



**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

**BRAZILIAN PBCS IMPLEMENTATION STATUS AND REGIONAL
 RESPONSIBILITIES FOR CAR/SAM STATES**

(Presented by Brazil)

EXECUTIVE SUMMARY	
<p>This paper presents Brazil’s progress in implementing Performance-Based Communication and Surveillance (PBCS) in the FIR Atlantico. It also highlights the related regional responsibilities of CAR/SAM States concerning PBCS operational approvals, performance monitoring, and the maintenance of the integrated RVSM/PBCS approval registry managed by the RMA. It proposes actions to support States’ readiness for the PBCS-based separation minima planned for implementation from 2026.</p>	
Action:	<ul style="list-style-type: none"> a) Take note of the planned introduction of PBCS-based separation operations from 2026, and CDP from 2027. b) acknowledge the responsibilities of CAR/SAM States related to PBCS operational approvals, participation in the performance monitoring and reporting cycle, in accordance with ICAO documents 9869 and 10063. c) encourage CAR/SAM States to maintain accurate and up-to-date national registries of PCBS approvals and ensure timely communication through regionally established mechanisms. d) Encourage operators to pursue PCBS avionics certification.
<i>Strategic Objectives 2026-2050:</i>	<ul style="list-style-type: none"> • 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
<i>References:</i>	<ul style="list-style-type: none"> • ICAO Doc 9869 — PBCS Manual • ICAO Doc 10063 — Monitoring of Performance-Based Horizontal Separation Minima • GREPECAS GTE/24 Final Report

1. Introduction

1.1 Following the outcomes of SAT-24 (2019), Performance-Based Communication and Surveillance (PBCS) was identified as a priority for operations in the South Atlantic (SAT) oceanic airspace, recognizing its potential to support the safe application of reduced separation minima in a predominantly procedural environment.

1.2 Brazil is directly involved in this regional initiative, as the FIR Atlantico (SBAO) forms part of the South Atlantic oceanic airspace and plans to introduce PBCS-based separations in the FIR Atlantico in coordination with other SAT FIRs and in accordance with applicable ICAO provisions and regional harmonization efforts.

1.3 Several CAR/SAM States have aircraft registered or operated under their jurisdiction that routinely operate in airspace already enabled for PBCS (e.g., North Atlantic High-Level Airspace - NAT HLA) or that are in the process of implementing the concept, as is the case in the South Atlantic. In this context, ICAO Documents 9869 and 10063 assign clear responsibilities to States regarding operational approvals, performance oversight, and monitoring support, regardless of whether PBCS is applied internally.

2 Analysis

PBCS Context and Brazil's Implementation

2.1 Performance-Based Communication and Surveillance (PBCS), as defined in ICAO Doc 9869, establishes performance requirements for communication (RCP), surveillance (RSP), and navigation (RNP) that enable the safe application of reduced separation minima in oceanic and remote airspace. These requirements are particularly relevant in procedural environments such as the South Atlantic.

2.2 Following the SAT-24 (2019) report, Brazil has initiated a national project to support future PBCS-based operations in the FIR Atlantico under the SIRIUS Brazil Programme, with planned implementation from 2026.

2.3 As part of efforts to implement the concept in SBAO, Brazil has already published two national aeronautical documents to support the introduction of PBCS-based operations. These are: CIRCEA 63-12 – Concept of PBCS Operations in the Atlantic FIR and AIC 29/25 – Implementation of the Performance-Based Communications and Surveillance (PBCS) Concept in the Atlantic FIR. The publications provide operational and procedural guidance aligned with ICAO standards. In addition, a third publication is under development focusing on the local monitoring flow of PBCS and its correlation/boundary with regional monitoring.

2.4 Brazil has modernized its main ATM and ATFM systems (SAGITARIO and SIGMA) to incorporate RCP and RSP monitoring and alerting functions and is advancing in the development of an Operational Safety Risk Management framework aligned with Annex 19. In parallel, a PBCS Training Plan is being developed to ensure the operational readiness of controllers and technical staff. More details on Brazilian progress are provided in Appendix A.

Phased Implementation in the FIR Atlantico (SBAO)

2.5 The reduction of horizontal separation between aircraft that meet the established communication, navigation, and surveillance requirements will occur in three phases in the FIR Atlantico (SBAO), as described below:

- a) Phase 1: From October 2026, separation minima of 5 minutes longitudinally and 50 NM laterally will be implemented.

NOTE 1: In this phase, an assisted operation period of approximately one month will be conducted, with the full implementation of the concept planned for November 2026.

NOTE 2: In cases where at least one of the aircraft does not have PBCS/PBN capability, the separation will remain 10 minutes / 80 NM longitudinally and 50 NM laterally.

- b) Phase 2: From March 2027, separation minima of 30 NM longitudinally and 23 NM laterally will be implemented.

