Latest AIM Developments

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RO - AIM

Workshop for the development of AIS management and oversight for CAA's and ANSP's in the WACAF States (Dakar, Senegal, 31 July-4 August 2017

Outline

- Amendment 40 to Annex 15 (State Letter 2017/22)
- AIS Manual
- Summary

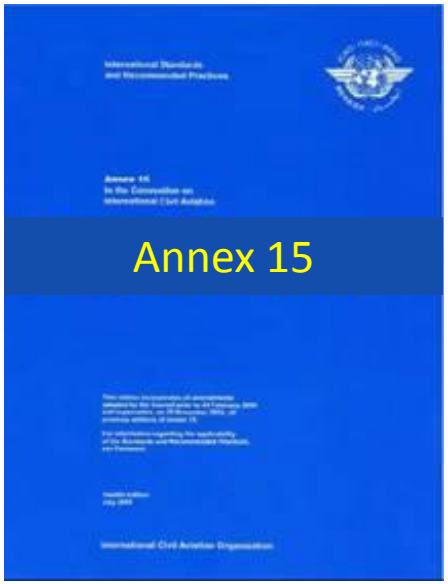
Amendment 40 to Annex 15

- A three-years work delivered by the AIS-AIM Study group: **end of 2015**
- Revised by the Secretariat and submitted for preliminary review by the ANC in **November 2016**
- Translated in all 6 languages
- **State Letter 2017/22 sent on the 21 of April 2017**
- Responses by **21 July 2017**
- Amendment 40 applicable in 2018
- Changes to the SNOWTAM format: applicable in 2020

The Conceptual foundation for AIM

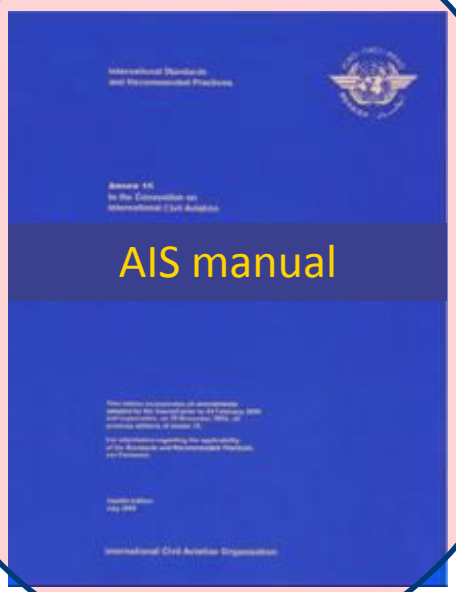
- Amendment 40 to Annex 15 creates **the conceptual foundation for AIM**
- Modern concepts on how to manage the aeronautical information
- Split Data collection/provision
- Focus on quality :
  - Data quality requirements are expanded
  - New tools to reinforce quality at origination/collection (Aeronautical data catalogue)
  - Better identification of roles and responsibilities in the aeronautical data process
  - Enhance requirements for validation and verification procedures
  - Data error detection
- Digital Data services
- Many NOTAM distribution improvements

AIM documentation restructuring



- ✓ Requirements and performance specifications
- ✓ State provisions (or « what »)

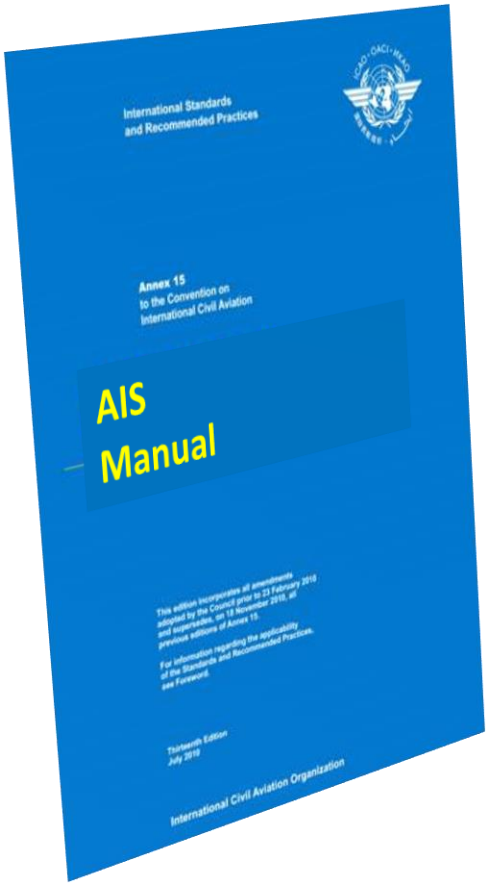
- ✓ Operational provisions
- ✓ AIM Practitioners' instructions (or « how to »)



