

When accuracy matters

/ WEATHER MEASUREMENT SYSTEMS FOR NAVAL FORCES



VAISALA

Vaisala Maritime Observation Systems

Integrated environmental observations tailored to your needs

Accurate weather information is vital for ensuring the safety and effective operation of naval vessels. Vaisala Maritime Observation Systems are the comprehensive answer to your naval weather challenges.

Enhanced weather sensing: the crucial edge

Vaisala provides weather sensors and systems to support naval operations. The environmental data that we provide is a critical input to mission planning tools and to operational situational awareness.

Our systems are specifically designed and built for onboard and offshore environments, ensuring their usability in harsh and demanding maritime conditions. Compatibility and interoperability with other onboard systems are ensured through the application of relevant standards in design.

Vaisala radiosounding systems are used when atmospheric profiling up to altitude is needed for ballistic preparation, atmospheric refraction measurements or as input for Numerical Weather Prediction (NWP) models.

Expandable and adaptable to your needs

Because of the modularity of our systems we can always adapt to your needs. We can integrate sensors into our systems to provide you with a complete solution, including all relevant meteorological, oceanographic and hydrological instruments.

Vaisala Maritime Observation Systems can be configured in a variety of ways – from a basic system to a comprehensive,



Photo: Courtesy of DoD

multiple measurement-point network. The system takes care of quality control and statistical calculations, and incorporates observations into weather data information products for distribution to a range of onboard systems.

Safe and precise navigation

For safe navigation, accurate weather information is needed. Vaisala Maritime Observation Systems work as a single point source for weather parameters that support your vessel's navigation system, such as wind and sea state information.

Onboard wind measurement is especially challenging. Vaisala Maritime Observation Systems provide the possibility to equip your ships with multiple sensors. Depending upon wind direction, an advanced weather station algorithm selects the most suitably located sensor to be used for true, relative and head wind calculations, thus providing the most accurate wind information.

Weather knowledge enhances your defense

Countermeasures, decoys and smoke screens can be deployed in the most effective direction, depending on wind conditions.

Uneven distribution of water vapor, and temperature inversions, affect the performance of electro-optical systems such as radar. In addition, particles such as water droplets cause system performance degradation.

A radiosounding system can be used to evaluate the effect of ducting and abnormal signal refraction on radio communications and radar performance.

Key parameters for aviation support

An automatic weather station is essential to enhance safety in naval aviation. Aircraft and helicopter operations as well as Unmanned Aircraft Systems (UAS) require timely and accurate weather information for flight preparations, take-offs, landings and flying at low altitudes.

Our systems can provide any combination of a range of sensors:

- Multi-point wind speed and direction
- Atmospheric pressure
- Temperature and humidity
- Visibility
- Cloud cover
- Water temperature and salinity
- Wave height / Sea state



Photo: Courtesy of DoD

When enhanced with measurement capabilities for visibility, cloud base and cover, and vessel pitch and roll – in combination with true wind calculation – Vaisala Maritime Observation Systems provide you with key weather parameters for naval aviation support.

Better weather info for battle management systems

Weather information is needed to ensure the effective use of weapons systems. Vaisala Maritime Observation Systems are an essential component of the onboard METOC system. Wind speed and direction, atmospheric temperature, humidity and pressure can be forwarded to the battle management system.

Spot-on expertise

Because of our decades of experience in the maritime sector, Vaisala understands naval weather challenges. We have the ability to provide complete end-to-end service, including project management, training, installation, maintenance and full logistic support with mid-life upgrades.

Targeted training

Vaisala offers a wide variety of training courses that can be tailored to meet your specific needs. Our maintenance training programs are designed to help you in maintaining and supporting the system yourself. They also give you the skills to troubleshoot any problems, thus ensuring continual data at all times.

Operational support training provides a full explanation of system features and shows how data produced by the system can be used in day-to-day operations. The knowledge gained through our training programs is essential for fully utilizing the potential of the system, ensuring maximum return on investment and minimizing lifetime costs.

Support and maintenance

Our global presence ensures that you get scheduled support and maintenance assistance wherever – and whenever – you need it.

Should you opt for outsourced services, modular Vaisala service contracts and Vaisala Lifeguard maintenance programs can guarantee the availability of critical weather data around the clock. And our planned upgrade path guarantees the availability of spare parts throughout your system's life cycle.



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www.vaisala.com

For more information, visit
www.vaisala.com or contact
us at sales@vaisala.com

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