

AIR TRAFFIC & DEFENSE

# OPERATIONAL METEOROLOGICAL INFORMATION

Avitech - Leading Technology for Efficient and  
Reliable OPMET Solutions

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# MET

# AVITECH - THE KEY TO YOUR FINEST OPMET SOLUTION

We provide you with full SWIM and AMHS compliant OPMET solutions to transfer your meteorological message exchange and distribution to the latest WMO and ICAO principles by using IWXXM.

## Our Competence

To ensure a safe and smooth transition to the new required WMO Aviation Task Team OPMET schemas, ICAO Weather Exchange Model (IWXXM) formerly known as (TT-AvXML), we supply you with the best performing systems by using either or both SWIM and AMHS as a messaging backbone.

## Serving your Needs

The common goal of the aviation industry is to use XML schemas for weather message formatting by gradual migration according to ICAO GANP and ASBUs planning. The ICAO Meteorological Divisional Meeting (MET/14) conjointly with the WMO 15th Session of the Commission of Aeronautical Meteorology have agreed to use IWXXM worldwide. Bilateral usage is already possible between states that are able to do so, according to ICAO Annex 3 Amendment 76 (2014), Amendment 77 (2016) and Amendment 78 (2018) implementing the worldwide provisions for exchange of MET data using XML/GML.

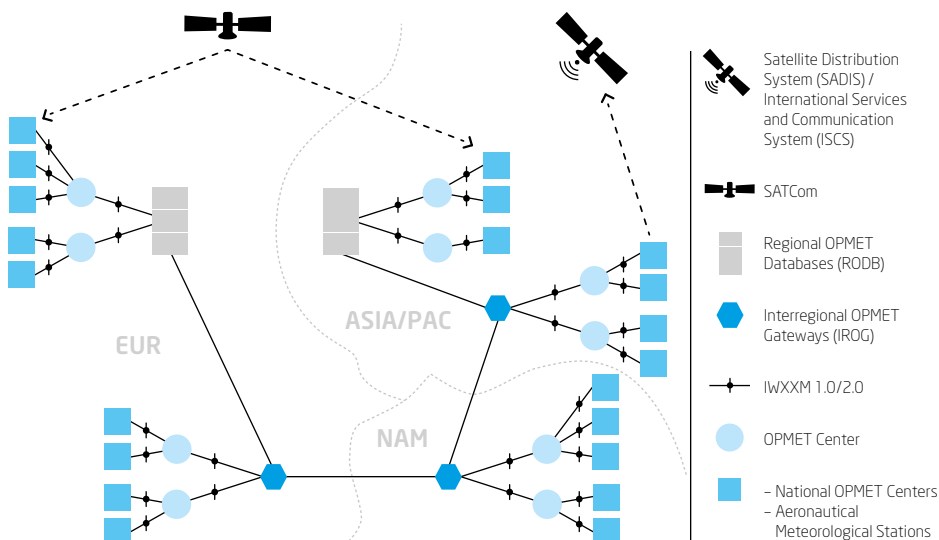
## Avitech OPMET Technology

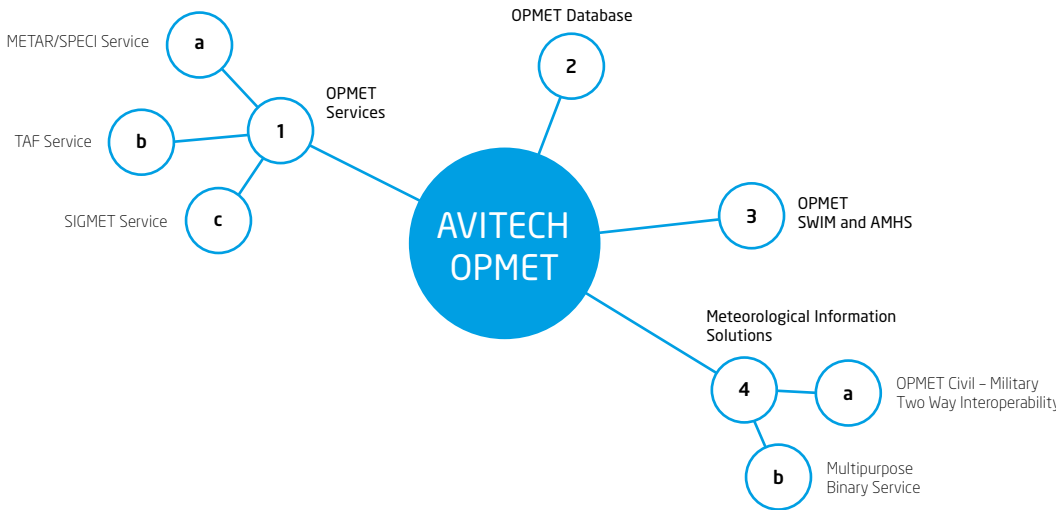
Since 2011, when the 1st Meeting of the WMO Commission for the Basic Systems Task Team on Aviation XML took place, Avitech has been gradually involved in the development and testing of IWXXM 1.0/2.0. It can be used stand alone or included in the Avitech SWIM Solution (OPMET Services). Transportation over AMHS is also possible.