- ✓ Explanatory

Guidance text

AIS Manual



- **First priority now!**
- AIS Manual (Doc 8126) is being amended in conjunction with the restructured Annex 15 and new PANS-AIM
- Delete redundant elements
- Bring it in line with the latest Annex 15 and PANS-AIM technical changes
- Expand guidance (AIM organizational development, Data Catalogue, Service Level Agreements, digital products and services, etc.)

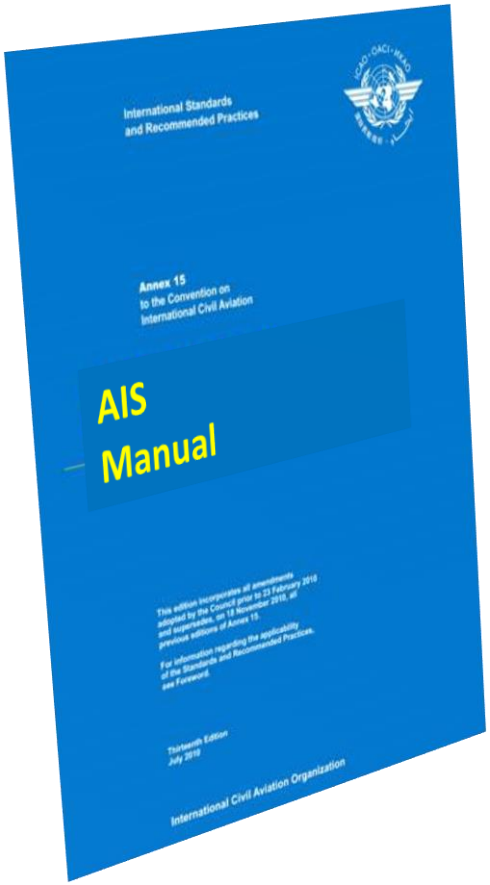
AIS Manual

- **Volume I** – AIM Organizational Development
- **Volume II** – The Aeronautical Data Process
- **Volume III** – Aeronautical Information products in a standardized presentation
- **Volume IV** – Digital Products and Services

Advantages

Easier maintenance

AIS manual– Volume 1



Purpose

Guidance concerning the organizational aspects of an AIS/AIM organization

Primary Audience

State Authorities and AIS management

AIS manual– Volume 1

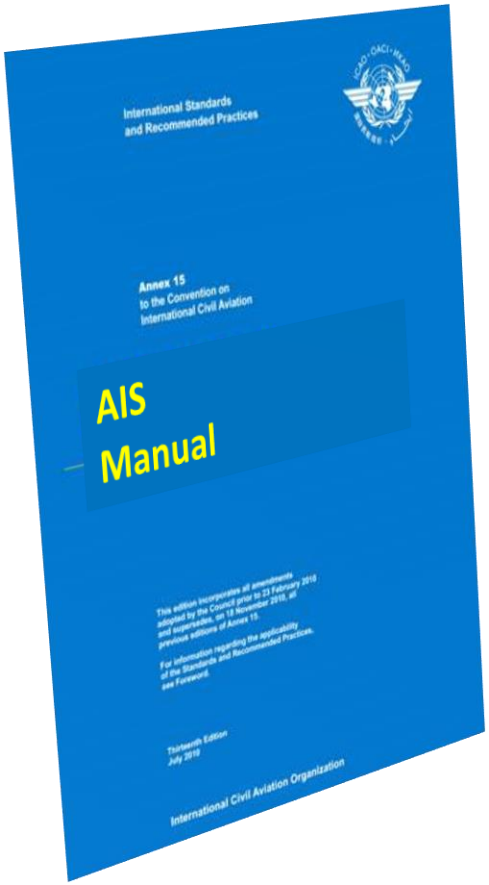
The guiding principles to *AIS MANUAL – Volume 1*

