Modern weather radar supports airport traffic in Italy

VAISALA

Case Study

The client:

ENAV SpA

Vaisala solution:

C-Band Weather Radar WRM200

THE CHALLENGE:

Upgrade weather radar for airport meteorology

ENAV, the organization responsible for managing Italy's air traffic and a leader in Europe as an air navigation service provider, sought to upgrade its weather radars to better serve flight operations in Milan and Rome. Recognizing the need for advanced technology to enhance their capabilities, ENAV issued a public tender within the European Union aimed at upgrading their weather radar systems.

The main challenge was to increase the accuracy, reliability and detail of weather data for crucial flight operations. ENAV sought to leverage modern weather radar design throughout the entire lifecycle with access to comprehensive weather data. They also wanted to develop a flexible and user-friendly system that could satisfy the evolving requirements of a forecasting service supporting air operations.

THE APPROACH:

Future-proof weather radar technology

The tender was awarded to Vaisala in partnership with Eurelettronica Icas, Vaisala's long-time Italian representative and certified service partner. This partnership brings proven experience in the Italian market and ensures the provision of end-to-end solutions. The proposal included the supply of two dual-polarization Vaisala C-band Weather Radar WRM200 units and a central system at the Ciampino headquarters.

The state-of-the-art system is equipped with Vaisala RVP10 Digital Receiver and Signal Processor, which sets a new meteorological standard by using patented ground clutter filtering methods (GMAP) and a continuous development program to evolve with new signal processing algorithms. This combination provides access to unmatched meteorological intelligence to safeguard communities, infrastructure and economies.

Featuring the comprehensive Vaisala IRIS Focus software that provides a rich set of unique tools for viewing and analyzing the data, WRM200 offers exceptional detection capabilities, providing detailed and accurate weather data essential for air traffic management. Proprietary state-of-the-art algorithms including HydroClass™ hydrometeor classification significantly improves data quality and leads to more accurate alarms.

The project included the delivery and installation of two WRM200 weather radars on existing support platforms in Carpiano (Milan) and Aranova (Rome) sites, the delivery and installation of a new central system in Ciampino including integration in the Italian Weather Radar network, and training. The process included rigorous factory and site acceptance tests to ensure the system met all technical and operational requirements and as well applicable standards.

THE RESULTS:

Enhanced capabilities for safer airport traffic

The installation of the WRM200s will significantly enhance ENAV's operational capabilities. The radars deliver precise weather data, enabling ENAV to make informed decisions that support flight safety and efficiency. The advanced technology allows for the automatic detection and issuance of relevant alarms, further improving response times and operational readiness.

The WRM200 weather radars successfully meet the strict requirements of air traffic management, demonstrating Vaisala's commitment to providing the latest technology that greatly improves both aviation client operations and safety standards.

Why Vaisala?

For over 45 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.

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