



Agenda Item 4: Implementation of air traffic flow management (ATFM) in the SAM Region

REVIEW OF THE ATFM ACTION PLAN

(Presented by the Secretariat)

Summary	
In this working paper, it is proposed that the Meeting review the progress made in the Action Plan for the implementation of ATFM in SAM airports and airspace.	
References: <ul style="list-style-type: none">• SAM/IG/8 meeting report	
ICAO strategic objectives:	<i>A – Safety C – Environmental protection and sustainable development of air transport</i>

1 Background

1.1 The SAM/IG workshop/meetings, *inter alia*, reviewed matters concerning ATFM implementation in the South American Region and related activities.

1.2 On occasion of the SAM/IG/9 meeting, the participants reviewed the Action Plan for the implementation of ATFM in airports and airspace (ATC sectors) of the Region. The Plan contemplates tasks, responsible parties, and target dates. The Action plan reviewed at that meeting is shown in **Appendix A** to this working paper.

2 Discussion

2.1 In view of the above, it is necessary to conduct a periodic review, by way of follow-up, of the tasks accomplished by each of the responsible parties designated by the Implementation Group. To this end, **Appendix A** to this working paper shows the tasks already accomplished according to the information available to the Secretariat. This analysis should also be done using WP/02 as a reference.

3 Suggested action

3.1 The Meeting is invited to:

- a) take note of the information provided herein; and
- b) review the progress made and, if applicable, update the Action Plan for the implementation of ATFM in the SAM Region that appears in **Appendix A** to this working paper.

APPENDIX A**ACTION PLAN FOR THE IMPLEMENTATION OF ATFM AT SAM AIRPORTS**

A: AIRPORT				
Task description	Start	End	Responsible party (designate individual or organisation in charge)	Remarks
1. Airport demand/capacity (runway capacity) analysis	Sep 2008	Apr 2010		
1.1 Prepare ATFM survey	N/A	Aug 2008	Project RLA/06/901 Regional Office	Completed
1.2 Send survey to the States of the Region	Aug 2008	SAM/IG/2	Regional Office	Completed
1.3 Analyse the methodology presented by Brazil for estimating airport capacity (runway capacity)	June 2008	SAM/IG/2	ATFM/IG	Completed and analyzed through WP/08, WP/16.
1.4 Send response to survey	N/A	SAM/IG/2	States	Completed Except for French Guyana, Guyana, and Suriname.
1.5 Assess survey results	N/A	SAM/IG/3	ATFM/IG	Completed
1.6 Course offered by Brazil on Airport Capacity (runway capacity) Estimate	Mar 2009	Mar 2009	Brazil	Completed The course was carried out from 23 – 27 March 2009, as planned
1.7 Development of the Methodology for the Calculation of Airport (runway capacity) and Airspace Capacity in the SAM Region	Nov 2008	Jul 2009	Brazil and USA RLA/06/901	Completed Presented at SAM/IG/4

A: AIRPORT				
Task description	Start	End	Responsible party (designate individual or organisation in charge)	Remarks
1.8 Carry out exercise of Calculation of airport (runway capacity) and ATC sectors Capacity in the SAM Region as per the Course offered by Brazil	Sept 2009	SAM/IG/8	States	<p style="text-align: center;">Completed</p> <p>Through Conclusion SAM/IG/4-5, the guidance material for the application of a common methodology for the calculation of airport and ATC sectors capacity was approved. Bolivia, Brazil, Colombia, Paraguay, Peru and Venezuela presented their preliminary exercise. Conclusion completed since the guidance material is being applied. Therefore there is no need to carry out more exercises.</p>
1.9 Carry out Calculation of Airport and Airspace Capacity of main airports by States.	Sept 2009	SAM/IG/8	States	<p style="text-align: center;">Valid</p> <p>Brazil, Paraguay and Peru presented the data.</p> <p>Venezuela presented its runway capacity calculation for the Maiquetía airport.</p> <p>Chile announces completion of estimates in its main airport, results to be provided mid-June.</p> <p>Valid in view of the lack of estimates in some airports.</p> <p>As a conclusion encourage States to accelerate publication of data, date to be determined by Secretariat, even though the tentative date would be SAM/IG/11.</p>

