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AIS to AIM 2.0

The Global View

Erwin Lassooij

*Chief ICAO Programmes Coordination
and Implementation Section*

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Outline

- The Challenges
- The Present, AIS to AIM 1.0
- The Future, AIM 1.0 to AIM 2.0





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Global Overview

THE CHALLENGES





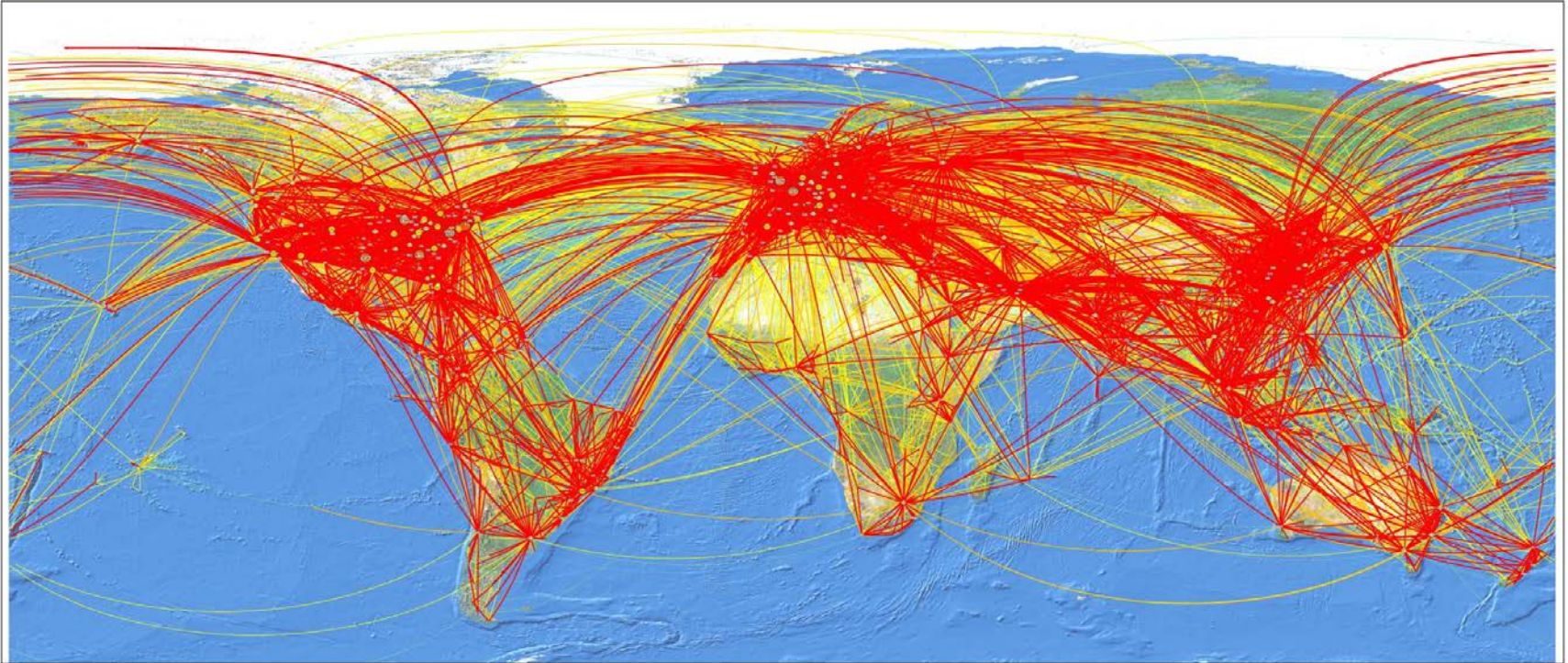
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TRAFFIC DENSITY



Air Traffic Flow Chart 2040





- Zero Fatalities
- New technology
- Increasing traffic
- New entries
- Global interoperability

....



