



INTERNATIONAL CIVIL AVIATION ORGANIZATION

A United Nations Specialized Agency



Information Management Panel (IMP)

IFAIMA Global AIM – Rio 2016

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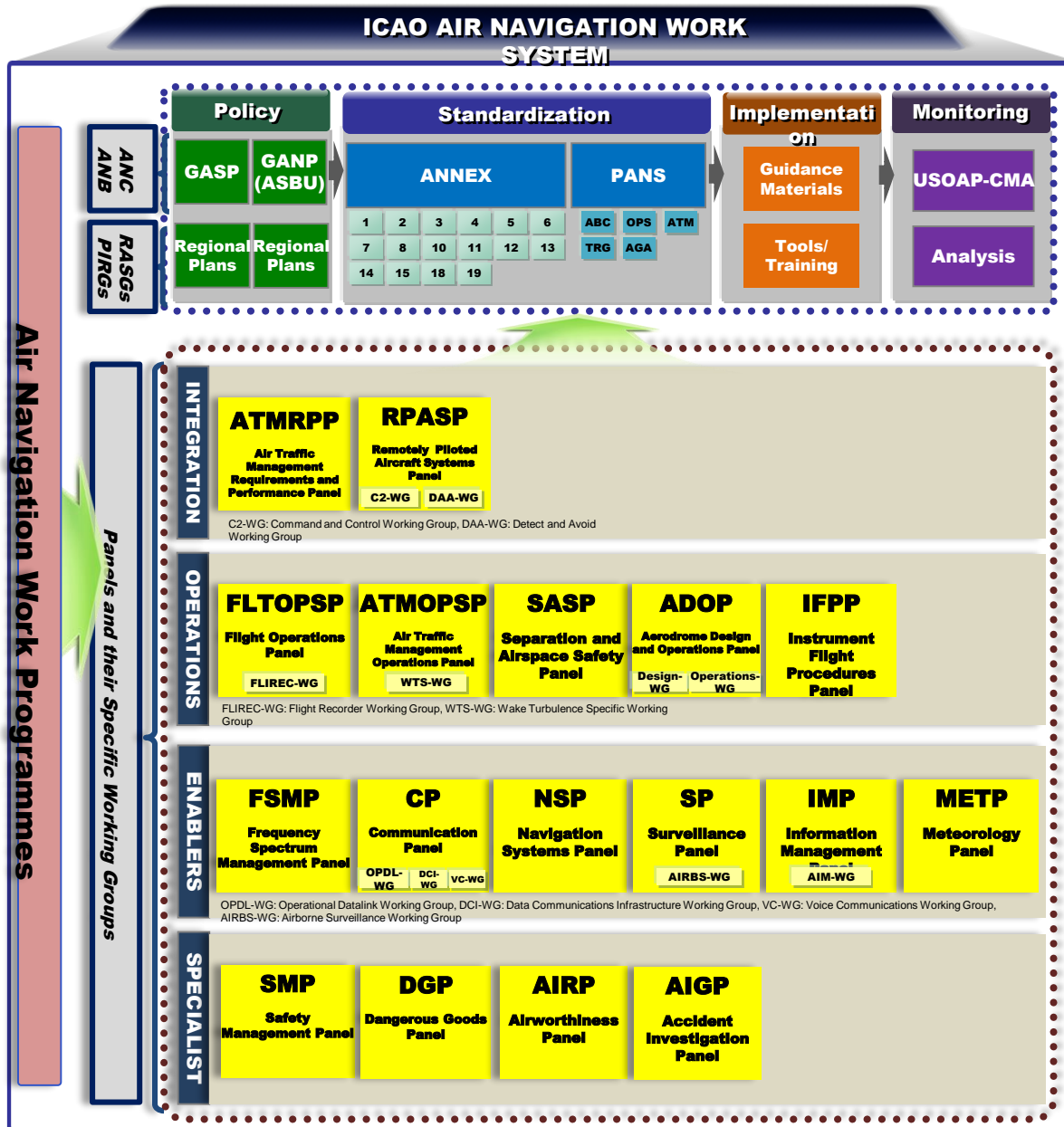


