



ICAO

UNITING AVIATION

Development of the Global AIM Strategy (AIM Projects)

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Interregional EUR/MID PANS AIM Workshop

(Paris, 10-12 July 2018)

Outline

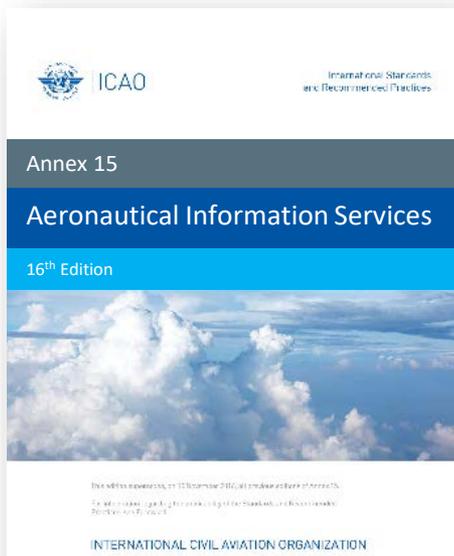
- Status-quo:
 - ICAO AIM provisions
- Next steps:
 - Leading the way to implementation
 - Future AIM developments
 - The ICAO AIM projects
 - The AIM Implementation Strategy



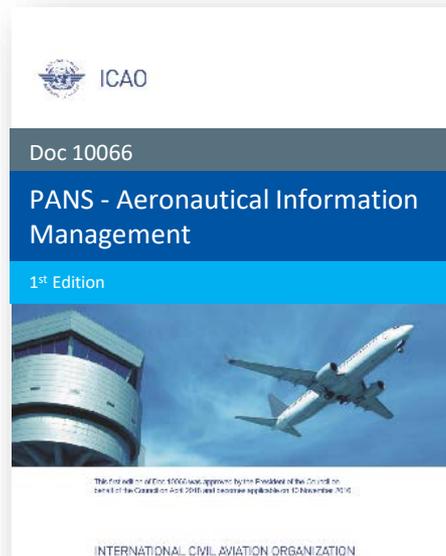


Where are we?

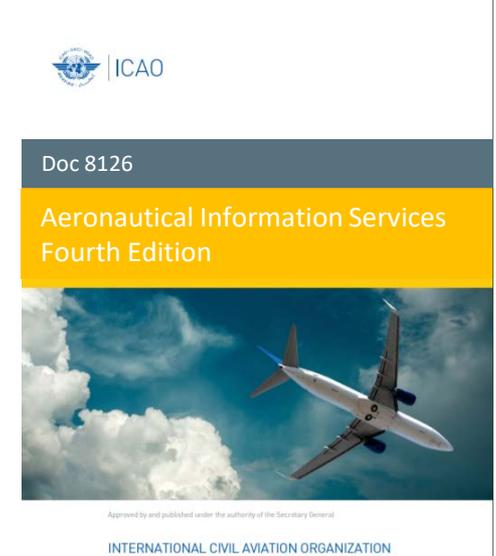
ICAO AIM framework of documents



- Adopted by ICAO Council (Feb 2018)
- State Letter (April 2018)
- App. Date Nov 2018



- To be approved by ICAO Council
- State Letter (Aug 2018)
- App. Date Nov 2018



- Still Under work
- Ready by the applicability date (Nov 2018)



Volume 1 – Organisational Development

(70% of the document is written)

- guidance for the organizational development of AIS including the transition to AIM
- **Management bodies: ANSP, Regulators**

Volume 2 – Processing Aeronautical Data

(90% of the document is written)

- guidance for processing aeronautical data and information in a data centric environment
- **Operational personnel**

Volume 3 – Aeronautical Information in a Standardized Presentation

(90% of the document is written)

- guidance for the provision of aeronautical information in a standardized presentation
- **Operational personnel**

Volume 4 – Digital Products and Services

(40% of the document is written)

- guidance for providing digital products and services
- **Operational personnel, AIM SW manufacturers**



What's next?



Lead the way to implementation...

Support the implementation of AIM requirements (Annex 15, 16th edition and PANS-AIM):

- Revise and/or enhance existing requirements (e.g. in response to State Letter 2017/22);
- development of guidance material for AIM;
- development of web-based guidance;
- identification of specific training needs;
- direct assistance to States to transition to AIM;
- any other AIM implementation support, as required.



