International Civil Aviation Organization
CAR/SAM Planning and Implementation Regional Group (GREPECAS)
Fourth Meeting of the Programmes and Projects Review Committee (PPRC/4)
Lima, Peru, 12 - 14 July 2016

Agenda Item 3: Review of GREPECAS Programmes and Projects

3.2. Projects under the ATFM Programme (B0-SEQ, B0-FRTO, B0-NOPS and B0 ACDM)

ATFM PROJECT (ASBU: B0-SEQ, B0-FRTO, B0-NOPS and B0-ACDM)

(Presented by the Secretariat)

SUMMARY

This working paper presents to the Meeting the status of implementation of ATFM in the CAR and SAM Regions and informs on the ATFM planning concerning the realization of the next Olympic Games in Rio de Janeiro, as well as on the non-convenience of NOTAM use as tactical ATFM measures.

References:

- Third Meeting of the GREPECAS Programmes and Projects Review Committee (PPRC/3), Mexico City, Mexico, July 2015;
- Seventeenth Meeting of the SAM Implementation Group (SAM/IG/17) Lima, Peru, May 2016.
- Report of the Third NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/3) Mexico City, Mexico, from 4 to 6 April 2016.

Strategic objectves	*A - Safety* *B – Air navigation capacity and efficiency* *D – Environmental protection*

1. Introduction:

1.1 During the previous meetings of the PPRC, implementation level of Projects B1 "*Improve demand/capacity balancing*" and B2 "*Flexible use of airspace*" was dealt with. Taking into consideration its interdependence with airspace optimization, Project B2 concerning flexible use of airspace in the SAM Region was included in Project A1, PBN, according to the information given during PPRC/3 meeting.

2. **Discussion**

GREPECAS Project B "ATFM implementation in the CAR Region"

CAR "Improve Demand-Capacity Balancing (DCB)" – B1 Project

2.1 Within the implementation follow-up performed in the ANI/WG/3 meeting, from 20 States of the Caribbean (CAR) Region, Cuba, Dominican Republic, Jamaica, Mexico, Trinidad and Tobago and United States (in coordination with Antigua and Barbuda, Barbados, France and Saint Lucia) and COCESNA (in coordination with Belize, Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua), have implemented Flow Management Units (FMU) or Flow Management Position (FMP) for ATFM Traffic management initiatives (TMIs) coordination of Flight Information Regions (FIRs) under their responsibility with other involved States, which represents more than 75% ATFM implementation in the CAR Region. ATFM implementation projects in the Central American FIR and Piarco FIR have a planning scope until December 2018, for training tasks and applicable procedures publication.

2.2 States continue working in tasks to regionally promote the Collaborative Decision Making (CDM), Air Traffic Service (ATS) Letters of Agreement (LoA) review, strategic information exchange among Air Navigation Service Providers (ANSPs) and the pre-tactical and tactical operational information between FMUs.

2.3 Regarding the above paragraph, several ATFM workshops were completed such as the ones in Panama in May, Cuba in July, Jamaica in October, Trinidad and Tobago in November 2015 and Mexico in January 2016. Additionally, Dominican Republic and Jamaica participated in ATFM workshops hosted by the Air Traffic Control System Command Center (ATCSCC) of United States Federal Aviation Administration (FAA) in December 2015. These workshops provided the opportunity to States ANSPs and other stakeholders of participating in the overviews and discussions on ATFM and CDM best practices.

2.4 In the last two years, several teleconferences have been carried out in order to enhance regional and/or bilateral participation between ANSPs and to exchange ATFM information. In these teleconferences, States information provision on ATFM implementation has also been included, and overviews on Jamaica and Trinidad and Tobago ATS Contingency Plan application. The next regional teleconference is scheduled for 18 July at 1500 UTC.

