



Agenda Item 4: Report on GESEA activities and deliverables and Subgroups

WORKSHOP TO SUPPORT THE IMPLEMENTATION OF FF-ICE/R1 SERVICES IN CAR/SAM REGIONS

(Prepared by Brazil)

SUMMARY

This Working Paper announces that Brazil will host an international technical workshop from 23 to 27 November 2026. The event will bring together experts from ICAO CAR/SAM Regions and other stakeholders to advance regional implementation of FF-ICE Release 1 Services (FF-ICE/R1). Participants will strengthen cooperation, address implementation challenges, share operational experience, and discuss future regional integration.

References:

- ICAO Doc 9750
- ICAO Doc 9854
- ICAO Doc 9882
- ICAO Doc 10039
- GESEA SG4 Work Plan

1. Background

1.1 Several ICAO Regions have started implementing FF-ICE/R1 services, which require harmonized planning, standardized procedures, and increased cooperation among States and aviation stakeholders.

1.2 In 2025, Brazil launched the FF-ICE BR Project under the SIRUS Program of DECEA to implement FF-ICE/R1 services. An initial workshop and a week-long meeting, using an adapted lean inception method, aligned participants on the FF-ICE concept and related services. These sessions produced a minimum viable service package, including both mandatory and optional services, to guide the development of the FF-ICE/R1 Operational Concept.

1.3 The formation of Subgroup 4 on CAR/SAM Regions Airspace Planning and Study Group (GESEA SG4) in 2025 marks a key step in coordinating FF-ICE services across the CAR/SAM Regions. This initiative fosters collaboration among States and international organizations, aligns implementation strategies, encourages the exchange of technical knowledge and operational experience, and identifies common regional needs.

1.4 A coordinated implementation approach in the CAR/SAM Regions is essential to deploy FF-ICE/R1 services in a standardized, interoperable, and efficient way. This coordination ensures seamless information exchange, reduces implementation risks, and advances harmonized trajectory-based operations globally.

2. Analysis

2.1 The FF-ICE Regional Workshop is scheduled to be held at the headquarters of the Brazilian Department of Airspace Control (DECEA) from 23 to 27 November 2026. The workshop aims to support implementation activities coordinated by GESEA SG4, related to the FF-ICE services and will include presentations, technical and operational discussions, and collaborative Tabletop Exercises. The presentations, discussions and Tabletop Exercises will address the following topics:

- Current status of System-Wide Information Management (SWIM) implementation in CAR/SAM Regions;
- FF-ICE concept, mandatory and optional FF-ICE/R1 services;
- Brazilian FF-ICE/R1 Operational Concept;
- Systems evolution required to support FF-ICE/R1 services;
- Electronic Flight Plan (eFPL) in FIXM format;
- Collaborative FF-ICE Tabletop Exercises, involving strategic, pre-tactical and tactical phases of ATM operations, Collaborative Decision-Making (CDM), rerouting, contingency management and AIDC coordination between FIRs.

2.2 The presentations will outline the shift from traditional message exchange to a collaborative environment built on structured, interoperable data. They will describe FF-ICE/R1 services (Planning, Filing, Trial, Notification, and Publication) and highlight how each supports the move from conventional to eFPL. They will also show how SWIM provides the core infrastructure that enables interoperability among Air Navigation Service Providers, airspace users, and ATM systems.

2.3 The Tabletop Exercises will be designed to give participants practical experience with the operational use of FF-ICE information and collaborative trajectory management. They will also facilitate relevant discussions and emphasize the need for regional coordination in implementing FF-ICE/R1 services and interoperability among future ATM systems.

2.4 The workshop will facilitate discussion to support harmonized FF-ICE/R1 implementation in the CAR/SAM Regions by promoting knowledge exchange, addressing shared challenges, and strengthening cooperation among States before operational deployment.

3. Suggested actions

- a) Member States are invited to nominate experts to support the FF-ICE/R1 Regional Workshop; and
- b) Member States are encouraged to submit relevant use cases and implementation challenges to support the development of operational scenarios for the Tabletop Exercises. This will help ensure the exercises reflect real operational conditions and strengthen regional interoperability.

PROPOSED WORK PLAN FOR THE GESEA SG4 MEETING

ACTIVITY 1: PRESENTATION OF SWIM AND STATUS OF SWIM-BR

Deliver a presentation on the SWIM concept and provide an update on the implementation status of the SWIM-BR Project in Brazil.

Objectives of the activity:

- Present the SWIM concept;
- Present the activities undertaken for the development of CONOPS SWIM-BR using the Lean Inception method;
- Present the registration prototype and PCICEA, including integration with EUROCONTROL;
- Plan integration and development testing activities for SWIM within the region.

ACTIVITY 2: PRESENTATION OF THE FF-ICE CONCEPT AND STATUS OF THE FF-ICE BR PROJECT

Deliver a presentation on the FF-ICE concept and provide an update on the implementation status of FF-ICE/R1 services in Brazil.

Activity Objectives:

- Present the FF-ICE concept and detail both mandatory and optional FF-ICE services;
- Present the activities undertaken for the development of CONOPS FF-ICE, the definition of requirements for ATM, AIM, and MET systems necessary for service availability, and the structuring of the FF-ICE BR portal;
- Present the current status of ATM, AIM, and ATFM systems and identify improvements required for FF-ICE implementation;
- Plan integration tests for FF-ICE services within the region.

ACTIVITY 3: AIRLINE PRESENTATION: SUBMISSION OF ELECTRONIC FLIGHT PLAN (eFPL)

Prepare a presentation demonstrating the process by which airlines submit eFPLs to EUROCONTROL and the extraction of mandatory field information from the eFPL (FIXM file).

Activity Objectives:

- Present the platforms used by airlines to submit eFPLs to EUROCONTROL;
- Demonstrate the information entered into the eFPL (FIXM file) and outline the submission process;

ACTIVITY 4: FF-ICE/R1 TABLETOP EXERCISES (2 exercises in different scenarios)

Conduct Tabletop Exercises using the selected scenarios of interest.

Activity Objectives:

- Simulation of the selected scenario;
- Collaborative Analysis;
- Group Operational Decision-Making;
- Interoperability Assessment

Activity Phases:

1- Strategic Planning

• Initial Situation:

- Origin and Destination Demands for Routes of Interest;
 - Airline Destination Lists (eFPL) ;
 - Available Initial Trajectories.
- Using the available demands and trajectories, participants will analyze the following:
 - Sector Capacity;
 - Bottlenecks;
 - Forecast of Congested Sectors and Affected Flows.

2- Pre-Tactical Planning

- Meteorological information shows impacts on the presented eFPL routes (extensive convective systems).
- Multiple FIRs and a large expanse of airspace affected by adverse weather conditions.
- Engage in CDM to plan alternative routes.
- Address sudden changes and unforeseen increases in traffic:
 - CDM for flow management; and
 - Coordination between FIRs

3- Tactical Management

- Severe storms disrupt multiple routes. Participants are required to:
 - Replan routes; and
 - Coordinate through AIDC.
- Address partial failure of ATM systems within an FIR and implement contingency procedures.

4- Replanning

- Airlines submit eFPLs with revised routes (FIXM files), and participants will:
 - Evaluate the impacts; and
 - Approve or reject the routes, requesting a reassessment if necessary.

END