



Agenda Item 1: Implementation of provision of Electronic Terrain and Obstacle Data (e-TOD)

**GREPECAS G1 Project –
Implementation of provision of Electronic Terrain and Obstacle Data (e-TOD)**

(Presented by the Secretariat)

SUMMARY	
This working paper provides details on the current status of e-TOD Project implementation and requests States to update the information regarding implementation of Geographical Information Systems (GIS), the implementation of agreements on the level of service as well as the review of GREPECAS Project G1 (e-TOD).	
References:	
<ul style="list-style-type: none">• Annex 15 to the Convention on International Civil Aviation• SAM/AIM Multilateral Meetings• GREPECAS Programmes and Projects Review Committee	
ICAO Strategic Objectives:	<i>A - Safety</i> <i>B - Air navigation capacity and efficiency</i> <i>E – Environmental protection</i>

1. Background

1.1 The Second Meeting of the GREPECAS Programmes and Projects Review Committee (CRPP/2) was concerned about the insufficient participation of the CAR/SAM States in the work concerning different Projects related to Aeronautical Information Management (AIM).

1.2 Another issue of concern was the discovery of the need of electronic Terrain and Obstacle Data (e-TOD) for the proper functioning of various air navigation applications.

1.3 According to Annex 15 - *Aeronautical Information Services*, Area 2 (e-TOD) should be available by 15 November 2015. Therefore, in order to reduce costs, it is important that both Regions assess possibilities of developing technical cooperation projects among States, as a more economical way to obtain data sources.

2 Discussion

2.1 With reference to Project G1 - “Implementation of the provision of electronic Terrain and Obstacle Data (e-TOD)”, an Action Plan for the implementation of functional improvement in the supply of AIS was developed, as shown in **Appendix A**. The progress has been as follows:

- States with implemented GIS or automated systems:
2012 = 14% **2014 = 35%**
- States with Guide-Document with Action Plan approved:
2012 = 0 **2014 = 100%**
- States that have established Service Level Agreements (SLA):
2012 = 0 **2014 = 14%**

Following table shows the latest information provided by States:

2014	% of States with automated or GIS systems = 35 %	% of States that have approved the Guide-Document with Action Plan = 100%	% of States that have established SLAs = 14%
State			
ARG	YES	YES	YES
BOL		YES	
BRA	YES	YES	
CHI		YES	
COL	YES	YES	
ECU		YES	
FGY		YES	
GUY		YES	
PAN		YES	
PAR		YES	
PER	YES	YES	
SUR		YES	
URU	YES	YES	YES
VEN		YES	

2.2 In addition to the progress in the development of documents, it is necessary to verify the status of implementation of e-TOD Project in its whole scope, and Appendix A to the Project will have to be updated.


3. Suggested action:

3.1 The Meeting is invited to:

- a) review Appendix A to this working paper and propose changes as deemed appropriate;
- b) update information regarding implementation of Geographical Information Systems (GIS) and the implementation of service level agreements in States.

APPENDIX A

SAM Region	PROJECT DESCRIPTION (DP)	DP N° G1	
<i>Programme</i>	Title of the Project	Start	End
<p><i>AIM</i></p> <p>(ICAO Programme Coordinator: Roberto Arca Jaurena)</p>	<p>Implementation of the provision of electronic Terrain and Obstacle Data (e-TOD) (SAM)</p> <p>Project coordinator : Juan González (Uruguay)</p> <p>Experts contributing to the project: SAM/AIM IG</p>	26/09/11	31/12/15
Objective	Support the implementation of the provision of e-TOD by SAM States and provide guidance to States on GIS acquisition and management.		
Scope	The scope of the Project contemplates the assessment and identification of implementation levels associated to the provision of electronic Terrain and Obstacle Data. It contemplates the drafting of an Action Plan and guides for the implementation of e-TOD to support developments in the provision of electronic Terrain and Obstacle Data for the evolution of digital terrain models (DTM) to gradually improve electronic aeronautical charts and other similar products, with the support of tools such as the Geographical Information Systems (GIS).		
Metrics	<ul style="list-style-type: none"> • Number of States that have implemented GIS or automated systems. • Guide-Document with Action Plan approved. • Number of States that establish SLAs. • Number of main international airports with Area 2 (e-TOD) surveyed. 		

