



**Twentieth Meeting of the CAR/SAM Regional Planning and Implementation Group
 (GREPECAS/20)**

Salvador, Brazil, 16 – 18 November 2022

Agenda Item 2: Global and Regional Developments
 2.3 Programmes and Projects Progress Report

PROGRESS REPORT BY THE AIR TRAFFIC FLOW MANAGEMENT ATFM TASK FORCE

(Presented by the ATFM/TF Rapporteur)

EXECUTIVE SUMMARY	
<p>This Working paper presents the progress achieved by the ATFM Implementation Task Force (TF) since its previous progress report. This Paper includes the results for previously identified deliverables and recommendations for improving the Task Force function and coordination.</p>	
Actions:	Suggested actions are included in Section 5.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Air Navigation Capacity and Efficiency • Economic Development of Air Transport
<i>References:</i>	<ul style="list-style-type: none"> • Report of the Sixth North American, Central American and Caribbean Working Group Meeting (NACC/WG/6), on-line, 25 to 27 August 2021. • Report of the Third North American, Central American and Caribbean Working Group (NACC/WG) Air Traffic Flow Management (ATFM) Implementation Task Force Meeting ATFM/TF/3, Mexico City, Mexico, and On-line 17 to 19 May 2022.

1. Introduction

1.1 The Air Traffic Flow Management (ATFM) Implementation Task Force was established during the First NAM/CAR Air Navigation Implementation Working Group (ANI/WG/1) Meeting, held at the ICAO NACC Regional Office, Mexico, City, Mexico, from 29 July to 1 August 2013, to reflect the importance of Traffic Flow Management (TFM) to the Region. The objective of the ATFM TF is to work collaboratively and develop a regional and interoperable ATFM framework in the NAM/CAR Regions that is consistent with ICAO Doc 9971 — *Manual on Collaborative Air Traffic Flow Management* and other related global documents.

2. ATFM Task Force Progress and Results

2.1 The Task Force holds monthly on-line conference meetings. The meetings have included information on the response to the global pandemic, impacts to flight operations and forecasts for future operations. These web conference meetings include briefings by the Task Force members and discussions on benefits of sharing traffic data for the region.

2.2 The role of the Rapporteur of the Task Force underwent a change in the first quarter of this year, due to the fact that Mr. Greg Byus (United States) assumed a new position within his administration that prevented him from following up the activities of the group. The Task Force thanked Mr. Byus for his contribution and leadership, which made it possible to consolidate the group's activities, hold monthly follow-up teleconferences, hold three annual meetings and update the CAR/SAM Region ATFM related guidance material. The role of Rapporteur was assumed by Mr. Vern Payne (United States).

2.3 The Task Force held the annual meeting, with hybrid participation at the ICAO NACC Regional Office and online, from May 17-19, 2022. The Meeting included discussion regarding the ATFM Minimum requirements for the CAR Region to be included in the CAR/SAM Air Navigation Plan and basic information regarding ATFM performance with a proposal to support the Regional ATFM performance decision making.

2.4 In collaboration with CANSO, the ATFM/TF is working with United States in order to make a web based version of the Federal Aviation Administration's (FAA) Traffic Flow Management System (TFMS) available to the region, this will provide the region with a cost effective tool to manage airspace in real time resulting in greater safety and efficiency in our goal to optimize the region's airspace.

3. Deliverables and results

3.1 *ATFM Minimum requirements for the CAR Region.*

3.1.1 ATFM should be implemented on the basis of regional air navigation agreements or, if appropriate, through multilateral agreements. Such agreements should make provision for common procedures and common methods of capacity determination.

3.1.2 Currently, the CAR/SAM Air Navigation Plan makes no reference to ATFM regional agreement or to specify those airspaces where ATFM should be considered necessary. Evidently, the determination of the capacity of the Air Traffic Services (ATS) system is a fundamental requirement to guarantee the safety in the provision of ATS, as well as the subsequent need for the implementation of ATFM.