2.5 To date, all the NACC States participation continues being promoted in the ATFM teleconferences programme in order for CAR Region States Area Control Centres (ACCs) share best practices on Demand and Capacity Balancing (DCB) and coordinate pre-tactical operational information and TMIs emission for their corresponding FIR. This ATFM regional teleconference programme enhances participation of all the ACCs, which complies with the ATFM goal established by the *Port-of-Spain Declaration*.

2.6 During the ICAO/IATA/CANSO Performance-Based Navigation (PBN) Harmonization, Modernization and Implementation Meeting for the Caribbean (CAR) Region held in Fort Lauderdale, United States, from 28 March to 1 April 2016, all CAR States agreed in as much as possible, applying a longitudinal separation minima of 40 NM or 20 NM between transferred air traffic operating in the CAR Region FIRs by 30 November 2016, regardless of counting or not with radar coverage. States also agreed on implementing ATFM LoAs and/or updating current ATS LoAs between adjacent FIRs with ATFM procedures.

2.7 Under this approach, have been confirmed to date six LoAs: Cuba-COCESNA; Cuba-Jamaica; Dominican Republic-Haiti; Dominican Republic–United States, Jamaica-COCESNA, and Trinidad and Tobago-Guyana, with updates for TMIs coordination, appropriate separation minima application and operational procedures between Control Area (CTA) units, in accordance with ICAO Doc 4444.

2.8 CAR and SAM States and ANSP also agreed on reviewing ATS LoAs by 30 November 2016, to apply longitudinal separations minima of 40 NM or 20 NM between transferred air traffic operating within the CAR Region FIRs and the adjacent FIRs in the SAM Region.

2.9 In this regard and in compliance with the Conclusion PPRC/3/4, the ICAO NACC Regional Office has started coordination on a Proposal for Amendment (PfA) to ICAO Doc 7030 for ATFM regional procedures implementation and ATC separation minima application for aircraft transfer between adjacent ACC. It is expected that this proposal be circulated to Sates in August 2016.

CAR "Flexible Use of Airspace" – B2 Project

2.10 In the PBN and ATFM implementation meetings, different coordination have been carried out between States in order to update ATS agreements and appropriate dependencies of air defense units to optimize the use of ATS airspace and Search and Rescue (SAR) service provision.

2.11 The next NAM/CAR/SAM SAR regional system improvement and Civil-Military coordination meeting/workshop will be held in Trinidad and Tobago, from 25 to 28 October 2016. The agenda includes the civil and military agreements update between States to flexible use of airspace implementation and SAR service improvement.

GREPECAS Project B "ATFM implementation in the SAM Region"

2.12 To analyse the achievement of ATFM goals, following indicators were used:

- Percentage of States that have conducted runway and ATC sector capacity calculations.

- Percentage of States that have implemented ATFM in Flow Management Units (FMUs) or Flow Management Positions (FMPs).

2.13 To date, 85% of the States of the Region have performed their ATC runway and ATC sector capacity calculations as pre-implementation tasks, as shown in the following table:

May 2016 85%	ARG	BOL	BRA	CHI	COL	ECU	FGI	GUY	PAN	PAR	PER	SUR	URU	VEN
	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	YES	NO	YES	YES

Percentage of States that have conducted their runway and ATC sector capacity calculations

2.14 Regarding this table, the delegate of French Guiana stated that runway capacities had been calculated, but ATC sector capacity calculations had not been done yet. He also stated that inadequate staffing directly affected progress in accordance with operational requirements and sector allocation. The Secretariat provided French Guiana with the Capacity Calculation Guide presented at the SAM/IG/5 meeting.

2.15 At PPRC/3 meeting, implementation percentage of this metric was 21%. Progress achieved so far in the SAM Region concerning ATC runway and ATC sector capacity calculations has been 64%.

