Fourth GREPECAS–RASG-PA Joint Meeting and
Twenty-second Meeting of the CAR/SAM Regional Planning and Implementation Group
(GREPECAS/22)
Virtual Phase (Asynchronous, 16 September to 11 October 2024)
In-Person Phase (Lima, Peru, 20 to 22 November 2024)

Agenda Item 5:   **CAR/SAM Air Navigation Services (ANS) Implementation**
                             5.4   Aeronautical Information Management (AIM)

CURRENT STATUS OF SWIM IMPLEMENTATION IN BRAZIL

(Presented by Brazil)

EXECUTIVE SUMMARY
This document provides information on the current SWIM implementation status in Brazil.

Strategic objectives:	• Information interoperability. • Security.

1.   Introduction

1.1   The Department of Airspace Control (DECEA) is the Brazilian Air Force branch that controls the Brazilian airspace (22 million km^2), ruling the ATM services and providing air navigation services. It is also responsible for coordinating all flights and ordering air traffic flows in Brazil. It comprises thirteen organizations in charge of the operational activities that comply with the aims and duties of DECEA, totaling 12 thousand professionals throughout Brazil.

1.2   The implementation of SWIM in Brazil is part of the SIRIUS Program, which is the DECEA strategical program aimed at the evolution of the Brazilian Airspace Control System (SISCEAB) in response to demands arising from the growth and increase in diversity of air traffic planned for the coming years and technological developments, in accordance with the ICAO's Global Air Navigation Plan (GANP).

2.   Analysis

2.1.   **Implementation Status**

2.1.1.   Since 2019, when DECEA published the "SWIM IN THE NATIONAL ATM" guideline, which is applied to all Organizations and members of the Aeronautical Community interested in providing or using information through a national SWIM structure, we are implementing changes in our System to make a

gradually the transition to a System in compliance with the SWIM specifications.

Services Providers

2.1.2.   From the perspective of the three DECEA's main SWIM service providers, the actual status is provided in the table below.

Provider	Institute of Aeronautical Cartography (ICA)	Integrated Center of Aeronautical Meteorology (CIMAER)	Air Navigation Management Center (CGNA)
Mission	Responsible for mapping, aeronautical information management, air navigation procedure design and airspace concept design.	Providing aeronautical meteorological service for surveillance and forecasting.	Based on flight intentions, allowing harmonization of air traffic flow management and other activities related to air navigation to enable operational management of ATM actions.
SWIM Data Model is implemented?	OK (AIXM)	OK (WWXXM)	NOT (FIXM)
Website	https://aisweb.decea.mil.br/	https://www.redemet.aer.mil.br/	http://portal.cgna.decea.mil.br/

Table 1 - Main SWIM Services Providers in DECEA

SWIM-BR Registry

2.1.3.   DECEA published a prototype version of the SWIM Registry in 2023. This project is a joint development of the Institute of Technology for Aeronautics (ITA) and the Airspace Control Institute (ICEA), both from the Brazilian Air Force. ICEA is responsible for the prototype as it is now, including the back and front endings. ITA is developing an ontology-based model to describe services and for composer matching of services that will be incorporated into our prototype of the SWIM-BR Registry in 2025.

SWIM-BR Portal

2.1.4.   In 2023, DECEA created a portal to improve communication with the aeronautical community and stakeholders about the Brazilian SWIM project. ICEA also developed this portal, that is now available at PORTAL SWIM-BR (decea.mil.br).

2.2.   **Next Steps**

2.2.1.   By the end of 2024, DECEA intends to develop the CONOPS of the SWIM office, which will be in charge of governance and responsible for the Registry and some SWIM services.

2.2.2.   DECEA also intends to deliver a new version of the Registry and populate it with more services to exercise our processes and obtain feedback for the prototype.

2.2.3.   DECEA plans to increase efforts related to Cooperation on Registries Interoperability initiatives.

2.2.4.　　　　　Additionally, we plan to take action to improve communication with the Brazilian aeronautical community, such as creating short courses and realizing workshops and other events with the SWIM stakeholders.

Figure 1- SWIM-BR Registry (available at Protótipo Registro SWIM (decea.mil.br))

Figure 2 - SWIM-BR Portal (available at PORTAL SWIM-BR (decea.mil.br))
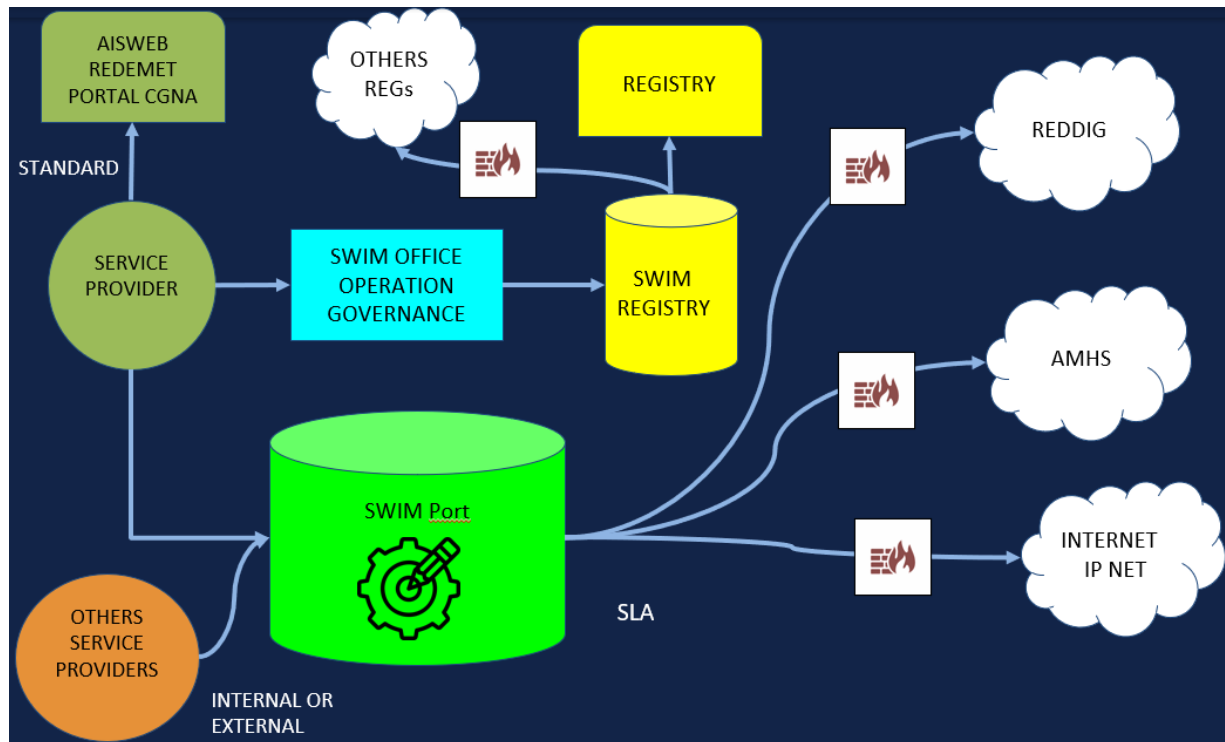
Figure 3 - SWIM-BR infrastructure approach

3.   Conclusion

3.1   Since 2019, DECEA has increased its efforts to modernize our actual System towards SWIM, and this effort is now starting to deliver its results, as presented here.

3.2   In the coming years, Brazil will continue these efforts and its cooperation with other states toward SWIM transformation, always pursuing compliance with the standards and recommended practices (SARPs) set by ICAO.

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