International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Eighteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/18)
(Punta Cana, Dominican Republic, 9 to 14 April 2018)

Agenda Item 4: Regional air navigation planning and implementation performance framework: Review of programmes and projects

4.2 Projects under the ATFM Programme

Follow-up to project activities under the ATFM Programme

(Presented by the Secretariat)

SUMMARY	
This working paper presents a report on the evolution of implementation activities related to projects under the ATFM Programme for the CAR and SAM Regions.	
References • Doc 9750, Global Air Navigation Plan • ICAO Doc 9971, Manual on collaborative air traffic flow management • Report of the GREPECAS/17 meeting • Report of the Third Meeting of the Programmes and Projects Review Committee (PPRC/3) (Mexico City, 21-23 July 2015). • Report of the Fourth Meeting of the Programmes and Projects Review Committee (PPRC/4) (Lima, Peru, 12-14 July 2016).	
ICAO strategic objectives:	• *Safety* • *Air navigation capacity and efficiency* • *Environmental protection*

1. Introduction

1.1 Pursuant to GREPECAS Decisions 16/45 and 16/47, the ATFM Programme was restructured with the following associated projects:

a) Improve demand-capacity balancing in the CAR and SAM Regions; and
b) Implementation of the flexible use of airspace in the CAR Region.

2. Discussion

2.1 The progress made in the activities of Programme B projects related to the implementation of Air traffic flow management (ATFM) and Demand-capacity balancing (DCB), is described below:

2.2 CAR Region

Project B1 "Improve demand-capacity balancing (DCB)"

2.2.1 In 2015, a survey was circulated among CAR States to collect information on their basic air traffic flow management (ATFM) capabilities. The results, which were presented at the Third meeting of the ANI WG held in April 2016, showed that the Region had limited ATFM capacity. Since then, the reality of the Region has not changed much. However, it should be noted that some air navigation service providers (ANSPs) of the Region have taken concrete and well thought-out steps for the establishment of ATFM.

2.2.2 An aspect of concern is the fact that some ANSPs that report progress in the implementation of ATFM take static measures to restrict traffic in the airspace under their responsibility, without taking into account the basic principles of traffic flow management, such as demand-capacity balancing and collaborative decision-making, causing significant delays to aircraft operators and serious congestion problems in adjacent flight information regions, which leads us to think that, in practice, they do not master the concept.

2.2.3 In response to this situation, the FAA has developed a basic ATFM training programme with the purpose of building the required capacity for leading and conducting the ATFM implementation process. This training was offered for the first time with the cooperation of the ICAO NACC Office at the Miami route control centre on 6-9 February 2018, with the participation of 12 CAR/SAM States and international organisations.

2.2.4 The FAA will continue working with ICAO to give regional context to this training, incorporating the experiences and peculiarities of the States of the Region, and expanding its scope according to the different levels of implementation. The next training course, also in collaboration with the ICAO NACC Office, is scheduled on 4-8 June 2018 at the *Academia Superior de Ciencias Aeronáuticas* (ASCA) of the Dominican Republic.

Identified deficiencies

2.2.5 The main problem affecting ATFM implementation in the Region is that the traffic flow management operational concept for the CAR and SAM Regions (CAR/SAM ATFM CONOPS) is out-dated. This document, which was published in June 2007, describes the air traffic flow management operational concept to be applied in both Regions, suggesting a strategy for the implementation of centralised ATFM. GREPECAS/13 considered that, in order to maximise its efficiency, the centralised ATFM unit should be responsible for providing the service over as much airspace as possible. Accordingly, there should be two centralised ATFM units available, one for each Region (CAR and SAM). The decision on the establishment of these units represents a heavy burden on the regional implementation process. As a consequence, other regional initiatives took the lead towards a distributed implementation of ATFM. Faced with this scenario, ICAO did not act quickly enough to reorient the fundamental ATFM concept in accordance with this new reality.

2.2.6 Another aspect to be taken into account is the lack of involvement of State authorities in ATFM implementation efforts. Regional implementation initiatives have been channelled through air navigation service providers, without involving the regulatory body, which, in the end, is the one responsible under the regional agreements and must include in its oversight processes aspects related to capacity calculation and demand balancing decisions.

Project B2 "Flexible use of airspace"

2.2.7 At the PBN and ATFM implementation meetings, States coordinate with each other to update ATS agreements with the corresponding air defence units, seeking to optimise the use of ATS airspace.

