



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

Automated Systems from States in relation with PBIP, Cartography and Digital NOTAM

(Presentada por la Secretaría)

SUMMARY	
This Working Paper intends to establish a baseline for the implementation of automated systems for aeronautical information distribution in the States of the SAM Region.	
Referencias:	
<ul style="list-style-type: none">• Annex 15 to ICAO Convention• Doc 8126 Aeronautical Information Services• Roadmap for the Transition from AIS to AIM	
ICAO Strategic Objectives:	<i>A – Safety</i> <i>B – Air Navigation Capacity and Efficiency</i> <i>C – Environmental Protection</i>

1 Background

1.1 In accordance with Annex 15 to the Convention, automation will be incorporated with the purpose of improving punctuality, quality, efficiency and profitability of aeronautical information services.

1.2 Doc 8126, Chapter 9, specifies that, basically, an automated AIS system should be capable to provide a more flexible pre-flight information service by adjusting its automation processes in order to consider a more extended spectrum of users. In addition, the system should be designed in order to avoid incompatibilities, discrepancies and unnecessary duplication of efforts, thus ensuring standardization of procedures, products and services for final users.

1.3 The Roadmap for the transition from AIS to AIM specifies that it will be necessary to increase automation for Collaborative Decision Making (CDM), integration of systems and 4D paths.

2 Analysis

2.1 The final objective of the AIM consists in providing access to an aeronautical information of quality, in line and real time, to an authenticated user, at any time and place. Thanks to the implementation of this objective, the transition from a pre-flight information provided by AIS services to an information to which any airspace user could access at any time or during flight phase, is expected.

2.2 In order to reach this objective, it is necessary that the aeronautical information is presented in electronic format in a globally interoperable model. Standards such as AIXM and Digital NOTAM are formats in extensible language which were created so that the transmission of information could be based on computers.

2.3 When analyzing this item, it should be taken into account that some States of the Region have completed the Implementation of the Quality Management System with the corresponding certification, besides implementing the electronic AIP, very important and essential issues for the transition to the automation of AIS services.

2.4 A very important element in the provision of the data are Aeronautical Charts. It should be considered that aeronautical charts are an appropriate mean for the provision of information in an easy to manage, condensed and coordinated way, over which synthesized aeronautical information could be georeferenced allowing the pilot to obtain specific information about the spatial orientation and operational needs. As it can be noted, since aeronautical information has a very noticeable geographic nature, aeronautical charts preparation requires an in depth evolution and improvement process, which should include the new technologies of Geographic Information.

2.5 Currently, even though some e-AIPs are already in Extensible Markup Language (XML), the charts included are still in PDF format, thus, still being static information. The transition from paper format to electronic cartography implies the implementation of new GIS programmes (Geographic Information System) including connections, AIXM data models or compatible developments with imports or exports, which would allow to manage digital aeronautical information in a standardized way.

2.6 In the process of adapting to digital formats, a very important issue to be considered is the metadata. These allow the users to know in advance the description of the data to be accessed. Standard metadata of geographic information is provided in ISO 19115. This standard has more than 400 description elements to define any type of geographic information.

2.7 It should be mentioned that the automation of publications of the AIS information is a requirement for the introduction of aeronautical information to SWIM, which implementation is foreseen starting ASBU Block 1 (2018).

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

3. Suggested action:

3.1 The Meeting is invited to:

- a) provide the information required in Appendix A to this working paper;
- b) identify the States in the capacity to implement Digital NOTAM;

- c) identify the States in the capacity to implement AIXM models;
- d) identify the States that have prepared an Action Plan for the implementation of the Automation for the provision of aeronautical information;
- e) identify the group of States that might receive training in AIXM, GIS and Preparation of Metadata.

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>														
¿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>														

Y = Si / Yes
^{1,2,....} = 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

ESTADOS/ STATES	COMENTARIOS / COMMENTS
ARG	
BOL	
BRA	
CHI	
COL	
ECU	
FGU	

ESTADOS/ STATES	COMENTARIOS / COMMENTS
GUY	
PAN	
PAR	
PER	
SUR	
URU	
VEN	