



ICAO Meteorology Panel

Future Meteorological Information Service

From products to seamless information services

Presented by Ashwin Naidu





Topics

- Evolution of MET Services
- ICAO GANP Requirements
- Future Met Information Service (AMOIS, AMFIS, HWIS)
- Stakeholder Impacts
- Key Takeaways



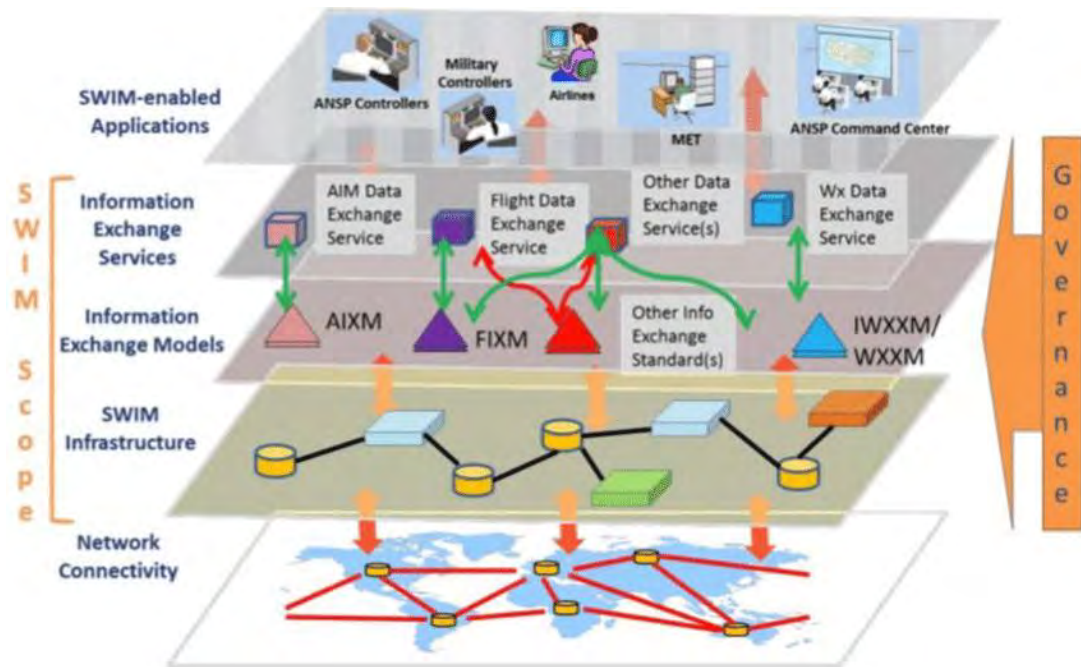


SWIM – The digital backbone of Future MET Services Provision

System Wide Information Management (SWIM) is the foundation of a global, interoperable, and data-centric aviation ecosystem.

Key requirements for MET:

- Met data in IWXXM format
- Delivery via web services
- Supports automation and decision aiding systems
- Ensures global and cross-domain interoperability



SWIM Global Interoperability Framework
ICAO Manual on SWIM (Doc 10039)



Evolution of MET services

From static products to dynamic services

Traditional approach	Future approach
Static, text-based products (e.g., METAR, TAF)	Dynamic, machine-readable data (e.g., IWXXM format)
Limited integration with automated systems	Seamless integration with ATM and airline systems and decision aids

