



WORKING PAPER

THIRTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 9 to 19 October 2018

COMMITTEE A

Agenda Item 4: Implementing the global air navigation system and the role of planning and implementation regional groups (PIRGs)

4.2: Implementing BBBs and minimum service Standards

**DEVELOPMENT OF SUPPORT FACILITIES FOR STATES TO DEPLOY
THE BASIC BUILDING BLOCKS (BBBs)**

(Presented by the Dominican Republic)

EXECUTIVE SUMMARY

This working paper describes the difficulties encountered by States in implementing systems to support the provision of air navigation services, especially facilities requiring installation of the latest technologies. There is no specific guidance material for such tasks or any testing environment in which to observe the functionalities of the systems. Nor is there any way to ensure interoperability with other internal or external systems and subsystems, which could affect regional harmonisation and safety.

Action: The Conference is invited to agree to the agree to the Recommendation in paragraph 3.3.

1. INTRODUCTION

1.1 The aviation system block upgrades (ASBUs) promote the ICAO *Global Air Navigation Plan* (GANP, Doc 9750) and the goal of regional performance improvements.

1.2 The ASBU concept is founded on four major performance improvement areas (PIA):

- a) airport operations;
- b) globally interoperable data and systems;
- c) optimum capacity and flexible flights; and
- d) efficient flight paths.

¹ Spanish version provided by the Dominican Republic.

1.3 The ASBUs describe the ground and on-board equipment, as well as the implementation calendar for standards and procedures for air traffic management (ATM) solutions to ensure global interoperability.

1.4 We are presently on the threshold of ASBU Block 1 which, in accordance with the substance of this working paper, focuses on making available the necessary new technologies, procedures, Standards... that will support the seventeen modules of the Block, broken down into four main performance improvement areas:

- a) 6 modules on greener airports;
- b) 4 modules on globally interoperable systems and data;
- c) 4 modules on optimum capacity and flexible flights; and
- d) 3 modules on efficient flight path.

2. DISCUSSION

2.1 We understand that the ASBUs are intended to provide guidance to States on how to develop their national plans such that they address their needs and improve the performance of their air navigation system with advances in aviation; we also understand that the basic building blocks (BBBs) represent a checklist of the minimum air navigation services that shall be in place for international civil aviation before implementing any improvements in the ASBUs. However, we believe that this service oriented framework raises many questions, especially in decisions regarding the procurement of appropriate instruments for implementation.

2.2 In order to best provide the necessary services outlined in the BBBs and successfully deploy the necessary improvements outlined in Block 1, States must purchase and install a set of equipment, systems and/or applications that are developed by one or more industry providers who, at least in theory, manufacture the goods with the intention of meeting the needs of air navigation service providers in the most developed countries. Once those needs are met, the manufacturers then turn their attention to the less developed countries, offering technology packages that usually exceed the expectations and/or needs of those developing countries, or that are not compatible with the existing systems or with the systems of adjacent flight information regions (FIRs).

2.3 WP/18 (AN-Conf/13-WP/18) proposes a multi-layered structure for the sixth edition of the GANP where layer 4 focuses on the National Plan, leaving it up to States to deploy their systems. Further, WP/25 (AN-Conf/13-WP/25), which proposes the provision of minimum air navigation services for international civil aviation through the basic building blocks (BBB) framework, only offers theoretical suggestions for deployment, but does not explain how these services will be extended to the end-user.

2.4 Said working paper urges States to take advantage of these opportunities as a way of introducing technological innovation and taking the lead in upgrading systems for air navigation.

2.5 In its conclusions, WP/25 states, “...coordinated air navigation implementation at the global, regional and national levels, that allows the maximum use of current capabilities and the enhanced capabilities of advanced technologies, is necessary to ensure global interoperability,

harmonization of procedures, and an organized evolution of the aviation system.” We stress, however, that the paper does not clarify how this objective is to be achieved.

2.6 To illustrate the problems described, we present in the Appendix the deployment outline for the air traffic management (ATM) basic building blocks from the starting point to the end-user. The outline only shows the components linking the service provider to the end-user, whereas in actual fact there are countless systems and applications that interact to make the deployment happen.

