



**Nineteenth Meeting of the CAR/SAM Regional Planning and Implementation Group  
 (GREPECAS/19)  
 Online, 27 – 29 October 2021**

**Agenda Items 3: GREPECAS Work Programmes, Objectives and Results  
 3.2 GREPECAS Work Programmes, Objectives and Results**

**SUMMARY OF THE CURRENT STATUS OF THE PROGRAMMES AND PROJECTS - SAM  
 REGION**

(Presented by Secretariat)

<b>EXECUTIVE SUMMARY</b>	
This working paper presents the decisions made by the GREPECAS Programmes and Projects Committee (ePPRC)/01, 02, and 03 Meetings as well as the Evaluation Meeting for updating the projects of the CAR/SAM Regional Planning and Execution Group (GREPECAS) that have directed the development of Programmes and Projects of the SAM Region in the context of the COVID-19 pandemic.	
<b>Action:</b>	Indicated in 4.1
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> <li>• Capacity and efficiency</li> <li>• Safety</li> </ul>
<i>References:</i>	<ul style="list-style-type: none"> <li>• ePPRC/01, 02 y 03 Meetings;</li> <li>• CAR/SAM Planning and Implementation Regional Group (GREPECAS)</li> </ul>

**1. Introduction**

1.1 The GREPECAS Programmes and Projects Committee (PPRC) is the contributory body of the Planning and Implementation Regional Group (PIRG). Its mission is to authorize the implementation of a Project, monitor the approved project programme, and close it when it considers that the objectives have been achieved.

1.2 In the context of the COVID-19 pandemic, three virtual meetings of the PPRC (called ePPRCs) have been held to follow up on the Projects.

**2 Analysis**

2.1 The GREPECAS Secretariat, given the uncertainty generated by the COVID-19 pandemic, and the almost complete stoppage of aviation activity, decided, in April 2020, to hold meetings of the PPRC when it will consider it necessary to evaluate the project management.

2.2 In the first virtual meeting of the PPRC (ePPRC/01), which took place on 27 May 2020, concerning Programmes and Projects, it had been agreed that current Projects be analysed considering all changes in the context where they are developed. This recommended activity was issued to determine whether the projects continued to be justifiable under the new priorities and needs of the States and regions. This recommendation was supported by Decision ePPRC/01/03 - *Review of current PPRC programmes and projects*.

2.3 At the second virtual meeting of the PPRC (ePPRC/2), held on 30 October 2020, a complete description of the Projects that were valid at that time was presented (Programmes A, B, C, D, E, F, G and H), based on evaluation criteria, described under Agenda Item 1 of the Minute of ePPRC/02. In compliance with Decision ePPRC/01/03, the SAM Region presented a complete analysis of its Projects. Part of this analysis can be found in Appendix C of the Minute of ePPRC/02, available at the following link: <https://www.icao.int/NACC/Documents/Meetings/2020/PPRC02/ePPRC02-Minute-REV.pdf>

2.4 In the context of the Project Reviews, ePPRC/02 issued the following decisions and Conclusions:

- a) Decision ePPRC/02/01 - *Presentation of GREPECAS Revised Projects*;
- b) Decision ePPRC/02/02 - *Updating of the ATFM Documentation of the CAR/SAM Regions*; and
- c) Conclusion ePPRC/02/03 - *Review of the A-CDM Implementation Plan Proposal*.

2.5 Likewise, it was decided to hold an evaluation meeting to update the Projects of the GREPECAS, set for 18 November 2020.

2.6 In this meeting, the Project's update, replacement, restructuring, or cancellation were decided. The details of the actions decided are found in Appendix C of the Minutes of the meeting, available at the following link: <https://www.icao.int/NACC/Documents/Meetings/2020/GRP/NACC84102-AIM-States-GREPECASProjectEvaluation.pdf>

2.7 The ePPRC/03 took place on 31 August and 1 September 2021. In this meeting, the follow-up to the projects was carried out under Agenda Item 2.

