



## **Standing Committee Safety**

### **Coordination Agreement for safe Multi-Actor Changes (CAMAC)**


## DOCUMENT SUMMARY

<b>Objective</b> : To guide the coordination activities required within FABEC and recommended with adjacent FABs ANSPs to ensure Multi-Actor changes are acceptably safe, including the creation of the resulting overarching safety argument (OASA).			
<b>Origin</b> : SC SAF		<b>Audience</b> : AFG, Task Force leaders, change leaders and safety practitioners of FABEC ANSPs and potentially other organisations	
<b>Title</b> : Coordination Agreement for safe Multi-Actor Changes (CAMAC)			
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0.3	19/07/2019	Update based on telephone conference of SRAP group on 27.06.2019	D. Durrett
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## APPROVAL

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## Management summary

This document is the FABEC SMS reference for the coordination activities to ensure multi-actor changes to ATS systems are acceptably safe and non-ATS systems still behave as specified after the change, including the creation of the resulting overarching safety argument (OASA).

This document:

- Describes the roles and responsibilities of the FABEC ANSPs w.r.t. multi-actor changes;
- Provides requirements on and support for creating an overarching safety argument - linked with the local safety cases resulting from local safety assessments and/or safety support assessments - for multi-actor changes initiated by a FABEC member;

This document will become part of the means of compliance for the safety regulatory requirements on multi-actor changes applicable to the FABEC.

Since multi-actor changes require agreements between different organizations, e.g. ANSPs from the FABEC with ANSPs from other FABs, it is advantageous for the FABEC ANSPs and NSAs, if the processes and templates are used in a wider range than the FABEC. Therefore, this document is public and sharing it is explicitly encouraged.

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# 1 INTRODUCTION

## 1.1 Purposes

This document is the FABEC manual governing the production of a coordinated safety argument between service providers and aviation undertakings<sup>1</sup>, including the creation of a resulting overarching safety argument (OASA), and the notification of the change to the corresponding Competent Authorities<sup>2</sup>.

The document targets compliance with applicable parts of IR (EU) 2017/373 ATM/ANS.OR.A.045 (a)(3),(b),(e),(f).

The processes laid down in this document are **mandatory to use for FABEC ANSPs issuing a multi-actor change**. The use of the OASA template is optional, but recommended, because it harmonizes the information exchange on ANSP- and NSA-level.

This document replaces the former FABEC Safety Risk Assessment Process [FABEC SRAP]. That document defined several options for safety assessment of FABEC wide changes, including a common FABEC safety assessment method and safety criteria [Option 3 method].

## 1.2 Scope

The scope of this document applies to changes:

- That may alter services delivered to other service providers and/or aviation undertakings;
- That alter the operational context in which the services of other service providers and/or aviation undertakings are delivered or in which aviation undertakings are operating.

In this context, multi-actor-changes are defined as changes to the functional system according to the Guidance Material to Common Requirements (Ref. [IR 2017/373]) originating from one or more FABEC partner(s).

The scope of this document is limited to coordination activities between all ANSPs and other aviation undertakings affected by the change.

Changes to the non-functional system or to the SMS, safety surveys, incident/ accident investigation, as well as the coordination with and between relevant competent authorities (e.g., NSAs) are outside the scope of this document.

It can be assumed that the FABEC Standing Committee Safety and the FABEC National Supervisory Authority Committee are informed indirectly of the respective multi-actor changes, because the ANSP and NSA representatives forming those groups are already involved in the processes triggered by the local changes. Those indirect information flows are depicted as green dotted lines in the following figure.

The information flows between ANSPs and their respective NSA caused by the local parts of the change and related to the local safety assessments and/or safety support assessments are shown as blue solid lines.

The information exchange between ANSPs and other ANSPs is required by [IR 2017/373] and depicted as red solid lines. The aviation undertakings are suggested to be the bubbles attached to one

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<sup>1</sup> ATM/ANS.OR.A.045 (a)(3), (e) and (f)

<sup>2</sup> ATM/ANS.OR.045(a)(1)

ANSP symbols. They are also required by [IR 2017/373] and depicted as red solid lines. The red depicted information flows are subject to CAMAC process.

The information exchange between NSAs regarding a multi-actor change is also required by [IR 2017/373] and shown as a turquoise line. The CAMAC process does not apply for this information exchange, but the CAMAC process does produce one input for this information exchange, which is the OASA. Other information exchanged by the NSAs might be (parts of) local safety assessments or safety support assessments.

