SWIM & ICAO

ICAO IWXXM WORKSHOP
PARIS 5-6/11/2019

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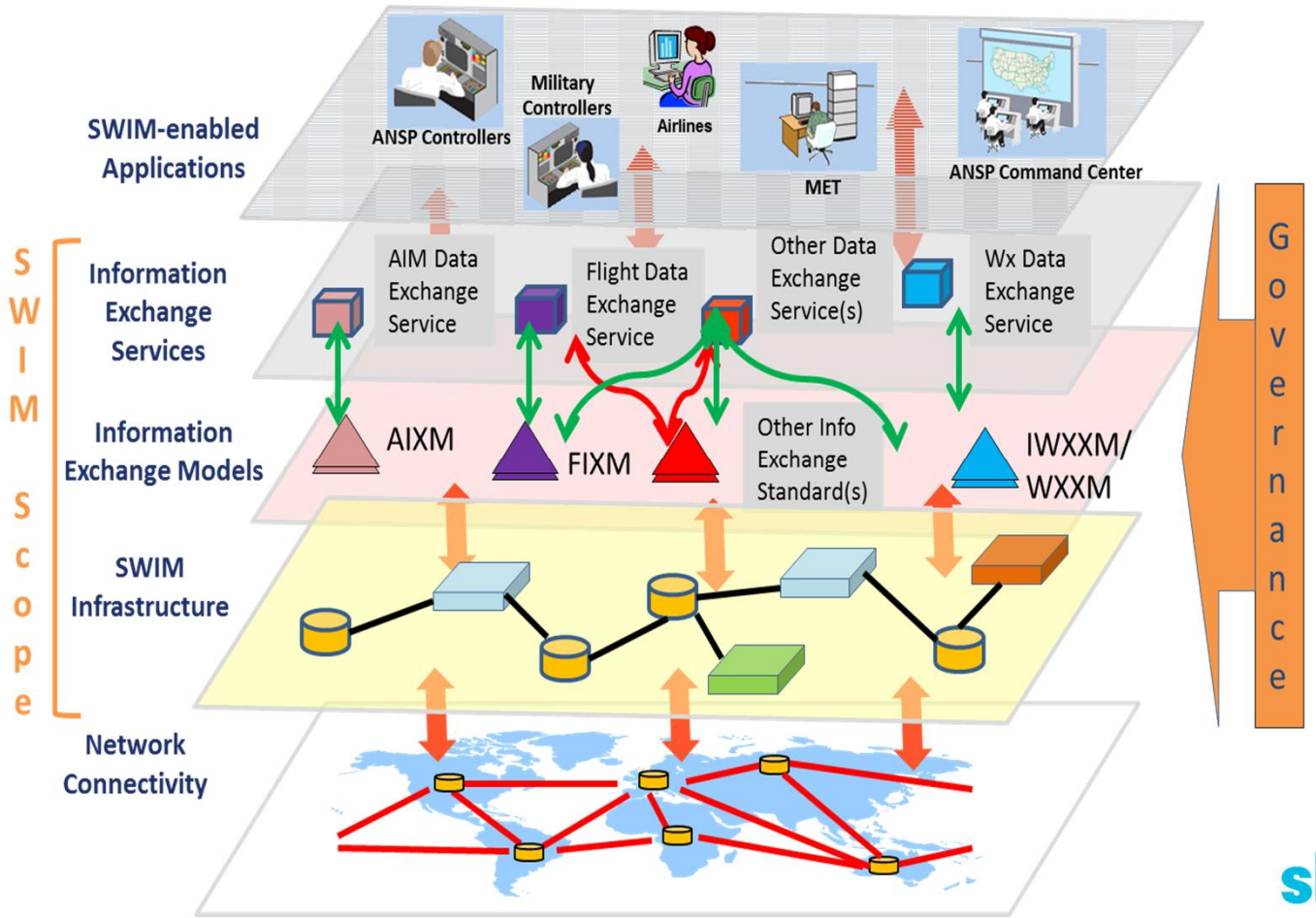
SWIM: scope & standards

