



**Fifth GREPECAS–RASG-PA Joint Meeting (GREPECAS-RASG-PA/5) and  
 Twenty-Third Meeting of the CAR/SAM Regional Planning and Implementation Group  
 (GREPECAS/23)**

Virtual Phase (Asynchronous, 19 January to 17 February 2026)

In-Person Phase (Mexico City, Mexico, 4 to 6 March 2026)

**Agenda Item 8: CAR/SAM Air Navigation Implementation**

**ENHANCING CPDLC ADOPTION IN THE CAR/SAM REGION THROUGH IMPROVED  
 FLIGHT PLAN FILING PRACTICES AND OPERATOR ENGAGEMENT**

(Presented by Brazil)

**EXECUTIVE SUMMARY**

This paper presents information on Brazil’s implementation of CPDLC across all its continental FIRs above FL245. Despite its full availability, the operational use of data link communications remains below 15%. This low level of FANS 1/A CPDLC-equipped aircraft limits the ability to recognize many of the planned operational benefits, such as improved communications performance, a real impact on optimizing the workload of ATCOs and pilots, increased aviation safety, and it is also a barrier to projecting potential future gains for ATM, including increased capacity in airspace sectors. Although CPDLC is not mandatory, the correct filing of CPDLC capabilities in the ICAO flight plan and increased operator engagement are essential to boosting its use, the regional harmonization, and to justify future investments based on measurable results.

<b>Actions:</b>	<ul style="list-style-type: none"> <li>a) Promote regional awareness of the operational, safety, and efficiency benefits of CPDLC;</li> <li>b) Encourage harmonized regional messaging to operators across the CAR/SAM Regions on the importance of effective CPDLC use;</li> <li>c) Invite operators to consider CPDLC benefits when planning avionics investments to support harmonized data link operations in the CAR/SAM Regions.</li> <li>d) Encourage the Airline Companies to use CPDLC in Brazilian Airspace.</li> </ul>
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<i>Strategic Objectives 2026-2050:</i>	<ul style="list-style-type: none"> <li>• Every flight is safe and secure</li> <li>• Aviation is environmentally sustainable</li> <li>• Aviation delivers seamless, accessible, and reliable mobility for all</li> <li>• No country left behind</li> <li>• The International Civil Aviation Convention and Other Treaties, Laws and Regulations Address All Challenges</li> </ul>
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	<ul style="list-style-type: none"> <li>• The Economic Development of Air Transport Assures the Delivery of Economic Prosperity and Societal Well-Being for All</li> </ul>
<i>References:</i>	<ul style="list-style-type: none"> <li>• ICAO Doc 10037 — Global Operational Data Link (GOLD) Manual</li> <li>• ICAO Doc 4444 — PANS-ATM, Flight Plan Provisions</li> <li>• AIC A 18/24 — Use of CPDLC in the Brazilian Continental Airspace (DECEA, 2024)</li> </ul>

## 1. Introduction

1.1 VHF voice channels were the only means used between controllers and pilots for communications in ATC and the provision of Air Traffic services en route (ACC) in Brazil.

1.2 Reliance on voice communications imposed limitations that hindered the efficiency and effectiveness of communications between controllers and pilots, including: (a) misinterpretation caused by accents, intonation, or incorrect phraseology; (b) comprehension difficulties arising from language barriers and varying levels of English proficiency among controllers and pilots; (c) interference from spurious noises, such as hissing and echoes; and (d) frequency congestion or interference resulting from improper use of the radio spectrum.

1.3 Furthermore, frequency congestion may occur. When complex clearances—such as revised routing or traffic information—are issued by voice, they tend to be time-consuming and often require multiple repetitions and retransmissions.

1.4 All these factors, together, lead to the increase of the workload of both ATCO and pilots. Failures of understanding and workload were two of the main contributing factors to the occurrence of aeronautical incidents in Brazil.

