



INTERNATIONAL CIVIL AVIATION ORGANIZATION

**Seventh Meeting of the APIRG Infrastructure and Information Management Sub-Group
(IIM/SG7)***Dakar, Senegal, 5 - 8 August 2024***Agenda Item 4: Air Navigation Deficiencies****WP4.1A Update on Status of the implementation of CNS, AIM and MET related BBBs***(Presented by the Secretariat)*

SUMMARY
<p>This paper provides an update on on the Basic Building Blocks framework and the related ANS services and call for the IIM Project teams to strength their efforts in effectively providing support to States and Organizations in the implementation of the essential ANS services and ASBU applicable elements.</p> <p>Action by the meeting in paragraph 3</p>
<p>REFERENCE(S):</p> <ul style="list-style-type: none">▪ Global Air Navigation Plan (GANP)▪ APIRG/25 Report▪ APIRG/26 Report
<p>Related ICAO Strategic Objective(s):</p> <ul style="list-style-type: none">• A – Safety, B – Air Navigation Capacity and Efficiency

1. INTRODUCTION

- 1.1 The Global Air Navigation Plan (GANP) is an important planning tool for setting global priorities to drive the evolution of the global air navigation system and ensure that the vision of an integrated, harmonized, globally interoperable and seamless system becomes a reality.
- 1.2 Developed in collaboration with and for the benefit of stakeholders, the GANP is a key contributor to the achievement of ICAO's Strategic Objectives and plays an important role in supporting the United Nations SDGs.
- 1.3 This electronic document represents the strategic angle of the GANP at the global strategic level. Its main purpose is to provide decision-makers with a strategic direction to drive the evolution of the global air navigation system for 2040 and beyond by outlining a vision, the associated performance ambitions and a conceptual roadmap.
- 1.4 The global strategic level also ensures the stability of the GANP within the defined timeframe and provides a clear view of the performance and technical frameworks described at the global technical level, for which it serves as the reference.

2. DISCUSSION

Basic Building Blocks Framework (BBBs)

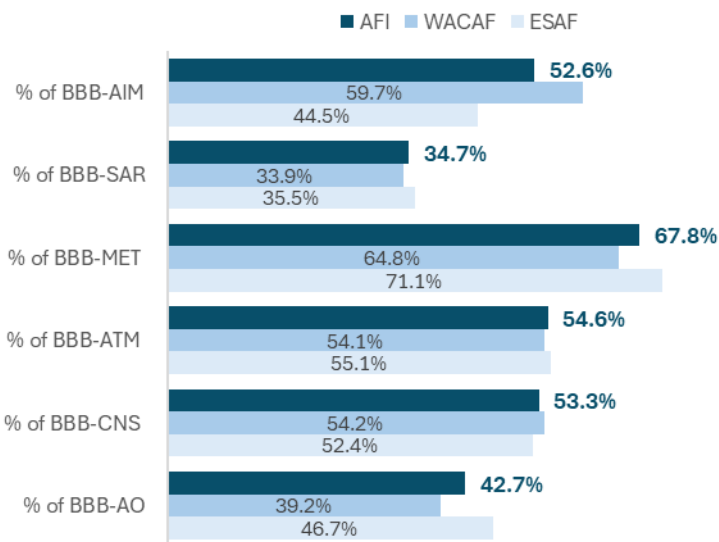
- 2.1 The global technical level includes two technical frameworks, the basic building blocks (BBBs) and Aviation System Block Upgrades (ASBUs), with its associated performance framework, which includes performance objectives and key performance indicators (KPIs).
- 2.2 The BBB framework outlines the foundation of a robust air navigation system. It can also be viewed as the **commitment of the State**, under the Convention on International Civil Aviation (Doc 7300), to provide **essential air navigation services** for the safe and orderly conduct of international civil aviation.
- 2.3 With the implementation of the BBBs, an air navigation system will be able to deliver the essential services to be provided for international civil aviation. The subsequent performance of these air navigation systems can then be improved through the application of the ASBU framework.
- 2.4 The ASBU framework drives the evolution of the global air navigation system towards the achievement of the identified performance ambitions by defining operational improvements and associated performance benefits, derived from specific concepts of operations defined in the different evolutionary steps of the conceptual roadmap.
- 2.5 The essential services are defined in the areas of aerodromes, air traffic management, search and rescue, meteorology and information management. In addition to essential services, the BBB framework identifies the end users of these services as well as the assets (communications, navigation, and surveillance (CNS) infrastructure) that are necessary to provide them.
- 2.6 The BBB is considered an **independent framework** and **not a block of the ASBU framework** as they represent a baseline rather than an evolutionary step.
- 2.7 This baseline is defined by essential services recognized by ICAO Member States as necessary for international civil aviation to develop in a safe and orderly manner. Once these essential services are provided, they constitute the baseline for any operational improvement.