2.16 With regard to the metric concerning implementation of flow units in the SAM Region, which was 35% at the last PPRC/3 meeting, Ecuador, Peru and Uruguay have implemented FMP, increasing the regional average to 56% ATFM implementation. Thus, the progress achieved in the implementation of flow management units was 21%, as shown in the following table:

May 2016 56%	ARG	BOL	BRA	CHI	COL	FGY	ECU	GUY	PAN	PAR	PER	SUR	URU	VEN
	NO	NO	YES	YES	YES	NO	YES	NO	NO	YES	YES	NO	YES	YES

Percentage of States that have implemented ATFM Flow Management Units (FMU) or Flow Management Positions (FMP)

2.17 Argentina informed of its plans to implement ATFM in EZEIZA ACC and reported that they had installed an FMP at the Jorge Newbery airport for operations at Aeroparque and that implementation in ACC BAIRES is expected during 2016.

2.18 Panama stated that ATFM implementation was delayed because of lack of personnel to carry out the implementation.

2.19 In Ecuador, the FMP of the Guayaquil ACC was implemented on 26 May 2016.

2.20 SAM/IG/17 meeting (May 2016) recommended that each State establish a 24h operational point of contact to be used in case of urgency/contingency, so as to guarantee the dissemination of information between States/ANSP, and to users through ICAO and IATA. Brazil requested that forms were sent in PDF format.

Use of NOTAMs as an ATFM measure

2.21 An important issue discussed was concerning the use of NOTAMs as an ATFM measure. In this regard, it was noted that ATFM measures were specified in ICAO Doc 9971, and that they did not include NOTAMs.

2.22 The NOTAM, by nature, is a static tool that must not be used as a tactical ATFM measure, since it depends on the specific operational scenario and must be flexible and be applied as needed. The tactical measures that should be implemented, if so required, are those specified in the ICAO ATFM Manual.

2.23 The NOTAM that establishes specific separations, especially those applied regardless of the flight level to overcome any CNS or personnel deficiencies, must be considered as a contingency measure and not as an ATFM measure.

2.24 Based on the above, participant States in SAM/IG meetings were instructed to use NOTAM according to the indicated in Annex 15.

Measures adopted for the Rio 2016 Olympic and Paralympic Games of Brazil

2.25 Regarding ATFM measures applicable in Brazil with a view to the Rio 2016 Olympic and Paralympic Games, the corresponding aeronautical publication was presented by Brazil with a view to disseminating all the relevant information and expediting planning and operations during the event for operators and other users of the Brazilian airspace, and SAM States. Details of the AIC of Brazil appear in the following Internet link: http://publicacoes.decea.gov.br/?i=publicacao&id=4339.

Plan for the implementation of the ATFM service in Argentina

2.26 Argentina completed the **Plan for the implementation of the ATFM service**, which was proposed to the aeronautical authority to be published as an AIC to allow the aeronautical community to get acquainted with it.

ATFM implementation in Peru

2.27 Peru presented an ATFM implementation process that could be considered as a model of implementation of strategic ATFM, and could be used by those States that had not yet implemented ATFM or that needed to improve the ATFM procedures being applied.

2.28 This plan includes the following:

a) Process for establishing and organising itineraries.
b) Lessons learned in the process of increasing ATC, runway, and airport infrastructure capacity.
c) Use of CTOT, ATFM flow basic tool of INDRA AIRCON 2100 system.
d) Process for eliminating flow control NOTAMs.
e) Benefits and difficulties resulting from applying 95% runway capacity.
f) Use of indicators to verify ATFM performance.
g) Use of Excel table for itinerary planning to identify potential congestion schedules.

2.29 Both the Secretariat and IATA congratulated Peru for this achievement and recommended all States that had already implemented ATFM to make a brief presentation at the SAM/IG/18 meeting of the benefits obtained from the implementation of ATFM.

2.30 Peru also supported the ATFM Project, authorizing its expert Ms. Martha Soto to act as Project Coordinator.

3. **Conclusion:**

3.1 Based on the above, and considering that the implementation of at least one ATFM Flow Management Position (FMP) in an ACC does not stem on the volume of regular traffic a particular Flight Information Region (FIR) may have, but on the planned or unexpected events exceeding established

capacity values in that FIR, besides meteorological, volcanological events and/or interruptions in CNS or ATM services that may occur for different reasons, it is recommended that States not having yet done so, redouble efforts to implement at least one ATFM Position (FMP) in each ACC.

