



Twenty-first Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/21)
 Santo Domingo, Dominican Republic, 15 – 17 November 2023

Agenda Item 6: Other Business

**ACTIVITIES OF THE GROUP FOR THE CONTINUED IMPROVEMENT OF ATS
 OVER THE SOUTH ATLANTIC (SAT)**

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
<p>This information paper aims to expose the activities executed by the SAT Group and its contributory bodies, the Implementation Management Group (SAT IMG) and the Safety Oversight Group (SAT SOG).</p>	
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Air Navigation Capacity and Efficiency • Economic Development of Air Transport • Environmental Protection
<i>References:</i>	<ul style="list-style-type: none"> • SAT IMG/01 meeting (Abidjan, Côte d'Ivoire, November 2022) • SAT IMG/02 meeting (Paris, France, July 2023) • SAT SOG/01 meeting (Miami, Florida, United States, March 2023)

1. Introduction

1.1 A special meeting of the Group for the continued improvement of ATS over the South Atlantic (SAT) member states¹, held in July 2021, approved a new structure and a new handbook, including Terms of References for the Steering Group (SAT SG), Implementation Management Group (SAT IMG) and Safety Oversight Group (SAT SOG). Brazil chairs the SAT SOG, and Trinidad and Tobago is the co-chair. Also, Regional monitoring agencies (RMA), industry, IATA and international organizations are members of SAT.

2. Analysis

The Steering Group – SAT SG

¹ SAT Member States are: Portugal, Spain, Morocco, Capo Verde, Trinidad and Tobago, France, Senegal, Cote d'Ivoire, Ghana, Angola, Namibia, South Africa, Brazil, Uruguay, and Argentina.

- 2.1 The SAT SG aims primarily to ensure with the support of its contributory bodies, a continuous, coherent and harmonized implementation of the air navigation system in the South Atlantic parties of the AFI and SAM Regions, in accordance with the provision and schedule of the concerned Regional Air Navigation Plans aligned with the Global Air Navigation Plan (GANP Doc. 9750). The SAT SG has convened its first meeting (virtual) for December 4th, 2023. The SAT SG/1 meeting draft agenda is shown in **Appendix A**.

Implementation Management group – SAT IMG

- 2.2 SAT Implementation Management Group (SAT IMG) is responsible to the SAT-SG for the identification, planning, development and coordinated implementation of safe and efficient project supporting the aviation system within the SAT Region.
- 2.3 With regards to requirements of the SAT region, SAT IMG, composed of multidisciplinary experts including both ATM and CNS experts, will address as a matter of priority, issues of capacity, procedures and interoperability related to EUR/SAM corridor and AORRA Airspace.
- 2.4 In order to efficiently achieve the tasks assigned by SAT-SG, SAT IMG may be assisted in its work, by contributory bodies as Ad hoc Groups, Project Teams or Implementation Teams charged with specific functions and/or tasks.
- 2.5 Up to date, SAT IMG group held two meetings, respectively, in Abidjan, Côte d'Ivoire, from 21 to 24 November 2022 (SAT IMG/01) and Paris, France, from 24 to 27 July 2023 (SAT IMG/02). In SAT IMG/02, matters were discussed, and the implementation of ATM/CNS was monitored, among other topics;
- ✓ Planning and implementation programs. Review of EUR-SAM corridor implementation team (ESCIT) meeting outcomes
 - ✓ Airspace and ATS Route improvements
 - ✓ Contingency Plans
- 2.6 The SAT IMG/02 meeting Action Item List and approved Decisions are provided at **Appendix B**.

