

PBCS Monitoring Data Flow – Brazilian FIR SBAO

(Presented by Brazil and CARSAMMA)

SAT IMG/7 & SAT SOG/7
Dakar, Senegal
6–10 April 2026

Objective

To present the PBCS monitoring data flow to be implemented in Brazil (SBAO FIR) in support of the harmonization of PBCS monitoring practices in the SAT Region.

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Reference Material

- **ICAO Doc 9869** — Performance-based Communication and Surveillance (PBCS) Manual, Second Edition, 2017;
- **ICAO Doc 4444** — Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM), Sixteenth Edition, 2016;
- **ICAO Circular 349** — Guidelines for the Implementation of Lateral Separation Minima, 2024; and
- **ICAO Doc 10063** — Manual on Monitoring the Application of Performance-based Horizontal Separation Minima, First Edition, 2017.

Background

- PBCS requires monitoring of:
 - Required Communication Performance (RCP); and
 - Required Surveillance Performance (RSP).
- Continuous monitoring includes:
 - data collection;
 - data validation; and
 - data analysis.

ICAO guidance emphasises continuous safety performance monitoring of operational and technical data related to PBCS operations.

Brazilian Context

Brazil has been implementing a national PBCS monitoring framework within the Atlântico FIR (SBAO), supported by CIRCEA 81-3 (to be published), which sets procedures for:

- data collection;
- data processing; and
- data reporting.

Brazilian Context

The framework comprises:

- monitoring data flow;
- defined roles and responsibilities; and
- implementation readiness aspects.

Supporting harmonization of PBCS monitoring practices in the SAT Region.

Brazilian Context

To this end, the Brazilian PBCS monitoring framework is structured in accordance with ICAO principles, based on the allocation of monitoring functions across operational, coordination, and regional levels.

The monitoring chain takes a functional approach, utilizing existing organizations within Brazilian air navigation services, without introducing new institutional structures.

Roles and Responsibilities

At the operational level, the Air Traffic Service Provider (ATSP) is responsible for:

- a) detecting operational events, including Large Lateral Deviations (LLD) and Large Longitudinal Errors (LLE);
- b) generating operational reports by ATCOs and supervisors;
- c) collecting traffic data and flight plan information;
- d) generating automated data link performance reports related to RCP and RSP; and
- e) conducting initial technical analysis of monitoring data.

These activities ensure that relevant monitoring data, including operational deviation reports, traffic data and automated data link performance information, are captured at source and made available for further processing.

Roles and Responsibilities

National Coordination Function → ASEGCEA

- a) receiving and consolidating monitoring data from the SBAO FIR;
- b) validating reported events, including coordination between involved FIRs and, where applicable, with other States;
- c) reviewing and coordinating operational and performance monitoring information;
- d) preparing and transmitting monitoring data and reports to the RMA; and
- e) following up identified issues and supporting corrective actions when required.

This coordination function contributes to improving the consistency, completeness, and quality of the data submitted for regional safety monitoring.

Roles and Responsibilities

Regional Monitoring Function → RMA

- a) analyzing operational deviations;
- b) receiving reports of non-compliance with RCP 240 and RSP 180 and transmitting such reports to the State of the Operator or the State of Registry;
- c) verifying the approval status of aircraft and operators, including the consistency between filed PBCS capabilities and State-issued approvals;
- d) receiving and maintaining records of RCP and RSP approvals issued by the State of the Operator or the State of Registry, including incorporation into regional approval databases;

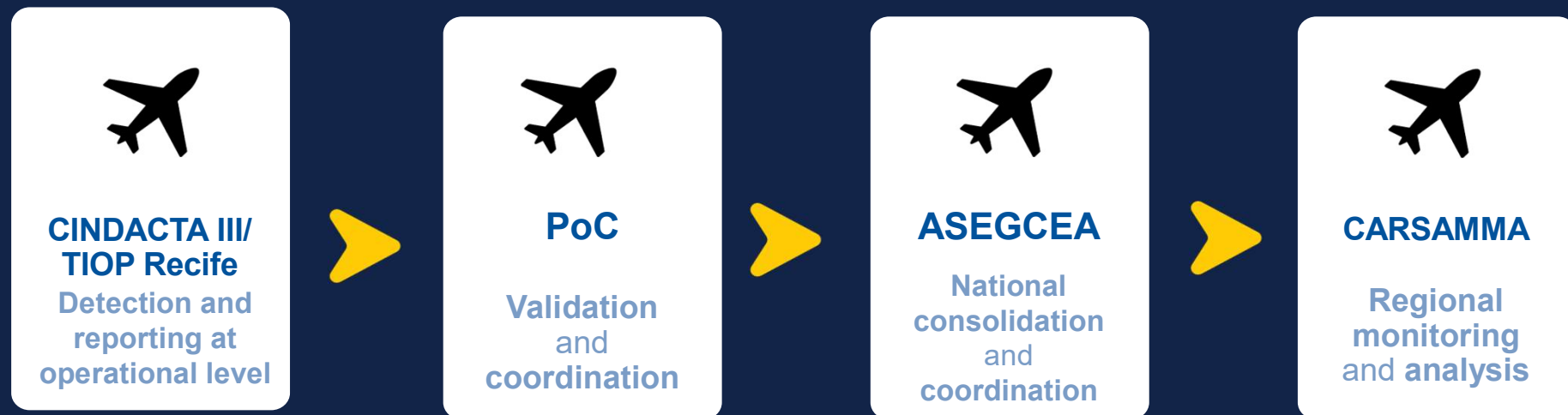
Roles and Responsibilities

- e) initiating follow-up actions with State aviation authorities where safety concerns are identified;
- f) coordinating with States and other RMAs, including exchange of monitoring and approval data; and
- g) providing monitoring information to States and operators upon request.

Considering that the Atlântico FIR (SBAO) is located within the CAR/SAM Regions, the Caribbean and South American Monitoring Agency (CARSAMMA) performs the functions of the RMA for the purposes of PBCS monitoring within this airspace.

Monitoring Data Flow

Monitoring data flow is the structured process for collecting, validating, consolidating, and transmitting PBCS data from the operational level to the RMA for safety monitoring and analysis.



Monitoring Data Flow



Implementation Readiness

The Brazilian approach demonstrates that monitoring can be achieved using existing structures, through functional allocation of responsibilities, supported by:

- a) an established regulatory framework;
- b) clearly defined roles and responsibilities;
- c) standardized reporting procedures and timelines;
- d) availability of automated performance monitoring tools;
- e) operational experience in data collection and processing; and
- f) an established interface with the RMA.

Implementation Readiness

Ensuring:

- data traceability;
- data integrity;
- timely reporting; and
- support for regional harmonization.

Action by the meeting

3.1 The meeting is invited to:

- a) note the PBCS monitoring data flow to be implemented in Brazil;
- b) recognize the use of existing national structures to perform monitoring coordination functions; and
- c) consider this implementation as a reference for supporting the harmonization of PBCS monitoring practices within the SAT Region.

"Coming together is a beginning; keeping together is progress; working together is success."

– Henry Ford

Thanks!



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