International Civil Aviation Organization
CAR/SAM Regional Planning and Implementation Group (GREPECAS)
Fifth Meeting of the Air Traffic Management / Communications, Navigation and Surveillance Subgroup (ATM/CNS/SG/5) - ATM Committee
Lima, Peru, 13-17 November 2006

Agenda Item 6: **Matters related to the organization of the ATM Committee**
6.1 Review of the ATM Committee Terms of Reference and Work Programme and its Task Forces
6.2 ATM Committee Future Work Programme

TERMS OF REFERENCE AND WORK PROGRAMME OF THE ATM COMMITTEE

(Presented by the Secretariat)

SUMMARY

This Working Paper presents aspects related to the terms of reference and work programme of the ATM Committee and its task forces and the future work plan, for consideration of the meeting.

References:

- Report of the Thirteenth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS/13)
- GREPECAS Procedures Manual
- AP/ATM/12 Report.

1. Introduction

1.1 During the AP/ATM/12 Meeting, carried out in Lima, Peru, from 15 to 19 May 2006, among other matters, note was taken on the amendment to the Global Air Navigation Plan for CNS/ATM systems, which name was changed to Global Air Navigation Plan (Global Plan). The presentation of this issue highlighted the need to approach the needs of aircraft users at short and mid term, in order to take advantage of the capacities currently available on board of aircraft and ATC infrastructure and technology.

1.2 As a consequence of the new global plan, in relation to the global plan initiatives (GPI) and the current work programme in CAR and SAM Regions, it was agreed to consider new implementation projects for presentation to the GREPECAS ATM/CNS Subgroup, taking into account that in the planning process, tasks should be focused in performance, support the processes of ICAO business plan and consider guidelines from the ICAO Council and ALLPIRG/5 Conclusions. In reply to

the above, Conclusion AP/ATM/12/02 was formulated, where the following seven projects are highlighted: *Optimization of the ATS route structure, Improve demand and capacity balancing, Align upper airspace classification (CAR Region), Implement RNP approaches, Improve ATS Interfacility communication, Improve situational awareness, and Implement flexible use of airspace.*

2. Analysis

2.1 Taking into consideration that one of the tasks assigned by GREPECAS to the ATM Committee is to keep updated the *CAR/SAM Regional Plan for the implementation of the CNS/ATM Systems*, it was deemed pertinent to thoroughly review it, integrating these new projects into the mentioned document. This shall enable a comprehensive discussion at both regions' scope and once a high and adequate level of maturity is reached in the proposals and there is a solid agreement, the CAR/SAM Regions Air Navigation Plan, Doc 8733, would be amended. The only project that has not been contemplated to be developed by the ATM Committee has been the alignment of the upper airspace classification, since it would only correspond to the CAR Region (See WP/10).

2.2 At the time of including these new projects in the regional planning, it was necessary to introduce the pertinent changes at the ATM Committee Work Programme to carry out the new projects, and a natural consequence, it was also necessary to amend the terms of reference and work programme of the current task forces, as well as the proposal to activate new groups in order to execute the proposed work plan. Together with the referred tasks, the initiatives of the global plan associated to each one of them, have been identified.

2.3 It should be mentioned that GREPECAS/13 (Santiago de Chile, 14 to 19 November 2005), when reviewing the work programme and terms of reference of GREPECAS and its contributory bodies, particularly those related to the ATM/CNS Subgroup, took note of a proposal to develop planning documentation for a gradual implementation of the communications, navigation and surveillance infrastructure that would take into account the ATM requirements and therefore the operational requirements of the users in the CAR and SAM Regions.

2.4 The proposal was based on the CNS/ATM planning taking into account the new Global ATM concept, and on the premise that the new ATM systems implementation would be framed within this concept. The proposal required the need for more detailed operational requirements as opposed to the present Air Navigation Plans containing mainly tables of the ATM and CNS system requirements.

2.5 The proposal was also based on the premise that the Subgroup should develop a CAR/SAM strategy for Navigation followed by strategies for communications and surveillance. It was sustained that in order to carry out these new tasks the Subgroup needed to add tasks to develop such strategies and to consider the possibility of modifying the methodology of the Subgroup to allow it to form task groups comprising ATM and CNS experts to perform these new proposed tasks, an to consider extending the plenary sessions to allow for additional coordination of the independent work of each ATM and CNS Committees, agreeing that these proposals should be presented for consideration of the ATM/CNS Subgroup.

2.6 As it may be noted in the ATM Committee work programme, several tasks, particularly those related with communications, navigation and surveillance and automation, which is in progress, would be executed jointly with the CNS Committee. In this connection, the ATM Committee shall review each one of them, and if approved, these would be submitted to the CNS Committee for its study.

2.7 You may also note that each one of the tasks is accompanied by an initial work, which shall be analysed by the Committee and if such were the case, to introduce the changes deemed pertinent, as well as the possible dates of implementation.

2.8 It should be recalled that GREPECAS has deemed pertinent that the planning of ATFM tasks and PBN be developed in a harmonious manner between CAR and SAM Regions, recognising at the same time that the implementation shall be executed according to the operational needs of each Region. In this connection, some models of action plan have been associated to the work programme presented, which would serve as reference material for the CAR and SAM Regional implementation groups.

2.9 GREPECAS has requested the Subgroups and Committees to use project management techniques in the organization of the work programme. However, and in order to facilitate the reading of this new programme, it has been presented in word format, for easy reading. Once it is defined, it shall be presented to GREPECAS in the format requested.

2.10 In conclusion, in the light o the above, the meeting shall review **Appendix A** to this working paper, where the new ATM Committee Work Programme is reflected, as well as the models of action plan for the different tasks, to issue comments and if such were the case, to introduce the changes deemed pertinent.

3. **Suggested action**

3.1 Keeping in mind the aforementioned, the meeting is invited to:

a) Review Appendix A to this working paper, with a view to review the terms of reference and work programme of the ATM Committee and those corresponding to the task forces,

b) Establish priorities and dates of finalization of the tasks assigned; and

c) If such were the case, establish the necessary task forces to develop the tasks assigned which have been considered as of most priority.

- - - - - - - -

APPENDIX A

TERMS OF REFERENCE AND WORK PROGRAMME OF THE ATM COMMITTEE

1. **Terms of reference**

a) Assist and guide CAR and SAM States/Territories/International Organisations in the implementation of ATS safety management programmes.

b) Study, analyse, propose, and do the follow-up of projects that allow the optimisation of Airspace Organisation and Management (AOM), Air Traffic Services (ATS), Air Traffic Flow Management (ATFM), and Search and Rescue (SAR) in the CAR/SAM Regions, with a view to comply with ICAO strategic objectives, based on Global Plan Initiatives (GPI).

c) Be informed and analyse guidance materal prepapred on ATM systems by other ICAO experts group for its posible adoption in the CAR and SAM Regions.

