

The ICAO Latest Developments for AIM

Aeronautical Information management

Outline



- The Latest AIM Provisions
- The Guidance Material
- The USOAP Protocol Questions
- Future AIM provisions & Roadmap



Global Overview

LATEST AIM PROVISIONS



Latest AIM Provisions



Annex
15
(applicable)

States to create primary legislation and regulatory framework based on the transposition of ICAO provisions

PANS-AIM
(applicable)

- States to create primary legislation and regulatory framework based on the transposition of ICAO provisions
 - AIS to use it as a procedural document

Guidance Material

- To support States and all the entities involved in the aeronautical data process with implementation

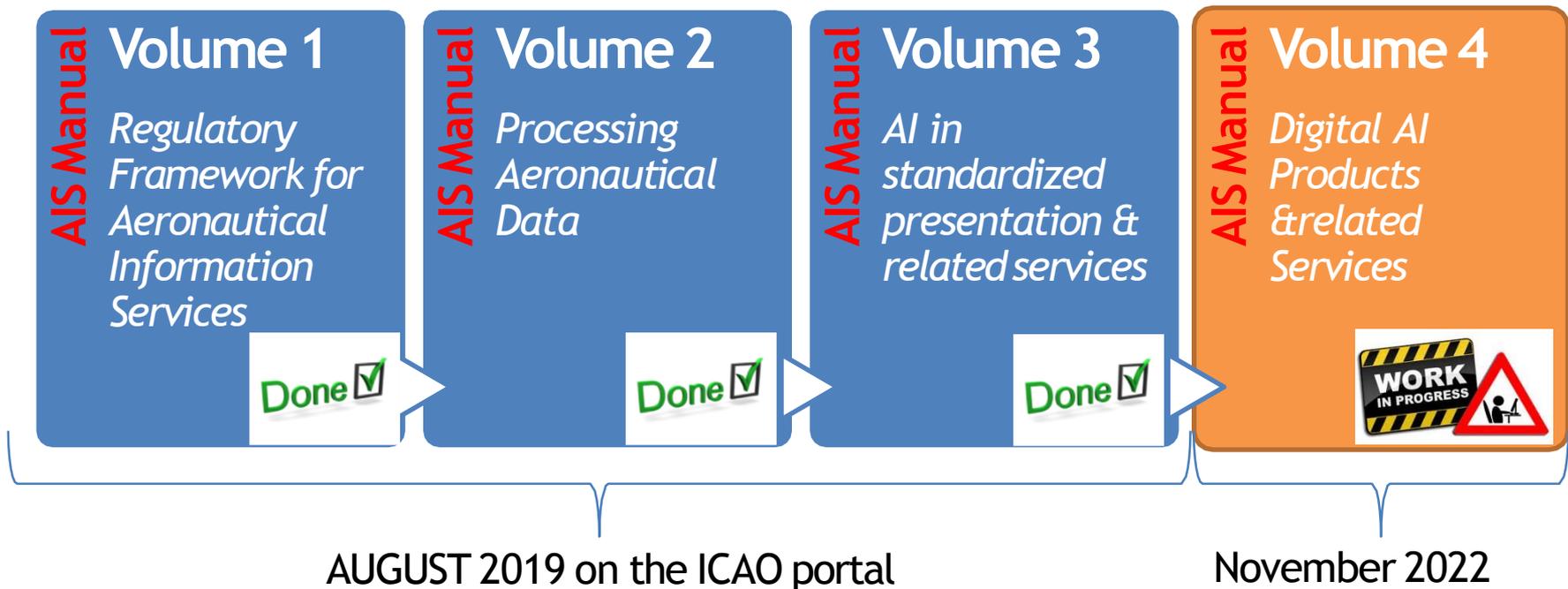
Global Overview

GUIDANCE MATERIAL – AIS MANUAL



AIS Manual - Doc 8126

Overall view:



AIS Manual - Volume 1



AIS Manual Volume 1 Regulatory Framework for Aeronautical Information Services

Done

Table of contents

Chapter 1: Target Audience

Chapter 2: States Responsibilities:

- ❖ CE-1 - Primary Aviation Legislation
- ❖ CE-2 - Specific operating regulations
- ❖ CE-3 - State System and Functions
- ❖ CE-4 - Qualified Technical Personnel
- ❖ CE-5 - Technical guidance, tools and provision of safety-critical info
- ❖ CE-6 - Licensing, certification, authorization and approval obligations
- ❖ CE-7 - Surveillance Obligations
- ❖ CE-8 - Resolution of safety issues