For each multi-actor change one OASA has to be produced. The related process involving the affected service providers and aviation undertakings is laid down in CAMAC.

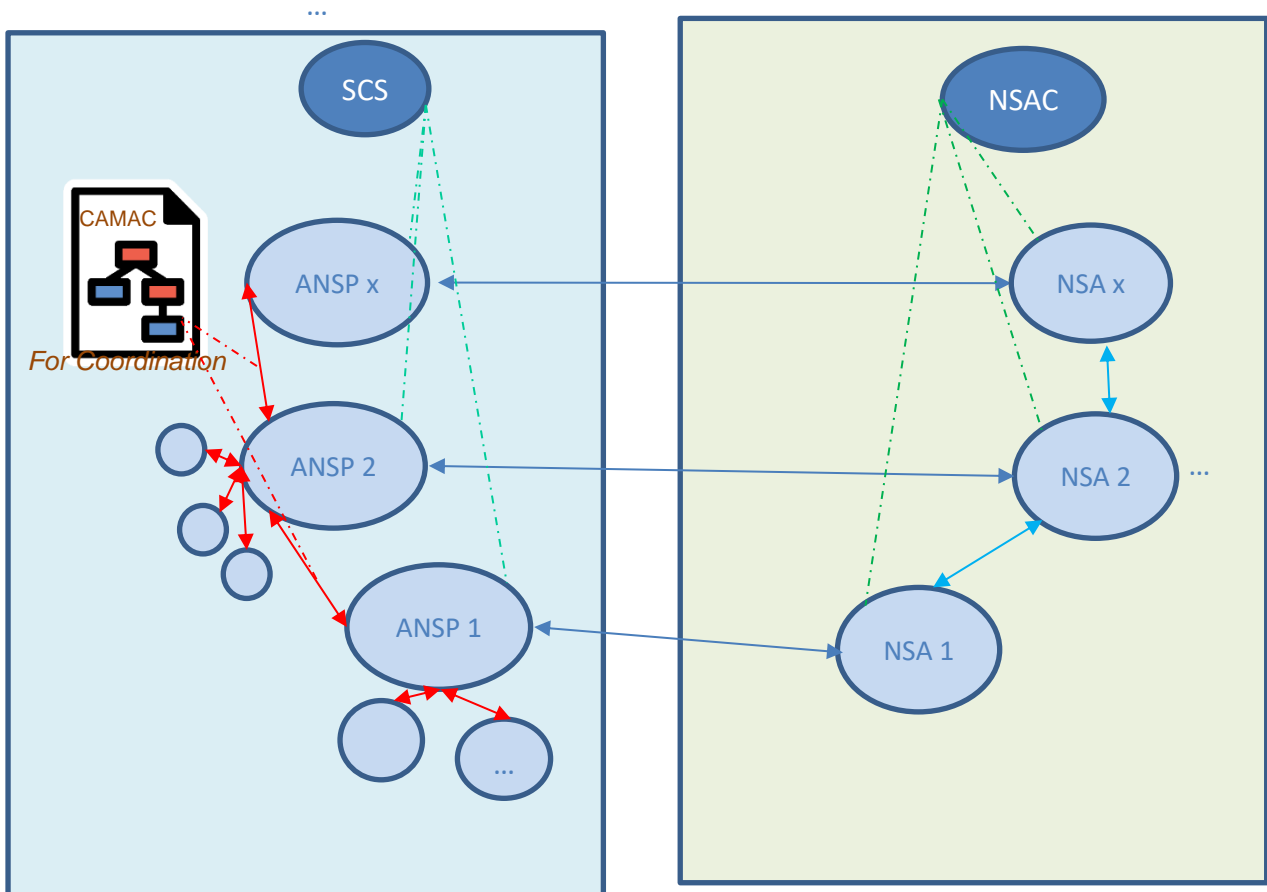


Figure 1: Coordination of Multi-Actor changes

## 2 Principles for coordination of safe multi-actor changes

All changes to the functional system (including multi-actor part) are notified by each ANSP to their respective NSAs. Each ANSP's safety assessment method and methods for safety support assessments shall be compliant with IR (EU) 2017/373.

