



# ICAO

International Civil Aviation Organization  
North American, Central American and Caribbean Office

WORKING PAPER

NACC/WG/8 — WP/04  
26/08/23

**Eighth North American, Central American and Caribbean Working Group Meeting (NACC/WG/8)**  
Mexico City, 29 August - 1 September 2023

- Agenda Item 3: Follow-up of NACC/WG 2022-2023 Action Plan**  
**3.1 Presentation by the Task Forces (TF) of the analysis of the Basic Building Blocks (BBB) in the different areas of air navigation**

## **PRESENTATION OF THE BBB IMPLEMENTATION ANALYSIS IN AIM**

(Presented by the AIM TF Rapporteur)

### **EXECUTIVE SUMMARY**

The Seventh Edition of the Global Air Navigation Plan (GANP) presents the Basic Building Blocks (BBB) framework, outlining the foundation of air navigation by defining the essential air navigation services that shall be provided for international civil aviation, and aviation system blocks (ASBU), outlines scalable implementation of operational improvements to be implemented once the essential services defined as BBB are achieved.

**Action:** Suggested action is presented in Section 4.

**Strategic Objectives:**

- Safety
- Air Navigation Capacity and Efficiency

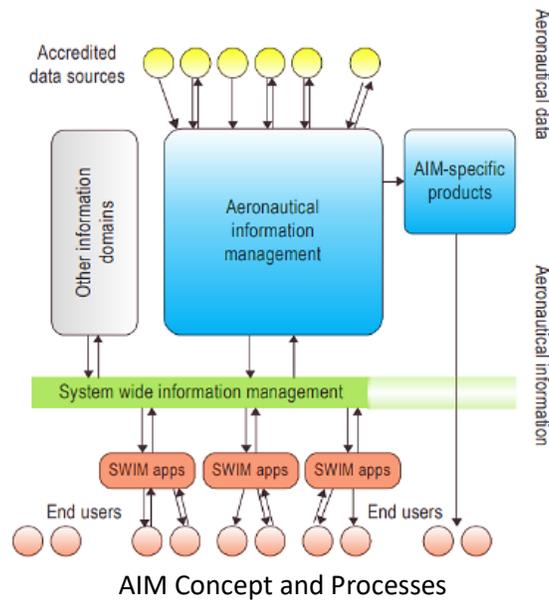
**References:**

- **Annex 15**, Aeronautical Information Services
- **Doc 10066**, Procedure for Air Navigation Services Aeronautical Information Management (PANS-AIM)
- **Doc 9750**, Global Air Navigation Plan
- **Annex 4**, Aeronautical Charts
- **PANS-OPS**, (Doc 8168), Aircraft Operations
- **Doc 8126**, AIS Manual (7<sup>th</sup>. Ed. four sections)
- **Doc 9839**, Quality Manual
- **Doc 8400**, – ICAO Abbreviations and Codes (PANS-ABC)

## **1. Introduction**

1.1 Data quality is essential for any baseline service in Aeronautical Information Management and Aeronautical Information Services (**AIM/AIS**) and due to the global need for the Aeronautical Information Exchange Model (**AIXM**), excluding Quality Assured (**QA**) data as part of the Basic Building Blocks (BBB) in provision of aeronautical data and Information, which have negative impact to the global system when it comes to data quality.

1.2 The global technical level features the BBB framework which outlines the foundation for a strong air navigation system by defining the essential air navigation services that shall be provided; and the ASBU for scalable implementation, which includes a catalogue of performance objectives, a list of key performance indicators (KPIs); and a performance-based method for implementation planning of air navigation operational improvements, including a catalogue of performance objectives and indicators.



1.3 The BBB are considered an independent system and not a block of the ASBU as they represent the minimum baseline rather than evolutionary steps. The provision of quality-assured aeronautical data and information is placed under the ASBU hence is considered as an operational improvement to be achieved once the basic services (BBBs) are achieved (Ref. DAIM-B1/1 Provision of quality-assured aeronautical data and information).

Evaluation of the Basic Building Blocks (BBBs)

Evaluation of ASBU elements in a state of maturity "Ready to implement"

- Expected results:
1. Updating of the status of regional implementation in Air Navigation
  2. Updating of the status of the Data of the documents of the electronic Air Navigation Strategic Plan in Vols. I, II and III
  3. The identification of regional deficiencies
  4. The identification of regional projects to be carried out in the short term

## 2. Discussion

2.1 The scope of AIM/AIS has significantly changed with the latest edition of Annex 15 — *Aeronautical Information Services, the Procedures for Air Navigation Services — Aeronautical Information Management* (PANS-AIM, Doc 10066) and Document 8126 AIS Manual -Four Sections, which included the digitization of data and information through the definition of various data sets (Electronic Aeronautical Information Publication (eAIP), terrain, obstacles, Aerodrome Mapping Database (**AMDB**) and Instrument Flight Procedure (**IFPs**) data sets) as well as the introduction of aeronautical data catalogue requirements (see **Appendix**).