Chapter 3: AIS Responsibilities

Chapter 4: Aeronautical Data Originators Responsibilities

Chapter 5: Aeronautical Information Management

Appendix 1: AIS/AIM Competency Framework

Appendix 2: Annex 15 Compliance Checklist

Appendix 3: PANS-AIM Compliance Checklist

AIS Manual - Volume 2



AIS Manual Volume 2 *Processing Aeronautical Data*

Done

Table of contents

- Chapter 1: Target Audience
- Chapter 2: Scope of Aeronautical Data and General Requirements
- Chapter 3: Collection
- Chapter 4: Processing
- Chapter 5: Distribution
- Chapter 6: Quality Assurance and Control
- Chapter 7: Automation
- Appendix 1: Service Level Agreement Template

AIS Manual – Volume 3



AIS Manual **Volume 3**
Aeronautical information in a standardized presentation & related services

Done 

Table of contents

- Chapter 1: Target Audience
- Chapter 2: Aeronautical Information Publication
- Chapter 3: Aeronautical Information Updates
- Chapter 4: Aeronautical Information Circulars
- Chapter 5: Provision of a. i. in a standardized presentation
- Chapter 6: NOTAM
- Chapter 7: SNOWTAM
- Chapter 8: ASHTAM
- Chapter 9: Instructions for the Transmission and Distribution of the notam Messages
- Chapter 10: Pre-flight information services
- Appendix 1 to 9: Relocated text from existing manual

AIS Manual - Volume 4



AIS Manual Volume 4 *Digital AI Products & related Services*



November 2022

Proposed Table of contents

Chapter 1: Target Audience

Chapter 2: Digital Exchange of Information

Chapter 3: Interoperability principles

Chapter 4: General Aspects of Digital Data Sets

Chapter 5: Specific Aspects of Digital DataSets

- ❖ Chapter 5.1: AIP Data Set
- ❖ Chapter 5.2: Terrain data set
- ❖ Chapter 5.3: Obstacle data set
- ❖ Chapter 5.4: Aerodrome mapping dataset
- ❖ Chapter 5.5: Instrument Flight Procedure dataset
- ❖ Chapter 5.6: Temporary changes of short duration

Chapter 6: AIM Information Services:

- ❖ How to apply SWIM Information services principles to AIM
- ❖ Information services overview for AIM
- ❖ Information services lifecycle for AIM
- ❖ Information services quality for AIM
- ❖ Type of AIM information services

Chapter 7: Governance aspects of AIM information services

Global Overview

GUIDANCE MATERIAL – MANUAL ON THE QMS FOR AIM



Manual on the QMS for AIM

Initial Draft (~2011)

Manual on
QMS forAIM

Evolution of the manual from its initial Draft:

New aspects ❖ Need for Quality: **emphasized!**

- ❖ Compliance with the latest provisions (Annex 15, PANS-AIM)
- ❖ Quality management system documentation
- ❖ Importance for data originators to have QMS implementations
- ❖ Quality Auditing
- ❖ Importance of strong interfaces between the QMS systems in the data process (Formal Arrangements, Aeronautical Data Catalogue)
- ❖ The ISO 9001 Quality standard **reduced!**
- ❖ Explaining the roles of QMS and SMS for AIM organizations

Final Manual (2020)

Manual on
QMS forAIM

Global Overview

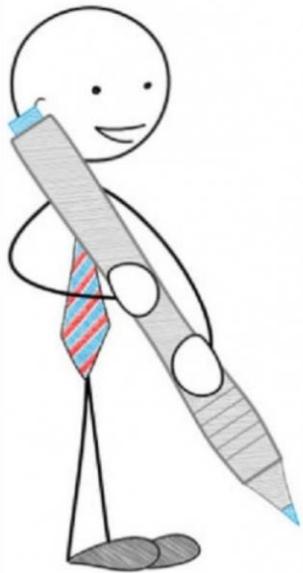
GUIDANCE MATERIAL – AIM TRAINING DEVELOPMENT MANUAL



AIM Training Development Manual

Initial Draft (~2011)

AIM Training
Development
Manual



Rewriting

New Elements:

- ❖ A new *ICAO Competency-based Training and Assessment methodology* that:
 - ❖ Focuses on ensuring the overall performance of the individuals rather than on the completion of single tasks
 - ❖ Establishes specific workflows for training & assessment

Final Manual (2020)

AIM Training
Development
Manual

AIM Training Development Manual



Proposed Table of contents:

Chapter 1: Target Audience

Chapter 2: ICAO AIS/ AIM competency framework (list of competencies for the AIM domain)

Chapter 3: Competency-based training and assessment process that includes:

- ❖ WORKFLOW 1: Analyse the training needs
- ❖ WORKFLOW 2: Design competency-based training and assessment
- ❖ WORKFLOW 2 – Part 1: Design the adapted competency model
- ❖ WORKFLOW 2 – Part 2: Design the assessment and training plans
- ❖ WORKFLOW 3: Develop the training and assessment materials
- ❖ WORKFLOW 4: Conduct the course
- ❖ WORKFLOW 5: Evaluate course

