B0-DATM Implementation

Abbas NIKNEJAD  
ICAO MID & EUR/NAT

Shane SUMNER  
ICAO APAC

Interregional APAC/EUR/MID Workshop on ‘service improvement through integration of AIM, MET and ATM information’  
(EUROCONTROL HQ, Brussels, 2-4 October 2017)
• **Status**
  – *Implementation statistics*

• **Challenges**
  – *What are the biggest obstacles in implementation*

• **Lessons learned**
  – *How to best facilitate States in future implementation*
### Performance Improvement Area 2:
**Globally Interoperable Systems and Data – Through Globally Interoperable System Wide Information Management**

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| Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration.
Supports the coordination of ground-ground data communication between ATSU based on AIDC defined in ICAO Doc 9791. | Increased Interoperability, Efficiency and Capacity through FF-ICE, Step 1 application before Departure.
Introduction of FF-ICE Step 1, to implement ground-ground exchanges using common flight information reference model, FIXM, XML and the flight object used before departure. | Improved Coordination through multi-centre Ground-Ground Integration (FF-ICE/1 and Flight Object, SWIM).
FT-ICE supporting trajectory-based operations through exchange and distribution of information for multicentre operations using flight object implementation and IOP standards. | Improved Operational Performance through the introduction of Full FF-ICE.
All data for all relevant flights systematically shared between air and ground systems using SWIM in support of collaborative ATM and trajectory-based operations. |
| **B0-DATM** | **B1-DATM** | **B1-SWIM** | **B3-SWIM** |
| Service Improvement through Digital Aeronautical Information Management.
Initial introduction of digital processing and management of information, by the implementation of AIS/AIM making use of AIXM, moving to electronic AIP and better quality and availability of data. | Service Improvement through integration of all Digital ATM Information.
Implementation of the ATM information reference model integrating all ATM information using UML and enabling XML data representations and data exchange based on internet protocols with WXXM for meteorological information. | Performance Improvement through the application of System-Wide Information Management (SWIM).
Implementation of SWIM services (applications and infrastructure) creating the aviation intranet based on standard data models, and internet-based protocols to maximize interoperability. | Enabling Airborne Participation in collaborative ATM through SWIM.
Connection of the aircraft an information node in SWIM enabling participation in collaborative ATM processes with access to rich voluminous dynamic data including meteorology. |
| **B0-AMET** | **B1-AMET** | **B3-AMET** |
| Meteorological information supporting enhanced operational efficiency and safety.
Global, regional and local meteorological information provided by world area forecast centres, volcanic ash advisory centres, tropical cyclone advisory centres, aerodrome meteorological offices and meteorological watch offices in support of flexible airspace management, improved situational awareness and collaborative decision-making, and dynamically-optimized flight trajectory planning. | Enhanced Operational Decisions through Integrated Meteorological Information (Planning and Near-term Service).
Meteorological information supporting automated decision processes or aids involving meteorological information, meteorological translation, ATM impact conversion and ATM decision-making support. | Enhanced Operational Decisions through Integrated Meteorological Information (Near-term and Immediate Service).
Meteorological information supporting both air and ground automated decision support aids for implementing weather mitigation strategies. |
(Service improvement through digital aeronautical information management)

- Initial introduction of digital processing and management of information, by the implementation of AIS/AIM making use of AIXM, moving to electronic AIP and better quality and availability of data.

- Benefits:
  - **Interoperability**: Essential contribution to interoperability.
  - **Safety**: Reduction in the number of possible inconsistencies. Module allows for better data quality, safe guarding and validation of the data throughout the process, and harmonization/synchronization with adjacent States, as necessary.
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<th>APAC</th>
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| • All Roadmap Phase 1 Steps (Consolidation)  
• Regional Priorities  
  • Quality (Phase 1)  
  • Training (Phase 3)  
  • Agreements with Data Originators (Phase 3)  
• Electronic AIP  
  (Phase 2) | • INF 04 (Integrated briefing)  
• ITY-ADQ (Quality of aeronautical data/information) | • AIXM  
• eAIP  
• QMS  
• WGS-84  
• eTOD (area 1 & 4)  
• National AIM Impl. Plan (to include DNOTAM) |
| Reference:  
- Guidance Manual for AIS in the Asia/Pacific Region – Appendix A | Reference:  
- EUR ASBU implementation monitoring report 2016 | Reference:  
- MID Air Navigation Strategy  
- MID AN Report 2016 |
B0-DATM Status - APAC