3.2 Details on these activities can be found under **Appendix A** for Projects of the CAR Region and **Appendix B**, for Projects of the SAM Region.

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 yet done, double efforts in order to implement at least one ATFM post (FMP) per FIR;
c) enhance ATFM training for the ANSP personnel;
d) foster the need to establish a CDM process between ANSPs; and
e) recommend other actions as deemed 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: Victor Hernandez)	*Improve demand and capacity balancing (DCB) / Mejorar el equilibrio entre demanda y capacidad (DCB)* Project Coordinator / Coordinador del Proyecto: Frank Macintosh (United States / Estados Unidos) Agustin Rolon (México) Julio Mejia (Dominican Republic / República Dominicana) Fernando Soto (COCESNA)	2008	2016~~8~~
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. /Completed 60% de Estados de la Región CAR con unidades ATFM o puestos de gestión de afluencia implementados en Diciembre de 2014 /Completada • 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	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 2015~~ Aug 2016	~~Valid /Válida~~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		Dec ~~2016~~2018	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: Victor Hernandez)	*Implementation of flexible use of airspace (FUA) / Implementación del uso flexible del espacio aéreo (FUA)* Project Coordinator / Coordinador del Proyecto: ~~Frank Macintosh~~ (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 2016	Revision of the special use of airspace will be carried out in ~~2015~~ 2016 / La revisión del espacio aéreo de uso especial se llevara a cabo en ~~2015~~ 2016
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 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.*

APPENDIX B

PROJECT B1: IMPROVE DEMAND/CAPACITY BALANCING

SAM Region	**PROJECT DESCRIPTION (DP)**	DP N° B1	
Programme	**Title of the Project**	**Start**	**End**
Air traffic flow management (ATFM) *(Programme Coordinator: Roberto Arca Jaurena)*	*Improve demand/capacity balancing* *Project Coordinator: Martha Soto Ansaldi*	2012	2016
Objective	Avoid overloading the ATC and airport systems, while strengthening safety, taking into account 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	• % of States that have calculated runway and ATC sector capacity. • % of States that have implemented ATFM in Flow Management Units (FMU) or Flow Management Positions (FMP).		

Strategy	Project execution defines 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 the calculation of runway capacity and airspace (ATC SECTOR) capacity of States' airspace regions. • ATFM system 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 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	Permanent 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 subject to 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 the 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.

Personnel trained in strategic ATFM measures for airspace	B0-NOPS	Project RLA/06/901		2010	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 training instructors on runway and ATC sector capacity calculation was conducted in Lima.
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 is involved in other functions.
Update the calculation of airspace (ATC SECTOR) capacity and runway capacity.	B0-NOPS	Programme Coordinator		November 2015	85% of States updated ATC sectors and runway capacity calculations. Guyana and Suriname lack capacity calculation; French Guiana lack ATC sectors calculation.

Airspace monitoring processes. Air traffic demand analysis. ATFM standards and procedures of an FMU/FMP. Implementation of preliminary ATFM measures. Implementation of TMI. ATFM messaging. Coordination of special events. Civil/military coordination processes and ATFM exemption procedures.	B0-NOPS	CGNA Course Project RLA/06/901		November 2014	Completed on schedule
Replication of ATFM courses at national level	B0-NOPS	States		15/05/2015	States replicated the ATFM courses at national level.
ATFM measures during the realization of Olympic and Paralympic Games Rio 2016 in Brazil	B0-NOPS	Brazil		13/05/2016	Detail of Brazilian AIC can be found under following link on the internet: http://publicacoes.decea.gov.br/?i=publicacao&id=4339
ATFM Implementation Status	B0-NOPS	Programme Coordinator		31/10/2015	56% of States implemented ATFM.
Resources required	Designation of experts in 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; mitigating measures are required*