



**Agenda Item 2: Review of the results of the work of GREPECAS contributory bodies and their respective terms of reference**

**e) CNS/ATM/SG**

**REVIEW OF THE RESULTS OF THE CNS/ATM/SG WORKS**

(Presented by the Secretariat)

<b>SUMMARY</b>	
This working paper presents the CNS/ATM/SG structure and terms of reference as well as the review of the results of its works..	
<b>References:</b>	
<ul style="list-style-type: none"><li>• Report of the GREPECAS/15 (Rio de Janeiro, Brazil, 13-17 October 2008);</li><li>• Report of the CNS/ATM/SG/1 meeting (Lima, Peru, 15-19 March 2010); and</li><li>• Report of the CNS/ATM/SG/2 meeting (Mexico City, Mexico, 16-19 November 2010).</li></ul>	
<b>ICAO strategic objectives:</b>	<i>A- Safety; and C – Environmental protection and sustainable development of air transport.</i>

**1. Introduction**

1.1 The CNS/ATM Subgroup was established following GREPECAS Decision 15/34, by restructuring the old ATM/CNS Subgroup with the aim of ensuring a better coordination on ATM and CNS matters and developing a performance-based CAR/SAM planning with views to the implementation of a global ATM system. The terms of reference of the CNS/ATM/SG are presented in **Appendix A** of this working paper.

1.2 Two CNS/ATM Subgroup meetings have been held. The first meeting was held in Lima, Peru, from 15 to 19 March 2010, with the assistance of 62 participants from the CAR/SAM States and 4 international organizations and the second meeting was held in Mexico City from 16 to 19 November 2010, with the assistance of 43 participants from the CAR/SAM States and 3 international organizations.

1.3 The first meeting of the CNS/ATM Subgroup approved the functional structure of the CNS/ATM Subgroup based on project management techniques, as well as its working methodology. The structure of the CNS/ATM/SG is composed by four programmes:

- a) PBN;
- b) ATFM;
- c) Automation and situational awareness; and
- d) Ground-ground and ground-air communications infrastructure.

1.4 Each of the programmes is composed by a group of projects, CNS/ATM/SG/1 meeting agreed that the ATM and CNS Regional Officers of the ICAO NACC and SAM Offices act as Programme Coordinators. **Appendix B** of this working paper presents the structure of the Subgroup.

1.5 The CNS/ATM/SG/1 meeting designated several of the Project Coordinators, which are members of the GREPECAS CNS/ATM/SG and experts on the topics of each Project. These and other Project Coordinator designations were subsequently confirmed and completed. The CNS/ATM/SG/1 meeting considered that States should provide all support necessary to each Project and its members for the implementation of the assigned activities.

1.6 Following Decision CNS/ATM/1-9 - *Revision of the work programme of CNS/ATM Subgroup projects*, the second meeting of the CNS/ATM Subgroup, reviewed the tasks of the Projects' work programmes, defined the ICAO officers responsible for the coordination of the programmes, identified the deliverables expected for each task and defined the subtasks on for several project tasks.

## 2. Analysis

2.1 The description and progress of each CNS/ATM Subgroup project, with the dates and the persons in charge of each task, are presented in **Appendix C** of this working paper.

2.2 During the CNS/ATM/SG/2 Meeting, one of the difficulties encountered by the Subgroup Projects in developing its tasks is that the CAR/SAM States/Territories/international organizations that have nominated experts for the CNS/ATM Subgroup Projects, have not provide these experts with the sufficient support in resources and time to achieve the assigned tasks, as established in the CNS/ATM Subgroup work methodology and structure approved by GREPECAS. Due to this critical situation, the CNS/ATM/SG formulated the Conclusion CNS/ATM/SG/2-3 - *Support to experts designated for the CNS/ATM Subgroup projects*.

2.3 Also, while reviewing the list of experts on each Project, some States expressed their intention to contribute with experts to support, if necessary, the implementation of the Project tasks. Similarly, the CNS/ATM/SG/2 meeting considered that for the effectiveness of the Projects' works, the States/Territories/international organizations should analyze the convenience on having just the same expert for various Projects.