A: AIRPORT				
Task description	Start	End	Responsible party (designate individual or organisation in charge)	Remarks
1.10 Identify airports where periods exist where the demand is greater than existing capacity including simulations, if necessary, by States.	Sept/Oct 2009	SAM/IG/8	States	Permanent Brazil, Paraguay and Peru presented the data. It is suggested to merge 1.9 with 1.12 and 1.20 with 1.11 in order to assure States that the aim of these tasks is to share information.
1.11 Determine operational factors affecting airport demand and capacity to optimise utilisation of existing capacity, including simulations, is necessary.	Sept/Oct 2009	SAM/IG/8	States	Valid Brazil, Paraguay and Peru presented the data.
1.12 Present the conclusions on existing airport capacity	N/A	SAM/IG/8	States	Valid Brazil and Peru presented their conclusions on airport capacity (runway capacity)
2. Coordination with the ATM community				
2.1 Present initial AIC model	SAM/IG/2	SAM/IG/2	ATFM/IG	Completed
2.2 Publish initial AIC	SAM/IG/2	Next AIRAC date/2009 after SAM/IG/3	States	Completed
2.3 Promote seminars to the ATFM community, taking into account the CDM concept for ATFM implementation, and begin the relevant coordination		December 2010	States	Completed On 2010, an ATFM/CDM Workshop was carried out in Brazil, with the participation of several States.

A: AIRPORT				
Task description	Start	End	Responsible party (designate individual or organisation in charge)	Remarks
2.4 Inform the GREPECAS CNS/ATM Subgroup	SAM/IG/3	Permanent	N/A	<p style="text-align: center;">Completed</p> <p>The GREPECAS CNS/ATM/SG/1 Meeting (Lima, Peru, 15 to 19 March 2010) was informed on the progress in the ATFM areas carried out to date in the SAM Region (see 5.4)</p> <p>The CNS/ATM/SG/2 Subgroup was also informed on the development achieved to date, and the ATFM and CDM Manuals were presented for its standard application in the CAR and SAM Regions. Both documents condensed in one were approved by GREPECAS/16 Meeting (para. 3.5.4 and Concl. 16/35) for its application in both regions.</p>
3. Infrastructure and database		Aug 2008		
3.1 Send the results of the survey developed by the hired expert to the Automation Group.		Dec 2008		Completed
3.2 Send to the Automation Group the information obtained by the expert hired on the data bases used in the Brazil, United States and Eurocontrol units	Jan 2009	TBD		Valid The meeting was informed that the Secretariat will follow-up on this matter.
3.3 Coordinate implementation activities with the Automation Group			ATFM/IG	Permanent

A: AIRPORT				
Task description	Start	End	Responsible party (designate individual or organisation in charge)	Remarks
4. Policy, standards, and procedures				
4.1 Hiring of an expert to draft the manuals on ATFM measures for airports and FMU and FMP procedures			N/A	Completed. Task included in 4.2
4.2 Hiring of an expert for the elaboration of the ATFM Manual		July 2009	Regional Office	Completed. Task developed from 6 to 17 July 2009
4.3 Detailed development of ATFM Manual chapters	Dec 2008	SAM/IG/5	Regional Office	Completed Approved partial draft, including ATFM concepts for airspace and airports at SAM/IG/2 Meeting. Presented at SAM/IG/4
4.4 Detailed development of the second part of ATFM Manual Chapters.	Dec 2009	Oct 2010	Regional Office (RLA/06/901)	Completed The ATFM Manual was analysed from 4-15 October, with the assistance of experts from Colombia and Brazil and some changes were introduced, in order to improve its structure.
4.5 Present the model AIC Supplement		SAM/IG/6	ATFM/IG	Completed With the assistance of an expert from Peru, an AIP Supplement Model, to be used by States as reference, was prepared and developed (see SAM/IG/6 WP/08).
4.6 Approve the AIC Supplement		SAM/IG/6	ATFM/IG	Completed The AIP/AIC supplement was approved.
4.7 Keep updated AIP/AIC Supplements.		SAM/IG/10	States	Permanent

A: AIRPORT				
Task description	Start	End	Responsible party (designate individual or organisation in charge)	Remarks
5. Training				
5.1 Draft ATFM training plans and submit them		TBD	States	Permanent
5.2 Train the team on decision-making at airports		December 2010	States	Completed See 5.1.
5.3 Hiring of an expert to draft Manual on the Introduction to ATFM for the ATM Community		TBD	Regional Office	Completed The ATFM Manual was prepared and submitted to CNS/ATM/SG. Guidelines to inform ATM community on ATFM and CDM general concepts. These guides may be provided in courses, seminars or others.
5.4 Present and assess the Manual for the Introduction to ATFM for the ATM Community		SAM/IG/6	RLA/06/901	Completed Through the hiring of experts, the ATFM manual was developed. GREPECAS/16 Meeting adopted the manual for the CAR and SAM Regions through Conclusion 16/35. It has been planned to develop a second part of such manual.
5.5 Train the members of the ATM community in the CDM and ATFM concepts		TBD	States	Completed The ATFM SAM Course was held in Rio de Janeiro, Brazil, from 22 to 26 March, 18 experts participated and the holding of tele-conferences was agreed, same which started on 12 April with excellent results. The First CDM Workshop was held from 29 to 31 March 2010,