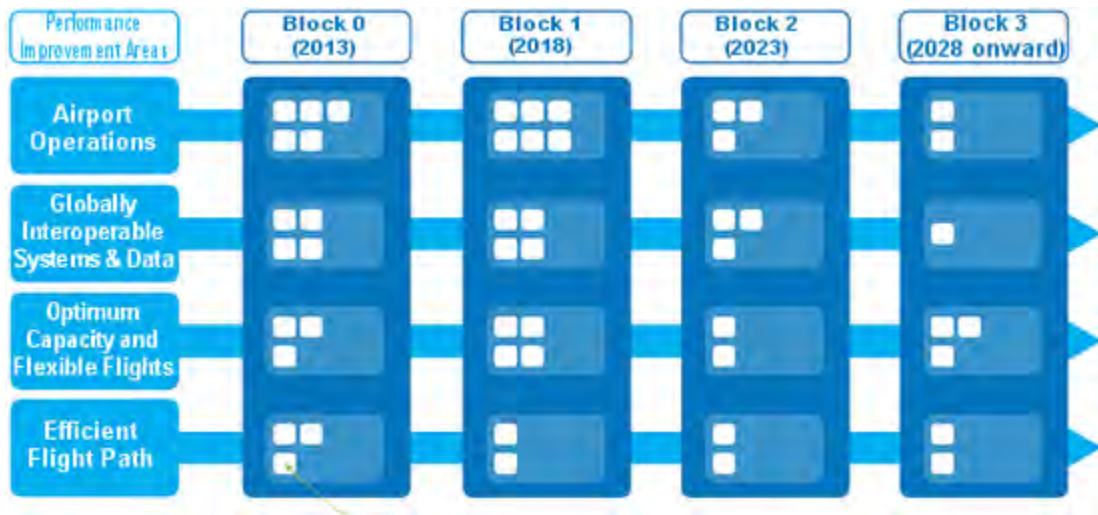
Services tailored to user needs, decision timeframes and automated.



ICAO GANP – guiding requirements

ICAO GANP under AMET-B2 Module
(2025-2030) outlines:

- Integrated **MET observations and forecasts**
- Support for enhanced ATM, airport decision making and optimised flight trajectory
- High spatial/temporal resolution
- Automated, user-defined services in IWXXM





Future Meteorological Information Services

ICAO MET Panel is developing new meteorological services:

- Aerodrome Meteorological Observation Information Service (**AMOIS**)
- Aerodrome Meteorological Forecast Information Service (**AMFIS**)
- Hazardous Weather Information Service (**HWIS**)





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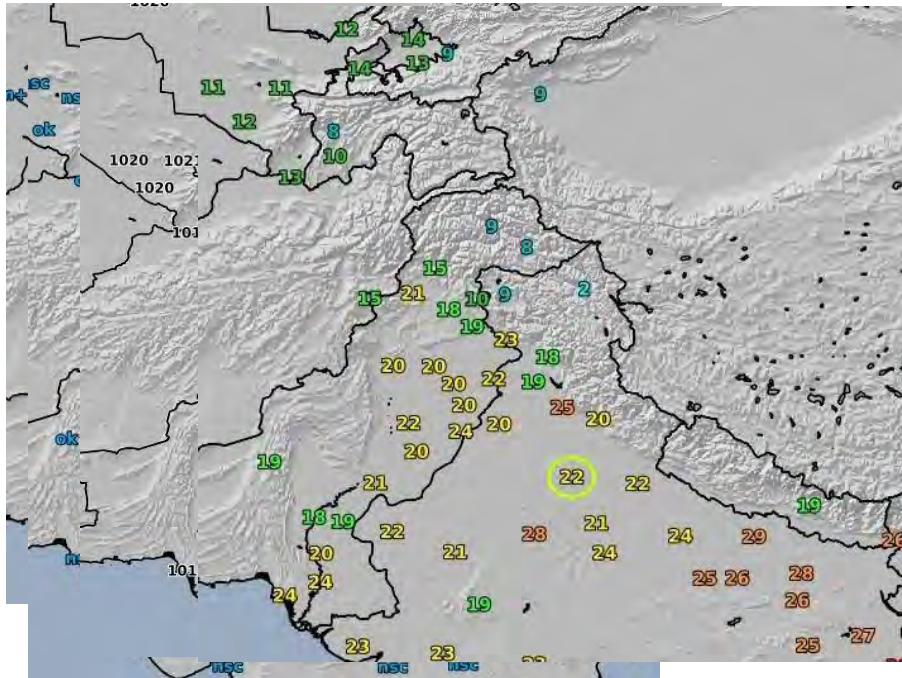


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AMOIS

STATION- ID	OBSERVATION TIME	METAR
VIDP	23.04.25, 01:30	SAIN32 VIDP 230130 METAR VIDP 230130Z VRB02KT 3000 HZ NSC 24/03 Q1008 NOSIG=