2.4 In this same review, each Project Coordinators recognized the need to carry out a meeting in 2011 based on the amount of tasks to be carried out and to coordinate the progress on the activities.

3. **Action required**

3.1 The Meeting is invited to:

- a) take note of the information provided in the working paper and its Appendices A, B and C;
- b) consider the structure of the CNS/ATM SG meeting presented in Appendix B of this working paper in the definition of the new structure of GREPECAS;
- c) recommend on the description and progress of each project, as presented in Appendix C of this working paper;
- d) take in consideration the concerns described in paragraphs 2.2 and 2.3 for the new GREPECAS working methodology;
- e) consider the need for having the Project meeting as described on paragraph 2.4, including them in the results of the discussion of Agenda Item 5 of the ACG/8 Meeting; and
- f) take in consideration other matters that the Meeting might consider necessary.

-----

**APPENDIX A****TERMS OF REFERENCE OF THE CNS/ATM SUBGROUP****Terms of Reference (TOR)**

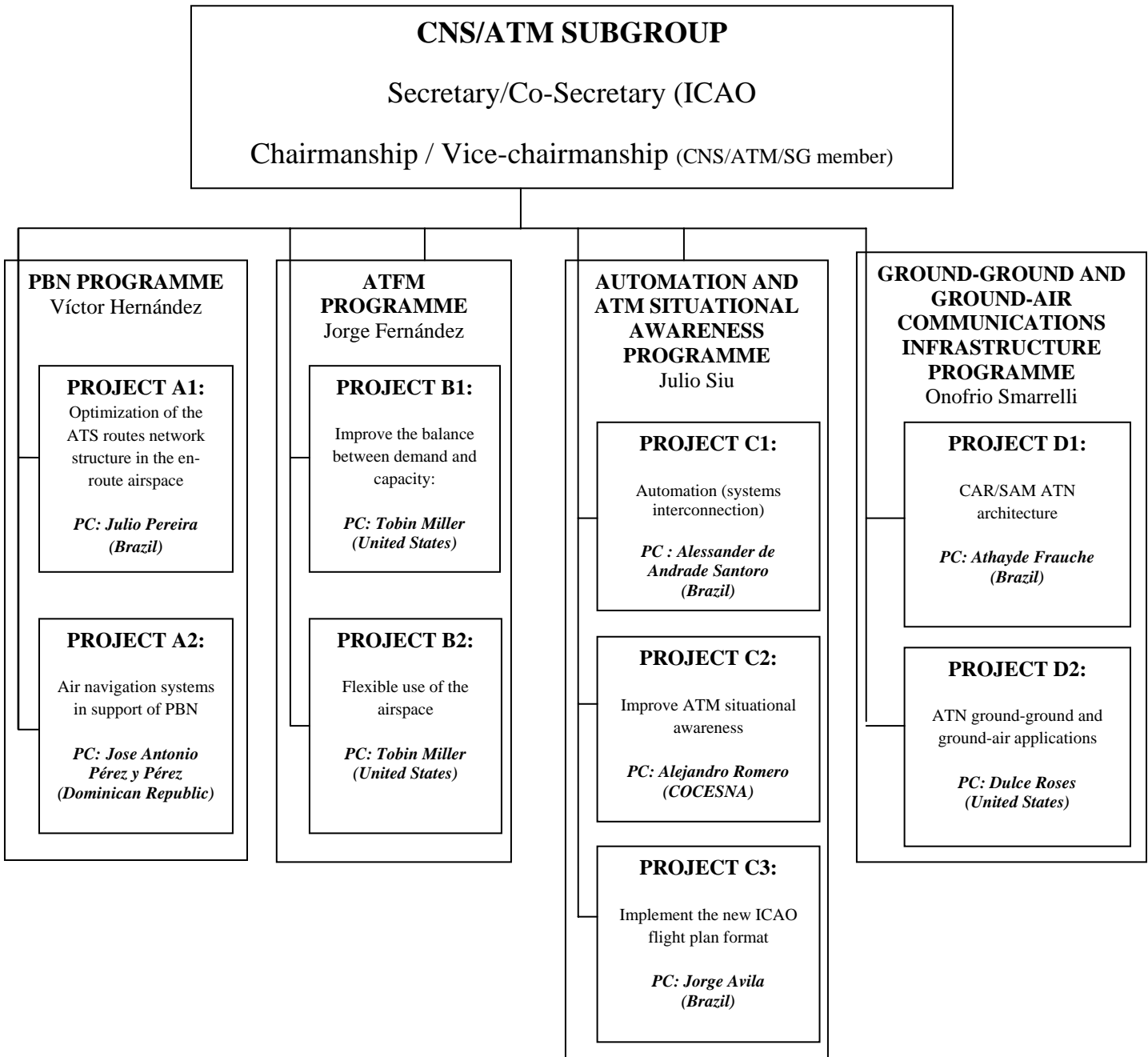
1. To plan a performance based transition to the ATM system envisaged in the Global ATM Operational Concept, considering the regional performance objectives, supported by the Global Air Navigation Plan Initiatives (GPIs);
2. Carry out CNS/ATM CAR/SAM planning activities to facilitate and harmonize the inter-regional implementation process to obtain in the near and medium terms, clear benefits for the ATM community; and
3. In meeting these TOR, the Subgroup should perform the following tasks:
  - a) monitor the CNS/ATM aspects of the CAR/SAM Air Navigation Plan and propose corresponding amendments to keep it up-to-date;
  - b) identify and report CNS/ATM air navigation deficiencies based on the Council approved methodology and GREPECAS complemented procedures; and
  - c) considering the existing performance objectives (new objectives to be developed as necessary), develop detailed tasks, identify deliverables with deadlines and monitor implementation of the following:
    - Performance based navigation
    - Air Traffic Flow Management
    - Civil/Military coordination
    - Automation
    - Situational awareness (surveillance)
    - RVSM
    - Communication infrastructure for ground to ground and ground to air
    - Transition to the new ICAO Model Flight Plan
    - Determine environmental benefits as consequence of short- and medium-term ATM improvements

