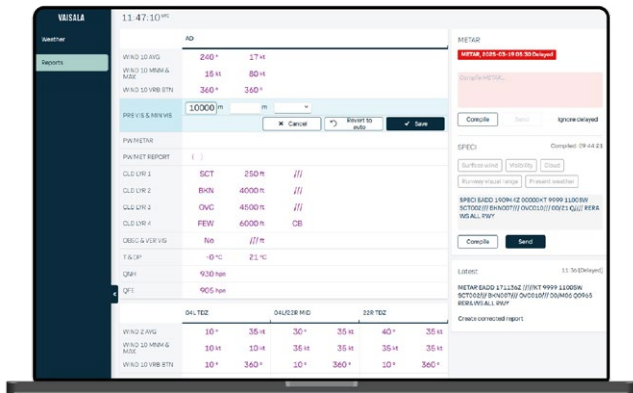# AviMet® Automated Weather Observing System AWOS

The global standard for integrated airport weather observation

Solutions Brochure

# Comprehensive weather intelligence for safe, efficient air travel

The aviation industry is committed to ensuring safety while maximizing operational efficiency. Reliable weather information is essential for airports worldwide to minimize weather-related delays and cancellations.

Vaisala AviMet® Automated Weather Observing System AWOS is a comprehensive aviation weather solution including both best-in-class sensors and software to monitor & report airport weather for safe and efficient flight operations.

Trusted expertise and support

For over 50 years, Vaisala has been the trusted leader in aviation weather solutions. Our AviMet system delivers the industry's most comprehensive suite of sensors and systems, providing accurate weather data from cloud to ground. With AviMet, airports can operate safely and efficiently in any weather conditions.

Beyond technology, we offer extensive life-cycle support with easy maintenance, calibration, and spare parts supply — ensuring seamless operations and automation of weather observation processes. With Vaisala, you can focus on what matters most: safe, efficient and sustainable air travel.
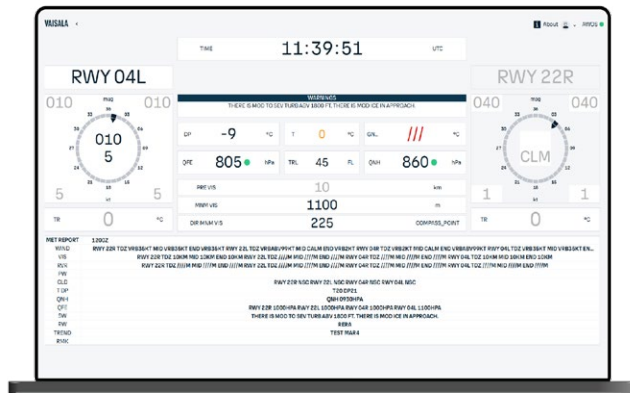
All-in-one advantage

With AviMet AWOS, everything comes from one trusted manufacturer, reducing integration risks and simplifying maintenance, calibration, and spare part supply. Our in-house sensor expertise ensures that we deliver the best possible aviation weather system, designed to lower your total costs over the system's life cycle.

Key benefits

Trusted performance and reliability
The most demanding airports in the world depend on AviMet AWOS for its proven long-term performance.

Superior data accuracy and consistency
World-class Vaisala sensors provide the highest level of accuracy and dependability, in real time, in all weather conditions — guaranteed.
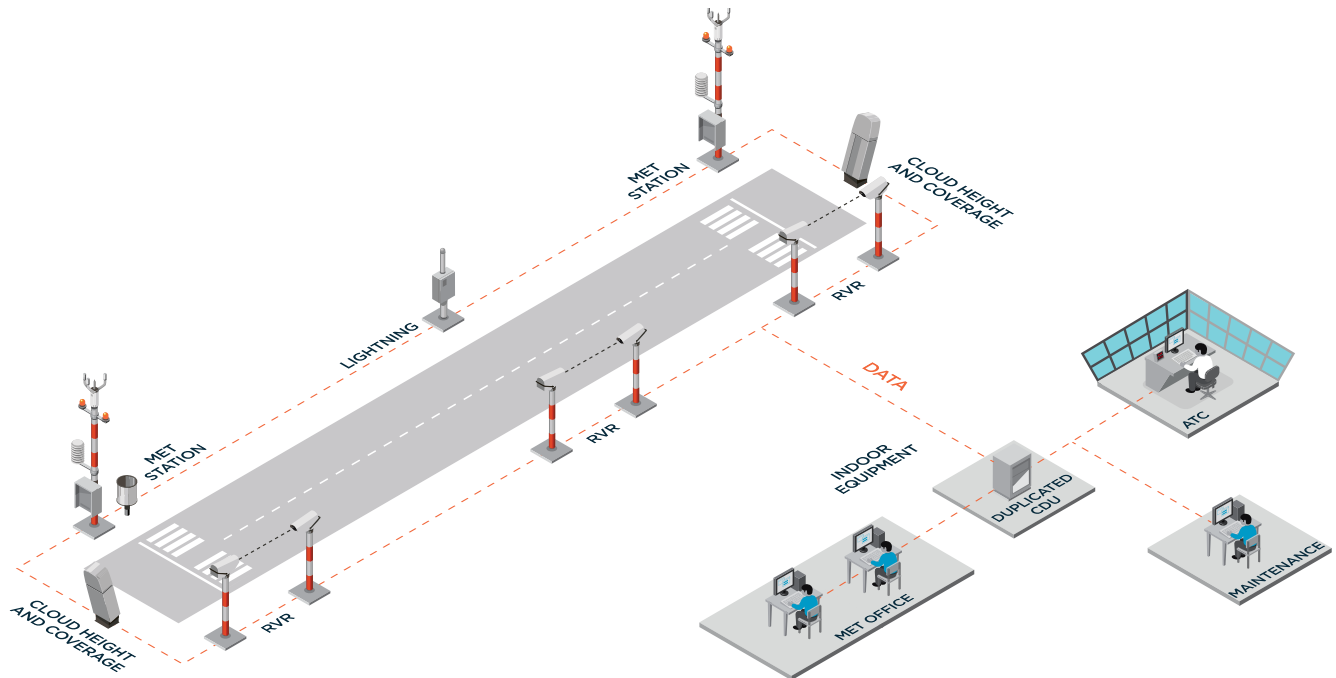
Ease of use and operational excellence
Built with end-to-end aviation use in mind, from sensors to software to integration with external systems for ease of use.