Number	Task description	Priority	Date	
			Start	End
General				
ATM-1	Based on the methodology standardised by the ICAO Council, identify, assess, and report air navigation deficiencies, assigning priorities.	N/A	Permanent	N/A
ATM- 2	Monitor the corresponding ATM parts of the CAR/SAM Regional CNS/ATM Implementation Plan, and keep them updated as a working document.	N/A	Permanent	N/A
ATM-3	Analyse and evaluate 300 ft or more large-height deviations (LHD)	A	Permanent	N/A
ATM-4	Identify activities for the implementation of new meteorological services related to both training and the implementation of the new CNS/ATM systems. Note: Joint MET/ATM Task Force (AERMETSG Decision 6/24)	B	2005	2009

Number	Task description	Priority	Date	
			Start	End
Performance-based navigation (PBN) - GPI 5, 7, 8, 10, 11, 12, 20, 21				
ATM-5	Prepare an RNAV and RNP implementation project, taking into account the ICAO performance-based navigation concept. See work programme PBN/TF	A	PHASE 1 2005 PHASE 2 2011	 2010 2015
ATM-6	Analyse and prepare guidance material the application of GNN to support all flight phases. See task details.	Jointly with CNSC	2006	2007
Flexible use of airspace - GPI 1				
ATM-7	Prepare a project for the implementation of the flexible use of airspace, based on the Global Air Navigation Plan guidelines (see FUA/TF work programme). (See work programme del FUA/TF)	B		
Air traffic flow management (ATFM)- GPI 6, 7				
ATM-8	Prepare a project for the implementation of CAR and SAM harmonized inter-regional air traffic flow management (ATFM), based on the Global Air Navigation Plan guidelines (see the ATFM/TF work programme). (See work programme del ATFM/TF) *Note:* *Stage: airport strategic* *Stage 2: airport tactical* *Stage 3: airspace strategic* *Stage 4: airspace tactica* *Stage 5: centralised ATFM*	A	Phase 1 2007 Phase 2 2008 Phase 3 2009 Phase 4 2011 Phase 5 2006	 2008 2009 2010 2012 2015
Communication and surveillance – GPI 1, 6, 7, 9, 17, 18, 19, 22				
ATM-9	Develop a project for the implementation of communication and surveillance system improvements, based on Global Air Navigation Plan guidelines (See work programme COM/SUR/TF).	A Together with CNSC	2006	

Number	Task description	Priority	Date	
			Start	End
ATM automation - GPI 6, 7, 9, 17, 18, 19				
ATM-10	Develop a project for the implementation/integration of ATM automated systems, based on Global Air Navigation Plan guidelines (See work programme AUTO/TF)	Together with CNSC	2006	2005
Search and rescue				
ATM-11	Develop a quality assurance programme for search and rescue services (SAR), according to the IAM/SAR manual, for its future implementation in the CAR/SAM Regions.	B	August 2003	ATMC/6

TERMS OF REFERENCE AND WORK PROGRAMME OF THE PERFORMANCE-BASED NAVIGATION TASK FORCE (PBN/TF)

TERMS OF REFERENCE

Carry out specific studies and develop guidance material for RNAV/RNP implementation in the en-route, terminal, and approach flight phases, taking into account the performance-based navigation (PBN) concept, according to the ICAO Strategic Objectives and Global Plan Initiatives (GPI) on this matter (GPI 5, 7, 10, 11, 12, 20, 21)

WORK PROGRAMME

a) Develop a Model PBN Implementation Action Plan for En-Route Operations, taking into account the CAR/SAM Roadmap, with a view to optimising the ATS route structure. See task details
Note: Implementation by CAR/SAM implementation groups.

b) Develop a Model Action Plan for PBM Implementation in the TMA. ~~Ver detalle de las tareas.~~ See task details
Note: Implementation by CAR/SAM States.

c) Develop a Model Action Plan for PBN Implementation for approach operations.
See task details Note: Implementation by CAR/SAM States.

d) Develop guidelines for PBN implementation for TMA and approach operations. See guidelines content. ~~Pag 17~~

e) Analyse the application of GNSS to support all flight phases. See task details.

f) Establish training requirements. See training topics.

g) Verify the status of implementation of WGS-84.

h) Follow-up of PBN implementation for en-route, TMA, and approach operations to ensure its harmonisation intra- and inter-regionally, as well as among the States involved.

i) Submit the draft PBN project to the ATM Committee.

Back to work programme ATM Committee/

Model PBN Action Plan for En-Route Operations			
	Start	**End**	**Responsible party**
1 Airspace structure			
1.1 Collect air traffic data in order to identify major traffic flows			
1.2 Analysis of fleet navigation capacity			
1.3 Development of an airspace structure proposal based on PBN CONOPS			
1.4 Coordinate new structure with users			
2 Carry out cost-benefit analysis			
2.1 Carry out preliminary cost-benefit analysis			
2.2 Carry out final cost-benefit analysis			
3 Safety assessment			
3.1 Develop a safety assessment model			
3.2 Develop a data collection programme for safety assessment			
3.3 Review summary of available data (non-compliant aircraft, anomalous aircraft, etc.)			

Model PBN Action Plan for En-Route Operations			
	Start	**End**	**Responsible party**
3.4 Review the history of errors related to ATC clearances, and assess the possible impact on RNAV/RNP.			
3.5 Confirm that RNAV/RNP risk parameter models are consistent with the airspace where RNAV/RNP will be applied.			
3.6 Conduct the analysis to forecast occupancy after RNAV/RNP implementation.			
3.7 Report large deviations to the monitoring agency (including route assignment errors).			
3.8 Lateral navigation performance monitoring required for initial safety analysis.			
3.9 Provide representative information on traffic flow to monitoring agency (30-day sample, repeated annually).			
3.10 Prepare initial safety assessment.			
3.11 Prepare final safety assessment.			
4 Coordinate with industry, national and international organisations			
4.1 Establish implementation date			
4.2 Coordinate with military authorities			
4.3 Establish the documentation format for the CAR/SAM RNAV/RNP web page.			
4.4 Report to the ATM Committee			

Model PBN Action Plan for En-Route Operations			
	Start	**End**	**Responsible party**
5 ATC automated systems			
5.1 Assess the impact of PBN implementation on ATC automated systems			
5.2 Implement the necessary changes in ATC automated systems			
6 Aircraft and operator approval			
6.1 Assess available navigation specifications, taking into account existing and planned CNS infrastructure			
6.2 Publish the operational approval process			
6.3 Establish the approved operations target (% of operations)			
6.4 Assess approved operations			
7 Standards and procedures			
7.1 Assess regulations on use of the GNSS			
7.2 Develop and publish AIC notifying about plans to implement PBN			
7.3 Publish AIP Supplement containing applicable standards and procedures			
7.4 Review operational model of ACCs involved			
7.5 Finalise changes in letters of agreement			

Model PBN Action Plan for En-Route Operations			
	Start	**End**	**Responsible party**
7.6 Make periodical reviews of actions related to ACAS/TCAS advisories for RNAV/RNP operations			
7.7 Develop and harmonise regional documentation			
7.8 Publish ATC policies and procedures in the internet page			
7.9 Inform about procedures to accommodate domestic non-RNAV/RNP aircraft, when applicable			
7.10 Identify transition areas and procedures, if applicable			
7.11 Conduct ATC simulations to identify workload/operational factors, if necessary, and report simulation activities to the ATM Committee			
7.12 Provide procedures to deal with non-approved aircraft (including ferry, humanitarian, maintenance aircraft)			
7.13 Review fuel and environmental management practices and procedures			
8 Training			
8.1 Prepare training documentation for pilots, dispatchers, and maintenance personnel			
8.2 Prepare training documentation for air traffic controllers and AIS operators			
8.3 Conduct training (air traffic controllers, AIS operators)			
8.4 Holding of seminars			

Model PBN Action Plan for En-Route Operations			
	Start	**End**	**Responsible party**
9 Implementation decision			
9.1 Assess availability of operational documentation (ATS, OPS/AIR)			
9.2 Assess approved operations (compliance with the established operational % – see 6.3)			
9.3 Complete safety assessment			
9.4 Publish trigger NOTAM			
10 Monitor system performance			
10.1 Prepare programme for post-implementation follow-up of operations			
10.2 Implement programme for post-implementation follow-up of operations			