**Composition:** Argentina, Antigua, Barbados, Bolivia, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Francia, Guatemala, Haití, Jamaica, Mexico, Panama, Paraguay, Perú, Spain, Trinidad & Tobago, United States, Uruguay, Venezuela, ARINC, COCESNA, IATA, IFALPA, IFATCA and SITA.

-----

APPENDIX B

STRUCTURE OF THE CNS/ATM/SG



-----

**APPENDIX C**

**WORK PROGRAMME OF GREPECAS CONTRIBUTORY BODIES  
CNS/ATM/SG**

**PROGRAMME/PROGRAMA: PBN**

**PROJECT: A1. OPTIMIZE THE ATS ROUTE STRUCTURE EN-ROUTE AIRSPACE**

**PROJECT COORDINATOR: Julio Pereira**

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
A 1.1	A	Develop the regional action plan		GREPECAS	Completed	Regional action plan		2007
A.1.2	A	Develop an interface between SAM Region Version 1 and CAR Region Phase 1 Route Network		A1 Project Members	Completed	Interface between SAM Region Version 1 and CAR Region Phase 1 Route Network		Nov-10
A.1.3	A	Develop proposal for amendment to the CAR/SAM Air Navigation Plan, including the interface between SAM Region Version 1 and CAR Region Phase 1 Route Network		NACC Office	90%	Proposal for amendment to the CAR/SAM Air Navigation Plan		Jan 2011
A.1.4	A	Publish new Version of the CAR/SAM Inter-regional ATS Routes Network, including the interface between SAM Region Version 1 and CAR Region Phase 1 Route Network		States/Territories	10%	Publication in AIP new RNAV routes		Dec 2011
A 1.6	A	Conduct the first workshop among NAM, CAR and SAM States experts to review and validate the interregional routes network proposed in A 1.2		NACC and SAM Regional Offices	0%	Draft of ATS route network Interface between CAR and SAM Regions Network and RNP10 Gulf of Mexico Airspace		May-12

