



Agenda Item 5: Other business

**FLIGHT AND FLOW INFORMATION FOR A COLLABORATIVE
ENVIRONMENT (FF-ICE)**

(Prepared by Brazil)

SUMMARY

The Global Air Traffic Management Operating Concept – Doc. 9854 sets the vision for the development of the future ATM system. The main conceptual changes foreseen in the document mentioned have already become a reality in different parts of the world, with different levels of maturity. However, remains pending the evolutionary transformation towards the trajectory-based operating environment (TBO), through which the current and future positions of the aircraft will be known in greater detail, in terms of integrity, precision and precision of a trajectory point in the 4th dimension (lat, long and time). This study note presents the current developments of the FF-ICE in its capacity as one of the key enablers of the TBO.

References:

- ICAO *Global Air Traffic Management Operational Concept* (Doc 9854); and
- *Manual on FF-ICE Implementation Guidance* (Doc 9965).

1. Introduction

1.1 The Global Air Traffic Management (ATM) Operational Concept (GATMOC1, Doc 9854) presents the vision, at a high level, of the future ATM system.

1.2 The main conceptual changes foreseen in GATMOC have already become a reality in different parts of the world.

1.3 However, for the full realization of GATMOC's vision, the evolutionary transformation to a trajectory-based operations (TBO) environment, in which current and future aircraft positions will be known with more detail and precision, still needs to be structured.

1.4 To ensure that such transformation takes place in a consistent, harmonized and integrated manner, the global and regional ATM community, especially in the SAM region, identifies the need for a common structure that guides the development and implementation of the necessary individual capacities and processes in an interrelated manner and according to the needs of each State.

2. Analysis

2.1 The concept described in the Flight and Flow– Information for a Collaborative Environment (FF-ICE) (Doc 9965), is one of the main *enablers* of TBO, since it presents the necessary resources to allow the negotiation of the flight path between users and ATM service providers, thus operationalizing dynamic flight through the exchange of information between all stakeholders.

2.2 In other words, FF-ICE will support the definition of support processes for flight path planning and management, as well as flow.

2.3 It should be noted that for the initial implementation of FF-ICE, the ATM community agreed, at CNA/12.2012, to develop the necessary tools to mitigate the problems associated with the current flight planning mechanism and establish the basis for the transition that allows the implementation of the full FF-ICE. Six years later, it endorsed its implementation strategy at CNA/13.2018.

2.4 In this context, the Air Navigation Commission (CNA) has developed proposals to amend the Annexes, Procedures for Air Navigation Services (PANS) and guidance material, with an applicability date in the coming years (Q4 2024), and technical and operational validations of these proposals and the concept itself are underway in other Regions.

2.5 The proposals listed were and are being developed to allow the FF-ICE to be implemented in a voluntary, evolutionary and standardized manner by the regions.

2.6 The initial implementation of the FF-ICE will include, among others, the following changes presented by the CNA proposals:

- a) *Use of the Global Unique Flight Identifier (GUFID)*;
- b) use of an additional Service that allows pre-departure negotiation and coordination between the user and the ATM service provider;
- c) an expanded scope of Flight Plan information; and
- d) more flexible means of exchanging information on flight plans.

2.7 In this perspective, the current requirements and processes related to the "flight plan" or "flight planning" will remain in force until a proposed regional deadline of 2032 according to the corresponding amendment, thus having a mixed period contemplating the "FF-ICE" and "Non-FF-ICE" States.

2.8 To meet these deadlines, and with a view to contemplating the mixed-mode operation of the current flight planning mechanisms and the FF-ICE, it will be advisable to acquire sufficient experience with their initial implementation and to define, validate and test in the Region all the necessary tools for the implementation of the full FF-ICE.

2.9 Therefore, it will be necessary to develop a transition strategy supported also by a positive cost-benefit analysis to minimize any negative impact on the SAM region.

3. Suggested actions.

In view of the above, SAM/IG is invited to:

- a) Encourage States and industry stakeholders to consider proposed amendments to ICAO Annexes, PANS and guidance material in support of the initial implementation of the environmental citizens' initiative;
- b) carry out work related to the awareness needed by the SAM Region regarding the implementation and evolution of FF-ICE;
- c) suggest States to conduct a *simulation exercise* in their respective countries to obtain and provide results of the operational and technical "validation" of the FF-ICE;
- d) alert on the possible incompatibility of AMHS with FF-ICE and SWIM; and

Note: For instance, a State without AMHS capability may elect a direct introduction to SWIM, as explained in Document 10039.

- e) request ICAO Lima to develop a regional transition strategy to minimize any negative impact during mixed-mode operations with the mechanisms of the current flight plan and FF-ICE.