Back to work programme PBN/TF

Back to work programme ATM Committee/

Model TMA PBN Action Plan			
	Start	**End**	**Responsible party**
1 Airspace structure			
1.1 Collect air traffic data in order to identify major air traffic flows			
1.2 Analyse the navigation capability of the aircraft fleet that operates in the TMA			
1.3 Develop an airspace structure proposal for TMA, including draft SIDs and STARs			
1.4 Coordinate new structure with users			
2 ATC simulation			
2.1 Definition of scenarios and metrics			
2.2 Quick-time simulation, if necessary (specific tool required)			
2.2.1 Development of data model (assess peak days and hours)			
2.2.2 Generation of scenario database			
2.2.3 Validation of data model			
2.2.4 Drafting of quick-time simulation reports			

Model TMA PBN Action Plan			
	Start	**End**	**Responsible party**
2.3 Real-time simulation			
2.3.1 Scenario data collection			
2.3.2 Generation of scenario database			
2.3.3 Data collection and analysis			
2.3.4 Preparation of real-time simulation reports			
3 Prepare cost-benefit analysis in cooperation with users and operators			
3.1 Prepare preliminary cost-benefit analysis			
3.2 Prepare final cost-benefit analysis			
4 Coordinate with industry and international organisations as necessary (CDM process)			
4.1 Coordinate planned activities with the ATM Committee			
4.2 Establish tentative implementation date with users and operators			
5 Safety assessment			
5.1 Develop a TMA safety assessment model			
5.2 Carry out a data collection programme for safety assessment			

Model TMA PBN Action Plan			
	Start	**End**	**Responsible party**
5.3 Carry out a preliminary safety assessment			
5.4 Carry out the final safety assessment			
6 ATC automated systems			
6.1 Assess the impact of PBN implementation on ATC automated systems			
6.2 Implement the necessary changes in ATC automated changes			
7 Aircraft and operator approval			
7.1 Assess available navigation specifications, taking into account existing and planned CNS infrastructure (ref. PBN manual)			
7.2 Publish operational approval process			
7.3 Establish the approved operations target (% of operations)			
7.4 Information collection programme for operational availability			
7.5 Establish and keep up to date a registry of approved aircraft and operators			
7.6 Assess approved operations			

Model TMA PBN Action Plan			
	Start	**End**	**Responsible party**
8 Standards and procedures			
8.1 Assess the regulations on the use of GNSS (primary and/or supplementary use)			
8.2 Publish AIC notifying about plans to implement PBN (dissemination)			
8.3 Publish AIP Supplement containing applicable standards and procedures			
8.4 Review the operational manual of the ACCs and APPs involved			
8.5 Flight inspection/Publication of SIDs and STARs.			
8.6 Amend letters of operational agreement, if applicable			
9 Training			
9.1 Develop pilot training guidelines			
9.2 Develop training documentation for air traffic controllers and AIS operators			
9.3 Provide training (air traffic controllers, AIS operators)			
9.4 Hold seminars			

Model TMA PBN Action Plan			
	Start	**End**	**Responsible party**
10 Implementation (go/no go) decision			
10.1 Assess availability of operational documentation (ATS, OPS/AIR)			
10.2 Assess approved operations (compliance with the established operational % - see 6.3)			
10.3 Complete safety assessment			
10.4 Publish trigger NOTAM			
11 Monitor system performance			
11.1 Develop programme for post-implementation follow-up of operations			
11.2 Implement programme for post-implementation follow-up of operations			
11.3 Report implemented activities to ATM Committee			

Back to work programme PBN/TF/

Back to work programme ATM Committee/

Model PBN Action Plan for Approach Operations			
	Start	**End**	**Responsible party**
1 Airspace structure			
1.1 Analysis of the navigation capability of the aircraft fleet that operates in the TMA			
1.2 Establishment of implementation priorities based on the operational benefits to be derived (air traffic demand, meteorology, fleet capability, etc.)			
1.3 Develop RNP-based approach procedures			
1.4 Coordinate new procedures with users			
2 Necessary coordination (CDM process)			
2.1 Coordinate publication of new procedures with users			
3 Safety assessment			
3.1 Develop safety assessment programme			
4 Aircraft and operator approval			
4.1 Assess available navigation specifications, taking into account existing and planned CNS infrastructure (ref. PBN manual)			
4.2 Publish operational approval process			

4.3 Establish and keep up to date a registry of approved aircraft and operators			
5 Standards and procedures			
5.1 Assess the regulations on the use of GNSS (primary and/or supplementary use)			
5.2 Publish AIP Supplement containing applicable standards and procedures			
5.3 Review operational manual of APPs and TWRs involved			
5.4 Review/Flight inspection/Publication of approach procedures			
5.5 Amend letters of operational agreement as applicable			
6 Training			
6.1 Prepare pilot training guidelines			
6.2 Develop training documentation for air traffic controllers and AIS operators			
6.3 Provide training (air traffic controllers, AIS operators)			
6.4 Hold seminars			

Back to work programme PBN/TF/
Back to work programme ATM Committee/

Contents of the PBN TMA and approach guidance material			
	Start	**End**	**Reponsible party**
1 Cost-benefit analysis			
2. Safety assessment			
3. Design of procedures			
4. ATC simulations (real-time and quick-time)			
5. ATC automated systems			
6. Training of air traffic controllers			
7. Approval of aircraft and operators			
8. Design and management of terminal control area			
9. Model regulation on use of GNSS (primary/supplementary means, operational restrictions, etc.)			

Back to work programme PBN/TF/

Back to work programme ATM Committee/

Use of GNSS for PBN operations			
	Start	**End**	**Responsible**
1. Analyse the ground navigation infrastructure required for the operations envisaged in the CAR/SAM PBN Roadmap, based on GNSS technological developments			
2. Analyse the use of GNSS for en-route operations without using precision values; with RNAV-5 (continental airspace) and with RNP-4 (oceanic airspace); for TMA (RNAV 1), and for approaches (RNP 0.3 and RNP AR), with ABAS			
3. Analyse the operational benefits of using SBAS, taking into account the effects of the implementation of GALILEO and the L5 frequency in GPS, likely implementation dates, and the convenience of adding APV operations in the roadmap			

Back to work programme PBN/TF/

Back to work programme ATM Committee/

Topics to consider in PBN training			
	Start	**End**	**Responsible party**
1 Airspace planning			
2 Development of air navigation procedures			
3 Operator approval and airworthiness			
4 Safety assessment and airspace monitoring			

Back to work programme PBN/TF

Back to work programme ATM Committee/

TERMS OF REFERENCE AND WORK PROGRAMME OF THE FLEXIBLE USE OF AIRSPACE TASK FORCE

TERMS OF REFERENCE

Conduct specific studies and develop guidance material for the implementation of the flexible use of airspace, to support the implementation of the CAR/SAM Regional Air Navigation Plan, in keeping with ICAO Strategic Objectives and Global Plan Initiatives on this matter (GPI 1).

