Global AIM Development – AIS Manual (ICAO Doc 8126)

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Interregional EUR/MID PANS AIM Workshop

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Volume I – AIM Organizational Development

Volume II – The Aeronautical Data Process

Volume III – Aeronautical Information in a standardized presentation

Volume IV – Digital Products and Services

Advantages

Easier maintenance

Volume I – Organizational Development
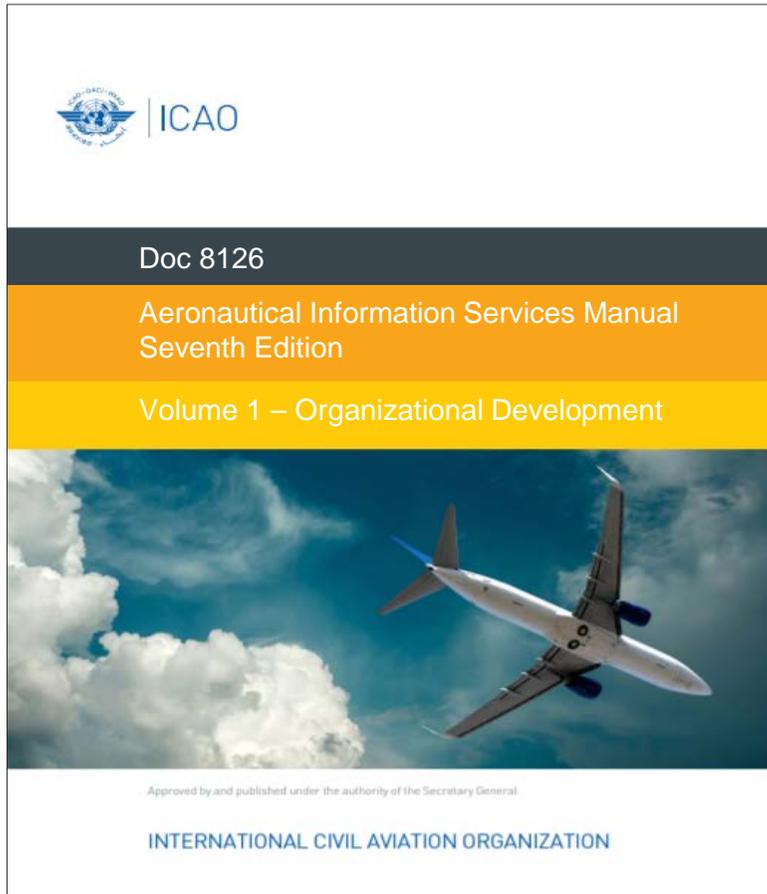
Purpose

- Guidance concerning the organizational aspects of an AIS organization including the transition to AIM

Primary Audience

- State Authorities
- AIS management

Content of Volume I

❑ **AIS Responsibilities and Functions**

- ■ Purpose, responsibilities and functions of AIM
- ■ Aeronautical information products and services
- ■ AIS Competencies
- ■ Aeronautical Information Regulation and Control (AIRAC)
- ■ Exchange of aeronautical data and aeronautical information

❑ **Aeronautical Information Management**

❑ **Organisation of an Aeronautical Information Service**

- ■ Separation of regulatory functions and provisions of service
- ■ Change management considerations when transitioning to AIM

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AIS/AIM Competency Framework

Competency	Description
Information Awareness	Comprehends information requirements, monitors the information flow and detects anomalies and potential threats that can degrade the flow and the quality of information and affect its use.
Coordination	Comprehends and adheres to applicable fo_____ments and if required coordinates with originators, person_____ional positions and with other affected stakeholders_____ performance requirements are met.
Application of procedures	Identifies and a_____ordance with published operating i_____egulations and standards.
Information management expertise	A_____al knowledge and skills related to the collection, ___n and provision of aeronautical data and information
Communi____	___icates effectively (in oral and written forms) under the operational ___ations (e.g. for briefings and publishing information).
Workload management	Manages available resources efficiently to prioritize and perform all assigned information tasks in a timely manner.
Team work	Operates effectively as a team member.
Self-management and continuous learning	Demonstrate personal attributes that improve performance and maintain an active involvement in self-learning and self-development

