*Global Information Management*

# European SWIM State of Play

**SESAR**

*Presented By:*　　*Paul Bosman*

*Date:*　　　　　*August 25, 2015*



**Federal Aviation Administration**

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## AIR TRANSPORTATION INFORMATION EXCHANGE CONFERENCE

**Global Information Management**

**August 25-27, 2015**
NOAA Auditorium and Science Center • Silver Spring, MD

**Doc 10039 AN/511**

MANUAL ON SYSTEM WIDE INFORMATION MANAGEMENT (SWIM) CONCEPT

*Disclaimer*

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Advanced edition (unedited)

> *Definition : SWIM consists of standards, __infrastructure__ & __governance__ enabling the management of ATM __information__ and its exchange between qualified parties via interoperable __services__."*
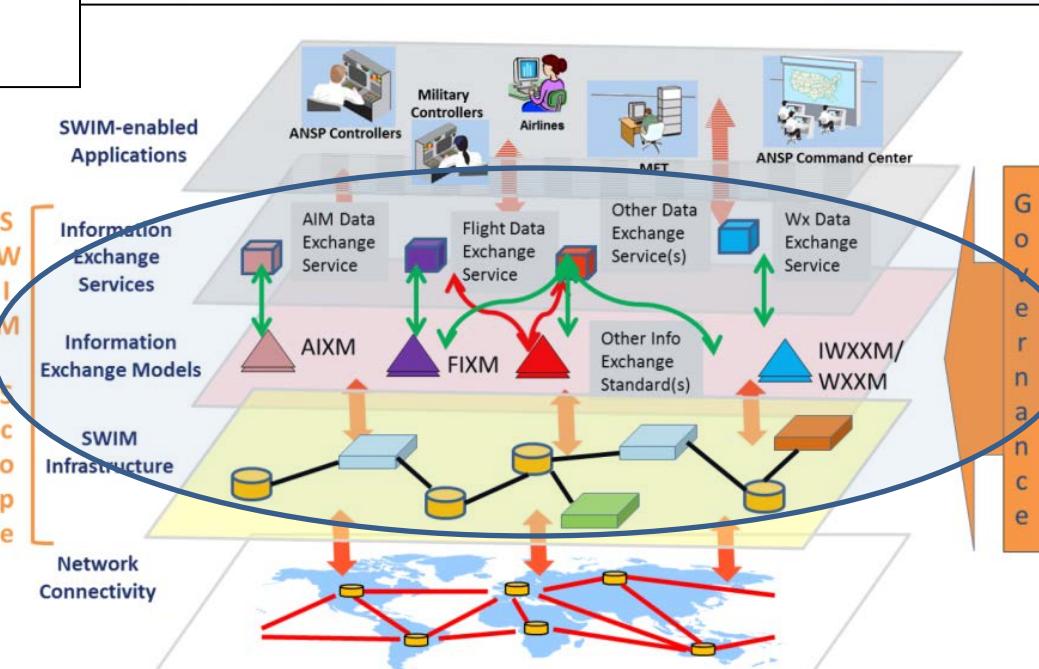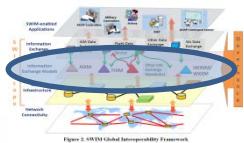


Figure 2. SWIM Global Interoperability Framework

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# Information
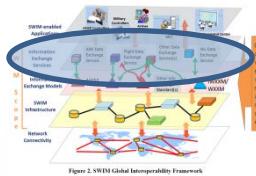
**AIXM**

ICAO & Increasing implementations

Digital NOTAM

Lessons learned (Business rules, AIFS, ..)

**WXXM**

I(CAO)WXXM

Data coming (really … ?)

CCB ?

**FIXM**

Ops drive FF-ICE/1

ICAO/ISO/AIXM alignment

Towards implementation – V4

**AIRM**

**ICAO Pick-up !**

**What about me ?**

AIDX, AMDB, Asterix, ED133, Env XM, …

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# Services

More and more being **Developed & Deployed**

**How to find the European Services ?**

Correct answer : It depends !

