



WORKING PAPER

THIRTEENTH AIR NAVIGATION CONFERENCE

Montréal, 9 to 19 October 2018

COMMITTEE A

Agenda Item 4: Implementing the Global Air Navigation System and the role of the Planning and Regional Implementation Groups (PIRGs)

4.3: Implementing ASBUs for performance improvement

ASBU IMPLEMENTATION

(Presented by the International Coordinating Council of Aerospace Industries Associations (ICCAIA) and the International Air Transport Association (IATA))

EXECUTIVE SUMMARY

This paper recognises the ICAO work, in support of the deployment of new air traffic management (ATM) solutions, by setting up the Multi-disciplinary Working Group on the Economic Challenges Linked to the Implementation of the Aviation System Block Upgrades (MDWG-ASBUs) to address the economic challenges in implementing the ASBUs and by proposing in Annex 8 of the *Global Air Navigation Plan* (GANP, Doc 9750), Fifth Edition, a high level methodology to help States improve the performance of their ATM systems.

This paper also calls for additional ICAO activities focused on the practical implementation of operational incentives in support to new ATM concepts' deployment such as initial consideration of possible operational incentives in the development of new ATM concepts.

Action: The Conference is invited to agree to the recommendation in paragraph 3.4.

1. INTRODUCTION

1.1 The ICAO aviation system block upgrades (ASBUs) provide worldwide air traffic management (ATM) stakeholders a technical reference for ATM modernization, building on harmonized block upgrades.

1.2 Besides the ASBU technical framework, there is some expectation from the ATM community for ICAO to foster ATM worldwide modernization leveraging on:

¹ English, Arabic, Chinese, French, Russian and Spanish versions provided by ICCAIA.

- a) sharing best practices to ASBU implementation;
- b) populating the business case of ASBUs deployment by pioneer ATM stakeholders (ANSP, airspace users, airports, network managers);
- c) air navigation services provider (ANSP) best practices for the organization of benefit demonstrations with proof of concepts and very large scale demonstrations; and
- d) operational incentives for airspace user investment in new ATM systems triggered by innovative policies (e.g. best efficient best served, most capable best served (MCBS)), superseding traditional application of the “first come first served” principle.

1.3 As per ANConf/12 Recommendation 6/2 it was agreed that:

- a) ICAO develop an appropriate set of operational and economic incentive principles to allow early benefits of new technologies and procedures, as described in the ASBU modules, to support operational improvements, while maximizing safety, capacity and overall system efficiency; and
- b) States and international organizations contribute to this work.

1.4 Accordingly, ICAO set up in 2013 the multi-disciplinary working group (MDWG) with the objective of building a bridge between the operational and economic areas, and to address the economic challenges for the implementation of the ASBUs, taking into account the four key ICAO charging principles of transparency, cost-relatedness, non-discrimination and consultation with users.

1.5 The ICAO MDWG met twice in February 2014 and 2015, and progressed work through the establishment of four sub-working groups in charge of:

- WG 1: Identification of best practices for incentives (including financial and operational incentives) supporting the implementation of ASBUs
- WG 2: Business cases and cost-benefit analysis for ASBUs implementation
- WG 3: Schemes to finance the ASBUs implementation
- WG 4: ICAO policies

1.6 MDWG outcomes have been populated in Annex 8 of the *Global Air Navigation Plan* (GANP, Doc 9750), Fifth Edition, proposing a seven-step methodology, including an assessment of the need for operational and financial incentives. A detailed report of the MDWG is also available with guidance on the needs analysis, the business cases, the cost benefit analyses, the financial instruments and the application of incentives.

2. OPERATIONAL INCENTIVES

2.1 The need for operational incentives in support of ATM modernisation and ASBU deployment, is now widely acknowledged, at least at the national level, and advocated under a variety of schemes such as best equipped best served, best efficient best served, and MCBS.

2.2 However, there is a challenge to transform these schemes into practical implementation and operational concepts:

- a) the notion of “... best served” still hurts the basic principle of equity, which is a deeply held notion among ATM experts;
- b) ANSPs may agree with the operational incentives objectives, but want to retain some operational flexibility in conflict solving and they may be reluctant to commit on de-conflicting rules giving systematic priority to best efficient aircraft; and
- c) operational incentives are barely considered during the ab-initio development of new ATM concepts.

3. CONCLUSION

3.1 Building on the work of the MDWG, there is a need to develop detailed ICAO guidelines and tools in support of ASBU implementation, including financing scenarios, business cases and feasibility studies. The implementation framework of operational incentives and detailed guidelines for their implementation, should include:

- a) assessment of the potential impacts on all stakeholders and likely changes to their operational behaviour;
- b) assessment of MCBS measures on overall system inefficiencies; and
- c) assessment of potential induced workload.

3.2 Beside the development of guidelines for operational incentives implementation on the field, ICAO should also promote up-front brain storming on the possible operational incentives in use cases and operational scenarios of new concepts. Inclusion of these use cases in new concepts should be non-binding, but would ease their possible implementation owing to their ab-initio consideration in the new ATM concepts. This should be complemented by operational trials.

3.3 The International Coordinating Council of Aerospace Industries Associations (ICCAIA) and International Air Transport Association (IATA) are supportive of MCBS and are ready to support any ICAO initiatives fostering its practical implementation.

3.4 The Conference is invited to agree to the following recommendation:

Recommendation 4.3/x – Implementing ASBUs for performance improvement

That the Conference:

- a) note the content of this working paper;
- b) request ICAO to develop detailed guidelines on the use of financial and operational incentives in support of ASBU implementation; and
- c) request ICAO to examine possible operational incentives in the development of new ATM concepts.