Verification

- 2.8 In 2014, the ICAO Council approved a new template for the Regional Air Navigation Plans (ANPs) to better align global and regional planning. This template consists of three volumes.
 - Volumes I and II list the regional facilities as well as the general and specific regional service requirements, required for international civil aviation operations in accordance with regional air navigation agreements, in the areas of AOP, CNS, ATM, MET, SAR and AIM.
 - Volume III contains dynamic/flexible plan elements providing implementation planning guidance for air navigation systems and their modernization taking into consideration emerging programmes such as the ASBUs and associated technology roadmaps described in the GANP
- 2.9 To set a baseline for the system envisioned in the GANP and to ensure a robust foundation for the global air navigation system, an effective process should be established to verify, pursuant to Article 37 of the

Chicago Convention, that the **essential air navigation services identified in the BBB framework** are provided.

- 2.10 It is important to highlight that this process should focus on verifying the implementation of the essential air navigation services outlined in the BBB framework as the **capability of the States to oversight** these services is covered by the ICAO USOAP.
- 2.11 To avoid duplications and to align global and regional planning, the process for verifying the implementation of these essential services is embedded within the methodology for the identification of deficiencies against the regional air navigation plans.
- 2.12 If these essential services are not being delivered, ICAO, upon request of a State, provides the necessary technical assistance to address the needs as identified within the process.
- 2.13 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.
- 2.14 The graph below shows somehow the EI expressing the capability of the States to oversee these services covered by the ICAO USOAP CMA.



Status of Implementation of PQs linked to BBBs

2.15 The table below provides an overview of the grouping States with regard to AFI average % of EI related to the capability of States to oversee the implementation of BBBs in compliance with ICAO SARP and requirements of Air Navigation Plans.

AREA	AFI Average % of EI	States
AIM:	> 52%	Eight (8): (Benin, Burkina Faso, Equatorial Guinea, Ethiopia, Kenya, Madagascar, Mauritania, South Africa)
	<52%	Forty (40): Angola, Botswana, Burundi, Cabo Verde, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Eritrea, Eswatini, Ghana, Guinea, Guinea-Bissau, Lesotho, Liberia, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Sao Tome and Principe, Seychelles, Sierra Leone, Somalia, South Sudan, Uganda, United Republic of Tanzania, Zambia, Zimbabwe)
CNS:	> 53%	Thirteen (13): Benin, Botswana, Cabo Verde, Ghana, Kenya, Madagascar, Mauritania, Rwanda, Seychelles, South Africa, Uganda, Zambia
	<53%	Thirty-five (35): States (Angola, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Guinea, Guinea-Bissau, Lesotho, Liberia, Malawi, Mauritius, Mozambique, Namibia, Sao Tome and Principe, Sierra Leone, Somalia, South Sudan, United Republic of Tanzania, Zimbabwe)
MET:	> 68%.	Nineteen (19): Angola, Botswana, Cameroon, Congo, Côte d'Ivoire, Gabon, Gambia, Kenya, Madagascar, Mali, Mozambique, Niger, Nigeria, Rwanda, Seychelles, South Africa, United Republic of Tanzania, Senegal, Togo
	<68%	Twenty-nine (29): (Benin, Burkina Faso, Burundi, Cabo Verde, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Eswatini, Ethiopia, Ghana, Guinea, Guinea-Bissau, Lesotho, Liberia, Malawi, Mauritania, Mauritius, Namibia, Sao Tome and Principe, Sierra Leone, Somalia, South Sudan, Uganda, Zambia, Zimbabwe)

Expectations from APIRG IIM Projects

2.16 The regional IIM Projects are set up by APIRG to assist States with the implementation of the essential services defined by the BBBs frameworks and the implementation ASBU elements as approved in the Volume III of the Regional Air Navigation Plan.

3. ACTIONS BY THE MEETING

3.1. The meeting is invited to:

- a) Note the content of this paper.
- b) Encourage Project teams to strength their efforts in effectively providing appropriate assistance to States and Organizations with the implementation of the essential ANS services and ASBU applicable elements.

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