

# Optimized cargo handling through real-time weather

## Case Study



### The client:

UPM-Kymmene Corporation

### Vaisala solution:

Weather Transmitter WXT536

### THE CHALLENGE:

#### Protect cargo from moisture during port operations

In pursuit of sustainable sea transportation, UPM commissioned a fleet of seven LNG-fueled cargo ships in 2019, set to redefine maritime standards. Built by Spliethoff Group and operated by UPM, each ocean vessel is ice-strengthened and meets the latest technological, operational and environmental standards. All ships have been in operation since the end of 2022, routing across European waters.

Especially during sensitive cargo loading and unloading in ports, knowing the prevailing weather conditions is critical for guaranteeing that port operations are completed during the most favorable weather. Moisture from rain, sleet or snow, for example, can quickly damage wood-based products such as paper reels.

During the design and build phase, UPM was looking for a simple, all-in-one weather station for all of their cargo ships. Real-time, accurate and shareable weather data would empower informed decision-making during port handling operations and mitigate cargo damage risks.

### THE APPROACH:

#### Complete measurements in one simple sensor

UPM selected the Vaisala Weather Transmitter WXT536, including the heated option for cold weather accuracy for all seven newbuilt vessels. The WXT536 is part of the Vaisala Weather Transmitter WXT530 series – a unique collection of sensors that can capture the most important weather parameters: air pressure, temperature, humidity, rainfall, and wind speed and direction in various combinations in a compact, affordable package.

*“By integrating Vaisala’s compact weather stations in our newlybuilt vessels, we anticipate unparalleled real-time weather insights that will optimize our cargo handling operations at ports. By doing this, we will gain considerable cost savings, reduced cargo losses, improved fuel efficiency and streamlined vessel turnaround”*

*Lauri Rikala  
Director, Global Break Bulk Shipping*

With no moving parts, WXT536 is a multi-parameter weather sensor that is durable and requires little to no maintenance. It leverages unique Vaisala solid state sensor technology including WINDCAP® ultrasonic wind sensors to determine horizontal wind speed and direction, an easy-to-change PTU module using the Capacitive BAROCAP® sensor for barometric pressure, the HUMICAP® R2 sensor for humidity and resistive platinum sensor for air temperature, and acoustic RAINCAP® sensor to measure precipitation without flooding, clogging, wetting, or evaporation losses.

Integrating seamlessly with each vessel's performance monitoring system, the WXT536 brings real-time weather insights that can be complemented with weather forecasts and radar data over the journey. This bespoke system, developed by Spliethoff, ensures UPM remains at the forefront of maritime excellence.

## THE RESULTS:

### Dependable accuracy for big savings

As UPM's cargo ships set sail, they're armed with accurate, dependable weather data, exceeding stringent maritime standards. With over a million truckloads of products and materials shipped each year, UPM anticipates remarkable savings by preempting cargo loss and damage during port operations. Vaisala's all-in-one weather sensors also help boost fuel efficiency while optimizing port operations efficiency and turnaround times.

UPM's alliance with Vaisala underscores their commitment to sustainable innovation and operational excellence. In an era of increasing maritime weather challenges due to climate change, enhanced weather data sharing among vessels and other stakeholders could revolutionize sea-bound forecasts, offering unprecedented accuracy and security. Through real-time weather insights, they are rewriting the script of cargo handling, one optimized voyage at a time.

## 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.

