



SESAR Solution Regulatory Overview

Initial system-wide information management (SWIM) technology solution

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Abstract

This document contains an overview of the SESAR Solution “Initial system-wide information management (SWIM) technology solution” documented recommendations from regulatory, standardisation, oversight and certification perspectives resulting from the cooperation between the SESAR Joint Undertaking and the EASA and National Authorities.

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1 Introduction

The purpose of this document is to provide an overview of the SESAR Solution “Initial system-wide information management (SWIM) technology solution” documented recommendations from regulatory, standardisation, oversight and certification perspectives resulting from the cooperation between the SESAR Joint Undertaking and the EASA and National Authorities.

The document presents the recommendations issued by the National Authorities and EASA, for an acceptable deployment of the concepts contained in the SESAR Solution. These recommendations must be taken into consideration by the entities in charge of deployment of the correspondent SESAR Solution.

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2 General recommendations

In general terms, it must be underlined that:

- 1) When deploying a SESAR Solution, the compliance with all applicable regulatory requirements must be ensured by the different concerned entities;
- 2) In particular, it must be ensured that the appropriate safety argument for the concerned change to the ATM functional system is performed in accordance with Commission Implementing Regulation (EU) 2016/1377 of 4 August 2016 laying down common requirements for service providers and the oversight in air traffic management/air navigation services and other air traffic management network functions, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011 and (EU) No 1035/2011 and amending Regulation (EU) No 677/2011 confirming validity of assumptions of the SESAR solution, addressing local specific risks and mitigation providing evidence that residual risks are acceptable.
- 3) The present SESAR Solution does not constitute in itself an acceptable Means of Compliance with the previously mentioned regulatory requirements. Means of Compliance are subject to their acceptance by the Authorities involved in each concrete local implementation.
- 4) A verification of the existing standardisation and regulatory frameworks has to be done before the date of local deployment to identify possible major changes to the ones applicable for the SESAR Solution.

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3 Specific recommendations

3.1 On the Regulatory Framework

EASA Rulemaking Programme includes rulemaking projects necessary to support the regulatory needs stemming from the PCP/SESAR deployment, in particular RMT.0682 to enable the timely deployment of the ATM functionalities and other operational changes stemming from SESAR and the European ATM Master Plan, if/as needed.

3.2 On the Standardisation Framework

In order to guarantee a successful deployment of the solution a number of standardisation efforts will be required. Such efforts can span at different levels as SWIM, by its nature, embraces ATM Domain at multiple levels.

A non-exhaustive list of initiatives that could be further expanded/complemented depending on stakeholder's needs and willingness (e.g. depending on future SWIM Governance body "decisions") is provided hereafter:

- EUROCAE WG-104 (AMAN SWIM Service) – similar Working Groups could be activated for other SWIM services.
- Standardisation of SWIM Profiles (specifically for this solution, the SWIM Yellow Profile). EUROCONTROL officially kicked off the SWIM standardisation activity on September 7th, 2016, calling for EUROCONTROL Specifications and Guidelines on SWIM Foundation, AIRM, AIRM Rulebook, ISRM Rulebook, SWIM Compliance and TI Yellow Profile, with the objective to launch public consultation for the EUROCONTROL Specifications and relevant Guidelines.

3.3 On the Regulatory Oversight and Certification Activities

There are several aspects that should be taken into consideration as follows:

- "SWIM Governance Body" still under definition e.g. activities under the umbrella of the SESAR Deployment Manager (approval processes for the addition of new SWIM services have to be confirmed when the SWIM governance body is in place)
- Ensure interoperability of the concept at the EU level by implementing delivered solution
- IPR originates what fees for the use of affected data should be included in the charges for the access to SWIM. Nevertheless, the following distinction can be made:
 - ✓ Information subject to IPR;
 - ✓ Information not subject to IPR (e.g. operational information).

When proceeding with the local implementation of this solution, and following Commission Implementing Regulation (EU) 2016/1377, changes in the ATM functional system derived

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from the deployment of this solution are subject to the elaboration of a safety argument considering local specific risks and mitigation measures to those risks.

ATM/ANS.OR.C.005 Safety support assessment and assurance of changes to the functional system

- (a) For any change notified in accordance with ATM/ANS.OR.A.045(a)(1), the service provider other than the air traffic services provider shall:
- (1) ensure that a safety support assessment is carried out covering the scope of the change which is:
 - (i) the equipment, procedural and human elements being changed;
 - (ii) interfaces and interactions between the elements being changed and the remainder of the functional system;
 - (iii) interfaces and interactions between the elements being changed and the context in which it is intended to operate;
 - (iv) the life cycle of the change from definition to operations including transition into service; and
 - (v) planned degraded modes; and
 - (2) provide assurance, with sufficient confidence, via a complete, documented and valid argument that the service will behave and will continue to behave only as specified in the specified context.

- (b) A service provider other than an air traffic services provider shall ensure that the safety support assessment referred to in point (a) comprises:
- (1) verification that:
 - (i) the assessment corresponds to the scope of the change as defined in point (a)(1);
 - (ii) the service behaves only as specified in the specified context; and
 - (iii) the way the service behaves complies with and does not contradict any applicable requirements of this Regulation placed on the services provided by the changed functional system; and

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- (2) specification of the monitoring criteria necessary to demonstrate that the service delivered by the changed functional system will continue to behave only as specified in the specified context.

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