SWIM consists of standards, infrastructure and governance enabling the management of ATM related information and its exchange between qualified partners via interoperable services



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SWIM consists of standards, infrastructure and governance enabling the management of ATM related information and its exchange between qualified partners via interoperable services

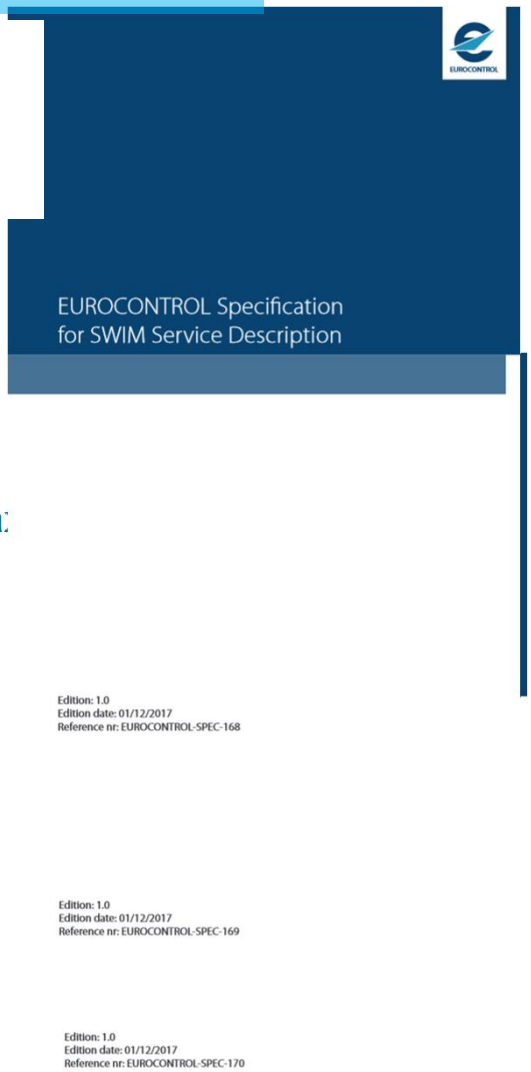
SWIM-enabled Applications of information providers and information consumers around the globe that publish and/or use information. Individuals and organizations, such as air traffic managers and airspace users, will interact through applications interoperating through SWIM.

Information Exchange Services, defined for each ATM Information Domain and for cross domain purposes where opportune, following governance specifications, and agreed upon by SWIM stakeholders. SWIM-enabled applications will use information exchange services for interaction.

Information Exchange Models, using subject-specific standards for sharing information for the above Information Exchange Services. The information exchange models define the syntax and semantics of the data exchanged by applications.

SWIM Infrastructure provides the infrastructure for sharing information. It provides the core services such as interface management, request-reply and publish-subscribe messaging, service security, and enterprise service management.

Network Connectivity provides consolidated telecommunications services, including hardware. This infrastructure is a collection of the interconnected network infrastructures of the different stakeholders. These will be private/public Internet Protocol (IP) networks.