The initiation of the coordination of the multi-actor change needs to commence at a very early stage in the project/change development, but at the latest after the "change initiator" of the project/change has identified multi-actor dependencies for the project/change. Early in the development of a change, the investments made in terms of time, money, or commitments are still limited and flexible. Involving other parties in a late stage can mean that safety issues related to those other parties are discovered in a late stage, potentially leading to adaptations to the change, redoing work, and delays.

Also affected stakeholders outside FABEC ANSPs (e.g. adjacent ANSPs, military, meteo, airlines, ...) should be identified and involved in the process as early as possible.

The use of established working groups throughout the aviation sector to coordinate with other service providers and/or aviation undertakings is encouraged.

The development of a change that is safe for all involved stakeholders is supported by coordination of the safety (support) assessment activities, ultimately resulting in an overarching safety argument. In general,

- the local safety (support) assessments are carried out by the respective departments of the service provider initiating the change and, if applicable, of the service provider(s) affected by the change;
- affected safety management processes exchange relevant information with project/change management processes, if those are separate processes.

Transparency of the content(s) of the changes and the common part of the safety (support) assessments to all actors is crucial.

The OASA can be:

- A separate OASA document developed and agreed by all multi-actors (a template for an OASA and an example-GSN that can be adapted are available through the authors of this document)
- Embedded in the local safety (support) assessments

The OASA shall contain:

- The claim "the complete change is safe" or "the service still behaves as specified" and supporting evidence
- Dependencies between affected ANSPs and, where feasible, with affected aviation undertakings
- (Only) agreed assumptions and mitigations, optionally including supporting monitoring requirements, relating to more than one service provider or aviation undertaking
- Unique references to the correct versions of all local safety assessments and safety support assessments.

The OASA and local safety (support) cases are completed before the changes (or stages of the changes, when applicable) go operational.

The OASA can only be finalized once the local safety (support) assessments are completed and do not change anymore.

~~The OASA needs to be finalized and signed once the local safety support assessments or safety assessments are sufficiently mature and are unlikely to require significant further changes (i.e. the hazards and safety requirements are agreed at local levels and have been coordinated at multi-actor level).~~



The finalization of the OASA requires signatures of representatives of the affected organizations, e.g. the change initiator, or other credible evidence ensuring that the contents of the OASA are agreed between all identified service providers and aviation undertakings.

The approval period of the OASA by the NSA(s) is determined by local ANSP agreements with their respective NSA(s), because the OASA is not approved explicitly, but the change is, i.e. OASA together with local safety (support) assessment(s).

The implementation and entry into service of the multi-actor change is done in line with the OASA and the (approved) various local safety assessments and safety support assessments.

### 3 **Planning of coordination**

The following activities need to be addressed in the planning steps and executed by the potential change initiator – no matter, if documented in a joint document of all actors or included into the local safety (support) assessment(s). The activities can be integrated into the processes applicable for any change.

- Identify and describe for the introduction of the change
  - Reason for the change, description of the change
  - Scope of the change: geographical boundaries, interfaces with other stakeholders, elements and/ or systems, planned timeline, et cetera
  - Identification of interactions with other changes/projects including interfaces with them
  - Identification of affected service providers and, where feasible, aviation undertakings. Note that these can also be stakeholders outside FABEC ANSPs, like ANSPs from adjacent FABs, military, airlines, et cetera
- Planning:
  - Create detailed coordination plan for the change (time, roles and responsibilities, participants, etc.) and for compilation of OASA.
  - Include agreed coordination plan into local project/safety plans.
  - Consider defining the start of NSA notification processes for local changes (if needed)
  - Schedule and resource allocation, define the milestones regarding the change and the OASA deliverable
  - Choose a strategy to get OASA acceptance:
    - Signatures centralized / one document: signatures from all related management on combined OASA and local safety (support) assessment document<sup>3</sup>
    - Signatures decentralized / more than one document:
      - acceptance of safety risks in local safety (support) assessments - by management of respective service provider - AND
      - acceptance of OASA - by management of all affected service providers and aviation undertakings
  - Communication plan
    - Who is communicating to whom, at what moment and about which subject
  - Contact all affected service providers and aviation undertakings identified before.
  - Choose the “change initiator”. This initiator also triggers the process steps related to the coordination and creation of the OASA. It is recommended to choose the ANSP / one of the ANSPs having an

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<sup>3</sup> In the case of choosing the centralized acceptance strategy it must be clearly stated which signatures belong to which part of the document; e. g. there can be:

- a group of signatures applying for one document part, e. g. one specific chapter, that contains the OASA and
- another group of signatures for the rest of the document containing the local safety assessment or the whole document (containing both)

interest in implementing the change, but any of the affected service providers or aviation undertakings is possible as well.