- **The IMP in brief**
 - The context
 - The objectives
 - The scope
 - The expected deliverables

- **Work in progress**
 - The structure
 - Architecture
 - Services
 - Governance
 - Awareness and Communication

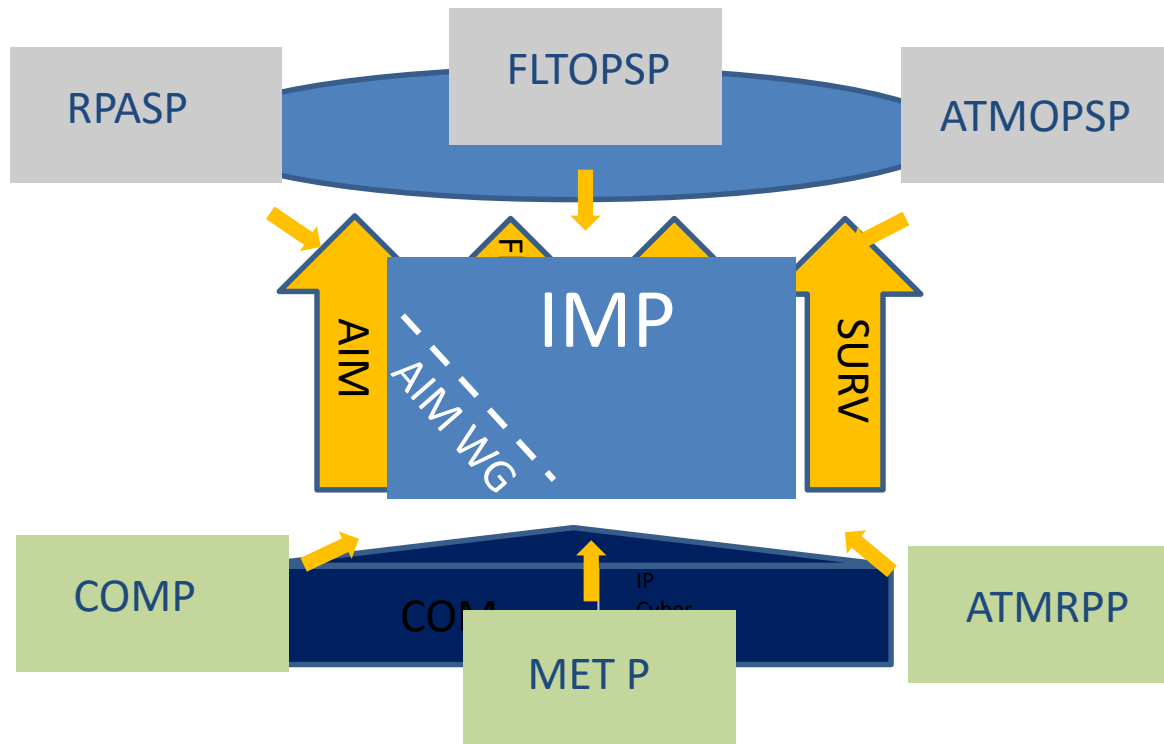
- **Conclusions**

ICAO PANEL STRUCTURE



ICAO MULTI-DISCIPLINARY APPROACH TO SWIM

Air Ground



INFORMATION MANAGEMENT PANEL (IMP)

States

- Australia
- Brazil
- Canada
- China
- France
- Germany
- India
- Japan
- Russian Federation
- Saudi Arabia
- Singapore
- South Africa
- Sweden
- Turkey
- United Arab Emirates
- Unites States

