



# IFAIMA Global AIM 2017 Kampala, Uganda

## Summary



# What we heard

- ICAO Global and Regional Developments
- Regulatory Framework best practices
- Understanding AIS to AIM – end to end
- AIS / AIM Phase I & II - Open Questions
- Importance of training
- Looking into the future



# No AIS Left Behind (what we have)

- The **global initiatives**
  - State Letter 2017/22: **new global framework for AIM!**
  - New PANS-AIM: the daily book for AIM practitioners
  - New expanded “AIM” manual coming soon
  - Implementation strategy to address non compliances on aeronautical charts
- The **regional initiatives**
  - Regional guidance publicly available
  - Regional templates to support national AIM implementation plan & roadmap
  - Regional workshops and conferences
  - Centralized resources and regional databases
- **Industry and International organizations** support
  - Intl. organizations providing guidance and tools to support implementation
  - Industry offering the technological means and training to go operational now



# No AIS Left Behind (what we have)

- Several examples of **best practices**...
  - Kenya, Senegal and Nigeria experiences in establishing a reg. framework and oversight
  - Uganda example on steps taken to transition to AIM
  - Kenya example on how to maintain the standards across the chain
  - Belgium integration of civil-military information
  - Czech Republic model for training
  - Technological solutions, experiences and advice shared by the industry and agencies

...ICAO website sharing examples and best practices to address the various aspects of the transition?



# No AIS Left Behind (what we miss)

## • Institutional challenges:

- Lack of understanding that multiple and uncoordinated rules can be extremely costly and potentially catastrophic
- Lack of clear requirements for the stakeholders involved: it increases friction and impacts quality of services
- Inability of service providers to understand the role of the oversight function in the Civil Aviation Administration;
- Need for more cooperation between regulators and ANSPs
- Placement of the AIS in the Civil Aviation Administration
- Lack of competent staff/Inadequate training



# No AIS Left Behind (what we miss)

- Service provision challenges:
  - AIM officer not recognized as a profession
  - Risk of working as “amateurs” to this sensitive profession is not realized
  - Need for ICAO specific training programmes and more guidance
  - Issues with English language proficiency
  - Provision of raw data to the AIS must be strengthened
  - Digital datasets are still considered immature for implementation
  - Reliable exchange of data between stakeholders is still a challenge



# Technological challenges

## • Technological challenges:

- AIXM poses challenges in terms of data exchanges due to its verbosity
- Mapping rules to convert AIXM to the ARINC data formats do not exist
- It is difficult to make AIXM data available for airborne applications
- eTOD is hardly used in avionics systems
- No incremental AIXM updates (UUIDs issues)
- AIXM is still too permissive; major bilateral coordination is required



### Some initial steps...

1. New interoperability rules”, “coding rules” and “business rules”
  - to reduce the number of AIXM options, where necessary;
  - to define precise coding rules for practical situations; and
  - to facilitate the verification of the datasets
2. Facilitate the implementation of AIP data sets
3. Plan to create mapping AIXM → ARINC
4. Wiki for suggestions



**... Still more is needed**



# The “Kampala Recommendations”



## Regulatory aspects

- Regulate AIM: To enjoy its benefits: clear guidance for stakeholders, major shift in economic value, more robust and sophisticated use of aeronautical information
- Think different: “AIS” is about the service, “AIM” is about data quality across different domains
- Make the primary legislation effective: Separation between the Regulatory and the Service Provision functions shall be spelt out right from primary legislation
- Encourage Cooperation between CAAs and ANSPs to ensure more effective audits, inspections and follow-ups;
- Make the current regulatory process more “resilient”. To protect from ambiguity potentially coming from the digital environment



# AIS to AIM transition... end to end

- AIM Transition Without Strong AIS Foundation is not effective
  - Eliminate the deficiencies in processes & quality issues in your existing products;
  - Understand fully how a “legacy AIS” is provided;
  - Do a complete quality management review of the existing AIS
- Need for a cultural change:
  - If the input is garbage, the output is garbage
  - Communicate, talk, discuss, with your data originators... and then learn how to listen to each other and reach the compromise to meet the common objective
  - Understand that AIS and data originators need each other
- Automation reduces human errors but plan for fall-back procedures: Automation reduces human errors but increases the possibility for machine errors; ensure staff competency and operator proficiency (even in case of machine failure)
- More cooperation among States to share best practices



## Interoperability ... way forward...

- We don't know... yet!
- We need to solve it asap.
- Need to create more forums for discussion to find a concrete solution
- Need of a joint effort of all stakeholders which include ICAO, International Organizations, Industry and Service Providers
- Encourage discussions to the ICAO Information Management Panel (IMP), that is working on creating the basis for interoperability of data exchange
- Need for an **ICAO AIM working group**
  - *GLOBAL data and information-systems standards?*
  - *GLOBAL standardization and certification (FMS)?*
  - *Leverage existing international standards for data systems?*
  - *Leverage of other information domains examples (WIXXM)?*





# Looking into the future

- Procedural/radar control to trajectory based management → we can know and share the information of the aircraft
- Situational awareness becomes important (or more important than today)
- At the heart of this is INFORMATION SHARING through SWIM
- The development and growing of concepts such as ATFM, CDM, PBN has created a far richer information environment
- And this requires the need to share and aggregate and harmonize a huge amount of information
- So let's take the right steps today to strive for harmonization and alignment across systems



# Learn from experience...

- Let`s listen to the users!
  - NOTAM Challenges (no timely notifications, partial information)
  - AIRAC Adherence (information does not reach the data houses in time, effective dates outside common dates)
  - No answers on clarification
- Let`s allow the AIS to do the right validation and verification of data
  - AIS does not question the data;
  - if AIS questions, the originator feels “undermined” in his role;
  - Validation and verification is needed on both sides and communication is essential;
  - AIRAC cycles are tight : AIS needs to be organized to do all the verification and validation .



# Learn from experience...

- NOTAM proliferation needs to be addressed:
  - Sensitize the originators to the issues
  - Not having information on status and condition of infrastructure on time
  - Better understand what information qualifies NOTAM
  - Training
- Certification requirements for AIS/AIM personnel... is it the highest priority?
  - Need to prioritize the issues we are facing
  - Maintenance of certification is costly and time-consuming
  - For future deliberations
- Interoperability issues, need for global standards and certification of aircraft: we need to act!



# CONCLUSIONS

**The future of aeronautical information management and ultimately SWIM looks good from where we stand...**

**The challenges of yesterday must be addressed today if we are to reach tomorrow...**

**We can not AIM if we have not served and we can not SWIM if we can't AIM.**



# Programme Coordination and Implementation (PCI) – information leaflet



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**Thank You**