



Agenda Item 4: Report of activities and deliverables of the INTEROP TF and Subgroups
a) Review of air navigation priorities in the CNS area

CNS PRIORITIES AND WORK PLAN 2024

(Presented by the Secretariat)

SUMMARY	
<p>This working paper presents a summary of CNS air navigation priorities in support of regional CNS/ATM implementation initiatives advocated in the Global Air Navigation Plan (GANP) and Regional CAR/SAM Air Navigation Plan (ANP CAR/SAM), as well as presenting a follow-up of the activities carried out in the 2024 Work Plan for the INTEROP TF.</p>	
References	
<ul style="list-style-type: none"> - Final Report GREPECAS/21 Meeting (November 2023) https://www.icao.int/NACC/Documents/Meetings/2023/GREPECAS21/00-GREPECAS21-FinalReport.pdf; and - Final Report SAM/IG/30 Meeting (Octubre 2023). https://www.icao.int/SAM/Documents/2023-RLA06901-SAMIG30/1SAMIG30_FinalReport.pdf 	
ICAO Strategic Objectives	<p><i>A – Safety</i> <i>B – Air Navigation Capacity and Efficiency</i></p> <p><i>ASBU: AMET-B0/4 (IWXXM), ASUR-B0/1 (ADS-B), ASUR-B1/1 (SB ADS-B), COMI-B0/7 (AMHS) and FICE-B0/1 (AIDC)</i></p>

1. INTRODUCTION

1.1 The SAM Region Implementation Group (SAM/IG) is composed of two main groups: the GESEA (Study and Implementation Group of the SAM Air Space), which is a group mostly made up of air traffic experts, developing the analyses, studies and implementation of airspace infrastructure in the SAM Region; and the Interoperability Task Force (INTEROP WG) to support and promote air navigation services modernization initiatives and ensure interoperability between automated systems used by AIM, ATM, ATFM, CNS and MET users, with a view to:

- a) facilitate the exchange of information between the systems implemented by the States, reducing the time and problems of interconnection between the systems;

- b) promote a coordinated and homogeneous transition to the new services and elements indicated in the GANP; and
- c) Encourage the multidisciplinary participation of air navigation services professionals in support of the SAM Region Implementation Group (SAM/IG) for the planning and execution of the interconnection work of the systems implemented in the South American Region.

1.2 It is essential that those responsible in the SAM States for the implementation of CNS/ATM systems, mainly the Directors of Air Navigation and associated personnel, are very clear on the priorities established for the SAM Region, as far as CNS implementations are concerned.

2. DISCUSSION

Network infrastructure - National ATN

2.1 The concept of the Aeronautical Telecommunications Network (ATN) supports the interconnection of several networks at the national, regional and global level. Since the adoption of the Internet Protocol Suite (IPS), the implementation of the ATN has gained great momentum, due to the large number of commercially available products (COTS), if compared to the ATN OSI version.

2.2 Regionally, the SAM States already have a network infrastructure, known as the Digital Network of the SAM Region (REDDIG), fully in accordance with Doc 9896 - *Manual for implementing the aeronautical telecommunications network (ATN) using standards and protocols of the Internet Protocol Suite (IPS)*, providing the digital communication platform for the provision of air navigation services between the States participating in the network.

2.3 It is essential that the SAM States implement the national (domestic) communications network infrastructure, compliant with the provisions of Doc 9896, in order to ensure the interoperability of the implemented systems.

2.4 States should also plan to migrate from the current aeronautical information exchange context, using Messaging Service (AMHS) to the SWIM (System Wide Information Management) concept; being the network infrastructure essential for the implementation of the new concept.

AMHS Implementation

2.5 AMHS implementation is well underway and close to 100% completion (see SAM/IG/30-NE/3.2). However, some relevant aspects should be taken into account by the SAM States:

- Modernization of AMHS systems: some States operate old systems that lack new functionalities needed in the current Aeronautical Messaging Service;
- Adaptation of user terminals for new message formats: the IWXXM format for OPMET messages is already in place and some States do not have systems that support the format;
- Migration of all AFTN users: all users (human and automated) must be migrated from the AFTN context to the AMHS context; and
- Definition of the strategy to implement the AMHS/SWIM Gateway: the SAM States must define what strategy they will take regarding the implementation of the AMHS/SWIM Gateway.

ADS-B Implementation

2.6 Currently, in the SAM Region, several States have implemented ADS-B stations providing, in some cases, full coverage in the upper airspaces. However, only one airspace in the SAM Region uses ADS-B as a primary means of surveillance: the Macaé TMA in Brazil, to provide service for aircraft operating in the Campos-RJ oil basin.

2.7 Several events were held on ADS-B implementation, with one event being held in 2023 at the NACC Regional Office (Mexico, July 17-21, 2023), with participants from States of the NAM/CAR/SAM Regions.

2.8 The objective of the Workshop was to support States that have already implemented Automatic Dependent Surveillance - Broadcasting (ADS-B) stations in the development or revision of their rules/regulations in order to finalize this implementation. Also, this event gave continuity and support to Conclusion GREPECAS/20/03 which requests a "Study on operational priorities for ADS-B implementation and aspects of ADS-B use in ATC units", thus supporting the operational use of this service.