Chairman

Mr Pierre Truter – Australia

Vice-Chairman

Mr Hiroyasu Shirasaki - Japan

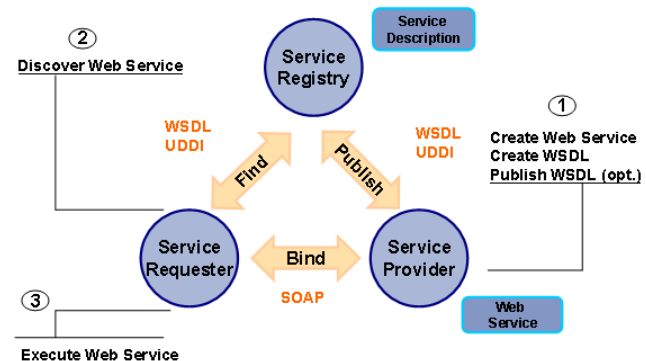


International organizations

- ASECNA
- CANSO
- EUROCONTROL
- IATA
- ICCAIA

IMP OBJECTIVES

- Define a **global interoperability framework** describing the functions, architectures and system design requirements.
- Define and elaborate on the **ATM information management concepts**:
- Identify the **quality of service requirements** necessary to maintain ATM information security, integrity, confidentiality and availability
- Develop an **ATM information service architecture**.
- Identify the requirements for **SARPs and changes to existing SARPs to support the information requirements** in accordance with the Global Air Navigation Plan
- Develop **transition strategies and guidance** necessary for the **implementation of global SWIM and new information exchange formats**



