

SWIM IMPLEMENTATION IN AIRNAV INDONESIA

SWIM LAYER-BASED APPROACH

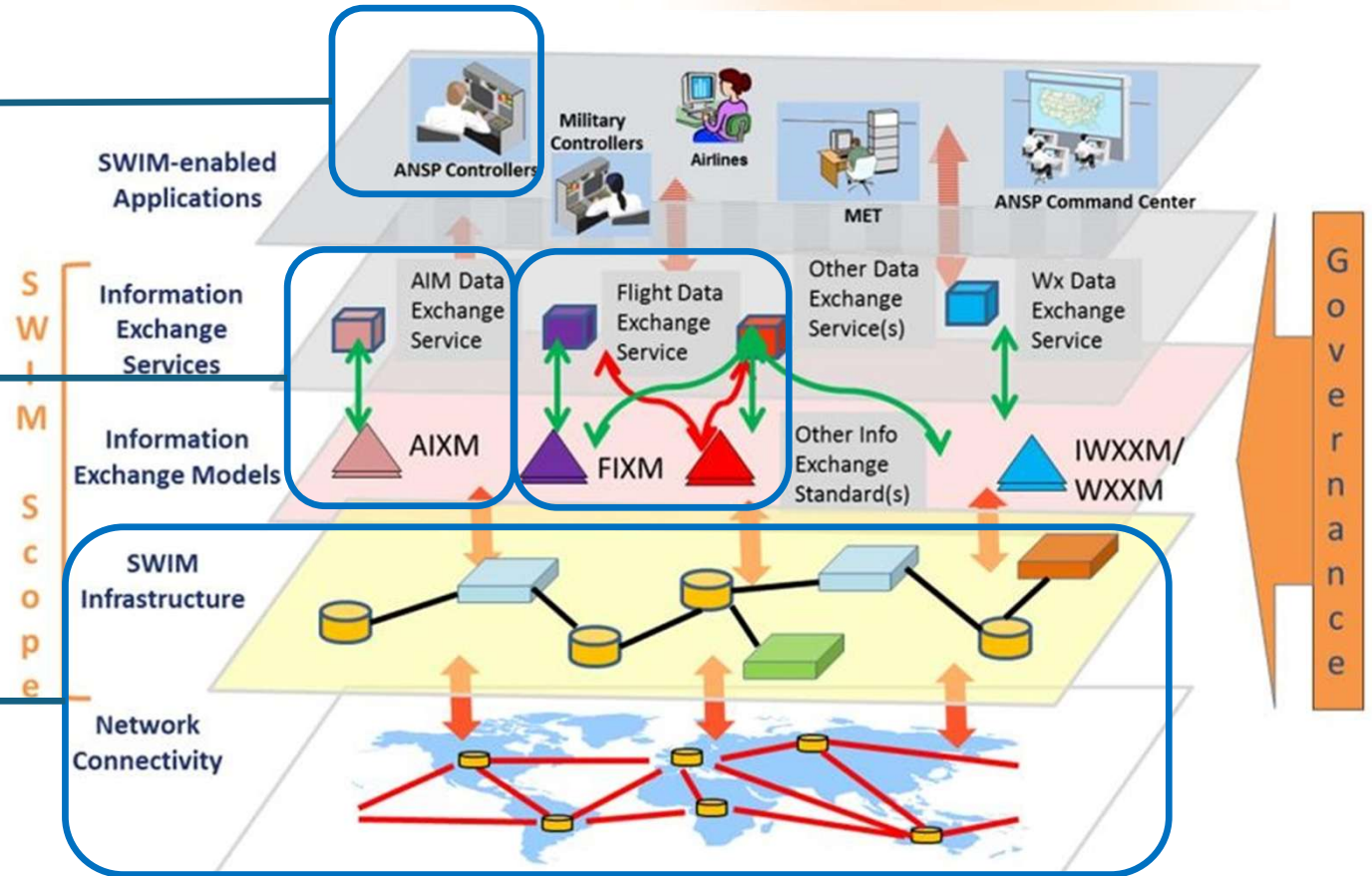
From Network Infrastructure to Interoperable SWIM Applications