Chapter 3 will have specific appendices providing **examples of:**

- ❖ Training Specifications
- ❖ Adapted competency models
- ❖ Evidence guides
- ❖ Competency checklists
- ❖ Competency Assessment forms
- ❖ Syllabus

Chapters 4 to 7: various phases of training (ab-initio, initial, on the job, refresher training)

Global Overview

THE USOAP PROTOCOL QUESTIONS (PQ_s)



USOAP Protocol Questions



CE-1 - Primary Aviation Legislation

CE-2 - Specific operating regulations

CE-3 - State System and Functions

CE-4 - Qualified Technical Personnel

CE-5 - Technical guidance, tools and provision of safety-critical info

CE-6 - Licensing, certification, authorization and approval obligations

CE-7 - Surveillance Obligations

CE-8 - Resolution of safety issues

Revising/ Adding Protocol Questions to monitor:

1. CE1,CE2: Robust AIM regulatory framework
2. CE3: Clear responsibilities, functions
3. CE3, CE4: Financial resources & qualified AIM personnel
4. CE5, CE6, CE7, CE-8: Effective approval and surveillance processes for AIS provider
5. ALL: Specific implementation of SARPs
 - ❖ Data Quality Specifications
 - ❖ Formal arrangements
 - ❖ Use of interoperable exchange models
 - ❖ Strong Validation and Verification
 - ❖ Automation & Mitigation
 - ❖ Misuse of NOTAM be prevented

Guidance material content amplified to support the use of the PQs.

Q2 2021

Global Overview

FUTURE AIM PROVISIONS & ROADMAP



NOTAM Replacement

Problem statement: The NOTAM system dates back to the 1920's and no significant enhancements have been done since 1987. As a result, the NOTAM system is no longer adequate to support modern aviation systems and the increasing number and diversity of users.



And all other possible channels!

Survey for NOTAM users:

- ❖ Questions are directed at identifying solutions, rather than problems
- ❖ Long-term solutions should be sought rather than “fixing” the existing system
- ❖ Invite users to think “outside the box”
- ❖ Invite users to value the good aspects of the existing system

Develop an OPERATIONAL CONCEPT - Q2 2021
First set of provisions - Q4/2022

Aeronautical Charts



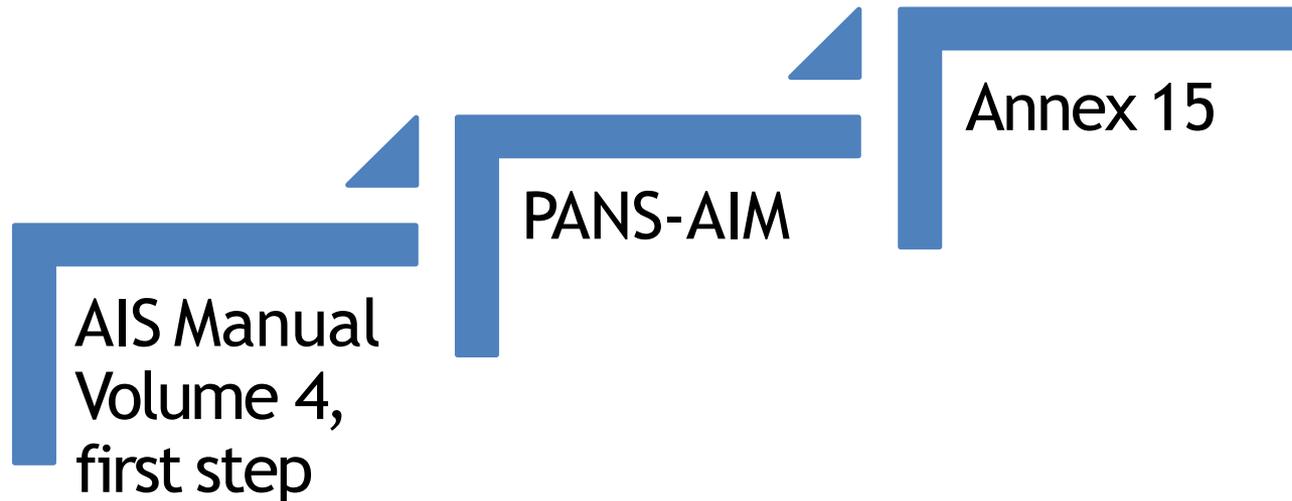
And all other possible channels!

