SESAR

Definition phase
- Create European ATM Master Plan

Development Phase
- Develop new standards, operational procedures and technologies

Deployment Phase
- SDM started in 2015

2005-08

2009-16

2016-25

2500 + contributors
300 projects

SESAR 2020
- Launching this year

European Air Traffic Management Master Plan
Edition 1 - 30 March 2009
Why a SWIM Global Demo?

Background
- Intra European SWIM interoperability: WAC 2013
- Opening up to global community: SWIM Master Classes 20XX
- Towards **GLOBAL** interoperability: MG-II, APAC, SGD

Objectives
- Demonstrate global interoperability
- Demonstrate business, operational and technical benefits
- Capture lessons learned & Feed back into ICAO
Joint Interoperability Demonstrations
• Demo #1: FAA’s NextGen – SESAR
• Demo #2: Globally-available SWIM data sources
• Demo #3: Australia – United Arab Emirates – Europe
• Demo #4.1: Brazil – Europe
• Demo #4.2: Mongolia – Europe

Panel sessions
• Collaboration
• Benefits
• Next steps

Showcases
Benefits of SWIM

Business perspective
• Agility in future evolution
• Flexibility in global uptake
• Global interoperability, common methods and standards
• Cost efficiency by service oriented architecture
• Secured information

Operational perspective
• Enables ASBU (XMAN, A-CDM, FF-ICE, TBO, ..)
• The right information at the right time (filtering, alerting, visualization)

Technology perspective
• Re-use of code, rapid development
• Re-use of services
• Common standards
• Collaborative environment
Demo #3 - video

- Summary video recording available from SJU
  https://www.youtube.com/watch?v=kmbnDGOZEJU&list=PLJItpHUetWvFgLe89aISYiWh1atW24NhR&index=16
Lessons learned (1/3)

- Benefits are recognised by global partners
- Further integration of AU operations into network management welcomed
- Automated filtering, alerting and visualisation is increasing situational awareness
- Further work is required to achieve full traceability of data originator, processing and quality (meta data)
- Usage of the registry as a collaborative environment tool was fair, but not optimal.
- Usage of FIXM, AIXM, WXXM is very effective in easily achieving global interoperability. Using the XMs “works”!
- Issues with GUFI and UUID (not as unique as it should be)
Lessons learned (2/3)

- Some residual ambiguity on FIXM 3.0.1 elements (or missing) that will be fixed in FIXM 4.0.
- Extensions to the core versions of XMs have come into scope at several occasions.
- Architecture:
  - Common references were used: GATMOC, ICAO SWIM manual
  - Easier to start with NAF operational and technical views
- Demonstrated the possibility to integrate different deployment models (Centralized, distributed or federated).
- The role and ownership of (technical) transformation services. Popped up at many places in the preparation, and can have multiple deployment options.
Lessons learned (3/3)

- Usage of open standards was welcomed by all
- SOAP based WS and REST-full based WS were selected as technology to support synchronous messaging (R/R), and successfully validated (overlap with EU SWIM TI yellow profile)
- AMQP 1.0 was selected as technology to support asynchronous messaging (P/S), and successfully validated. Recommendation to further explore usage for R/R as well.
- Lots of connectivity problems, caused by all kinds of variations of network configurations. Requires further coordination to reach global standards.
- Need to distinguish between network security, transport level security, message level security, access management and business rules.
- Open issues on end-to-end security and data access governance and enforcement.