Safety Oversight Group – SAT SOG

- 2.7 The SAT SOG is responsible to the SAT-SG for:
- a) monitoring safety management of air traffic service provision in the SAT Region and encouraging adoption of best practices;
 - b) ensuring the availability and correct categorization of SAT Region reported occurrences for the purposes of mathematical analysis and other safety management activities; and
 - c) providing statistical data and advices relating to monitoring of safety assessment and any other related tasks.
- 2.8 Regarding to the monitoring of safety management of ATS provision, the SAT SOG will:
- a) Address safety related issues and system safety performance of the SAT Region through monthly/regular conference call and face to face meetings
 - b) Ensure that safety-related occurrences in the SAT region are reported and analyzed by the concerned party to determine root causes and trends;

- c) Promote SAT SOG skills and methods for addressing safety-related occurrences among stakeholders developed by SAT SOG and best practices;
- d) Ensure SAT airspace structure changes are covered by safety assessment approved by the concerned SAT Member State;
- e) In coordination with the SAT IMG, identify areas where mitigation is required.
- f) Assess the effectiveness of implemented mitigation measures;
- g) Develop and maintain SAT Safety Policy as well as safety monitoring methods and analysis in order to recommend improvements to the processes as appropriate to the SAT-SG;

2.9 The SAT SOG group held its first meeting in Miami, Florida, United States, from 13 to 17 March 2023. The following topics were addressed, among other:

- ✓ Implementation of the Group's terms of reference. Work programme. Safety policies
- ✓ Databases for RMA processes. Statistics.
- ✓ Collision risk assessment and LHD. Harmonization of RMA processes.
- ✓ Training

2.10 The Action Item List, and approved Decisions are provided at **Appendix C**. The next SAT SOG/02 virtual meeting is scheduled for 27 – 29 November 2023.

2.11 The second meeting (virtual), SAT SOG/02, will be executed from 23 to 29 November 2023. The draft Agenda is shown in **Appendix D**.

3. Conclusions

3.1 The Group for the continued improvement of ATS over the South Atlantic (SAT) and its contributing bodies, the SAT IMG and the SAT SOG, are promoting optimization of services and the strengthening of operational safety in said airspace, including the AORRA. Also, the SAT is focused on maintaining the harmonization of the implementations of advanced air navigation concepts with the adjacent NAT region.

3.2 Important to remark on the contribution of CAR/SAM Region states involved in the SAT operations, through their participation in the two working groups and the corresponding project teams. As well, the cooperative work of RMAs, as SATMA, CARSAMMA, NARMO and ARMA, for the harmonization of procedures and methods of safety assessment is highlighted.

3.3 The SAT receives very significant support from FAA, the Industry, IATA, CANSO, etc.

3.4 The documents, papers, and material referred to SAT SOG and SAT IMG meetings are available in the ICAO Portal <https://portal.icao.int/>, under the groups "SATIMG" and "SATSOG" (all CAPS no space).

4 Action by the Meeting

4.1 The Meeting is invited to take note of the information provided.

APPENDIX A
SAT SG/01 Draft Agenda

- Opening Session –
 - Remarks by SAT ICAORDs;
 - Remarks by the SAT SG Chairperson

Agenda Item 1: Adoption of the Agenda and Work Programme of the Meeting

Agenda Item 2: Outcomes of the sub-groups' meetings

- 2.1 Outcomes of the first and second meetings of the SAT Implementation Management Group
- 2.2 Outcomes of the first and second meetings of the SAT Safety Oversight Group

