



ASSEMBLY — 40TH SESSION

TECHNICAL COMMISSION

Agenda Item 28: Aviation Safety and Air Navigation Policy

EXPEDITING ASBU WORK

(Presented by the United Arab Emirates)

EXECUTIVE SUMMARY

This paper presents and encourages the adoption of a globally harmonized standardization process for modernization of the air navigation systems through the aviation system block upgrade (ASBU) framework. It also emphasizes the importance to support air navigation services providers (ANSPs) in creating efficient, effective management of investments in air traffic management (ATM) systems and creating the appropriate environment for ATM advancement.

Action: The Assembly is invited to request ICAO to expedite the development of ICAO guidelines for technical standards versioning in support of technical standards management.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objectives defined in ICAO Business Plan 2017 – 2019: <ul style="list-style-type: none">• Increased Air Navigation Capacity• Optimized the performance of the Global Aviation System• Increased Use of Aviation as a Development Tool• Optimized Capacity and Project Delivery
<i>Financial implications:</i>	NIL
<i>References:</i>	Doc 9750, <i>Global Air Navigation Plan (GANP)</i> 2016 Edition

1. INTRODUCTION

1.1 The ICAO ASBUs provide worldwide air traffic management (ATM) stakeholders a technical reference for ATM modernization, with a pragmatic approach to build on harmonized block upgrades.

1.2 Above and beyond the ASBU technical framework, there are some expectations from the ATM community for ICAO to nurture the modernization of ATM globally towards a fully-harmonized global air navigation system built on modern performance-based procedures and technologies.

1.3 The United Arab Emirates recognises ICAO work, in nurturing the ASBU implementations and has adopted this as part of the United Arab Emirates ATM Strategy 2015 – 2030 using applicable modules of ASBU as a backbone.

1.4 Continuing on the same momentum, the Thirteenth Air Navigation Conference (AN-Conf/13) marked an important milestone in augmenting the ASBU definitions. Such impetus is recognised and praised by the United Arab Emirates that believes in the importance to build upon the ASBU realisations.

1.5 The United Arab Emirates recognises the advantages of Block 0 achievements, as it presented a common view/understanding of performance areas to all stakeholders. ASBU Block 0 implementation did a consolidation process to pave the way for future ground breaking innovative solutions.

2. DISCUSSION

2.1 The ASBUs are a group of operational improvements organized in key performance areas of the air navigation system (ASBU threads) and scheduled in time of availability (ASBU blocks).

2.2 As a framework, it does not define a particular process to be followed for implementation; however, the performance benefits associated with the outlined operational improvements (ASBU elements) support the adoption of new technical standards.

2.3 It is important to highlight that the level of confidence associated with the performance benefits expected from each ASBU operational improvement depends on its level of maturity (conceptual, validation, standardization or ready for implementation). In this regard, the confidence increases as the operational improvement matures and the necessary validations and cost-benefit analysis are performed.

2.4 Fundamentally, concepts derived from the ASBU roadmap should be open to address the benefits to all community partners as well as the commercial industry. Assuring swift operational improvements implementation not limiting the space for crafting cutting edge innovative competitive solutions without neglecting the importance of global interoperability and compatibility.

2.5 It is imperative that the Air Navigation Commission continuously monitor the conceptual developments of operational improvements derived from the *Global Air Navigation Plan* (Doc 9750, GANP) acting as a layer between the ASBU roadmap and technical implementation panels.

2.6 The establishment of pivotal panels that develop a global and harmonized interoperable approach on necessary concepts in order to ensure effective implementation imprints is recognised as a valued step forward.

2.7 However, it is deemed necessary that ICAO adopt the introduction of technical standard versioning policies to manage and control the foresaid panel's outcomes to overall secure successful implementations of innovative solutions.

2.8 The adoption of globally harmonized technical standards for modernization of the air navigation systems through the ASBU framework is necessary to align global, regional and national investment planning to secure aviation industry investments and avoid superfluous backlog investments.

2.9 A result oriented standardization process should be introduced, to drive the implementation of the ASBUs which represent an extensive list of potential technical solutions to address specific air navigation operational needs. Such standards shall be open and not vendor dependent.

2.10 Non-coordinated standards divergence constitutes major investment risk with the ASBU implementations paradigm, such risk defy the projected GANP outlined operational improvements.

2.11 An improvement in long term investment towards the security of air navigation systems modernization can be significant in some economic, geographical and operational scenarios; however, the aviation community must seek to secure such investments in order that the society at large will benefit from a safer and more efficient air navigation service provision.

2.12 The aviation community will benefit from a long term operational improvement and development investments with the introduction of an agreed homogenous and evolutionary solutions.

2.13 The United Arab Emirates is prepared and motivated for long term strategic investments through potential operational enhancements. However, the lack of interoperable and compatible evolutionary technical standards creates ambiguity that causes delays in the realisation of urgently required enhancements within the industry.

2.14 Homogenous ASBU Block 1 and 2 solutions will secure the industries investments. Such investments are not technologically limited however processes, people and other related aspects are considered.

2.15 As a result of the non-stable evolutionary technical standards, the industry is reluctant to invest in innovative solutions that would augment a vast range of encouraging operational improvements.

2.16 With an undergoing recognised work and effort in achieving the optimum use of such innovative technology, Underlying ASBU blocks implementation technologies such as system wide information management (SWIM) implementation primary technology are currently under development.

2.17 Consensus, endorsement and community advocacy will be necessary to support ICAO in developing guidelines for underlying ASBU technical standards versioning and general standardization process.

2.18 As a successful example on how a standard can contribute to harmonisation and interoperability in the domain of surveillance data exchange, the All Purpose STructured Eurocontrol suRveillance Information eXchange (ASTERIX) established a vendor independent state-of-the-art

surveillance data format that is adopted by the aviation community as the universal standard. The reason being, carefully managed evolution of ASTERIX ensuring global interoperability and compatibility. It is imperative that each implementation of a specific development of ASTERIX category follows the corresponding specification exactly, ensuring full compatibility with the predecessors.

2.19 Similarly, ICAO can adopt several mechanisms described in this paper to replicate the success of ASTERIX standard evolution to support the aviation community in securing their investments and reach effective ASBU operational improvement implementations.

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