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AMFIS

TAF EDDF 230500Z 2306/2412
05004KT CAVOK

BECMG 2309/2312 25005KT

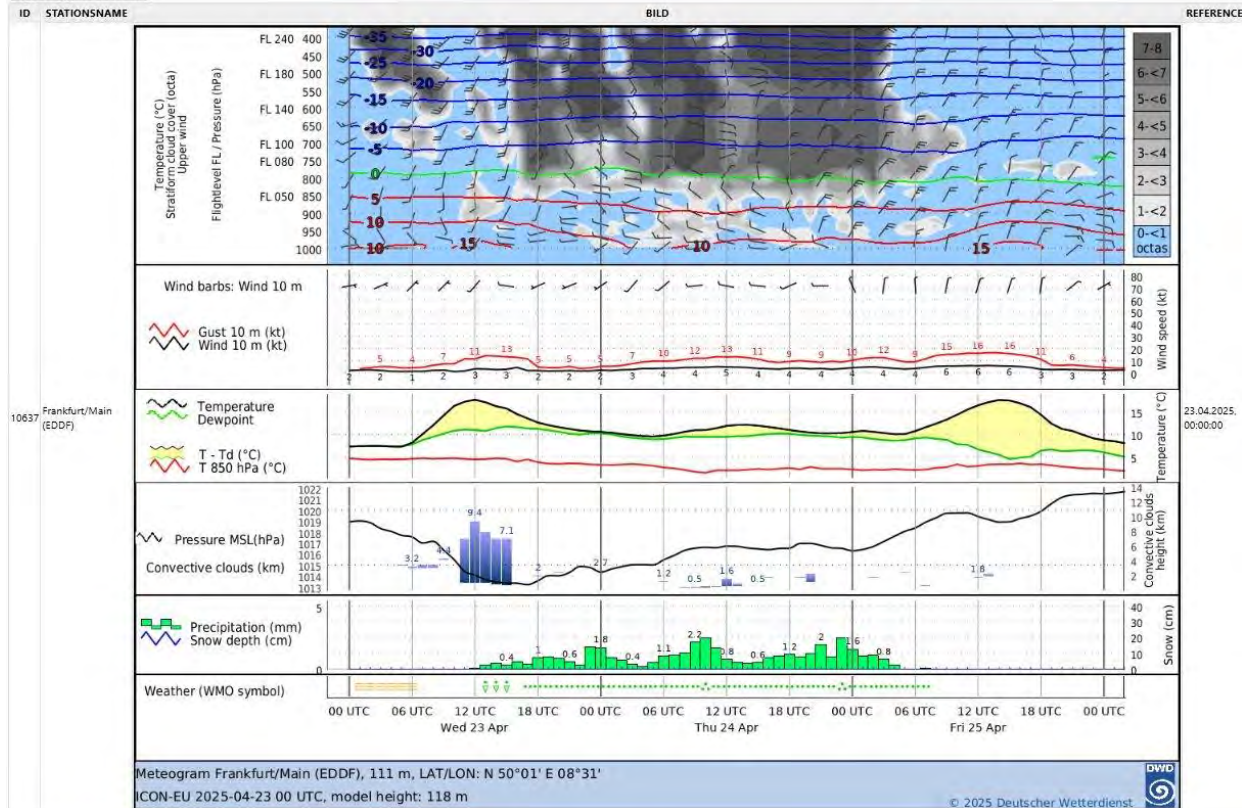
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BKN030CB PROB30 TEMPO
2313/2317 3000 TSRA