1.5 In this context, Brazil has implemented CPDLC FANS 1/A as an additional means to VHF voice communications across its all-continental FIRs through a phased approach. Operational deployment began in 2021 and was progressively expanded: the service became fully operational in the Recife (SBRE) and Amazonica (SBAZ) FIRs in 2022, in the Brasília FIR (SBBS) in 2023, and in the Curitiba FIR (SBCW) in November 2024. Further details on the characteristics of CPDLC implementation in Brazil are provided in DECEA AIC A 18/24. Although CPDLC is not mandatory, its use is strongly encouraged due to the well-established operational benefits of data link technology and its potential to further enhance operational efficiency.

1.6 The application is provided through a terrestrial communication infrastructure operated by SITA, through the ACARS network - FANS 1/A or FANS 1/A+ data link system, using VDL Mode 2, VDL Mode A in airspaces above FL250, inclusive. The subnet SATCOM can also be used.

1.7 Despite the availability of the CPDLC data link service and the very positive feedback from several international operators using the service in Brazil, utilization levels among many operators—particularly domestic ones—remain low.

## 2. Analysis

2.1 Operational data derived from flight plan analysis indicate that the overall low CPDLC utilization rate is largely driven by the equipage profile of domestic airline fleets, which account for a significant portion of traffic in Brazilian continental airspace. Consequently, despite full-service

availability, the limited number of CPDLC-equipped aircraft routinely operating in upper airspace restricts the observed utilization rate.

2.2 Statistics indicate that only about 15% of aircraft operating above flight level 245 in Brazilian domestic airspace used CPDLC during the first five months of 2025. Such low utilization significantly limits the ability of air navigation service providers (ANSP) to substantiate the operational benefits of the application and to deliver meaningful performance gains to airspace users. This situation represents a persistent challenge to the effective implementation of CPDLC across the CAR and SAM regions.

2.3 Under ICAO Doc 4444, operators are required to accurately declare their CNS capabilities in Items 10 and 18 of the ICAO flight plan. The Brazilian AIC 18/24 reinforces this requirement, ensuring that CPDLC usage is accurately reflected in flight plan submissions. Furthermore, the publication emphasizes that it is essential that the identification and registration of the aircraft in the flight plan are the same as the data entered in the FMS: it will not be possible, systemically, to make the CPDLC connection if discrepancies are found. In this context, Brazil emphasizes the importance of crews correctly declaring their FANS 1/A CPDLC data link capability and identifying and registering it in flight plans and making effective operational use of CPDLC.

2.4 A coordinated regional effort within the GREPECAS framework, focused on disseminating the operational benefits of CPDLC, its role as an enabling technology for future ATM concepts, and reinforcing the importance of accurate capability declaration in flight plans and effective operational use of the data link application, can increase operators' awareness of the relevance of CPDLC to aviation safety. This approach may also support fleet equipage decisions and encourage further implementation efforts, promoting greater operational consistency in CPDLC use across the CAR/SAM Region, while driving progress aligned with ICAO recommendations and the long-term vision for the future of ATM.

### **3. Conclusion**

3.1 Brazil has fully implemented CPDLC in all its continental FIRs above FL245, and its quality and benefits have been individually verified and shared by those operators who make effective use of the application.

3.2 The low proportion of aircraft declaring FANS 1/A CPDLC capability in flight plans remains a significant obstacle to assessing the system's actual overall performance, measuring and demonstrating the benefits of data link technology in air traffic management, and planning subsequent steps aligned with GANP and ASBU objectives for aviation safety and operational efficiency.

3.3 A coordinated and operator-focused effort within the GREPECAS framework would allow the benefits and importance of data link adoption to be progressively demonstrated and better understood, supporting regional harmonization in the use of CPDLC and avoiding the establishment of regulatory mandates by ANSPs.

### **4. Suggested actions**

4.1 The Meeting is invited to:

- a) Promote regional awareness of the operational, safety, and efficiency benefits of CPDLC;

- b) Encourage harmonized regional messaging to operators across the CAR/SAM Regions on the importance of effective CPDLC use;
- c) Invite operators to consider CPDLC benefits when planning avionics investments to support harmonized data link operations in the CAR/SAM Regions; and
- d) Encourage the Airline Companies to use CPDLC in Brazilian Airspace.

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