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

- **Annex 15**
  - Aeronautical Information Services
  - 16th Edition
  - Adopted by ICAO Council (Feb 2018)
  - State Letter (April 2018)
  - App. Date Nov 2018

- **Doc 10066**
  - PANS - Aeronautical Information Management
  - 1st Edition
  - To be approved by ICAO Council
  - State Letter (Aug 2018)
  - App. Date Nov 2018

- **Doc 8126**
  - Aeronautical Information Services
  - Fourth Edition
  - 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
(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

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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.
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)
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**AIM Projects**

**Project Management Approach**

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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

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

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

**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

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**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.

**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

**Impact:**
- inconsistent output, poor quality products and low production rates

**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)*
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, 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.

Action Plan:

• AIS Manual is already under work:
  o Guidance on formal arrangements
  o Formal arrangements template
  o Aeronautical Data Catalogue
  o 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
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.
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
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

AIM for UTM

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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!
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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!
Thank You