Agenda Item 3: Update on developments in the SAT area

Agenda Item 4: Terms of Reference and work programme of SAT entities

Agenda Item 5: Review of the outcomes of SAT SG/1

Agenda Item 6: AOB and Closing

- Any Other Business (AOB);
- Close remarks

APPENDIX B
SAT IMG/02 meeting
Action Items

ID #	ACTION	REMARKS	WHO	WHEN
R-01	Provide State/ANSP Reports including traffic figures and information on implementation activities.	SAT IMG/1 SoD,	All SAT IMG members	Every meeting
R-02	In accordance with the detailed AIDC implementation activity plan for the SAT Region (Appendix X) present updates on AIDC implementation to the SAT IMG	SAT IMG/1 SoD, para. 2.3	Secretariat SAT IMG members	Every meeting
01-01	Share the AFI Region Free Route Airspace FRA implementation roadmap with SAT IMG members	SAT IMG/1 SoD, para. 2.3	Secretariat	SAT IMG/02
01-02	Review the SAT Contingency Plan (inclusion of 20 min LONG separation minima and use of FL 400) in the framework of the SAT CPR Project Team report back to the next meeting	SAT IMG/1 SoD, Para. 2.12	SAT CPR PT	SAT IMG/03
01-03	Share the deliverables/guidelines in support of AIDC implementation between 2 ACCs/OACs in the SAT Region with SAT IMG members	SAT IMG/1 SoD, Para. 4.2	Secretariat	31 DEC 2022
01-04	Report back on the technical solutions which support the implementation of AMHS <u>and present updates on completed implementation</u>	SAT IMG/1 SoD, Para. 2.12	Secretariat SAT IMG members	SAT IMG/03
01-05	Update on implementation timelines and coverage of ground and space based ADS-B within the EUR-SAM corridor	SAT IMG/1 SoD, Para. 2.12	ESCIT members	ESCIT/03
01-06	Submit the ESCIT/03 meeting report for discussion and review to the next SAT IMG meeting	SAT IMG/1 SoD, Para. 2.12	ESCIT chairperson	SAT IMG/02
01-07	Following the assessment of the current implementation activities, prepare a SAT Service Development Roadmap for the coordinated harmonised implementation of operational improvements from 2024 onwards	SAT IMG/1 SoD, Para. 2.12	Secretariat SAT IMG members	SAT IMG/03
01-08	Submit all material from the individual AIPs on the airspace dimensions, waypoints and procedures of the AORRA phase 4 area to the Secretariat. If available, send also any information on the AORRA phase 5	SAT IMG/1 SoD, Para. 2.12	SAT IMG members	31 DEC 2022

ID #	ACTION	REMARKS	WHO	WHEN
02-01	Based on the SAT Area description in the Draft SAT Doc002, develop a map of the SAT Area (including EUR/SAM corridor and AORRA)	SAT IMG/2 SoD	Secretariat IATA	30 SEP 2023
02-02	Request the AIM/SWIM Team of the EUR Region to share best practices and guidance on the AMHS implementation	SAT IMG/2 SoD	Secretariat	SAT IMG/03
02-03	SATMA to maintain the data collection and traffic figure analysis for the EUR/SAM corridor, but to exclude the not planned RFL tables in future reports	SAT IMG/2 SoD	SATMA	SAT IMG/03
02-04	SATMA, upon request from SAT members, to create specific use case scenarios which would support implementation initiatives in the SAT area	SAT IMG/2 SoD	SAT IMG members	SAT IMG/03
02-05	Invite States/ANSPs to include any ATM coordination or interoperability issues into the State reports for discussion at the SAT IMG	SAT IMG/2 SoD	SAT IMG members	SAT IMG/03
02-06	Collect all the information from State Reports & WPs and develop consolidated AMHS and AIDC implementation status tables	SAT IMG/2 SoD	Secretariat	SAT IMG/03
02-07	SAT members to contact their national authorities on the proposed frequency allocation aspects and to support the AMS(R)S B1 method (including data link functionality) for agenda item 1.7 at the next ITU WRC 23	SAT IMG/2 SoD	SAT IMG members	3Q 2023
02-08	Cabo Verde, Spain and Brazil to collect Flight Level utilization data (e.g. a monthly traffic data sample for 2 nd half in 2023) at the entry into the EUR/SAM corridor (requested FL vs assigned FL, not FL from FPL) and present this to the SAT IMG	SAT IMG/2 SoD	Brazil Cabo Verde Spain	SAT IMG/03
02-09	Contact Argentina and Uruguay for inclusion of their contingency arrangements into SAT Doc 002	SAT IMG/2 SoD	Secretariat	SAT IMG/03