3. SWIM APPLICATIONS

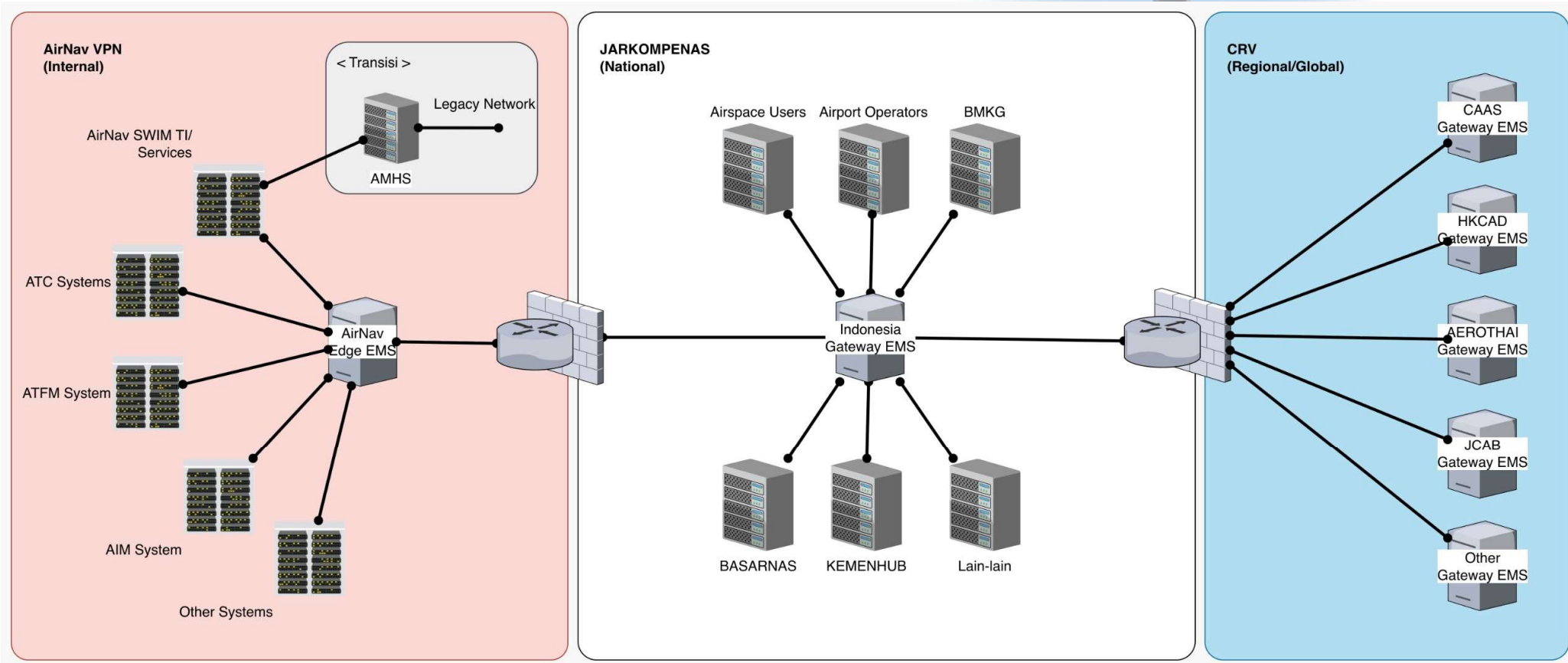
2. SWIM SERVICE

1. SWIM TECHNICAL INFRASTRUCTURE



NETWORK TOPOLOGY

Advancing Regional Connectivity While Building the National SWIM Network



NETWORK & CONNECTIVITY

Connecting AirNav's National Network to the Regional CRV Infrastructure

Network Specification



Connectivity

- AirNavNet : 38 location