- AIS main functions and responsibilities
- Critical elements in the AIM environments
  - to provide users with information they can trust (**Quality Management System**)
  - More awareness of the information quality requirements of end-use applications (**feedback mechanisms** for the system to stay adaptive to changes)
  - Aeronautical information is digitally represented (change way of working)
  - Enhanced validation and verification procedures
  - Cost-recovery aspects within AIM
- Organizational aspects of an AIS organization
  - Steps to create an AIS organization
  - Change management considerations when transitioning to AIM

Competency-based training and assessment (latest changes)

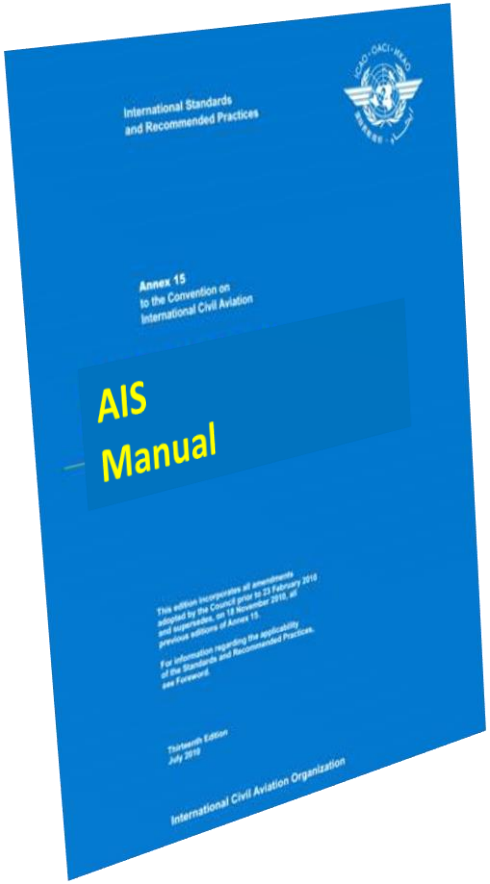
Proposed amendment to the **Procedures for Air Navigation Services — Training** (PANS-TRG, Doc 9868)

AIS manual – Volume 1



- Introduction
  - General
  - Purpose of the manual
  - Primary audience
- AIS Responsibilities and Functions
  - Purpose of AIS
  - AIS Responsibilities and functions
  - Aeronautical Information Products and Services
  - Competencies
  - Aeronautical Information Regulation and Control (AIRAC)
  - Exchange of aeronautical data and aeronautical information
  - Copyright and cost recovery
- Aeronautical information management
  - AIM Principles
  - Critical aspects in an AIM environment
- Organization of an Aeronautical Information Service
  - Separation of regulatory functions and provision of service
  - Organization of an AIS
  - Steps to establish an AIS organization
  - Change management considerations when transitioning to AIM