2.9 The material (documents, presentations and recordings of the sessions) of the referred event can be accessed through the following link:

<https://www.icao.int/NACC/Pages/meetings-2023-adsb.aspx>

2.10 It is recommended that ADS-B implementation be carried out by a multidisciplinary group that involves and integrates technical, operational, safety, security, administrative, financial and legislative requirements for a successful implementation of ADS-B with a concise implementation roadmap and a clear definition of roles and responsibilities.

2.11 This multidisciplinary group should include representatives from various segments of the aeronautical context (Regulator, ANSP, aircraft operators, pilot and controller representatives, etc.) under the leadership of the Civil Aviation Authority (CAA), establishing the main frameworks of the implementation process.

AIDC Implementation

2.12 In 2013, the civil aviation authorities of the SAM Region signed a commitment document (Declaration of Bogota), establishing objectives and goals to move forward with the implementation of systems necessary for the provision of air navigation services with greater safety.

2.13 The target set for establishing ATS Inter-Unit Data Communication (AIDC) was to have 100% implementation by December 2016. Currently, of the 77 planned communications, only 20 were operationally established.

2.14 It is necessary that the SAM States take effective measures to move forward with the AIDC implementation, in order to obtain the operational benefits and security provided by this functionality, available in the automated ATC centers.

2.15 In 2023, the ATM/AIDC Subgroup has adopted a strategy for conducting the work, seeking a more effective participation of the Rapporteurship and Secretariat of the Subgroup, with visits to the control centers that are establishing the AIDC connections, with the aim of promoting the establishment of new connections, as well as providing closer support to the centers involved, collecting valuable information that will contribute to the establishment of other AIDC connections.

VoIP ATM Implementation

2.16 The "Interoperability Standards for VOIP ATM Components" (EUROCAE ED-137) are already available and some SAM States already have systems (VCCS and telephone exchanges) capable of using VoIP technology and protocols.

2.17 It is essential that the SAM States plan the modernization of the voice systems used in the provision of air navigation services, so that the old technologies are gradually replaced by EUROCAE ED-137 compliant systems.

2.18 With the activation of the CNS/VOIP Subgroup of the INTEROP TF, it is essential that the SAM States actively participate, in order to ensure the interoperability of the systems/equipment that will be implemented.

3. WORK PLAN 2024

3.1 The **Appendix** to this study note provides a summary of the activities already carried out under the Work Plan 2024 of the INTEROP TF.

4. SUGGESTED ACTION

4.1 The Meeting is invited to:

- a) take note of the CNS implementation priorities.
- b) follow up on the activities already carried out in the Work Plan 2024 of the INTEROP TF; and
- c) discuss other considerations that the Meeting deems relevant.

— END —

APPENDIX

**Work Plan 2024 of INTEROP TF
(Activities already carried out)**

Activities	Objectives / Deliverables	Tentative dates
<p>SG CNS/VOIP/1</p> <p>First Workshop/Meeting of the CNS/VOIP Subgroup.</p>	<ul style="list-style-type: none"> Survey of VOIP capabilities implemented by the SAM States; Definition of the Syllabus for the training to be contracted on "Interoperability Standards for VOIP ATM Components (EUROCAE ED-137)"; Coordination for the establishment of the first oral communications based on the EUROCAE ED-137 Standards, via REDDIG. 	<p>Lima, 26 February to 1 March 2024</p>
<p>SG ATM/FPL/2</p> <p>Second Workshop/Meeting of the ATM/FPL Subgroup</p>	<ul style="list-style-type: none"> Activation of an Ad-hoc Group made up of States using CADAS User Agents (UAs) to share best practices and learn about the initiatives taken by each State to establish centralized management of flight plans. Harmonization of the publication of information on FPLs and associated messages in AIPs. Harmonization of the nomenclature to be used for SID and STAR routes. Review and adaptation of the format of ACK and REJ messages. 	<p>On line, 2 to 4 April 2024</p>
<p>COM AMHS/5</p> <p>Fifth Workshop/Meeting of Supervisors/Operators of COM AMHS Centers of the SAM Region</p>	<ul style="list-style-type: none"> Exchange of information and experiences among supervisors/operators of the COM AMHS Centers of the SAM Region. Reviewing Routing Tables. 	<p>On line, 23 to 25 April 2023</p>
<p>ATM/AIDC 2024-1</p> <p>Local coordination to establish AIDC communication between adjacent control centers.</p>	<ul style="list-style-type: none"> Local coordination with the control centers (ACC Bogotá and ACC Amazónico), to promote the implementation of AIDC. Identification of constraints preventing progress for the operational phase of AIDC communication; and Preparation of a report with an action plan for the operational establishment of AIDC communication between the centers involved. 	<p>Place: Bogota Date: 15 - 16 April 2024</p> <p>Place: Manaus Date: 18 - 19 April 2024</p> <p>2 experts</p>
<p>Workshop/Training on AMHS/SWIM Gateway 2024</p>	<p>To train 2 representatives of the participating States of Project RLA/06/901, primarily members of the CNS/AMHS Subgroup and CNS Inspectors, with knowledge on the operation, specification and development of systems that implement the AMHS/SWIM Gateway function.</p>	<p>On line, 6 to 10 May 2024</p>