



**Agenda Item3: Activities and Deliverables Report – GT Interop and Subgroups**

**IMPLEMENTATION OF VOIP COMMUNICATIONS IN THE ENVIRONMENT  
ATM OF THE SAM REGION**

(Presented by the CNS/VoIP Subgroup)

**SUMMARY**

This working paper aims to present the regional planning for the implementation of VoIP (Voice over Internet Protocol) communications in the ATM environment of the SAM Region, in progressive replacement of legacy interconnections. It is proposed to enable standardised VoIP links in at least five nodes of the REDDIG III network, with interoperability tests in accordance with the EUROCAE ED-137 standard. The initiative contributes to the strengthening of digital communications infrastructure, in line with the objectives of Project RLA/06/901, of the SAM 2035 Strategic Plan and of the ICAO 2026–2028 Business Plan.

**References:**

- CNS/VoIP Subgroup Preparatory Meeting (29 May 2025);
- CNS/VoIP Subgroup Meetings (21-24 July 2025);
- Supporting Documents: Doc 9896 (development version), ED-137, Technical Agenda VoIP Subgroup; and
- Project RLA/06/901 – SAM/ICAO Regional Office,

**1. Background**

1.1 In the context of the aeronautical communications systems technological evolution, the transition from legacy voice links (analogue or proprietary technologies) to standardised IP solutions is an essential step to ensure operational continuity and regional interoperability. To this end, the SAM Regional Office, in coordination with the CNS/VoIP Subgroup, has promoted since mid-2025 the update of capabilities and procedures associated with the use of VoIP in the ATM environment.

1.2 The meetings held by this Subgroup, as well as the technical activities underway within the framework of Project RLA/06/901, have made it possible to establish a concrete roadmap to move forward with functional tests, consolidate regional experience and promote technical harmonization in accordance with international standards. It was also recognized that the infrastructure of the REDDIG network offers adequate technical conditions to host these services, allowing the optimization of the use of existing resources and improving regional interoperability.

## 2. Analysis

2.1 The initiative presented contemplates the progressive replacement of legacy voice interconnections with standardized VoIP links, based on the EUROCAE ED-137 standard and the architectural principles defined in ICAO Doc. 9896, currently under review.

2.2 This transition will allow the configuration of interoperable, safe and redundant interfaces, with the aim of optimizing the use of infrastructure, reducing operating costs and improving the quality of service in communications between ATS units.

2.3 As part of this activity, VoIP links will be enabled in at least five nodes of the REDDIG network, including the corresponding technical documentation, functional validation and execution of interoperability tests. These tests will be carried out through bilateral and multilateral exercises (cross-site testing) between participating States, based on a common configuration template.

2.4 A technical follow-up schedule has been planned throughout 2026, with virtual meetings **scheduled for 10 March, 16 June, and 30 September**, during which progress will be monitored, experiences shared, and results documented. Participating States should designate technical focal points and provide access to their REDDIG nodes for testing.

2.5 Regarding the technical and human resources required, it is envisaged that a regional CNS/VoIP expert will be recruited to act as a technical facilitator of the activities, and simultaneous interpretation services for coordination meetings will be provided, in view of the multinational nature of the initiative.

2.6 From a strategic point of view, this activity contributes to the objectives of Project RLA/06/901 in terms of strengthening the regional CNS infrastructure and facilitating the migration towards digital and interoperable aeronautical voice services. It also responds to the need to replace obsolete technologies with modern solutions, based on international standards, ensuring operational continuity, communications security and efficiency in the air traffic management.

2.7 This initiative is also aligned with the pillars of the 2035 SAM Strategy, especially with regard to technological modernization (Goal 1.1) and the effective implementation of regional plans (Goal 4.2). In turn, it responds to the guidelines of the 2026-2028 ICAO Business Plan, such as C1.2.14 (support for air traffic management initiatives – AFTM) and C1.2.16 (digital infrastructure and ATM data link). In technical terms, special emphasis will be placed on quality of service (QoS) and network security management, including priority configuration (differentiated services code point (DSCP)), the use of firewalls with deep packet inspection (DPI), jitter buffers, and measures against safety information protection (SIP) attacks or real time protocol (RTP) injection. These considerations will be integrated into the regional guidance in preparation and evaluated during interoperability testing.

2.8 It is expected that this experience will also contribute to the development of a regional technical guide for the implementation of ATM VoIP, adapted to the operating environment of the SAM Region and in harmony with international regulations. To this end, the active participation of States that already have experience in the field (Argentina, Brazil, Colombia, Peru) is encouraged as references for the technical support of other States that are still in the initial stages of adoption.

3. **Suggested actions**

3.1 The harmonization of the use of VoIP in the regional ATM environment represents a key step towards the digitalization of aeronautical voice services, contributing to a more resilient, safe and efficient infrastructure in line with the Global Plan (GANP) and Project RLA/06/901.

3.2 The Meeting is invited to:

- a) Take note of the regional planning for the implementation of VoIP links in the ATM environment, within the framework of Project RLA/06/901;
- b) Urge States to actively participate in VoIP interoperability testing, designating technical focal points and facilitating the use of REDDIG nodes for this purpose;
- c) Support the recruitment of the regional technical facilitator specialized in CNS/VoIP, as well as the provision of logistical resources for the execution of the programmed activities; and
- d) Promote the development and adoption of a regional VoIP implementation guide based on ED-137 and on Doc 9896.

- END -