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Decisions

Reference/Title	Description	Comments	Status
SAT IMG/01-1 Inclusion of RCP240 and RSP 180 values into the aircraft equipment monitoring tables	That, Spain amends the aircraft equipment monitoring tables for the EUR/SAM corridor so that they include the values for RCP240 and RSP 180.	To be included into the next report for the SAT IMG/02 meeting	On-going Complete d
SAT IMG/01-2 Expand the time horizon for traffic number monitoring in the EUR/SAM corridor	That, Spain expands the time horizon for traffic figures within the EUR/SAM corridor so that the range includes traffic figure from the past year (Y-1), the actual/current year (Y) and the next year (Y+1)	To be included into the next report for the SAT IMG/03 meeting	On-going
SAT IMG/01-3 Submit survey on PBCS implementation, analyze the results obtained, and present them to the next meeting	That: a) the SAT IMG members are invited to complete a survey (similar to the one from ARMA) in order to determine the readiness for PBCS Implementation; b) the ICAO Secretariat analyse the results of the survey; and c) report the results to the next SAT IMG/02 meeting.	Survey launch before end 2022 3 months comments period Share the results with the 3 SAT RMAs As not all States had responded so far, Preparation of invite remaining States to complete the survey and prepare a WP for SAT IMG/0203	On-going
SAT IMG/01-4 Implement solutions for the improvement of flight efficiency and flight level occupancy in the EUR-SAM corridor	That, SAT ANSPs are invited to provide the solutions to mitigate flight level limitations and improve flight level occupancy for existing and future flights within the EUR/SAM corridor	State Letter to be sent in Q3 2023 Follow up at SAT IMG/0203	On-going
SAT IMG/01-5 Organisation of ESCIT/03 meeting in Q1/2023	That, in accordance with the SAT IMG ToRs, the ESCIT/03 meeting will be organized as early as possible in 2023 with the main priority to assess and improve the air navigation system capacity and efficiency within the EUR/SAM corridor.	State Letter invitation to be sent ESCIT report to be presented at SAT IMG/02	On-going Complete d
SAT IMG/01-6 Establishment of a SAT Contingency Plan Review Project Team	That, a Project Team be established in order to review and propose amendments to the ATM Operational Contingency Plan for the South Atlantic, to verify the accuracy of the information particular to each SAT FIR, and to publish the SAT Contingency Plan as a new SAT DOC 002.	State Letter for nominations to be sent Series of virtual meetings Participation in the AFI workshop PT report to be presented at SAT IMG/02 Final version to be submitted to SAT IMG/03	On-going

Reference/Title	Description	Comments	Status
SAT IMG/02-1	That, a Project Team be established in order to develop a combined implementation plan, task list and timelines/action items, which will support the harmonized implementation of PBCS and the use of the related PANS-ATM separation minima in the South Atlantic.	State Letter for nominations to be sent Series of virtual meetings PT report to be presented at SAT IMG/03	New
SAT IMG/02-2	That all ANSPs in the EUR/SAM corridor study the proposal from Cape Verde to change ATS Route UN866 into a bi-directional Route and consider also the effects for traffic flows crossing the EUR/SAM corridor.	Either as part of ESCIT/04 or as a series of individual meetings Study report to be presented at SAT IMG/03	New
SAT IMG/02-3	That all ANSPs in the EUR/SAM corridor amend and update their individual Letter of Agreements so that the application of the Mach Number Technique in the EUR/SAM corridor can be amended accordingly.	Update of all LoAs before 30 September 2023 Information on signed LoAs should be sent to the Secretariat Report back to SAT IMG/03	New
SAT IMG/02-4	That, in response to the SAT SOG Regional Monitoring Agency Harmonization and Standardization Project Team report, the Secretariat will share the SAT area geographical definition (as published in the States AIPs) with the PT and discuss the delimitation aspects. The SAT IMG has also decided that July should be the month for the collection of optimal traffic sample data.	Share the data from SAT Doc 002 with SAT SOG RMA H/S PT Participate at the next PT meeting	New
SAT IMG/02-5	That, following the request from IATA, the SAT IMG proposes an amendment for the establishment of a SAT Document Management Office (DMO) to SAT Doc 001 for consideration/approval by the SAT SG	Extract the SAT DMO ToRs from the NAT Doc 001 Amend the ToRs with coordination aspects between NAT and SAT DMOs Follow up at SAT IMG/03	New

