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WORKING PAPER

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Virtual Phase (Asynchronous, January 19 to February 17, 2026)
In-person Phase (Mexico City, Mexico, March 4 to 6, 2026)

Agenda Item 8: CAR/SAM Air Navigation Implementation

EXTENSION OF STRATEGIC DIRECT ROUTING IN THE SOUTH PACIFIC AND THE COMMENCEMENT OF TRIALS BETWEEN THE STATES OF ECUADOR, CHILE, AND PERU

(Presented by the Republic of Peru)

EXECUTIVE SUMMARY	
Extension of Strategic Direct Routing in the South Pacific and the commencement of crossborder trials between the States of Ecuador, Chile, and Peru	
Action:	The Suggested Actions are included in Section 6.
Strategic Objectives 2026-2050:	• Every flight is safe and secure • Aviation is environmentally sustainable • Aviation delivers seamless, accessible, and reliable mobility for all • No country left behind • The International Civil Aviation Convention and Other Treaties, Laws and Regulations Address All Challenges • The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All
References:	• Doc 9750, Global Air Navigation Plan (GANP) • National Air Navigation Plan (PNNA)

1. Introduction

1.1 Strategic Direct Routing is part of the Global Air Navigation Plan (GANP) and the Aviation System Block Upgrades (ASBU), within the FRTO thread, aimed at trajectory optimization en-route through progressive configurations such as FRTO B0/1 and FRTO B1/1.

1.2 In the SAM Region, initiatives linked to airspace optimization are planned and implemented through established regional mechanisms, particularly through activities promoted by Sub-Group 1 of GESEA.

1.3 Strategic Direct Routing (SDR) allows better flexibility in airspace utilization, promoting the transition from rigid route structures towards more efficient configurations. Complementarily, and as part of the FRTO Action Plan, the use of User Preferred Routes (UPR) is contemplated in those airspaces where technical and operational enablers have not yet reached the maturity level required for SDR implementation.

2 SDR Development in the LIMA FIR

2.1 The Peruvian State began implementing GANP initiatives in 2020 through the publication of the National Air Navigation Plan (PNNA), oriented towards the progressive development of Strategic Direct Routing (SDR) and, in the long term, Free Route Airspace (FRA), with the objective of improving operational efficiency, reducing environmental impact, and optimizing airspace utilization.

2.2 In this framework, SUP AIP 01/21 was published in June 2021, initiating the implementation of Strategic Direct Routing in the upper oceanic airspace of the Lima FIR, aligned with the ASBU element FRTO B0/1 – Direct Routing (DCT).

2.3 Subsequently, in July 2024, SUP AIP 06/2024 was published, incorporating floating waypoints within the SDR airspace, aiming to facilitate navigation, optimize position reporting, and ensure the continuity of automated coordination via AIDC with adjacent FIRs. However, operational monitoring revealed limitations in their use, mainly associated with the coding of these points, which affected the automated planning of flight plans.

2.4 As a result of lessons learned and continuous feedback from users and ATS personnel, SUP AIP 08/2025 was published in 2025, updating the nomenclature of floating waypoints using 5LNC codes (ICARD system), promoting their effective use. This evolution has allowed various international airlines to regularly use SDR in the Lima FIR, optimizing their operations and benefiting from greater flexibility in airspace use.

3 South Pacific SDR Extension

3.1 As a result of the activities of GESEA Sub-Group 1 – FRTO, the Peruvian State assumed the role of coordinator for the Strategic Direct Routing (SDR) extension plan in the South Pacific, with the participation of Ecuador and Chile, aiming to evaluate joint operational scenarios that allow validating the viability of current and future phases of direct routing, both at national and regional levels.

3.2 One of the main challenges identified was ensuring that new SDR implementations do not affect existing tools and technologies, particularly automated coordination via AIDC, which constitutes the primary means of coordination between adjacent FIRs. In this regard, the trials considered technical limitations associated with ATS surveillance systems, their configurations, versions, and databases, as well as the requirements for the correct processing of flight plans during transfers between FIRs.

3.3 To guarantee operational continuity, the floating waypoints published in SUP AIP 08/2025 of the Lima FIR were shared and incorporated into the databases of the Guayaquil, Antofagasta, and Santiago Oceanic FIRs, verifying through trials that flight plan processing and AIDC coordination were not affected.

