

# Vaisala and Pavana: A lasting partnership for superior wind data

## Case Study



### The client:

Pavana GmbH

### Vaisala solution:

WindCube® vertical profiling lidar

Pavana GmbH, a leading expert of wind energy projects, specializes in the planning and implementation of wind measurements, as well as the evaluation of collected data. With a diverse portfolio spanning multiple countries, Pavana has relied on Vaisala's advanced lidar technology to enhance its Wind Resource Assessment (WRA) capabilities.

With their gold-standard suite of Vaisala WindCube wind lidars, Vaisala has sought to enhance data transparency for Pavana's operations while minimizing costs and compliance challenges often associated with traditional weather measurement strategies.

Through their partnership, Vaisala and Pavana aim to innovate the way organizations plan and

execute wind energy farms, paving the way for growth that aligns with an increased demand for wind energy in key markets.

### THE CHALLENGE:

#### Overcome the limitations of met masts

Traditionally, Pavana has conducted wind measurements using met masts, but this method has major challenges. Met masts have high costs of installation and dismantling, and they require relevant and time-consuming permits.

Ultimately, Pavana sought to create a more streamlined solution that would reduce overhead costs while maintaining strict compliance with regulatory bodies.

*"The main benefit of using lidars is their reliable results in combination with the ease of operation and installation."*

*Annika Baltzer  
Head of Department, Lidar verification*

## THE APPROACH:

### Scaling for growth with WindCube

Pavana GmbH purchased their first WindCube vertical profiling lidar in 2015. Over the years, as their client base has expanded, so has their fleet of WindCube lidars. Pavana has been able to easily scale its operations thanks to WindCube's simplified installation, keeping costs low while improving overall efficiency. Based on lidar measurement campaigns, the company provides its clients an Energy Yield report to prove a project's viability and profitability.

WindCube's lightweight, portable design along with its quick installation time of just 3-4 hours and dismantling in 2-3 hours makes it easy to transport and even easier to maintain, eliminating many of the regulatory issues faced by traditional met masts. Ongoing support from the technical support team ensures a seamless setup process – hugely beneficial for growing operations.

According to Pavana, WindCube has played a key role in their post-commissioning process for their wind turbine, providing a measurement campaign of about six months. This process allows the operation to answer crucial questions, including:

- Overall performance of the on-site turbine and areas for improvement
- Nacelle transfer functionality assessments
- Performance of yaw error functions

Pavana verifies the reliability of WindCube using a 200-meter-high verification Pavana met mast at the Janneby community wind farm in northern Germany.

Strategically positioned between the seas, this wind farm experiences consistently strong wind conditions year-round. The verification mast captures both coastal and inland wind characteristics so the team can efficiently and accurately validate all devices. This ensures precise measurement performance not only in Germany but globally.

## THE RESULTS:

### Accuracy and reliability for the long term

WindCube has proven to be a valuable asset for Pavana, offering a scalable, accurate and cost-effective solution for wind measurement campaigns. Compared to other types, WindCube lidars are easier to handle, and the postprocessing of data is relatively easier.

As their operations have stood the test of time, it's become a testament to WindCube's long-term durability in the field. Pavana continues to trust WindCube as a reliable source of wind measurements, operating independently and generating consistent results.

## Why Vaisala?

We are innovators, scientists, and discoverers who are helping fundamentally change how the world is powered. Vaisala elevates wind and solar customers around the globe so they can meet the greatest energy challenges of our time. Our pioneering approach reflects our priorities of thoughtful evolution in a time of change and extending our legacy of leadership.

Vaisala is the only company to offer 360° of weather intelligence for smarter renewable energy, nearly anywhere on the planet. Every solution benefits from our nearly 90 years of experience, deployments in 170+ countries, and unrivaled thought leadership.

Our innovation story, like the renewable energy story, continues.

