

FAB CE Implementation Phase

FAB CE Strategy 2020-2030

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1. INTRODUCTION

The European Airspace Architecture Study (EAAS) results were published in March 2019, followed by a report of the Wise Persons Group (established by DG MOVE) in April 2019 and together these two documents, along with activities undertaken by the NM, outline a paradigm shift of the industry. The recommendations contained in these documents call for an industry transformation to a data-driven, services-based environment where increased collaboration, information sharing and automation are expected to deliver the capacity required towards the year 2035.

Therefore, a revision and realignment of the FAB CE ANSPs' Strategy is required to ensure that the future developments address the identified critical functions and that the priorities of the FAB co-operation contribute towards the EAAS targets.

This deliverable provides the Strategy for FAB CE until 2030. It includes a mission, vision, FAB CE Strategic Objectives and a high-level roadmap for its delivery. More detailed actions will be defined in the FAB CE High-Level Plan that takes each FAB CE Strategic Objective (FSO) and defines the milestones required for achieving them. The Strategy is subject to periodical review and update as mandated by the FAB CE CEOC.

2. MISSION

FAB CE transitions to a real airspace alliance with operational, technical and data capabilities tailored to the future ATM environment.

It optimises its airspace irrespective of the national borders and jointly implements the operational excellence programme in order to provide additional airspace capacity and make sure that the air traffic management system will be able to cope with the future traffic growth, while maintaining safety, improving flight efficiency and reducing environmental impact.

Airspace Alliance is focusing on cost-efficient deployment of the objectives and will be built around its legal entity FABCE Ltd.

FAB CE transforms challenges of the future ATM environment into opportunities and finally benefits to its stakeholders. The FAB CE ANSPs pursue joint activities (either using an 'all-in' or 'some-in' mechanism as appropriate) where a common approach brings benefits to the stakeholders and/or airspace users. They use means of cooperation that are the most suitable, based on the CBA with cost-efficiency and feasibility of proposed solutions being the main criteria.

FAB CE ANSPs collectively agreed that for any future strategic initiatives within the context of the FABCE Strategy objectives described in this document they will first look for partnerships within FAB CE (excluding the contracts and agreements already in place at the time of signing the strategy – e.g. COOPANS, ADaaS, etc).

3. VISION

The FAB CE partnership, through agreed common developments, provides added value in adapting to the evolving ATM landscape over individual ANSP efforts. The digital transformation of ATM will bring many new functions and services, increasingly independent from traditional ATM system architecture. It is envisaged that FAB CE will be a part of this transition using a common approach to make sure that the FAB CE ANSPs can thrive also in the future digitalised ATM environment ensuring their long-term viability without the need for ANSP/ATSU consolidation. FAB CE transitions from a political structure towards a real regional airspace alliance with operational, technical and data capabilities tailored to the future ATM environment ensuring future capacity availability. FAB CE ANSPs will pursue joint activities where a common approach brings benefits to the stakeholders using innovation and means of co-operation that are the most suitable for individual domains. Identification of these joint activities is based on a CBA with cost-efficiency and feasibility of proposed solutions being the main criteria, while respecting the industrial partnership agreements in place between the ANSPs and systems providers. FAB CE will be innovative and proactive and will solidify its position in the market. FAB CE will actively participate in the development of the future regulatory framework to ensure national and regional interests are being taken into consideration. The activities undertaken in the scope of FAB CE co-operation shall not target the closure of any ACCs in the FAB CE area.

4. FAB CE STRATEGIC OBJECTIVES

4.1. INTRODUCTION

The FAB CE Strategic Objectives (FSO) listed in this section below can be achieved either through ‘all-in’ or ‘some-in’ projects/actions, as appropriate. The ‘all-in’ vs. ‘some-in’ level refers to the commitment from the ANSPs. If all ANSPs are fully committed to implementation of a particular FSO, it is considered as ‘all-in’. If only a subset of ANSPs are committed, the FSO is considered to be as ‘some-in’. Some-in objectives remain fully open to all ANSPs and can become all-in in project definition phase if all ANSPs decide to join at later stage.

The FSOs will be further broken down into implementation actions (together with the description of tasks, implementation schedule and definition of roles and responsibilities and scope of ANSPs participation) in the updated FAB CE High-Level plan.

Note: More details about these FSOs can be found in the ‘Inputs into the FAB CE Strategy for 2020-2030’ document.

4.2. HIGH-PRIORITY FAB CE STRATEGIC OBJECTIVES

The FSOs listed below are of the highest priority and the FAB CE stakeholders are committed to develop joint activities that will contribute to achieving these objectives.

