



**Agenda Item 4      Transition of the AIM Subgroup, its Terms of Reference, Work Programme  
and Task Forces into the AIM Programme and Projects**  
**4.2      Project Integration for definition of metadata related to the AIM  
Programme**

**METADATA PROJECT DEFINITION IN AIM**

(Presented by the Secretariat)

<b>SUMMARY</b>	
This working paper deals with the importance to define and apply metadata in AIM and submits for the consideration of States, tasks for the AIM Programme Projects to be implemented in the IAIP production and other electronic format products.	
<b>References:</b>	
<ul style="list-style-type: none"><li>• ICAO Annex 15</li><li>• TC 211 ISO 19115</li></ul>	
<b><i>Strategic Objectives</i></b>	<i>This working paper is related to Strategic Objective C.</i>

**1.                    Introduction**

1.1                    The GIS 01 Working Group Meeting discussed about the responsibility to manage critical aeronautical information/data in terms of safety, quality and time in electronic format. In particular, the aeronautical information exchange has to maintain the safety, quality, trust and opportune characteristics for users, in addition to the traceability throughout the AIM chain of processes involved in information management.

1.2                    The diversity of information/data originators related with air navigation services, as well as other originators of data sources, makes it essential to define standardized criteria to integrate in controlled manner aeronautical information with the quality attributes and characteristics for each type of necessary data to be disseminated to the aeronautical community with trustworthy, maintaining the levels required for air navigation safety.

## 2. Analysis

2.1 Annex 15, Chapter 3, paragraph 3.8 establishes:

### 3.8 Metadata

*3.8.1 Metadata shall be collected for aeronautical data processes and exchange points. This metadata collection shall be applied throughout the aeronautical information data chain, from survey/origin to distribution to the next intended user.*

*3.8.2 The metadata to be collected shall include, as a minimum:*

- a) the name of the organization or entity performing the function;*
- b) the function performed; and*
- c) the date and time of operation.*

*Note.— The function performed indicates any action of originating, transmitting or manipulating the data.*

2.2 Standardization in the AIM context of aeronautical information/data guarantees the exchange of information/data through ISO Standard 19115:2003 – Geographic Information – Metadata (ISO/TC 211), which provides a structure to describe digital geographic information. The information or characteristics to be complied with by each data within a dataset is described through metadata.

2.3 It is common for metadata to be defined as “data on data;” however, in a more rigorous manner, the structured and optional descriptions are available to assist in the definition and location of “information objects.”

2.4 Metadata allows interacting with different entities to relate them with data as follows:

- For originators: to avoid duplications, to publish non-validated data, etc.;
- For users: to find searched data, to facilitate its comprehension, etc.;
- For organizations: to improve data management, to provide quality information and data safety, etc.

2.5 It is important to identify and define the required model to describe types of information that are being worked on in a particular manner, for instance, under ISO Standard 19115:2003, which provides identification information, the extent, the quality, the spatial and temporal model, spatial reference and the distribution of digital geographic data.

2.6 The ISO Standard defines the following:

- Mandatory and conditional metadata sections, metadata entities and metadata elements;
- The minimum set of required metadata to support the entire range of metadata applications (data discovery, determine suitability of their use, data access, data transfer and digital data use);
- Optional metadata elements, to allow a broader standardized description of geographic data, if so required;
- A method to create metadata extensions to be adapted to specific needs.

2.7 Considering that the international standard is applicable to digital data, its principles may be extended to many other types of data, such as maps (geographic), tabular and text documents, as well as strictly numerical data, etc.

### **3. Suggested Action**

3.1 The Meeting is invited to:

- a) review the content of this working paper;
- b) study, gather and apply metadata in the aeronautical information/data production including electronic aeronautical charts;
- c) agree on the definition and use in accordance with the texts established by ICAO Annex 15; and
- d) integrate in the AIM Programme Projects the tasks related with the definition of metadata.