The European ATM Portal.

eatmportal.eu

SESAR SWIM Registry
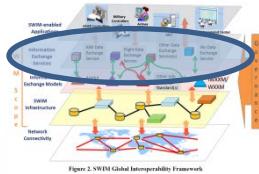
eur-registry.swim.aero

# European ATM Portal

Air Transportation Information Exchange Conference – Global Information Management

eatmportal.eu

UNIFIED MODELING LANGUAGE

Airspace user

Capability

ATM

System

Standard

Service

Airport

Deployment date

Information

Services for Architects

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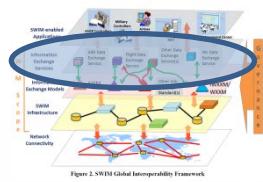
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# European Registry



EAD, NM B2B, …

Coming soon:
FAA registry connect

Services for Implementers

# Technical Infrastructure

- IT is found to be **mature**

**IT in ATM**

- Mostly an issue of **agreeing** on used (open) standards
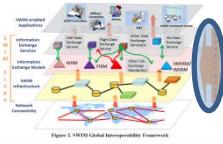
- Through so called **Technical Profiles** (Yellow / Blue / …)

E.g. Yellow = SOAP1.1/1.2, WSDL1.1/*2.0*, WSI1.2/*2.0*, *WS-Security1.1*, TLS1.0/*1.1/1.2*, PKI x.509v3, *XML-Encryption, XML-Signature*, ECRYPT II, XML 1.0/1.1, XML-Schema, *WFS/WMS/…*, HTTP/1.1, HTTP-GET/*POST*, *MTOM*, … (Red is core, *rest* is optional for Provider)

**+ now Pub/Sub : AMQP1.0 incl JMS bridging !**

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# Governance

Initial SWIM (iSWIM)

EU initiative to move towards **SESAR Deployment Carrot/Stick** approach

## What are the SWIM Standards ?

**Foundation**
- Essential Requirements
- Controlled Vocabulary
- Examples
    - Need for semantic interoperability
    - Based on Open Standards
    - Interoperable Services

**Guidance**
- AIRM
- AIRM Rulebook
- Service Rulebook
- Technical Infrastructure profiles
- Compliance Framework

**SWIM Registry**

**Performance Based Approach**

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# SWIM Outreach

Figure 2. SWIM Global Interoperability Framework

**Together we can make things happen**

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# SESAR SWIM Masterclass

A **global SWIM Sandbox**
During 6 months 'play' together in a Non-Operational environment
providing/consuming SWIM Services

