Aeronautical Information Management (AIM)

Agile, highly available solutions for the aviation industry
Meeting global AIM needs today and tomorrow

Frequentis is a true international leader in Aeronautical Information Management (AIM) solutions for both civilian and military domains, with 20 years of direct experience and many more years of leadership in Air Traffic Control (ATC). The breadth of the company’s AIM solution portfolio enables support for the full spectrum of requirements, from extremely large regional hubs to in-country systems.

With three AIM regional hub systems, 30 stand-alone systems, and a user community spanning 300 organisations across air navigation service providers (ANSPs), civil aviation authorities, data-management organisations and airlines, Frequentis has the largest installed base worldwide. Understanding the aviation industry’s need for fast, low-friction deployment, Frequentis enables customers to choose between turnkey on-site solutions backed by integration services or cloud-based solutions provided as a service through standard web browsers. Technology is just one element in the service; drawing on deep AIM domain expertise, the company offers end-to-end solutions including consulting, design, change management, data integration, training and support.

The company believes in working with its customers as partners to drive innovation throughout the solution lifecycle, including constantly looking for ways to improve the data-exchange process. The company also works in partnership with major industry bodies, including CANSO, EUROCAE and OGC, and support for the System Wide Information Management (SWIM) concept provides opportunity for further innovation.

With a focus on ensuring that new functionality goes hand in hand with the necessary reliability and availability to support safety-critical environments, Frequentis AIM solutions help aviation customers to excel today while preparing for the challenges of the future.

Commitment to modern technologies - Frequentis AIM

The company is a market leader in implementing leading-edge technologies and concepts such as SWIM, as well as AIXM 5.1, IWXXM, and FIXM data models in a modern micro-service-oriented communication system architecture.

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<th>Safety-critical support</th>
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<td>Service availability and reliability remain crucial elements for the aviation industry. The company supports 24/7 operations for the world’s largest regional AIM hub, trusted by more than 300 organisations.</td>
<td>Safe and efficient services depend on openness and standardisation in data exchange. The company is committed to open, interoperable AIM solutions, backed by joint research with leading industry-standards organisations.</td>
<td>The company serves all stages in the AIM data chain, providing consistency that drives higher data quality and opens up new possibilities for automation even within safety-critical environments such as the cockpit.</td>
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Driving data quality and standardisation

In aviation, safe and efficient operations increasingly depend on the reliable and timely exchange of accurate data. Frequentis is the only technology provider today that works with all parties in the AIM data chain – including airports, ANSPs, data management organisations, airports, civil aviation authorities, airlines and pilots.

The AIM data chain begins with the airports as the originators of the aeronautical data, passes through the Aeronautical Information Service Providers (AISPs) and ANSPs, who aggregate and publish it, then through the data integrators, who consolidate it and add value, and flows through to the airlines and pilots.

Frequentis serves all stages in the chain, giving it an advantage in creating truly interoperable solutions. In addition to interoperability between the individual parties in the data chain, the company also facilitates automation within each stage of the data chain and integrates local systems with its own products and the data management process.

The company’s AIM hubs enable automatic data exchange, increasing data quality, completeness and traceability even as volumes grow dramatically. The high-quality consolidated data can then be used in safety-critical environments such as the cockpit to drive automated procedures. Metadata is added to track the flow from partner to partner, providing a comprehensive, accurate record of provenance that supports exchange without the need for manual procedures.

The company’s solutions support data publications within and beyond the Aeronautical Information Regulation And Control (AIRAC) cycle, and its total commitment to open and standard interfaces (Web Services, WFS-TE), standardised data formats (AIXM, FIXM, WXXM), and open system architecture (SOA, SWIM) help industry partners work together to deliver greater value for all.

In addition to helping customers meet today’s regulatory cycles and standards, Frequentis uses its expertise to determine the likely future direction and help customers prepare accordingly. The company has a long track record of working with major industry bodies to define and drive global standards, including EUROCONTROL and SESAR, and invests heavily in developing concepts to keep the aviation industry moving toward greater consistency.
Comprehensive solution portfolio

The AIM solution portfolio provides a complete system landscape for all players within the aviation industry.

In the arena of short-term information management, Frequentis offers solutions for flight plan management, weather, Notice To Airmen (NOTAM) and briefing, while in long-term information management it offers Aeronautical Information Exchange Model (AIXM) version 4.5 and 5.1 management, reporting, Geographical Information System (GIS), and Electronic Terrain and Obstacle Data (eTOD) with support for the latest regulations.

Within publications, the company offers solutions for Aeronautical Information Publication (AIP) and for multiple types of charting, going beyond the ICAO regulations to support additional documents for local standards and military requirements. To help ensure aeronautical data quality, the workflow management solution enables fully traceable AIM processes in line with the installed Quality Management System (QMS). Data quality is a particular focus at present, with ANSPs needing to prove ADQ compliance, and the EU standard gaining momentum as a potential global standard.

Frequentis also offers a solution for SWIM technical infrastructure, providing an information backbone for connecting aviation stakeholders and enabling them to exchange data in both current and legacy formats.

Reference customers

**Regional hub**

The European AIS Database (EAD) is the world’s largest AIM hub, supporting a series of AIM projects provided to EUROCONTROL. Used by approximately 50 ANSPs and 300 non-ANSPs, the solution runs on two redundant, geo-separated clusters monitored 24/7 by Frequentis safety engineers.

**Data integrator**

The strategic alliance between Frequentis and Jeppesen, a Boeing subsidiary, aims to deliver more efficient aeronautical data solutions to airlines and ANSPs. Drawing on end-to-end knowledge of standards throughout the data chain, Frequentis will help Jeppesen to integrate information from a wider variety of sources.

**Airline**

Frequentis AIM provides the navigation database for a major global airline, utilising several components of the smartAIM product suite. The navigation database holds all static and dynamic data to feed the airline’s flight-planning application, which optimises intercontinental flight routes to increase fuel efficiency and thereby the geographical reach of the fleet – while at the same time reducing emissions. This enables the airline to fly to and from destinations directly which were previously out of reach.