

# VAISALA

10.9 m/s

11.2 m/s

## WindCube® Nacelle wind lidar

Performance optimization for wind assisted ship propulsion systems

Wind-assisted ship propulsion (WASP) is a key technology in decarbonizing the future of maritime shipping.

Accurate, reliable wind and weather sensing technology — such as lidar-based remote wind monitoring — plays a critical role in helping to ensure wind-assisted propulsion is harnessed to its fullest potential.

Vaisala WindCube Nacelle horizontal profiling lidar provides high-quality wind data that gives operators the insights they need on undisturbed wind conditions to optimize wind assisted ship propulsion systems.

Get accurate measurements of wind speed and direction



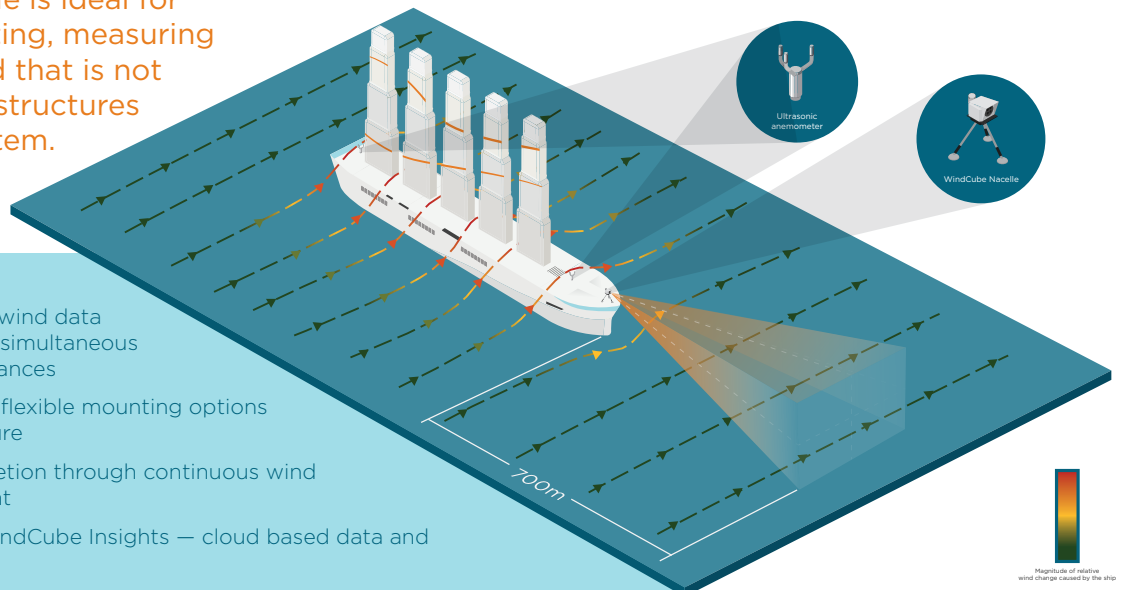
Understand the wind patterns that affect your operations



Optimize the WASP system

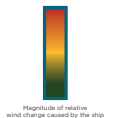


WindCube Nacelle is ideal for performance testing, measuring undisturbed wind that is not affected by ship structures or the WASP system.



### Key features

- Accurate, verified wind data up to 700m at 20 simultaneous measurement distances
- Easy deployment, flexible mounting options and simple structure
- Rapid data completion through continuous wind direction alignment
- Integrates with WindCube Insights — cloud based data and analytics software



Magnitude of relative wind change caused by the ship

	IEC-grade PPT
Lidar type	Pulsed lidar technology
Range	50m to 700m
Beams configuration	4 beams: Horizontal opening: 30° Vertical opening: 10°
Measuring distances	20 user-defined distances simultaneously
Output data	1s raw data 10min averaged reconstructed wind data (speed, direction, shear, veer, turbulence, yaw misalignment, REWS) Pressure, temperature, humidity, and rain data thanks to optional PTH sensor
Speed accuracy	0.1m/s (10min averaged)
Environment	Housing classification IP66 (OH)/IP65 (PU) Splash water and marine environment resistant Operating humidity 0 to 100% RH
Communication	Ethernet (RJ45), MODBUS (TCP/RTU), CAN Bus, Peripheral (RS232), optional 4G router
Time synchronization	NTP/SNTP, GPS, or local system clock
Temperature range	Operational range: -40°C/-40°F to +60°C/+140°F
Power consumption	200 W max
Weight and size	OH: 24.6kg/L x W x H = 53cm x 38cm x 36cm PU: 12.8kg/L x W x H = 50cm x 13cm x 38cm
Compliance	CE



WindCube wind lidars are known the world over as the gold standard in accurate wind measurements. Trusted for decades with more than 5,000 deployments, the third-party verified technology helps improve local and short-term weather forecasting with continuous observations.

WindCube lidars have been developed and validated in accordance with industry-specific IEC regulations, and Vaisala stands ready to support emerging wind-assisted system classifications such as International Maritime Organization (IMO), DNV and Bureau Veritas.



Trustworthy, superior metrology



Innovative lidars from a one-stop shop



Unrivaled thought leadership



Easy, reliable global solution

*Master the weather, master the sea*

Learn more about how Vaisala technology is helping to propel the future of cleaner shipping.

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[vaisala.com/windpropulsion](https://vaisala.com/windpropulsion)

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