NOTE: If at least one of the aircraft, despite having declared PBCS capability, does not have PBN RNP 4 navigation capability and operates with RNP 10, the separation of 5 minutes longitudinally and 50 NM laterally will be applied.

- c) Phase 3: From October 2027, the distance-based longitudinal separation method using ADS-C will be implemented, based on the Climb and Descent Procedure (CDP).

NOTE: Distance-based longitudinal separation minima using ADS-C CDP will be applied when an aircraft operating on the same route is cleared to climb or descend through the level of another aircraft.

Regional Harmonization and Monitoring

2.6 Brazil recognizes that the full benefits derived from the implementation of the PBCS require regional harmonization and, therefore, actively participates in the SAT coordination activities, supporting the development of regional monitoring capacities.

2.7 Responsibilities related to the PBCS framework monitoring of non-compliance are primarily defined in ICAO Doc 9869. Complementary guidance is provided in ICAO Doc 10063. Together, these documents establish the roles and responsibilities of States, Regional Monitoring Agencies (RMAs), ICAO, and technical monitoring entities, such as Data Link Monitoring Agencies (DLMAs), for the monitoring, assessment, and reporting of data link performance.

Responsibilities of CAR/SAM States

2.8 In accordance with ICAO Docs 9869 and 10063, CAR/SAM States are responsible for:

- a) issuing operational approvals for RCP240, RSP180, and the applicable RNP specifications.
- b) maintaining accurate and up-to-date national approval registries.
- c) reporting PBCS approvals and changes to the RMA using Forms F2 and F3.
- d) monitoring the continued operational performance of their aircraft.
- e) responding to notifications of performance anomalies identified through regional monitoring; and
- f) designating a national PBCS Point of Contact (PoC).

2.9 These responsibilities apply regardless of whether a given State has implemented national PBCS, as there are aircraft registered or operated by CAR/SAM States that routinely operate in enabled airspace or that plan to operate PBCS.

2.10 The integrated RVSM/PBCS approval registry will be maintained by the RMA. To support future PBCS operations in the Atlantico FIRs, States should be prepared to ensure timely reporting of approvals, synchronization of national registries with the RMA records, and timely responses to PBCS performance reports.

2.11 In this context, Brazil invites the Meeting to consider actions to raise awareness about the concept of PCBS and the responsibilities of CAR/SAM States, including support for the designation of Contact Points within the RMA.

3 Conclusions

3.1 Performance-Based Communication and Surveillance (PBCS) is a key enabler for the safe application of reduced separation minima in oceanic and remote airspace, particularly in the South Atlantic, where operations remain predominantly procedural.

3.2 The effective implementation of PBCS requires regional harmonization and the coordinated involvement of States, ANSPs, Regional Monitoring Agencies, and technical monitoring entities, in accordance with ICAO Docs 9869 and 10063.

3.3 Brazil has made steady progress toward implementing the PCBS in the Atlantic FIR, and this progress is in line with the timetable harmonised by ICAO for the SAT region.

3.4 Many CAR/SAM States have aircraft operating in PBCS-enabled airspace and therefore retain responsibilities related to operational approvals, performance monitoring, and timely reporting to the regional monitoring framework.

3.5 Strengthening awareness of the PBCS concept, State responsibilities, and monitoring mechanisms is essential to support its implementation in the ESC, enhance operational gains, and ensure regional readiness for future reduced separation operations in the South Atlantic.

4 Suggested actions

4.1 The Meeting is invited to:

- a) take note of the planned introduction of PBCS-based separation operations from 2026, and CDP from 2027;
- b) acknowledge the responsibilities of CAR/SAM States related to PBCS operational approvals, participation in the performance monitoring and reporting cycle, in accordance with ICAO documents 9869 and 10063;
- c) encourage CAR/SAM States to maintain accurate and up-to-date national registries of PCBS approvals and ensure timely communication through regionally established mechanisms; and
- d) Encourage operators to pursue PCBS avionics certification.

APPENDIX

SBAO FIR PBCS IMPLEMENTATION CHECKLIST (Doc. 9869)

Group A tasks – State/Region preparation						
TASK ID	TASK DESCRIPTOR	LEAD	OBS	STATUS/DATE		
A-1	AIP. Prescription of an RCP/RSP specification	STATES	The different dates for publication will be closed accordingly. In all cases, to be published at least 2 AIRAC cycles prior to implementation	SBAO	ON GOING	At least three months before PBCS implementation. – July 01, 2026 To be coordinated by ESCIT States
A-2	ANSP – PBCS policies, objectives supporting safety oversight	STATES	ESCIT States will coordinate with National Authorities and support on the development of this material. It's key to contact with them and determine the needs for updating the national documents.	SBAO	COMPLETED	DECEA/CIRCEA 63-12 – November 10, 2025
A-3	PBCS policies, objectives supporting safety oversight of Aircraft Operator and Aircraft System PBCS operations	STATES and USERS	ESCIT States will coordinate with National Authorities and support on the development of this material. Considering that PBCS requirements for Operators are already implemented in several countries, is recommended to look for these regulations as support for the national guidelines.	SBAO	ON GOING	DECEA/CIRCEA 81-3 – March 20, 2026 ANAC/IS 91-010 – September 02, 2025

