VAISALA

Wind & weather insights for helicopter and drone operations

Solutions Brochure

Operations. Offshore. Real time.

Naval defense operations demand unwavering accuracy and dependability, even in the harshest conditions. Gain a strategic edge with accurate, reliable weather instruments and insights purpose-built to support offshore helicopter and drone operations.

Making weather your ally

Weather conditions have a critical impact on all offshore operations — from helicopters to aerial drones and unmanned surface vessels (USV).

Transportation and missions can take place hundreds of kilometers out at sea where the weather is more severe and less predictable, which makes accurate and timely weather insights crucial for safety. The environmental data we provide is a critical input to mission planning and operational situational awareness.

Vaisala helicopter and drone weather solutions

With decades of experience in the maritime sector, Vaisala has a deep understanding of maritime weather challenges. We offer a comprehensive, end-to-end, vertically integrated weather solution - covering everything from sensors to software and related services. Our global presence ensures timely support and maintenance assistance.

Vaisala technology can easily adapt to your specific needs because of the modularity of our maritime weather systems. We offer the integrated system package to provide you with a comprehensive weather awareness solution, encompassing all relevant meteorological, remote wind, oceanographic, and hydrological parameters. Our maritime weather solutions support various types of navy vessels, including frigates, corvettes, and offshore patrol vessels for supporting their helicopter and drone operations.

Trusted weather observations for tactical operations

Vaisala Offshore Weather Awareness

In the air and on the sea, helicopter and drone operations as well as USVs require timely and accurate weather and metocean information for unmanned vehicle operations, flight preparations, take-offs, landings, and flying at low altitudes. When enhanced with measurement capabilities for horizontal visibility, cloud base and cover, and vessel pitch and roll — combined with true and remote wind calculation — our Offshore Weather Awareness solution gives you the weather parameters you need for naval aviation support.

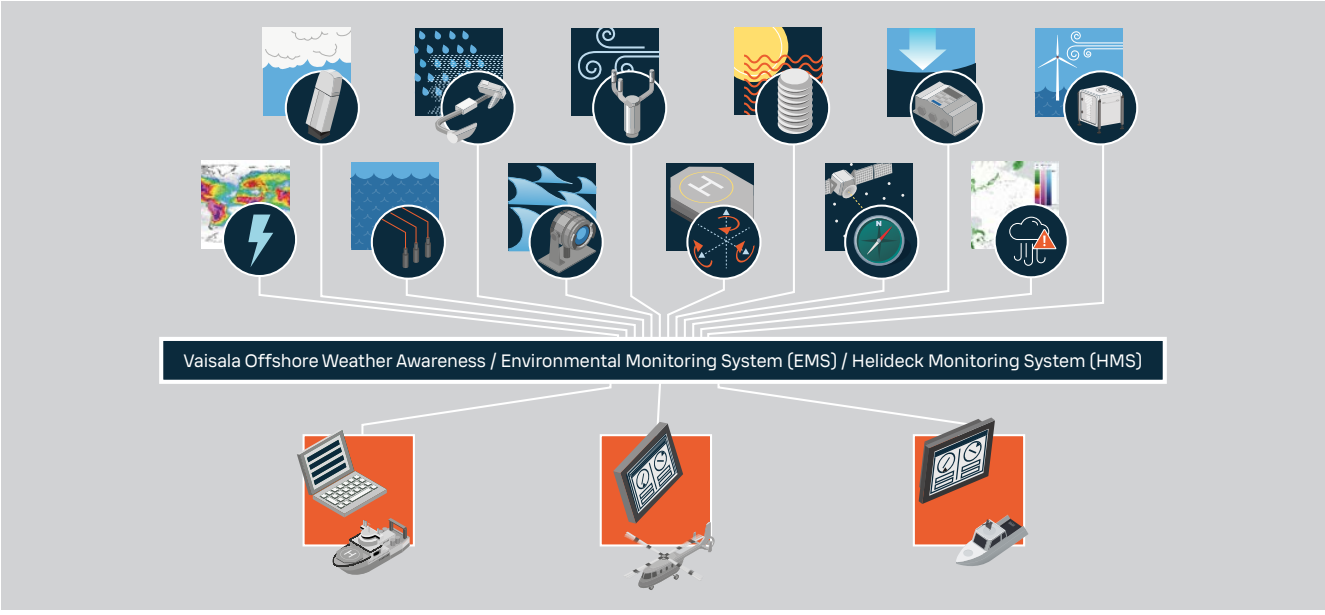
Offshore Weather Awareness ensures the safety of your weather-critical operations efficiently and reliably. Including the Vaisala Helideck Monitoring System, the solution monitors the offshore environment where quality, reliability, and accuracy are vital. Optional lightning and thunderstorm data complemented with near-term weather forecasts gives you full situational weather awareness no matter where you are.

Wide range of high-quality measurements
The instrument selection included in the system is based on your platform or vessel type as well as your specific application requirements. Because the system can be used for several different applications, such as supporting helicopters for metocean monitoring.

Flexible data collection and communication
Offshore Weather Awareness is a turnkey solution including complete sensor integration, data collection and storage. The full-scale Offshore Weather Awareness solution can also be equipped with remote sensing wind lidar and modern weather forecasting and lightning data APIs for more holistic situational weather and environmental insights.