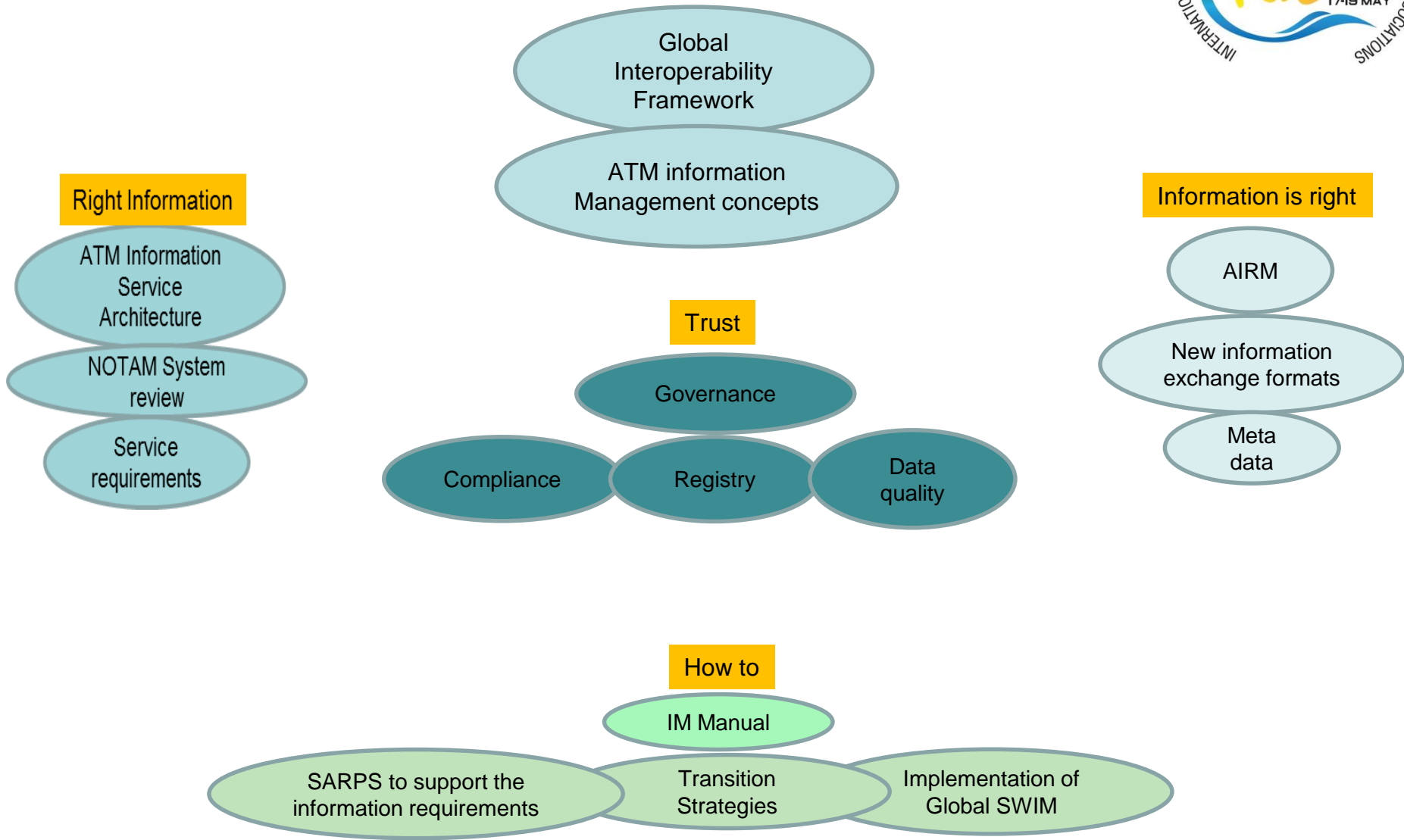
IMP FOCUS



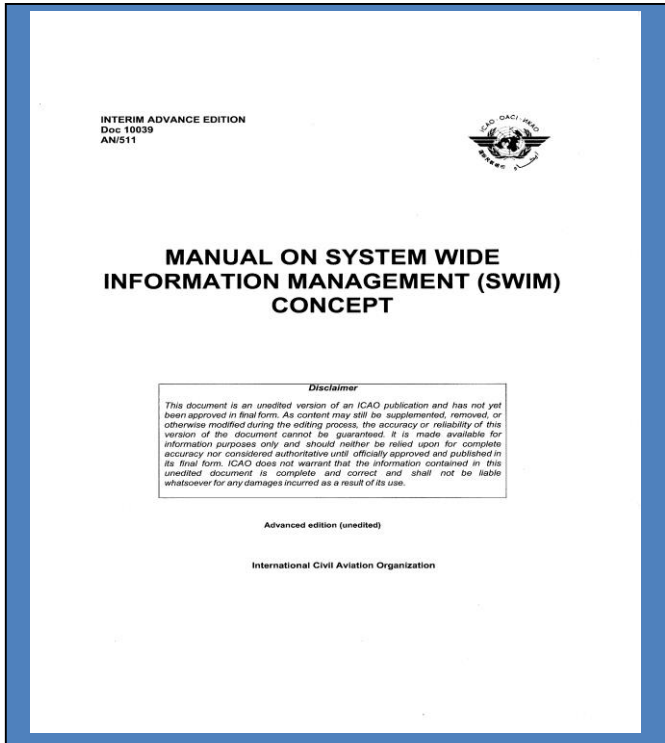
- Focus is on all required global interoperability aspects around (initially ground to ground) **exchange of data through information services** between providers and consumers of information.
 - Aeronautical;
 - Meteorological;
 - Flight & Flow (including airport ops); and
 - Surveillance.



IMP SCOPE



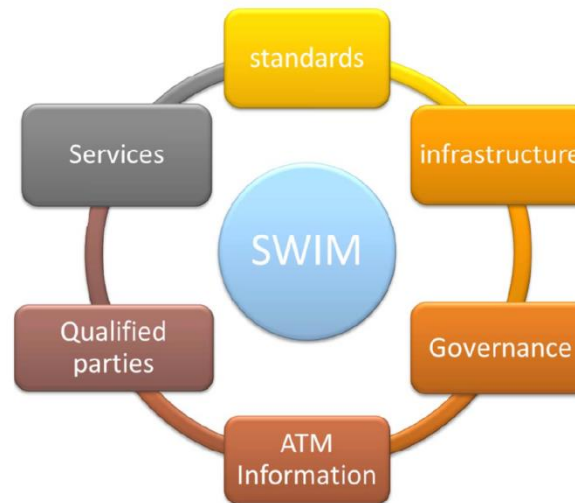
WE DO NOT START FROM SCRATCH...