Other Challenges



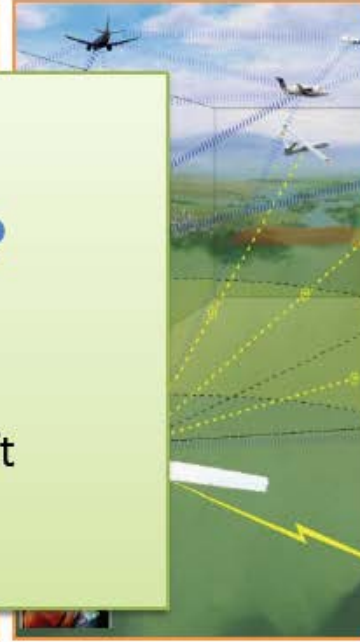
Conflict Zones



Global Tracking



Cyber Safety



RPAS



Space Transportation

What's next?
UTM & FL600+
Cargo Safety
Supersonic aircraft



AIM, key enabler for operational improvements

Attainment of Global Air Navigation Priorities

AIM is an essential enabler for the attainment of Global Air Navigation Priorities



- Performance-based Navigation (PBN)
- CDO/CCO
- Air Traffic Flow Management (ATFM)
... need high quality and digital data!

Support airspace users

Quality-assured and digital aeronautical information are needed by all airspace users



- Greater safety
- Greater autonomy in decision making
- Greater capability in resolving conflicts
- Greater equity in airspace access



D-AIM

BBBs – Quality-assured product-centric Aeronautical Information Services

B1- DAIM - Service Improvement through enhanced data quality and digital exchange and processing of information

B2-DAIM - Service improvement through fully digital aeronautical information exchanged through a SWIM infrastructure and new information required to support new users

