

Safer seafaring with real-time lightning insights

Case Study



The client:

Navimeteo

Vaisala solution:

Vaisala Xweather lightning data and software solutions

THE CHALLENGE:

Rising extreme weather events create more risk for safe marine operations

In recent years, especially in the Mediterranean Sea, severe storms with violent wind gusts have become more intense and frequent. These so-called squall lines – inflections of cold air that contrast with hot and humid air – form a series of thunderstorms close to each other that can move very fast, causing violent gusts at sea. They can also develop in various patchy maritime areas, making it difficult to choose safe areas at sea. Together with the sea waterspouts and lightning activity, squall lines can create dangerous situations especially if ships anchor in the coastal area or bays.

Weather forecasts and models have advanced significantly in recent years. However, there are still significant limits in their accuracy and reliability, as knowing the position and intensity of these sudden violent thunderstorms is not easy.

THE APPROACH:

Superior worldwide lightning detection with unrivaled local accuracy

To enhance the safety of seafarers during sudden thunderstorms and weather events, Navimeteo complements and refines their short- and medium-term forecasts with the help of real-time weather observations, satellite images, radar data, and a Vaisala Xweather world-class lightning detection system.

Since March 2022, Navimeteo has been using Vaisala Global Lightning Dataset (GLD360), part of Vaisala's Xweather family of subscription based products, to enhance its forecasts with lightning alerts for approaching storms. GLD360 is a global lightning detection network owned and operated by Vaisala, and the data helps Navimeteo

"We provide reliable 24/48-hour forecasts for our clients, complemented with the insights on approaching thunderstorms and lightning activity from Vaisala Xweather. We have a special focus on coastal weather and port forecasts since, in these areas, changing weather conditions can strongly affect operations such as port calls; loading and unloading operations at port; berthing and maneuvering in port; and tendering operations for passenger ships and yachts. Especially in these cases, the lightning detection data provided by Vaisala Xweather helps to enhance our clients' operational efficiency and increase the safety of their operations."

*Gianfranco Meggiorin
President, Navimeteo*

clients such as cruise ships, ferries, yachts, ports, and marinas all over the world to receive early warnings so they can take precautions and prepare for stormy conditions.

Navimeteo accesses GLD360 data through the cloud-based Vaisala Thunderstorm Manager software. Thunderstorm Manager is integrated with Navimeteo's own forecasting service to provide a real-time view of approaching thunderstorms and lightning activity everywhere in the world with 1 km accuracy. With this service, Navimeteo's forecasters help their clients minimize operational and safety risks with accurate and reliable weather forecasts and lightning threat alerts.

THE RESULTS:

Higher accuracy, better client services

Navimeteo now provides more accurate and reliable weather forecasts with detailed lightning data – enhancing the safety of seafarers and minimizing operational downtime.

With GLD360 and Thunderstorm Manager, Navimeteo can operate more efficiently by identifying and tracking risks for intense weather events, storms and lightning activity, especially in the Mediterranean Sea.

GLD360 data helps Navimeteo forecasters to make more timely and proactive expert validations of early warnings: The result is greater quality and range of services, which improves value for clients and boosts market competitiveness. The more accurate and reliable weather forecasts help Navimeteo clients to make timely decisions on minimizing operational downtime and enhancing the safety of assets and people at sea.

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.