Look into the future...

Develop new aeronautical information management requirements. This task may encompass:

- develop an operational concept and corresponding provisions for the establishment of an information service that serves as a replacement for the information currently provided by NOTAMs;
- facilitate the migration of existing paper-based aeronautical charting products into the digital environment and identify requirements for the graphical representation of aeronautical information in a SWIM environment;
- facilitate the provision of digital datasets through SWIM services;
- identify and analyze aeronautical information requirements specific to UAS traffic management (UTM);
- Any other requirements, as needed.

AIM Projects

AIM Projects

- 1) AIM Awareness
- 2) Training
- 3) QMS Implementation & Oversight
- 4) Data Origination
- 5) AIRAC
- 6) WGS-84
- 7) Aeronautical Charting
- 8) NOTAM
- 9) Digital Datasets
- 10) AIM interoperability
- 11) AIM in SWIM
- 12) AIM for UTM



Project Management Approach

AIM Projects

What we will discuss...

- ✓ 2 examples of **implementation (overarching)** projects
- ✓ 2 examples of **implementation (specific)** projects
- ✓ 3 examples of **projects for new AIM requirements**



Lead the way to implementation...

(Overarching projects)





AIM Awareness

Problem statement:

- There is lack of awareness in the global aviation community of the role and importance of quality-assured, aeronautical information and of the adverse impact that erroneous information may have on flight safety and efficiency

Impact:

- Global priorities: PBN, A-CDM, ATFM, SWIM

Action Plan:

- AIM Roadmap
- Guidance material for specific audiences
- Regional seminars/workshops targeting audiences
- Direct assistance to States (“Go-Teams”)

Metrics:

Measure implementation:

- N. States AIM Reg. Frameworks /year
- N. States replacing paper with data sets
- N. State AISP awareness training

Measure actions:

- N. ICAO AIS/AIM related workshops
- N. of AIM present. for specific stakeholders



Training

Problem statement:

Lack of systematic, consistent approach to training and competency management to support AIM services. This can cause ineffective practices, deficient quality standards, decreased productivity and increased costs.

Impact:

- inconsistent output, poor quality products and low production rates

Action Plan:

- Training Manual for AIS/AIM
- Share-point with State best practices (Credentialing systems, Competency management, Training for AIS/AIM)
- Go-Teams
- Development of training requirements/computer-based training for AIS providers and AIS State authorities

Metrics:

Measure implementation:

- N. of AISPs introducing a formalized training and competency programme
- N. of EFOD against Annex 15 QMS for training requirements
- N. of safety incidents attributable to AIS

Lead the way to implementation...

(Specific projects- some examples)





QMS Implementation & Oversight

Problem statement:

- Non-effective or Non implementation of a QMS exists today in AIS Provider (AISP) organizations.
- Furthermore it is difficult for State Authorities to oversee QMS Implementation by the AISP.

Impact:

- Configuration management issues, poor consistency checks: errors and inconsistencies in AI
- Global priorities: PBN, A-CDM, ATFM, SWIM

Action Plan:

- Expansion of procedures in PANS-AIM
- Manual on QMS for AIM (web-based)
- Share-point with States Best Practices
- Go Teams/Seminars/workshops

Metrics:

Measure implementation:

- N. of States QMS implementation/year, based on USOAP results, regional reports, surveys



Aeronautical Data Origination

Problem statement:

There are several issues with origination of aeronautical data and information:

- Originated data are not of the right quality
- Non effective communication among stakeholders
- Lack of formal arrangements.

Impact:

- Quality is not commensurate with the intended use of the information
- Global priorities: PBN, A-CDM, ATFM, SWIM

Action Plan:

- **AIS Manual is already under work:**
 - Guidance on formal arrangements
 - Formal arrangements template
 - Aeronautical Data Catalogue
 - Roles and responsibilities
- **Additional work on the Data Catalogue?**