2.2.8 In this regard, the NAM/CAR/SAM SAR implementation and civil-military coordination meeting was held (Port-of-Spain, 25-28 October 2016) to address, *inter alia*, the implementation of the flexible use of airspace (FUA) concept, special use airspace (SUA), and collaborative decision-making (CDM) in the civil-military context.

2.3 **SAM Region**

Project B1 "Improve demand-capacity balancing (DCB)"

2.3.1 ATFM implementation achievements are not yet consolidated in the Region, despite efforts made by States and Project RLA/06/901, through the development of guidance material and the delivery of ATFM training courses.

2.3.2 In order to analyse the attainment of ATFM goals as set forth in the Declaration of Bogota, the following **indicators** have been considered:

a) Percentage of States that have performed runway and ATC sector capacity calculations.*

b) Percentage of States that have implemented ATFM at flow management units (FMUs) or flight management positions (FMPs).

** Note.- The SAM/IG/20 meeting (Lima, 16-20 October 2017) took note of progress made in runway and ATC sector capacity calculations.*

2.3.3 85% of the States of the Region have performed runway capacity calculations prior to implementation, a percentage that has remained stable as reported in PPRC/4.

2.3.4 Regarding ATC sector calculations, the SAM/IG/20 meeting took note that 9 States of the Region (that is, 64% of States) had performed these calculations.

2.3.5 The metrics on the implementation of flow management units/positions in the SAM Region points to 63% of States, that is, 7% more than that reported at the PPRC/4 meeting.

2.3.6 In April 2017, Ecuador submitted updated runway capacity calculations for Guayaquil, Quito, Manta, and Latacunga. Likewise, ATC sector and runway capacity calculations have been performed for the Guayaquil APP/ACC, Quito APP, and Manta APP.

2.3.7 During 2016, EANA (ANS provider of Argentina) and ANAC staff were trained in runway capacity calculation, allowing for the measurement of 12 airports in Argentina. Capacity calculations are to be conducted in 6 airports in 2018. EANA prepared its Manual on a "Runway capacity calculation methodology", based on the method applied in Brazil. The manual was validated by the aeronautical authority.

2.3.8 By October 2017, EANA had measured ATC sectors at the Ezeiza, Córdoba, and Mendoza ACCs, and is aiming at measuring at least 3 units more in 2018. Likewise, an ATFM operational concept document and an ATFM implementation plan for Argentina have been developed.

2.3.9 Bolivia is planning to promote ATFM implementation activities in the DGCA in 2018, which will not replace the participation of the provider AASANA in the provision of ATFM services in the La Paz ACC.

Issuance of NOTAMs with flow control measures

2.3.10 Conclusion SAM/IG/19-01 (SAM/IG/19 meeting, Lima, 22-26 May 2017) instructed SAM States to strengthen the functions of flow management positions (FMPs) or units (FMUs) with resources and trained personnel, and with powers to coordinate the implementation of ATFM initiatives (TMIs) with ATS services in case of air traffic capacity-demand imbalances caused by scheduled or unscheduled events.

2.3.11 It is extremely important to implement the actions set forth in Conclusion SAM/IG/19-01, which urged SAM States that had not yet implemented ATFM to install at least one ATFM management position (FMP) in order to balance the demand for aircraft operations with the service capacity in the airspace and international aerodromes.

2.4 CAR/SAM ATFM CONOPS updating tasks

2.4.1 The text of the Traffic Flow Management Concept of Operations (ATFM CONOPS) for the Caribbean and South American Regions refers to version 1.2 of June 2007. In other words, the aforementioned document needs to incorporate the guidance and improvements of the second edition of 2014 and of the third edition (Advanced edition) of ICAO Doc 9971, Manual on collaborative air traffic flow management.

2.4.2 Consequently, the CAR/SAM ATFM CONOPS needs to be updated in order to serve as a planning guide for the implementation of CDM, ATFM, and ACDM in both Regions for the sake of interoperability and efficiency, enabling States to mitigate demand-capacity imbalances.