AIS manual– Volume 2



Purpose

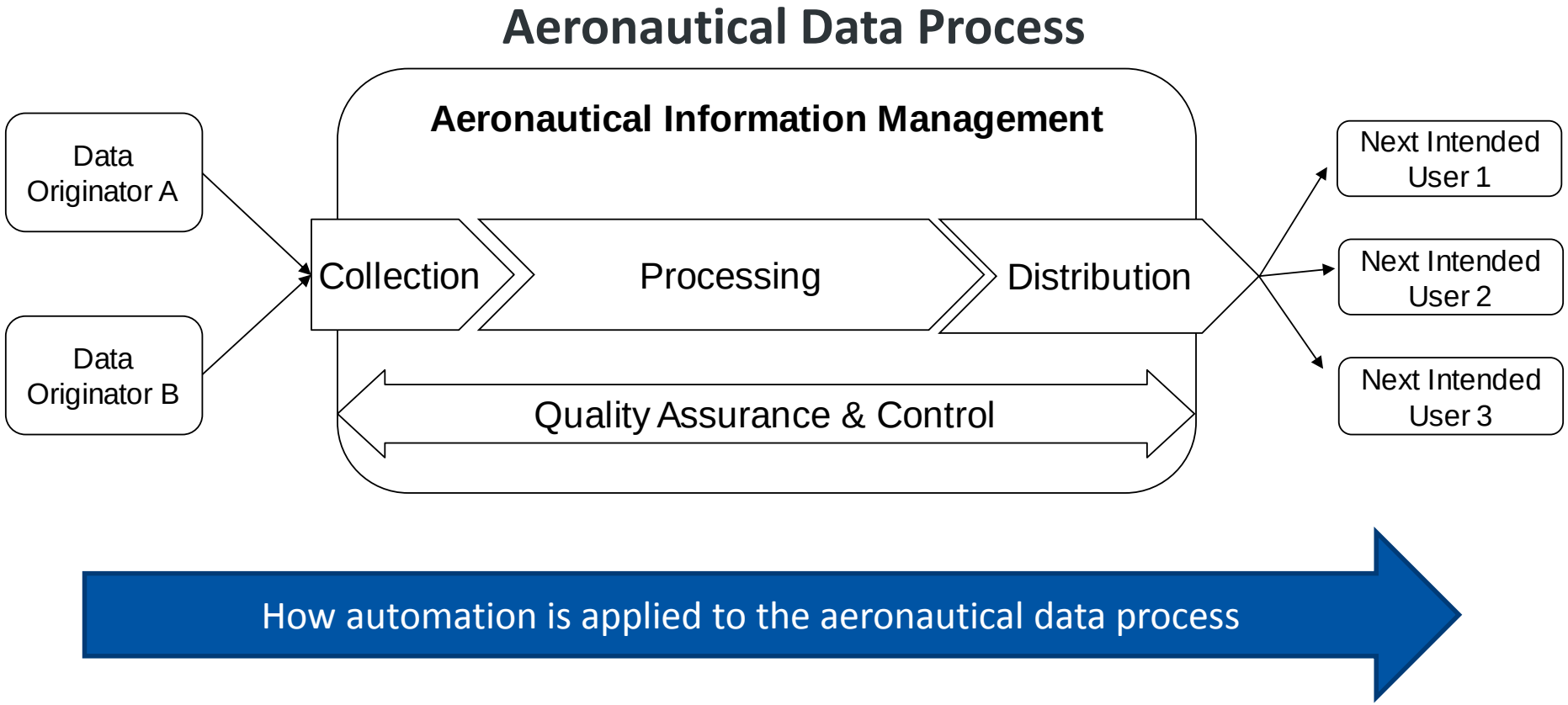
Guidance for processing aeronautical data and information