A wide range of communication options enables flexible positioning of the instruments, interfacing with vessel information systems, and data transmission to users offshore.

Application-specific user interfaces
Weather and environmental data including alarms are monitored with desktop or mobile user interfaces designed for your specific offshore observation needs. Automatically generated weather reports are printable and can be transmitted to users onshore and offshore for scheduling operations. The audio module option enables real-time voice message transmission directly to pilots.



Vaisala Helideck Monitoring System

Make the most informed decisions possible with accurate, high-quality weather information.

Vaisala's fully integrated, CAP 437-compliant full-stack HMS solution seamlessly connects sensors, decision-making software, and advanced weather forecasting—raising the standard for efficient offshore helideck operations.

Vaisala HMS provides all key weather and environmental parameters so you can maintain safe, efficient helideck operations no matter what the weather brings:

- World-class automatic weather and environmental observations, including the world's most accurate lightning data
- Data collection and processing
- Repeater lights (optional repeater lights are required for CAP 437 compliance)
- HMS software
- Optional digital services

View the brochure

Vaisala Maritime Observation System for navy vessels

Rely on excellent performance in all weather conditions: Vaisala's AWS430 is a cutting-edge automatic weather station meticulously designed for naval defense applications.

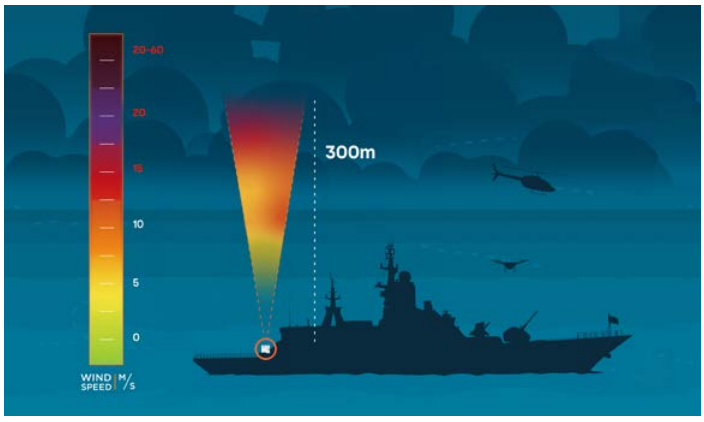
Adverse weather and challenging environments are the norm, making reliable monitoring an indispensable tool for ensuring operational efficiency and the safety of naval personnel.

Navy vessel applications :

- Effective coordination: Monitor air and sea conditions to effectively coordinate supply vessels, helicopters, drones, USVs and other operational support traffic
- Early warning and safety protocols: Gather detailed offshore condition information to inform early warning and safety protocols, safeguarding naval personnel and assets
- Helideck stability: Provide accurate wind and helideck stability data to ensure safe airborne operations
- Decision-making support: Monitor weather conditions to ensure safe helicopter and drone operations

View the brochure

Vaisala WindCube® Offshore wind lidar



High winds, sudden windshear, and turbulence can create hazardous environments for personnel and equipment transfers. Accurate wind nowcasting (detection of upcoming wind conditions) and real-time wind monitoring above naval aviation vessels are crucial to ensure safe takeoffs and landings.

WindCube Offshore is a compact, lightweight and rugged wind lidar. The highly refined, mature offshore technology provides unrivalled wind measurement capabilities and services for accurate wind data up to 300 meters with 20 simultaneous measurement heights. This provides critical improvements to safety, efficiency, weather transparency, and operational continuity. WindCube Insights — Fleet visualization software is included to provide secure, cloud-based access to real-time insights and simple management.

Why Vaisala?

With over 85 years of experience in weather and environmental technology, Vaisala is the world's most trusted provider of weather observation systems for tactical operations.

Committed to excellence, we take every measure to ensure our systems are not only comprehensive in their observations but also meet the most stringent performance requirements in any situation.

We provide 24/7 global support, extensive project capabilities and thorough training throughout the entire lifespan of your system to help you make weather your ally when it matters most.

How WindCube Offshore improves weather situational awareness at sea

Precise wind measurements: WindCube lidar provides precise measurements of wind speed and direction by emitting laser pulses and analyzing the reflected signals from particles in the atmosphere. This accuracy is a major advantage for safe helipad and drone operations, ensuring helicopters and drones can land and take off safely even in challenging offshore conditions.

Real-time data: WindCube offers real-time wind data, which is vital for dynamic environments like the open sea, which helps in making immediate decisions regarding flight operations.

Enhanced safety: For helicopter and drone operationss, knowing the exact wind conditions helps pilots adjust their approach and landing techniques, reducing the risk of accidents.

Improved operational efficiency: By providing detailed wind profiles, WindCube helps optimize the timing and routing of both manned and unmanned operations. This efficiency reduces downtime and can enhance the overall mission success rate.

System integration compatibility: WindCube lidar can be integrated with other onboard systems to provide comprehensive weather awareness. This integration supports better coordination between different operations on navy vessels, ensuring all activities are aligned with current weather conditions.

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