Aeronautical Information Management/Services	
Elements	Reference/Guidance
Post-Flight Briefing Service	A15: Ch.:5 Doc 8126: Ch. 8
NOTAM Service	A15: Ch.:6 Doc 8126: Ch. 6 and its App. A, B, C, Ch. 9 and its App. A
Cartographic Service	A15: Ch.:5 and A4: Ch.: all Doc 8126: Specimen AIP and Doc 8697: all
Aeronautical Information Publication Service	A15: Ch.:5 Doc 8126: Ch. 5 and its App., Specimen AIP
Pre-Flight Briefing Service	PANS-AIM: Ch.5 Doc 8126: Ch. 8

2.2 The digitization process also requires high standardisation (Metadata) of the data and information-sharing at the State, regional and global levels. In a highly automated environment such as Air Traffic Management (ATM), data quality and accuracy must also be assured and guaranteed throughout the entire data chain due to the large number of data originators and end users in the value chain.

2.3 The transition from AIS to AIM focuses on the quality of data with emphasis on Quality Management Systems (**QMS**) and the exchange of this digital information utilising standardised exchanges models such as the AIXM via System Wide Information Management (**SWIM**) bringing on the fore front the global nature of aeronautical information management as a service.

2.4 The essential Standards and Recommendations are defined under an effective process that must be established to verify, in accordance with Article 37 of the Chicago Convention, to identify essential air navigation services that are provided, under the BBBs framework, for all areas of: Aerodromes Aeronautical Information Management, Air Traffic Management, Meteorology and Search and Rescue. In addition to essential services, the BBBs identifies the end users of those services, as well as the assets communications, navigation, and surveillance (CNS) infrastructure, which are necessary to provide them.

2.5 The BBB framework will be updated every two years considering amendments to ICAO provisions. Although an initial draft of the BBB framework is presented online in the GANP Portal: <https://www4.icao.int/ganportal/BBB> (Slides 12 to 18) the BBBs will be included in a web-based application in a format like the ASBU framework.

### 3. Conclusion

3.1 Quality is the root for any baseline service in aeronautical information management and due to the global need for the exchange of aeronautical data and information, localising standards for services to be provided as regional or national targets may have negative impact to the global system when it comes to data quality.

3.2 Failure to factor the placement of provision of quality aeronautical data as part of BBB framework should be viewed as a compromise between achieving compliance (being seen as meeting minimum requirement for robust air navigation system) and prioritising safety. In addition, regions with low levels of implementation for the transition from AIS to AIM may experience complacency towards provision of quality assured aeronautical data and information and at the end negating the attainment of the key objective of the multilayer structure GANP of not to leave behind any State or stakeholder.

3.3 The Secretariat, to carry out the verification, has planned to carry out a verification of the BBBs of the CAR States in the AIM area, during the year 2024, providing feedback as necessary.

3.4 To ensure the provision of seamless air navigation services based on the deployment of interoperable systems and harmonized procedures, States need to leverage the implementation of the BBBs through their national air navigation plans as a strategic part of their national aviation planning framework (Annex 15 and PANS AIM). This will also pave the way for the future implementation of air navigation improvements to increase the quality of the services and meet the performance expectations of the aviation community. [To comply with AIM BBBs, it is necessary to apply the AIM Compliance Checklist included in the ICAO Document 8126 new 7th. Ed. 2022, Part I. Regulatory Framework for Aeronautical Information Services Chapter 5, Aeronautical Information Management, Appendix B and Appendix C.](#) A survey will be sent to the States by means of a Letter in 2024 as indicated in Section 3.3 above.

