

Airspace Management (ASM) and Advanced Flexible Use of Airspace (A-FUA) aim to provide most efficient airspace organisation and management in response to civil and military airspace users' requirements after completion of an enhanced CDM process among all concerned partners. ASM with A-FUA provides a solution for dynamically managing airspace users' demands in various operating environments regardless of national boundaries.

ASM procedures and processes shall facilitate a dynamic management of airspace structures, such as variable profile area ('VPA'), temporary restricted/reserved area ('TRA') and temporary segregated area ('TSA').

The ASM process must promote cross border operations, e.g. establishment of Cross-border areas, to improve the efficiency in airspace utilisation (more flexible solutions available), satisfying civil and military requirements. The ASM system shall support cross-border activities resulting in shared use of volume of airspace regardless of national boundaries.

The process starts at strategic level (ASM level 1) with the involvement of relevant civil and military ATM partners to ensure the optimal airspace organisation and efficient rules, including priority rules, for the management of airspace structures during pre-tactical (ASM level 2) and tactical (ASM level 3) phases.

Along all phases, local and NM systems will use and exchange coherent and updated aeronautical/airspace data, made available to airspace users. This enables planning to be undertaken on the basis of accurate information relevant to the time of the planned operations.

A rolling process in the pre-tactical and tactical phase will support the continuous exchange of ASM data among all concerned ATM partners. A CDM process between all involved operational stakeholders will enhance the daily Network Operations Plan (NOP) by identifying the most suitable solutions for the allocation of airspace structures to satisfy both civil and military requirements aiming at improving the performance of the European route network.

In the pre-tactical phase, an enhanced notification process to AOs/CFSPs will ensure common awareness of the airspace availability and provide the opportunities for more efficient flight trajectories, contributing to environment performance achievements.

In the tactical phase, ASM information, such as pre-notification of activation, notification of activation, de-activation, modification and release of airspace structures, is shared between ASM systems and affected civil and military ATS units/systems in order to enhance ATCOs' situational awareness regarding the actual status of airspace reservations and thus, to ensure safety.

The ASM support systems (LARA or equivalent) shall:

- support cross-border activities resulting in shared use of volume of airspace regardless of national boundaries;
- be interoperable with neighbouring ASM systems, whenever required, to support cross-border operations;
- support the continuous exchange of ASM information with NM system for the rolling AUP and UUP;
- support the new AUP template content and format containing additional information such as NPZ and FUA group restrictions;
- ensure the utilisation of airspace data aligned with the centralised airspace data provided by NM system;
- exchange airspace status data with ATC system;
- support exchange of airspace data according to SWIM requirements as described in SDP Family 5.3.1, where SWIM is available.

In alternative to deploying ASM support systems, States may decide to fully rely on NM applications and system capabilities such as CIAM and its further developments and migration to NES. .

The Network Manager system shall:

- reflect the changes in the status of airspace structures such as VPA, TSA, TRA as well as routes in order to notify updated information to ANSP systems, AUs/CFSPs in a timely manner;
- provide EAUP/EUUP information;
- provide a centralised airspace data information supporting the ASM process.

AU systems shall be interoperable with NM system to retrieve up-to-date airspace status information, to file and modify flight plans based on timely and accurate information.

ATC systems shall correctly depict the activation and de-activation of configurable airspace reservations.

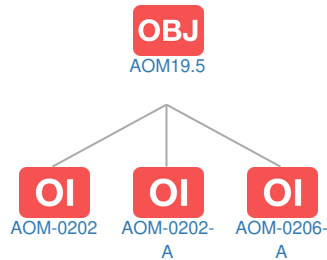
Aeronautical/airspace data shall be used and exchanged in a coherent way between local and NM systems.

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

Edition	2022
Stakeholders	Air Navigation Service Provider / Airspace Users / Network Manager
Type	CP1
Scope	ECAC+
Status	Active

Context

Related Elements



Applicability Area(s) and Timescales

- Applicability Area 1:** All EU SES States
(All EU SES States)
- Applicability Area 2:** Albania, Bosnia and Herzegovina, Israel, Moldova, Morocco, Ukraine, United Kingdom

Timescales	From	By	Applicable to
Initial Operational Capability	01-01-2014	-	Applicability Area 1 + Applicability Area 2
Full Operational Capability / Target Date	-	31-12-2022	Applicability Area 1 + Applicability Area 2