3.4 The trials, initiated in March 2025, focused on analyzing flight plan processing and the functioning of automated AIDC coordination under different scenarios, including direct flights (DCT), use of LAT/LONG coordinates, use of User Preferred Routes (UPR), and utilization of floating waypoints, covering intra-FIR flights, transfers, and overflights between participating FIRs.

3.5 The results evidenced that the ATS surveillance systems of the involved FIRs adequately processed flight plans in the evaluated scenarios, without significant issues in AIDC message management. However, it was confirmed that, to maintain continuity of processing and automated coordination, transfers between FIRs continue to require the use of common points established on published airways

3.6 These trials allowed for positioning the progress achieved within a preliminary *crossborder* scenario, providing relevant inputs to identify future challenges regarding technical harmonization, system configurations, ATS personnel training, and necessary enablers for subsequent phases of Strategic Direct Routing at the regional level

4 FRTO Crossborder

4.1 Following the satisfactory results of the Strategic Direct Routing (SDR) trials in the South Pacific, it was proposed to analyze an advanced *crossborder* scenario, not required in the current implementation phase, oriented towards the transfer of flights between FIRs without the use of common points on published airways, maintaining the continuity of automated coordination via AIDC.

4.2 This analysis evidenced that the region's ATS surveillance systems still present heterogeneous levels of integration, configurations, and versions, which limits the harmonized implementation of advanced scenarios. In this context, AIDC is reaffirmed as an essential enabler for the evolution of SDR towards higher phases, making it necessary to standardize its configuration, use, and adaptation among States, as well as to foster the exchange of experiences among those with greater operational maturity.

4.3 The trials conducted with the Guayaquil and Santiago Oceanic FIRs allowed for the identification of new behaviors in surveillance systems, including the use of AIDC messages different from those employed in conventional scenarios. In particular, it was noted that while the ABI message maintained its expected behavior, in scenarios without airway crossing, the system triggered the use of the CPL (Current Flight Plan) message, which replicates the full flight plan information.

4.4 The results evidenced limitations in the processing of the CPL message, mainly associated with differences in surveillance system versions and the enabling of the available AIDC message set, which caused, in some cases, interruptions in automated coordination. Likewise, it was verified that certain operational alternatives evaluated increased the Air Traffic Controller's workload or did not align with flight plan origination planning.

4.5 As a main lesson, it was concluded that the continuity and reliability of automated coordination in advanced *crossborder* scenarios depend on the technical harmonization of ATS systems, the standardization of AIDC message usage—including the CPL—and specific training for ATS personnel in these new operational environments.

4.6 These observations constitute relevant inputs for the following phases of Strategic Direct Routing at the regional level, as well as for the future transition towards FRA scenarios and other advanced enablers, such as ADS-C and CPDLC.

5 Conclusions

5.1 The trials conducted by the Peruvian State in the implementation of Strategic Direct Routing (SDR) and in preliminary *crossborder* scenarios confirmed the operational viability of SDR in oceanic airspace and evidenced the benefits associated with greater flexibility in flight planning.

5.2 Likewise, it was identified that the continuity and reliability of automated coordination in advanced scenarios depend mainly on the level of technical harmonization of ATS surveillance systems, standardization in the configuration and use of the AIDC message set—including the CPL message—and adequate training of ATS personnel.

5.3 The lessons learned constitute relevant inputs for the progressive evolution of SDR at the regional level and for the early identification of technical, operational, and training gaps that must be addressed before advancing towards more advanced phases of FRTO.

6 Suggested actions

6.1 The meeting is invited to:

a) Take note of the results, lessons learned, and technical considerations derived from the Strategic Direct Routing trials and preliminary *crossborder* scenarios presented;

b) consider the need to promote harmonization and standardization of the configuration and use of the AIDC message set, including the CPL message, as an enabler for the evolution of Strategic Direct Routing in the region; and

c) use the presented information as input to identify technical, operational, and training gaps, and evaluate improvement actions in automated coordination between the involved ACCs, within the framework of the evolution towards advanced FRTO scenarios.

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