

VAISALA

Vaisala Helideck Monitoring System

Solutions Brochure



Improve safety and get a better flight plan for pilots

Offshore helicopter operations face significant safety challenges due to unpredictable and severe weather conditions. Accurate, real-time weather data is crucial for safe takeoffs, landings, and overall operational efficiency.

Uncompromising quality for safe & efficient operations

Vaisala's certified and CAP 437-compliant Helideck Monitoring System is built for the demanding offshore environment, offering the

industry's most comprehensive set of critical weather and environmental data.

This system provides pilots and helideck operators with real-time situational awareness, ensuring safe and efficient operations while enabling confident route planning.

In addition, we provide future-proof maintenance services for the life of your system, so your data remains intact along with dependable performance and continuous compliance.

7 ways Vaisala HMS keeps you ahead of the weather

1. CAP 437 compliant software
2. Metocean insights to support transfer operations
3. Vertical wind profile to support helicopters and crane operations
4. Site weather forecasting and visualization
5. Custom weather alerts
6. Lightning data with alerts
7. Future-proof maintenance for the life of your system



Vaisala HMS components

This modular system provides all key weather and environmental parameters so you can maintain safe, efficient helideck operations no matter what the weather brings.

Automatic weather and environmental observations

Data collection and processing

Repeater lights®

Vaisala Elements Helideck Monitoring Software

Digital services and alerts



Wind profile, speed and direction



Cloud height and visibility



Air temperature, humidity and barometric pressure



Lightning data



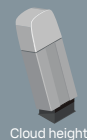
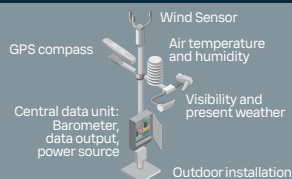
Forecast data



Helideck motion



Waves and ocean current



Do not land



Use caution



Safe to land



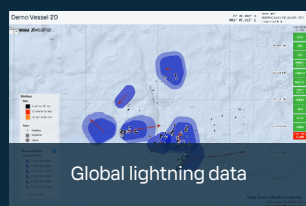
Display and reporting



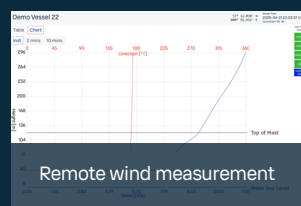
Shared displays



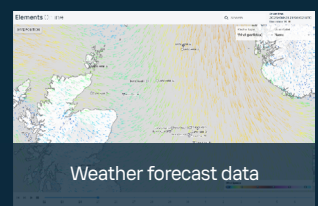
Real time lightning data



Global lightning data



Remote wind measurement



Weather forecast data

Measurements are based on Vaisala's world-class, reliable sensor technology designed specifically for offshore weather monitoring.

Wind speed and direction: The accurate, maintenance-free Vaisala WINDCAP® Ultrasonic Wind Sensor WMT700 series includes heating options for harsh environments.

Barometric pressure: The Vaisala BAROCAP® Digital Barometer provides exceptionally accurate readings with low hysteresis and long-term stability.

Air temperature, dew point and relative humidity: The Vaisala HUMICAP® Humidity and Temperature Probe HMP155 provides superior long-term stability with an optional warmed probe for humid conditions.

Horizontal visibility: The dependable and efficient Vaisala PWD series sensors can optionally provide automatic present weather detection.

Cloud height and coverage: The Vaisala Ceilometer CL31 features advanced single lens optics for excellent performance.

Add-ons

Helideck motion: High-quality and accurate helideck motion sensors operate in all sea conditions for floating and mobile installations.

Repeater lights: Providing helicopter pilots a direct visual means of establishing the motion status of the helideck as presented on the HMS display.

Additional options

Lightning detection: Vaisala delivers the world's most accurate and trusted data on global lightning and approaching thunderstorms.

Wind profiling data: Precise wind measurement up to 300 meters, including over 20 simultaneous measurement heights, with Vaisala WindCube® Offshore wind lidar.

Weather forecast data: Site-specific and regional meteorological parameters; waves, water temperatures and tides of the oceans and seas worldwide.

Wave height: Compact, maintenance-free wave measurement system can also measure wave direction.

Ocean current: Acoustic doppler technology provides efficient and accurate data in a rugged design without the need for calibration.

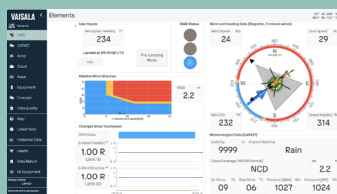
Vaisala HMS adheres to UK CAA CAP 437 standard, HCA Standard Helideck Monitoring Systems Rev 9c requirements, and other international aviation regulations including Normam-27, BSL D 5-1 and NORSOK.

Take advantage of CAA-certified software including MSI/WSI warning limits, on-deck relative wind direction with integrated repeater lights, and optional lightning detection, wind lidar, and weather forecast data. CASR Part 91 compliant Aviation Weather Systems are also available.

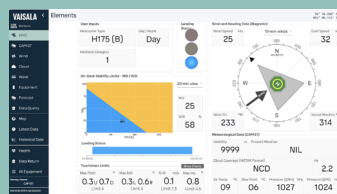
Stay ahead of the weather with real-time, secure and shareable data



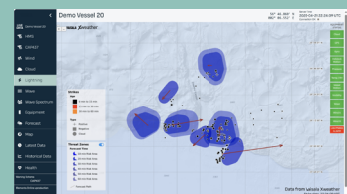
HMS
repeater lights



On-deck display



Pre-approach display



Lightning detection display

Vaisala HMS is a turnkey solution with complete power, sensor integration, data collection and storage. The user-friendly interface keeps you informed of current conditions with a real-time data display, reporting tools and critical alarms so you can keep on-deck personnel safe and ensure optimal landings and takeoffs in the face of changing weather conditions.