2.8 The decisions and conclusions taken by the ePPRC/03 are:

- a) Conclusion ePPRC/03/01 - *Collaborative Decision-Making Implementation Guide at Airport level (A-CDM)*;
- b) Conclusion ePPRC/03/02 - *Implementation of the Standards and Recommended Methods (SARPs) of Annex 3 - Meteorological Services for International Air Navigation*;
- c) Conclusion ePPRC/03/03 - *Implementation of the Digital Data Sets (DDS), the Data Catalogs, the Aeronautical Information Exchange Model, and the e-AIP*; and
- d) Conclusion ePPRC/03/04 - *Subscription of Letters of Agreements Remotely and Effective Implementation of the SAR Services*:

2.9 Information related to ePPRC/03 can be found at the following link: <https://www.icao.int/NACC/Documents/Meetings/2021/PPPRC3/ePPRC03-Minute.pdf>

2.10 At the ePPRC/2 Meeting, it was reported that the limitations generated by the pandemic had not allowed the SAM States to adopt the documentation and guides for the ATFM service prepared in 2019. In this regard, it is highlighted that the meeting of the implementation group regional SAMIG/26 (Virtual, 20-23 September 2021) adopted the ATFM Operations Plan (OPSAM) and the Guide for implementing ATFM in the SAM Region 2022-2026. The report on the deliberations and conclusions of the meeting SAMIG/26 on ATFM and other ATM/CNS matters are available at the following link:

[https://www.icao.int/SAM/Pages/ES/MeetingsDocumentation\\_ES.aspx?m=2021-RLA06901-SAMIG26&t=1](https://www.icao.int/SAM/Pages/ES/MeetingsDocumentation_ES.aspx?m=2021-RLA06901-SAMIG26&t=1)

2.11 Due to those mentioned above, the progress of Project B1 on ATFM in the SAM Region, "Improving the balance between demand and capacity," is updated, as shown in Appendix A of this working paper.

### **3 Conclusion**

3.1 The PPRC considered that despite the context of the pandemic, the SAM Region Projects related to the ATM, AGA, AIM, and CNS programmes should continue but should be reviewed to restructure and update them.

3.2 Concerning the MET Programme Projects, the PPRC considered that the activities foreseen in the Projects had been completed, and the materials to support the MET area implementations have been generated. Projects in the MET area should be replaced by a follow-up Project for the implementations pending in the MET Programme. To carry out this task, the Secretariat has carried out virtual missions (so far to five States) to verify the degree of compliance with the Standards and Recommended Practices (SARPs) contained in ICAO Annex 3.

3.3 Additionally, for the MET area, the PPRC recommended that, if the preparation of new projects is considered, they should be focused on the:

- a) preparation of information related to en-route meteorological phenomena that could affect the safety of aircraft operations (homogeneous SIGMET); or
- b) implementation of the ICAO Weather Information Exchange Model (IWXXM); or
- c) preparation of meteorological messages for exchange in a System Wide Information Management (SWIM) environment

3.4 The progress of Project B1 on ATFM is updated, as shown in Appendix A.

**4 Requested Action**

4.1 The Meeting is invited to:

- a) take note of the information presented in this Working Paper and its Appendix;
- b) review the information, contained in the Minutes of ePPRC/01, 02, and 03 meetings, related to the monitoring of the projects of the Programmes of the SAM Region;
- c) provide information on the implementation of the Conclusions of e/PPRC/ 01, 02, and 03 related to the Projects of the SAM Region; and
- d) take other actions that the Meeting consider convenient.