2.4.3 The SAM/IG/20 meeting analysed a proposal to review and update the contents of the CAR/SAM ATFM CONOPS, and assessed the general status of ATFM implementation in the SAM Region, noting that the CONOPS had to be reoriented towards a second stage of implementation involving the identification and measurement of performance objectives and, thus should be updated along the following lines:

a) ATFM implementation has given different results. In many cases, ATFM has permitted demand-capacity balancing in runways and ATS airspace, and has mitigated delays at major airports through initiatives for domestic air traffic.

b) Progress has been made in runway and ATC sector capacity calculations, making use of the respective methodology and training. It is necessary to encourage the periodic review and updating of these measurements when scenarios change.

c) Although developed separately, it is recognised that there is a strong relationship and interaction between ATFM in the runway and airspace environment and airport operations (AOP) generated to/from aircraft stands, the pushback and engine ignition

zone, and taxiways. Therefore, linkage with A-CDM processes being implemented at some international airports of the CAR/SAM Regions is critical.

2.5 In view of the difficulties for monitoring progress in ATFM implementation, the ATFM CONOPS shall establish implementation metrics and indicators to facilitate result-based management, seeking to measure benefits in terms of increased capacity in the airspace and ATS units.

2.5.1 Accordingly, the NACC and SAM Offices are coordinating the updating the CAR/SAM ATFM CONOPS, the first draft being expected for the second quarter of 2018, and the revised version 2.0 for the fourth quarter.

3. Conclusion

3.1 In view of the foregoing, States and Territories must promote the implementation of at least one ATFM management position (FMP) in each FIR, in order to balance the demand for aircraft operations with service capacity in the airspace and international aerodromes, also taking into account other meteorological and vulcanological events and/or temporary interruptions in air navigation services.

3.2 The updating of the ATFM CONOPS must be encouraged, and based on this document, action plans must be reoriented to implementation activities in CAR and SAM States. The ATFM CONOPS must define metrics and indicators for such implementation, in order to facilitate result-based management.

3.3 Updated information on ATFM implementation activities may be found in Appendix A for CAR projects, and in Appendix B for SAM projects.

4. Suggested action

4.1 The Meeting is invited to:

a) take note of the information provided in this working paper;

b) request States that have not done it yet to double their efforts towards the implementation of at least one ATFM position (FMP) in each FIR;

c) request States to avoid the implementation of flow control measures that affect users and impact safety; and

d) recommend any other action it may deem appropriate.

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APPENDIX A / APÉNDICE A

IMPROVE DEMAND AND CAPACITY BALANCING (DCB) / MEJORAR EL EQUILIBRIO ENTRE LA DEMANDA Y LA CAPACIDAD (DCB)

CAR Region / Región CAR	**PROJECT DESCRIPTION / DESCRIPCION DEL PROYECTO (DP)**	**DP N° B1**	
Programme / Programa	**Title of the Project / Título del Proyecto**	**Start / Fecha inicio**	**End / Fecha término**
Improve demand and capacity balancing (DCB) / Mejorar el equilibrio entre demanda y capacidad (DCB) (Programme Coordinator / Coordinador del Programa: Eddian Méndez)	*Improve demand and capacity balancing (DCB) / Mejorar el equilibrio entre demanda y capacidad (DCB)* Project Coordinator / Coordinador del Proyecto: Greg Byus (United States / Estados Unidos) Agustin Rolon (México) Julio Mejia (Dominican Republic / República Dominicana) Fernando Soto (COCESNA)	2008	*2018*
Objective / Objetivo	Support the ATFM implementation based on the regional performance objectives of the Performance-based Air Navigation Implementation Plan for NAM/CAR Regions (RPBANIP NAM/CAR). / Apoyar la implementación ATFM con base en los objetivos regionales de performance del Plan de Implementación basada en la Performance para las Regiones NAM/CAR (RPBANIP NAM/CAR).		
Scope / Alcance	Progressive implementation of the ATFM service in CAR Region to ensure demand and capacity balancing (DCB). / Implantación progresiva del servicio ATFM en la Región CAR para asegurar un equilibrio entre demanda y capacidad (DCB).		
Metrics / Métricas	• % of States with coordination ATFM procedures implemented / % de Estados con procedimientos de coordinación ATFM implementados. • % of States with Flow Management Unit (FMU) or Flow Management Position (FMP) implemented. / % de Estados con dependencias de Organización de la afluencia (FMU) o puestos de gestión de la afluencia (FMP) implementadas.		