BECMG 2318/2320 FEW012
BKN030

PROB40 TEMPO 2318/2408 RA
PROB30 TEMPO 2405/2410
BKN012=

FW_GWS_METEGRAMS



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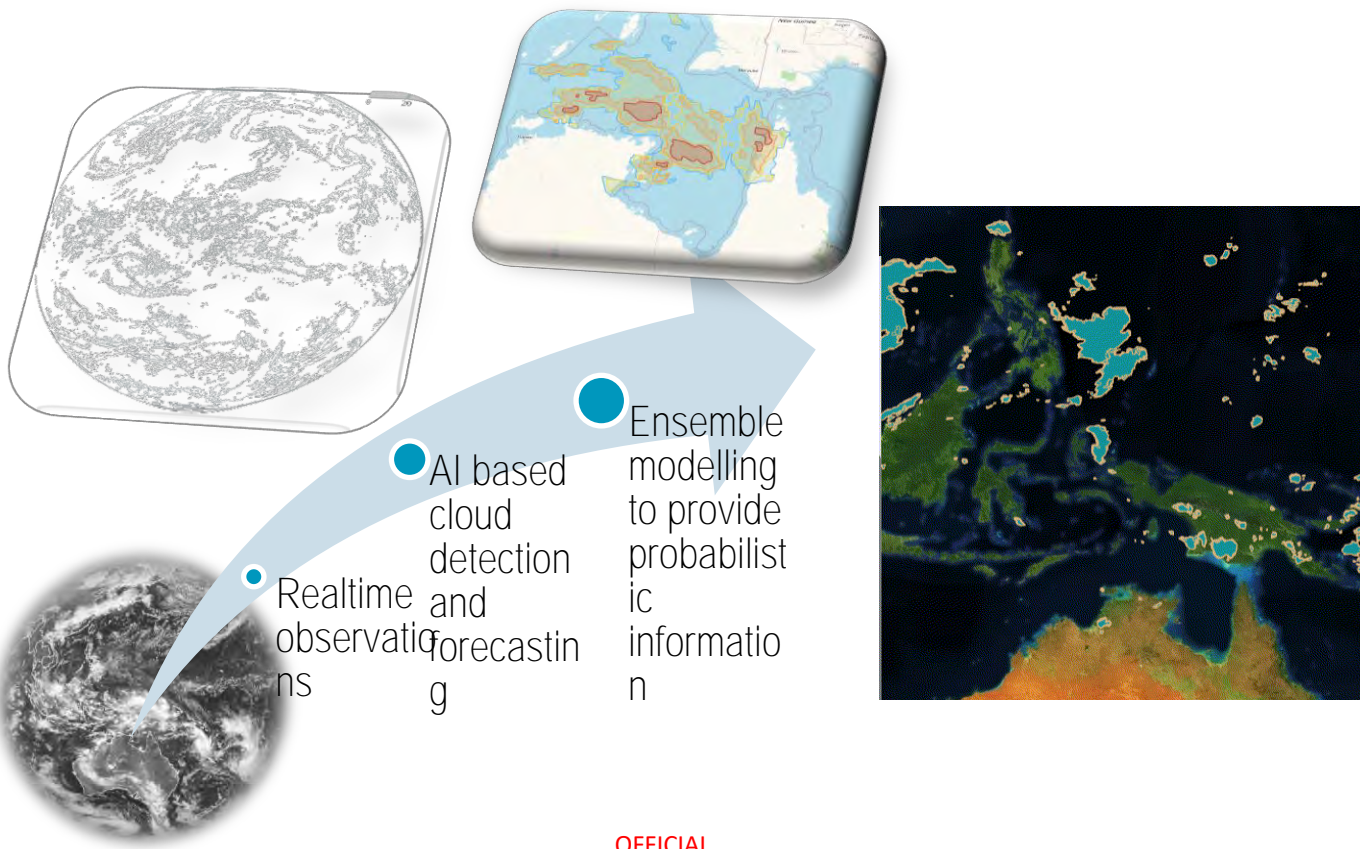
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HWIS



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Stakeholder Impact - what this means to you



ATC – real-time updates → better rerouting



Pilots – real-time hazard awareness in cockpit systems



Dispatchers - more accurate flight planning



Airlines - proactive ops management



ANSPs – automated data for ATM systems



Aerodrome Ops – planning for aerodrome conditions





- ICAO has endorsed the shift to data-centric MET services
- Transition from METAR, TAF, SIGMETs to digital, automated services
- AMOIS, AMFIS, HWIS define the next generation aviation weather data
- Final requirements and timelines are still under review by the ICAO MET Panel





- Stay informed as implementation plans progress
- Participate in national and global planning efforts
- Align with ICAO's SWIM & IWXXM requirements
- Start thinking and preparing for future MET information services





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Thank you

Ashwin Naidu