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**SAM REGION; PROJECT B1 – IMPROVE DEMAND-CAPACITY BALANCING**

<i>SAM Region</i>	<b>PROJECT DESCRIPTION (DP)</b>	DP N° B1	
<i>Programme</i>	<b>Project Title</b>	<b>Start</b>	<b>End</b>
<p><i>Air traffic flow management (ATFM)</i></p> <p><i>(Programme coordinator: ATM RO Fernando Hermoza Hubner)</i></p>	<p align="center"><i>Improve demand-capacity balancing</i></p> <p align="center"><i>Project coordinator: <del>Nicolas Borovich (Argentina)</del> Marcos Pecanha (Brazil)</i></p>	2012	<del>2022</del> 2026
<b>Objective</b>	Avoid overloading the ATC and airport systems, strengthening safety, taking into consideration the reduction in the number of delays caused by meteorological and traffic conditions, thus reducing fuel consumption and contaminating emissions. Likewise, improve prediction and management of surplus demand for services in ATC sectors and aerodromes.		
<b>Scope</b>	The scope of this project establishes that ATFM implementation should start with airport and airspace monitoring in order to identify significant increases in ground delays and in-flight holding, as well as bottlenecks (ATC sector, runway, apron, and airport facilities). Furthermore, capacity calculation and air traffic demand analysis are important elements to improve demand/capacity balancing.		
<b>Metrics</b>	<ul style="list-style-type: none"> <li>• % States that have calculated runway and ATC sector capacity</li> <li>• % States that have implemented ATFM in flow management units (FMUs) or flow management positions (FMPs)</li> </ul>		
<b>Strategy</b>	Project activities define ATFM implementation in the SAM Region through an airspace demand and capacity analysis, taking into account that States that are in the process of implementation shall coordinate with the ATM community to define the actions required for ATFM implementation. The infrastructure and the database, as well as the policy, standards, and procedures, are important components for the execution of this Project.		
<b>Goals</b>	<ul style="list-style-type: none"> <li>• SAM States with experts trained in runway and airspace capacity (ATC sector) calculation</li> <li>• ATFM performance oversight plan</li> <li>• CAR/SAM inter-regional coordination</li> </ul>		
<b>Rationale</b>	GREPECAS considered that early ATFM implementation should ensure optimum air traffic flow to or through certain areas during periods in which demand exceeded or was expected to exceed the available capacity of the ATC system. Therefore, the ATFM system should reduce aircraft delays, both in flight as well as on the ground, and avoid system overload.		
<b>Related projects</b>	<ul style="list-style-type: none"> <li>• Automation.</li> </ul>		

Project deliverables	Relationship with the performance-based regional plan (PFF)	Responsible party	Status of implementation*	Delivery date	Comments
1. Assess the progress made in the ATFM implementation work programme	B0-NOPS	Programme coordinator		<del>2016</del> 2026	On-going task
2. Calculation of airspace (ATC sector) capacity	B0-NOPS	Juarez Franklin Gouveia		SAM/IG/9 FINALISED see ITEM 9	Brazil and Colombia submitted their studies.
3. List of airspace sectors that have periods in which demand exceeds the existing capacity, including, if necessary, simulations by the States	B0-NOPS	Juarez Franklin Gouveia		SAM/IG/9 SAM/IG/10 FINALISED see ITEM 9	Brazil and Colombia submitted their studies.
4. List of operational factors affecting demand and airspace capacity for the optimisation of existing capacity, including simulations, if necessary.	B0-NOPS	Juarez Franklin Gouveia		SAM/IG/9 FINALISED see ITEM 9, 14 y 15	Brazil and Colombia submitted their studies. Brazil, Paraguay, and Peru presented data at the SAM/IG/11 meeting.
5. Definition of the common elements of situational awareness	B0-NOPS	Paulo Vila		2012 FINALISED see ITEM 14	The States that exchange information are: Chile, Colombia, Paraguay, and Venezuela.

Project deliverables	Relationship with the performance-based regional plan (PFF)	Responsible party	Status of implementation*	Delivery date	Comments
6. Training of personnel in strategic ATFM airspace measures	B0-NOPS	Project RLA/06/901		2019 2022	<p>In 2010, an ATFM/CDM course was conducted in Brazil with the participation of several States.</p> <p>In March 2009, a course on runway and ATC sector capacity calculation was conducted in Brazil.</p> <p>In 2012, a course for instructors on runway and ATC sector capacity calculations was conducted in Lima.</p> <p>An ATFM seminar was delivered in June 2018.</p> <p>A Workshop/Meeting on ATFM Regional Data Management and Indicators is scheduled for 2022</p>
7. List of factors affecting the implementation decision	B0-NOPS	Programme coordinator		2010 FINALISED see ITEM 15	<p>The following causes were identified at the SAM/IG/11 meeting:</p> <ul style="list-style-type: none"> <li>- States that do not have the requirement or the need to implement ATFM;</li> <li>- Budgetary and organisational reasons;</li> <li>- Lack of personnel specifically devoted to ATFM activities;</li> <li>- The personnel responsible for ATFM are involved in other functions.</li> </ul>
8. Updating of runway capacity calculations	B0-NOPS	Programme coordinator		2019 2024	<p>2018: 85% of States have updated runway capacity calculations. Guyana and Suriname are still lacking capacity calculations.</p> <p>Due to the pandemic, in the period 2020-2021 the capacities and characteristics of demand have evolved throughout the Region. An update on runway capacity calculations is required in all States.</p> <p>The draft of the ATC Sector and runway Capacity Calculation Manual is being updated for 2022, it is expected to be adopted in May 2022.</p>