SWIM governance: SWIM Service provisioning policy

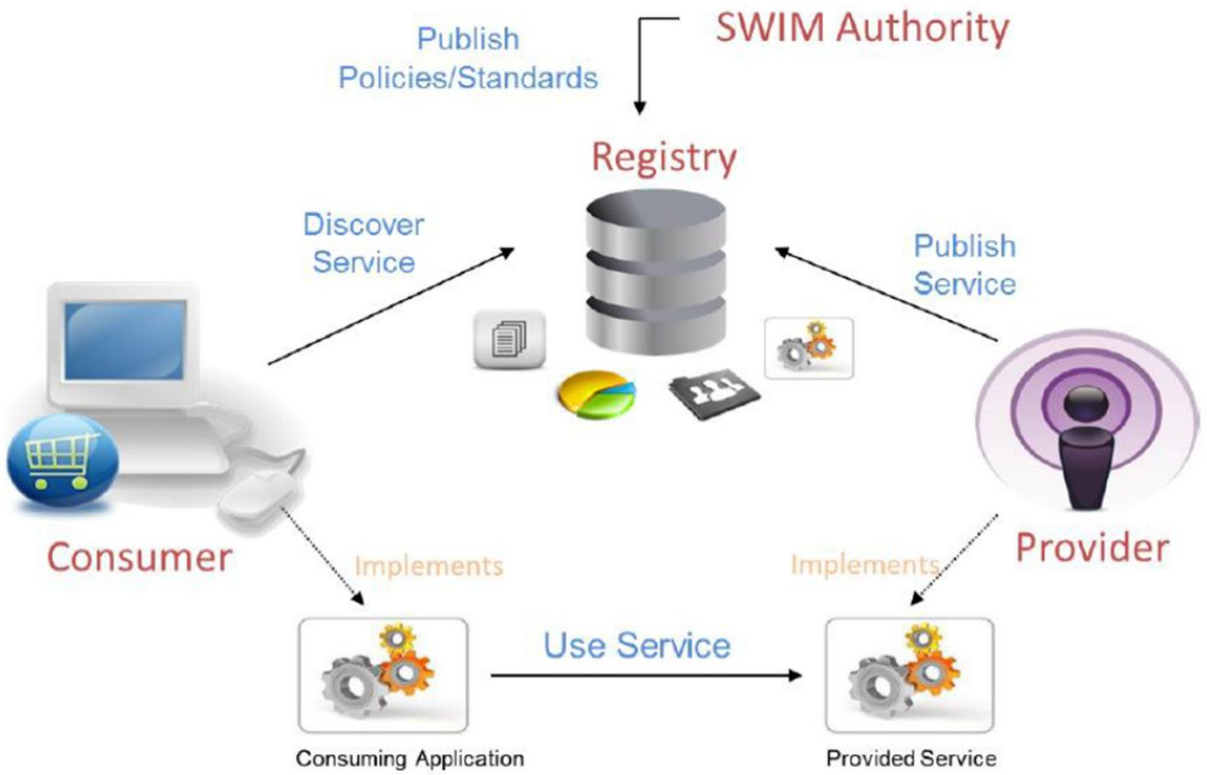
SESAR Deployment manager

Status: draft doc

The SWIM Service Provisioning Policy addresses three aspects of service provisioning:

1. Service registration: Enabling SWIM Service Providers to publish their Information Services in the SWIM Registry.
2. SWIM Compliance Assessment: Enabling SWIM Service Providers to demonstrate the conformance of their Information Services to SWIM Compliance criteria.
3. Alignment of Service Designs: Enabling SWIM Service Providers of similar SWIM Services to align their Service Designs.

Information services made available by providers need to be discoverable for consumers. Here the concept of SWIM registry comes into play (ref. *ICAO Doc 10039 – Manual on System Wide Information Management (SWIM) Concept*):



