Agenda Item 4: Report on GESEA and Subgroups activities and deliverables

DIRECT ROUTING WITHIN LIMA FIR

(Prepared by Peru)

SUMMARY

This information paper presents the progress achieved by Peru in the progressive implementation of Direct Routing (DCT) within the Lima FIR, including the implementation of Strategic Direct Routing (SDR), the assessment of Crossborder FRTO, and the development of User Preferred Routes (UPR), as well as the main lessons learned for future regional implementations.

References:

- Global Air Navigation Plan (GANP).
- Peru's National Air Navigation Plan (NANP).
- SAM/IG/30 – IP/2.2
- SAM/IG/31 – IP/3.2
- SAM/IG/33 – WP/4.11

1. Background

1.1 The Lima FIR continues to implement initiatives aimed at the development of Direct Routing (FRTO), progressively expanding its application from oceanic airspace towards continental areas, in line with the activities carried out by SG1/GESEA.

1.2 These initiatives comprise the implementation of Strategic Direct Routing (SDR) and the progressive development of User Preferred Routes (UPR), as part of the FRTO Action Plan.

1.3 Peru published its first SDR airspace through AIP SUP 01/21 (June 2021) and subsequently incorporated floating points with alphanumeric coding (IM401-407) through AIP SUP 06/2024 (July 2024). At the request of airlines and IATA, this nomenclature was updated to the 5LNC (ICARD) coding system through AIP SUP 08/2025, effective as of 17 April 2025, which replaces SUP 06/2024.

1.4 These initiatives have been extended to coordination scenarios with adjacent FIRs, allowing the assessment of more advanced concepts such as Crossborder FRTO.

2. Analysis

Use of Floating Points

2.1 The implementation of floating points has made it possible to optimize airspace use, reduce frequency coordination, decrease CO_2 emissions, and make better use of the capabilities of automated surveillance systems for early conflict detection.Experience has shown that floating points located close to

FIR boundaries must be incorporated into the databases of adjacent units to ensure the correct processing of flight plans and interoperability between systems.

Extension of the South Pacific SDR

2.2 Peru undertook coordination of the extension of the South Pacific SDR between the Guayaquil and Santiago Oceanic FIRs, conducting trials aimed at validating new navigation scenarios and the automated exchange of flight plans, floating points, and coordinates between adjacent FIRs. The trials demonstrated the operational feasibility of these initiatives.

Development of Crossborder FRTO

2.3 As part of the evolution of FRTO, trials of Crossborder scenarios were conducted through automated AIDC coordination. During these activities, limitations were identified in the processing of the CPL message between automated systems from different manufacturers, which highlighted the need to continue harmonizing configurations prior to operational implementation. The experience gained constitutes a reference for future regional implementations of the Crossborder FRTO concept.

Implementation of User Preferred Routes (UPR)

2.4 A User Preferred Route was implemented in the continental area of the Lima FIR with the aim of balancing traffic load between sectors and reducing the distance flown by aircraft. Trials conducted by LATAM recorded fuel savings and CO_2 emission reductions, the results of which are presented below.

City Pair	Aircraft Type	Fuel Save per Flight	CO_2 Save per Flight	Accumulated Fuel Save	Accumulated CO_2 Save
JFK – SCL	B788/789	199 Kg	628 Kg	41,193 Kg	129,996 Kg
SCL – JFK	B788/789	216 Kg	682 Kg	44,172 Kg	141,174 Kg

This initiative is currently still being evaluated together with other operators in order to incorporate operational improvements, update the information published in the AIP, and develop new User Preferred Routes.

3. Suggested actions

3.1 Take note of the progress achieved in the progressive implementation of FRTO within the Lima FIR, as well as the lessons learned from its development.

3.2 Invite States to continue promoting Direct Routing initiatives, strengthening regional coordination, interoperability between automated systems, and the participation of airspace users during the design, validation, and implementation phases.

END