4.2.1. FSO₅ CONTRIBUTING TO CAPACITY/ENVIRONMENT IMPROVEMENTS

FSO1: Jointly develop and implement FAB CE airspace compliant with ANSP requirements and the EAAS vision

Type of activities: “All-in” or “Some-in” (to be decided)

Through local implementation of a Pan-European design (EAAS/ATF) increase network-wide capacity and resolve local constraints and bottlenecks while taking into consideration interconnectivity of airspace application – through the expansion/merger of FRA initiatives and deployment of operational excellence programme, ASM/ATFCM procedures and processes; and procedural and system-level interoperability. The civil-airspace design will be integrated with the military airspace design.

FSO2: Facilitate the implementation of U-Space in FAB CE

Type of activity: “All-in” or “Some-in” (to be decided)

Strategic Objective related to drone operations in the area of U-Space management relates to the level of co-operation and coordination between FAB CE ANSPs and States in establishing commonality in rules, regulations, systems and services provided ensuring safe application U-Space and services provided therein in FAB CE.

4.2.2. FSO₅ CONTRIBUTING TO RESILIENCE IMPROVEMENTS

FSO3: Jointly implement procedures and system functionalities to improve FAB CE ANSPs contingency resilience

Type of activity: “All-in”

Contingency Strategic Objective refers to the establishment and further refinement of information and data sharing between FAB CE ANSPs to assist in the management of an ANSP contingency event of limited duration. Procedures are partially in place but with enhanced data availability these can be further refined to limit the impact of the event on the AUs and adjacent units.

4.2.3. FSO₅ CONTRIBUTING TO COST-EFFICIENCY IMPROVEMENTS

FSO4: Jointly implement cyber-security procedures and measures

Type of activity: “All-in” or “Some-in” (to be decided)

Cyber-security Strategic Objective refers to the preparedness of FAB CE ANSPs to recognise and adapt to potential cyber-security threats by preventive and reactive measures. Joint procedures and services will be deployed where feasible.

FSO5: Jointly plan FAB CE CNS infrastructure

Type of activity: “All-in (planning)/Some-in (smart procurement)”

Strategic Objective related to CNS provision in the area of systems and infrastructure refers to rationalisation of the FAB CE CNS infrastructure and shared use of common hardware resources where and when possible. This includes a common planning of the infrastructure and smart procurement led by FCE.

FSO6: Jointly implement enhanced G-G data communications capabilities

Type of activity: “All-in”

Strategic Objective related to G-G data communications refers to the RCP capabilities required for data communications capabilities for the various ATM applications used in the EAAS 2030 Vision. The G-G data RCP capabilities will take into consideration the Strategic Objectives applicable to cross-border airspace solutions, ADSP and resilience.

FSO7: Jointly implement procedures and systems to enable deployment of ATN B2 and ADS-C based services

Type of activity: “All-in”

Strategic Objective related to A-G data communications refers to the RCP capabilities required for data communications capabilities required to support the data link applications (CPDLC, EPP, constraint synchronisation) in the EAAS 2030 Vision. The A-G data RCP capabilities will take into consideration the Strategic Objectives applicable to cross-border airspace solutions, ADSP, virtual centres and resilience and may include deployment or smart procurement of services required.

FSO8: Establish a common planning and procurement in the AIM domain

Type of activity: “Some-in”

Strategic Objective related to cooperation in the AIM domain where AIM data generation and integration are expected to be decoupled from ATS provision. In the future architecture, ATS service providers will have access to multiple services based on different technologies seamlessly integrated at the level of AIM brokering and integration services which opens a number of opportunities starting with common planning and procurement.

4.2.4. ENABLING FSO₅

FSO9: Develop framework agreements enabling more extensive use of cross-border services in FAB CE

Type of activity: “Some-in”

Strategic Objective related to development and implementation of all necessary enablers for fulfilling of the vision including:

- ▽ Financial compensation mechanisms to enable more extensive dynamic cross-border operations and demand/capacity balancing arrangements.
- ▽ Liability agreements at the state level enabling more extensive cross-border operations covering service provision arrangements between all involved ANSPs.
- ▽ Safety management processes in areas of cross-border co-operations, covering service provision arrangements between all involved ANSPs.
- ▽ Common training, licensing and NSA oversight requirements in areas of cross-border co-operations, covering service provision arrangements between all involved ANSPs.
- ▽ All remaining enablers for achieving other FSOs, e.g. legal act of ATS delegation, provision of air policing activities in ATS delegated airspace (civ-mil cooperation), SUR/COM coverage in X-border sectors etc.).