Based on the latest CBTA methodology described in AMD 5 to the PANS-TRAINING

How a competency is described and observed…

Nr	ICAO competency	Description	Observable behaviour (OB)
1	Information Awareness	Comprehends information requirements, monitors the information flow and detects anomalies and potential threats that can degrade the flow and the quality of information and affect its use.	1. Maintains awareness of the information requirements of the different users concerning aeronautical information 2. Verifies that aeronautical data is compliant with quality requirements (accuracy, resolution, completeness, format) on reception 3. Monitors the quality of aeronautical information from origination to distribution to internal and external stakeholders (integrity, timeliness, traceability) 4. Uses available tools to gather, monitor and comprehend the aeronautical information in its different status (collection, storage, processing, transfer) 5. Manages the aeronautical information in the user`s context 6. Identifies and Manages potential threats that can cause degradation of aeronautical information flow or the quality (e.g. interruption of aeronautical data process) 7. Develops effective contingency plans based upon potential threats

Observable behaviour (OB):
A single job-related behavior that can
be measured and/or observed.

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Volume II – Processing Aeronautical Data

Doc 8126

Aeronautical Information Services Manual
Seventh Edition

Volume 2 – Processing Aeronautical Data

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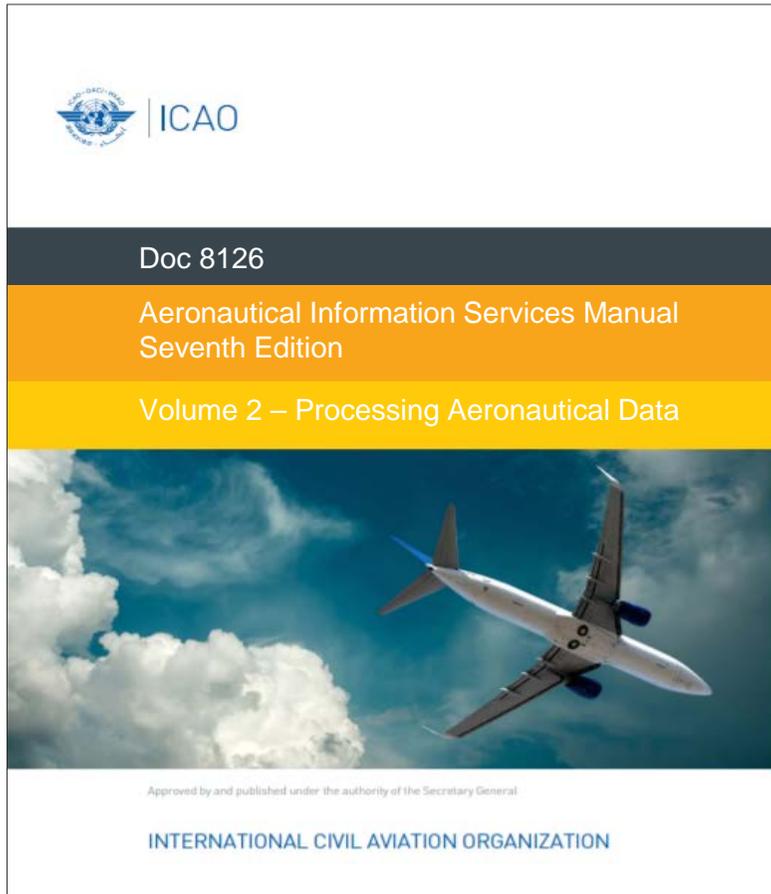
Purpose

- Guidance for processing aeronautical data and information

Primary Audience

- AIS operational personnel processing aeronautical data and information

Content of Volume II

- ❑ Aeronautical data scope
  - ■ Data catalogue
  - ■ Data quality requirements
  - ■ Metadata
  - ■ Reference systems
- ❑ Collection
  - ■ Formal arrangements
- ❑ Processing
  - ■ Verification and validation
- ❑ Distribution
- ❑ Quality assurance and control
- ❑ Automation

