

SESAR		Removed							ECAC	
AOM19		Implement Advanced Airspace Management								
REG	ASP	MIL	APO	USE	INT	IND	NM	MET	AIS	USP

### Subject matter and scope

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.

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

### References

#### European ATM Master Plan

Ol step -	<a href="#">[AOM-0201]-Moving Airspace Management Into Day of Operation</a>									
	Enablers -	PRO-184	PRO-185							
Ol step -	<a href="#">[AOM-0202]-Enhanced Real-time Civil-Military Coordination of Airspace Utilisation</a>									
	Enablers -	AAMS-06a	AAMS-08	AAMS-09	AAMS-10a AOM13.1	AAMS-15	AIMS-06	AIMS-21	AIMS-22	
		PRO-184								
Ol step -	<a href="#">[AOM-0205]-Modular Temporary Airspace Structures and Reserved Areas</a>									
	Enablers -	AAMS-08	NIMS-14a	PRO-009	PRO-082	PRO-185				
Ol step -	<a href="#">[AOM-0401]-Multiple Route Options &amp; Airspace Organisation Scenarios</a>									

<b>AOM19</b>	<b>Implement Advanced Airspace Management</b>							
--------------	---	--	--	--	--	--	--	--

	Enablers -	None						
OI step -	<a href="#">[DCB-0203]-Enhanced ASM/ATFCM Coordinated Process</a>							
	Enablers -	AAMS-06a	AIMS-21	AIMS-22	PRO-010			
OI step -	<a href="#">- No OI Link -</a>							
	Enablers -	AAMS-11						

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

### Essential Operational Changes

- none -
----------

### SESAR Solution

--

### ICAO GANP - ASBUs

- none -
----------

### Deployment Programme

- none -
----------

### European Plan for Aviation Safety

- none -
----------

### Operating Environments

En-Route
Network
Terminal Airspace

## Stakeholder Lines of Action (SLoAs)

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

<b>AOM19</b>	<b>Implement Advanced Airspace Management</b>
--------------	---

Description of finalised and deleted SLoAs is available on the eATM Portal @ [https://www.eatmportal.eu/working/depl/essip\\_objectives](https://www.eatmportal.eu/working/depl/essip_objectives)

### Expected Performance Benefits

<b>Safety:</b>	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.
<b>Capacity:</b>	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.
<b>Operational Efficiency:</b>	-
<b>Cost Efficiency:</b>	Potential cost reduction through the availability of more optimum routes/trajectories and reduction of flight delays thanks to increased capacity.
<b>Environment:</b>	Emissions reduced through the use of more optimum routes/trajectories.
<b>Security:</b>	N/A

### Detailed SLoA Descriptions

<b>AOM19-ASP04</b>	<b>Implement Rolling ASM/ATFCM process</b>	<b>From:</b> 01/12/2011	<b>By:</b> 31/12/2016
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	Implement Rolling ASM/ATFCM process comprising the following: - Introduce Rolling airspace update process by providing for draft UUP reflecting any change in airspace use planning as described in the ASM Handbook; - Consider advice by the NM to re-consider UUP; - Submit UUP to NM as described in the ASM Handbook.		
<b>Supporting material(s):</b>	EUROCONTROL - SPEC-112 - EUROCONTROL Specification for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 / 01/2009 Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua">https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua</a>		
<b>ATM Master Plan relationship:</b>	<a href="#">[PRO-009]-Military Procedures to identify and release previously reserved airspace back to civil aviation</a> <a href="#">[PRO-184]-ASM Procedures related to Dynamic co-operative management of the airspace</a> <a href="#">[PRO-185]-FUA Procedures</a>		
<b>Finalisation criteria:</b>	1 - Rolling airspace update process has been deployed as defined in ASM Handbook.		
<b>AOM19-ASP05</b>	<b>Implement Interoperability of local ASM support system with NM system</b>	<b>From:</b> 01/01/2014	<b>By:</b> 31/12/2015
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	Implement Dynamic ASM/ATFCM process comprising the following: - Adapt local ASM support systems to make them interoperable with NM system (AIXM interface); - Conclude LoA with NM; - Provide relevant Aeronautical information required to implement dynamic ASM/ATFCM process; - Use common database in accordance with LoA with NM; - Deploy Rolling airspace update process by using NM facilities, providing for airspace update reflecting any change in airspace use planning as described in the ASM Handbook including real time airspace status information and collection of real time airspace data . Provide airspace updates by means of system-to-system communication providing for automatic notification of all the stakeholders involved. This is in order to facilitate collaborative decision making process enabled by using a common database. Participate continuously in Dynamic ASM/ATFCM process collaborative decision making.		
<b>Supporting material(s):</b>	EUROCONTROL - SPEC-112 - EUROCONTROL Specification for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 / 01/2009 Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua">https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua</a>		
<b>ATM Master Plan relationship:</b>	<a href="#">[AIMS-21]-Airspace management system enhanced for external user access to the airspace data repository</a> <a href="#">[AIMS-22]-Airspace management functions enhanced to provide airspace status information</a>		
<b>Finalisation criteria:</b>	1 - Local systems have been adapted to be interoperable with NM systems. 2 - LoA has been concluded with NM. 3 - Automatic airspace updates have been provided by means of NM.		
<b>AOM19-ASP07</b>	<b>Optimise flexible airspace structure design and availability</b>	<b>From:</b> 01/01/2009	<b>By:</b> 31/12/2015
<b>Action by:</b>	<b>ANS Providers</b>		
<b>Description &amp; purpose:</b>	Create CDRs and DCT, when appropriate, as a function of vertical and lateral sub-modular manageable areas design. Harmonise CDR and DCT, when appropriate, design and availability at national level (if affecting adjacent ATS units). The same applies at bilateral or sub-regional level. This is to be achieved through the developments agreed in Route Network Development Sub-Group (RNDSG) and Airspace management Sub-Group working arrangements.		

