



WORKING PAPER

THIRTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 9 to 19 October 2018

COMMITTEE A

Agenda Item 1: Air navigation global strategy

1.2: Air navigation performance improvement and measurement through the aviation system block upgrades (ASBU) and basic building blocks (BBB) framework

THE PROPOSED GLOBAL TECHNICAL LEVEL FOR THE SIXTH EDITION OF THE GLOBAL AIR NAVIGATION PLAN (GANP)

(Presented by the Secretariat)

EXECUTIVE SUMMARY

This paper presents the ongoing work with respect to the update of the aviation system block upgrades (ASBU) framework, including the process and guiding principles behind it, as well as a proposed change management process to keep it up to date. It also introduces the concept of a basic building blocks (BBB) framework and explains the rationale for its development. These two global frameworks will be part of the global technical level in the multilayer structure proposed for the sixth edition of the *Global Air Navigation Plan* (GANP, Doc 9750).

Action: The Conference is invited to agree to Recommendation 1.2/xx — Global Technical Level of the sixth edition of the GANP (Doc 9750) in paragraph 3.

<i>Strategic Objectives:</i>	This working paper relates to the Safety and Air Navigation Capacity and Efficiency Strategic Objectives.
<i>Financial implications:</i>	<i>Impact for the aviation community:</i> None. <i>Impact for ICAO (relative to the current Regular Programme Budget resource levels):</i> Since ICAO's current Standards and Recommended Practices (SARPs) development and implementation roll-out will continue over the next triennia, additional resources are required, both financial and human, to support ICAO's efforts in global air navigation planning.
<i>References:</i>	Doc 9750, <i>Global Air Navigation Plan</i> Assembly resolution A39-12: ICAO global planning for safety and air navigation AN-Conf/13-WP/11 AN-Conf/13-WP/18 AN-Conf/13-WP/25

1. INTRODUCTION

1.1 A multilayer structure is proposed for the sixth edition of the *Global Air Navigation Plan* (GANP, Doc 9750) to better communicate with high-level and technical managers and to not leave behind any State or stakeholder. This four-layer structure is made up of global (strategic and technical), regional and national levels. (AN-Conf/13-WP/18 refers).

2. DISCUSSION

2.1 Global Technical Level

2.1.1 The global technical level, designed to support technical managers, will be derived from the global strategic level which will provide high-level strategic direction. The alignment of strategic and technical levels will allow aviation stakeholders to focus and optimize their efforts and resources.

2.1.2 In this regard, within the global strategic level, the conceptual roadmap will define a series of evolutionary steps (AN-Conf/13-WP/18 refers) that will subsequently be translated into specific concepts of operations and new operational improvements within the Aviation System Block Upgrades (ASBU) framework. These operational improvements will then become the reference for regional and national research and development activities.

2.1.3 Once these operational improvements have been validated and are available for deployment, they will support the adoption of a holistic performance-based approach for modernizing the air navigation system in a cost-effective manner and according to specific needs while ensuring interoperability of systems and harmonization of procedures.

2.1.4 The global technical level, in addition to supporting research, development and implementation activities (AN-Conf/13-WP/18 refers), will define the basic services to be provided for international civil aviation.

2.2 Aviation System Block Upgrades (ASBU) framework

2.2.1 The GANP included in its fourth edition the ASBU framework, a group of operational improvements and its associated performance benefits organized in key feature areas of the air navigation system (ASBU threads) and scheduled according to time of availability (ASBU Blocks). The 39th Session of the ICAO Assembly endorsed the fifth edition of the GANP which includes ASBU updates and provides useful additions while maintaining a stable structure, as had been requested by the aviation community.

2.2.2 The main goals of the ASBU framework are to:

- a) drive the evolution of the air navigation system by providing guidance to support decisions on research and development activities worldwide;
- b) support States and other stakeholders in planning the modernization of the air navigation system according to their performance and operational needs; and
- c) ensure interoperability of systems and harmonization of procedures.

2.2.3 To better serve these goals, the consistency and common understanding of the specific operational improvements within the ASBU threads need to be improved. In addition, the air navigation

system is constantly evolving and, to remain meaningful, the technical content of the ASBU framework should evolve with it. Therefore, although stability continues to be a guiding principle, a review of the structure, format and technical content of the ASBU framework is necessary to make it more comprehensive, coherent and directed at implementation.

2.2.4 To review the framework's structure and content, a multidisciplinary group of independent experts was formed, named the "ASBU Panel Project Team" (ASBU PPT). These experts, from the relevant ICAO Air Navigation Commission panels, act as focal points for the panels on the review of the ASBU framework. To maintain consistency while they worked both on and offline, the ASBU PPT developed a template for the review of the ASBU threads. This template also helped in increasing the understanding of the main components within the ASBU framework.