Strategy / Estrategia	The implementation activities will be coordinated between Project members, the Project Coordinator and the Programme Coordinator. The Programme Coordinator will coordinate with the Project Coordinator requirements of other projects and NAM/CAR implementation working groups. Experts nominated by States, Territories and International Organizations will be incorporated, as required. / La ejecución de las actividades será coordinada entre miembros del Proyecto, el Coordinador del Proyecto y el Coordinador del Programa. El coordinador del Programa coordinará con el Coordinador del Proyecto los requerimientos de otros proyectos y Grupos de Trabajo de Implementación NAM/CAR. Se incorporarán expertos nominados por los Estados, Territorios y Organizaciones Internacional, según sea requerido.
Targets / Metas	• 60% of CAR States with ATFM units or Flow Management Position by December 2014. /on-going 60% de Estados de la Región CAR con unidades ATFM o puestos de gestión de afluencia implementados en Diciembre de 2014 /En progreso • 90% of CAR States with ATFM procedures implemented by December 2016. / on-going 90% de Estados de la región CAR con procedimientos ATFM implementados en Diciembre de 2016 / En progreso
Justification / Justificación	GREPECAS supported the ATFM implementation to ensure an optimun traffic flow when demand exceeds or is expected to exceed the available capacity of the ATS system. / El GREPECAS apoyó la implantación de la ATFM para garantizar una afluencia óptima de tránsito aéreo durante períodos en los cuales la demanda excede o se espera exceda la capacidad disponible del sistema ATS.
Related Projects / Proyectos relacionados	• PBN Implementation. / Implementar la Navegación Basada en la Performance (PBN). • Flexible use of airspace. Uso flexible del espacio aéreo. • Improve ATM Situacional Awareness. / Mejorar la Conciencia Situacional ATM.

Project deliverables / Resultados entregables del Proyecto	Relationship with RPB-ANIP NAM/CAR / Relación con el RPB-ANIP NAM/CAR	Responsible / Responsable	Status of implementation / Estado de Implantación*	Delivery date / Fecha entrega	Remarks / Comentarios
Define common elements of ATM situational awareness between FMUs; ▪ common traffic displays, ▪ common weather displays (Internet), ▪ communications (teleconferences, web), and ▪ regular teleconference /messages methodology advisories /Definir los elementos comunes de conciencia situacional ATM; ▪ visualización común de tránsito, ▪ visualización común de condiciones meteorológicas (Internet), ▪ comunicaciones (conferencias telefónicas, web), y ▪ metodología de asesorías regulares mediante conferencias telefónicas	RPOs 1, 2, 3, 9	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		Dec ~~2016~~ Propose a new date / Proponer nueva fecha	Regional teleconferences are carried out on weekly basis through agreed methodology. Additional situational awareness requirements will be defined in the short term. / Se llevan a cabo teleconferencias regionales semanalmente con la metodología acordada. Requisitos adicionales de conciencia situacional ATM serán definidos en el corto plazo.

Develop an ATFM proposal for amendment (PFA) to regional supplementary procedures (Doc 7030) . / Desarrollar una propuesta de enmienda (PFA) a los procedimientos suplementarios regionales (Doc 7030)	RPOs 2, 3	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		Dec 2018 New date proposed / Nueva fecha propuesta	On-going / En progreso
Develop operational agreements between ATFM units for interregional demand/capacity balancing. / Desarrollar acuerdos operacionales entre unidades ATFM para equilibrar la demanda/capacidad interregional.	RPOs 3	States, Territories, International Organizations / Estados, Territorios, Organizaciones Internacionales		Dec2018 New date proposed / Nueva fecha propuesta	Develop a model of ATFM LOAs based on the ICAO Doc 9971 that includes a Model of ATFM LOA. / Desarrollar un modelo de LOA basado en el Doc 9971 de la OACI que incluya un modelo de LOA ATFM.
Required Resources / Recursos necesarios	CAR Regional Project with the participation of States to support ATFM training aspects. / Proyecto regional CAR con la participación de los Estados para apoyar los asuntos de instrucción ATFM.				