A: AIRPORT				
Task description	Start	End	Responsible party (designate individual or organisation in charge)	Remarks
				<p>with the participation of 27 experts.</p> <p>The Second ATFM SAM course was held in Rio de Janeiro, Brazil, from 23 to 25 November 2010, with the participation of 29 experts.</p> <p>On 26 and 27 November 2010, the Second CDM Workshop was held in Rio de Janeiro, Brazil was held, with the participation of 29 experts.</p> <p>The Second Seminar/Workshop on airport capacity calculation and ATC sectors was held in Rio de Janeiro, Brazil, from 21 to 25 March 2011, with 23 participants.</p>
5.6 Train FMP/FMU staff for application of ATFM measures for airports		TBD	States	Permanent
5.7 Monitor the training of the ATM community		SAM/IG/10	States	Valid
6. Final implementation decision				
6.1 Identify and review factors that may affect the implementation decision		SAM/IG/10	States	Permanent
6.2 Declare the pre-operational implementation in the defined area		SAM/IG/10	States	Valid
6.3 Declare the final operational implementation in the defined area		SAM/IG/10	States	Valid

A: AIRPORT				
Task description	Start	End	Responsible party (designate individual or organisation in charge)	Remarks
7. Monitor system performance				
7.1 Draft the ATFM post-implementation follow-up programme at airports	SAM/IG/6	SAM/IG/10	ATFM/IG	Valid
7.2 Implement the ATFM post-implementation follow-up programme at airports	SAM/IG/7	SAM/IG/10	States	Valid
Tentative pre-operational implementation date		SAM/IG/10	States	Valid
Tentative definitive implementation date		SAM/IG/10	States	Valid

ACTION PLAN FOR ATFM IMPLEMENTATION IN THE SAM REGION				
B- AIRSPACE (ATC Sector)				
Task description	Start	End	Responsible party (designate individual or office in charge)	Remarks
1. Airspace demand and capacity analysis				
1.1 Analyse the methodology to estimate ATC sector airspace capacity presented by Brazil	Jun 2008	SAM/IG/2		Completed
1.2 Prepare an airspace demand survey	TBD	TBD		
1.3 Attend the course on Airspace Capacity Estimate (ATC Sector).	Mar 2009	States		Completed
1.4 Carry out the States estimate airspace ATC sector capacity at the major airports	Sept. 2009	SAM/IG/10	States	Valid States must submit their studies before the SAM/IG/10 Meeting. Brazil has presented their studies.
1.5. Identify airspace sectors where demand sometimes exceeds capacity, including simulations by the States, if necessary	TBD	SAM/IG/10	States	Permanent States must submit their studies before the SAM/IG/10 Meeting. Brazil has presented their studies.
1.6 Identify factors affecting airspace demand and capacity in order to optimise the use of existing capacity, including simulations if necessary	TBD	SAM/IG/10	States	Permanent States must submit their studies before the SAM/IG/10 Meeting. Brazil has presented their studies.
1.7 Present conclusions on the existing airspace capacity.	TBD	SAM/IG/10	States	Valid States must submit an information paper on the situation before the SAM/IG/10 Meeting. Brazil has presented their studies.

ACTION PLAN FOR ATFM IMPLEMENTATION IN THE SAM REGION				
B- AIRSPACE (ATC Sector)				
Task description	Start	End	Responsible party (designate individual or office in charge)	Remarks
2. Coordination with the ATM community	Sep 2008	Aug 2009		
2.1 Consider by the ATM community the implementation of ATFM in airspace	Sep 2008	SAM/IG/10	States	Valid States in implementation phase should coordinate with the ATM community the necessary actions for the ATFM implementation process and submit them to the Secretariat before the SAM/IG/10 Meeting. Submit for consideration of the Secretariat the new tasks form proposed by Colombia and discussed by all.
3. Infrastructure and database	TBD	Dec 2013		Valid
3.1 Send requirements to the Automation Group, as stipulated in Appendix B of the ATFM CONOPS	TBD	TBD	ATFM/IG	Valid
3.2 Coordinate implementation activities with the Automation Group	N/A	Dec 2013	ATFM/IG	Valid
4. Policy, standards, and procedures	TBD	Jun 2013	States	Valid
4.1 Develop ATFM policies, taking into account the objectives and principles established in the CAR/SAM ATFM CONOPS	TBD	TBD	States	Valid
4.2 Develop a regional strategy and framework for the implementation of Centralized ATFM units	2008	2014	Regional Project RLA/06/901	Valid
4.3 Develop template/contents for operational agreements between Centralized ATFM units for interregional demand/capacity balancing	2008	2014	Regional Project RLA/06/901	Valid