FSO10: Ensure FAB CE participation to the large-scale demo activities of SJU

Type of activity: “Some-in”

Strategic Objective related to ensuring active participation in the large demonstrator activities of SJU stemming from the European Airspace Architecture Study for the hotspots identified in the FAB CE region in order to be ready for implementing static X-border airspace and/or get familiar with dynamic environment.

4.3. MEDIUM PRIORITY FAB CE STRATEGIC OBJECTIVES

The FAB CE Strategic Objectives listed below are seen as important by the FAB CE stakeholders but mostly cover activities that are still not mature enough. The FAB CE ANSPs are committed to active monitoring of developments in these areas and assess their maturity and potential; and develop jointly activities that will contribute to achieving these objectives once there is a sufficient level of maturity in order to make an informed decision on the way forward. Applicability of medium-priority Strategic Objectives is also related to future regulatory environment still being developed but is expected to impact 2020-2030 period.

4.3.1. FSO₅ CONTRIBUTING TO CAPACITY/ENVIRONMENT IMPROVEMENTS

FSO11: Monitor and assess developments related to the concept of ADSPs

Type of activity: "Some-in"

ADSP Strategic Objective refers to the transition from current systems-based to service-based ATM provision, where the various data required for the service provision may be produced and/or consumed by third parties.

FSO12: Monitor and assess developments related to Virtual Centres

Type of activity: "Some-in"

Strategic Objective related to Virtual Centres (VC) is closely linked to the deployment of ADSP services and the ambition levels chosen. VCs can also enable high degree of functionality and ambition in business continuity allowing for a defined quality of ANS services to be readily activated when a long-term disruption of service provision is expected.

4.3.2. FSO₅ CONTRIBUTING TO COST-EFFICIENCY IMPROVEMENTS

FSO13: Monitor and assess developments of performance-based CNS provisioning

Type of activity: "Some-in"

Strategic Objective related to performance-based CNS provision refers to the anticipated decoupling of integration services and CNS infrastructure services, allowing for a performance-based approach to CNS through the CNS infrastructure and services concept. The objective includes the potential establishment of joint venture(s) (FCE or other technology start-ups) for data integration services.

4.4. HIGH-LEVEL ROADMAP

Taking into account the challenges and opportunities described, the roadmap for implementation of the FAB CE Strategy is as follows¹:

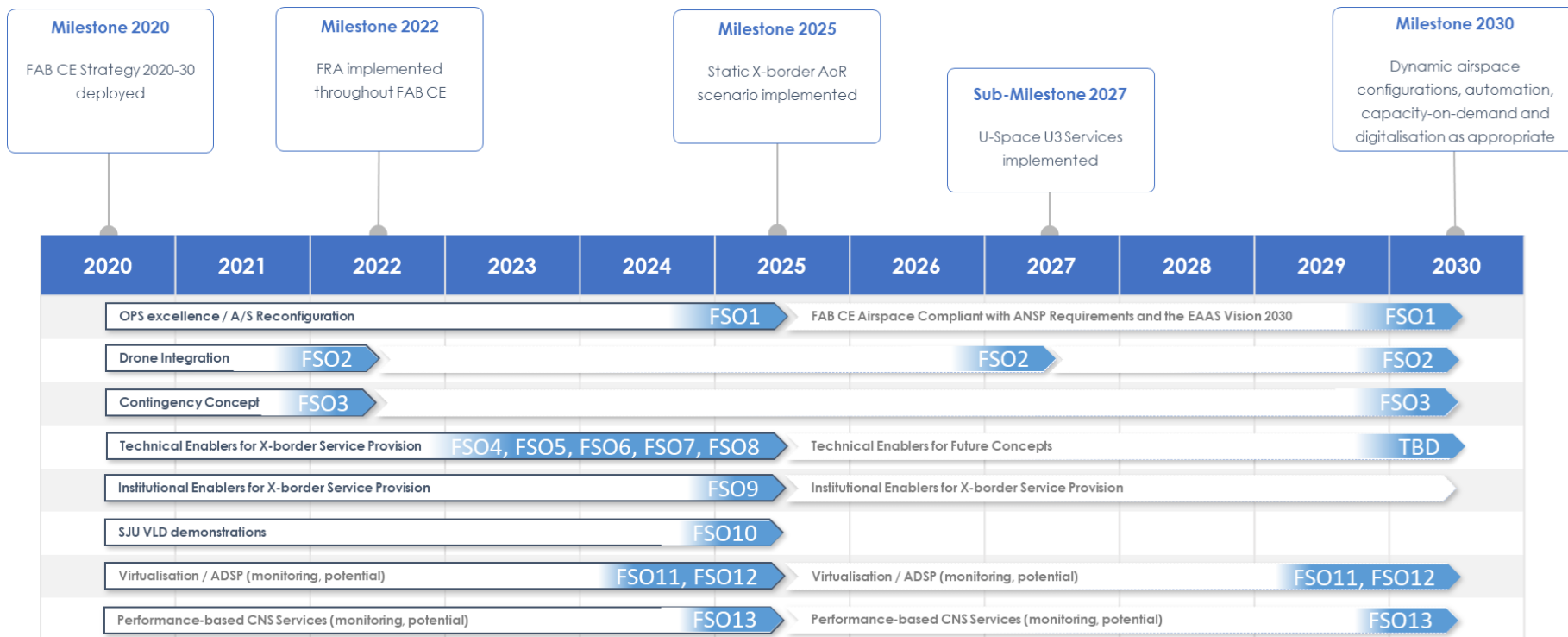


Figure 1: FAB CE FSOs relationship to the EAAS milestones and improvement areas

¹ Note that the short-term and medium-term goals (2022-2025) will be implemented irrespective of the national RP3 Performance Plans.

FAB CE Strategic Objectives

FSO1	Jointly develop and implement FAB CE airspace compliant with ANSP requirements and the EAAS vision	FSO8	Establish a common planning and procurement in the AIM domain
FSO2	Facilitate the implementation of U-Space in FAB CE	FSO9	Develop framework agreements enabling more extensive use of cross-border services in FAB CE
FSO3	Jointly implement procedures and system functionalities to improve FAB CE ANSPs contingency resilience	FSO10	Ensure FAB CE participation to the large-scale demo activities of SJU
FSO4	Jointly implement cyber-security procedures and measures	FSO11	Monitor and assess developments related to the concept of ADSPs
FSO5	Jointly plan FAB CE CNS infrastructure	FSO12	Monitor and assess developments related to Virtual Centres
FSO6	Jointly implement enhanced G-G data communications capabilities	FSO13	Monitor and assess developments of performance-based CNS provisioning
FSO7	Jointly implement procedures and systems to enable deployment of ATN B2 and ADS-C based services		

Figure 2: FAB CE FSOs 2020-2030

By the end of 2021/22²:

- ▽ FAB CE will jointly redefine its static cross-border airspace in accordance with the outcomes of the NM's airspace reconfiguration programme for the particular hotspots in which FAB CE ANSPs will actively participate;
- ▽ FAB CE will jointly implement outcomes of the NM's operational excellence programme. This includes at minimum implementation of PCP system capabilities required by this deadline and advanced interoperability improvements as enablers for operational excellence;
- ▽ FAB CE will jointly participate in the SJU large demo (VLD) on dynamic airspace management for the relevant hotspots in the FAB CE region;
- ▽ FAB CE will implement other short-term FSOs required to enable implementation of more extensive cross-border arrangements;
- ▽ FAB CE will jointly plan and optimise its technical infrastructure and seek opportunities for co-operation in other technical services, including smart procurement.

By the end of 2025:

- ▽ FAB CE will implement evolution of the static X-border scenario based on the fulfilment of the identified prerequisites;
- ▽ FAB CE will review its strategic position regarding dynamic airspace management and depending on the strategic decisions made, FAB CE will implement other longer-term FSOs required to enable dynamic airspace management and capacity-on-demand arrangements, such as implementation of liability and financial compensation mechanisms and training and licensing requirements;
- ▽ FAB CE will continue to actively participate in the NM's airspace reconfiguration and operational excellence programme at network level;
- ▽ FAB CE will jointly implement technical capabilities for ground-ground and air-ground connectivity required by EAAS;
- ▽ FAB CE will progress with digitalisation of the services and implement common technical services, including performance-based CNS services, as and when beneficial.

By the end of 2030:

- ▽ Depending on the strategic decisions made, FAB CE will further progress its digitalisation and gradually transit towards higher level of automation supported by coordinated/joint implementation of SESAR solutions;
- ▽ Depending on the strategic decisions made, FAB CE will implement the concept of ADSP, as and when beneficial;

² E.g. the VLD timing is not confirmed yet.

- ∇ Depending on the strategic decisions made, FAB CE will continue working jointly on implementation of further enablers for implementation of new concepts in the long-term horizon (by 2035), such as flow/flight centric operations, trajectory-based operations and service-oriented air traffic management.

For a more detailed definition of the milestones, please, refer to the FAB CE High-Level Plan.