC	Airspace Management Cell
AMHS	ATS Message Handling Service
ANS	Air Navigation Service
ANSP	Air Navigation Service Provider
AO	Airline Operator
AOM	Airspace Organisation and Management
AOP	Airport Operations Plan
AOT	Airport Operations Team
APL	ATC Flight Plan
APM	Approach Path Monitor
APO	Airport Operations
APP	Approach
APR BCA	Airport Operations Programme Business Case Assessment
APT	Airport
APV	Approach with Vertical Guidance
APW	Airborne Proximity Warning
ARINC	Aeronautical Radio Incorporated
ARN	ATS Route Network
ARO	ATS Reporting Offices
ASM	Airspace Management
A-SMCGS	Advanced Surface Movement Control and Guidance System
ASP	Air Navigation Service Providers
ASTERIX	All Purpose Structured EUROCONTROL Radar Information Exchange
ATC	Air Traffic Control
ATCO	Air Traffic Control Officer
ATFCM	Air Traffic Flow and Capacity Management
ATN	Aeronautical Telecommunications network
ATS	Air Traffic Services
ATSA	Airborne Traffic Situational Awareness
ATSA-AIRB	Air Traffic Situational Awareness Airborne
ATSAW	Air Traffic Situational Awareness
ATSMHS	ATS Message Handling Service
ATSP	Air Traffic Service Provider
ATS-QSIG	Air Traffic Services Signalling at the Q reference point
ATSU	Air Traffic Service Unit
AUP	Airspace Use Plan
B	
B2B	Business to Business
BCDA	Basic Continuous Descent Approach
C	
CAA	Civil Aviation Authority
CASP	Common AIS Staff Profiling
CBA	Cost Benefit Analysis
CCC	Common Core Content
CDA	Continuous Descent Approach
CDM	Collaborative Decision Making
CDN	Coordination Message
CDR	Conditional Route
CEM	Collaborative Environmental Management
CFIT	Controlled Flight Into Terrain

CHAIN	Controlled & Harmonised Aeronautical Information Network
CHMI	Collaboration Human Machine Interface
CIAM	Collaboration Interface for Airspace Management
CIDIN	Common ICAO Data Interchange Network
CM	Configuration Management
CMC	Civil-Military ATM Coordination
CNMF	Central Network Management Function
CNR	Management of Common Network Resources Service
CNS	Communications, Navigation and Surveillance
COD	SSR Code Assignment
COF	Change of Frequency (message)
COM	Communications
CONOPS	Concept of Operations
COTS	Connection-mode Transport Service
CPDLC	Controller Pilot Data Link Communications
CPR	Correlated Position Reports
CRAM	Conditional Route Availability Message
CS	Centralised Services
CSG	COM Steering Group
CSP	Communications Service Provider
D	
DCS	Data Communications System
DCT	Direct Routing
DDR	Demand Data Repository
DLIC	Data Link Initiation Capability
DME	Distance Measuring Equipment
DMEAN	Dynamic Management of the European Airspace Network
DNM	Directorate Network Management
DOF	Date of Flight
DP	Deployment Programme
DPI	Departure Planning Information
E	
EAD	European Aeronautical Database
EAIMS	European ATM Information Management Service
EAMI	Electronic Airspace Management Information message
EAPPRE	European Action Plan on the Prevention of Runway Excursion
EAPPRI	European Action Plan for the Prevention of Runway Incursions
EASA	European Aviation Safety Agency
EATM	European Air Traffic Management
EATMN	European Air Traffic Management Network
EC	European Commission
ECAA	European Common Aviation Area
ECAC	European Civil Aviation Conference
ECAST	European Commercial Aviation Safety Team
EGNOS	European Geostationary Navigation Overlay Service
ELFAA	European Low Fares Airline Association
ERNIP	European Route Network Improvement Plan
ESAO	Environmentally Sustainable Airport Operations
ESARR	EUROCONTROL Safety Regulatory Requirements
ESP	European Safety Programme for ATM
ESSI	European Strategic Safety Initiative
ESSIP	European Single Sky ImPlementation
ETFMS	Enhanced Tactical Flow Management System
ETKR	European Tracker Service
ETSI	European Telecommunications Standards Institute
ETSO	European Technical Standard Order
EU	European Union
EUACA	European Union Airport Coordinators Association
EUROCAE	European Organisation for Civil Aviation Equipment
F	
FAA	Federal Aviation Administration
FAB	Functional Airspace Block
FANS	Future Air Navigation Systems (ICAO)
FAP	Future ATM Profile
FAS	Flight Plan and Airport Slot Consistency Service
FCM	Flow and Capacity Management
FDP	Flight Data Processing
FDPA	Flight Data Processing Area
FDPS	Flight Data Processing System
FIS	Flight Information Services
FL	Flight Level
FMS	Flight Management System
FMTP	Flight Message Transfer Protocol
FOC	Full Operational Capability
FOD	Foreign Object Debris
FPL	Filed Flight Plan
FRA	Free Route Airspace