AOM19		Implement Advanced Airspace Management	
Supporting material(s):	EUROCONTROL - European ATS Route Network (ARN) Version 2013-2015 06/2013 Url : <a href="http://www.eurocontrol.int/sites/default/files/publication/files/ernip-part2-arn-v-2013-2015-07062013.pdf">http://www.eurocontrol.int/sites/default/files/publication/files/ernip-part2-arn-v-2013-2015-07062013.pdf</a>		
Finalisation criteria:	1 - CDRs and DCT, when appropriate, have been created as a function of vertical and lateral sub-modular manageable areas design. 2 - CDRs and DCT, when appropriate, consistency achieved at national, bilateral or sub-regional level. 3 - Vertical and lateral modularity of manageable areas		
AOM19-ASP08	Improve accuracy of airspace booking	From: 01/12/2010	By: 31/12/2015
Action by:	ANS Providers		
Description & purpose:	Improve planning and allocation of reserved/segregated airspace at pre-tactical ASM level 2 in order to increase accuracy. Plan reserved/segregated airspace utilization in accordance with actual need. Release reserved/segregated non used airspace as soon as activity stops. Utilize reserved/segregated airspace that has not been planned in AUP (ad-hoc allocation procedure 3).		
Supporting material(s):	EUROCONTROL - SPEC-112 - EUROCONTROL Specification for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 / 01/2009 Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua">https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua</a>		
ATM Master Plan relationship:	<a href="#">[PRO-009]-Military Procedures to identify and release previously reserved airspace back to civil aviation</a> <a href="#">[PRO-010]-Procedures to ensure that all actors involved in the airspace reservations are well aware about the real status of airspace availability and subsequent changes</a> <a href="#">[PRO-082]-ASM procedures for the promulgation, system delineation and acknowledgement of receipt of the information change</a>		
Finalisation criteria:	1 - Reserved/segregated airspace has been used in accordance with actual need (measured through military Key Performance Indicators - KPIs - in Pan-European Repository of Information Supporting Military KPIs - PRISMIL - tool).		
AOM19-ASP09	Deploy automated ASM support systems	From: 01/07/2010	By: 31/12/2015
Action by:	ANS Providers		
Description & purpose:	Improve ASM system support by using either national or EUROCONTROL (Local and Regional ASM Application - LARA) automated support system in airspace planning and allocation. Use simulation tool for ASM to access optimum airspace allocation. The simulation tool is to be delivered by the EUROCONTROL Agency.		
Supporting material(s):	EUROCONTROL - Local And Regional Airspace Management Supporting System Conceptual Description - Edition 2.0 / 11/2008 Url : <a href="http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/cm/civil-mil-coordination/lara-conceptual-description-20081111.pdf">http://www.eurocontrol.int/sites/default/files/content/documents/single-sky/cm/civil-mil-coordination/lara-conceptual-description-20081111.pdf</a> EUROCONTROL - SPEC-112 - EUROCONTROL Specification for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 / 01/2009 Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua">https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua</a>		
ATM Master Plan relationship:	<a href="#">[AAMS-08]-Airspace management system enhanced to support improved collaborative airspace planning</a> <a href="#">[AAMS-09]-Airspace management system enhanced to support the integrated European airspace planning process</a> <a href="#">[AIMS-22]-Airspace management functions enhanced to provide airspace status information</a>		
Finalisation criteria:	1 - National or EUROCONTROL (LARA) automated support system in airspace planning and allocation has been deployed.		
AOM19-ASP10	Improve notification to airspace users	From: 01/07/2011	By: 31/12/2016
Action by:	ANS Providers		
Description & purpose:	Provide areas allocation information to airspace users via AUP/UUP		
Supporting material(s):	EUROCONTROL - SPEC-112 - EUROCONTROL Specification for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 / 01/2009 Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua">https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua</a>		
Finalisation criteria:	1 - All States using AUP/UUP provide information of areas allocated		
AOM19-USE01	Implement an improved Notification Process supporting the Rolling ASM/ATFCM process	From: 01/05/2009	By: 31/12/2016
Action by:	Airspace Users		
Description & purpose:	Adapt flight planning operations to benefit from dynamic airspace changes. React to airspace changes as notified by means of electronic Airspace Management Information Message (eAMI) via B2B service, Re-Routing Proposal Message (RRP) and Network Operation Plan (NOP). Improve usage of route opportunity tool.		
Finalisation criteria:	1 - Flight plans have been amended according to notified dynamic airspace changes.		
AOM19-NM01	Develop System and procedures for an improved ASM/ATFCM	From:	By:

AOM19		Implement Advanced Airspace Management	
	process	01/12/2010	31/12/2015
Action by:	NM		
Description & purpose:	Take the following actions: - Improve NM system allowing interoperability with stakeholders systems via B2B - Develop procedures for pre-defined Airspace solutions to enhance the ASM/ATFCM process. - Develop the rolling ASM/ATFCM procedure(s)		
Supporting material(s):	EUROCONTROL - European Route Network Improvement Plan (ERNIP) Part 3 - Airspace Management Handbook - Guidelines for Airspace Management - 5.5 / 11/2017 Url : <a href="https://www.eurocontrol.int/publication/european-route-network-improvement-plan-ernip-part-3">https://www.eurocontrol.int/publication/european-route-network-improvement-plan-ernip-part-3</a> EUROCONTROL - SPEC-112 - EUROCONTROL Specification for the application of the Flexible Use of Airspace (FUA) - Edition 1.1 / 01/2009 Url : <a href="https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua">https://www.eurocontrol.int/publication/eurocontrol-specification-application-flexible-use-airspace-fua</a>		
ATM Master Plan relationship:	<a href="#">[PRO-009]-Military Procedures to identify and release previously reserved airspace back to civil aviation</a> <a href="#">[PRO-184]-ASM Procedures related to Dynamic co-operative management of the airspace</a> <a href="#">[PRO-185]-FUA Procedures</a>		
Finalisation criteria:	1 - The required procedures and systems have been developed by NM and ready for deployment by civil/military ANSPs		
AOM19-NM02	Upgrade NM systems to allow exchange in real-time of ASM information	From:	By:
		01/09/2014	31/12/2016
Action by:	NM		
Description & purpose:	Network Manager to upgrade NM systems to allow exchange in Real Time of Airspace management information and to update the central documentation and procedures. This action may lead to a new SLoA for civil and military ANSPs to upgrade their local/regional automated ASM support systems and to update the local/regional documentation and procedures (to be analysed in future updates of the ESSIP plan).		
Supporting material(s):	EUROCONTROL - NM B2B Reference Manuals - access available on request to NM Url : <a href="http://www.eurocontrol.int/articles/nm-services-and-products">http://www.eurocontrol.int/articles/nm-services-and-products</a> EUROCONTROL - FLEXIBLE USE OF AIRSPACE AMC/CADF OPERATIONS MANUAL - Edition 5.1 Url : <a href="http://www.eurocontrol.int/sites/default/files/publication/files/fua-amc-cadf-ops-manual-current.pdf">http://www.eurocontrol.int/sites/default/files/publication/files/fua-amc-cadf-ops-manual-current.pdf</a>		
ATM Master Plan relationship:	<a href="#">[AAMS-11]-ASM support systems enhanced to exchange real-time airspace status updates</a>		
Finalisation criteria:	1 - The required NM system updates have been implemented.		