## 2014 Participants



20 data providers
>50 data consumers
>100 participants

- Aeronautical, Meteorological, Flight, Environmental, Surveillance, Aircraft, ... services
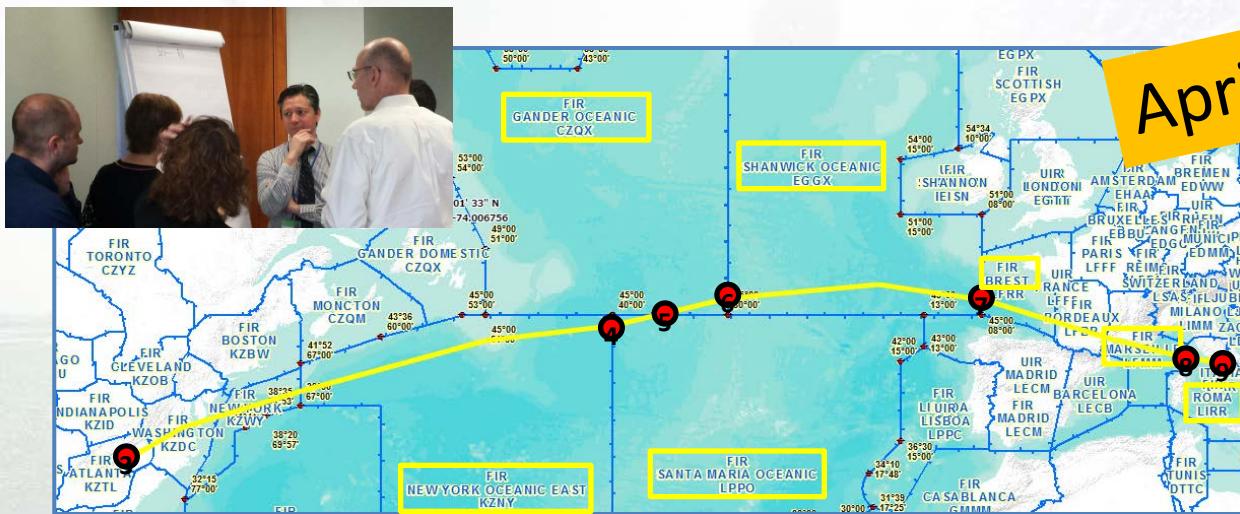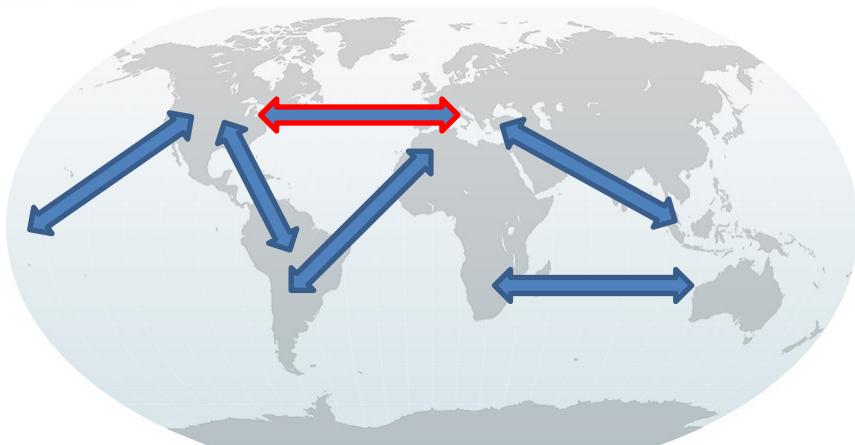
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# SWIM Global Demos