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
A 1.7	A	Develop an airspace concept based on CAR/SAM PBN Roadmap and in the CAR and SAM implementation plans, in order to design and implement a inter-regional trunk route network, in the upper airspace, on the basis of PBN and, in particular, RNAV/5, taking into account interregional harmonization		Project Coordinator	50%	Draft inter-regional routes network		Dec 2012
A 1.8		Conduct the second workshop among NAM, CAR and SAM States experts to review the interregional routes network proposed in A 1.2		NACC and SAM Regional Offices	0%	Reviewed Interregional RNAV routes network		Dec 2012
A 1.9		Develop proposal for amendment to the CAR/SAM Air Navigation Plan		NACC and SAM Regional Offices	0%	Proposal for amendment to the CAR/SAM Air Navigation Plan		Dec 2012
A 1.10		Publish new Version of the CAR/SAM Inter-regional ATS Routes Network		States/ Territories	0%	Publication in AIP new RNAV routes		Dec 2012

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9

**PROJECT:** A2. PBN SUPPORTING AIR NAVIGATION SYSTEMS

**PROJECT COORDINATOR:** Jose Antonio Perez y Perez

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
A 2.1	C	Feasibility of regional application, technical aspects, operational benefits, associated costs, for an SBAS (WAAS/SACSA) implementation. Implications for airborne equipment (factory delivered and retrofits) and other relevant aspects		ICAO & A2 Project (assisted by SACCSA y WAAS)	60%	Feasibility study on the regional application, technical aspects, operational benefits, associated cost, for an SBAS (WAAS/SACSA) implementation. Implications for the on board equipment (factory delivered and retrofits) and other relevant aspects	2008	2012
A 2.2	C	Provide practical guidance for the implementation of GBAS systems		A2 Project (with States with GBAS programs in progress)	10%	Guide on the practical guidance for the implementation of GBAS Systems	2008	2011
A 2.3	C	Review and update the regional conventional navaids infrastructure Table FASID-AIP (delivered for GNSS TF4)		States/ Territories/ ICAO	80%	Revised and updated regional conventional navaids infrastructure CNS Table 4 FASID		Dec 2011

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
A 2.4	C	Analyse the DME/DME and GNSS infrastructure and coverage supporting PBN implementation		A2 Project ICAO coordinates States/ Territories/ International Organizations inputs	30%	Analysis of the DME/ DME and GNSS infrastructure supporting PBN implementation	2011	2012
A 2.5	C	Development of guidance on use of and available tools required for assessment of GNSS performance and service prediction		A2 Project ICAO coordinates States/ Territories/ National and International Organizations inputs	10%	Guidance on use of and available tools required for assessment of GNSS performance and service prediction		2011

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9

**PROGRAMME:** ATFM

EMAND AND CAPACITY BALANCING

**PROJECT COORDINATOR:** Tobin Miller

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
B 1.1	A	Develop a CAR/SAM ATFM Roadmap taking into consideration inter-regional harmonization		B1 Project	Completed	CAR/SAM ATFM Roadmap	2010	2011
B 1.2	A	Identify key stakeholders (ATC service providers and users, military authorities, airport authorities, aircraft operators and relevant international organisations) for purposes of coordination and cooperation, using a CDM process		GREPECAS	Completed	Key stakeholders for purposes of coordination and cooperation, using a CDM process identified		2008
B 1.3	A	Develop methods to establish demand/capacity forecasting		B1 Project	20%	Methods to establish demand/capacity forecasting	2007	2012
B 1.4	A	Develop regional procedures for efficient and optimum use of aerodrome and runway capacity		B1 Project	10%	Regional procedures for efficient and optimum use of aerodrome and runway capacity	2008	2012
B 1.5	A	Develop a regional ATFM procedural manual to manage demand/capacity balancing		GREPECAS	Completed	Regional ATFM procedural manual to manage demand/capacity balancing	2008	2011

