



**Agenda Item 5: Update on information concerning progress in the implementation of automated systems and other requirements according to Annex 15**

**State’s Automated Systems**

(Presented by the Secretariat)

<b>SUMMARY</b>	
This working paper analyzes the progress in the implementation of automated systems for distribution of aeronautical information in the States of the SAM Region and the States’ implementation plans until 2016.	
<b>REFERENCES</b>	
<ul style="list-style-type: none"> <li>• Annex 15 to the Convention on International Civil Aviation</li> <li>• Doc 8126 de la OACI - <i>Manual for aeronautical information services</i></li> <li>• Roadmap for the Transition from AIS to AIM</li> </ul>	
<b>ICAO strategic objectives:</b>	<i>A - Safety</i> <i>B – Air navigation capacity and efficiency</i> <i>E – Environmental protection</i>

**1. Background**

1.1 In accordance with Annex 15 to the Convention of International Civil Aviation, the automation is necessary in order to improve punctuality, quality, efficiency and profitability of aeronautical information services.

1.2 During previous SAM/AIM meetings, the need for automation to ensure the non-duplication of efforts and the standardization of procedures, products and services for final users was observed

**2. Analysis**

2.1 SAM/AIM/7 Meeting established and recognized the importance of the automation both for cartography and for metadata management and transmission of information and data in real time, among other functionalities.

2.2 The Meeting should consider that automation of AIM services involves the following implementations:

- Roadmap for the Transition from AIS to AIM: Phase 2 – Going Digital
- Data Quality Monitoring and Data Integrity Monitoring
- Aeronautical Information of Integrated Databases

- Electronic AIP (eAIP)
- Unique identifiers
- Cartography of Aerodromes, Terrain and Obstacles
- AIXM
- SWIM

2.3 The automation will enable information management related to:

- Aerodromes
- Airspace
- Radio Aids and Fixed
- Obstacles
- Routes
- Procedures
- Organizations; and
- Services

2.4 From the above, it could be concluded that it will be necessary to work with databases of different sources. For this reason, the quality management system established should provide the users with the necessary **security** and **reliability** that the aeronautical data distributed and aeronautical information **satisfy the quality requirements** of aeronautical data regarding **accuracy, resolution** and **integrity**, and that the data **traceability** requirements are complied through the **provision of appropriate metadata**. The system should also **guarantee the period of use of aeronautical data**, as well as compliance of the **dates agreed** for distribution and applicability.

2.5 In order to ensure quality, verification complex flows should be introduced in any element of the aeronautical data chain, such as data to the document, to the import or export of data. These processes create barriers for quality maintenance and aeronautical data integrity.

2.6 The databases to be used for the automation are:

- Aeronautical Databases
- Statics
- Obstacle Databases
- Terrain Databases
- Basic Databases
- NOTAM Databases
- FPL Databases
- RPL Databases
- Meteorological Databases
- Aerodrome Charts
- Procedures Design
- PANS-OPS

2.7 The results of the process will be products that satisfy specific needs of aeronautical data users (human or flight management system – FMS), using electronic information originated by an AIP or using geospatial data integrated in time.

2.8 States should consider that the automation of AIS services will provide great benefits, among which are the following:

- Provision of Digital AIS services (eTOD is the first example)

- Integration with trans-national systems (AIXM)
- A unique view of the air navigation system status (NOTAM integration and static information)
- Simplify and speed-up the use of information (Electronic Cartography, Digital AIP)
- A cartographic production system based on GIS that will permit to address the challenges and analysis requirements and digital information availability.

2.9 In order to obtain information related to the implementation phases of the States' Automated Systems, the Table presented in **Appendix A** to this working paper has been prepared.

3. **Suggested action**

3.1 The Meeting is invited to:

- a) update the information required in Appendix A to this working paper;
- b) identify the States that have prepared an Action Plan for the implementation of automation for the provision of aeronautical information; and
- c) consider other action that may deem appropriate.