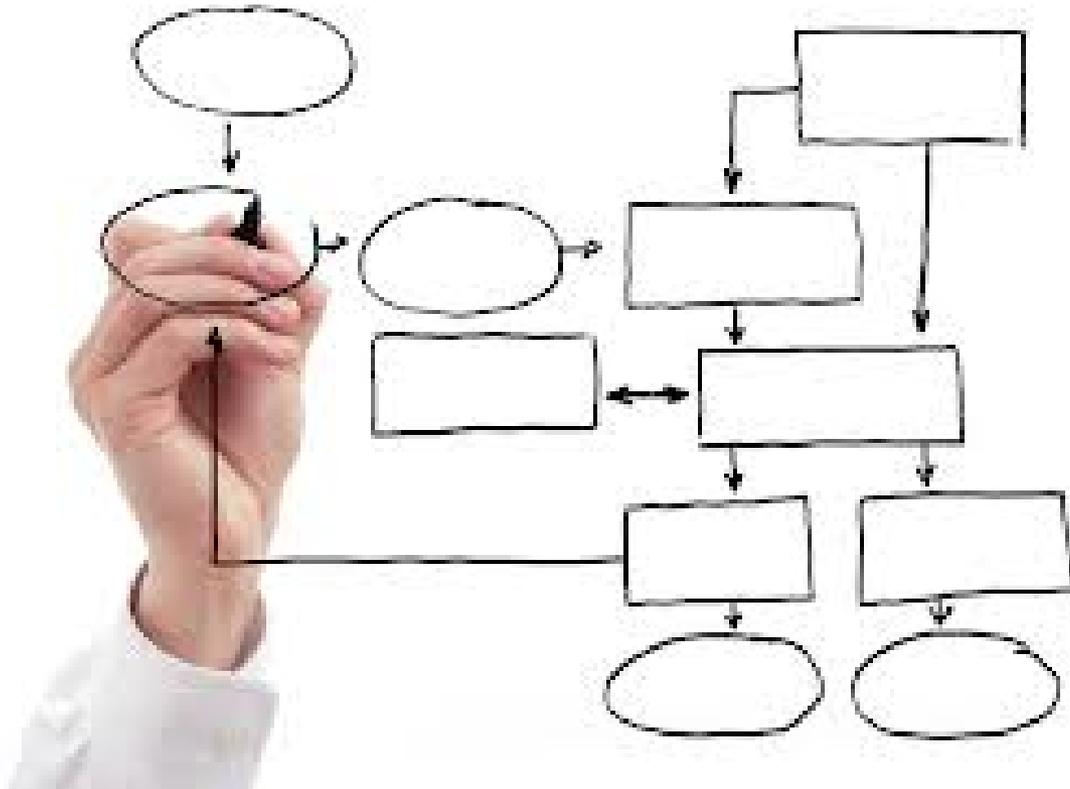
Metrics:

Measure implementation:

- N. of established formal arrangements between data originators and the ANSP/year

New AIM requirements

(Specific projects- some examples)





Notice to Airmen (NOTAM)

Problem statement:

- For pilots and flight planning units it is difficult to filter the NOTAM properly
- The total number of NOTAM issued per year has increased by 2.4 times worldwide
- Quality of NOTAM information is not always adequate
- The filtering criteria are not sufficient to cope with modern operations (TBO).

Action Plan:

- Looking into long-term solutions: develop a new concept for an Information Service (SWIM)
- Coordination with communities of interest
- Develop ICAO provisions
- Regional roll-out implementation activities

Impact:

- High impact on flight safety and efficiency
- Global priorities: PBN, A-CDM, ATFM, SWIM

Metrics:

Qualitative:

- Evaluation of report by aircraft operating agencies and data providers



AIM in SWIM

Problem statement:

- The Annex 15 and PANS-AIM specify five categories of digital aeronautical data sets that shall/should be provided by AIS, but do not indicate how these data sets are actually provided

Impact:

- Proliferation of different ways to provide information, therefore jeopardizing interoperability
- Impact on the vision of an interoperable global ATM system for all users.

Action Plan:

- Define minimum set of requirements for the provision of digital data sets services
- Define set of requirements for more advanced “query/reply” digital data services.
- Define set of requirements for “dynamic” updates to digital data sets service

Metrics:

Measure Implementation:

- Number of State AIS providing digital data sets through a SWIM service

AIM for UTM

Problem statement:

- The drone manufacturing industry and user community has seen fast expansion. With limited airspace and a dense population, the need for a traffic management system that includes drones has become urgent. This system needs information and data supporting both aircraft and drones traffic management.