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Data Catalogue

Description of its purpose and use

Explanation and examples of data types

Examples of valid code lists

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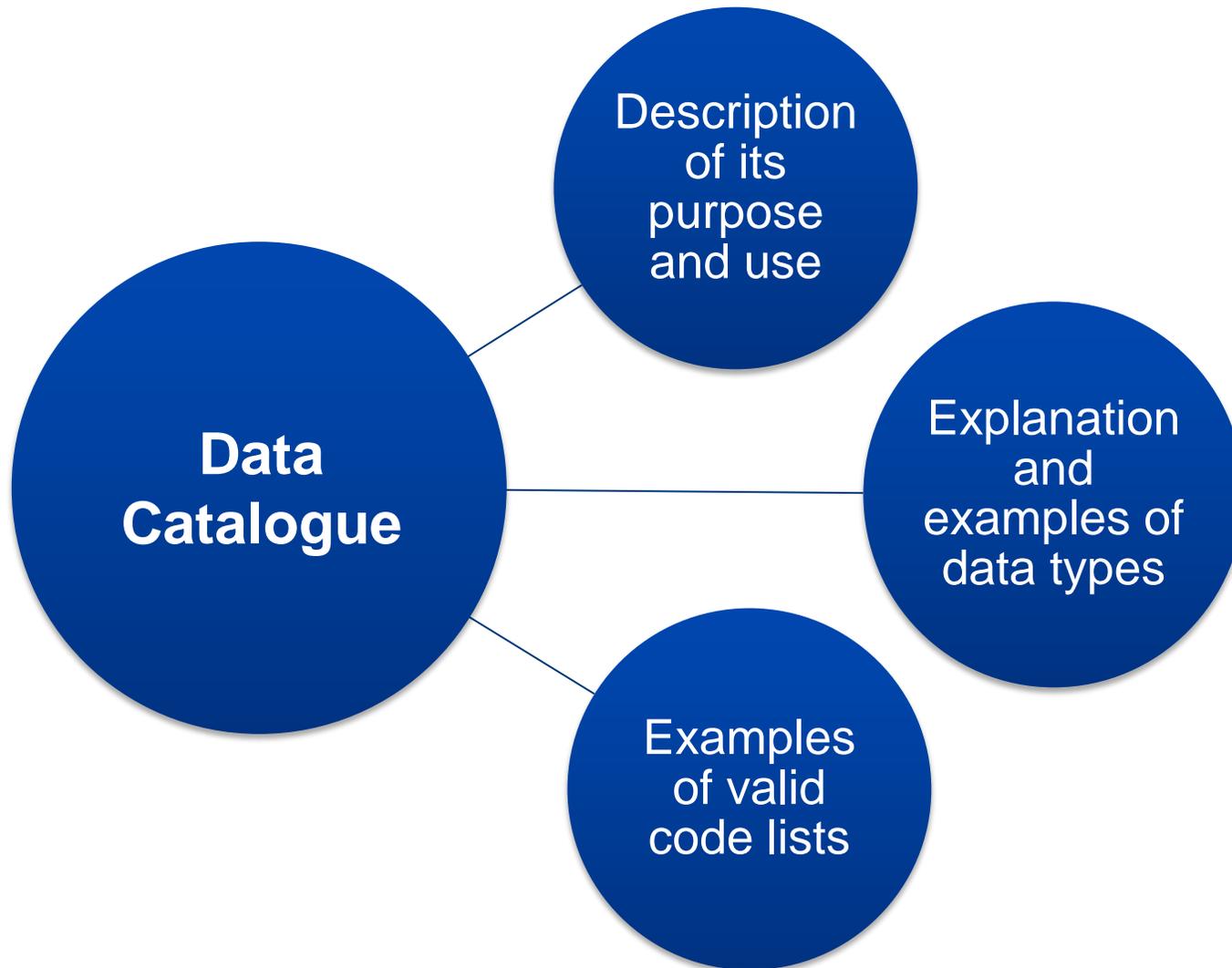
Data Quality Requirements – DQRs