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
B 1.6	A	Develop a regional strategy and framework for the implementation of Centralized ATFM units		B1 Project	0%	Regional strategy and framework for the implementation of Centralized ATFM units	2008	2014
B 1.7	A	Develop template/contents for operational agreements between Centralized ATFM units for interregional demand/capacity balancing		B1 Project	0%	Operational agreements between Centralized ATFM units for interregional demand/capacity balancing	2008	2014
B 1.8	A	Define common elements of situational awareness between FMUs; <input type="checkbox"/> common traffic displays, <input type="checkbox"/> common weather displays (Internet), <input type="checkbox"/> communications (teleconferences, web), and <input type="checkbox"/> daily teleconference/messages methodology advisories		B1 Project	50%	Define common elements of situational awareness between FMUs	2008	2012
B 1.9		Define common electronic information and minimum databases required to support decision making process and alerting systems for interoperable situational awareness between Centralized ATFM units		B1 Project	0%	Definition of common electronic information and minimum databases required to support decision making process and alerting systems	2008	2014

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
B 1.10	A	Implement additional/advanced automation support tools to increase aeronautical information sharing <input type="checkbox"/> ETMS or similar <input type="checkbox"/> MET information <input type="checkbox"/> AIS/NOTAM dissemination <input type="checkbox"/> Surveillance tools to identify airspace sector boundaries <input type="checkbox"/> Use of A-SMGC in specific aerodromes		B1 Project	0%	Implement additional/advanced automation support tools to increase aeronautical information sharing	2008	2014
B 1.11	A	Identify training needs and develop corresponding guidelines		B1 Project	60%	Identification of training needs and develop corresponding guidelines	2011	2012
B 1.12	A	Formulate an ATFM system performance monitoring plan		B1 Project	50%	ATFM system performance monitoring plan	2010	2011
B 1.13	A	Develop a regional strategy and work programme for harmonized implementation of ATFM service		GREPECAS	Completed	Regional strategy and work programme for harmonized implementation of ATFM service		2007

**PROJECT: B2.FLEXIBLE USE OF AIRSPACE**

**PROJECT COORDINATOR:** Tobin Miller

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
B 2.1	A	Develop guidance material on civil/military coordination and co-operation to be used by States/Territories to develop national policies, procedures and rules		B2 Project	80%	Guidance material on civil/military coordination and co-operation to be used by States/ Territories	2011	2012

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
B 2.2	A	Develop a regional strategy to implement the flexible use of airspace (FUA): <ul style="list-style-type: none"> <li>• evaluate the management processes in the use of the airspace;</li> <li>• improve the current domestic airspace management to adjust dynamic changes to the traffic flows in tactical stages;</li> <li>• 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</li> <li>• 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</li> </ul>		B2 Project	0%	Regional strategy to implement the flexible use of airspace (FUA)	2008	2015
B 2.3	A	Identify training needs and develop corresponding guidelines		B2 Project	0%	Guidelines on training needs on Flexible Use of Airspace	2011	2012

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9

**PROGRAMME: AUTOMATION AND ATM SITUATIONAL AWARENESS**

**PROJECT: C1. AUTOMATION**

**PROJECT COORDINATOR:** Alessander Santoro

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
C 1.1	C	Identify the automation level required according to the ATM service provided in airspace and international aerodromes, assessing <ul style="list-style-type: none"> <li>○ operational architecture design,</li> <li>○ characteristics and attributes for interoperability,</li> <li>○ data bases and software, and</li> <li>○ technical requirements</li> </ul>		ICAO States/ Territories	15%	Existing level of automation in the CAR Regions	2008	2011
C 1.2	C	Guidelines for elaboration of Memorandum of Understanding for the implementation of the interregional automated system interconnection		Project C1	25%	1. MoU model for the implementation of Interregional automation between States. 2. Guidelines and considerations for the drafting and agreement on automation	2010	2012

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
C 1.3	C	Monitor the implementation of flight plan data processing system and electronic transmission tools		Project C1	0%	Proposals or guidelines for the improvement in the current operation and performance of the flight data plan process and tools for its electronic transmission	2008	2012
C 1.4	C	Monitor ATM automation implementation and surveillance data exchange		ICAO	35%		2008	2014
C 1.5		Monitor Implementation of additional/advanced automation support tools to increase aeronautical information sharing <ul style="list-style-type: none"> <li>• ETMS or similar</li> <li>• MET information</li> <li>• AIS/NOTAM dissemination</li> <li>• Surveillance tools to identify airspace sector boundaries</li> <li>• Use of A-SMGC in specific aerodromes, as required</li> </ul>		Project C1	5%	Proposals or guidelines for the use and benefits of additional/advanced automation support tools to increase the sharing of aeronautical information	2008	2014
C 1.6		Monitor implementation progress		ICAO	30%	Proposals for the updating of GREPECAS guidelines on ATM systems automation	2008	2014