- ❖ Survey for States and its entities:
 - ❖ If they produce all Annex 4 Chart types
 - ❖ If they produce charts not in Annex 4
 - ❖ If they support the notion of chart based on their use
- ❖ Survey for the next intended users:
 - ❖ If charts have outlived their purpose
 - ❖ If data sets will replace charts
 - ❖ If the existing charts fulfil the intended function
 - ❖ How to improve quality and format

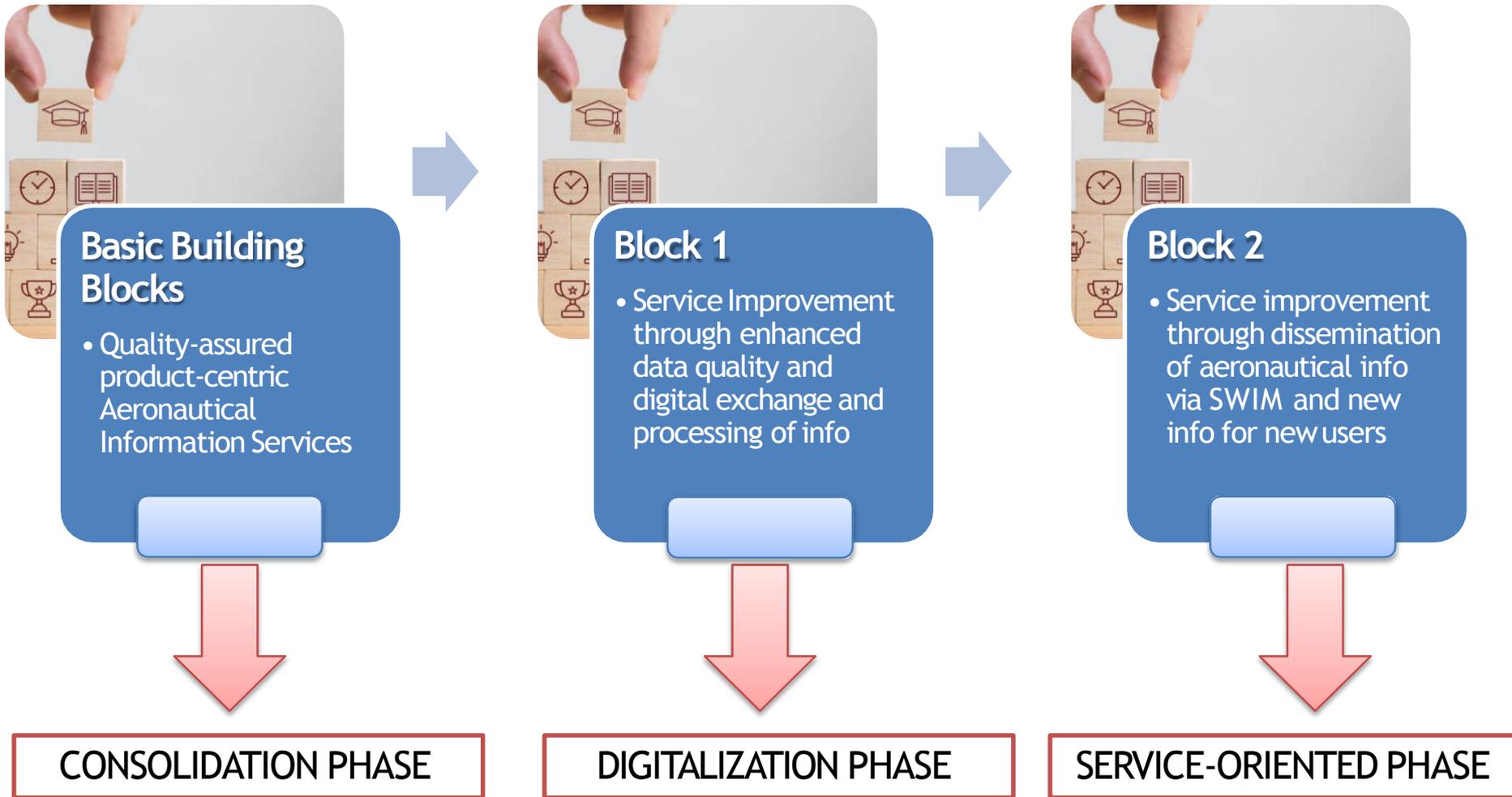
First analysis, for the development of the first set of provisions - Q4/2022

Datasets

- The starting point is the work on the AIS Manual, Volume 4
- Afterwards some of the material may be uplifted to the PANS-AIM or Annex 15, for increased harmonization



AIM Roadmap



ICAO IMP - AIM Working Group



Information Management Panel



Architecture Working Group

Services Working Group

Governance Working Group



AIM Projects

Global Implementation Support

Digital Data Set

NOTAM

Aeronautical Charts

WGS-84

Supporting AIM 1.0
Facilitating AIM 2.0

Thank You / Merci