ICAO Doc 10039

The **concept** for **SWIM** necessary to:

- achieve global interoperability.
- describe a common framework to facilitate discussion and promote interoperability.



IMP Deliverables

(target : November 2018)



- **Enabling work**

- SARPS inventory
- Information Services Concept
- IM Concepts, Governance artefacts
- Awareness / Communication results

SARPs – Standards and Recommended Practices

- **Deliverables**

- **Candidate SWIM SARPS**

- High level IM provisions
- NOTAM replacement

- **Guidance**

- SWIM Manual (=Update of SWIM Concept Manual-Doc10039 + Planned IM Manual)
- AIRM Package

THE IMP 4 WORKING GROUPS



Services

Abigail Smith - FAA

Awareness and Communication

Richard Williams - CANSO

Architecture

Paul Bosman - Eurocontrol

Governance

Stephane Dubet - France

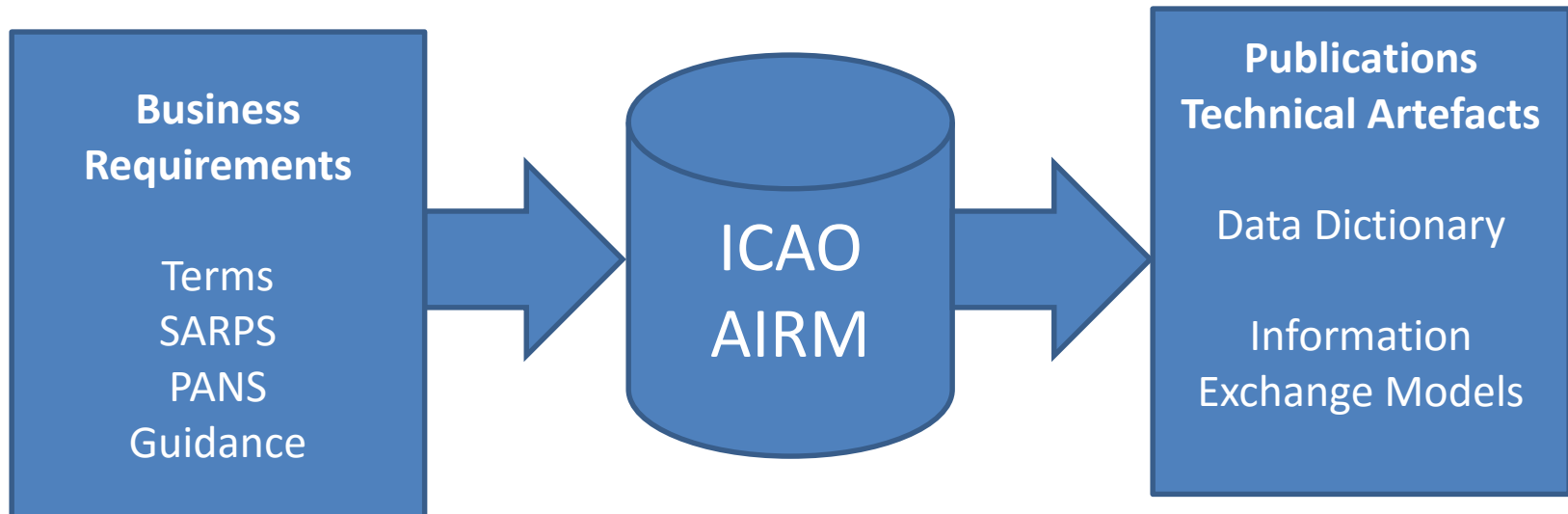
SERVICES WG

- Initiate a review of the **NOTAM system**, ATM Messages and investigate its future integration into a SWIM enabled operational messaging system.
 - Document findings & shortfalls of NOTAM
 - Develop a concept for future messaging services
 - Develop transition plan
 - Develop guidance document
 - Take into account current work on the standardized reporting and delivery of operationally critical information being performed by the Runway Friction Task Force
- **Information services**
 - Based on FF-ICE1, identify needed Information Services for phases of flight
 - High level principles to define the Information Services

INFORMATION ARCHITECTURE

The information architecture based on:

- An architectural information framework including data, information and standards in the form of an **ATM Information Reference Model (AIRM)**.
- **Common information management provisions** addressing inter alia descriptive (meta) data, model extensibility and technical conventions.
- Usage guidance including **best practices**.

