

# Portugal's island airports boast leading-edge weather management

NAV Portugal's main task is to provide air traffic services in the flight information regions under Portuguese responsibility. NAV ensures that national and international regulations are complied with, safety issues are adequately addressed, and capacities optimized - while also paying attention to environmental concerns.

NAV carries out its work in mainland Portugal and in the autonomous regions of the Azores and Madeira. The head office is situated next to Lisbon Airport, as are the Lisbon Air Traffic Control Centre and the Training Centre. The Oceanic Control Centre is located on the island of Santa Maria in the Azores autonomous region.

Airports located on islands pose their own specific challenges to weather-critical operations. For example, the Azores and Madeira often witness severe weather conditions and strong winds. Airports also play a significant role in the economy of many small islands, ensuring the movement of goods and people and therefore keeping them vibrant.

## Air traffic control relies on accurate data

To efficiently carry out its air traffic control mission, NAV Portugal has a considerable amount of equipment and many technical installations in several parts of mainland Portugal and the autonomous regions.

Reliable and timely weather information is a must for air traffic control, as changing weather conditions must be detected and communicated to pilots as they occur. Airport weather manage-

ment software and displays play a crucial role in air traffic controllers' work.

NAV recently noticed that parts of its aviation weather system were becoming obsolete and it was becoming increasingly difficult to find spares. Hence the decision was taken to update the central data units, as well as the airport weather management software and displays at six airports in Madeira and the Azores: Porto Santo, Madeira, Santa Maria, Ponta Delgada, Horta and Flores. Vaisala is NAV's partner in the project.

NAV will be taking a software solution from the Vaisala AviMet® offering into use in the spring of 2008. Vaisala's aviation weather management solutions integrate weather data into all customer processes and are tailored to individual needs.

## Good human-machine interface is important

Mrs. Maria Luisa Esguelha and Mr. Joaquim Abel Arcângelo are both NAV engineers whose task is to ensure that the air traffic controllers' and other operational parties' requirements are met with the best possible technological solutions. Both have been involved in the cooperation with Vaisala from the early stages of the project.

Mr. Arcângelo, Mrs. Esguelha and Mr. João Mata from NAV Portugal, along with Mr. Paulo Renato Coelho and Mr. Carlos Neves, Weather Observers from the Weather Institute of Portugal visited Vaisala in February 2008 for a Factory Acceptance Test and training on the Vaisala AviMet®. "We are carrying out simulations and making sure that the processing system and interfaces work as

planned. The human-machine interface is very important. Our end users need information instantly and with minimum disturbance. Menus and colors need to be user-friendly, and important information has to be easy to recognize. It is also important that the system alerts about changes," says Mrs. Esguelha.

## Significant improvements introduced by new system

"Three parties are involved in this upgrade - NAV Portugal, Vaisala and the Instituto de Meteorologia (Weather Institute of Portugal). Our job at NAV is to procure the equipment and data, which the Weather Institute then validates for our end users," Mr. Arcangelo explains.

After installation, Vaisala will train the technical maintenance and operational people at six airports.

"The new user-interface provided by Vaisala brings a significant improvement to our old system. It is very intuitive and professional. Our users in both air traffic control and maintenance are sure to feel the difference and appreciate the change. It is also very flexible and easy to maintain, and since all data is duplicated, safety is also improved," both agree.

Thanks to the modularity and flexibility of the Vaisala Avimet® solution - with an offering ranging from aviation weather measurement instrumentation to data management and professional services - the customer is free to choose the level of involvement they require from Vaisala. The original investment can also be utilized as Vaisala offers a suite of modernization solutions to bring older systems up to today's technical and operational standards. ■



*Porto Santo, Madeira.*

*Pictured, from left: Carlos Neves, Instituto de Meteorologia de Portugal; Paulo Renato Coelho, Instituto de Meteorologia de Portugal; Maria Luísa Esguelha, NAV Portugal; Joaquim Abel Arcângelo, NAV Portugal; Kari Suvisaari, Vaisala; João Mata, NAV Portugal.*