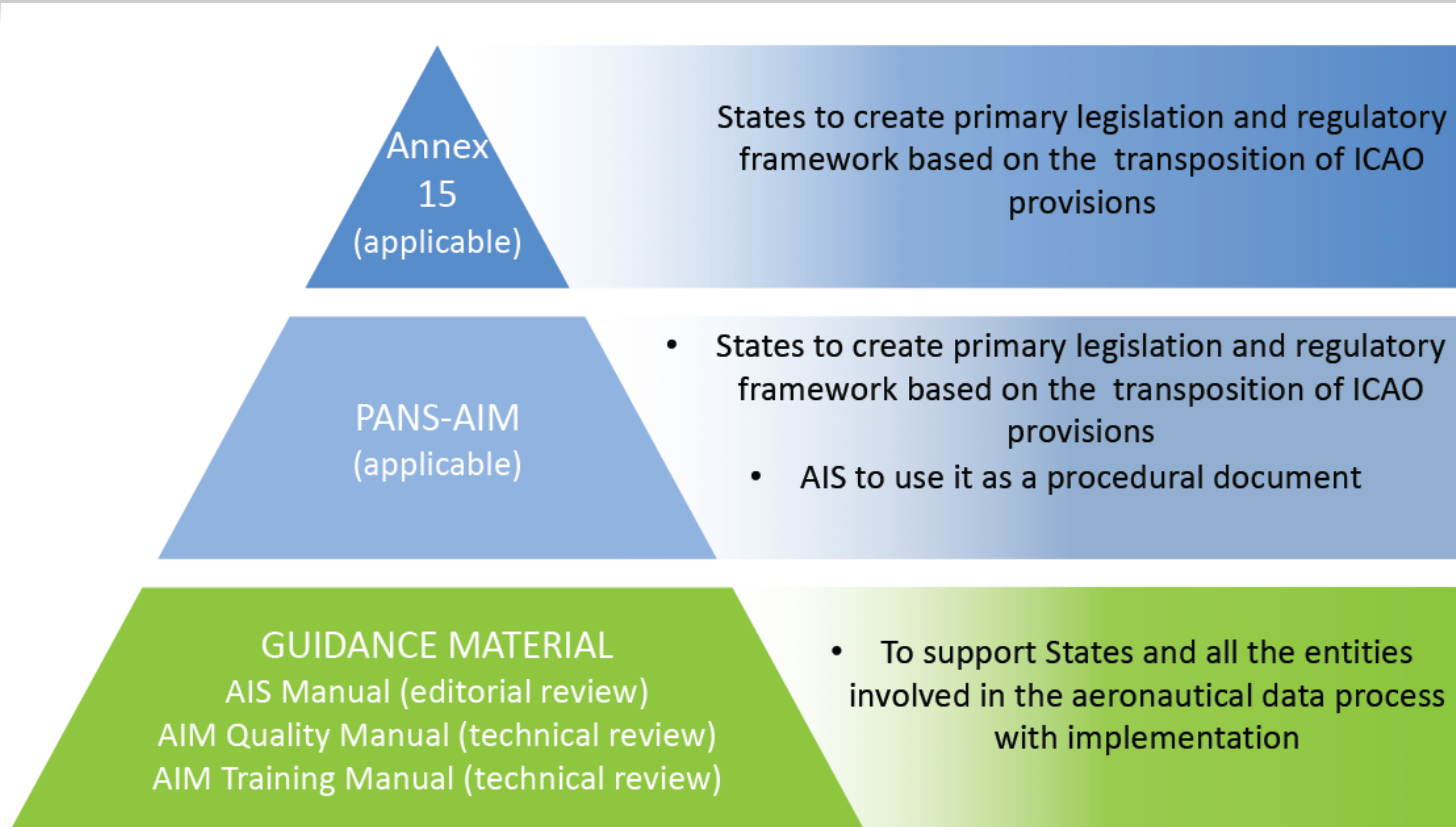


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THE PRESENT AIS TO AIM 1.0





AIM 1.0: what have we addressed?

- With AIM 1.0 we have:
 - Raised the focus on data and information
 - Raised the focus on the need for quality-data from authoritative sources
 - Introduced aeronautical information in digital format
 - Raised the focus on the need for collaborative environments among stakeholders for enhanced quality services





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IMPLEMENTING AIM 1.0





- **States to focus on implementation to be prepared for future**

- ✓ **Strengthening the existing business:**

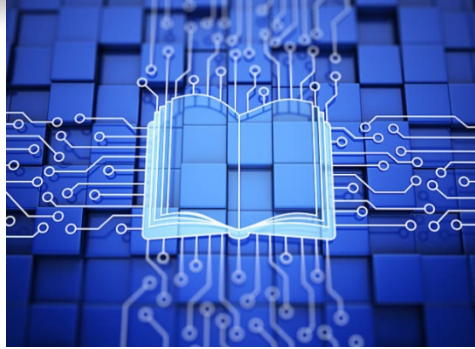
- AIM, to be treated as a priority through robust policies and financial support
- All entities in the process to be organized and staffed with qualified personnel
- Collaborative decision-making environments among stakeholders in the process
- Strengthen quality of existing products and services

- ✓ **Preparing for the digital transformation effectively:**

- Digital transformation demands vision and leadership
- New technology to be embraced to light the way to modify/replace old processes
- Digital transformation requires new skills and competencies
- Prepare the organizational structure (a new data management unit to deal with support and operational activities)
- Set priorities: start replacing legacy products based on priorities/capabilities



The ICAO AIM Implementation support mechanisms



AIM Guidance Material



AIM Training Programmes



Results-based implementation (RBI) support



The ICAO AIM recognition of compliance



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THE FUTURE AIM 1.0 TO AIM 2.0





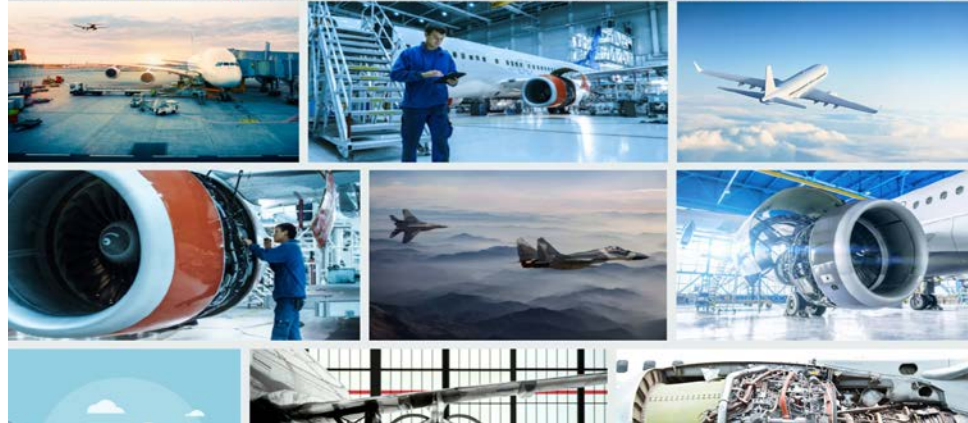
AIM 1.0 to AIM 2.0... what does it mean?



Leveraging SWIM to provide increased opportunities to access and integrate aeronautical information with other information domains to contribute to complete situational awareness.