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## APÉNDICE A / APPENDIX A

SEGUIMIENTO AL NIVEL DE IMPLANTACIÓN DE LA AUTOMATIZACIÓN PARA LA PROVISIÓN DE  
INFORMACIÓN AERONÁUTICA (Ref.: Anexo 15, 3.6 y Doc 8126, Capítulo 9)FOLLOW-UP THE LEVEL OF IMPLEMENTATION OF THE AUTOMATION FOR THE PROVISION OF  
AERONAUTICAL INFORMATION (Ref.: Annex 15, 3.6 and Doc 8126, Chapter 9)

ESTADOS / STATES	ARG	BOL	BRA	CHI	COL	ECU	GUY	FGU	PAN	PAR	PER	SUR	URU	VEN
Modelo AIXM, Digital NOTAM, GIS y Metadatos / <i>AIXM Model, Digital NOTAM, GIS and Metadata</i>														
¿Tiene el Estado un Plan de Implantación de Automatización de la provisión de información aeronáutica? / <i>Has the State an Automation Implementation Plan for the provision of aeronautical information?</i>	NO	NO	SI/YES	NO	---	---	---	---	---	---	SI/YES	---	NO	---
¿Dispone el Estado del e-AIP en un formato de lenguaje extensible de acuerdo al modelo AIXM? (Especifique) / <i>Has the State the e-AIP in an extensible language format according to the AIXM model? (Specify)</i>	NO	NO	NO	NO	---	---	---	---	---	---	SI/YES	---	NO	---
¿Tiene el Estado la capacidad de preparar Digital NOTAM? / <i>Has the State the capacity to prepare Digital NOTAM?</i>	NO	NO	NO (2)	NO	---	---	---	---	---	---	SI/YES	---	NO	---
¿Cuenta el Estado con capacidad de generar Cartas Aeronáuticas electrónicas? / <i>Has the State the capacity to generate electronic aeronautical charts?</i>	SI/YES	NO	SI/YES	NO	---	---	---	---	---	---	SI/YES	---	NO	---

ESTADOS / STATES	ARG	BOL	BRA	CHI	COL	ECU	GUY	FGU	PAN	PAR	PER	SUR	URU	VEN
En caso de que la pregunta anterior sea afirmativa ¿ha considerado la recopilación y aplicación de los metadatos en la generación de las cartas aeronáuticas? / <i>If the previous question is affirmative, has the compiling and application of metadata in the generation of aeronautical charts be considered?</i>	SI/YES	NO	SI/YES	NO	---	---	---	---	---	---	SI/YES	---	NO	---
¿El modelo de metadato utilizado, está acorde con el presentado en la ISO 19115? / <i>Is the model of the metadata used in accordance with the one presented in ISO 19115?</i>	SI/YES	NO	SI/YES	NO	---	---	---	---	---	---	SI/YES	---	NO	---

Y = Si / Yes

<sup>1,2,...</sup> = Ver comentarios / *See comments*

N = No

P = Parcialmente / *Partially*N/A = No aplicable / *Not applicable*S/R = Sin respuesta / *Without answer*

**COMENTARIOS DE LOS ESTADOS / COMMENTS BY STATES**

<b>ESTADOS/ STATES</b>	<b>COMENTARIOS / COMMENTS</b>
ARG	
BOL	
BRA	Brasil utiliza el software IDS, y una base de datos llamada AERODATABASE. Con relación al NOTAM Digital, esperan poder implantarlo para el 2017 / Brazil uses IDS software and a database named AERODATABASE. With regard to Digital NOTAM, they expect to implement it in 2017.
CHI	
COL	
ECU	
FGU	

<b>ESTADOS/ STATES</b>	<b>COMENTARIOS / COMMENTS</b>
GUY	
PAN	
PAR	
PER	Perú, para las publicaciones utiliza el software GROUPVERVE. Para la cartografía, utiliza el software ACCENT. La base de datos proviene del CADAS-AIMDB / Peru, for publications, uses GROUPVERVE software. For cartography, uses ACCENT software. The database comes from CADAS-AIMDB.
SUR	
URU	
VEN	