



ASSEMBLY — 38TH SESSION

TECHNICAL COMMISSION

Agenda Item 35: Air Navigation - Implementation Support

**THE FEDERAL AVIATION ADMINISTRATION'S
MINI-GLOBAL DEMONSTRATION**

(Presented by the United States)

EXECUTIVE SUMMARY

This paper presents information on the United States Federal Aviation Administration's plan to conduct a demonstration to support the successful cross border transfer of streamlined information.

The programme is entitled the Mini-Global Demonstration, and is under development and planned for 2014.

The main goal of the demonstration is to simulate a seamless transfer of data between air navigation service providers to ultimately promote more efficient operations across Flight Information Regions.

Action: The Assembly is invited to note the information provided in this paper, and consider participating in, or observing, the 2014 Mini-Global Demonstration.

1. INTRODUCTION

1.1 In an effort to increase the compatibility of air navigation systems across the globe, the Federal Aviation Administration (FAA) is developing a project called the Mini-Global Demonstration. This project is aimed at collaborating with other air navigation service providers (ANSPs) in developing seamless operations across flight information regions (FIRs).

1.2 The FAA is developing plans for the Mini-Global Demonstration, which will be held in 2014. The demonstration will help participants observe the benefits of using up-to-date and more efficient modes of communication to transmit data and thereby create greater efficiencies in air traffic control systems. It also aims to reduce the use of antiquated flight plan formats. ANSPs are invited to participate or observe.

2. DISCUSSION

2.1 The FAA believes that the ICAO-proposed Aviation System Block Upgrade (ASBU) initiative is the best approach toward reaching the international aviation community's modernization goals. The ASBUs enable global interoperability and allow for flexibility and scalable building blocks. Although every item within the ASBU system is not applicable to every State, each will need to accept the new Standards and Recommended Practices (SARPs) that will be required to support the particular chosen ASBUs.

2.2 The United States' equivalent programme for modernization is called the Next Generation Air Transportation System, or NextGen. It will transform the United States airspace system from one that is patterned on ground-based infrastructure to one that uses satellite technology, in line with the block upgrade concept. The NextGen system is a fundamental change in the management and operation of flight, and includes advancements in communication, navigation, surveillance, air traffic management technologies, safety, energy, and the environment.

2.3 The success of global modernization efforts relies in part on effective collaboration with operators, other ANSPs and international partners. To operate internationally, operators must be able to easily traverse multiple FIRs. To facilitate this, the Mini-Global Demonstration will seek to advance collaborative flight information exchanges amongst operators and other ANSPs worldwide. This demonstration directly supports the concepts in the Global Air Navigation Plan, and is in support of the SARPs and guidelines that need to be developed for modernization, as articulated in the block upgrade concept.

2.4 To achieve flight information exchanges across FIRs, operators and ANSPs must effortlessly share common information describing each flight. This common information is the flight object (FO). The purpose of the FO is to ensure that all systems and all stakeholders have a consistent view of the flight, and that the data is widely and easily available, subject to appropriate access controls.

2.5 To participate in, or observe the Mini-Global Demonstration, operators or service providers will be able to link on via the internet. Participants will be asked to provide live or simulated data, while observers will be able to monitor and watch how the data is used and shared.

2.6 The goal of the demonstration is to show how ANSPs and flight operators can share common flight information in order to:

- a) improve collaborative decision-making (CDM);
- b) improve air traffic management (ATM);
- c) promote international standardization of flight information; and
- d) reduce the reliance on antiquated flight plan formats.

Mini-Global will demonstrate the applicability of the global exchange models for flight, aeronautical and weather information using the FIXM (Flight Information Exchange Model), AIXM (Aeronautical Information Exchange Model), and WXXM (Weather Information Exchange Model) standards.

2.7 The Mini-Global Demonstration will provide a scenario using simulated or live flight data in support of the concept of a seamless global sky. The demonstration will enable ANSPs to determine their current capabilities and level of compatibility with other air traffic management systems. It will also help States determine what changes, if any, are needed to further harmonize on the international level. The demonstration will help to identify and convey the benefits that can be achieved through the global harmonization of data exchanges.

2.8 Assessing the compatibility of FO standards will also work to improve the fidelity of predicted flight behaviour and enable the optimization of planning for all phases of the flight. The FAA believes this will ultimately reduce the dependence on antiquated flight plans formats and support the global concept of seamless flight operations and interoperability.

2.9 The Mini-Global Demonstration is under development and will be held with global partners in 2014. It will also be demonstrated at the 2014 Block Upgrade Demonstration Showcase and Symposium (BUDSS), which will be held by ICAO in Montréal.

3. CONCLUSION

3.1 The Assembly is invited to note the information provided in this paper, and consider participating in, or observing, the 2014 Mini-Global Demonstration.

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