WORK PROGRAMME

a) Develop a Model Action Plan for the Flexible Use of Airspace ~~(see task details)~~. (See task details).
b) Develop guidelines for the implementation of procedures for the flexible use of airspace.
c) Develop a model letter of agreement between ATS units and military units or other users.
d) Present the work in progress carried out to the ATM Committee

Back to work programme ATM Committee

Action Plan for the Flexible Use of Airspace			
	Start	**End**	**Responsible party**
1. Establish policies for the use of temporary or permanent restricted airspace, or of special use airspace, including the need to avoid, inasmuch as possible, the adoption of airspace restrictions, especially on a permanent basis.			
2. Assess hazardous, restricted, or prohibited airspaces that affect or could affect air flow, including future requirements, with a view to reducing, inasmuch as possible, temporary or permanent restricted airspace, or special use airspace.			
3.Establish letters of agreement between ATS units and military units or other users, which include procedures for coordination between civil and militare controllers for a more dynamic and flexible use of airspace.			
4. Establish letters of agreement between ATS units and military units or users of restricted airspace, for the activation of restricted airspace when necessary.			
5. Develop the corresponding paths in order to avoid temporary restricted airspace.			
6. Publish in the AIP the deviations required for the activation of temporary restricted airspaces, alerting users on the need to take into account these possible deviations in flight planning.			
7. Hold seminars/meetings with users of restricted airspace in order to show the importance of an optimised use of airspace.			

Back to work programme FUA/TF

Back to work programme ATM Committee

TERMS OF REFERENCE AND WORK PROGRAMME OF THE ATFM TASK FORCE

TERMS OF REFERENCE

Carry out specific studies and develop guidance material for the implementation of an air traffic flow management system, to support the implementation of the CAR/SAM Regional Air Navigation Plan, taking into account ICAO Strategic Objectives and Global Plan Initiatives on this matter (GPI 6 and 7).

WORK PROGRAMME

a) Review the existing ATFM national plans;
b) When developing all its activities, consider, in coordination with the GREPECAS Institutional Aspects Task Force, the institutional aspects involved in a multinational environment;
c) Review ATFM technical and operational aspects;
d) Prepare the necessary ATFM documentation for the CAR/SAM Regions;
e) Harmonise ATFM implementation plans between the CAR and SAM Regions, as well as with other ICAO Regions.
f) Develop a model Action Plan for the implementation of the Airport Strategic ATFM and the corresponding guidelines for FMU or FMP implementation (See task details)
g) Develop a model Action Plan for the implementation of the Airport Tactical ATFM and the corresponding guidelines for the incorporation of new procedures applicable to FMUs or FMPs (See task details)

h) Develop a model Action Plan for the implementation of the Airspace Strategic ATFM and the corresponding guidelines for the incorporation of new procedures applicable to the FMUs or FMPs. (See task details)

i) Develop a model Action Plan for the implementation of the Airspace Tactical ATFM and the corresponding guidelines for the incorporation of new procedures applicable to FMUs or FMPs. (See task details)

j) Develop a model Action Plan for the implementation of a centralised ATFM in the CAR/SAM Regions (see task details). (See task details)

k) Follow-up of ATFM implementation to ensure its harmonisation intra- and inter-regionally, as well as among the States involved.
l) Establish ATFM training requirements.
m) Submit the draft ATFM project to the ATM Committee.

Back to work programme ATM Committee/

Stage 1 – Model Action Plan for the implementation of airport strategic ATFM, to be used by CAR/SAM States and International Organisations			
Task description	**Start**	**End**	**Responsible party (designate person or office in charge)**
1. Analysis of system capacity	**Sep 2007**	**Jun 2008**	
1.1 Identify airports in which there are periods when demand exceeds capacity	Sep 2007	Dec 2007	
1.2 Define and analyse system implementation scenarios	Sep 2007	Mar 2008	
1.3 Define plans for collecting data on flight intention (RPL, Official Airline Guide (OAG), flight tables, etc.	Sep 2007	Dec 2007	
1.4 Establish/adopt methodology for estimating airport capacity	Sep 2007	Dec 2007	
1.5 Estimate the capacity of airports affected and identified in 1.1	Sep 2007	Jun 2008	
1.6 Examine operational factors that affect demand and capacity, with a view to optimising the use of existing capacity	Sep 2007	Jun 2008	
1.7 Determine simulation requirements to optimise airport capacity (see 1.6)	Sep 2007	Jun 2008	
2. Coordinate with industry, national and international organisations	**Sep 2007**	**Jun 2008**	
2.1 Establish a tentative implementation date together with users	Sep 2007	Jun 2008	
2.2 Report to the ATM Committee	N/A	ATMC/7	
3. Infrastructure and database	**Sep 2007**	**Sep 2008**	
3.1 Determine information technology and infrastructure tools required	Sep 2007	Dec 2007	
3.2 Implement the required information technology and infrastructure tools	Dec 2007	Sep 2008	
4. Training	**Sep 2007**	**Dec 2008**	
4.1 Prepare ATFM training plans and material	Sep 2007	Jun 2008	
4.2 Provide training to the personnel involved	Jun 2008	Dec 2008	
4.3 Holding of seminars	Sep 2007	Dec 2008	

5. Policies, standards, and procedures	**Sep 2007**	**Sep 2008**	
5.1 Develop ATFM policies, including those related to procedures for the distribution of airport SLOT to operators conducting scheduled flights, based on airport saturation/congestion forecasts, and taking into account the objective and principles established in appendix AL to item 3 of GREPECAS 13.	Sep 2007	Jun 2008	
5.2 Develop the FMU or FMP procedural manual	Sep 2007	Jun 2008	
5.3 Publish the necessary AIP Supplements/NOTAMs	Jun 2008	Sep 2008	
6. Final implementation decision	**N/A**	**Dec 2009**	
6.1 Review the factors affecting the implementation decision	**N/A**	Sep 2008	
6.2 Declare the pre-operational implementation within the defined area	**N/A**	Sep 2008	
6.3 Declare the definitive pre-operational implementation within a defined area	**N/A**	Dec 2009	
7. Monitor system performance	**Sep 2008**	**Dec 2009**	
7.1 Prepare the programme for post-implementation follow-up of airport strategic ATFM	Sep 2008	Dec 2008	
7.2 Implement the programme for post-implementation follow-up of airport strategic ATFM	Dec 2008	Dec 2009	
Tentative date for pre-operational implementation	**N/A**	**Dec 2008**	
Tentative date for definitive implementation	**N/A**	**Dec 2009**	

Back to work programme ATFM/TF/

Back to work programme ATM Committee/

Stage 2 –Model Action Plan for Airport Tactical ATFM, to be used by CAR/SAM States and International Organisations			
Task description	**Start**	**End**	**Responsible party (designate person or office in charge**
1. System capacity analysis	**Sep 2008**	**Jun 2009**	
1.1 Identify airports in which there are periods when demand exceeds capacity and strategic management is inadequate (airports with significant demand for non-scheduled flights)	Sep 2008	Dec 2008	
1.2 Define and analyse system implementation scenarios	Sep 2008	Mar 2009	
1.3 Define plans for collecting data on flight intention (FPL, RPL, Official Airline Guide (OAG), flight tables, etc.)	Sep 2008	Dec 2008	
1.4 Establish/adopt a methodology to estimate airport capacity, if not already defined in phase 1	Sep 2008	Dec 2008	
1.5 Estimate the capacity of airports affected and identified in 1.1	Sep 2008	Jun 2009	
1.6 Examine the operational factors that affect demand and capacity with a view to optimising the use of existing capacity	Sep 2008	Jun 2009	
1.7 Determine the need for simulations to optimise airport capacity (see 1.6)	Sep 2008	Jun 2009	
2. Coordinate with industry, national and international organisations	**Sep 2008**	**Jun 2009**	
2.1 Establish implementation date together with users	Sep 2008	Jun 2009	
2.2 Report to the ATM Committee	N/A	ATMC/8	
3. Infrastructure and database	**Sep 2008**	**Sep 2009**	
3.1 Determine required information technology and infrastructure tools	Sep 2008	Dec 2008	
3.2 Implement required information technology and infrastructure tools	Dec 2008	Sep 2009	

