

Weather insights propel stronger offshore wind farm

Case Study



The client:

Wärtsilä Voyage

Vaisala solution:

Vaisala Environmental
Monitoring System

THE CHALLENGE:

Reliable offshore weather measurements for a new substation

France is gearing up to be a major contributor to Europe's booming offshore wind energy industry. Wärtsilä's client was building their first offshore wind park substation installation for the 480 MW Saint-Nazaire – the first commercial offshore wind farm installed in French waters, developed by EDF Renouvelables and EIH S.à r.l, and scheduled to be operational in 2022.

Wärtsilä sought a complete Environmental Monitoring System to provide accurate and reliable environmental and weather parameters, enabling their client to stay ahead of changing weather conditions.

THE APPROACH:

Real-time insights without compromise

Wärtsilä selected the Vaisala Environmental Monitoring System (EMS), consisting of the rack-mounted Vaisala Maritime Observation System AWS430 with associated sensors and Vaisala Helideck Monitoring Software for data reporting, alarms and display of weather and environmental data.

The high-quality AWS430 is purpose-built to provide accurate, dependable maritime weather measurements down to the last detail. The integrated solution combines several Vaisala sensors and measurement technologies. Two WINDCAP® WMT702 Ultrasonic Wind Sensors gather data on wind speed and direction. The Digital Barometer PTB330 measures barometric

"Our goal is guaranteeing the safety of people and ensuring the most efficient offshore operations for our clients. Ruggedized, dependable and stable technology were the key elements that we were looking for. Vaisala's EMS delivers on all fronts and gives us even more confidence knowing we are delivering the best in the industry."

*Artem Iadrikhinskii
Commercial Project Manager, Wärtsilä Voyage*

pressure for tracking the movement of local and regional weather fronts, while the Vaisala CL31 Ceilometer leverages pulsed diode lidar technology and single lens optics to measure the ceiling and base height of cloud layers. In addition, wave height, wave period, tide and even wave direction are measured by a compact and maintenance-free wave measurement system.

The HUMICAP® Humidity and Temperature Probe HMP155 provides humidity and temperature measurement, and the Present Weather Detector PWD22 enables characterization of reduced visibility, precipitation type identification, precipitation accumulation and intensity measurement, and report formats.

THE RESULTS:

Safety and efficiency through any weather

The Vaisala EMS is providing the full spectrum of weather intelligence that helps Wärtsilä's client stay on schedule – safely.

Real-time weather insights are benefitting several users: Wind farm operators can make even more accurate wind measurement calculations on their energy production potential and compare figures with the real production; vessel operators can monitor sea conditions for ensuring safe crew

transportation; helicopter pilots gain accurate weather insights in case of rescue activities or maintenance operations. The end result is safer, smoother offshore operations.

The offshore operations team also appreciates the solution's ruggedized design. The Vaisala EMS stands up to even the harshest weather conditions and won't give in to freezing, corrosion, vibration or shock. In addition, easy expandability makes room for future innovations, which provides even greater value through lower cost of ownership and long service life.

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 85+ years of unmatched scientific leadership, our solutions increase maritime weather awareness and drive innovation.