<p>Strategy</p>	<p>The conduction of Project activities will be coordinated among Project members, the Project Coordinator, and the Programme Coordinator, mainly through teleconferences (<i>GoToMeeting</i> application) and meetings that may be held within other scheduled events, based on the activities of the work programme. The Project Coordinator will coordinate with the Programme Coordinator for the inclusion of additional experts, if warranted by the tasks and works to be executed. The results of the work done will be submitted to the consideration and review of State experts in the form of a final consolidated document for analysis, review and approval, and for presentation to the GREPECAS PPRC by the Programme Coordinator.</p>				
<p>Goals</p>	<p>Draft the Guide-Document containing the objectives of the e-TOD Project: 2012. Define the technical and e-TOD Project specifications: 2012. Prepare the document containing the e-TOD technical specifications: 2012. Guide on the acquisition of a Geographical Information System (GIS): 2012. GIS Implementation Manual: 2012. Available methodologies and tools for Area 2 survey: 2013 Main international airports with Area 2 (e-TOD) surveyed: 2016</p>				
<p>Rationale</p>	<p>Compliance with the SARPs of Annexes 15 and 4 to facilitate the execution of performance-based air operations and to advance with the AIS-AIM Transition Roadmap. A close relationship with other projects is needed in order to obtain the operational requirements of the aforementioned applications and their respective tentative dates of implementation.</p>				
<p>Related projects</p>	<p>It is related to Project G3 “<i>Implementation of the Quality Management System in the AIM units</i>” in the SAM Region States</p>				
<p>Project deliverables</p>	<p>Relationship with the performance-based regional plan (PFF)/ASBU</p>	<p>Responsible</p>	<p>Status of implementation*</p>	<p>Delivery date</p>	<p>Comments</p>
<p>Survey on status of e-TOD implementation</p>	<p>PFF: SAM AIM/02</p>	<p>Juan González Uruguay</p>		<p>30/11/2011</p>	<p>Finalized on schedule.</p>

Generate follow-up report.	PFF: SAM AIM/02	Juan González Uruguay		30/04/2012	Finalized on schedule.
Develop Guide-Documents with the objectives of the e-TOD Project	PFF: SAM AIM/02	Juan González Uruguay		30/09/2012	Finalized on schedule. Delivered 30/09/2012.
Define the technical specification of the e-TOD Project.	PFF: SAM AIM/02	Juan González Uruguay		30/09/2012	Finalized on schedule. Delivered 30/09/2012.
Develop the document with the e-TOD technical specifications.	PFF: SAM AIM/02	Juan González Uruguay		30/09/2012	Finalized on schedule. Delivered 30/09/2012.
Guide for the acquisition of a Geographical Information System (GIS)	PFF: SAM AIM/01	Juan González Uruguay		09/03/2012	Finalized on schedule.
GIS implementation manual.	PFF: SAM AIM/01	Juan González Uruguay		09/03/2012	Finalized on schedule.
Present to States different options and available tools for the Area 2 survey	ASBU:BO30 DATM	ICAO Coordinator		26/07/2013	Finalized on schedule
Conduct seminars for e-TOD specialists, describing the plans and expected operational and economic benefits.	PFF: SAM AIM/02 ASBU:BO30 DATM	ICAO Coordinator		30/03/2015	
Resources required	Designation of experts in the execution of some of the deliverables. More commitment by States to support the designated Coordinators and experts that are working.				

- *Grey *Task not started*
- Green *Activity under way as scheduled*
- Yellow *Activity started with some delay but expected to be complete don time*
- Red *It has not been possible to implement this activity as scheduled; mitigating measures are required*