Full service – global and local
Our extensive network of expert support specialists helps you maximize your investment no matter where your airport is located.

Essential features

- Field instrumentation adjusted based on the airport's needs
- Scalable to cover non-categorized to CATIII airports
- Provides ICAO and WMO defined reports
- Customizable indoor equipment

A typical AWOS solution consists of the field sensors, central data unit(s), communication interfaces and different workstation types.

System overview

AviMet AWOS collects, processes, monitors, distributes and archives meteorological data from a dedicated set of meteorological sensors located along the runways. The system consists of:

- Field measurement instruments for collecting data from representative sites along the runway
- Communication equipment for transmitting the collected data to the central data unit (CDU)
- CDU and workstations for processing, archiving and displaying and reporting the weather data

All critical system functions can be duplicated to ensure uninterrupted data flow.

Vaisala will assist you in all aspects of your project — from initial planning through maintenance and lifecycle support. We offer flexible configurations to meet the requirements of your airport and to minimize system installation, operation and maintenance costs.

Field measurement instruments

Vaisala field measurement instruments are based on decades of research and development in order to offer the highest quality, reliable products that provide the best quality data. Common setups include wind speed and direction, barometric pressure, temperature, cloud coverage, visibility and lightning.

Unique multi-sensor weather algorithms

- **AviMet Multi-sensor Present Weather algorithm:** leverages several different AWOS sensors at the airport to achieve superior results
- **AviMet Sky Condition multi-sensor cloud coverage algorithm:** uses up to five ceilometers to provide enhanced airport cloud coverage information, with automatic sensor back-up logic built into the algorithm
- **AviMet Multi-sensor Prevailing Visibility algorithm:** utilizes all visibility sensors at the airport for better accuracy
- **AviMet Wind Shear algorithm:** combines data from weather radar, wind lidar, and anemometer-based LLWAS systems to provide comprehensive alerts

Central Data Unit

The CDU collects data from the sensors and performs meteorological calculations, generates ICAO defined aviation reports, and continuously carries out diagnostics of the incoming data as well as the entire system. The CDU also stores the measured and calculated data as well as the transmitted reports.

You can also operate AviMet AWOS fully automated, without human observation, complete with AUTO METAR reports.

Workstations and interfaces

The number of workstations depends on the system configuration. Modern web interfaces for weather observations and reporting offer a customizable interface that you can adjust at any point in the life cycle. This ensures an optimized experience, complete with severity information to enhance weather observations.

Aviation weather observations monitoring, report generation tools, and maintenance monitoring are all designed to meet your specific needs. Role-based access enhances security, operational efficiency, and reduces human errors, providing different views for ATC, Observers, Forecasters, Maintenance, System Administrators, and others in operations centers. Powerful configuration options ensure that the system is always up to date with ICAO regulations and adapted to local needs and requirements.

Seamless integration

The AviMet AWOS system architecture ensures smooth integration of meteorological data into any ATM systems, airport-wide service and maintenance systems, and other meteorological systems. The system is continuously developed to meet the latest industry standards. The latest ICAO defined information exchange methods, such as AMHS and IWXXM, are supported.

Data and alerts from remote sensing systems such as wind lidar, weather radar, and lightning detection networks can also be integrated to provide real-time awareness of weather events at or approaching the airport.

Why Vaisala?

For 50 years, Vaisala has been a pioneer in aviation weather technology, ensuring that every measure is taken for unparalleled safety, efficiency, and sustainability.

Our gold standard suite of solutions is trusted in more than 170 countries and over 2000 airports globally. In fact, every commercial flight around the world will use weather observations produced by Vaisala equipment or forecasts driven by our sensor measurements at some point in their journey. With a commitment to constantly evolving our portfolio, Vaisala remains at the forefront of the industry, continuously exploring new horizons.

vaisala.com/airports