Grey / Gris: *Task not started / Tarea no iniciada;*
Green / Verde: *Activity underway as scheduled / Actividad en progreso de acuerdo con el cronograma;*
Yellow / Amarillo: *Activity started with some delay but expected to be complete don time / Actividad iniciada con cierto retardo pero estaría llegando a tiempo en su implantación;*
Red / Rojo: *It has not been posible to implement this activity as scheduled; mitigating measures are required / No se ha logrado la implantación de la actividad en el lapso de tiempo estimado se requiere adoptar medidas mitigatorias.*

IMPLEMENTATION OF FLEXIBLE USE OF AIRSPACE (FUA)
/IMPLEMENTACIÓN DEL USO FLEXIBLE DEL ESPACIO AÉREO (FUA)

CAR Region / Región CAR	**PROJECT DESCRIPTION / DESCRIPCION DEL PROYECTO (DP)**	**DP N° B2**	
Programme Programa	**Title of the Project / Titulo del Proyecto**	**Start / Fecha inicio**	**End / Fecha término**
Implementation of flexible use of airspace (FUA) / Implementación del uso flexible del espacio aéreo (FUA) (Programme Coordinator Coordinador del Programa: Eddian Méndez)	*Implementation of flexible use of airspace (FUA) / Implementación del uso flexible del espacio aéreo (FUA)* Project Coordinator / Coordinador del Proyecto: Greg Byus (United States / Estados Unidos) Agustin Rolon (México) Julio Mejia (Dominican Republic / República Dominicana) Fernando Soto (COCESNA)	2008	2016
Objective / Objetivo	Support the implementation for the optimization, balance and equity in the use of airspace between different users and achieve a better civil/military coordination and cooperation, reinforcing air safety based on regional performance objectives of the Performance based Implementation Plan for NAM/CAR Regions (NAM/CAR RPBANIP) / Apoyar la implementación para la optimización, el equilibrio y la equidad en el uso del espacio aéreo entre los diferentes usuarios y lograr una mejor coordinación y cooperación civil/militar reforzando la seguridad operacional, en base a los objetivos regionales de performance del Plan de Implementación basada en la Performance para las Regiones NAM/CAR (RPBANIP NAM/CAR)		
Scope / Alcance	Development of guides for the implementation of flexible use of airspace (FUA) / Elaboración de guías para la implantación del Uso flexible del espacio aéreo (FUA)		
Metrics / Métricas	• % of States with civil/military coordination Committees / % de Estados con Comités de Coordinación Civil/Militar • % of reduction in number of permanent reserved airspace / % de reducción del número de espacios aéreos reservados de carácter permanente • Reduction in number of permanent reserved airspace / Reducción del número de espacios aéreos reservados de carácter permanente		
Strategy / Estrategia	The implementation of activities will be coordinated between members of the Project, the Project Coordinator and the Programme Coordinator. The Programme Coordinator will coordinate with the project coordinator the requirements of other projects and NAM/CAR implementation working groups. Experts nominated by States, Territories and International Organizations will be incorporated to develop tasks as required / La ejecución de las actividades será coordinada entre miembros del Proyecto, el Coordinador del Proyecto y el Coordinador del Programa. El Coordinador del Programa coordinará con el Coordinador del Proyecto los requerimientos de otros proyectos y Grupos de Trabajo de Implementación NAM/CAR. Se incorporarán expertos nominados por los Estados, Territorios y Organizaciones Internacionales para desarrollar las tareas, según se requiera		

Goals / Metas	• 80% of CAR Region States having implemented civil/military Coordination Committees for the flexible use of airspace (FUA) /Completed • 80% de los Estados de la Región CAR con Comités de Coordinación Civil/Militar implantados para el Uso flexible del espacio aéreo (FUA) /Completado
Justification / Justificación	GREPECAS supported the implementation of flexible use of airspace (FUA) for the optimization of ATS airspace and air traffic flow management (ATFM) efficiency / El GREPECAS apoyó la implantación del uso flexible del espacio aéreo (FUA) para optimizar la eficiencia del espacio aéreo ATS y la gestión de la afluencia del tránsito aéreo (ATFM).
Related Projects / Proyectos relacionados	• Implement PBN / Implementar la PBN • Improve balance between demand and capacity / Mejorar el equilibrio entre la demanda y capacidad • Improve ATM situational awarenes / Mejorar la Conciencia Situacional ATM