**PROJECT:** C2. IMPROVE ATM SITUATIONAL AWARENESS

**PROJECT COORDINATOR:** Alejandro Romero

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
C 2.1	C	Identify parties concerned		GREPECAS	Completed	Identification of parties concerned		2009

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
C 2.2	A, C	Evaluation of surveillance infrastructure and Identification of Surveillance system improvements to support continental en-route and terminal Airspace in CAR/SAM Regions, airspace classification, PBN and the ATFM		Project C2	10%	Revision to regional surveillance system implementation strategy (surveillance system infrastructure analysis for PBN and ATFM implementation)	2009	2012
C 2.3	A, C	Monitor the implementation of ATM surveillance systems for situational traffic information and associated procedures		ICAO	20%		2010	2015
C 2.4	C	Monitor the implementation of ground and air electronic warnings, as needed <ul style="list-style-type: none"> <li>• Conflict prediction</li> <li>• Terrain proximity</li> <li>• MSAW</li> <li>• DAIW</li> <li>• Surveillance system for surface movement</li> </ul>		Project C2	10%	Guidelines for improvement to ground and air electronic warnings	2008	2014
C 2.5	C	Elaboration of a regional plan for the implementation of ADS-C and ADS-B		Project C2	10%	Guidelines for an operational ADS-B implementation and data exchange (initial steps to the operational implementation of ADS B)	2008	2014
C 2.6	C	Monitor the regional activities to optimize the use of radio frequency environment		ICAO	33%		2009	2011

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9

**PROJECT:** C3. IMPLEMENTATION OF THE NEW ICAO FLIGHT PLAN MODEL

**PROJECT COORDINATOR:** Jorge Avila

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
C 3.1	A	Guidelines on transition to new Flight Plan Format		ICAO	Completed	Guidelines on transition to new Flight Plan Format		2009
C 3.2	A	Develop regional strategy for transition to new Flight Plan Format		ICAO	Completed	Strategy was reviewed and approved during the CNS/ATM/SG/1 meeting	2009	2010
C 3.3	A	Identification of stakeholders involved and possible impact by implementation of New Flight Plan Format (FPL/RPL/CPL)		States/ Territories/ International Organizations	100%		Oct-09	Nov-10
				Project C3	80%	Consolidated analysis of the evaluations performed by the Status of the possible impacts of the implementation of the new FPL format.	Dec-10	Feb-11
C 3.4	A	Evaluation of current/future flight plan processing capabilities regarding the New Flight Plan Format		ICAO	100%		Oct-09	Dec-10
C 3.5	A	Conduct trials between systems with new flight plan processing capacity		Project C3	0%	Proposed considerations to conduct trials between systems with new flight plan processing capacity	Jul-11	Oct-11

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
				States/ Territories/ International Organizations	0%		Nov-11	Jul-12
C 3.6	A	Development of contingency procedures and determination of operational/ technical considerations for the transition		Project C3	0%	Proposed contingency procedures	Jan-11	May-11
				States/ Territories/ International Organizations	0%		Jun-11	Jun-11
C 3.7	A	Identification of major parties considering FP data flow and definition of transition steps based on: a) Systems with capability to process both formats: current and new. b) Systems to be upgraded/implemented before 2012 and that will be capable to process New Flight Plan Format		ICAO	0%		Jan-11	Jun-11
C 3.8		Publication on transition actions, trials and other publication for the users and stakeholders		States/ Territories/ International Organizations	0%		Jun-11	Jun-12
				Project C3	0%	Proposed technical/ operational considerations for the transition	Jun-11	Mar-12
C 3.9	A	Assessment of transition actions and make adjustments		ICAO	0%		Jul-11	Jun-12
C 3.10	A	Conduct transition plan		States/ Territories/ International Organizations	0%		Apr-12	Jun-12
C 3.11		Monitor the transition activities		ICAO	40%		Oct-09	Dec-12