4. Training	**Sep 2008**	**Dec 2009**	
4.1 Prepare ATFM training plans and material	Sep 2008	Jun 2009	
4.2 Provide training to the personnel involved	Jun 2009	Dec 2009	
4.3 Holding of seminars	Sep 2008	Dec 2009	
5. Policies, standards, and procedures	**Sep 2008**	**Sep 2009**	
5.1 Develop ATFM policies, including those related to procedures for the distribution of airport slots to operators conducting scheduled and non-scheduled flights, based on airport saturation/congestion forecasts, and taking into account the objective and principles established in appendix AL to item 3 of GREPECAS 13.	Sep 2008	Jun 2009	
5.2 Include new procedures in the FMU or FMP procedural manual (see phase 1)	Sep 2008	Jun 2009	
5.3 Publish the necessary AIP Supplements/NOTAMs	Jun 2009	Sep 2009	
6. Final implementation decision	**N/A**	**Dec 2010**	
6.1 Review the factors that affect the implementation decision	**N/A**	Sep 2009	
6.2 Declare the pre-operational implementation within the defined area	**N/A**	Sep 2009	
6.3 Declare the definitive operational implementation within the defined area	**N/A**	Dec 2010	
7. Monitor system performance	**Sep 2009**	**Dec 2010**	
7.1 Prepare the programme for post-implementation follow-up of airport tactical ATFM	Sep 2009	Dec 2009	
7.2 Implement the programme for post-implementation follow-up of airport tactical ATFM	Dec 2009	Dec 2010	
Tentative date for pre-operational implementation	**N/A**	**Dec 2009**	
Tentative date for definitive implementation	**N/A**	**Dec 2010**	

Back to work programme ATFM/TF/

Back to work programme ATM Committee

Stage 3 – Model Action Plan for airspace strategic ATFM, to be used by CAR/SAM States and international organisations			
Description of tasks	**Start**	**End**	**Responsible party (designate person or office in charge)**
1. Analysis of system capacity	**Sep 2009**	**Jun 2010**	
1.1 Identify airspaces in which there are periods when demand exceeds capacity	Sep 2009	Dec 2009	
1.2 Define and analyse system implementation scenarios	Sep 2009	Mar 2010	
1.3 Define plans to collect data on flight intention (RPL, Official Airline Guide (OAG), flight tables, etc.)	Sep 2009	Dec 2009	
1.4 Establish/adopt a methodology to estimate ATC capacity	Sep 2009	Dec 2009	
1.5 Estimate ATC capacity of airspaces affected and identified in 1.1	Sep 2009	Jun 2010	
1.6 Review operational factors that affect demand and capacity, with a view to optimising the use of existing capacity	Sep 2009	Jun 2010	
1.7 Determine the needs for simulations to optimise ATC capacity (see 1.6)	Sep 2009	Jun 2010	
2. Coordinate with industry, national and international organisations	**Sep 2009**	**Jun 2010**	
2.1 Establish an implementation date together with users	Sep 2009	Jun 2010	
2.2 Report to the ATM Committee	N/A	ATMC/9	
3. Infrastructure and database	**Sep 2009**	**Sep 2010**	
3.1 Determine the required information technology and infrastructure tools	Sep 2009	Dec 2009	
3.2 Implement the required information technology and infrastructure tools	Dec 2009	Sep 2010	

4. Training	**Sep 2009**	**Dec 2010**	
4.1 Prepare ATFM training plans and material	Sep 2009	Jun 2010	
4.2 Provide training to the personnel involved	Jun 2010	Dec 2010	
4.3 Holding of seminars	Sep 2009	Dec 2010	
5. Policies, standards, and procedures	**Sep 2009**	**Sep 2010**	
5.1 Develop ATFM policies, including those related to the procedures for the distribution of airport slots to operators that conduct scheduled flights, based on airspace saturation/congestion forecasts, taking into account the objective and principles established in appendix AL to item 3 of GREPECAS 13.	Sep 2009	Jun 2010	
5.2 Include new procedures in the FMU or FMP procedural manual (see phases 1 and 2)	Sep 2009	Jun 2010	
5.3 Publish the necessary AIP Supplements/NOTAMs	Jun 2010	Sep 2010	
6. Final implementation decision	**N/A**	**Dec 2011**	
6.1 Review the factors that affect the implementation decision	**N/A**	Sep 2010	
6.2 Declare the pre-operational implementation within the defined area	**N/A**	Sep 2010	
6.3 Declare the definitive operational implementation within the defined area	**N/A**	Dec 2011	
7. Monitor system performance	**Sep 2009**	**Dec 2011**	
7.1 Prepare the programme for post-implementation follow-up of the airspace strategic ATFM	Sep 2009	Dec 2010	
7.2 Implement the programme for post-implementation follow-up of the airspace strategic ATFM	Dec 2009	Dec 2011	
Tentative date for pre-operational implementation	**N/A**	**Dec 2010**	
Tentative date for definitive implementation	**N/A**	**Dec 2011**	

Back to work programme ATFM/TF

Back to work programme ATM Committee

Stage 4 – Model Action Plan for airspace tactical ATFM, to be used by CAR/SAM States and international organisations			
	Start	**End**	**Responsible party (designate person or office in charge)**
1. Analysis of system capacity	**Sep 2010**	**Jun 2011**	
1.1 Identify airspaces in which there are periods when demand exceeds capacity and strategic management is inadequate (airspaces with significant demand for non-scheduled flights)	Sep 2010	Dec 2010	
1.2 Define and analyse ATFM system implementation scenarios	Sep 2010	Mar 2011	
1.3 Define plans for the collection of data on flight intention (FPL, RPL, Official Airline Guide (OAG), flight tables, etc.)	Sep 2010	Dec 2010	
1.4 Establish and adopt a methodology for estimating ATC capacity	Sep 2010	Dec 2010	
1.5 Estimate ATC capacity of airspaces affected and identified in 1.1	Sep 2010	Jun 2011	
1.6 Examine operational factors that affect the demand and capacity with a view to optimising the use of existing capacity	Sep 2010	Jun 2011	
1.7 Determine the need for simulations to optimise ATC capacity (see 1.6)	Sep 2010	Jun 2011	
2. Coordinate with industry, national and international organisations	**Sep 2010**	**Jun 2011**	
2.1 Establish an implementation date, together with users	Sep 2010	Jun 2011	
2.2 Report to the ATM Committee	N/A	ATMC/10	
3. Infrastructure and database	**Sep 2010**	**Sep 2011**	
3.1 Determine the required information technology and infrastructure tools	Sep 2010	Dec 2010	
3.2 Implement the required information technology and infrastructure tools	Dec 2010	Sep 2011	
4. Training	**Sep 2010**	**Dec 2011**	
4.1 Prepare ATFM training plans and material	Sep 2010	Jun 2011	