Primary Audience

AIS operational personnel processing aeronautical data and information

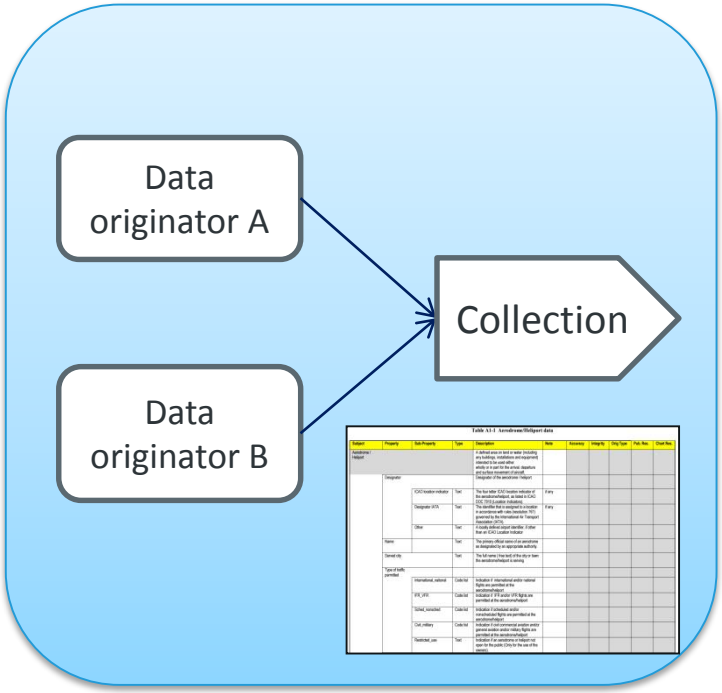
AIS manual– Volume 2

The guiding principles to *AIS MANUAL – Volume 2*



AIS manual– Volume 2

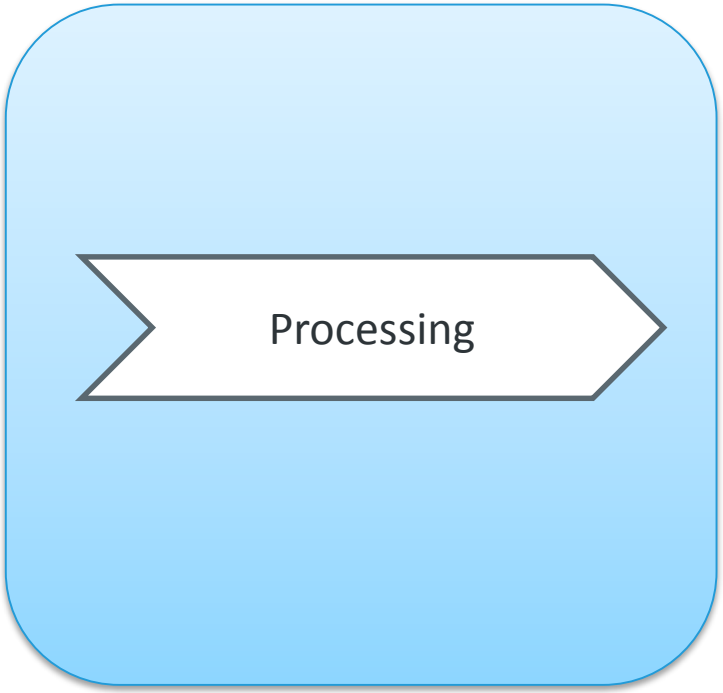
COLLECTION



- High focus on the collection phase to ensure quality
- Clear roles, resources, metadata
- Different constellations for data origination
- The new tool: **the Aeronautical Data Catalogue**
  - What it is, What it isn`t
  - How to use it to map every data element to an identified data originator
  - How to use it in the formal arrangements
  - How to customize it
  - How to provide valid codes for properties and sub-properties
  - Examples
- Content of a formal arrangement and template

AIS manual– Volume 2

The guiding principles to *AIS MANUAL – Volume 2*



- Difference between validation and verification
- Validation and Verification as critical components of the Quality Management System
- Validation:
  - Validation by application
  - Logical consistency
  - Independent checks of duplicate information
- Verification examples of techniques
  - Digital data error detection
  - Feedback testing
  - Independent redundancy

AIS manual– Volume 2

The guiding principles to *AIS MANUAL – Volume 2*

Quality Assurance

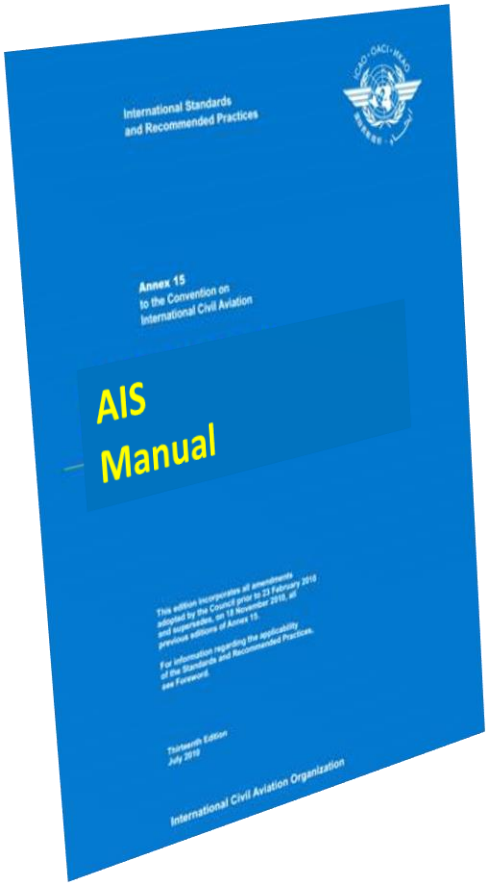
- Data traceability
- Assurance of data integrity along the process
- Timeliness – AIRAC adherence

Quality Control

- Data error detection and reporting
- Quality checks to ensure compliance with product specifications
- Consistency checks across the information products