3. CONCLUSION

3.1 This paper fully supports and welcomes the conclusions of WP/25 (AN-Conf/13-WP/25) and, in order to achieve its stated objectives, further proposes that the main industry providers be urged, as a follow-up to ICAO theoretical guidance, to create a testing environment in which States may justify their procurement needs with a guarantee of functionality and interoperability with their environments before introducing the necessary technology.

3.2 This environment would help streamline implementation of the BBBs but also the ASBUs. Less developed States that do not have this facility could be sceptical, as is often the case when it comes to procurement and implementation, and prefer to wait until the systems have matured in the different regions before committing to them. This usually takes one to five years and creates the well-known problems of harmonization, in the case of some systems.

3.3 Such an environment would certainly reinforce the conclusions of WP/25 on the **provision of minimum air navigation services for international civil aviation through the basic building blocks (BBB) framework**. The Conference is invited to agree to the following recommendation:

Recommendation 4.2/x – Implementation of minimum air navigation services

That the Conference:

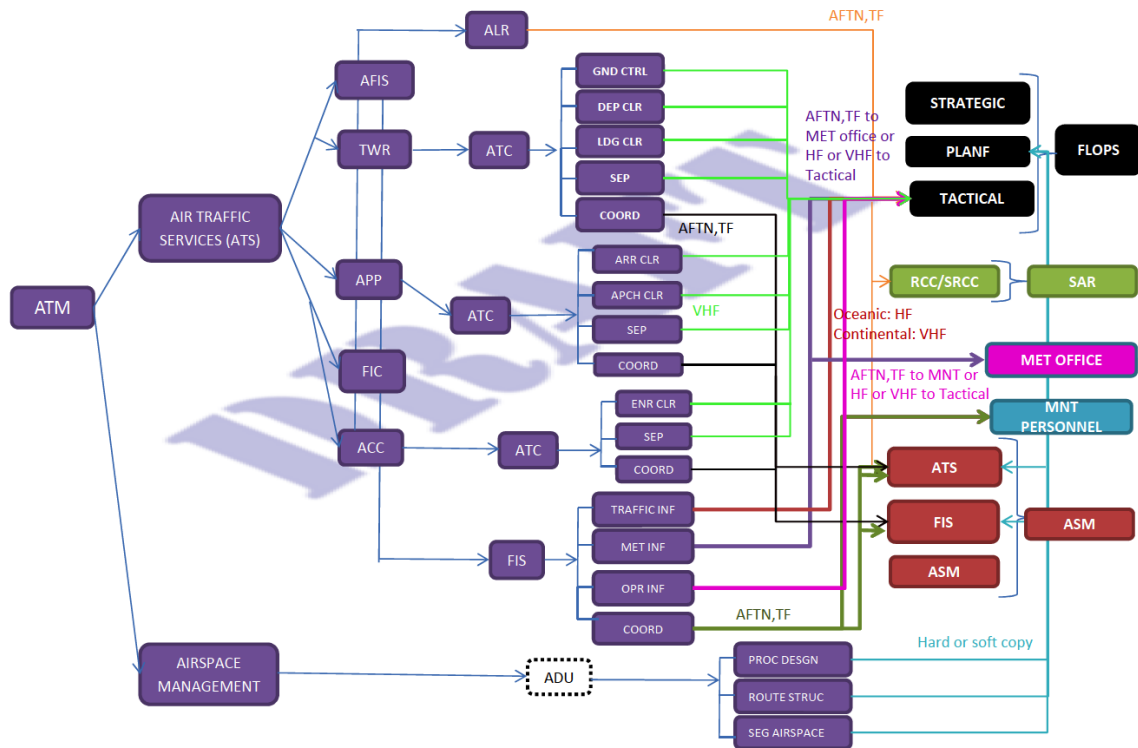
- a) support the proposal of this WP that, as a follow-up to ICAO theoretical guidance, the main industry providers be urged create a testing environment for States to justify procurement decisions with guarantees of functionality and interoperability with their environments; and
- b) accept the conclusions of WP/25 (AN-Conf/13-WP/25) on the provision of minimum air navigation services for international civil aviation through the basic building blocks framework.

— — — — —

APPENDIX

ATM SUPPORT AND END USERS

ATM SUPPORT & END USERS



— END —