Project deliverables	Relationship with the performance-based regional plan (PFF)	Responsible party	Status of implementation*	Delivery date	Comments
					A Workshop/Meeting on Capacity Calculation Methodology for the ATFM is scheduled for 2022
9. Updating of airspace (ATC sector) capacity calculations	B0-NOPS	Programme coordinator		2019 2024	<p>2018: 6 States of the Region have performed ATC sector capacity calculations prior to implementation, 5 have not performed the activity, and information is still to be received from 3 States.</p> <p>Due to the pandemic, in the period 2020-2021 the capacities and characteristics of demand have evolved throughout the Region. An update on airspace capacity calculations is required in all States.</p> <p>The draft of the ATC Sector and runway Capacity Calculation Manual is being updated for 2022, it is expected to be adopted in May 2022.</p> <p>A Workshop/Meeting on Capacity Calculation Methodology for the ATFM is scheduled for 2022</p>
10. Airspace monitoring processes Traffic demand analysis processes Standards on FMU/FMP procedures Implementation of preliminary ATFM measures Implementation of TMIs ATFM messaging Coordination of special events Civil/military exemptions and coordination	B0-NOPS	CGNA course Project RLA/06/901		November 2014 FINALISED	Completed on time



Project deliverables	Relationship with the performance-based regional plan (PFF)	Responsible party	Status of implementation*	Delivery date	Comments
11. Replication of ATFM courses at national level	B0-NOPS	States		15/05/2015 FINALISED	The States replicated ATFM courses at national level.
12. ATFM measures during the Rio 2016 Olympic and Paralympic Games in Brazil	B0-NOPS	Brazil		13/05/2016 FINALISED	Details of the AIC of Brazil can be found in: <a href="http://publicacoes.decea.gov.br/?i=publicacao&amp;id=4339">http://publicacoes.decea.gov.br/?i=publicacao&amp;id=4339</a>
13. CONOPS ATFM CAR SAM updated and approved by GREPECAS	B0-NOPS	Coordinador de Programa		July 2019 FINALISED	SAMIG/23 (June 2019) reviewed the draft. Approved by CRPP/5 meeting
14. ATFM operations Plan	B0-NOPS	Programme coordinator		September 2021 FINALISED	Plan adopted at SAMIG/26 Meeting, September 2021
15. Guide for the implementation of the ATFM in the SAM Region 2022- 2026	B0-NOPS	Programme coordinator		September 2021 FINALISED	Guide adopted at SAMIG/26 Meeting, September 2021
16. Manual for calculating Runway Capacity and ATC Sector for the SAM Region	B0-NOPS	Programme coordinator		June 2022	Draft update started in October 2021
17. Status of implementation of ATFM	B0-NOPS	Programme coordinator		31/10/2016 December 2026	By May 2017, 71% of the States had implemented ATFM. The phased implementation indicated in the Guide for the implementation of the ATFM in the SAM Region must be completed

Project deliverables	Relationship with the performance-based regional plan (PFF)	Responsible party	Status of implementation*	Delivery date	Comments
					before December 2026. Progress monitoring is maintained.
<b>Resources needed</b>	Designation of experts for the execution of some of the deliverables.				

\*Status of implementation; according colours in fourth column

**Grey**      **Task not started**

**Green**     **Activity underway as scheduled**

**Yellow**    **Activity started with some delay but expected to be completed on time**

**Red**        **It has not been possible to implement this activity as scheduled; mitigation measures are required**

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