- CRV PCCW : 6 Countries



Bandwidth

- AirNavNet : 100Mbps
- CRV PCCW : 3Mbps



Service Level Agreement

- AirNavNet : 99,8%
- CRV PCCW : 99,5%



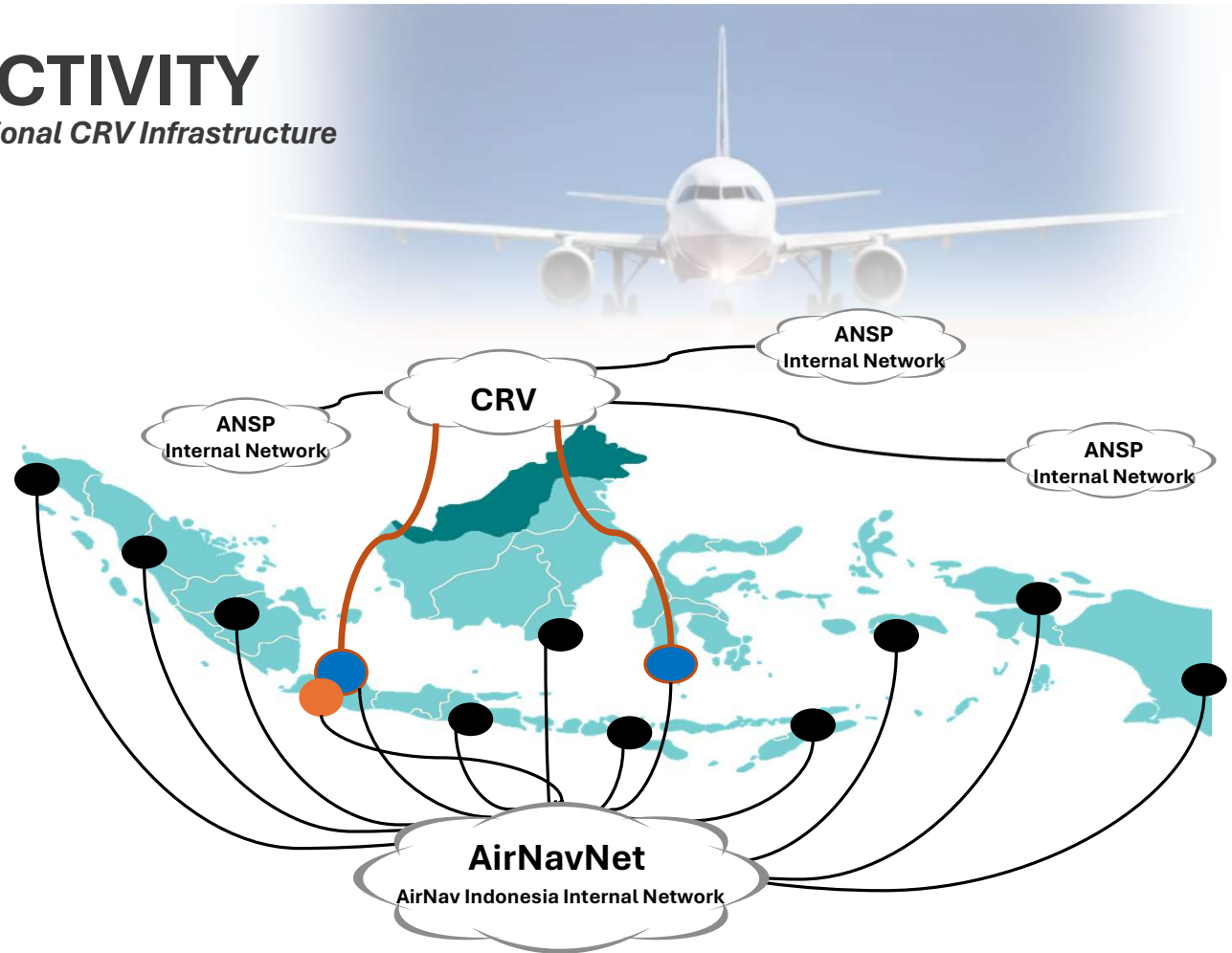
Existing usage

- Office apps: SAP, *office platform*
- Operational apps: WBF, AMHS User Agent CHRONOS, LOMAN
- CRV Redundancy via AirNavNet: Direct Speech, AMHS