April – May 2016
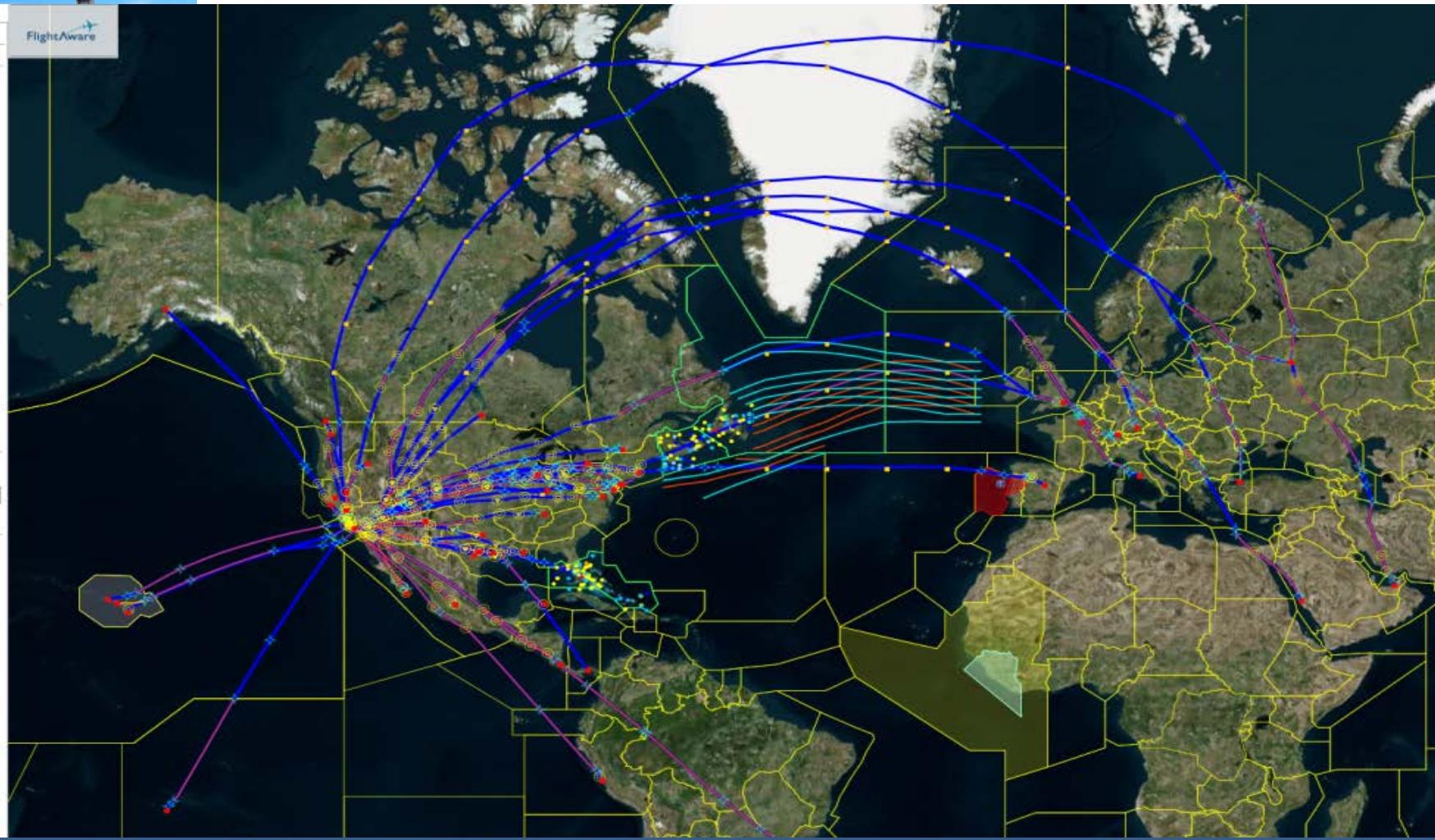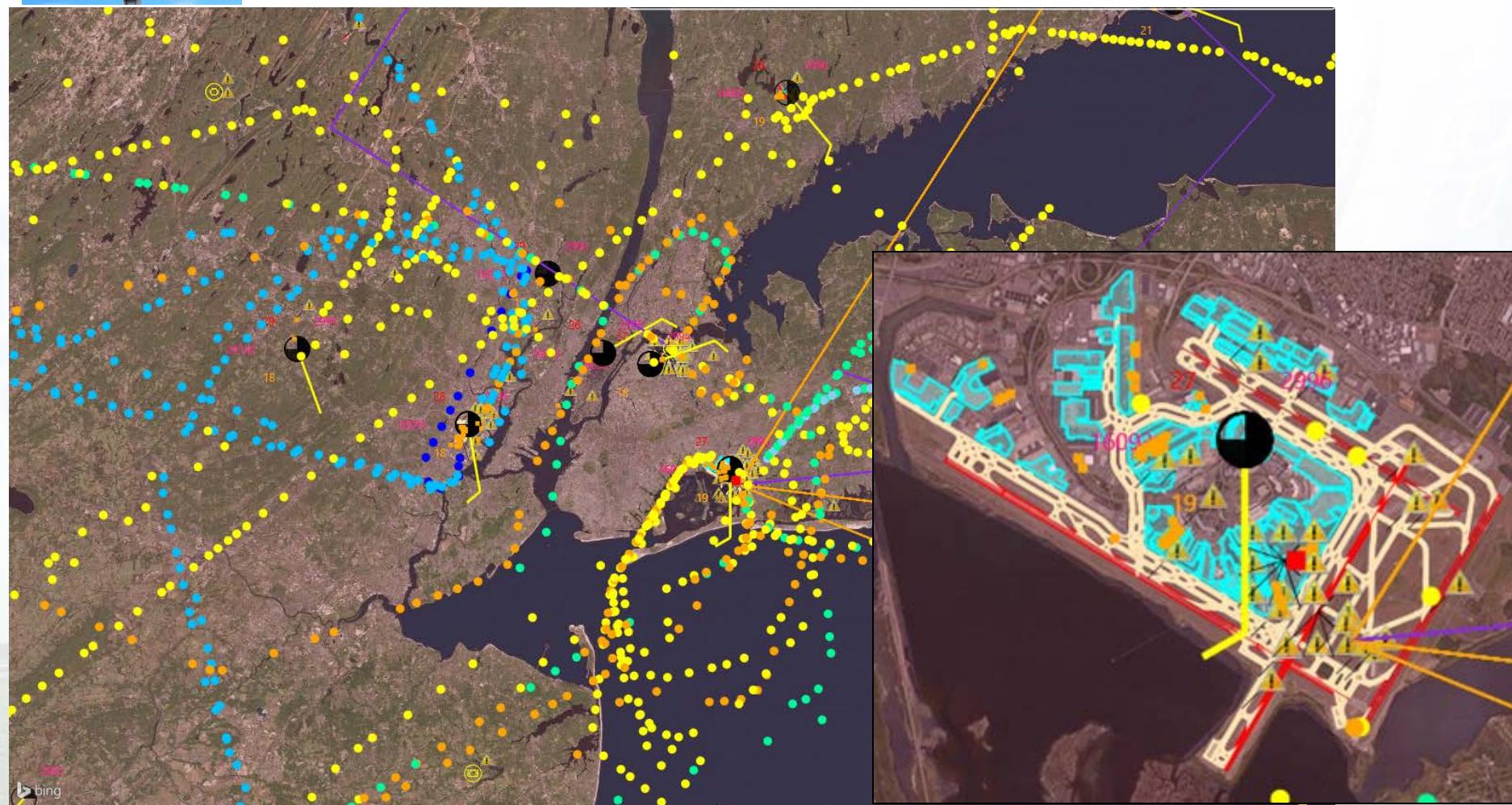
How real is this all ?