- Disseminating aeronautical information via SWIM will allow:
 - **Airspace users** to have greater access to quality information for decision support
 - **Service providers** to operate within information-rich environments that will allow optimization of services
 - **Regulators** to operate with robust and open safety systems, more easily integrated and monitored



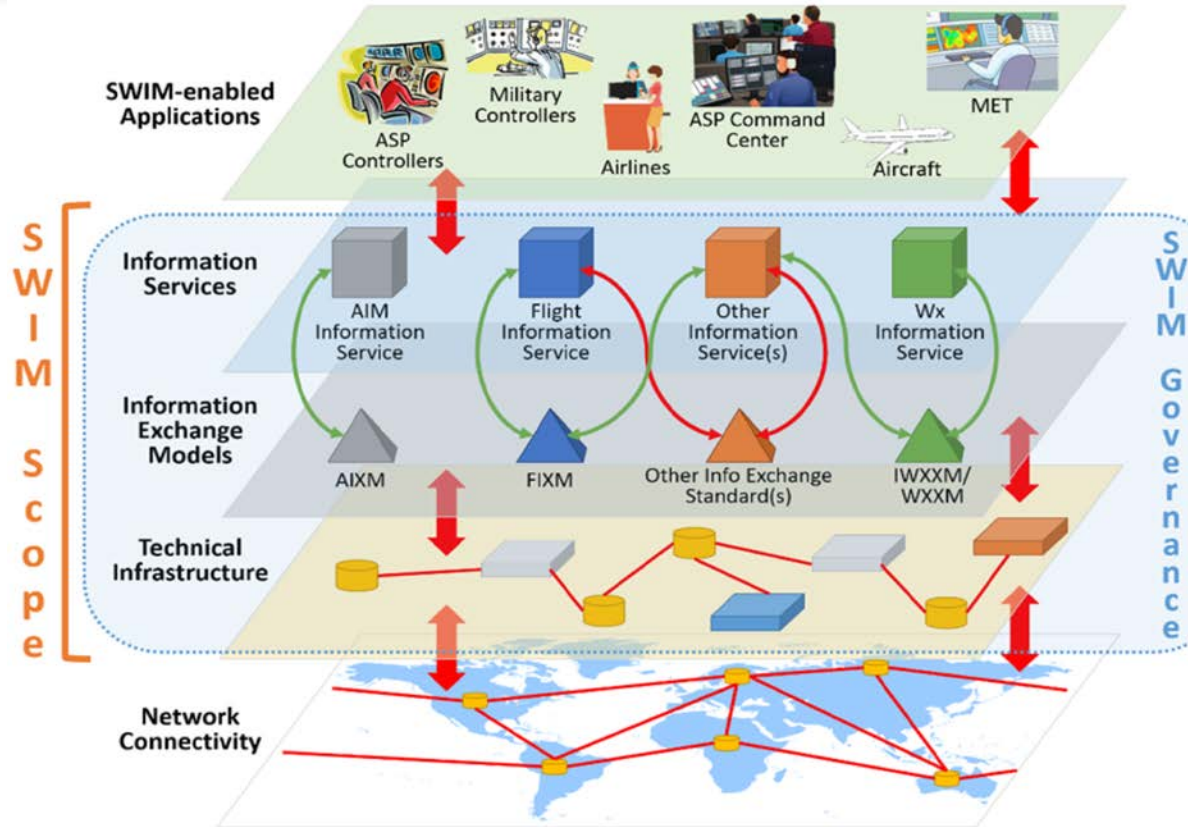
- Transitioning from AIM 1.0 to AIM 2.0 means taking additional steps, such as:
 - Apply service oriented architecture (SOA) to aeronautical information
 - Enable interoperable exchanges of aeronautical information
 - Integrate aeronautical information with other information domains
 - Facilitate implementation of effective feedback mechanisms to cope with users changing requirements