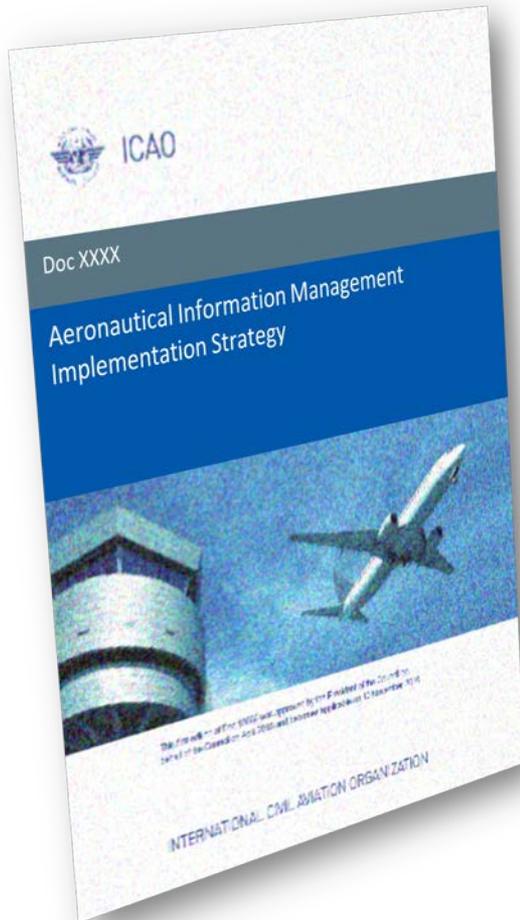
Action Plan:

- UAS Advisory Group (UAS-AG) is addressing all aspects of UTM at ICAO.
- Coordinate with the UAS-AG on AIM support
- Establish actions accordingly



to do..

AIM Implementation Strategy



- Introduction
 - Why an AIM implementation Strategy
 - The main objectives
 - A project-management approach
- The ICAO Provisions: current situation
 - Annex 15, PANS-AIM
 - The AIS Manual
- Upcoming requirements
 - Airspace Users requirements (ATM)
 - Requirements coming from other domains (e.g.UTM)
 - Towards SWIM
- The Strategy: the “AIM” Projects
 - Projects to support implementation of existing provisions
 - Projects for future implementations

Status and next actions

- Projects definition phase by the experts (June 2018)
- ICAO internal peer review to finalize the project documents (August 2018)
- Consultation with the Air Navigation Commission (November 2018)
- Drafting of the AIM Implementation Strategy (tentative: end of the year)
- Starting working on the projects (tentative: end of the year)
- AIM Expert Group meeting (tentative: 3-7 December 2018)



ICAO AIM Expert Group

- Establishment of ICAO expert group/s to execute the 12 AIM projects (tentative proposal: specialized working group/IMP)
- The ICAO expert group/s will be formalized soon!





Focal points

AIM Project	Focal Point
1) AIM Awareness	Fernando Lopes
2) Training	Steve Harben
3) QMS Implementation & Oversight	Steve Harben/George Sempeles
4) Data Origination	Ruedi Schneeberger
5) AIRAC	Abbas Niknejad
6) WGS-84	Ruedi Schneeberger
7) Aeronautical Charting	Peter Rudolph
8) NOTAM	Peter Rudolph
9) Digital Datasets	Abbas Niknejad
10) AIM interoperability	Eddie Porosnicu
11) AIM in SWIM	Eddie Porosnicu
12) AIM for UTM	Stephane Dubet

Conclusions

- Focus on implementation as a matter of priority!
- Create a solid base by enhancing the quality of the existing products and services
- Encourage the transition to digital environments
- Develop new requirements for facilitating the integration of the aeronautical information domain into SWIM
- Develop an effective strategy for continuing planning and progressing the work on AIM

Work on AIM SHALL progress forward!



- North American Central American and Caribbean (NACC) Office
Mexico City
- South American (SAM) Office
Lima
- ICAO Headquarters**
Montreal
- Western and Central African (WACAF) Office
Dakar
- European and North Atlantic (EUR/NAT) Office
Paris
- Middle East (MID) Office
Cairo
- Eastern and Southern African (ESAF) Office
Nairobi
- Asia and Pacific (APAC) Office
Bangkok



Thank You