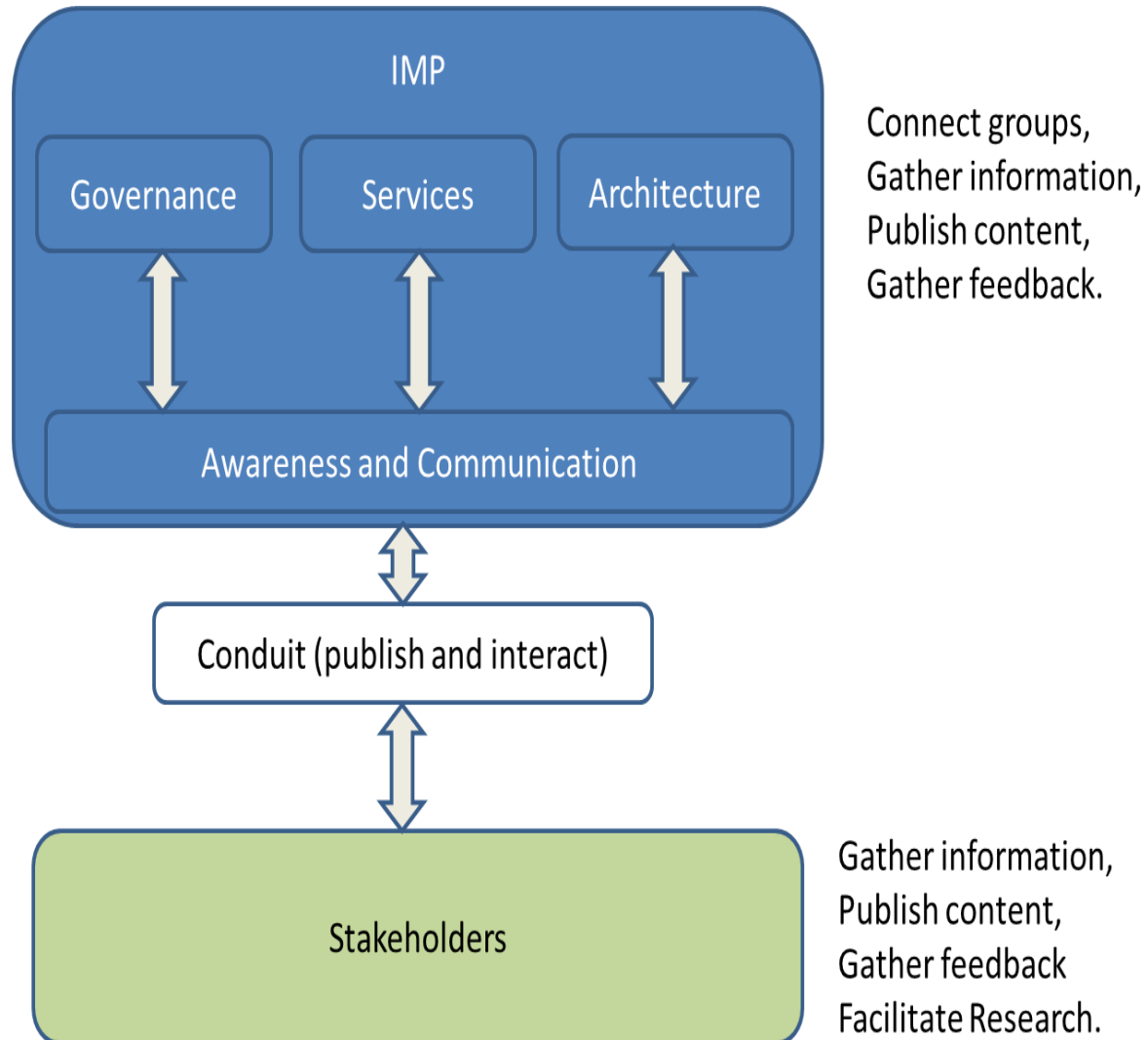


ARCHITECTURE WG THEMES



- Current **SARPS IM inventory**
- **IM SARPS** contributions
 - AIRM usage, Information Quality, IM activities, ..
- **SWIM Manual** (= Updated SWIM Concept + planned IM Manual)
 - Including contributions from WG-Services & WG-Governance
- **AIRM**
 - Alpha Nov 2016, Beta Nov 2017, Final 2018. Early involvement of XMs
 - (Web)-Tooling + Governance
- Acting as **AIXM ‘informer/advisor’**
- **Information Resource Naming**

AWARENESS WG



SWIM GOVERNANCE



- **SWIM Governance** : set of standards, policies and processes that ensure information required for global interoperability is provided by reliable, trusted services
- **Scope**: information, services, technical infrastructure, compliance
- **Candidate SARPs + contribution to SWIM Manual**
 - Hi-level **IM governance principles**
 - **Information**: common vocabulary, governance of “XMs” + AIRM
 - **Registry**: work on registry of services building from precedents (ICARD, PKI)
 - link with service description
 - **Compliance**: considerations on quality across domains, framework (who, what), link to “trust”

GOVERNANCE WG THEMES



- Foundation
 - Roles and Responsibilities
 - Institutional issues
- SWIM Governance scope - priorities
- Registry
- Controlled Vocabulary
- Governance applied to eXchange Models
- SWIM compliance
- Data / Information / Service Quality

EXAMPLE OF WORK IN PROGRESS

Information necessary to discover and access SWIM services



- Name of the Service
- Service version