3.1.3 The ATFM Task Force developed a proposal to include in the CAR/SAM Air Navigation Plan:

- Requirements for the establishment of Flow Management Units (FMU) in the CAR Region;
- ATFM service basic strategic and tactical functions;
- Regional actions to Mitigate the Impact of ATFM Measures; and
- State Responsibility regarding ATFM provision and oversight

3.2 *Support ATFM Performance Measurement.*

3.2.1 The evolution and enhancement of the ATM system will be directly related to the ATM community's ability to clearly define performance expectations, set a relevant performance framework, set achievable targets and implement change cost-effectively, based on capabilities at any particular time along the planning horizon. Like any other component of the ATM system, ATFM must be evaluated to ensure that the ATM community's expectations of it are being met. The ATFM programme performance may be generically evaluated, from three perspectives:

- ATFM programme effectiveness: How effective is the ATFM measure implemented in delivering the intended level of traffic?
- Compliance assessment: How well do stakeholders comply with the ATFM measure?
- Impact analysis: Who are impacted by the ATFM programme, and how?

3.2.2 The CAR and SAM Regions are working collaboratively to develop the CAR/SAM Electronic Air navigation plan (e-ANP) Vol. III. The CAR/SAM e-ANP Vol. III will have a performance based framework for ANS planning and implementation in the CAR/SAM Regions. As part of this process, the CAR/SAM Region identified three Key Performance Areas (KPs) to be addressed by the CAR/SAM ANP Vol. III: Capacity, Efficiency and Predictability.

3.2.3 The ATFM Task Force requested to the Secretariat more direct support and practical guidance on data collection and analysis mechanisms, recognizing the different capacities among service providers.

3.3 *Support for ATC capacity calculations Methodologies*

3.3.1 The ATFM Task Force requested to the Secretariat to report the actions to make available to the States, Territories and Air Navigation Service Providers (ANSPs) of the CAR Region, guidance material on the process for determining the capacity of the ATC sectors, as well as to organize training activities taking into consideration the different ATC capacity calculation methodologies available and used in the region. It is known that many States have determined airport and airspace capacities and provided this data to be shared on the CADENA Operational Information System (OIS).

3.4 *Approval of the use of the CADENA*

3.4.1 The ATFM Task Force decided to approve the use of the CADENA as a mechanism to facilitate data sharing, and promote a common situational awareness that is vital to the safe, efficient, and harmonized flow of air traffic.

3.5 Proposal to update the Task Force Work Programme

3.5.1 The ATFM Task Force revised its current work programme to update those activities that were completed and those that needed to be reviewed to remain valid. The proposal for the revised ATFM Task Force Work Programme is shown in **Appendix** to this Paper.

4. Conclusions and Recommendations

4.1 ATFM implementation must adjust to the reality of the different airspaces and evolve in those Flight Information Regions (FIRs) where better strategic decision-making regarding air traffic is necessary. The approval of ATFM Minimum requirements for the CAR Region will provide more clarity and support a realistic ATFM implementation.

4.2 ATFM provides data that is used to measure performance in the CAR Region. The ATFM Task Force must maintain its advisory role to provide support for the establishment of the performance framework in the CAR Region.

4.3 The CANSO Air Traffic Flow Management Data Exchange Network for the Americas (CADENA) platform is widely used by the Air Navigation Service Providers (ANSPs) of the NAM/CAR Regions. The ATFM/TF approved the use of the CADENA as a mechanism to facilitate data sharing, and promote a common situational awareness that is vital to the safe, efficient, and harmonized flow of air traffic.

4.4 The potential addition of an ATFM system available for the region will offer ANSP's the ability to gather information real time and be more strategic in the implementation of Traffic Management Measures (TMMs) resulting in greater safety and efficiency. The TF will work collaboratively with CADENA in the implementation and training for those ANSPs that chose to move forward with this tool.

