INTERNATIONAL CIVIL AVIATION ORGANIZATION

Fourth Meeting of the APIRG Infrastructure and Information Management Sub-Group (IIM/SG4)

(Virtual, 31 August – 3 September 2021)

Agenda Item 5 : *Implementation of ASBU Modules*

WP5.2 - Update on AIM ASBU modules

(Presented by the secretariat)

SUMMARY
This working paper outlines the update on AIM related ASBU modules following the sixth edition of the Global air navigation plan ;   Action by the meeting in paragraph 3
REFRENCE(S):   ▪ Global air navigation plan (Doc 9750)   ▪ Report of the nineteenth meeting of the APIRG   ▪ AFI Air Navigation Plan – Volume III
This working document relates to ICAO Strategic Objectives: **Safety, capacity and efficiency**   **KPIS and concerned ASBU Modules: DATM-B0, DAIM-B1, DAIM-B2**

1. INTRODUCTION

1.1   The GANP drives the evolution of the global air navigation system to meet the ever-growing expectations of the aviation community. The purpose of the GANP is to equitably accommodate all airspace users operations in a safe, secure and cost-effective manner while reducing the aviation environmental impact.

1.2   The GANP provides a series of operational improvements to increase capacity, efficiency, predictability, flexibility while ensuring interoperability of systems and harmonization of procedures.

1.3   The nineteenth meeting of the APIRG held from 28 to 31 October 2013, in Dakar, Senegal, adopted through its Conclusion 19/06 the AFI Regional Air Navigation System Implementation Action Plan aligned with the ICAO Aviation System Block Upgrades (ASBUs). This action plan was then integrated into the AFI Air Navigation Plan (eANP) Volume III, with allocation of priority to the 18 modules of ASBU Block 0 for implementation within the AFI Region. The allocation of priority is based on the following criteria.
   ✓ Priority 1 = immediate implementation;
   ✓ Priority 2 = recommended implementation.
9 Modules were allocated priority 1 and the remaining ones were priority 2.

1.4   The sixth edition of the GANP made some updates to the ASBU framework.

2. DISCUSSIONS

Old AIM related Thread and modules

2.1   The main ASBU thread dedicated to the area of Aeronautical Information Management (AIM) was DATM - Service improvement through digital aeronautical information management, with 2 modules: B0-DATM and B1-DATM.

2.2   The module B0-DATM covered the initial introduction of digital processing and management of information from origination to publication through, AIS/AIM implementation, use of aeronautical exchange model (AIXM), migration to electronic aeronautical information publication (eAIP) and better quality and availability of data.

2.3   The module B1-DATM addressed the need for increased information integration and would support a new concept of ATM information exchange fostering access via internet-protocol-based tools .This included the cross-exchange of common elements with the initial introduction of the ATM Information Reference Model (AIRM), which integrated and consolidated ATM information in a transversal way. Exchange models such as AIXM, FIXM (for flight and flow information; and aircraft performance-related data), IWXXM (for meteorological information) and others relate their concepts to the AIRM fostering convergence, re-use, and collaborative alignment.

Update of AIM thread and modules

2.4   The sixth edition of GANP replaces the thread DATM with the DAIM, refining AIM implementation elements in a more consistent and comprehensive manner. DAIM has only Block 1 and Block 2 timeframes.

2.5   Block DAIM-B1 includes seven elements about Quality-assured aeronautical information, Digital Datasets, and NOTAM improvements. All these elements are ready for implementation.

2.5.1   *DAIM-B1/1 - Provision of quality-assured aeronautical data and information*: This element ensures that processes, procedures and systems are improved to allow for an enhanced quality of aeronautical information products and services. It includes:
- ✓ Implementation of quality management systems to ensure that aeronautical data and information comply with the required standards.
- ✓ Use of common reference systems (spatial – WGS84 and temporal- AIRAC) to facilitate consistent interpretation of aeronautical data and information and facilitate their timely exchange.
- ✓ Full move into an automated data-centric environment so that the management, processing, verification, usage and exchange can be done in a structured, automatic manner and human intervention is reduced.
- ✓ Aeronautical data and information is of high quality if it is aggregated and provided by authoritative sources. This requires to properly controlled relationships along the whole data chain from the origination to the distribution to the next intended user (formal arrangements with data originators, neighbouring States, data and information service providers and others).

2.5.2   *DAIM-B1/2 - Provision of digital Aeronautical Information Publication (AIP) data sets*: This element consists in the replacement of existing sections of the AIP by digital AIP data sets. Therefore, it supports the migration to a data-centric environment where aeronautical data and information (AIP) will be provided in a structured and digital form using information exchange models (e.g. AIXM).

2.5.3   *DAIM-B1/3 - Provision of digital terrain data sets*: This element consists in the replacement of existing terrain data by digital terrain data sets. It supports the migration to a data-centric environment where terrain data will be provided in a digital form and in a structured way.

2.5.4   *DAIM-B1/4 - Provision of digital obstacle data sets*: This element consists in the replacement of existing obstacle data by digital obstacle data sets, provided in a structured and digital form using information exchange models (e.g. AIXM).

2.5.5   *DAIM-B1/5 - Provision of digital aerodrome mapping data sets*: This element consists in the replacement of existing aerodrome mapping data by digital aerodrome mapping data sets, provided in a structured and digital form using information exchange models (e.g. AIXM).

2.5.6   *DAIM-B1/6 - Provision of digital instrument flight procedure data sets*: This element consists in the replacement of existing instrument flight procedure data by digital instrument flight procedure data sets. In addition, it includes consistent coding of procedures to match the procedure design intent and ensure more repeatable flight paths. Applying new rules for coding Instrument flight procedures will limit the number of allowable path terminators for PBN procedures in compliance with the PBN Navigation Specifications. Therefore, this element supports the migration to a data centric environment where instrument flight procedure data will be provided in a structured and digital form using information exchange models (e.g. AIXM).

2.5.7   *DAIM-B1/7 - NOTAM improvements*: In order to meet the operational needs of the users, it is essential to provide information that is timely and fit for purpose. This can be done by refining the criteria to ensure that the users receive the right information. This element consists in the identification of clear operational conditions under which a NOTAM shall or shall not be originated and replacement of paper NOTAMs by a digital version using information exchange models (e.g. AIXM).

2.6   Block DAIM-B2 includes five elements below with Maturity Level either validation or Standardization:
- ✓ DAIM-B2/1 - Dissemination of aeronautical information in a SWIM environment,
- ✓ DAIM-B2/2 - Daily Airspace Management information to support flight and flow,
- ✓ DAIM-B2/3 - Aeronautical information to support higher airspace operations,
- ✓ DAIM-B2/4 - Aeronautical information requirements tailored to UTM,
- ✓ DAIM-B2/5 - NOTAM replacement.

Realignment of AIM priority module

2.7   The AFI Regional Air Navigation System Implementation Action Plan allocated B0-DATM with priority 1 for immediate implementation in the AFI Region. Following the replacement of the thread DATM with DAIM as discussed above, the AIM priority need to be updated and realigned with the 6th edition of the GANP.

3.   ACTIONS BY THE MEETING
3.1   The meeting is invited to:
- a) Note the information provided in this document,
- b) Consider the draft conclusion formulated in the WP5.1A

----- END -----