AIM strategy for current and future implementation

Developed and prepared by Roberta Luccioli, ICAO AIM Technical Officer

➢ 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

Annex 15
Aeronautical Information Services
16th Edition
INTERNATIONAL CIVIL AVIATION ORGANIZATION

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

Doc 10066
PANS - Aeronautical Information Management
1st Edition
INTERNATIONAL CIVIL AVIATION ORGANIZATION
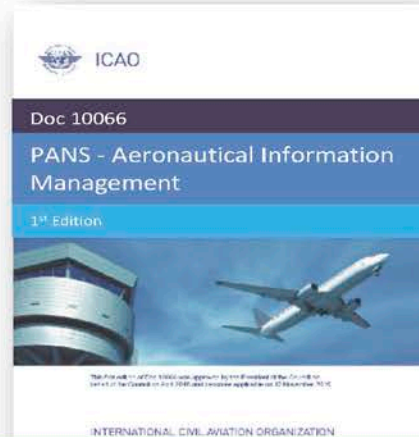
- To be approved by ICAO Council
- State Letter (July 2018)
- App. Date Nov 2018

Doc 8126
Aeronautical Information Services Fourth Edition
INTERNATIONAL CIVIL AVIATION ORGANIZATION
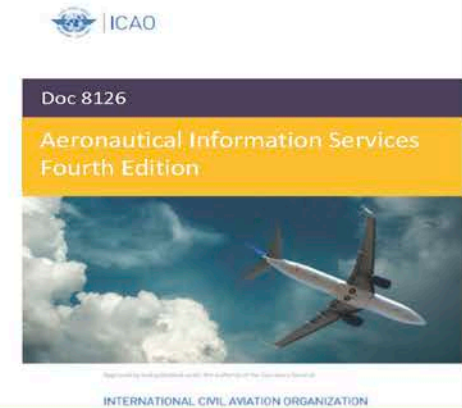
- Still Under work
- Ready by the applicability date (Nov 2018)

ICAO AIS Manual

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
(100% 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?

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.

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.

We have called the experts!

✓ Former AIS-AIM Study Group members + additional voluntary support
✓ AIM Brainstorming Session (ICAO HQ, Montreal, 1-3 November 2017)
✓ AIM Steering Group Meeting (ICAO HQ, Montreal,16 to 20 April 2018)

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
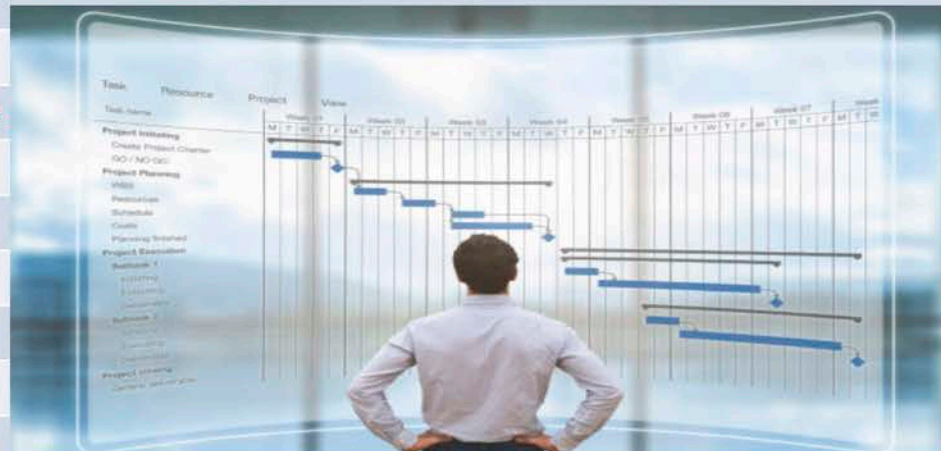
Project Management Approach

AIM 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 QMS implementation/year
- N. States Reg. Frameworks /year

Measure actions:

- N. ICAO AIS/AIM related workshops
- N. of presentations for States' Regulators
- N. of presentations for AIM Managers

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.

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

Impact:

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

Metrics:

Measure implementation:

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

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.

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?