### 4. Suggested actions

4.1 The Meeting is invited to:

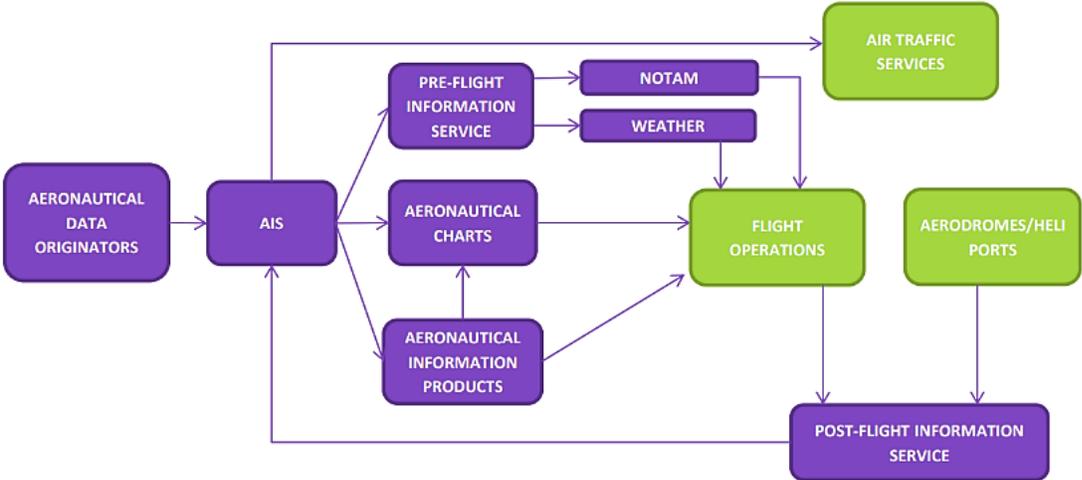
- a) request States to include the provision of **QA** aeronautical data and information as part of BBB;
- b) request States to develop provisions related to the harmonization of **AIXM** including **Metadata**, and their evolutions to guide the implementation of operational improvements identified for AIM domain under ASBU framework; and
- c) request States to continue their information and Data support for the establishment and implementation of a centralised regional AIM databases as part of NACC Dashboard Concept.

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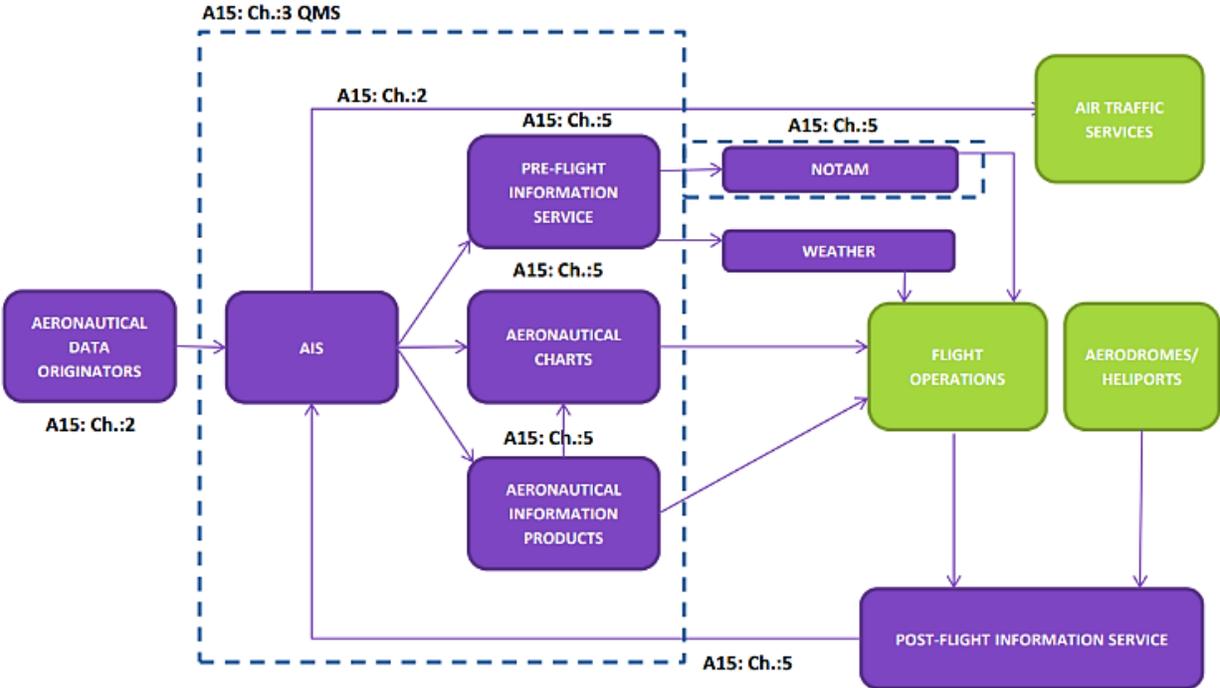
APPENDIX/ APÉNDICE