Security

- IT-OT segmentation
- Firewall end point
- Rule based policy



AIXM

Enabling Secure and Reliable AIXM Data Exchange Across AirNavNet and CRV



PROGRESS

Digitalization

• Converting hardcopy AIP into centered database (2020)

Database Preparation

• Design alternate database based on ICAO data catalogue for AIP data (2023)

Mapping AIP <-> AIXM 5.1

• Mapping AIP catalogue and mirroring database; creation of AIXM Converter (2024)

Generate AIXM Files for AIP Dataset

• Validating concept of mapping and converter (2025)

Aerodrome Mapping

• Visualize aerodrome surfaces through Aerodrome Mapping Pilot Project (2026)

AIM System Implementation

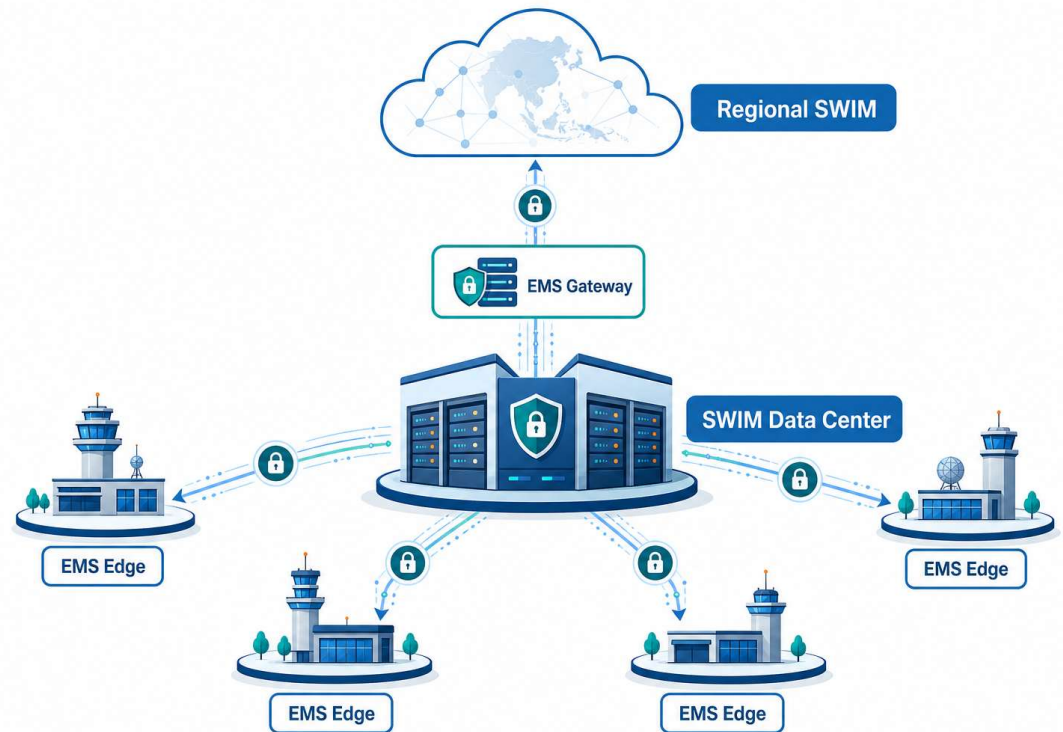
• Implementation of AIM System (AADPS Project) using converted AIXM Data. (2026)

FIXM – FF-ICE

Establishing the Technical Foundation for Regional SWIM Integration

Implementation Journey

- Actively participates in discussions, trials, and demonstrations of regional SWIM implementation, particularly for FIXM and FF-ICE.
- AirNav is developing FF-ICE/R1 and FF-ICE/R2 services.
- AirNav participated in the FF-ICE/R1 demonstration in Vietnam as part of the APAC TBO Pathfinder initiative. AirNav's FF-ICE/R1 services successfully performed their intended functions during the demonstration.
- AirNav will continue developing its FF-ICE/R2 services in 2026, with a demonstration planned for March 2027.
- AirNav will host the FF-ICE/R2 technical trial and demonstration.