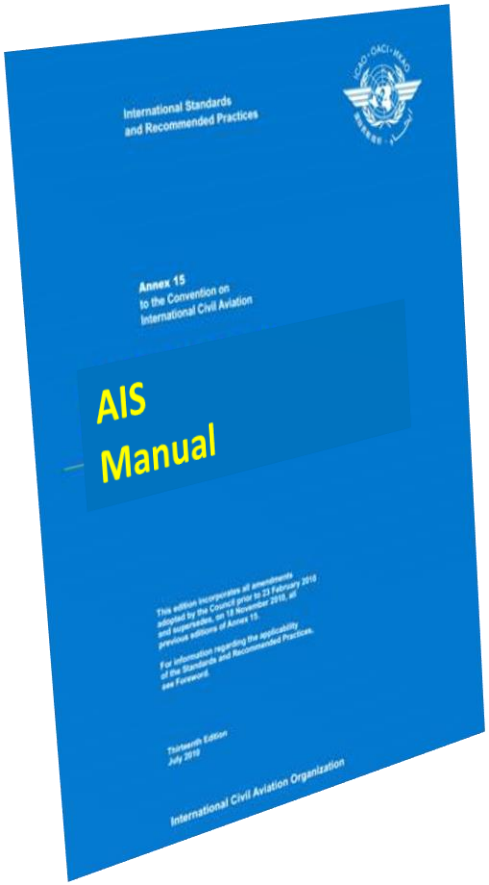
ICAO UNITING AVIATION

AIS manual – Volume 2



- Introduction
  - General
  - Purpose of the manual
  - Primary audience
- Aeronautical Data Scope and General Requirements
  - Data Scope
  - Data Quality Requirements
  - Metadata
  - Reference Systems
- Collection
  - Use of the Data Catalogue
  - Content of a formal arrangement
  - Different constellations of origination
- Processing
  - Validation
  - Verification
- Distribution
  - General aspects
- Quality Assurance & Control
  - Quality assurance activities
  - Quality Control activities
- Automation
  - Basic principles (Concept for an automated AIS system)
  - Different levels of automation
  - How to apply automation to the data process
- Service Level Agreement Template

AIS manual– Volume 3



Purpose

Guidance for providing aeronautical information in a standardized presentation

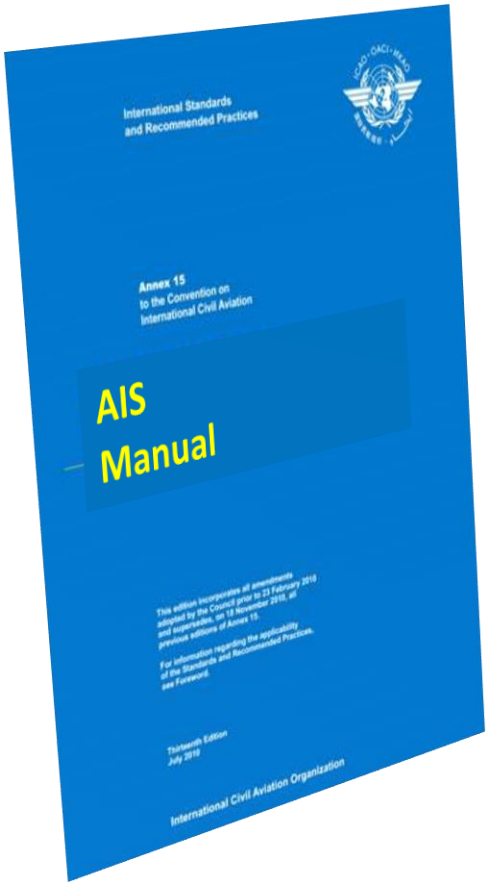
Primary Audience

AIS operational personnel tasked to produce AIP and publish NOTAM

AIS manual– Volume 3

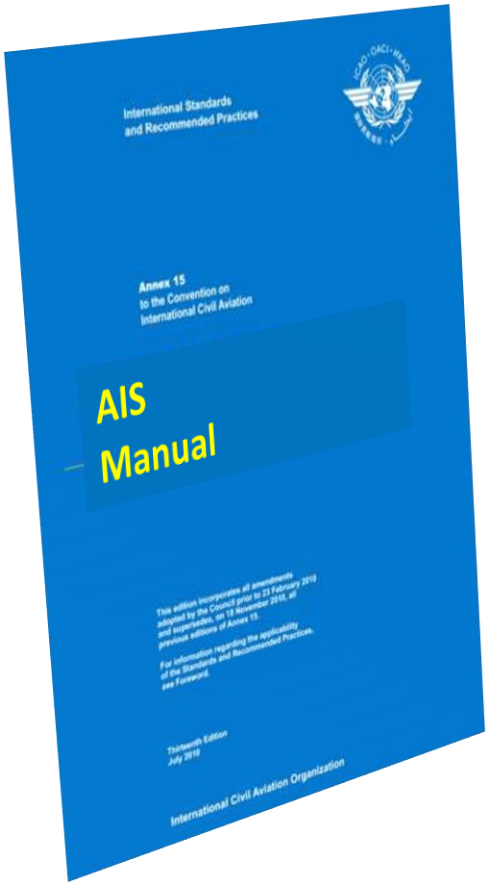
The guiding principles to *AIS MANUAL – Volume 3*

