International Civil Aviation Organization
South American Regional Office
Twenty Third Workshop/Meeting of the SAM Implementation Group (SAM/IG/23) - Regional Project RLA/06/901
(Lima, Peru, 20 to 24 May 2019)

SAM/IG/23-NI/19
07/05/2019

Agenda Item 5: Operational Implementation of new automated ATM Systems and Integration of existing systems

PCICEA - SWIM

(Presented by Brazil)

SUMMARY

This note presents information on the SWIM concept implemented in Brazil as PCICEA- Current Information Sharing Platform of Airspace

ICAO Strategic Objectives:	*A – Operational safety* *B – Air navigation capacity and efficiency*

1. Introduction

1.1. The SWIM (System Wide Information Management) concept originates from the International Civil Aviation Organization (ICAO), Global Air Navigation Plan (GANP), in order to harmonise the exchange of information on flight plans, meteorology and Aeronautical information, in real time, based on an international standard of communication interfaces and protocols.

1.2. In 2015, the Organization produced a manual on the subject of the DOC 10039 – Manual on System Wide Information Management (SWIM) Concept. However, the subject was already included in other documents, such as DOC 9854 (Global Air Traffic Management Operational Concept - GATMOC), DOC 9882 (Manual on Air Traffic Management System Requirements) and DOC 9750 (Global Air Navigation Plan-GANP).

1.3. SWIM consists of standards, infrastructure and governance that enable the management of ATM- related information and its exchange between qualified parts through interoperable services.

1.4 The implementation of SWIM projects benefits such as improving stakeholder decision-making during flight phases (pre-flight, flight and post-flight), increased system performance, more flexible and less costly communications by applying common standards for the exchange of information, minimum coupling, which minimizes the impact of changes between information producers and consumers; and support for air traffic control management.

2. Discussion

2.1. After a test step, initiated in May 2018, the platform PCICEA, with the AQUILA software of ATECH, entered into effective operation in November 2018, promoting the exchange of data between the Department of Air Space Control (DECEA), in Rio de Janeiro, and the EUROCONTROL, in Brussels.

The system publishes the status of flights originating in Brazil to Europe and accesses EUROCONTROL the status of flights departing from Europe destined to Brazil.

2.2. As soon as an aircraft takes off from any airport in Brazil destined for Europe, the data is transmitted in real time to EUROCONTROL, providing the conditions for the European air traffic management and control authorities to monitor the situation of this flight, from the moment of its departure and throughout its follow-up in the Brazilian airspace. The same is true of flights originating in Europe, and the flight data destined for Brazil is now known in advance by the Air Navigation Management Center (CGNA), from the moment of its departure in Europe.

2.3. Before the SWIM AQUILA solution used in the PCICEA platform, the air traffic control authorities in Brazil and Europe only received information from the aircraft when got in its own airspace of responsibility. With the new system, it is possible to organize the sequences of landings and take offs with a much greater anticipation, reducing the impacts on the air mesh, in case of changes in flight plans, such as delays or advances, ensuring predictability to the management of aerial navigation.

2.4. The SWIM AQUILA solution represents a break through for regional integration between airspace management systems, as it allows to share "gate-to-gate" data between the aeronautical authorities of different countries. With this new bilateral integration tool, air navigation flow Management Services increase anticipation in the execution of timely measures to avoid or minimize delays. The SWIM AQUILA system is a module that integrates with the SKYFLOW, Flow Management System (ATFM), also developed by ATECH, which has versions operating today in India and Brazil.

3. Suggested actions

3.1. The Meeting is invited to:

a) Take note of the information provided by this informative note; and

b) place the platform at the disposal of the countries ofthe SAM region who have an interest in order that agreements can be established and make feasible what the ICAO recommends in its DOC.

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