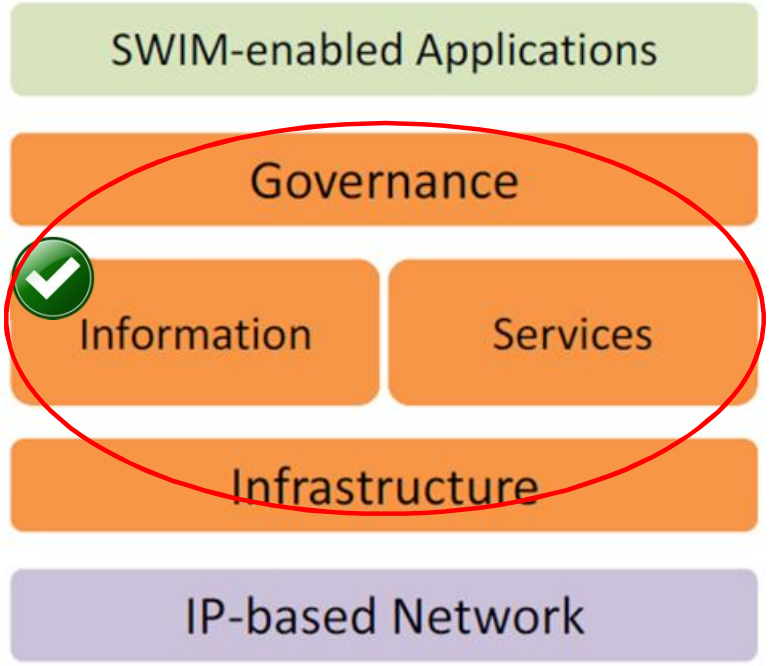
- Separation of information provision and information consumption
- Loose system coupling
- Using open standards