❑ Data Quality – a degree or level of confidence that the data provided meets the requirements of the data user in terms of:

 Accuracy
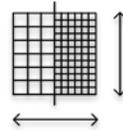
 Resolution

 Integrity

 Traceability

 Timeliness

 Completeness

 Format

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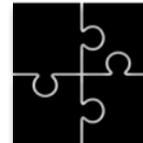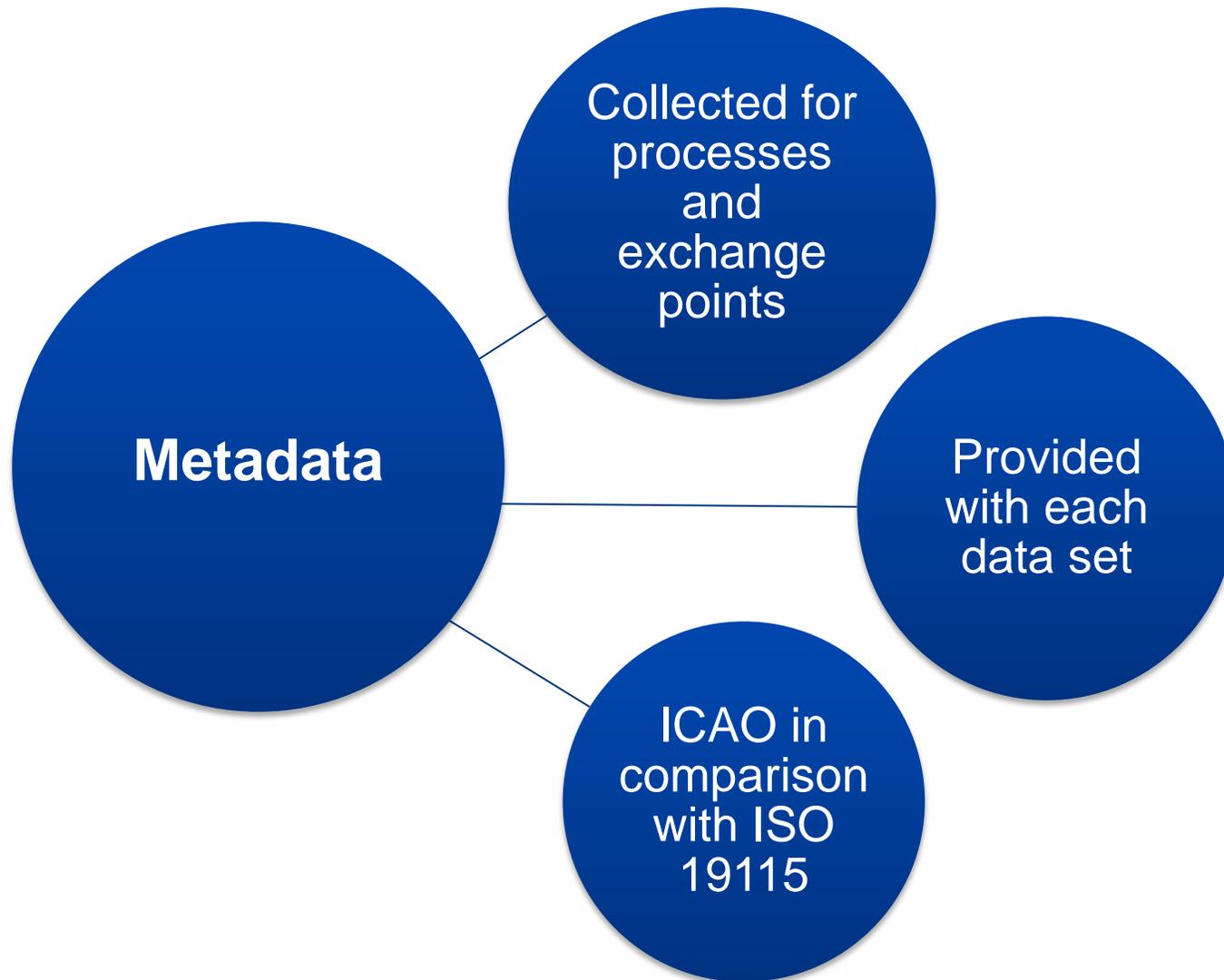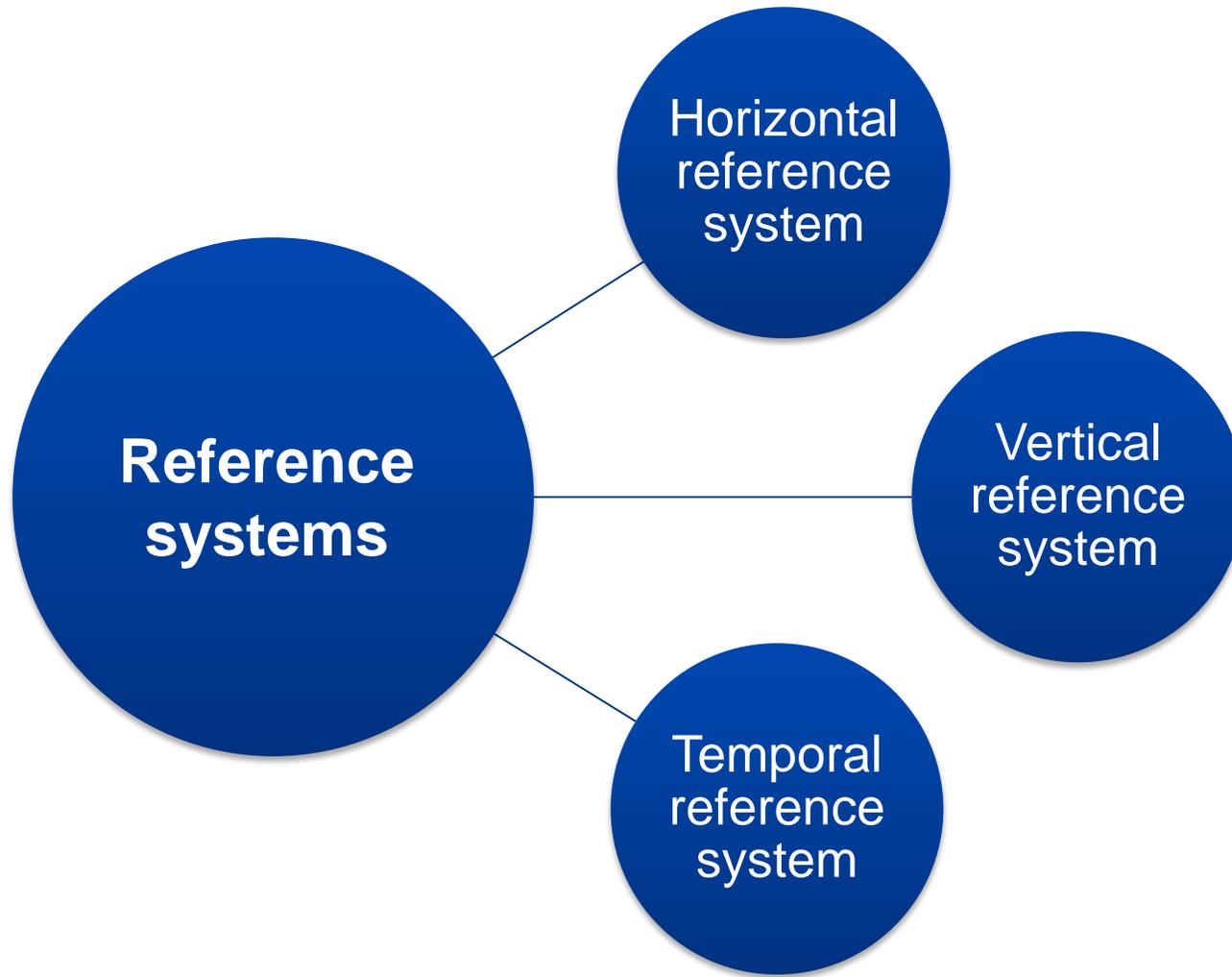
Aeronautical Information Management Process
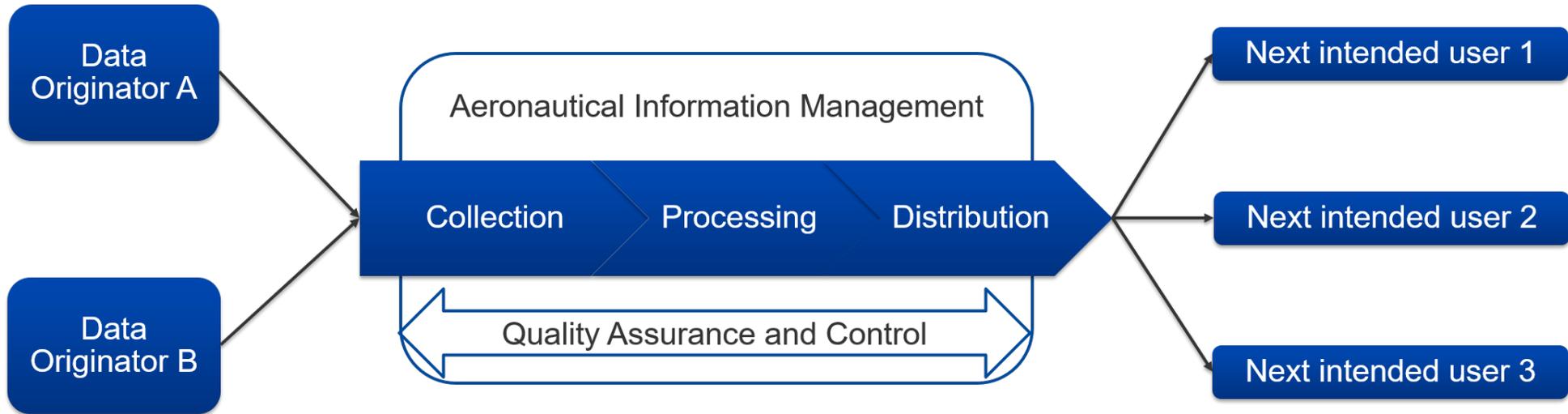
Formal Arrangements