ACTION PLAN FOR ATFM IMPLEMENTATION IN THE SAM REGION				
B- AIRSPACE (ATC Sector)				
Task description	Start	End	Responsible party (designate individual or office in charge)	Remarks
4.4 Define common elements of situational awareness between FMUs; <ul style="list-style-type: none"> • common traffic displays, • common weather displays (Internet), • communications (teleconferences, web), and • daily teleconference/messages methodology advisories 	2008	2012	Regional Project RLA/06/901	Valid States maintain web conferences for exchange of information.
4.5 Define common electronic information and minimum databases required to support decision making process and alerting systems for interoperable situational awareness between Centralized ATFM units	2008	2014	Regional Project RLA/06/901	Valid
4.6 Develop a regional strategy to implement the use of a flexible upper airspace (FUA): <ul style="list-style-type: none"> • evaluate the management processes in the use of the airspace; • improve the current domestic airspace management to adjust dynamic changes to the traffic flows in tactical stages; • introduce improvements to the ground ATS systems and associated procedures for the extension of the FUA with dynamic management processes in the use of the airspace • dynamically implement ATC sectorization with the aim of providing a better balance between demand and capacity that responds in real time to changing situations in the traffic flows and to accommodate in the short-term the users preferred trajectories / 	200/8	2015	Regional Project RLA/06/901	Valid

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B- AIRSPACE (ATC Sector)				
Task description	Start	End	Responsible party (designate individual or office in charge)	Remarks
5. Training	TBD	May 2013		
5.1 Train the team on airspace data collection	Jun 2009	March 2011	States	<p>Completed</p> <p>A first course was carried out in March 2009.</p> <p>The second course on runway capacity and ATC sector was held in Rio de Janeiro, Brazil, from 21 to 25 March 2011, with 23 participants.</p> <p>The third seminar-workshop, focused to instructors on airport capacity and ATC sectors will be held from 24 to 28 October 2011, in Lima, Peru.</p>
5.2 Air Traffic Flow Management Course	Mar 2010	Nov 2010	Brazil	<p>Completed</p> <p>Hosted by RP RLA/06/901.</p> <p>The Second ATFM Course was held in Rio de Janeiro, Brazil, from 22 to 26 March 2010 with 28 experts, and the holding of tele-conferences was agreed, and they have been held as of 12 April 2011, with excellent results.</p> <p>The Second ATFM SAM Course was held in Rio de Janeiro, Brazil, from 23 to 25 November 2010, with 29 Experts.</p> <p>The Third Seminar-workshop on airport capacity and ATC sectors will be held in Lima,</p>

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B- AIRSPACE (ATC Sector)				
Task description	Start	End	Responsible party (designate individual or office in charge)	Remarks
				Peru, from 24 to 28 October 2011, addressed to instructors.
5.3 Train personnel in ATFM strategic measures for airspace	TBD	TBD	States	Permanent An ATFM CDM course was carried out in Brazil in 2010 with the participation of several States
5.4 Prepare plans and ATFM training material	TBD	TBD	States	Permanent In 2010 an ATFM/CDM course was held in Brazil with the participation of several States.
5.5 Conduct training of personnel involved.	TBD	TBD	States	Valid
			States	Valid
6. Final implementation decision	N/A	Sep 2013	States	Valid
6.1 Analyse factors affecting the implementation decision	N/A	SAM/IG/9	States	Valid
6.2 Declare pre-operational implementation in the area defined	N/A	SAM/IG/9	States	Valid
6.3 Declare definitive operational implementation in the area defined	N/A	SAM/IG/9	States	Valid
7. Monitor system performance	TBD	N/A	States	Valid
7.1 Draft ATFM post-implementation follow-up programme	TBD	Aug 2013	Regional Project RLA/06/901	Valid
7.2 Implement ATFM post-implementation follow-up programme	Dec 2013	N/A	States	Valid
Tentative pre-operational implementation date	N/A	Jul 2013	States	Valid
Tentative definitive implementation date	N/A	Dec 2013	States	Valid