Impact:

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

Metrics:

Measure implementation:

- N. of established formal arrangements between data originators and the ANSP/year
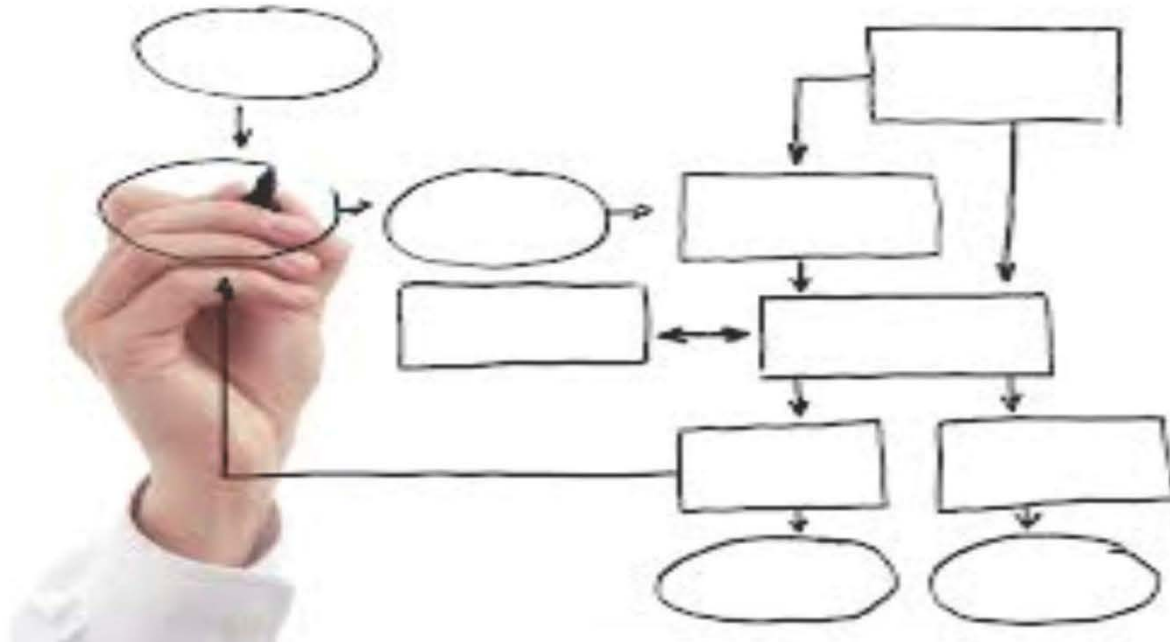
Notice to Airmen (NOTAM)

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

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

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

Metrics:

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

Other two ICAO projects on digital datasets.

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.
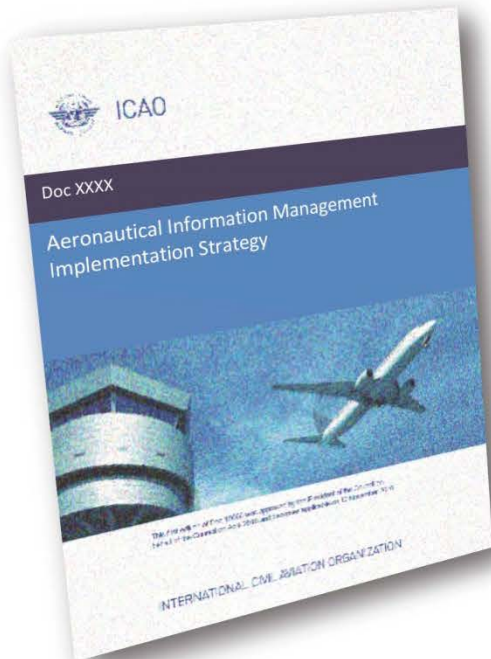- Coordinate with the UAS-AG on AIM support
- Establish actions accordingly

➢ 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 is almost completed
- ICAO internal peer review to finalize the project documents
- Consultation with the Air Navigation Commission
- Drafting of the AIM Implementation Strategy
- Starting working on the projects (tentative: end of the year)

- Establishment of ICAO expert group/s to execute the 12 AIM projects
- The ICAO expert group/s will be formalized soon!

Conclusions

- Focus on implementation as a matter of priority!
- Create a solid base by enhancing the quality of the existing products and services
- 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!

Welcome CANSO

THANK YOU