



Agenda Item 2: Report of activities of GESEA and Subgroups

b) ATM implementation. Progress of the Subgroups

ATFM WORKSHOP IN BRAZIL

(Presented by Brazil)

Summary	
The objective of this working paper is to invite the States of the Region to participate in the Air Traffic Flow Management Workshop (ATFM), offered by Brazil, in order to collaborate with the development of the processes foreseen in phase 2 - A, as indicated in the Implementation Guide of the ATFM Service in the SAM Region.	
References:	
• ATFM Service Implementation Guide in SAM Region 2021-2025; • Operations Plan for the SAM Region (OPSAM) 2021; and • Doc. 9971 - Manual of Collaborative Management of Air Traffic Flow (3rd edition).	
ICAO Strategic Objectives:	<i>A - Safety</i> <i>D - Efficiency</i>

1 Introduction

1.1 With the increase in the volume of air traffic, several studies were carried out to define the real growth rates and whether the infrastructure available until then would be able to absorb the future need for aviation.

1.2 The Traffic Flow Management Service (ATFM) seeks to match these two factors: capacity and infrastructure demand; in the interests of a safe, orderly and efficient flow of air traffic, ensuring that the capacity of the system is used to the greatest extent possible and that the volume of traffic is compatible with the capacities declared by the competent authority.

1.3 Therefore, balancing capacity and demand is the foundation of ATFM; The knowledge and determination of these parameters are of fundamental importance for the provision of this service. The search for a balance between these two elements has not only been an end to be achieved, but has also encouraged the development of several studies that seek to improve performance, in order to make the system operational higher volumes of air traffic in an optimized and safe way according to the needs of users.

1.4 The indices that determine the evolution of air traffic should be a factor of constant concern in the planning of activities. Air traffic growth indicators point to how the installed infrastructure should evolve, allowing the balance between available capacity and demand to be maintained.

1.5 Therefore, in order to maintain safety indices and ensure optimal air traffic flow, it is necessary to create appropriate mechanisms within the system called Air Traffic Flow Management (ATFM). Air Traffic Flow Management is a system that complements the Air Traffic Control Service and aims to increasingly optimize flow, reduce waits both in flight and on the ground, and avoid overloading the system and its consequent implications on the safety of operations.

1.6 With the aim of improving the understanding of stakeholders about the benefits that the ATFM service can offer, as well as the integration of the countries of the SAM Region, seeking a harmonization between the ATFM services provided in the Region, Brazil will organize an ATFM Workshop that will have its practical phase held in **Rio de Janeiro, at the headquarters of the Air Navigation Management Centre – CGNA in April 2024.**

2 Analysis

2.1 Doc 9971 states that, in its initial application, ATFM need not involve complicated processes, procedures, or tools. The basic objective of ATFM is to collaborate with system stakeholders and communicate operational information to airspace users, air navigation service providers and other stakeholders in a timely manner.

2.2 One of the most important initial steps in implementing ATFM is to determine the capacity of a sector of airspace and an airport to define the maximum number of flights that can be safely managed. Demand analysis is also necessary to compare with available capacity, in order to maintain balance.

2.3 Therefore, considering that the States of the region currently have specialists in capacity calculation and will soon also be able to make their respective demand projections, the Workshop aims to assist specialists in the preparation of pre-tactical planning that includes the planned configuration for the airport(s) as well as for the airspaces in which the provision of the ATFM service is planned. Complementing with the operationalization of this plan through the management of traffic demand x capacity in the tactical phase and the effect of the ATFM measures implemented so that the limits of the system are not exceeded.

2.4 The Workshop will last 15 days, divided into two phases, the first of 05 (five days) via web, where the public will have presentations on the phases of ATFM and their respective demand and capacity analysis products. The second phase will be face-to-face, lasting ten (ten) days, at CGNA's headquarters in Rio de Janeiro. In this phase, practical training will be carried out in order to inform participants of the processes that make up the pretactic phase (Review of Capacity and Demand, Analysis of Events in the Airspace and Impacts of meteorological phenomena on the capacity and preparation of the ATFM Daily Plan - PDA), Tactical (Analysis of Demand and Capacity, adoption of ATFM measures in any situation where there is an event of imbalance between demand and capacity) and, finally, post-operation analysis (performance analysis, indicators and feedback of the previous phases).

2.5 It is reinforced that the face-to-face phase of the workshop includes real analysis training along with the phases mentioned in order to meet the objectives recommended in Phase ATFM II-A (national basic) of the Guide for the Implementation of the ATFM Service in the SAM Region.

2.6 In this way, we will appreciate receiving the indications for participation in the Workshop from your Administration / Organization as soon as possible, preferably until 30 January 2024, through a form that will be made available to you.

2.7 It should be noted that vacancies for the Workshop are limited to 20 participants, as the Workshop will have the face-to-face phase containing actual training.

3 **Objectives of the workshop**

- Doc 9971 Considerations, Collaborative ATFM Manual, 3rd edition, issued 2018;
- Promote knowledge of the implementation of the ATFM by the States and its inter-relational processes;
- ATFM Phases: Pre-tactics and tactics, plus Post-Operations Analysis; and
- Assist States in developing ATFM implementation plans and strategies.

4 **Workshop planning**

4.1 Section 1: Implementing ATFM

- Doc. 9971;
- ATFM Implementation Manual for SAM Region; and
- ATFM structure.

4.2 Section 2: ATFM Strategic Phase

- Notions of airspace planning (optional routes and direct routes); and
- Capacity/Demand Analysis - Analysis of Airspace and Airports with related events.

4.3 Section 3: ATFM Pre-Tactical Phase

- Pre-tactical processes;
- Analysis of special events in Airports and Airspace;
- Demand analysis and capacity review and upgrade;
- Analysis of Meteorological Events with Capacity Impacts; and
- Construction of the PDA;

4.4 Section 4: ATFM Tactical Phase

- Applicability of PDA;
- Demand and Capacity Analysis;
- Meteorological Analysis;
- Monitoring the operability of systems with respect to capacity;
- Adoption of ATFM measures; and
- Reportes for post-operations analysis.

4.5 Section 5: Postoperative analysis

- Analysis of operational trends or opportunities for improvement;
- Research of the future cause and effect relationship of ATFM measures, to assist in the selection and development of future actions and strategies;
- Collect additional information to optimize the efficiency of the ATM system, in general or for ongoing events;

- Generation of analysis of indicators, statistical reports and feedback of the phases of the ATFM.

5 **Suggested actions**

5.1 States participating in the Meeting are invited to:

- a) Take note of the information provided in this working paper; and
- b) identify professionals from the States of the SAM Region who will register for the course as before, through ICAO.

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