Datasheet: MosaiX SWIM
Aviation integration platform

System Wide Information Management (SWIM) is an integral component of the digital transformation that is taking place in the Aviation industry. The Frequentis integration platform is a key enabler. Today Air Navigation Services Providers (ANSPs) rely on closed systems with proprietary point-to-point communication for data exchange. SWIM will enable these systems to operate as an overlay to IP networks using open standards and ATM-defined data exchange models (AIXM, WXXM, FIXM).

MosaiX SWIM, the Frequentis integration platform, is an end-to-end solution that provides ANSPs with all of the tools required to unlock and monetise their data by offering new services to their customers (i.e. airlines). It allows ANSPs to easily interface with legacy and third party systems, enabling data to be freed from traditional storage silos and fused with different sources.
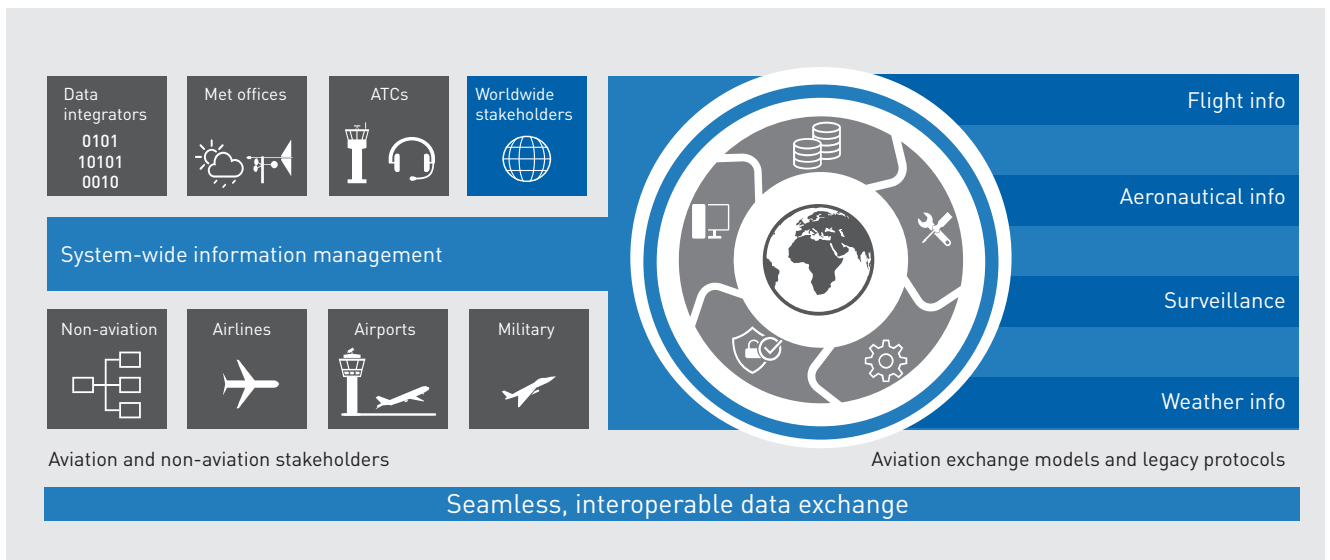
Key features

- Acts as an information backbone for connecting all aviation stakeholders (ANSPs, airports, airlines, met offices)

- Supports all aviation exchange models and legacy protocols and data formats to facilitate transition to SWIM

- Comes with a feature-rich service registry that allows clients to easily find services provided by publishers both locally and regionally

- Can be implemented in combination with the Frequentis ATM-grade network solution (vitalsphere) and Frequentis SWIM-enabled applications (i.e. smartAIM, smartWeather, and other Frequentis products)

MosaiX SWIM at a glance

- ATM-grade integration platform

- ATM toolkit from ATM experts - ready-made ATM connectors and data transformers, complete suite of ATM applications and graphical developer tools to let customers build their own data mediation needs

- Compliance with ED-153 Guidelines for ANS Software Safety Assurance

FREQUENTIS
FOR A SAFER WORLD

Flight info

Aeronautical info

Surveillance

Weather info

Data integrators 0101 10101 0010	Met offices	ATCs	Worldwide stakeholders

System-wide information management

Non-aviation	Airlines	Airports	Military

Aviation and non-aviation stakeholders

Aviation exchange models and legacy protocols

Seamless, interoperable data exchange

Benefits

MosaiX SWIM is specifically designed to assist the Aviation industry with its migration to SWIM and to facilitate the exchange of information between all industry stakeholders for better informed decision making and the creation of new applications and services. Designed with a Service Oriented Architecture (SOA), the key benefits include offering low vendor lock-in, a comprehensive security solution, centralised API Management and a built-in service registry.

MosaiX SWIM also includes data analytics and billing tools which enable the visualisation of valuable information with dashboards and the billing of the consumer of services using various schemes such as pay-per-time or pay-per-hit.

Functionality can be deployed in a traditional high-availability scenario on-premise, in the cloud and in a hybrid environment. This enables dynamic scalability to meet peaks in demand and request volume.

Centralised monitoring of security threats is enabled via a comprehensive cybersecurity solution including encryption, authentication and authorisation as well as an Intrusion Detection System (IDS). The IDS protects the platform from defacement, denial-of-service attacks, data leakage, identity theft and intrusion attempts.

Technical specifications

Communication protocols	All protocols defined in the FAA NextGen and Eurocontrol SESAR SWIM Yellow and Purple Profile specifications
Legacy system converters	All converters required for the connectivity to legacy systems (i.e. AFTN, AMHS)
Data storage models	Standard aviation exchange models (AIXM, FIXM, IWXXM)
Data query	Supports the Open Geospatial Consortium standards (WMS, WCS, WFS)
Service registry storage formats	XML documents, XSD schema files, images, PDF and DOC/DOCX files