Project deliverables / Entregables del Proyecto	**Relationship with RPB-ANIP / Relación con el RPB-ANIP NAM/CAR**	**Responsible / Responsable**	**Status of implementation / Estado de Implantación***	**Delivery date / Fecha entrega**	**Remarks / Comentarios**
Conduct a regional review of special use of airspace / Llevar a cabo una revisión regional del espacio aéreo de uso especial.	RPOs 1, 2, 3	PBN TF		Dec 2018 New date proposed / Nueva fecha propuesta	Revision of the special use of airspace will be carried out in 2018 / La revisión del espacio aéreo de uso especial se llevara a cabo en 2018
Required Resources / Recursos necesarios	CAR Regional Project with the participation of States to support civil-military coordination for the flexible use of airspace (FUA) / Proyecto regional CAR con la participación de los Estados para apoyar la coordinación civil-militar para el uso flexible del espacio aéreo (FUA)				

Grey / Gris: *Task not started / Tarea no iniciada;*
Green / Verde: *Activity underway as scheduled / Actividad en progreso de acuerdo con el cronograma;*
Yellow / Amarillo: *Activity started with some delay but expected to be completed on time / Actividad iniciada con cierto retardo pero estaría llegando a tiempo en su implantación;*
Red / Rojo: *It has not been posible to implement this activity as scheduled; mitigating measures are required / No se ha logrado la implantación de la actividad en el lapso de tiempo estimado se requiere adoptar medidas mitigatorias.*

APPENDIX B

PROJECT B1 – IMPROVE DEMAND-CAPACITY BALANCING

SAM Region	**PROJECT DESCRIPTION (DP)**	DP N° B1	
Programme	**Project Title**	**Start**	**End**
Air traffic flow management (ATFM) *(Programme coordinator: ATM RO Fernando Hermoza Hubner)*	*Improve demand-capacity balancing* *Project coordinator: Martha Soto Ansaldi (Peru)*	2012	~~2016~~ 2019
Objective	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.		
Scope	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.		
Metrics	• % States that have calculated runway and ATC sector capacity • % States that have implemented ATFM in flow management units (FMUs) or flow management positions (FMPs)		

Strategy	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.
Goals	• SAM States with experts trained in runway and airspace capacity (ATC sector) calculation • ATFM performance oversight plan • CAR/SAM inter-regional coordination
Rationale	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.
Related projects	• Automation.

Project deliverables	Relationship with the performance-based regional plan (PFF)	Responsible party	Status of implementation*	Delivery date	Comments
Assess the progress made in the ATFM implementation work programme	B0-NOPS	Programme coordinator		2016	On-going task
Calculation of airspace (ATC sector) capacity	B0-NOPS	Juarez Franklin Gouveia		SAM/IG/9	Brazil and Colombia submitted their studies.
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	Brazil and Colombia submitted their studies.
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	Brazil and Colombia submitted their studies. Brazil, Paraguay, and Peru presented data at the SAM/IG/11 meeting.
Definition of the common elements of situational awareness	B0-NOPS	Paulo Vila		2012	The States that exchange information are: Chile, Colombia, Paraguay, and Venezuela.

Training of personnel in strategic ATFM airspace measures	B0-NOPS	Project RLA/06/901		~~2010~~ 2019	In 2010, an ATFM/CDM course was conducted in Brazil with the participation of several States. In March 2009, a course on runway and ATC sector capacity calculation was conducted in Brazil. In 2012, a course for instructors on runway and ATC sector capacity calculations was conducted in Lima. An ATFM seminar has been scheduled for June 2018 to address the proper implementation of ATFM measures.
List of factors affecting the implementation decision	B0-NOPS	Programme coordinator		2010	The following causes were identified at the SAM/IG/11 meeting: - States that do not have the requirement or the need to implement ATFM; - Budgetary and organisational reasons; - Lack of personnel specifically devoted to ATFM activities; - The personnel responsible for ATFM are involved in other functions.
Updating of runway capacity calculations	B0-NOPS	Programme coordinator		~~November 2015~~ 2019	85% of States have updated runway capacity calculations. Guyana and Suriname are still lacking capacity calculations.
Updating of airspace (ATC sector) capacity calculations	B0-NOPS	Programme coordinator		~~November 2015~~ 2019	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.

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
Replication of ATFM courses at national level	B0-NOPS	States		15/05/2015 FINALISED	The States replicated ATFM courses at national level.
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: http://publicacoes.decea.gov.br/?i=publicacao&id=4339
Status of implementation of ATFM	B0-NOPS	Programme coordinator		31/10/2016	By December 2017, 63% of the States had implemented ATFM.
Resources needed	Designation of experts for the execution of some of the deliverables.				

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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**