- Asia/Pacific Region AIM Transition Table
- Measures progress against the ICAO Roadmap for Transition from AIS to AIM
- Maintained by AIS – AIM Implementation Task Force
- https://www.icao.int/APAC/Documents/edocs/AIS%20AIM%20Implementation%20Table.pdf
Roadmap Phase 1 Steps

71% Implementation

Regional Expectation:

Immediate Implementation
Roadmap Phase 2

44% Implementation

Regional Expectation:

Immediate Implementation

*To be updated with new Regional AIM Plan (2018)*
• Implementation of Regional Priorities:

• Quality: 20 Administrations fully implemented
  7 Administrations partly implemented
  55% (estimated) Regional implementation

• Training: 10 Administrations fully implemented
  11 Administrations partly implemented
  15% (estimated) Regional implementation
• Implementation of Regional Priorities:

• Agreements with Data Originators:
  9 Administrations fully implemented
  7 Administrations partly implemented
  30% (estimated) Regional implementation

• eAIP:
  24 Administrations web-accessible AIP (mostly PDF)
  4 Administrations eAIP from digital database
  6 Administrations eAIP (digital) partly implemented
  16% (estimated) Regional implementation eAIP
• Overall

  – Generally poor progress
  – Failure of many States to implement pre-existing AIS requirements
  – Poor development of legislation and regulation
  – States procuring AIM systems without attending to the fundamentals
    • Quality
    • Timeliness
  – Some States excellent progress
INF04 - Implement integrated briefing

Completed: 65%
Ongoing: 8%
Planned: 2%
Late: 23%
No plan: 0
Not applicable: 2%
Missing data: 0
B0-DATM Status – EUR/NAT

**ITY-ADQ - Quality of aeronautical data/information**

- Completed: 4%
- Ongoing: 37%
- Planned: 2%
- Late: 50%
- No plan: 0
- Not applicable: 7%
- Missing data: 0
**B0-DATM Status – EUR/NAT**

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The progress for B0-DATM is acceptable (with approximately 63% implementation). eTOD Area 4 is not applicable in 6 States.

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Monitoring mechanism
Harmonized reporting and monitoring

ICAO Global Air Navigation Implementation (ANI) Dashboard
Challenges / Lessons Learned
• Data exchange be considered in further update/upgrade of AIXM
• Interoperability and data exchange issues be taken into account by AIM system providers/developers
• States should carry out comprehensive study/analysis of their current situation and future needs of their Users when planning for a new AIM system or upgrade in their current system
• Involvement of all Stakeholders (ATM, PANS OPS, Flight OPS, …) in the development of plans for AIM systems in order to ensure Stakeholders’ needs and future interoperability
• Difficulties in the implementation of eTOD
• Cyber security issue should be considered in the exchange of aeronautical data/information
• Training of AIS/AIM personnel on new AIM system is crucial in successful transition to digital AIM
• Lack or shortage of competent AIS/AIM personnel
• Funding new AIM systems in particular and AIM transition/implementation, in general, is a challenge
• Higher priority should be given to AIM implementation by States’ CAA/ANSP management
• Encourage States and Stakeholders to support States in AIM transition in line with ICAO NCLB initiative
• Need for review/update of the “Roadmap for transition from AIS to AIM”
• Expedite the process of issuing the Quality Manual and Training Manual
• Need for updating the AIS Manual (Doc 8126)
• Need for seminars/workshops on new PANS AIM and changes to Annex 15 (amendments 39B and upcoming 40)
• Considerations related to the costs, efforts and changes that States should take care of, when new SARPs are going to be developed/introduced
• Need for common standards/rules and more provisions/guidance for AIXM and IAID
THANK YOU