IWXXM

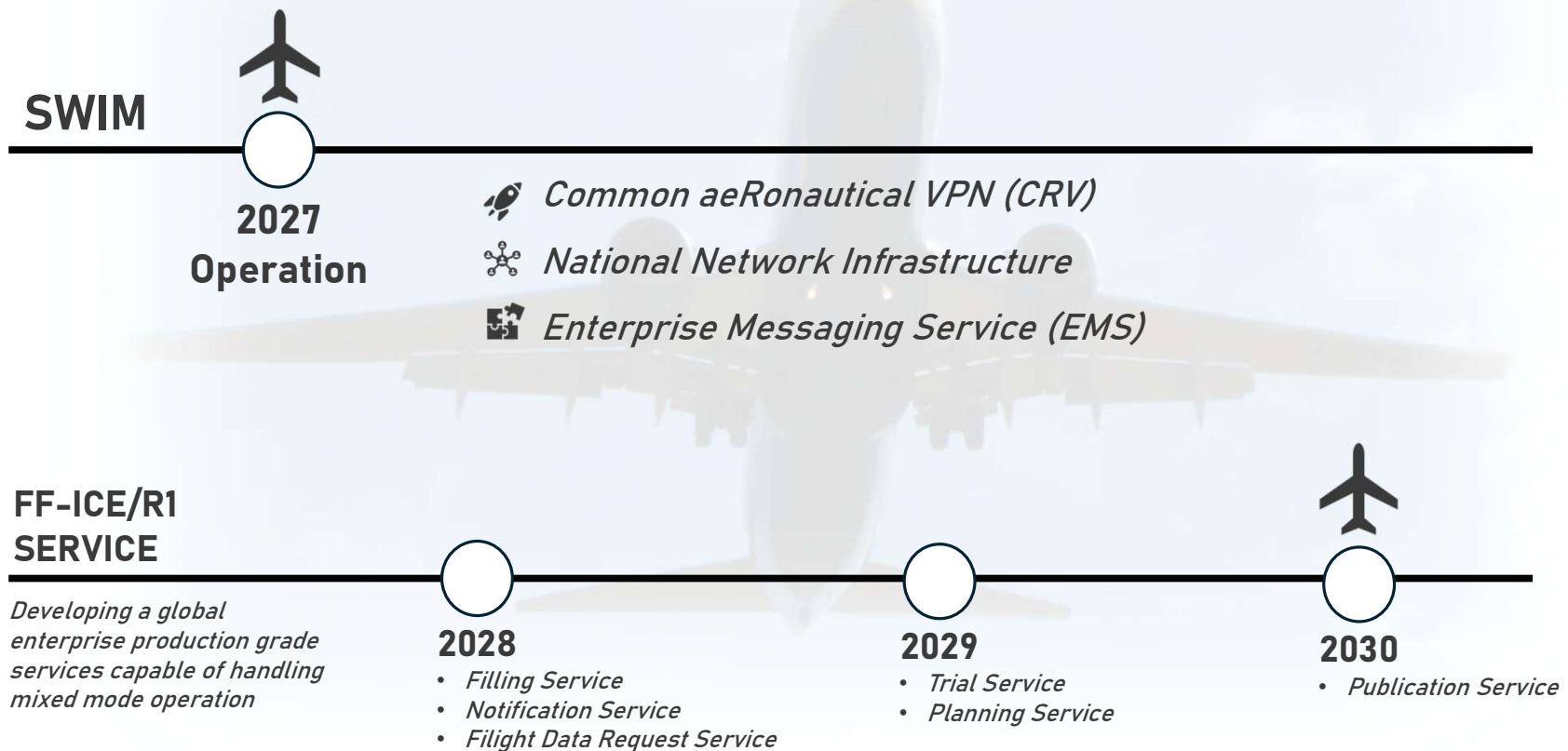
Integrating IWXXM Services into the SWIM Environment

Implementation Journey

- AirNav actively collaborates with BMKG to provide IWXXM data.
- BMKG is capable of providing IWXXM version 2025-2 data.
- Integration testing of BMKG's IWXXM service with the SWIM network will be conducted in 2026.



TIMELINE



THANK YOU