❑ **Minimal content of formal arrangements:**

- ■ Regulatory framework

- ■ Data origination

- ■ Quality assurance

- ■ Metadata and quality reporting

- ■ Data delivery

- ■ Error handling

❑ **Sample formal arrangement as Appendix**

Verification

Annex 15: … specified requirements have been fulfilled.
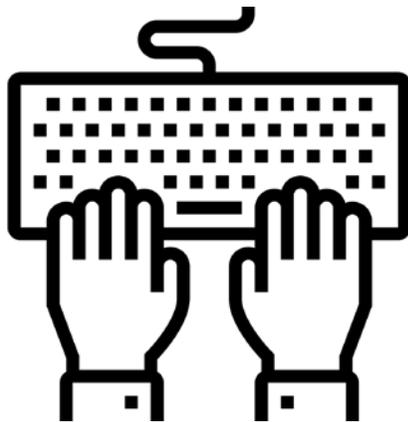
Make sure the data entered is the same as the source

Validation

Annex 15: …requirements for a specific intended use or application have been fulfilled

Make sure the data entered meets the user's need

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```
┌──────────────┐        ┌──────────────┐        ┌──────────────┐
│  Collection  │───────▶│  Processing  │───────▶│ Distribution │
└──────────────┘    ┊   └──────────────┘    ┊   └──────────────┘
                    ┊                        ┊
┌─────────────────────────────────────────────────────────────────▶
│                        Quality Assurance
└─────────────────────────────────────────────────────────────────▶
                    ┊                        ┊
                    ▼                        ▼
           Quality control           Quality control
```

mitigation of errors and faults in the entire process

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Level 0 Manual

Level 1 Data centric

Level 2 Automated workflow

Level 3 Full AIM integration

Level 4 AIM SWIM services

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Aeronautical Information Services Manual
Seventh Edition

Volume 3 – Aeronautical Information in a
Standardized Presentation

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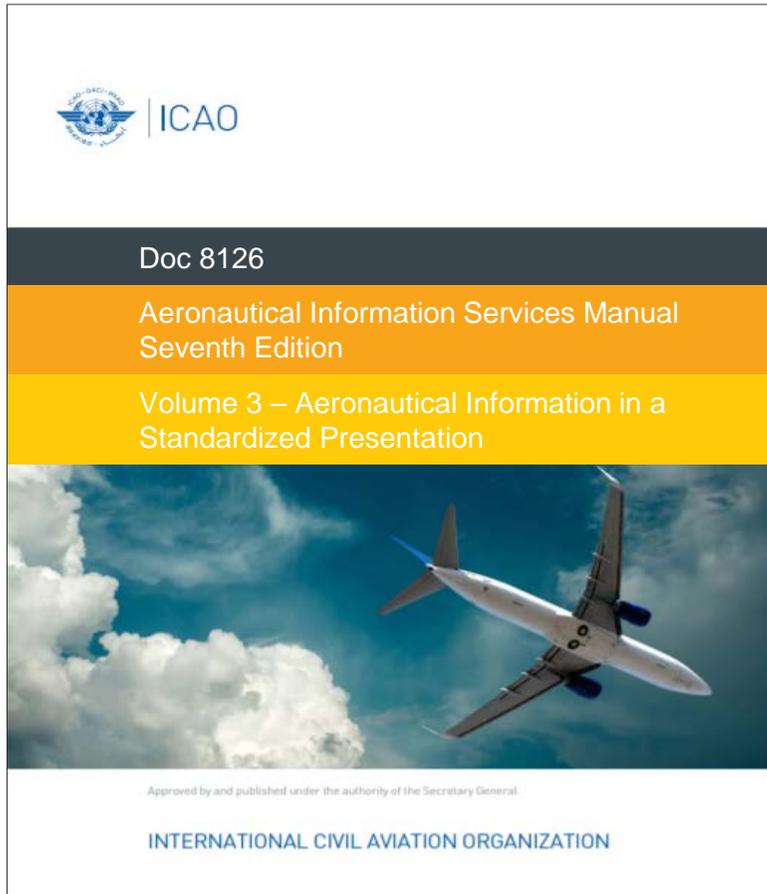
Purpose

- Guidance for providing aeronautical information in a standardized presentation

Primary Audience

- AIS operational personnel tasked to produce AIP and publish NOTAM

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Aeronautical Information Products and Services

Aeronautical information products and services

Aeronautical information products

Services

Standardized presentation

Digital data sets

Distribution services

AIP, AIP Amendment, AIP Supplement

AIP data set

Pre-flight information services

AIC

Terrain and Obstacle data sets

Post-flight information service

Aeronautical Charts

Aerodrome mapping data sets

NOTAM

Instrument flight procedure data set

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Changes to Previous Version

- AIP
  - AIP Amendment
  - AIP Supplement
  - eAIP **→ NEW**