5. Suggested Actions

5.1 The Meeting is invited to:

- a) evaluate the progress of the ATFM Task Force detailed in this paper;
- b) support the recommendations included in Section 4; and
- c) review and approve the revised Work Programme timelines and priorities.

APPENDIX

Revised NAM/CAR ATFM Task Force Work Programme
Updated August 2022

ATFM Mission Statement

The ATFM Work Programme (WP) provides specific initiatives for the development of a regional concept of ATFM implementation in NAM/CAR Regions. This is consistent with Annex 11, PANS-ATM, ICAO Doc. 9971, the CAR/SAM Air Navigation Plan and the CAR/SAM ATFM CONOPS. It takes into consideration the execution of a simple, basic, and incremental approach of promoting, sharing and implementing a regional, interoperable ATFM framework for global harmonization.

INTRODUCTION

People, automation, technology and collaboration with system stakeholders (inclusive of academia) will be the core principles of this project. The Work Programme seeks to:

1. Establish consistent regional ATFM planning and operating practices
2. Encourage a collaborative and harmonized approach to ATFM amongst States and Regions
3. Foster a systemic approach to ATFM, inclusive of all ATM community members

The document takes into consideration the diverse range of experience, technology and available resources.

Note 1: This document shall be a guideline for establishing ATFM NAM/CAR goals and reviewed periodically throughout the year. A formal review each calendar year shall be conducted during the ANI/WG and NACC/WG meeting, so as to update/revise/modify its content for currency and applicability.

No	Activity	Objective	Deliverable	Responsible/Lead	Date
1	<p>Trainings and Workshops</p> <ul style="list-style-type: none"> • Develop an ATFM Training Programme, including training requirements for each ATFM position. (Several ATFM related training courses have been developed and delivered prior to Aug 2022 e.g. ATFM Basic Training by the FAA, CADENA annual Hurricane Trainings, CADENA contingency trainings, CADENA aerodromes/airspace capacity assessment trainings.) • Training Program should include every level of training and objectives in line with ICAO TRAINAIR Plus Methodology. (ATFM/TF) • Provide refresher training courses. • Training Program shall be included as Appendix to the CAR/SAM ATFM CONOPS. • Organize appropriate workshops as needed. 	Provide a core foundation to build upon for regional participants	Trainings and workshops		31 December 2023
<p>Status/Remarks:</p> <ul style="list-style-type: none"> • Much of the initial training work has already accomplished, the effort needs to continue and refresher training integrated. 					
2	<ul style="list-style-type: none"> • CAR/SAM ATFM Concept of Operation Document • Include the guideline for the ATFM Contingency Plan in the CAR/SAM ATFM Concept of Operations Document. • Include agreed regional KPIs in the CAR/SAM ATFM Concept of Operations Document. • Create the proposal on the subject of ATFM Minimum requirements to be included in the CAR/SAM Air Navigation Plan (ANP) 	Create the ATFM Concept of Operation (CONOPS) Document that encompasses CAR and SAM to improve safety and efficiency of traffic flow between two regions.	CAR/SAM CONOPS doc		31 December 2024
<p>Status/Remarks:</p> <ul style="list-style-type: none"> • Work initiated. • CADENA created and maintains the CADENA ATFM and CDM Procedures Manual in July 2017. This document guides the regional ATFM implementation. This document is updated as the regional ATFM operation matures. 					

No	Activity	Objective	Deliverable	Responsible/Lead	Date
3	<p>Contingency Plans</p> <ul style="list-style-type: none"> Develop guidelines for ATFM Contingency Plans to be included in the CAR/SAM ATFM Concept of Operations Document. Establish a clear differentiation between the <u>ATM</u> Contingency Plans and the <u>ATFM</u> Contingency Plans. Consider interoperability and seamless continuity plan into the ATFM Contingency Plans 	This Work Item will provide an adequate regional response to contingencies, and will reduce the harmful impact of these contingencies to the continuous flow of air traffic.	Contingency Plans		31 December 2023
<p>Status/Remarks:</p> <ul style="list-style-type: none"> CADENA OIS provides structure for real time operational contingency events. 					