4.2 Provide training to the personnel involved	Jun 2011	Dec 2011	
4.3 Holding of seminars	Sep 2010	Dec 2011	
5. Policies, standards, and procedures	**Sep 2010**	**Sep 2011**	
5.1 Develop ATFM policies, including those related to the procedures for the distribution of airport SLOTS to operators that conduct scheduled and non-scheduled flights, based on airspace saturation/congestion, taking into account the objective and principles established in Appendix AL to item 3 of GREPECAS 13.	Sep 2010	Jun 2011	
5.2 Include new procedures in the FMU or FMP procedural manual (see phases 1, 2 and 3)	Sep 2010	Jun 2011	
5.3 Publish AIP Supplements/NOTAMs	Jun 2011	Sep 2011	
6. Final implementation decision	**N/A**	**Dec 2012**	
6.1 Review the factors that affect the implementation decision	**N/A**	Sep 2011	
6.2 Declare the pre-operational implementation within the area defined	**N/A**	Sep 2011	
6.3 Declare the definitive operational implementation within the area defined	**N/A**	Dec 2012	
7. Monitor system performance	**Sep 2009**	**Dec 2012**	
7.1 Prepare the programme for post-implementation follow-up of airspace tactical ATFM	Sep 2009	Dec 2011	
7.2 Implement the programme for the post-implementation follow-up of airspace tactical ATFM	Dec 2009	Dec 2012	
Tentative date for pre-operational implementation	**N/A**	**Dec 2011**	
Tentative date for definitive implementation	**N/A**	**Dec 2012**	

Back to work programme ATFM/TF

Back to work programme ATM Committee

Stage 5 - Action Plan for a centralised ATFM, to be used by CAR/SAM ATFM Implementation Groups (ATFM/IG)			
Description of tasks	**Start**	**End**	**Responsible party**
1. Analysis of system capacity			
1.1 Identify airports and airspaces in which there are periods when demand exceeds capacity and FMU/FMP management is inadequate			**Estados/States**
1.2 Define and analyse ATFM system implementation scenarios			
1.3 Establish/adopt a methodology for estimating airport and ATC capacity, for its harmonisation at regional level			
1.4 Estimate the capacity of the airports and airspaces affected and identified in 1.1			
1.5 Review the operational factors that affect demand and capacity with a view to optimising the use of existing capacity			
1.6 Determine simulations requirements			
2. Prepare cost-benefit analysis			
2.1 Provide information for the cost-benefit analysis			
2.2 Prepare a preliminary cost-benefit analysis			
2.3 Prepare the final cost-benefit analysis			
3. Coordinate with industry, national and international organisations			
3.1 Establish an implementation date			
3.2 Coordinate with military authorities			
3.3 Establish the documentation format for the CAR/SAM ATFM web page			
3.4 Report to the ATM Committee			
4. Infrastructure and database			
4.1 Determine the required IT and infrastructure tools (see appendix AM to item 3 of GREPECAS/13			
4.2 Prepare the data base format, taking into account the guidelines contained in appendices A and B to item 3 of ATFM/TF/2, and appendix AM to item 3 of GREPECAS/13			

5. Training			
5.1 Prepare ATFM training plans and material			
5.2 Provide training (pilots, dispatchers, air traffic controllers, MET, AGA/AOP, AIS operators, etc.)			
5.3 Holding of seminars			
6. Policies, standards, and procedures			
6.1 Develop model ATFM policies, including for ATC SLOT distribution, taking into account the objective and principles established in appendix AL to item 3 of GREPECAS/13			**ATFM/IG**
6.2 Establish ATFM policies, including for ATC SLOT distribution, taking into account the objective and principles established in appendix AL to item 3 of GREPECAS/13			**State and international organisations**
6.3 Propose the necessary changes to the operational concept			
6.4 Develop the centralised ATFM procedural manual, including ATFM messages			
6.5 Develop the FMU or FMP procedural manual for use in a centralised ATFM environment			
6.6 Develop models of the necessary AIP Supplements/NOTAMs			**ATFM/IG**
6.7 Publish the necessary AIP Supplements/NOTAMs			**State and international organisations**
6.8 Develop a proposed amendment to Document 7030 if necessary			
6.9 Post policies and procedures on the internet page			
6.10 Review ATM contingency plans related to ATFM			
6.11 Review fuel and environmental management practices and procedures			
7. System verification			
7.1 Establish system performance parameters (hardware, software, communication links, etc.)			
7.2 Complete the tests and evaluations of system performance parameters (hardware, software, communications links, etc.)			
7.3 Complete the tests and evaluations of ATFM procedures			
7.4 Complete system evaluation			

8. Final implementation decision			
8.1 Review the factors that affect the implementation decision			
8.2 Declare the definitive operational implementation within the defined area			
9. Monitor system performance			
9.1 Prepare the programme for post-implementation follow-up of the centralised ATFM			
Tentative date for pre-operational implementation			
Tentative date for definitive implementation			

Back to work programme ATFM/TF

Back to work programme ATM Committee

TERMS OF REFERENCE AND WORK PROGRAMME OF THE COMMUNICATIONS AND SURVEILLANCE TASK FORCE (COM/SUR/TF)

TERMS OF REFERENCE

Conduct specific studies and develop guidance material for the implementation of communication and surveillance systems to support the implementation of the CAR/SAM Regional Air Navigation Plan, in keeping with ICAO Strategic Objectives and Global Plan Initiatives (GPI) on this matter (GPI 6, 7, 9, 17, 18, 19 and 22)

WORK PROGRAMME

a) dentify ATM requirements and develop a strategy for the implementation of communication and surveillance improvements in the CAR/SAM Regions ~~(see task details)~~ (See task details)

b) Develop a model Action Plan for the implementation of communication and surveillance capacity improvements for en-route and terminal area operations ~~(see task details)~~ (See task details)

c) Follow-up of the implementation of communication and surveillance capacity improvements for en-route and terminal area operations

Back to work programme ATM Committee/

TERMS OF REFERENCE AND WORK PROGRAMME OF THE AUTOMATION TASK FORCE (AUTO/TF)

TERMS OF REFERENCE

Conduct specific studies and develop guidance material for the implementation of automated ATM systems to support the implementation of the CAR/SAM Regional Air Navigation Plan, in keeping with ICAO Strategic Objectives and Global Plan Initiatives (GPI) on this matter (GPI 6, 7, 9, 17, 18 and 19)

WORK PROGRAMME

a) Identify ATM requirements and develop a strategy for the integration/implementation of automated systems in the CAR/SAM Regions, taking into account GREPECAS guidelines (Appendix K to Agenda item 3 of GREPECAS/12) (See task details)

b) Develop and document an action plan that will permit the interoperable implementation of new ATM automated systems, as well as the integration among existing systems. (See task details)

c) Develop regional guidance material and guidelines for the exchange of data among ATM units, taking into account the communication platform

d) Follow-up of the implementation of the action plan that will permit the interoperable implementation of new automated ATM systems, as well as the integration among existing systems

Back to work programme ATM Committee/

Communication and surveillance strategy			
	Start	**End**	**Responsible party**
1. Obtain, complete and process information on: a) Existing facilities and equipment in CAR/SAM States and international organisations; b) Existing regional planning and documentation; c) Aeronautical message handling system (AMHS); d) Very high frequency digital link (VDL); e) Air traffic inter-facility data communication (AIDC); f) Automatic dependent surveillance contract (ADS/C); g) Automatic dependent surveillance-broadcast (ADS/B); h) Multilateralism, etc.			
2 Identify the communication requirements to effectively support centralised air traffic flow management in its link with: a) Other centralised ATFM systems; b) FMUs, FMPs, and/or ATS units involved; c) Operators and users; d) Airport authorities; e) Meteorological authorities; f) Aeronautical information services; g) ADS and radar data transmission for ATFMC/ADS			
3. Analyse current and planned scenarios of the ATS operational environment, with a view to determining the operational requirements for improving communication and surveillance systems in the short and medium term, as well as other operational requirements to meet future ATM expectations, using, *inter alia*, the following tools: a) Aeronautical message handling system (AMHS); b) Very high frequency digital link (VDL); c) Air traffic inter-facility data communications (AIDC); d) Automatic dependent surveillance contract (ADS/C); e) Automatic dependent surveillance-broadcast (ADS/B); f) Multilateralism, etc.			
4. Conduct a cost-benefit analysis of the various communication and surveillance system options available, comparing the current structure with the improvement to be obtained with the new systems.			

