



International Civil Aviation Organization

WORKING PAPER

A42-WP/192

TE/62

28/7/25

ASSEMBLY — 42ND SESSION

TECHNICAL COMMISSION

Agenda Item 23: Global Aviation Safety and Air Navigation Plans

ENHANCING THE EFFICACY AND IMPLEMENTATION OF THE AVIATION SYSTEM BLOCK UPGRADES (ASBU) AND THE PERFORMANCE FRAMEWORKS

(Presented by Thailand, co-authored by Singapore)

EXECUTIVE SUMMARY

This working paper addresses critical aspects concerning the Aviation System Block Upgrades (ASBU) and the performance frameworks, a cornerstone of the Global Air Navigation Plan (GANP). While acknowledging the strategic importance of ASBUs in modernizing global air navigation, the paper highlights challenges related to its stability and proposes to streamline for enhanced harmonization and interoperability assurance within the current framework. It proposes that the ICAO develop the ASBU structure to provide focus on establishing a clear "minimum path" for implementation, thereby facilitating more consistent and widespread adoption by States and regions. While the performance-based approach has been introduced since the 5th edition of the GANP published in 2016, the uptake rate has been low. This paper proposes that support be given to the Planning and Implementation Regional Groups (PIRGs) to assist States and regions in reporting their performance in a holistic and harmonized manner, thereby improving the uptake of the GANP performance framework and reinforcing a performance-driven approach to global air navigation modernization.

Action: The Assembly is invited to:

- note the challenges identified regarding the ASBU framework's stability, need for enhanced harmonization, and interoperability assurance;
- urge the ICAO to review and refine the ASBU framework to enhance its coherence and ensure global interoperability;
- request the ICAO to develop and disseminate guidance on a minimum implementation path for ASBUs, providing clear, actionable steps, and timelines for States; and
- request ICAO to support States and regions through the PIRGs to utilize the guidance provided within the GANP performance framework to report their performance in a transparent, holistic, and harmonized manner.

<i>Strategic Goals:</i>	This working paper relates to <i>Aviation Delivers Seamless, Accessible, and Reliable Mobility for All</i> .
<i>Financial implications:</i>	The activities referred to in this paper are expected to be undertaken within the resources available in the Regular Budget

<i>References:</i>	Doc 10184, <i>Assembly Resolutions in Force (as of 7 October 2022)</i> Doc 9750, <i>Global Air Navigation Plan</i> Assembly Resolution A41-6, <i>ICAO global planning for safety and air navigation</i>
--------------------	---

1. INTRODUCTION

1.1 The Global Air Navigation Plan (GANP) serves as the strategic policy document guiding the evolution of the global air navigation system. Its primary objective is to ensure a safe, efficient, and environmentally sustainable air transport system that meets the demands of future air traffic growth. At the heart of the GANP's implementation strategy lies the Aviation System Block Upgrades (ASBU) and the performance frameworks.

1.2 The ASBU framework was introduced to provide a structured and performance-based approach to air navigation modernization. It aims to offer States and regions a flexible pathway to implement new technologies and operational approaches, allowing for phased improvements that deliver tangible benefits. The ASBU framework's design provides flexibility for States to select and implement upgrades relevant to their specific operational needs and financial capabilities, accommodating diverse operational environments.

1.3 The performance framework, linked to the ASBU framework, was introduced to enable States to adopt a data-driven, performance-based approach to determine air navigation modernization requirements. This approach focuses on defining desired outcomes and required performance levels (“what” to achieve), while the performance framework encompasses the continuous monitoring, measurement, and improvement of actual performance, addressing “how” to achieve these objectives.

2. DISCUSSION

2.1 Despite its foundational role, the ASBU framework faces challenges in stability and consistent application. Frequent revisions or additions of ASBU elements, while intended to keep pace with technology, can lead to various challenges from States’ perspective, e.g. implementation uncertainty, resource allocation challenges, complexity due to interdependencies which complicate national implementation plans, and slow adoption rates. Stability issues extend beyond update frequency to the clarity and consistency of guidance, where ambiguities further complicate implementation.

