International Civil Aviation Organization

MIDANPIRG Communication, Navigation and Surveillance Sub-Group

Fourteenth Meeting (CNS SG/14)
(Abu Dhabi, UAE, 19 – 23 October 2025)

Agenda Item 3: Planning and Implementation issues related to CNS/ATM/SAR

HARMONIZING REGIONAL AIR NAVIGATION PLANS (FF-ICE)

(Presented by IATA)

SUMMARY

Cooperation and collaboration between the various ATM value chain participants is a key success factor in achieving a globally harmonized, interoperable, and efficient Air Navigation System that supports the expected demand on an air traffic system with finite capacity.

The ICAO global approach with the GANP and agreed ASBU timelines urges ANSPs, member States, and international organizations to work together to make the optimum use of new and existing technologies to achieve the desired operational improvements, moving all stakeholders, in unison, towards a seamless airspace. Deployment timelines across regions, and even amongst States in the same region, are, however, not harmonised with disparities across various areas.

This paper identifies airspace user priorities and the IATA position on these, and the need for regional harmonised deployment.

Action by the meeting is at paragraph 3.

REFERENCES

- ICAO GANP
- IATA User Requirements for Air Traffic Services (URATS)

1. INTRODUCTION

1.1 With expected double-digit traffic growth, long-haul flights, and new generation aircraft, Air Traffic Management (ATM) needs to be efficient, globally harmonized, and interoperable to achieve safe, on-time, predictable operations with a low carbon footprint.

1.2 The International Civil Aviation Organization (ICAO) approved Global Air Navigation Plan - Doc 9750 serves as a global policy, establishing clear linkages between technological developments and operational benefits.

1.3 Currently, incompatibility in operational concepts, technologies, aircraft equipage, and performance requirements creates unsustainable business cases for airlines considering investment decisions.

1.4 Technological solutions must be derived in collaboration amongst all stakeholders to ensure functional compatibility with airborne systems and the timeliness of implementation.

1.5 Cooperation and collaboration between the various ATM value chain participants is a key success factor in achieving a globally harmonized, interoperable, and efficient Air Navigation System that supports the expected demand on an air traffic system with finite capacity.

2. DISCUSSION

2.1 The desired current and future ATM operational environment should allow for aircraft to operate safely and efficiently with a minimum number of avionics and performance changes across different airspaces and across all regions.

2.2 Traditionally, air traffic control (ATC) systems have been developed and deployed individually by States/ANSP's mainly focusing on their own airspace requirements, creating distinct levels of service and capability across various regions.

2.3 The ICAO global approach with the GANP and agreed ASBU timelines urges ANSPs, Member States, and international organizations to work together to make the optimum use of new and existing technologies to achieve the desired operational improvements, moving all stakeholders, in unison, towards a seamless airspace.

2.4 Deployment timelines across regions, and even amongst States in the same region, are, however, not harmonised with disparities across areas, such as the below that are expected to bring real benefits to the overall Air Navigation System:

2.4.1 Air Traffic Flow Management (ATFM) and flexible use of airspace (FUA)
2.4.2 Flight & Flow in a collaborative environment (FF-ICE)
2.4.3 Trajectory based operations (TBO)
2.4.4 The transition from AIS to AIM
2.4.5 The deployment of SWIM architecture and services
2.4.6 The transition to digital, IP based ground/ground communications networks

2.5 The MID region is not immune to these disparities, with some States having made fast progress in the deployment and implementation of modern technologies and services, whilst others remain constrained with legacy systems.

2.6 Currently the variances in technologies, aircraft equipage, and performance requirements across regions, and even States, significantly reduce the expected operational benefits and value added of investments made and create unsustainable business cases for airlines considering further investment decisions.

2.7 The IATA User Requirements for Air Traffic Services (URATS) Volume 1 and Volume 2 provides guidance for airlines, States, and ANSPs when determining infrastructure requirements and capabilities for air navigation services. It complements the ICAO GANP while stating IATA's positions on the various communication, navigation and surveillance technologies and operational concepts.

2.8 The following priorities and positions are highlighted:

2.8.1 Civil/Military ATM Cooperation (CMAC) – IATA Supports an increased CMAC as enabler for an efficient and predictable use of the airspace, where limited interoperability between civil and military systems exists, improving communication and cooperation processes.

2.8.2 Flexible Use of Airspace (FUA) – IATA supports the FUA concept as the enabler for a more efficient and predictable use of the airspace with the military, where full interoperability between civil and military systems is implemented supported by effective communication and cooperation processes. FUA should be considered as the final stage of CMAC.

2.8.3 Direct Routing Operations (DRO) - Safe and efficient DRO wherever applicable and beneficial are supported by IATA, reinforcing that no additional requirement for a specific navigation performance on direct segments should be required and that RNAV 5 specifications would be suitable for DRO within a specific volume of airspace.

2.8.4 Free Route Airspace (FRA) - Support the FRA concept which will move from current route network structures to free route airspace availability, offering significant opportunities to AU. Where the FRA is implemented, these improvements should provide considerable savings and traffic predictability thanks to more stable trajectories. ANSPs should expedite capabilities within ATM automation systems to enable safe operations in FRAs. These capabilities include, for example, route adherence monitoring and conflict detection functions. Considering regional specificities, cross-border FRA with the maximum freedom of evolution should be pursued as the goal to provide optimum flight efficiency.

2.8.5 Air Traffic Flow Management (ATFM) - Support and promote the implementation of basic ATFM functionalities and procedures by States and ANSPs. For ANSPs having capacity balancing issues, there are a number of tools and systems already available on the market, as well as best practices contained within guidance materials. IATA also supports and promotes the fuel burn reduction benefits received from mature Long-Range Air Traffic Flow Management (LR-ATFM) programs to improve the demand-capacity management by an extension of the current time horizon of regional ATFM implementations. Thus, major traffic flows could be efficiently managed across ATM regions with a long-range situational awareness (more transparent traffic management) enabled by an early provision of target times over a waypoint.

2.8.6 Aeronautical Information Management (AIM) - Supports the effective implementation of ICAO defined Aeronautical Information Management with the following minimum main requirements:

2.8.7 Implementation of an effective certified quality management system for aeronautical information managers and service providers ensuring continuous review and improvement.

2.8.8 Implementation of robust aeronautical information management regulation that supports and enables aeronautical information originators, managers and users in the origination, production, supply, and access to data.

2.8.9 Implementation of effective aeronautical information management processes across the aeronautical information data chain ensuring timely and equitable access to aeronautical information that conforms to defined data quality attributes and user requirements.

2.8.10 Implementation of globally harmonised standardised templates/formats for aeronautical information products and services.

2.8.11 Implementation of electronic data management and exchange based on the defined Aeronautical Information Exchange Model (AIXM).

2.8.12 Advocates for the implementation of globally agreed governance principles and communication infrastructure (see URATS Vol 2 CNS).

2.8.13 Implementation of a transition AIS/AIM process characterised by the increasing application of the SWIM interoperable services.

2.8.14 Full cost recovery for Aeronautical Information should be facilitated through Air Navigation Charges and AU should not carry any additional separate costs associated to accessing required aeronautical information.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper; and

b) discuss the need for enhanced coordination and alignment among the MIDANPIRG subsidiary bodies to ensure a harmonized regional deployment of ATM operational concepts, supporting systems, and their enablers, with the aim of identifying overlaps, gaps, and opportunities for synchronized deployment of a Regional FF-ICE transition plan.

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