Reference/Title	Description	Comments	Status
SAT IMG/02-6	That the SAT IMG agenda has to be expanded with a dedicated agenda item that will address aspects and/or working papers which need to be coordinated between the SAT IMG and SAT SOG	Prepare revised agenda for SAT IMG/03	New

APPENDIX C

SAT SOG/01 meeting

Action Item

ID #	ACTION	References	WHO	WHEN
SOG R-01 (RECURRENT)	The SAT SOG group Delegates were urged to prepare and address the working papers to the Secretariat within the deadlines defined in the convening letter.	SAT SOG/01 SoD, para 7.2	All SAT members	Every meeting
SOG01-01	Follow up the sharing of the results of SAT IMG Decision 01-03, survey on PBCS implementation with the 3 RMAs.	SAT SOG/01 SoD, para 1.7	Secretariat	SAT SOG/02
SOG01-02	Coordinate / harmonize the biannual working programme with its pairs of Paris, Dakar, Nairobi and Mexico Regional Offices, in order to adjust and maintain updated the said programme	SAT SOG/01 SoD, para 2.4	Secretariat	SAT SOG/03
SOG01-03	Collect and upload in the portal.icao the background documents and reports on the previous SAT meetings, as well as follow up the application of the Communication Plan, and to keep it updated. An assessment on the efficiency of the Communication Plan, must be conducted twice in the year	SAT SOG/01 SoD, para 2.9	Secretariat	SAT SOG/02
SOG01-04	Submit the Safety Policy to the SAT SG for validation, to be adopted by all members of the SAT Group.	SAT SOG/01 SoD, para 2.17, and Appendix K.	Secretariat	SAT SG first meeting
SOG01-05	Submit, in coordination with SAT IMG, a Paper to the SAT SG, presenting the interest to better define the Routes, FIR/UIRs, ACCs, ANSPs, States concerned in the SAT airspace. Also, the mentioned paper will urge the need for delineation of the airspace in the vertical plane.	SAT SOG/01 SoD, para 2.26	Secretariat Coordinating with SAT IMG	SAT SG first meeting
SOG01-06	Draft a fast-track procedure for the SAT GROUP taking into account the best practices of the document NAT SPG HANDBOOK - DOC 001. The study must identify the differences between NAT and SAT in terms of structures and resources.	SAT SOG/01 SoD, para 3.10	Secretariat	SAT SOG/02
SOG01-07	Prepare a paper to be submitted to the SAT SG, pointing out the importance of traffic forecasts in the general framework of the SAT, and recommending the coordination between the Steering Group and the concerned PIRGs, to identify options to receive	SAT SOG/01 SoD, para 4.5	Secretariat	SAT SG first meeting