- Brief description of the Service
- Information characteristics
 - Is the service provider the owner / originator of the information
 - Was information transformed by the service provider
 - Quality of the information provided by the service
 - Geographical scope of the information
- Access restrictions (e.g. who is allowed to access, access fees)
- Access mode (Publish/Subscribe, Request Reply)
- Service interface
- Quality of service (eg availability, continuity)
- Status of the service (eg operational – deprecated – in test – etc.)

SARPS (early ideas)



- **Definitions**
 - Controlled Vocabulary (as applicable to the Annex)
- **Governance**
 - Information service principles, information/data/service quality
- **Information**
 - Use of globally accepted reference models
- **Services**
 - SWIM exchanges shall be done via services
 - Service descriptions
 - Minimum list of ICAO prescribed services ?
 - Services payload (XM/other format) shall align with AIRM semantics
- **Technical Infrastructure**
 - Performance based approach
 - Technology standards as guidance only

CONCLUSION



- **The IMP is now up and running**
 - **4 themes (architecture, services, governance, communication)**
 - **Working Group sessions + Plenary meetings**

- **The target is set**
 - **Build on the existing SWIM Manual**
 - **Develop high-level Information Management SARPs**
 - **Supporting material : AIRM, Controlled Vocabulary, etc.**
 - **Follow-up on AIM + work on the NOTAM system**

- **All contributions are welcome !**