

ELEVENTH AIR NAVIGATION CONFERENCE

Montreal, 22 September to 3 October 2003

Agenda Item 1 Introduction and assessment of a global air traffic management (ATM) : operational concept

THE ATM SYSTEM: CONSIDERATIONS ON THE ROLE OF INTEROPERABILITY AND SEAMLESSNESS ON THE IMPLEMENTATION OF CNS/ATM TECHNOLOGIES

(Presented by Brazil)

SUMMARY

This paper reviews some concepts associated with the ATM Operational Concept and their impact on the implementations of new CNS/ATM technologies.

Action by the conference is in paragraph 4.

1. INTRODUCTION

1.1 The ATM Operational Concept, to the greatest extent possible, is independent of technology, and intended to guide the implementation of communications, navigation, and surveillance/air traffic management (CNS/ATM) technologies by providing a description of how the emerging and future ATM system should operate to assist the aviation community in the transition to an integrated, global ATM system. **The concept should be seen as an evolutionary process towards the global harmonization of the ATM system up to and beyond of 2025.**

1.2 The operational concept enables the use of a variety of CNS systems. With the availability of new ICAO Standards for such systems, **the range of the potential implementation options presented to States has therefore increased.**

1.3 The concept considers that much of the technology that exists or is in development today may change or cease to exist. **It is crucial that the evolution to the global ATM system be driven by the**

need to meet the expectations of the ATM community and enabled by the appropriate technologies.

1.4 ‘The terms “interoperable”, “interoperability”, “seamless” and “seamlessness” are often used when referring to the future air traffic management ATM system and, in particular, when attempting to convey the expectations of that system’ (AN-Conf/11-WP/9).

2. SEAMLESS AND INTEROPERABILITY CONCEPTS

2.1 According to AN-Conf/11-WP/9, interoperability within the ATM system may be described as the ability to transfer information or effect functionality across any discontinuity, in order to enable operations.

2.2 In the same document, seamless is described as the property that allows a transition across any discontinuity which, from the perspective of the transiting agent, does not require a considered action to facilitate the transition. It should be noted that, in this context, seamless does not imply ATM systems convergence into singleness.

2.3 In the document it is concluded that interoperability is primarily associated with the need for systems, people and procedures, among other things, to operate effectively across disparate systems. Seamless is primarily associated with the needs of the user of operators of a system. **An important objective of a seamless ATM system is to ensure that as aircraft operate across different regions where various levels of service exist, those services would be delivered in a manner that allows the aircraft to operate seamlessly**, with a consistent level of safety being provided. The global ATM system should be interoperable in all cases, and seamless wherever and whenever possible.

3. THE NEED OF ICAO STRATEGY TO IMPLEMENT CNS/ATM SYSTEMS

3.1 In the global ATM system, **it is important to recognize the airspace users as the link throughout the ICAO Regions in order to reach seamlessness**. The airspace users should play an important role on the definition of new technologies, especially when attempting to measure the seamlessness across all regional areas.

3.2 The global ATM will be more and more transparent to the transient agents as far as the currents and emerging technologies allows seamlessness, and for this, **the ICAO process of the new CNS technologies standardisation should be implemented without prejudice to the global harmonization of the CNS/ATM systems**.

3.3 From the ideas above, it is important to highlight that the CNS implementation strategy and the ICAO standardization process should not be a hurdle to the seamlessness of global ATM system.

4. **ACTION BY THE CONFERENCE**

4.1 The conference is invited to agree on the following recommendation:

Recommendation 1/xx —

That ICAO should:

- a) regarding the regional differences, recognize the importance of a worldwide implementation strategy developed under ICAO coordination, which would consider the needs of the ATM community, especially airspace users; and
- b) continue to monitor the development of the new CNS/ATM technologies, carrying out the standardization process only when the specific technology can be implemented without prejudice to global harmonization of the CNS/ATM systems.

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