ID #	ACTION	References	WHO	WHEN
	adequate traffic forecast for the AORRA airspace and other sectors of SAT.			
SOG01-08	Coordinate the discussion of the SAT SOG needs in the next GREPECAS Scrutiny GTE meeting (CAR SAM regions), also push the participation of Scrutiny Groups' focal points in the incoming SAT SOG meetings.	SAT SOG/01 SoD, para 5.3	Secretariat	GREPECAS 21
SOG01-09	Coordinate the support on PBCS training activities from some Agency / Organization in EUR/NAT or APAC Regions.	SAT SOG/01 SoD, para 5.8	Secretariat	SAT SOG/02
SOG01-10	Disseminate and oversight the application of SLOP procedure in their FIR/UIRs, aimed to reinforce safety and adequate TLS in SAT.	SAT SOG/01 SoD, para 5.15	All SAT IMG states/regulators	SAT SOG/02
SOG01-11	Request the support of SATMA to carry on studies on the feasibility of integrating data of SLOP procedures in the methodology applied to Collision Risk Assessment, recognizing the complexity of such matter.	SAT SOG/01 SoD, para 5.16	Secretariat SATMA	SAT SOG/02
SOG01-12	Initiate feasibility studies on acquisition of SLOP data taken from ATS automation systems and prepare a preliminary report.	SAT SOG/01 SoD, para 5.17	Brazil ASECNA SATMA	September 29, 2023
SOG01-13	Considering the increased traffic flow in the SAT area that is tending to a continuous growth in the next 3 years; Reinforce mitigation measures on ATS procedures, operational errors, ATM/CNS issues, etc. and boost their participation in the activities carried on by the SAT Group.	SAT SOG/01 SoD, para 5.42	All SAT members	SAT SOG/02
SOG01-14	Identify the training gaps in the SAT members states in order to define a programme that fulfil the members necessities. Survey on oceanic operation training needs.	SAT SOG/01 SoD, para 6.6	Trinidad and Tobago Secretariat	Q3 , Q4 2023
SOG01-15	State Letter to administrations, requesting the nomination of the designated focal points and/or the SME/members/leaders/coordinators of the project teams defined in the present meeting.	SAT SOG/01 SoD, para 7.1	Secretariat	May 2023

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Decisions

Reference / Title	Description	Notes	Status
SAT SOG Decision 01/01 – SAT Oceanic Errors Safety Bulletin Project Team (SAT OESB PT)	That, a Project Team be established to elaborate the SAT oceanic errors safety bulletin (SAT OESB) aimed to improve safety in the South Atlantic airspace. The project team will review the NAT OESB document and determine which topics are relevant to the SAT region, compose a SAT OESB with relevant topics specific to the region, and will present a recommendation to the SAT SOG/2 regarding the implementation and publication of the SAT OESB document.	State Letter to administrations, requesting the nomination of the designated focal points and/or the SME/members/leaders/coordinators of the PT	On-going
SAT SOG Decision 01/02 – SAT annual safety report project team (SAT ASR PT)	That, a Project Team be established to elaborate the SAT annual safety report (SAT ASR) aimed to improve safety in the South Atlantic airspace. The project team will review the NAT ASR, compose a SAT ASR with relevant topics specific to the region, and will present the drafted document to the SAT SOG/2 to be validated.	State Letter to administrations, requesting the nomination of the designated focal points and/or the SME/members/leaders/coordinators of the PT	On-going
SAT SOG Decision 01/03 – SAT RMAs' harmonization / standardization project team (SAT RMA h/s PT)	That, a Project Team be established to identify the gaps and/or differences in the current procedures and methods of the three RMAs, thus, propose solutions to harmonize and standardize them. The PT would also conduct a feasibility study and implement a database. A project's progress report should be presented on SAT SOG meetings, ensuring transparency and accountability.	State Letter to administrations, requesting the nomination of the designated focal points and/or the SME/members/leaders/coordinators of the PT	On-going

APPENDIX D
SAT SOG/02 draft agenda

Agenda Item 1: Opening and review of latest developments

- 1.a) Adoption of the Agenda
- 1.b) Review the outcomes of SAT IMG/02 meeting
- 1.c) Review status of SAT SOG Action Items and Decisions

Agenda Item 2: SAT SOG ToRs implementation

- 2.a) SAT SOG working plan 2024-2025
- 2.b) SAT OESB Project team

Agenda Item 3: Database and a common repository and SAT Air Traffic statistics

- 3.a) Update on SAT SOG RMA H/S Project team activities

Agenda Item 4: Collision risk assessment and LHD

- 4.a) Activities on height monitoring.
- 4.b) Mitigation of LHD; ATS incidents analysis. Related states ANSPs programs.

Agenda Item 5: Any other business

END