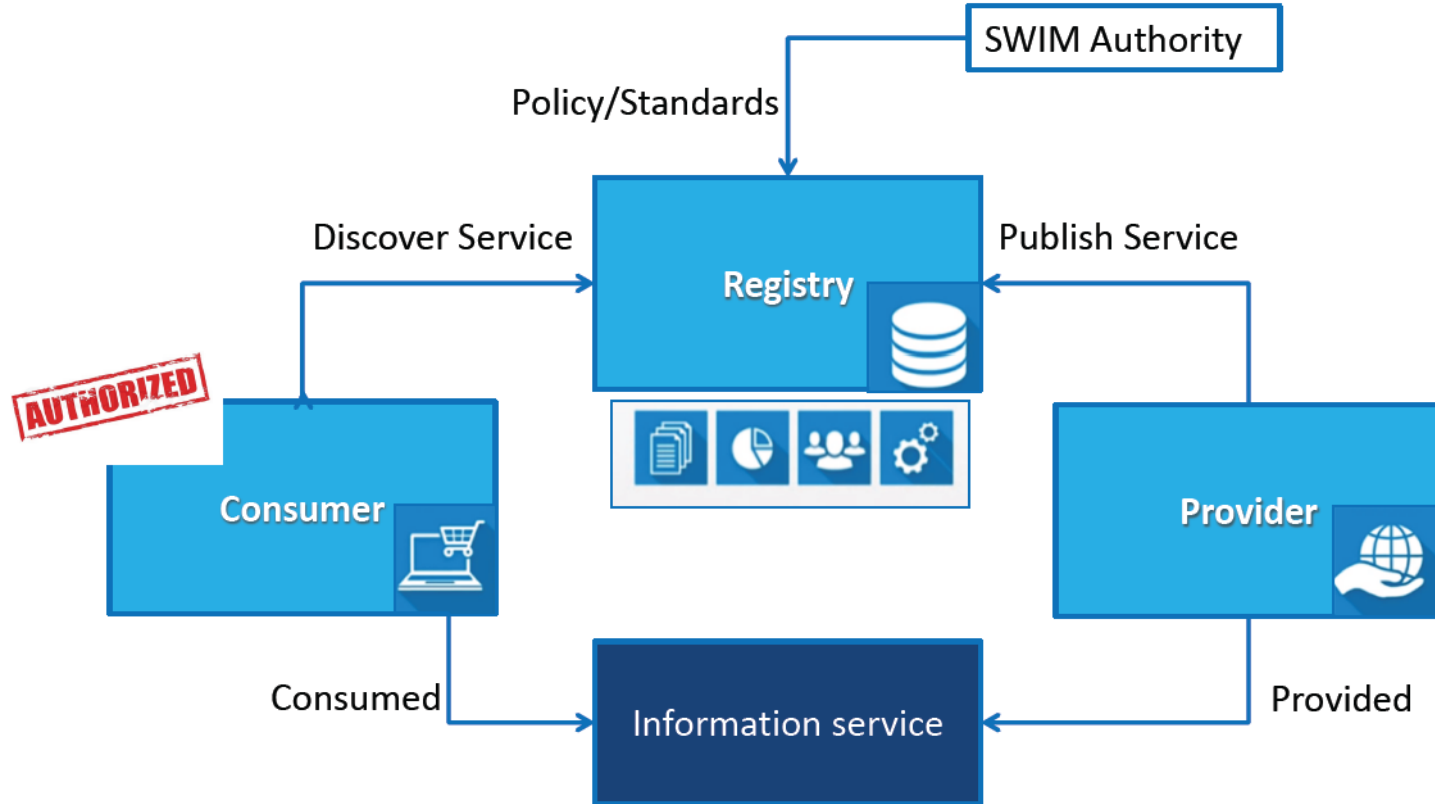
SWIM Global interoperability framework

The ultimate objective is to strike a balance between flexibility and uniformity to achieve global interoperability...





Service Oriented Architecture (SOA)





- To integrate the AIM domain into SWIM...



- Develop provisions on **data coding standards**, based on the work initiated by the AIXM community
- Develop provisions concerning **information services for aeronautical digital data sets** and associated updates
- Develop provisions on **governance aspects** for information services for aeronautical digital data sets



ICAO objectives

- To integrate the AIM domain into SWIM...



Digital Data sets



How to be provided as information services (**ICAO provisions to be developed**)



NOTAM



Replace the existing system with new information services (**ICAO provisions to be developed**)



Aeronautical charts



Define the charting digital products and identify how to provide them as map information services (**ICAO provisions TBD**)



ICAO Target Dates

Information Management Panel



Architecture Working Group

Services Working Group

Governance Working Group



AIM Working Group

SWIM Provisions : October 2019

SWIM Manual Volume II: October 2019

- Digital data sets: first set of provisions in November 2022
- NOTAM: first set of provisions in November 2022
- Aeronautical Charts: first set of provisions in November 2022



Sharing situational awareness across a wider operational community...

...new users?





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THANK YOU