- Using Service Oriented Architecture

IWXXM & SWIM

→ IWXXM is a key enabler of SWIM

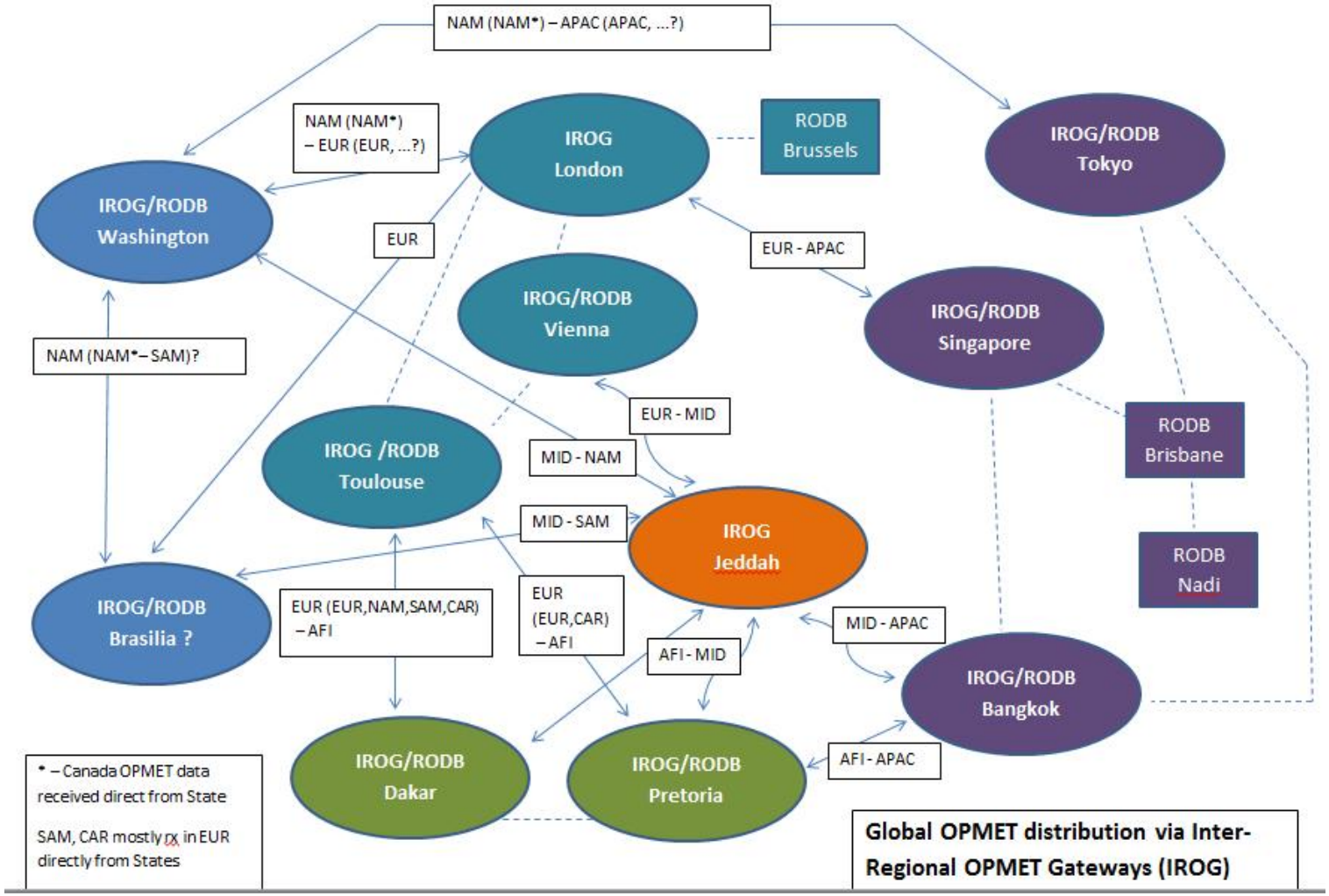
→ SWIM core services will enable systems:

- ❑ Request and receive information when needed
- ❑ Subscribe to services for automatic receipt
- ❑ Publish information & services
- ❑ Promote sharing of information across different systems

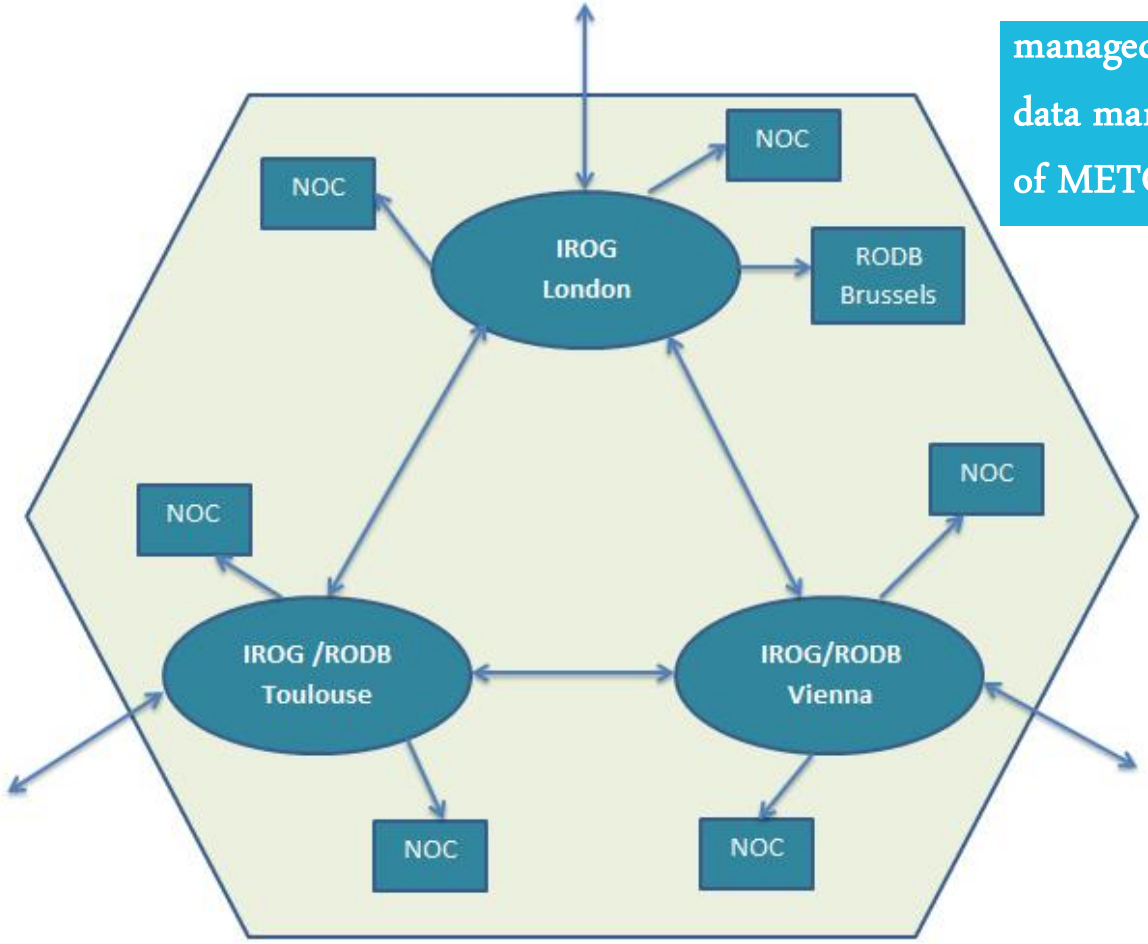


SWIM & ICAO: OPMET data distribution

ICAO OPMET data distribution (current)



ICAO OPMET data distribution: EUR Region (current)



managed by the
data management group (DMG)
of METG

→ How to swimify ???

ICAO: IWXXM OPMET data distribution

→ ICAO EUR Doc 33:

Guidelines for the Implementation of OPMET Data Exchange using IWXXM in the EUR Region

new message formats: gml

new communication technology: (compressed) AMHS File Transfer Body Part

- BUT: still "old school" message distribution → "RODEX" scheme
- Only a (painful but necessary) first step towards SWIM

SWIM & ICAO

ICAO global:

- 2 global groups:
  - IMP: Information Management Panel (not only MET)
  - WG MIE: MET Information Exchange (only MET); sub-group of ICAO MET Panel
    - MET-SWIM Roadmap
    - MET-SWIM Plan

- Manual on System Wide Information Management: ICAO Doc 10039
  - Volume 1: SWIM Concept (draft ready)
  - Volume 2: SWIM Implementation (expected Q2/3 2020)

- ICAO SWIM Provisions: PANS-IM Vol 1 - SWIM (draft almost ready)

- Phased implementation according to the Global Air Navigation Plan (ICAO Doc 9750)

- Still many unknowns !

SWIM & ICAO

ICAO EUR Region:

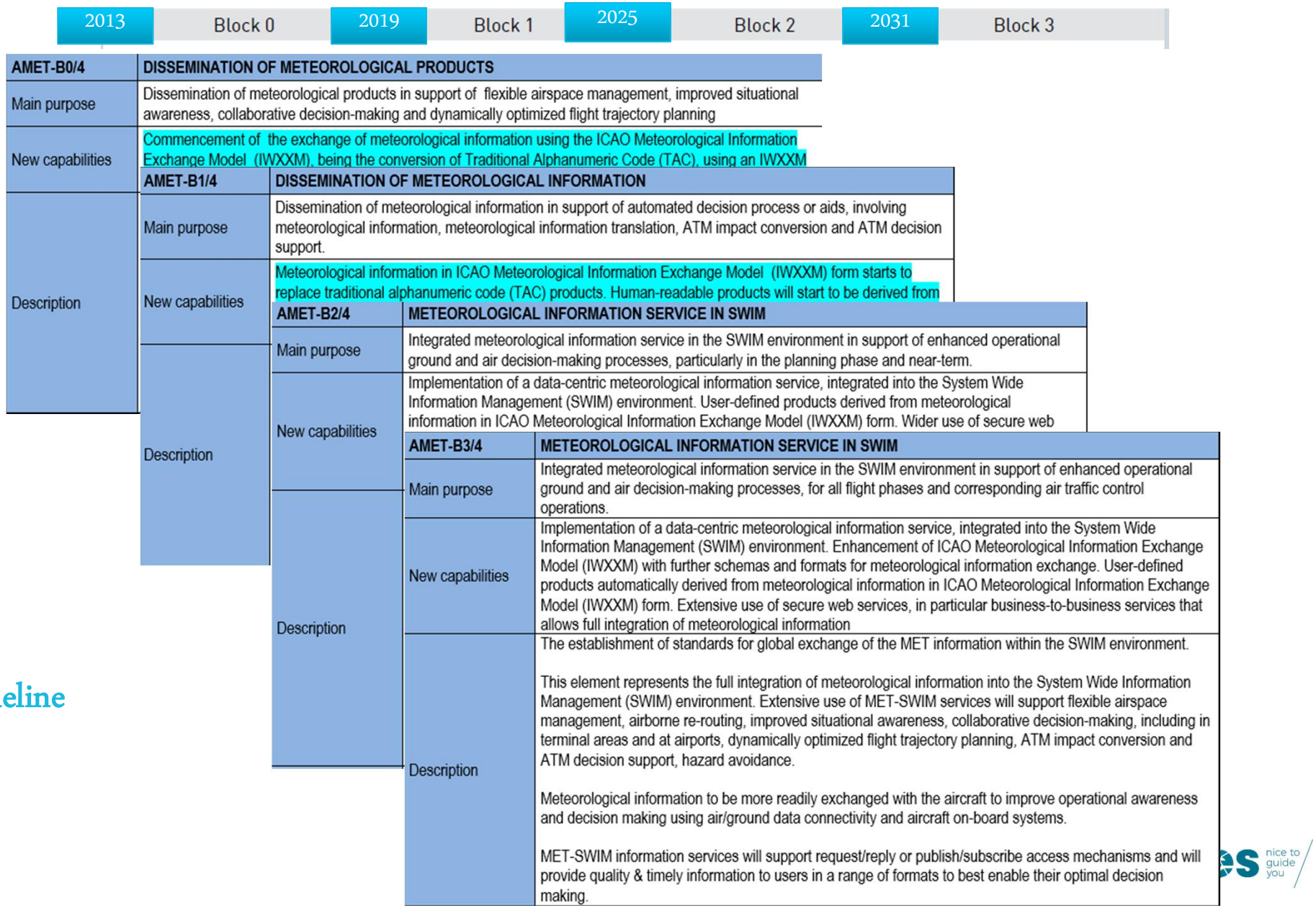
1. SWIM Project Team → responsible for regional implementation of SWIM
   - → Not only MET
   - → 5 tasks identified:
     - Regional roadmap
     - Services & registration
     - Enablers (infrastructure, trusted data sources,…)
     - State Implementation Support
     - Communication
   - → Will provide a « SWIM start-up document »

2. AFS SWIM Transition Task Force (AST TF): mainly networking (newPENS,…)

3. DMG work program: « Follow SWIM developments from WG/MIE and EUR SWIM PT and assist in deriving an implementation plan in the EUR region for SWIM »

ICAO timeline

(GANP 2016)



ICAO GANP 2019 → new timeline

Thread	Block 0	Block 1	Block 2	Block 3
AMET	B0-AMET	B1-AMET	-	B3-AMET
DATM	B0-DATM	B1-DATM	-	-
FICE	B0-FICE	B1-FICE	B2-FICE	B3-FICE
SWIM	-	B1-SWIM	B2-SWIM	-

GANP 2016

Thread	Block 0	Block 1	Block 2	Block 3	Block 4
AMET	B0-AMET	B1-AMET	B2-AMET	B3-AMET	B4-AMET
DATM	-	B1-DAIM	B2-DAIM	-	
FICE	B0-FICE		B2-FICE	B3-FICE	B4-FICE
SWIM	-	-	B2-SWIM	B3-SWIM	

GANP 2019

2013 | 2019 | 2025 | 2031 | xxx

https://www4.icao.int/ganpportal/

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member of FABEC

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