A-4	Regional Supplementary Procedures (Doc 7030) for PBCS operations, if applicable	STATES	ESCIT decides not to modify doc 7030.	SBAO	COMPLETED	AGREED IN ESCIT05
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Group B tasks – ANSP general project development and management						
TASK ID	TASK DESCRIPTOR	LEAD	GENERAL STATUS/OBS	UPDATE/STATE		
B-1	PBCS Implementation Plan	ESCIT	The ESCIT PBCSI PT will work jointly with SAT PBCSI PT to achieve the milestones included in this Plan	ESCIT	COMPLETED	October 2024 (SAT/IMG04)
B-2	Target dates for PBCS and relevant ATM operations	ESCIT	The focal points of each ANSP in ESCIT PBCS PT will update the dates. They will maintain periodic contact to update dates, milestones, and roadmap for the different tasks.	SBAO	COMPLETED	August 30, 2024
B-3	RCP/RSP specifications	STATES/ANSP	RCP and RSP specifications are currently established (RCP240 and RSP180).	SBAO	COMPLETED	May 30, 2024
B-4	PBCS awareness	ESCIT	Four different tasks: a ATC Training (end date) b Information to AO and air space users in general. ESCIT States to agree a common issuance of this information (via bulletin, AIC, etc.) in coordination with DMO. c Application of PBCS Based Separation minima between ESC States (1 st phase) d Application of PBCS Based Separation minima between ESC States (2 nd phase)	SBAO	ON GOING	a) 23/10/2026 b) 03/09/2026 c) 26/11/2026 d) 13/03/2027
				ESCIT	ON GOING	ESCIT to decide means of communication to AO. September, 2026

Group C tasks – ANSP implementation activities – ATS service provision						
TASK ID	TASK DESCRIPTOR	LEAD	GENERAL STATUS/OBS	UPDATE/STATE		
C-1	Operational concepts and procedures for PBCS operations	ESCIT	This task will lead the ESCIT PT to work together on different documents that will be issued. 3.1 Safety Assessment 3.2 Issuance of “Application of Separation Minima in EUR/SAM Corridor” 3.3 LoA Assignment 3.4 Transition Plan 3.5 Contingency Plan 3.6 Information to AO 3.7 Operational Manual and other own docs.	SBAO	ON GOING	3.1 24/10/2026 3.3 LoA SBAO-GOOO - April 04, 2026 3.7 Operational Manual - July 01, 2026
				ESCIT	ON GOING	3.2 April 04, 2025 - 1st Draft. COMPLETED 3.4 DISCUSSION 3.5 COMPLETED 3.6 At least 3 months before implementation. 3.7 October 26, 2026
C-2	ATC automation changes to use FP RCP/RSP item	ANSP	All ESCIT Team to update this technical issue	SBAO	COMPLETED	July 23, 2025
C-3	ATC automation changes for PBCS monitoring	ANSP	All ESCIT Team to update this technical issue	SBAO	ON GOING	July 24, 2026
C-4	Confirm initial ANSP compliance with RCP/RSP specifications	ANSP	All ESCIT Team to update this technical issue	SBAO	COMPLETED	July 01, 2024

—A4—

Group D tasks – Aircraft operator, Aircraft type/system (airworthiness) eligibility						
TASK ID	TASK DESCRIPTOR	LEAD	GENERAL STATUS/OBS	UPDATE/STATE		
D-1	Aircraft operator readiness	STATES, USERS	Today, approximately 78% of aircraft flying at SBAO are ready for the PCBS.	SBAO	COMPLETED	Continuous monitoring.
D-2	Confirm initial operator and/or aircraft type/system compliance with RCP/RSP specifications	STATES, USERS	Today, approximately 78% of aircraft flying at SBAO are ready for the PCBS.	SBAO	COMPLETED	Continuous monitoring.

Group E tasks – All stakeholders – post-implementation monitoring						
TASK ID	TASK DESCRIPTOR	LEAD	GENERAL STATUS/OBS	UPDATE/STATE		
E-1	PBCS Post implementation monitoring	STATES /ANSP	ESCIT will prepare a document in collaboration with SAT-SOG. The objective is to issue a guide to get all the information regarding the periodic monitoring process.	SBAO	ON GOING	June, 2026 (to discuss on SAT/IMG07)

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