The current message repertoire covers the full OPMET set of messages which are METAR, SPECI, short/long TAF, and SIGMET encoded in XML/GML schema. It conforms to the ICAO Manual on Digital Exchange of Aeronautical Meteorological Information (Doc 10003-AN/503).

Unlike the traditional forms of ICAO Annex 3/ WMO No. 49 products, IWXXM is not intended for direct use by pilots. Application software will be used for visualisation.

## Regional OPMET Bulletin Exchange (Schematic)





## OPMET Product Range

You can rely on Avitech to guide your processes safely and efficiently to establish your best XML/GML schema based OPMET solution by using either SWIM and/or AMHS. All our products and solutions can be adapted in detail to your requirements, resulting in exactly the system you need. Take a look at our modular OPMET product range:

### 1 OPMET Services

#### a METAR/SPECI Service

Aerodrome Routine Meteorological Report (METAR) and Aerodrome Special Meteorological Report (SPECI) are encoded according to the WMO/ICAO MET schema. The contents are compliant to Annex 3, Chapter 4 and Appendix 3, this includes Trend-Type Forecast.

#### b TAF Service

Aerodrome Forecast (TAF) is encoded according to the WMO IWXXM/TAF XML/GML schema. The content is compliant to Annex 3, Chapter 6 and Appendix 5, which includes different periods of validity.

#### c SIGMET Service

Information concerning en-route weather phenomena which may affect the safety of aircraft operations (SIGMET) is encoded according to the WMO/ICAO MET schema. The content is compliant to Annex 3, Chapter 7 and Appendix 6, which includes phenomena reporting of Volcanic Ash (VA), Tropical Cyclone (TC), and Significant Meteorological Information (WS).

### 2 OPMET Database

All XML/GML schema encoded OPMET messages can be directly stored in the Avitech OPMET hierarchical XML database. This is a high-performance and scalable storage compliant with W3C standards. The XML database is intended to store and retrieve big amounts of XML/GML encoded data fast. The XML database has full transaction management and can be operated in cluster mode.

### 3 OPMET SWIM and AMHS

Transportation of XML/GML encoded OPMET message can be done through the Avitech SWIM Product which can be connected to Meteorological Organisations and systems. The Avitech SWIM Product provides also an AMHS Gateway for connectivity to any AMHS COM Center in order to allow early the transportation of the newly formatted OPMET messages.

### 4 Meteorological Information Solutions

#### a OPMET Civil – Military Two Way Interoperability

Based on a well-designed security policy, labelling and the latest cryptographic algorithms, Avitech OPMET SWIM establishes what was assumed impossible: to exchange information between high and low security domains in the military environment as well as between civil and military units. With almost a decade of operational experience Avitech SWIM provides a fine-tuned, secure communication bridge which is unique on the market. It can be used for XML/GML encoded OPMET messages too.

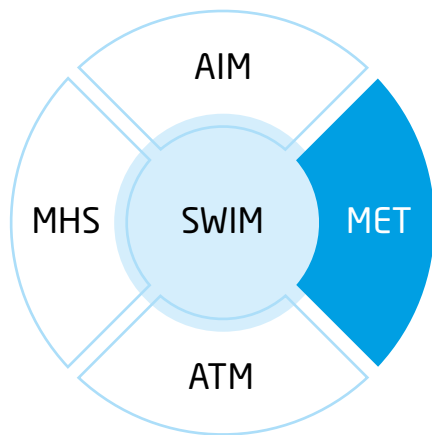
#### b Multipurpose Binary Service

Other than IWXXM 1.0/2.0 graphical formats of Annex 3, like model charts in graphical formats or volcanic ash advisory information, SIGWX charts in WMO Binary Universal Format for the Representation of meteorological data (BUFR) can be transported by the Avitech solution as well.



# AVITECH - TECHNOLOGY YOU CAN TRUST

- Involved in development and testing of IWXXM 1.0/2.0
- Available in Civil and Military Environment including two way data exchange
- IWXXM 2.0 compliant solution available
- XML Database for big, fast data storage and search



## Experience & Know-how

Avitech supplies AIM, ATM, MHS, and SWIM solutions for civil and military Air Navigation Service Providers, Aeronautical Information Service Providers and Communication Providers. One of our additional focal points is in the research and development of XML/GML encoded OPMET messages and other aviation meteorological products to support MET exchange between civil and military meteorological organisations.

For more than 40 years Avitech has served the aviation industry as one of the leading international developers of aeronautical IT systems worldwide. Today Avitech supplies more than 45 customers in 55 countries on six continents with state-of-the-art aeronautical information technology.

Please ask for our complete product range or visit our website [www.avitech.aero](http://www.avitech.aero)

## Avitech & Indra

Avitech represents the Center of Excellence within the Indra Group for AIM, MHS, SWIM and MET, complementing the Indra ATM offering worldwide. The Indra Group's global business model is based on high-end innovation and technology, currently supporting 4000 air traffic control installations in over 160 countries.

The group is all set for ICAO Aviation System Block Upgrades (ASBUs): Compliance with Block 0 & Block 1 and paving the way to Blocks 2 & 3.

ASBU-Compliance



2013 ——— 2019 ——— 2024



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