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9

**PROGRAMME:** GROUND-GROUND AND AIR-GROUND TELECOMMUNICATIONS INFRASTRUCTURE

**PROJECT:** D1. CAR/SAM ATN ARCHITECTURE

**PROJECT COORDINATOR:** Athayde Frauche

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
D 1.1	C	Guide the interconnection/integration of communications digital networks		ICAO REDDIG Administration MEVA TMG Group	70%	Evaluation of the performance of the interconnection of MEVA II/REDDIG	Mar-10	Dec-10
D 1.2	C	Technical revision of regional telecommunication network for ATN implementation		ICAO REDDIG Administration MEVA TMG Group	50%	Technical study of MEVA II and REDDIG networks for ATN implementation	Jun-09	Jul-11
D 1.3	C	Trial implementation to determine ATN bandwidth to support ground application		Project D1	100%	Evaluation of the preliminary trials results on the definition of the CAR/SAM ATN bandwidth requirement	2009	Sep-10
D 1.4	C	Study for an IP ATN CAR/SAM backbone network configuration		Project D1	50%	Study for the configuration of an IP backbone network	2009	Dec-11
D 1.5	C	Update of CAR/SAM Router Plan		ICAO	90%	Update to CAR/SAM Regional Plan on ATN routers		Jan 2011

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
D 1.6	C	Analyze proposals for data Communications infrastructure in support of ATFM implementation This activity supports the activity Support PBN and ATFM implementation, optimization of ATM routes and guidance for ATM service automation covered in the communication area		Project D1  Note: Coordination needed with Programmes A (PBN), B (ATFM) and C (Situational Awareness)	60%	Study of communication requirements to support ATFM implantation	2009	Dec-11
D 1.7		Elaborate a CAR/SAM plan for the establishment of the communications system needed for the migration towards aeronautical MET messages exchange (METAR/SPECI and TAF) in the new format to be defined		ICAO  Note: Coordination needed with AERMET/SG	0%	Study of communication requirement to support the migration to new OPMET format	Jun-11	Jun-12

**PROJECT: D2. ATN GROUND-GROUND AND AIR-GROUND APPLICATIONS**

**PROJECT COORDINATOR:** Dulce Rosés

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
D 2.1	C	Review, update and complete initial transition plan for the evolutionary development of ATN and applications		Project D2  Note: Coordination needed with Project D1	80%	Transition Plan for the ATN and its applications in the CAR/SAM regions	2003	Nov-10
D 2.2	C	Guide development of ATN addressing plan according to ICAO technical principles and guidelines		ICAO/States/Territories	90%	AMHS addressing plan	2008	Feb-11

Task No.	Strategic Objective	Task	Activities	Responsible	Execution (%)	Deliverable (%)	Period	
							Start	End
1	2	3	4	5	6	7	8	9
D 2.3	C	Implementation plan for ATN ground-ground applications (AMHS)		Project D2	90%	1. Implementation plan for ground-ground ATN applications (AMHS) 2. Update proposal for CNS Table 1Bb	2009	Jun-11
D 2.4	C	Implementation plan for ATN ground-ground applications (AIDC)		Project D2	70%	1. Implementation Plan for Ground-ground ATN Applications (AIDC) 2. Proposal to update of CNS Table 1Bb	2009	Dec-11
D 2.5	C	Coordination and trials for ATN ground applications implementation		Project D2	90%	Evaluation and recommendations on the AMHS coordination and trials conducted	2009	Dec-12
D 2.6	C	Develop a VDL implementation plan and its application		ICAO	10%	CAR/SAM VDL Implementation plan and its applications	Jun-11	Jun-12
D 2.7	C	Monitor VDL implementation trials and its applications		Project D2	0%	Evaluation of results on the trials for the implementation of VDL and its applications	Jun-11	Jun-13
D 2.8	C	Initial transition plan of ground/air ATN application		Project D2	10%	Transition plan for ground air ATN applications	2009	Jun-12
D 2.9	C	Monitor implementation of technology available to facilitate ground and onboard applications		ICAO/States/Territories	10%	Monitor available implementation technology for ATN ground air applications	2008	Jun-13