Take advantage of modern features including separate pre-approach, on-deck and lightning detection displays, Motion Severity Index, Wind Severity Index and Relative Wind Direction parameters. The solution can also incorporate helideck motion status repeater light signals*. Comprehensive support, upgrading and troubleshooting tools help keep your operations running.

Not only can you quickly check helideck status from any device, you can also share the information with other offshore stakeholders thanks to built-in data security.

Rely on rugged design with turnkey options, a scalable platform and low lifetime costs

The Vaisala HMS provides consistently accurate data from ruggedized, stable technology that doesn't give in to freezing, corrosion, vibration or shock. From standard HMS to our full Offshore Weather Awareness solution—rack-mounted or outdoor installation—you can choose the setup that works for you. The scalable platform can easily expand to meet your future needs.

Take accurate lightning and thunderstorm insights into the future with integrated lidar, forecasting and lightning data plus nowcasting, providing conditions in real time and for the next 60 minutes.



Key features

CAP 437 required weather and environmental measurements include Vaisala's wind speed and direction, barometric pressure, air temperature, dew point, relative humidity, horizontal visibility, cloud height and coverage sensors, plus integrated repeater lights and motion sensing unit.

Optional measurements maximize situational awareness with wave height and direction, ocean current, lightning data, weather forecast and remote wind measurement.

Built on world-class Vaisala sensor technology – ICAO industry-proven sensors, trusted by the aviation community, with decades of expertise in demanding offshore weather applications.

Easy-to-use software interface provides complete data in real time with built-in security.

Installation options include rack-mounted or outdoor marine-hardened version for installations with limited equipment space and less field cabling.

Optional automatic audible weather reports are available for helicopter pilots through a VHF radio transceiver.

End-to-end services are included from sensor manufacturing to system design, manufacturing, delivery and support.

Global service and maintenance support are provided through trusted service partners.

Compliant with CAP 437 standards and can be configured for compliance with international regulations (Normam-27 and BSL D 5-1, and NORSOK). Vaisala also has CASR Part 91 compliant Aviation Weather Systems available.

Vaisala HMS maintenance services

We keep your HMS performing at its best, ensuring safety, compliance and operational excellence offshore, even in the most challenging environments. From project management to thorough documentation, we handle every aspect of your system's maintenance so you can focus on your core business.

Our certified engineers ensure safe, professional, and efficient service for the life of your investment. We also partner with offshore experts, to provide exceptional global service so you're never out of reach.

Your HMS will continue to meet the latest international HMS standards including CAP 437. Our proactive maintenance and rapid troubleshooting minimize downtime, so your systems stay up and running when you need them most.

Service offerings

Our maintenance solutions are designed to maximize uptime, data quality, and regulatory compliance. We will work with you to design the scope of services that best fits your needs – now and into the future.

Service area	Description
Project management & support	Management and support of offshore servers and hardware (such as sensors and interfacing equipment) to ensure accurate, stable performance, high data quality, and uptime.
Continuous data monitoring	Ongoing monitoring of both processed and raw data streams from offshore systems to the Elements onshore web portal, including direct and API data feeds to third parties.
Quality assurance and follow-up	Review of quality validity assurance emails from Elements with prompt actions as needed.
Software updates	Updates to Elements software to deliver required changes and new features not supported by existing software.
Annual offshore maintenance	Annual maintenance for continued compliance with HMS, CAP 437/BSLD5-1, or other regulations, including detailed reports for helideck approval processes.
Certified offshore engineers	Fully trained engineers with MIST/BOSIET, Working at Heights, Met Observer, and CompEx certifications for safe, professional offshore work.
Sensor calibration and repairs	Sensor repair and calibration, including annual calibration of handheld weather sensors to maintain regulatory compliance.
Spares management and storage	Storage of weather system spares and annual rotation of handheld sensors, with specialized servicing and testing.
Comprehensive documentation	Maintenance and provision of documentation/reports as required, including manuals, drawings, maintenance reports, work scopes, briefs/debriefs, financial forecasts, and HSE statistics.

Master the weather, master the sea for safe and efficient offshore helicopter operations

Trust the most experienced aviation and offshore weather company in the world. As the leading weather equipment supplier for Helideck Monitoring Systems globally, our suite of solutions is complemented by industry-proven and ICAO compliant sensors built on 50 years of aviation experience.

Integrated with the world's most accurate and trusted lightning data, Vaisala has equipped hundreds of HMS solutions around the world for over a decade, performing to the highest standards and backed by nearly 90 years of measurement expertise.

With local service just about everywhere, know that you're covered if questions arise with global support now – and in the future.

Contact us to start a conversation, and let's create the ideal HMS solution for your needs.

Why Vaisala?

Weather and environmental insights are the greatest catalysts for successful maritime operations— from sensors to systems and digital services, Vaisala provides actionable insights that empower stakeholders to confidently meet challenges and harness new opportunities.

Our globally trusted maritime weather solutions enable remarkable efficiency gains, digital transformation, the protection of people and investments while supporting sustainable and responsible operations.

We are scientists and explorers driven by passion, relentless curiosity, and the desire to create a better world. Backed by nearly 90 years of unmatched scientific leadership, our solutions increase maritime weather awareness and drive innovation.