Links to ATM Master Plan Level 2

OI Operational Improvement Steps

Code	Title	IOC	FOC	Related Elements
AOM-0202	Enhanced Real-time Civil-Military Coordination of Airspace Utilisation	31-12-2019	31-12-2023	OI EN OBJ ICAO
AOM-0202-A	Automated Support for strategic, pre-tactical and tactical Civil-Military Coordination in Airspace Management (ASM).	31-12-2020	31-12-2025	SOL OI EN OBJ DS PCP ICAO A-A
AOM-0206-A	Flexible and modular ARES in accordance with the VPA design principle	31-12-2020	01-10-2025	SOL OI EN OBJ DS PCP ICAO A-A

SOL Links to SESAR Solutions

Code	Title	Program	Related Elements
No record found			

PCP Links to PCP ATM Sub-Functionalities

Code	Title	Related Elements
No record found		



References

Applicable legislation

- COMMISSION IMPLEMENTING REGULATION (EU) 2021/116 of 1 February 2021 on the establishment of the Common Project One supporting the implementation of the European Air Traffic Management Master Plan provided for in Regulation (EC) No 550/2004 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 409/2013 and repealing Commission Implementing Regulation (EU) No 716/2014

Applicable ICAO Annexes and other references

None

Deployment Programme 2022

Family 3.1.1 - ASM and A-FUA

Operating Environments

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Expected Performance Benefits

Safety	Improved safety due to increased situational awareness of supervisors.
Capacity	Increased capacity due to better use of available resources, both human and airspace.
Operational efficiency	Reduced saturation periods and flight delays. Improved operational efficiency.
Cost efficiency	-
Environment	Reduced fuel burn and emissions.
Security	-

Stakeholder Lines of Action

Code	Title	From	By	Related Enablers
ASP01	Deploy automated ASM support systems (LARA or equivalent)	01-01-2014	31-12-2022	
ASP02	Adopt the NM system (CIAM) for ASM capabilities	01-01-2014	31-12-2022	
ASP03	Implement procedures and processes for a full rolling ASM/ATFCM process	01-01-2014	31-12-2022	
ASP04	Adapt ASM systems (LARA or equivalent) to support a full rolling ASM/ATFCM process	01-01-2014	31-12-2022	
ASP05	Implement interoperability of ASM support systems with NM system	01-01-2014	31-12-2022	
ASP06	Implement interoperability between ASM support systems to facilitate cross border operations	01-01-2014	31-12-2022	
ASP07	Optimise planning and allocation of airspace booking	01-01-2014	31-12-2022	
ASP08	Implement procedures related to ASM level 3 (tactical) information exchange	01-01-2014	31-12-2022	
ASP09	Adapt ASM and ATC systems for automatic ASM data exchanges	01-01-2014	31-12-2022	
ASP10	Adapt ASM system to manage airspace data information aligned with centralised airspace data provided by NM system	01-01-2014	31-12-2022	
ASP11	Safety Assessment	01-01-2014	31-12-2022	
ASP12	Training	01-01-2014	31-12-2022	
ASP13	Operational use	01-01-2014	31-12-2022	
USE01	Adapt airspace users' systems for processing EAUP/EUUP information	01-01-2014	31-12-2022	
USE02	Adapt airspace users' system to process RRP messages or enhanced utilisation of opportunity tool application	01-01-2014	31-12-2022	
USE03	Training	01-01-2014	31-12-2022	
USE04	Operational use	01-01-2014	31-12-2022	
NM01	Adapt NM systems to support a full rolling ASM/ATFCM process	01-01-2014	31-12-2022	
NM02	Implement procedures and processes for a full rolling ASM/ATFCM process	01-01-2014	31-12-2022	
NM03	Improve ASM notification process	01-01-2014	31-12-2022	
NM04	Provide a centralised airspace data information to support ASM process	01-01-2014	31-12-2022	
NM05	Safety Assessment	01-01-2014	31-12-2022	
NM06	Training	01-01-2014	31-12-2022	
NM07	Operational use	01-01-2014	31-12-2022	

Supporting Material

Title	Related SLoAs
SDM - Standardisation and Regulation support to CP1 deployment 2021, Deliverable D1.1.1 07/2021 https://www.sesardeploymentmanager.eu/publications/deployment-programme	ASP01, ASP02, ASP03, ASP04, ASP05, ASP06, ASP07, ASP08, ASP09, ASP10, NM02, NM03, NM04, USE01, USE02

Consultation & Approval

Working Arrangement in charge	-
Outline description approved in	-
Latest objective review at expert level	-
Commitment Decision Body	-
Objective approved/endorsed in	-
Latest change to objective approved/endorsed in	-