The analysis should also consider the existence of two or more technologies to meet the same operational requirement (*e.g.* multilateralism or ADS/B)			
5. Develop a strategy for the implementation of communication and surveillance improvements in the CAR/SAM Regions			

Back to tasks related to COM/SUR/

Back to work programme ATM Committee/

Communication and surveillance action plan			
	Start	**End**	**Responsible party**
1. Define national communication and surveillance requirements			
1. Based on the regional communication and surveillance improvement strategy, analyse the current and planned national scenarios of the ATS operational environment, with a view to determining the operational requirements for communication and surveillance system improvements in the short and medium term, as well as other operational requirements to meet future ATM expectations, using, *inter alia*, the following tools: a) Aeronautical message handling system (AMHS); b) Very high frequency digital link (VDL); c) Air traffic inter-facility data communications (AIDC); d) Automatic dependent surveillance contract (ADS/C); e) Automatic dependen surveillance-broadcast (ADS/B); f) Multilateralism, etc.			
2. Cost-benefit analysis			
2.1 Carry out the preliminary cost-benefit analysis			
2.2 Carry out the final cost-benefit analysis			
3 Airspace structure			
3.1 Develop an airspace structure proposal based on the new communication and surveillance tools			
3.2 Analysis of the data link capacity of the fleet			
3.3 Coordinate the new structure with the users			
4 ATC simulation			
4.1 Determine ATC simulation requirements to validate the proposed airspace structure (see 3.1)			

4.2 Carry out the necessary simulations			
5 Coordinate with industry and international organisations as required			
5.1 Coordinate planned activities with the ATM/CNS Subgroup			
5.2 Establish, together with the users, a tentative implementation date			
6 Safety assessment			
6.1 Develop a safety assessment model			
6.2 Develop a data collection programme for safety assessment			
6.3 Carry out the preliminary safety assessment			
6.4 Carry out the final safety assessment			
7 ATC automated systems			
7.1 Assess the impact of the implementation of new communication and surveillance technologies on ATC automated systems			
7.2 Implement the necessary changes to ATC automated systems			
8 Aircraft and operator approval			
8.1 Assess available data links			
8.2 Publish the operational approval process			
8.3 Establish the approved operations goal, if applicable (% of operations)			
8.4 Programme for collecting information on operational availability			
8.5 Establish and maintain up to date a registry of approved aircraft and operators			
8.6 Assess approved operations			
9 Standards and procedures			
9.1 Publish AIC notifying about plans to implement the new communication and/or surveillance technology (CPDLC, ADS/B, ADS/C, etc.)			

9.2 Publish AIP Supplement containing applicable standards and procedures			
9.3 Review the operational manual of the ACCs and APPs involved			
9.4 Amend the letters of operational agreement			
10 Training			
10.1 Develop guidelines for pilot training			
10.2 Develop training documentation for air traffic controllers and AIS operators			
10.3 Provide training (air traffic controllers, AIS operators)			
10.4 Hold seminars			
11 Implementation decision (go/no go)			
11.1 Assess the availability of operational documentation (ATS, OPS/AIR)			
11.2 Assess approved operations (compliance with the % of operations established)			
11.3 Complete safety assessment			
11.4 Publish trigger NOTAM			
12 Monitor system performance			
12.1 Develop a post-implementation follow-up programme			
12.2 Implement the post-implementation follow-up programme			

Back to tasks related to COM/VIG/
Back to work programme ATM Committee/

Automation strategy			
	Start	**End**	**Responsible party**
1. Obtain, complete, and process information on: a) Existing facilities and equipment in CAR/SAM States and international organisations, especially in adjacent airspaces; b) Existing regional planning and documentation; c) New ATM automation tools (minimum safe altitude warning, conflict prediction, conflict alert, conflict resolution advisory, path conformity control, functional integration of ground and aircraft systems) d) Flight plan processing system (FDPS); e) Sistema de procesamiento de datos radar (RDPS) y de vigilancia ATS por ADS e intercambio de datos radar/ADS, incluyendo monoradar, multiradar y compartición de datos radar/System for processing radar data (RDPS) and ATS ADS surveillance data, and exchanging radar/ADS data, including monoradar, multiradar, and radar data sharing; f) Automated digital communications, including radar control transfer, automated hand-off, AIDC, CPDLC, etc.; g) Implementation of cooperative decision-making aspects for other ATM requirements; h) Implementation of AIS data banks; i) Functional integration of ground systems with aircraft systems; j) Process to ensure the quality and timely distribution of aeronautical information; k) Implementation of MET data banks; l) Availability of meteorological information to support ATM systems, including: - D-ATIS, D-VOLMET and other data (volcanic ash, tropical cyclones, storms, clear air turbulence, icing, wind shear, etc) ; - MET information of downlink ATS messages (upper wind fields, real-time wind profiles, etc).			
2. Analyse current and planned scenarios of the ATS operational environment, with a view to determining the operational requirements for short- and medium-term integration of existing automated systems, as well as other operational requirements to meet future ATM expectations.			
3. Prepare a cost-benefit analysis for the implementation/integration of automated ATM systems.			

4. Develop bilateral or multilateral operational agreement models, as appropriate, between States/Territories/International Organisations in adjacent airspaces and regions, for ATM automated system trials and operational implementation/integration.			
5. Develop a strategy for the integration/implementation of automated systems in the CAR/SAM Regions, taking into account GREPECAS guidelines (Appendix K to Agenda Item 3 of GREPECAS 12), including the following aspects: a) Information obtained and processed in 1, 2 and 3, showing current and planned ATS operational scenarios b) Gradual implementation, considering the level of automation required according to air traffic volume and complexity, taking into account: - New tools (minimum safe altitude warning, conflict prediction, conflict alert, conflict resolution advisory, path conformity control, functional integration of ground and aircraft systems); - Flight plan processing systems (FDPS); - System for processing radar data (RDPS) and ATS ADS surveillance data, and for exchanging radar/ADS data, including monoradar, multiradar and radar data sharing; - Automated digital communications, including radar control transfer, automated hand-off, AIDC, CPDLC, etc.; - Implementation of collaborative decision-making aspects for other ATM requirements, according to the global ATM operational concept; - Implementation of AIS data banks; - Functional integration of ground systems and aircraft systems; - Processes to ensure the quality and timely distribution of aeronautical information; - Implementation of MET data banks; - Availability of meteorological information to support ATM systems, including: -- D-ATIS, D-VOLMET and other information (volcanic ash, tropical cyclones, storms, clear air turbulence, icing, wind shear, etc.) using downlink ADS messages; -- MET information of downlink ADS messages (upper wind fields, real-time wind profiles, etc.)			

