

# Smother sailing, cleaner oceans

**VAISALA**

## Case Study



### The client:

Norsepower

### Vaisala solution:

WINDCAP® Ultrasonic Wind Sensor WMT700.

### How Norsepower uses Vaisala wind measurement technology to optimize their groundbreaking Rotor Sails and enable cleaner shipping

Norsepower is at the forefront of emerging clean tech for the shipping industry. Their Rotor Sail is the first proven auxiliary wind propulsion system that enables cargo, cruising and other shipping vessels to reduce fuel consumption by augmenting their power systems.

With their modern sailing technology, Norsepower is poised to achieve their mission of reducing the environmental impact of shipping: The Rotor Sail system replaces up to 20% of the fuel used to power a ship while lowering CO<sub>2</sub> emissions.

### THE CHALLENGE:

#### Dependable wind sensing

Accurate, reliable and dependable wind sensors are essential for optimizing Rotor Sail performance. Norsepower sought a wind sensor that could stand up to the harsh, demanding oceanic environment including winter weather conditions.

After experimenting with several options, Norsepower chose the rugged and highly accurate Vaisala WINDCAP® Ultrasonic Wind Sensor WMT700.

*"Optimal use of wind energy requires wind sensors with the highest accuracy and reliability... We have chosen Vaisala WINDCAP WMT700 wind sensors and have been very satisfied with both performance of the sensors and co-operation with Vaisala."*

*Jarkko Väinämö  
Chief Operations Officer*

## THE APPROACH:

### Accuracy in all weather conditions

A robust and reliable ultrasonic anemometer for wind measurement, the WMT700 uses ultrasound to determine horizontal wind speed and direction. Norsepower selected the WMT700 not only for its high accuracy and durability, but also for its heating properties which protect the components and prevent ice and snow buildup in cold climates.

The WMT700 is a very rugged instrument. It is made of stainless steel with a durable design – perfect for rough conditions including salted sea air. This proven technology has been widely in ships from Greenland to Antarctica. Extremely accurate and maintenance free, the WMT700 is also ideal for global shipping operations.

## THE RESULTS:

### Optimizing rotor operation

After a successful trial period, Norsepower decided the WMT700 is the best choice for operation, research and development projects for their Rotor Sails. The WMT700 delivers precise measurements, enabling the Norsepower automation system to recognize and leverage all wind conditions, use the maximum available propulsion power and calculate the corresponding fuel savings.

The WMT700 gives Norsepower peace of mind, knowing that their Rotor Sails are performing optimally at all times, and bolstering their confidence that they are achieving their goals for cleaner shipping around the world.

## 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.