2.2 The current ASBU framework, while comprehensive, can be overwhelming for implementers, hindering effective understanding, prioritization, and global harmonization. The extensive myriad of ASBU elements obscure fundamental improvements critical for cohesive global air navigation modernization that must be undertaken by all. A streamlined framework would enhance clarity, making it easier for States to grasp core objectives and benefits, fostering better communication and buy-in for a globally consistent air navigation system. Moreover, it would also enable States to focus resources on globally aligned upgrades, accelerating benefits through harmonized implementation. Streamlining should strategically distill critical ASBU elements, outlining essential components and their operational impact, while promoting consistent understanding and application across all States.

2.3 Seamless interoperability across national and regional boundaries is fundamental. ICAO’s role in developing and providing robust interoperability and comprehensive guidance within the ASBU framework is paramount for a truly integrated global air navigation system.

2.4 To address challenges in implementation, ICAO should identify and promote a “minimum path” of ASBU implementation. This path would define the minimum set of ASBU elements to be implemented to ensure global interoperability and harmonization and to prepare for future air navigation system. This approach could be profoundly valuable in providing clear, prioritized guidance on essential ASBU elements that deliver significant benefits and are better aligned with global strategic objectives, thereby facilitating more effective and manageable implementation for States.

- a) *Prioritization for States’ implementation*: A minimum path enables more States to modernize without being overwhelmed, offering a pragmatic starting point for incremental improvements.
- b) *Focus on core capabilities*: This approach identifies core capabilities necessary for a functional and interoperable global air navigation system, ensuring focus on foundational elements and no country left behind.
- c) *Enhanced implementation manageability*: By providing a focused set of essential upgrades, the minimum path helps States manage the complexities of implementation more effectively, encouraging wider participation in GANP implementation and accelerating global benefits.
- d) *Strategic resource allocation*: A clear minimum path allows States to optimize their resource allocation by focusing investments on the most critical and impactful upgrades that contribute directly to global alignment.

2.5 Developing such a minimum path represents a strategic shift towards a more pragmatic and accessible approach to air navigation modernization, ensuring no State is left behind in pursuing a safe, efficient, and sustainable global air transport system.

2.6 Likewise, despite the GANP having identified key performance indicators (KPIs) for measurement since 2016, the uptake rate for performance measurement has been low, with States often resorting to heuristics for decision making rather than data-driven analysis. This challenge frequently stems from difficulties States face in data processing. While the GANP provides a comprehensive framework with detailed measurement methodology for straightforward application, further support is needed. ICAO could promote a performance-based approach by assisting States and regions, through the PIRGs, in reporting their performance in a holistic and harmonized manner, thereby fostering a truly performance-driven approach to ASBU implementation.

3. CONCLUSION

3.1 The ASBU framework remains vital for global air navigation modernization. To fully realize its potential, it must evolve to address challenges in stability, the need for enhanced harmonization, and the assurance of seamless interoperability.

3.2 By streamlining the ASBU framework for greater coherence, emphasizing robust interoperability, and developing a clear "minimum path" for implementation, ICAO can significantly enhance the GANP's application. These measures will empower States, particularly those with limited resources, to sustain their modernization efforts, contributing to a more integrated, efficient, and safer global air transport system.

3.3 Furthermore, the effective application of a performance-based approach offers significant benefits by enabling States to make data-driven decisions crucial for their air navigation modernization needs. Enabling a performance-based approach will enhance the effectiveness of the GANP in air traffic management (ATM) modernisation. While the GANP performance measurement framework is designed to be comprehensive and simplified for application, increasing its uptake is imperative. ICAO can provide targeted support to States and regions through the PIRGs to enhance the consistent utilization of this framework, thereby complementing the ASBU implementation efforts and further realizing the GANP's objectives for enhanced global air transport operational efficiency.

— END —