FSA	First System Activation
FUA	Flexible Use of Airspace
FUM	Flight Update 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
HOP	Hand-Over Proposal
HUM	Human Factors
I	
IAIP	Integrated Aeronautical Information Package
IANS	Institute of Air Navigation Services
IATA	International Air Transport Association
ICAO	International Civil Aviation Organisation
IDP	(Interim) Deployment Programme
IDSG	Interim Deployment Steering Group
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
INO	International NOTAM Operation
INT	International Organisations and Regional Bodies
IP	Internet Protocol
IR	Implementing Rule
ISO	International Standardisation Organisation
ITU	International Telecommunications Union
ITY	Interoperability
J	
JAA	Joint Aviation Authority
JU	Joint undertaking
K	
KHz	Kilohertz
KPI	Key Performance Indicator
L	
LARA	Local and Regional ASM application
LoA	Letter of Agreement
LPV	Lateral Precision with Vertical Guidance Approach
LSSIP	Local Single Sky Implementation
M	
MAS	Manual Assume of Control Message
MET	Meteorology
MHz	Megahertz
MIL	Military Authorities
MN	Multi-National
Mode S	SSR Selective Interrogation Mode
MONA	Monitoring Aids
MoU	Memorandum of Understanding
MSAW	Minimum Safe Altitude Warning
MTCD	Medium Term Conflict Detection
MTOW	Maximum Take-Off Weight
MUAC	Maastricht Upper Area Control (Centre)
N	
N/A	Not applicable
NATO	North Atlantic Treaty Organisation
NAV	Navigation
NETOPS	Network Operations Team
NIPS	Network Infrastructure Performance monitoring and analysis Service
NM	Network Manager
NOP	Network Operations Plan
NOTAM	Notice to Airmen
NPA	Notice of Proposed Amendment
NPA	Non Precision Approach
NSA	National Supervisory Authority
O	
OAT	Operational Air Traffic
OD	Outline Description
OI	Operational improvements
OLDI	On Line Data Interchange
OPC	Operational Communications
P	
PA	Precision Approach
PAC	Preliminary Activation message
PAMS	Published AIP Management System
PANS-OPS	Procedures for Air Navigation Services – Aircraft Operations
PBN	Performance Based Navigation
PC	Provisional Council
PCP	Pilot Common Project
PENS	Pan-European Network Service
PEPR	Pan-European planning, monitoring and reporting
PIATA	Performance Indicator Analysis Tool for Airports
PRC	Performance Review Commission
PRISMIL	Pan-European Repository of Information Supporting Military KPIs
P-RNAV	Precision RNAV
Q	
Qsig	Q-Reference Point Signalling
R	
RAD	Route Availability Document
RAIM	Receiver Autonomous Integrity Monitoring
RAP	Referred Activate Proposal message
REG	National Regulatory Authorities/NSAs
RET	Rapid Exit Taxiway
RF	Radio Frequency
RJC	ReJect Coordination message
RNAV	Area Navigation
RNP	Required Navigation Performance

ROF	Request on Frequency
ROT	Runway occupancy time
RPL	Repetitive Flight Plan
RRP	Re-routing Proposal Message
RRV	Referred ReVision message
R/T	Radio Telephony
RTCA	Requirements and Technical Concepts for Aviation
S	
SAF	Safety
SAFT	Safety Management Team
SARPs	Standards and Recommended Practices (ICAO)
SBAS	Satellite Based Augmentation System
SBY	Stand-BY message
SDM	SESAR Deployment Manager
SDM	Supplementary Data Message
SDO	Static Data Operation
SES	Single European Sky
SESAR	Single European Sky ATM Research
SID	Standard Instrument Departure
SJU	SESAR Joint Undertaking
SLoA	Stakeholder Line(s) of Action
SMR	Surface Movement Radar
SMS	Safety Management System
SNOWTAM	NOTAM on Snow Conditions
SPI	Special Position Identification
SPIN	Safety Nets Performance Improvement Network
SRC	Safety Regulation Commission
SSIM	Standard Scheduling Information Manual
SSR	Secondary Surveillance Radar
STAM	Short-Term ATFCM Measures
STANLY	Statistics and Analysis
STATFOR	Statistics and Forecast
STCA	Short Term Conflict Alert
SUR	Surveillance
SWIM	System-Wide Information Management
T	
TAS	Terminal Airspace
TBD	To Be Determined
TBS	Time Based Separation
TCAS	Traffic Alert and Collision Avoidance System
TCP/IP	Transmission Control Protocol / Internet Protocol
TGL	Temporary Guidance Leaflet
TIM	Transfer Initiation Message
TOD	Terrain and Obstacle Data
TMA	Terminal Control Area
TRA	Temporary Reserved Area
TSA	Temporary Segregated Area
TWR	Tower Control Unit
U	
UAC	Upper Area Control (Centre)
USE	Airspace Users
UUP	Updated Airspace Use Plan
V	
VCS	Voice Communications System
VDL	VHF Digital Link
VFR	Visual Flight Rules
VHF	Very High Frequency
VNAV	Vertical Navigation
VoIP	Voice over Internet Protocol
W	
WAM	Wide Area Multilateration
WP	Work Package