- Safety organization roles and responsibilities inside the change/project should consider the following elements:
  - Which stakeholders, e.g. other service providers or aviation undertakings, are affected by the change
  - Agree which non 373 safety regulations and/or standards are applicable to the change (like regulations/standards from EUROCAE, EC regulations, JAR, national safety regulations, ...)
  - Establish the coordination and administration of safety information exchanges between the initiating and affected service providers and, where feasible, aviation undertakings
    - Safety activities that will be conducted jointly or in coordination
    - Use information flows between service providers and respective NSAs established for local safety (support) assessments
    - Inform all affected service providers and/or aviation undertakings about the intended change (e.g. publication on website)<sup>4</sup>
    - Establish information flows for OASA or use established ones (to be planned in OASA plan)
- Determine the **assumptions**, **dependencies** and **mitigations** related to more than one service provider or aviation undertaking.

In case of safety support assessment: establish link between local safety support assessment and OASA..

Safety assessments can be directly linked to the OASA, because they contain a conclusion regarding safety acceptability and therefore can directly support the claim that the complete change is safe. Safety support assessments contain the conclusion that the assessed service behaves as specified. This is not yet enough to be evidence to support the claim that the complete change is safe. A link is needed that explains why this service specification is strict enough for its intended use. This explanation can be given in a safety assessment using the service specification parameters from the safety support assessment as an input and concluding the safety acceptability in this context.

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<sup>4</sup> This task will can also belong to the role of the change initiator.

## Acronyms

Acronym	Full description
AFG	ANSP FABEC Group
ANSP	Air Navigation Service Provider
ASB	ANSP Strategy Board
ATM	Air Traffic Management
ATS	Air Traffic Services
EC	European Commission
FABEC	Functional Airspace Block Europe Central
ICAO	International Civil Aviation Organization
JAR	Joint Aviation Regulation
NSA	National Supervisory Authority
NSAC	FABEC National Supervisory Authority Committee
OASA	Overarching Safety Argument (as introduced in AMC1 ATM/ANS.OR.A.045(e) to IR (EU) 2017/373)
PoC	Point of Contact
SCS	FABEC Standing Committee Safety
SMS	Safety Management System
SP	Service Provider (as in [IR 2017/373])

## Definitions

Terminology	Definition
multi-actor change	A multi-actor change according to the Guidance Material to the Common Requirements [GM to IR 2017/373] and [IR 2017/373], i.e. a change affecting a service provider and/or aviation undertakings, originating from one or more FABEC partner(s).
FABEC ANSPs	FABEC partners ANA, DFS, DSNA, LVNL, MUAC, skeyes and skyguide (represented in the SRAP group)
Safety assessment	In summary, safety assessment is the process of analyzing, evaluating and mitigating the safety risks of a change, eventually producing safety evidence to guarantee sufficient confidence for the assurance documented in the safety case, which also fulfills the requirements of ATS.OR.205.
Safety case	<p>The safety case provides a constructed and logical argument as to why the system/change is acceptably safe, and refers to/contains the appropriate evidence.</p> <p>AMC1 ATS.OR.205(a)(2): A safety case is the documentation of the assurance required by ATS.OR.205(a)(2) - i. e. the assurance, with sufficient confidence, via a complete, documented and valid argument that the safety criteria are valid, will be satisfied and will remain satisfied.</p>
Safety support assessment	The process leading to a safety support case and fulfilling requirements of ATM/ANS.OR.C.005.
Safety support case	AMC1 ATM/ANS.OR.C.005(a)(2)

## References

Ref.	Full description
[IR 2017/373]	Commission Implementing Regulation (EU) 2017/373 of 1 <sup>st</sup> March 2017
[GM to IR 2017/373]	GM1 ATM/ANS.OR.A.045 (e)
[Option 3 method]	FABEC Safety Risk Assessment Process Option 3: A common FABEC method – Method description, version 1.2, November 14, 2013
[FABEC SRAP]	FABEC Safety Risk Assessment Process, version 3.1, 14 November 2013 (FABEC_SCS_SRAP_v3.1).