No	Activity	Objective	Deliverable	Date
4	<p>ATFM Regional Performance Measurement</p> <ul style="list-style-type: none"> Establish Key Performance Indicators (KPIs) to be measured. For example, operational counts for airports and airspace, take-off time, departure delays. Identify when and how the KPIs will be measured, and with whom the information will be shared. Establish the guidelines of KPIs. Include the KPIs and associated guidelines into the CAR/SAM ATFM Concept of Operations Document. 	Understand operational performance and develop means and methods to improve performance.	KPI identification, definition, and associated guidelines	31 December 2023
<p>Status/Remarks:</p> <ul style="list-style-type: none"> Ongoing discussion about capabilities to gather and calculate data 				
5	<p>Supporting ICAO NACC Regional Work Associated with ATFM</p> <ul style="list-style-type: none"> Support GREPECAS eANP Volume III creation/revision in the areas of ATFM Support the GREPECAS Data Analysis Working Group (DAWG) Support ICAO NACC Airspace Optimization Task Force for its mission/goals Support CANSO ATFM Data Exchange Network for Americas (CADENA) for its mission/goals <ul style="list-style-type: none"> Facilitate data sharing, and promote a common situational awareness. Operational support via CADENA ad-hoc contingency web conference as well as the CADENA OIS chat 	Support ICAO NACC RO to accomplish ATFM related tasks by collaborating with other groups' mission/goals. The ICAO NACC ATFM Task Force contribute to the synergy that improves ATFM performance in the region.	Necessary inputs, letters, papers, and reports.	Ongoing
<p>Status/Remarks:</p> <ul style="list-style-type: none"> States will report to ICAO NACC on their accomplishments related to ATFM implementation 				
6	<p>Evaluation and identification of GANP/ASBU NOPS Threads applicable to CAR region</p> <ul style="list-style-type: none"> As revision of GANP/ASBU comes available, the workgroup will review the NOPS thread and determine if any of the Elements are applicable to our region. If applicable, specify implementation strategies. Recommendation to update the CAR/SAM Regional Air Navigation Plan and related documents. 	Global and Regional Harmonization	Implementation strategies for emerging ASBU requirements	Ongoing
<p>Status/Remarks:</p>				

No	Activity	Objective	Deliverable	Date
7	<p><u>ANI/WG Decision and ATFM TF Organization</u></p> <ul style="list-style-type: none"> • Provide progress report/update for Chairperson reference NACC/WG • Keep this Work Programme updated • Keep ATFM TF PoC list updated • Facilitate ATFM TF Web Conferences as needed • Facilitate ATFM TF Meeting as needed • Coordinate ATFM matters with CADENA and stakeholders as needed 	Liaison with regional coordination groups	Work Programme and ToR to ICAO RO	Ongoing (ATFM/TF Meetings)
Status/Remarks:				

References:

- Annex 11
- Doc 4444 - *Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM)*
- Doc 9971 - *Manual on Collaborative Decision-Making (CDM)*
- CAR/SAM Air Navigation Plan.
- Caribbean/South American Air Traffic Flow Management Concept of Operation (CAR/SAM CONOPS ATFM)
- Doc 9854 -Global Air Traffic Management Operational Concept
- Doc 9882 -Manual on Air Traffic Management System Requirements
- Doc 9883 - Manual on Global Performance of the Air Navigation System
- Doc 9965 - Manual on Flight and Flow – Information for a Collaborative Environment
- Civil/Military Cooperation in Air Traffic Management (Cir 330-AN/189)
- NOPS
- FRTO: FRTO-B1/3 Advanced FUA and management of real time airspace data
- APTA
- FICE