Back to task related to Automation tasks

~~Back to task related to Automation tasks~~

Back to work programme ATM Committee

Automation Action Plan~~Automation Action Plan~~			
	Start	**End**	**Responsible party**
1. Define national automation requirements			
1.1 Based on the regional automation strategy, analyse current and planned national scenarios of the ATS operational environment, with a view to determining the operational requirements for short- and medium-term integration of existing automated systems, as well as other operational requirements to meet future ATM expectations			
2. Cost-benefit analysis			
2.1 Develop the preliminary cost-benefit analysis			
2.2 Develop the final cost-benefit analysis			
3 Airspace structure			
3.1 Develop an airspace structure proposal based on the new automation tools			
3.2 Coordinate the new structure with the users			
4 ATC simulation			
4.1 Determine ATC simulation requirements to validate the proposed airspace structure (see 3.1)			
4.2 Carry out the necessary simulations			
5 Coordinate with industry and international organisations as required			
5.1 Coordinate planned activities with the ATM/CNS Subgroup			
5.2 Establish a tentative implementation date with the users			

6 Safety assessment			
6.1 Develop a safety assessment model			
6.2 Develop a programme of data collection for safety assessment			
6.3 Carry out a preliminary safety assessment			
6.3 Carry out the final safety assessment			
7 Standards and procedures			
7.1 Review the operational manual of the ACCs and APPs involved			
7.2 Amend the letters of operational agreement			
8 Training			
8.1 Develop training documentation for air traffic controllers and AIS operators			
8.2 Provide training (air traffic controllers, AIS operators)			
9 Monitor system performance			
9.1 Develop a post-implementation follow-up programme			
9.2 Implement the post-implementation follow-up programme			

(See work programme AUTO/TF)

~~Back to work programme ATM Committee~~
~~/Return to the work programme of the ATM Committee~~Back to work programme ATM Committee/

Global Plan Initiatives and their relationship with the main groups

GPI		En-route	Terminal area	Aerodrome	Ancillary infrastructure
GPI-1	Flexible use of airspace	X	X		
GPI-2	Reduced vertical separation minima	X			
GPI-3	Harmonisation of level systems	X			
GPI-4	Uniform classification of upper airspace	X			
GPI-5	Performance-based navigation	X	X	X	
GPI-6	Air traffic flow management	X	X	X	
GPI-7	Dynamic and flexible management of ATS routes	X	X		
GPI-8	Collaborative airspace design and management	X	X		
GPI-9	Situational awareness	X	X	X	X
GPI-10	Terminal area design and management		X		
GPI-11	SIDs and STARs with RNP and RNAV		X		
GPI-12	FMS-based arrival procedures		X		X
GPI-13	Aerodrome design and management			X	
GPI-14	Runway operations			X	

GPI		En-route	Terminal area	Aerodrome	Ancillary infrastructure
GPI-15	Maintain the same operational capacity under IMC and VMC conditions		X	X	X
GPI-16	Decision-making support systems	X	X	X	X
GPI-17	Implementation of data link applications	X	X	X	X
GPI-18	Aeronautical information	X	X	X	X
GPI-19	Meteorological systems WGS-84	X	X	X	X
GPI-20	WGS-84	X	X	X	X
GPI-21	Navigation systems	X	X	X	X
GPI-22	Communication network infrastructure	X	X	X	X
GPI-23	Aeronautical radio frequency spectrum	X	X	X	X

Back to work programme ATM Committee/

ICAO STRATEGIC OBJECTIVES

CONSOLIDATED VISION AND MISSION STATEMENT

The International Civil Aviation Organization, a specialised United Nations agency, is the body that regulates civil aviation worldwide.

ICAO endeavours to achieve its vision of safe, protected and sustainable civil aviation development, through the cooperation of its member States.

To achieve this vision, the Organization has established the following strategic objectives for the 2005-2010 period.

A Safety – *Enhance civil aviation safety worldwide*
B Security – Enhance civil aviation protection worldwide
C Environmental protection – *Minimise the negative effects of global civil aviation on the environment*
D Efficiency – *Improve the efficiency of aeronautical operations*
E Continuity – *Continued aeronautical operations*
F Rule of the law – *Strengthen international civil aviation legislation*

Strategic objective A: Safety – *Enhance civil aviation safety worldwide*

1 Enhance civil aviation safety worldwide through the following measures:

2 Identify and monitor the current types of safety risks facing civil aviation, and prepare and implement an effective and relevant global response to emerging risks.

3 Ensure the timely application of ICAO provisions, continuously monitoring the progress made by the States in their compliance.

4 Conduct aviation safety surveillance audits to identify deficiencies and encourage their resolution by States.

5 Develop global plans to correct the causes of deficiencies.

6 Assist the States in the resolution of deficiencies through regional corrective plans and the creation of regional or sub-regional safety surveillance organisations.

7 Encourage the exchange of information among States in order to foster mutual confidence in the level of aviation safety among States and expedite the enhancement of safety surveillance.

8 Promote a timely resolution of safety-critical problems observed by the regional planning and implementation groups (PIRGs).

9 Support the implementation of safety management systems in all safety-related disciplines in all States.

10 Assist States to enhance safety through technical cooperation programmes, and drawing the attention of donors and financial organisations to critical needs.

Strategic objective B: Security – *Enhance civil aviation protection worldwide*

1 Enhance civil aviation protection worldwide through the following measures:

2 Identify and monitor the current types of threats to security, and prepare and implement an effective and relevant global response to emerging threats.

3 Ensure the timely implementation of ICAO provisions, continuously monitoring the progress made by States in their compliance.

4 Carry out security audits to identify deficiencies, and encourage their resolution by States.

5 Develop, adopt, and promote new or amended measures to improve the protection of travellers worldwide, while promoting efficient procedures for crossing borders.

6 Develop and maintain up to date the security teaching material and training.

7 Promote the exchange of information among States to promote mutual confidence in the level of security.

8 Assist States in the training of all categories of personnel in charge of implementing security measures and strategies, and, when applicable, the certification of said personnel.

9 Assist States to resolve security-related deficiencies through the security mechanism and technical cooperation programmes.

Strategic objective C: Environmental protection – *Minimise the negative effects of global civil aviation on the environment*

Minimise the negative effects of global civil aviation activities on the environment, particularly noise and aircraft engine emissions, through the following measures:

1 Develop, adopt and promote new or amended measures to:

a) limit or reduce the number of individuals affected by significant levels of aircraft noise;
b) limit or reduce the impact of aircraft engine emissions on local air quality; and
c) limit or reduce the impact of greenhouse gases on the global climate.

2 Cooperate with other international organisations, particularly the United Nations Sepco Convention on Climatic Change (CMNUCC) in the task related to the contribution of aviation to global climatic change.

Strategic objective D: Efficiency – *Improve the efficiency of aeronautical operations*

Improve the efficiency of aeronautical operations by resolving the problems that limit the efficient development of global civil aviation, through the following measures:

1 Develop, coordinate, and implement air navigation plans that reduce operational unit costs, facilitate traffic increase (of both passengers and goods), and optimise the use of existing and emerging technologies.

2 Study trends, coordinate planning, and develop guidelines for the States that will contribute to the sustainable development of international civil aviation.

3 Develop guidelines, and assist States in the process of liberalising economic regulations on international air transport, with the proper safeguards.

4 Assist States to improve the efficiency of aeronautical operations through technical cooperation programmes.

Strategic objective E: Continuity – *Maintain the continuity of aeronautical operations*

Identify and address the threats to the continuity of air navigation, through the following measures:

1 Assist States in the resolution of conflicts that hinder air navigation.

2 Respond promptly and positively to alleviate the effects of natural or human events that might interrupt air navigation.

3 Cooperate with other international organisations to prevent air travellers from disseminating diseases.

Strategic objective F: Rule of the law – *Strengthen international civil aviation legislation*

Develop and maintain international aeronautical law up to date in light of the changing needs of the international civil aviation community, through the following measures:

1 Develop international aeronautical law instruments on which the ICAO strategic objectives would be based, and provide a forum for the States to negotiate said instruments.
2 Encourage the States to ratify international aeronautical law instruments.
3 Provide services for the registration of aeronautical agreements, and act as depository of international aeronautical law instruments.
4 Provide mechanisms for the resolution of civil aviation controversies.
5 Provide the States with model legislation.

Back to work programme ATM Committee