**Sources: NM, EAD, NAT Tracks, FAA NASR56, FlightAware, WAFC, …**
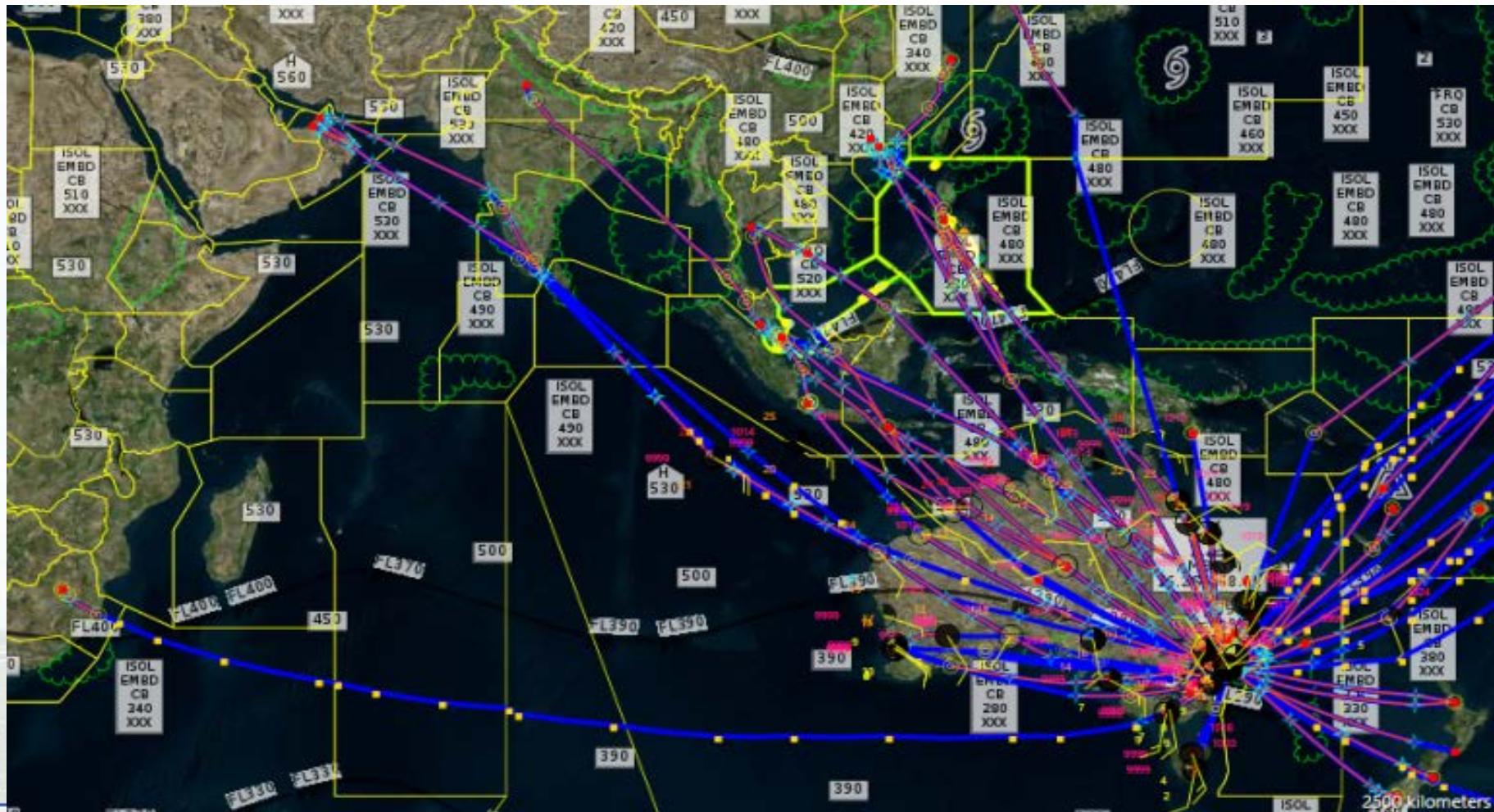
REALITY CHECK AHEAD