2.2.5 The template consisted of six parts. The first four addressed the functional description of the thread which included the definition of its elements and associated enablers. The last two parts focused on the performance analysis of the elements within the thread. A performance objectives catalogue was used to analyse and determine the performance benefits expected, under certain operational conditions, from each air navigation operational improvement. (AN-Conf/13-WP/11 refers).

2.2.6 The template also helped migrate the ASBU framework to a web-based application to permit the display, processing and filtering of the information, improving readability for all stakeholders. This web-based application will also allow the technical content of the ASBU framework to be kept up-to-date in accordance with an agreed change management process while ensuring consistency and structural stability of the framework. The web-based application under development can be accessed via the GANP Portal at <https://www4.icao.int/ganportal/ASBU> (AN-Conf/13-WP/18 refers).

2.2.7 An effective change management process for tracking the definition, evaluation, approval and implementation of any amendment to the ASBU framework is essential to ensure transparency and to achieve a common understanding on the proposed changes. ICAO, therefore, proposes the following change management process:

- a) any State or accredited international organization wishing to propose a change to the ASBUs framework should submit with their proposal the reason for the proposed amendment and supporting documentation if applicable;
- b) ICAO Secretariat, with the support of the ASBU PPT, will conduct an initial evaluation of the proposal to prepare it for further consideration;
- c) if the proposal relates to ICAO Standards and Recommended Practices (SARPs) or Procedures for Air Navigation Services (PANS), the Air Navigation Commission will review and approve, modify or reject the proposal in accordance with the established process. If not related to SARPs or PANS, the ICAO Secretariat will review and accept, modify or reject the proposal; and
- d) if the proposal is approved with or without modifications based on the steps mentioned above, the ICAO Secretariat will include it in the ASBU framework. If the proposal is rejected, the ICAO Secretariat will notify the originator and provide the rationale for refusal.

2.2.8 The ASBU framework is made up of a group of upgrades to advance the capabilities of any air navigation system, based on specific operational needs, but delivering at least the minimum services for international civil aviation. To facilitate identification of these minimum services, ICAO is developing the basic building blocks (BBB) framework.

2.3 Basic Building Blocks (BBB) Framework

2.3.1 The BBB framework outlines the foundation of any robust air navigation system. It identifies basic services to be provided for international civil aviation in accordance with ICAO Standards. These basic services are defined in the areas of aerodromes, air traffic management, search and rescue, meteorology and information management. In addition to basic 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.

2.3.2 The BBB is considered an independent framework and not a block of the ASBU framework as they represent a baseline rather than evolutionary steps. This baseline is defined by basic services recognized by ICAO Member States as necessary for international civil aviation to develop in a safe and orderly manner. Once these basic services are provided, they constitute the baseline for any operational improvement.

2.3.3 The BBB framework will be continuously updated taking into account amendments to ICAO provisions. Although an initial draft of the BBB framework is presented online in the GANP Portal (<https://www4.icao.int/ganpportal/BBB>), the BBBs will be included in a web-based application in a format similar to the ASBU framework (AN-Conf/13-WP/25 refers).

3. CONCLUSION

3.1 The global technical level of the GANP is designed to support technical managers and will be derived from the high-level strategic direction provided by the global strategic level. The global technical level will serve to align aviation stakeholders' efforts for a harmonized evolution of the air navigation system. To reflect this evolution and remain meaningful, it will be possible to update technical content while retaining a stable structure. The ASBU framework constitutes a group of upgrades to advance, following a performance-based approach, the capabilities of any air navigation system delivering at least the minimum services for international civil aviation. In order to facilitate the identification of these minimum services, ICAO is developing the BBB framework.

3.2 On this basis, the Conference is invited to agree to the following recommendation:

Recommendation 1.2/x — Global Technical Level of the sixth edition of the GANP

That the Conference:

- a) request ICAO to make available the Aviation System Block Upgrade (ASBU) and the basic building block (BBB) frameworks in an interactive format as part of the GANP portal;
- b) agree with the proposed change management process to maintain up-to-date the ASBU framework;
- c) agree, in principle, with the update of the ASBU framework and the initial version of the BBB framework as amended by the Conference; and
- d) request ICAO to continue to work with States, international organizations and other stakeholders on the development of the global technical level of the sixth edition of the GANP for subsequent endorsement at the 40th Session of the ICAO Assembly.

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