

Weather resiliency for tropical farmers

VAISALA

Case Study



The client:

Ignitia

Vaisala solution:

Global Lightning Detection Network (GLD360)

THE CHALLENGE:

Predicting unique weather patterns

From droughts to cyclones, the tropical climate around the world is unique. It's also hard to track using global climate forecasting models, which are based on high- and mid-latitude geographies. For example, tropical rains originate in convective processes which global climate models cannot accurately predict.

These predictability challenges are only accelerating with climate change, resulting in low-quality weather data that makes it hard for farmers to adapt and prevent crop failure and mitigate risks, which leads to food insecurity.

Ignitia set out to improve the situation for tropical farmers by launching their own weather awareness solution specifically for this climate's weather patterns and challenges.

THE APPROACH:

Lightning data without limits

Ignitia developed a tropicalized numerical modeling process by integrating weather observation data sets including satellite data, global model boundary conditions, and lightning data from Vaisala Global Lightning Detection Network GLD360. The result is a mobile or desktop offering, and the mobile version can be used with or without an internet connection.

Part of our Xweather family of subscription-based products, GLD360 is the world's most accurate and trusted lightning detection solution. With the integration of GLD360 lightning data, Ignitia's weather awareness offering gives farmers and other agricultural decision-makers instant access to thunderstorm and lightning data – in real time

"Using GLD360 is absolutely essential to our climate modeling process, because it results in hyperlocal and highly accurate weather nowcasts, near-term forecasts, and seasonal outlooks that our customers depend on for their farming. In fact, our solution outperforms global models in 85% of all farmer locations and days of the year."

*Andreas Vallgren
Chief Science Officer, Ignitia*

anywhere in the world, beyond the range of radars and where ground observations are scarce. Global coverage identifies 100% of thunderstorms and captures lightning location data with a median accuracy of 1 km.

The data improves Ignitia's weather offering in several ways, including the performance and calibration of their daily rainfall forecasts, and more accurate estimations of storm intensity and rainfall.

THE RESULTS:

Improving lives and climate resiliency

Enhanced by the world's most accurate lightning data, Ignitia's weather awareness offering addresses many of the UN Sustainable Development goals. For example, improved quality and yields allow farmers to sell surpluses and at higher prices. It is accessible even for farmers with lower or no literacy skills. They can better prepare for and recover from climate shocks, while better managing resources, reducing rejection rates and increasing productivity. And the offering helps with digital tool adoption, specifically targeting rural populations and underserved groups.

Ignitia has observed significant rates of adaptation among farmers who have engaged with the service through their partner networks. They have successfully implemented positive changes in their planting practices & crop management, resulting in improved crop quality and increased yields. This can translate into positive impact & climate resilience at scale, no matter what the weather brings.

Why Vaisala?

As the global leader in weather and environmental measurements, Vaisala provides trusted weather observations for a sustainable future. With over 85 years of experience and customers in 170+ countries, from the North and South Poles to Mars, we help provide the most reliable and accurate weather and climate information for better and safer daily lives.

Our instruments and intelligence are known as the gold standard for precision and reliability. As a sustainability leader we enable meteorology professionals to better understand, forecast and explain climate change. We continue to channel our curiosity into climate action and new ways of enabling a better planet for all.