AIM BBBs

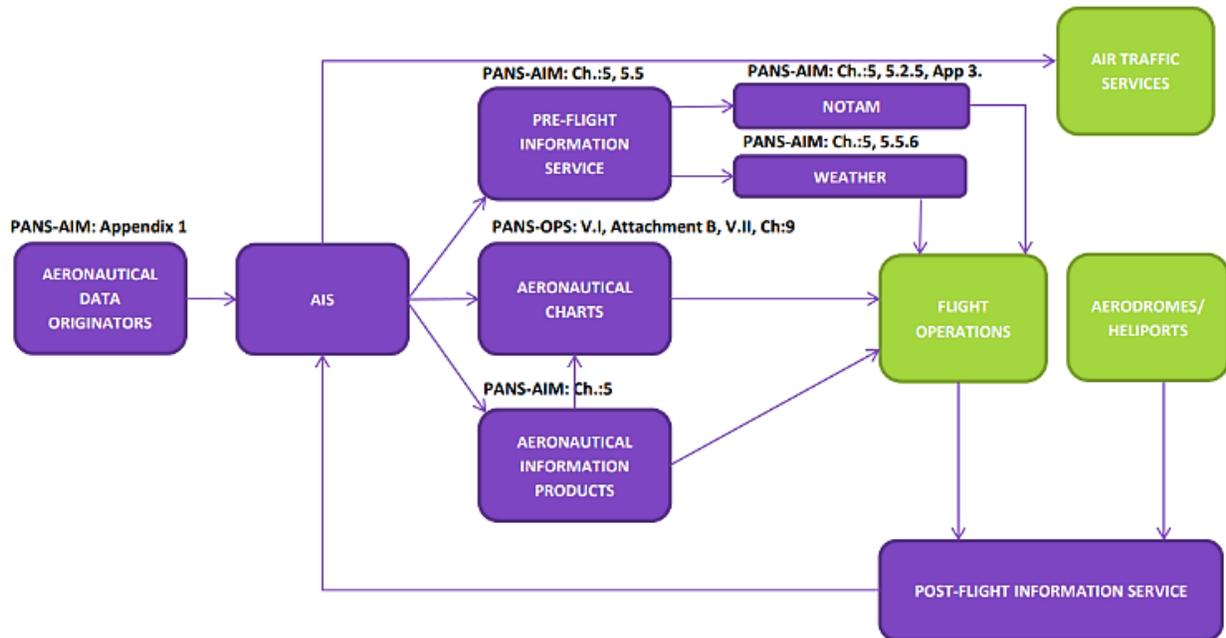
BASIC MODULES AND ELEMENTS/MÓDULOS Y ELEMENTOS BÁSICOS



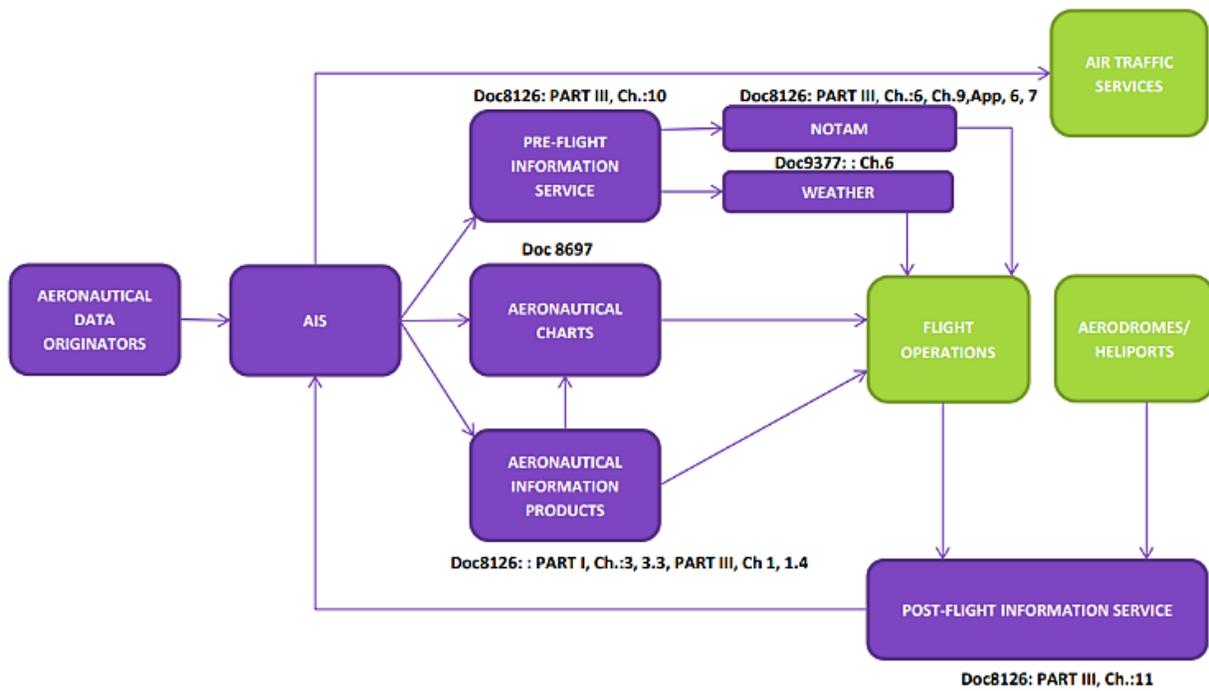
ANNEX 15/ANEXO 15



PANS AIM (Doc 10066)



Doc 8126



**SUPPORT & END USERS/ SOPORTE Y USUARIOS FINALES**