- AIRAC **→ UPDATED**
- AIC
- NOTAM **→ UPDATED (based on AIS-AIM SG/5 SN/4)**
- Appendices
  - Appendix 1 – Explanatory notes **→ UPDATED**
  - Appendix 2 – Specimen AIP **→ UPDATED**
  - …
  - Appendix 7 – NOTAM Selection Criteria **→ UPDATED**
  - …

Volume IV – Digital Products and Services
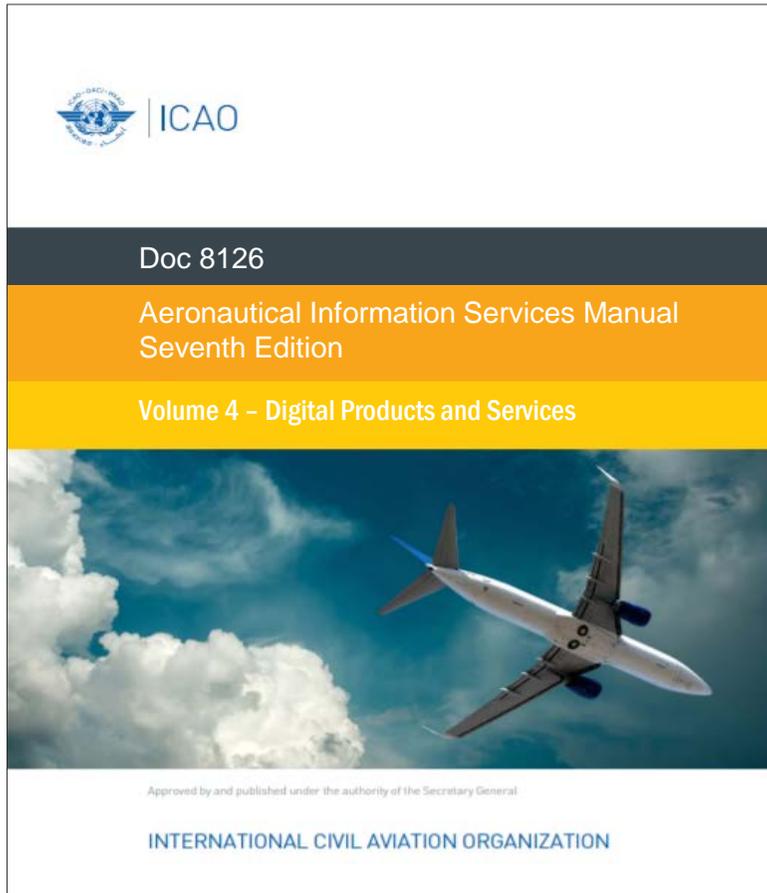
Purpose

- Guidance for providing digital products and services

Primary Audience

- AIS operational personnel providing digital products and services
- AIM system manufacturers and service providers

- ❑ **Digital exchange of aeronautical information**

  - ■ System Wide Information Management

  - ■ Aeronautical data and information exchange models

- ❑ **Digital data sets**

  - ■ Data product specification

  - ■ Aeronautical information products as digital data sets

- ❑ **Aeronautical information services**

AIXM

❑ **Conceptual model**

   ■ description of features, associations and data type, using UML

❑ **Encoding format**

   ■ enclosing aeronautical information into digital format, using languages such as XML or GML

❑ **Extension mechanism**

   ■ specific addition meant for a specific group of users

❑ **Additional guidelines**

   ■ temporality concept,
   ■ feature identification and reference,
   ■ GML profile for aviation data

Reference to AIXM Specification

❑ **The AIXM Specification contains the following documents:**

- ■ AIXM Data Model (UML)
- ■ AIXM XML Schema (XSD)
- ■ AIXM Temporality Concept
- ■ AIXM Feature Identification and Reference
- ■ Guidance and Profile of GML for use with Aviation Data
- ■ AIXM Application Schema and Extensions

❑ **Coding guidelines and AIXM business rules for the different data sets**

Data Product Specification

Data product specification includes:

Overview	Specification scope	Data product identification	Data content information
Used reference system	Data quality requirements	Information about data capture	Data maintenance
Data portrayal	Data product delivery	Metadata	Additional information

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Digital Data Sets

Aeronautical information products and services

Aeronautical information products

Services

Standardized presentation

Digital data sets

AIP, AIP Amendment, AIP Supplement

AIC

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Post-flight information service

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Thank you for your attention!

Questions & Comments

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