AIS manual – Volume 3



- Introduction
  - General
  - Purpose of the manual
  - Primary audience
- Aeronautical Information Publication (AIP)
  - […] Content and format. Notification of differences, etc.
  - AIP Amendments
  - AIP Supplements
  - Electronic AIP
- Aeronautical Information Circular (AIC)
- Aeronautical Charts
- Preparation and provision of aeronautical information products
- NOTAM/SNOWTAM/ASHTAM
- NOTAM Distribution
- Series of appendices containing AIP and eAIP specimen, NOTAM. SNOWTAM and ASHTAM examples, etc.

AIS manual– Volume 4



Purpose

Guidance for providing digital products and services

Primary Audience

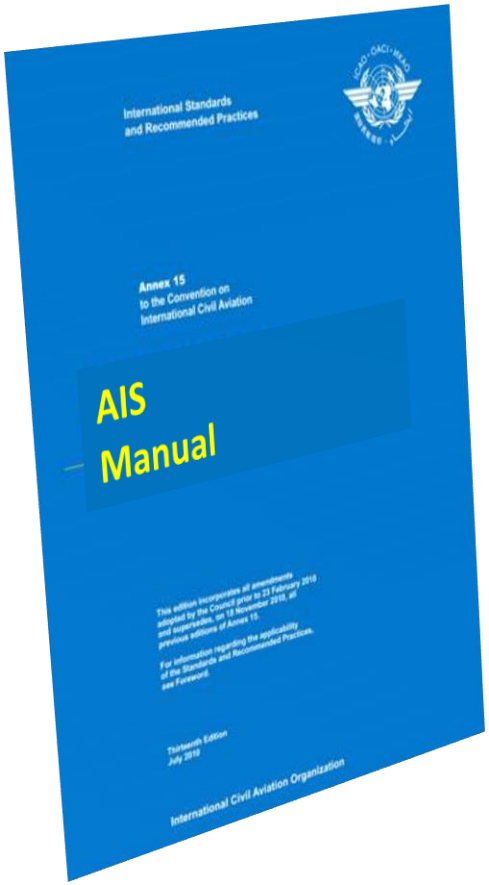
AIS operational personnel providing digital products and services

AIS manual – Volume 4

The guiding principles to *AIS MANUAL – Volume 4*

- To achieve global interoperability within the ATM system it is crucial that the data is exchanged through globally harmonized models
- Description of the main principles for modeling information
- Aeronautical Information Exchange model (AIXM):
  - **Still debating on the best guidance to provide!**
  - **Feedback to ICAO to understand what would be the useful guidance to support implementation**
  - For the technical specifications we refer to EUROCONTROL material
  - Brief description of the model (temporality concept, UUID)
  - Some examples of business rules to ensure interoperability

AIS manual – Volume 4



- Introduction
  - General
  - Purpose of the manual
  - Primary audience
- Digital exchange of aeronautical information
  - Global interoperability
  - System Wide Information Management
  - Data, information modelling principles
  - Aeronautical Information Exchange model (AIXM)
  - Examples of business rules to ensure interoperability
- Digital data sets
  - AIP data set
  - Terrain and obstacle data sets
  - Aerodrome mapping data set
  - Instrument flight procedure data set
- Distribution Services
  - Digital NOTAM
  - Pre-flight Information Services
  - Post-flight Information Services

Guidance material

End of the year

TBD

November 2018

Timeline

AIS Manual

Training manual

Pending resources

Summary

- The ICAO provisions for AIM have been reworked to provide a comprehensive set of requirements, practices, procedures and “best practice” guidance
- As part of the “No Country Left Behind Initiative” a lot of focus is given to implementation
- AIM is happening now, special attention on implementation
- Special focus on the development of guidance by the applicability date of the new provisions
- Guidance material will be focused on how to improve or implement capabilities
- **We need support in terms of resources to speed up the process!**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European and North Atlantic (EUR/NAT) Office Paris
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Eastern and Southern African (ESAF) Office Nairobi
Asia and Pacific (APAC) Office Bangkok

Thank You