# How real is this all ?

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# How real is this all ?
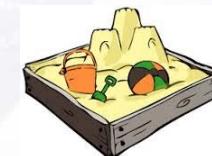


**Sources: EAD, FlightAware, Air Services Australia, SADIS, …**

# Your personal take-aways

- Free : Follow SWIM Webinars
  - www.sesarju.eu/swim/resources

- Free : Install & Use Jumpstart
  - www.sesarju.eu/swim/resources

- Free : Participate to SWIM Masterclass (June-Dec 2015)
  - www.sesarju.eu/newsroom/events/sesar-swim-master-class-2015

- Free : Participate to SWIM Global Demos (till Q2/2016)
  - www.swim.aero

- Free : Follow ICAO Information Management proceedings
  - www.icao.int/airnavigation/IMP/Pages/default.aspx

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# Questions & Contact Information

- **SESAR Joint Undertaking**
  **www.sesarju.eu/swim**
  **Linked in** http://www.linkedin.com/groups?gid=3748809&trk=hb_side_g

- **Email** swim@sesarju.eu

- **Registry**
  http://eur-registry.swim.aero

- **Data Exchange models**
  - *Aviation Information Data Exchange*        **www.aidx.aero**
  - *AIXM - Aeronautical Information Exchange Model*   **www.aixm.aero**
  - *WXXM – Weather Information Exchange Model*     **www.wxxm.aero**
  - *FIXM - Flight Information Exchange Model*  **www.fixm.aero**

- **AIRM** **http://im.eurocontrol.int/wiki/index.php/AIRM**

- **Some additional info**
  **www.eurocontrol.int/im** & **im.eurocontrol.int/wiki**

- **IM Panel** http://www.icao.int/airnavigation/IMP/Pages/default.aspx