

# Vaisala WindCube Lidars for UAS Operations

**VAISALA**

## Product Spotlight

### Making weather your ally

Providing accurate, real-time, ground-based wind data aloft for safer and more efficient unmanned aerial operations

Navigate safely in all wind conditions



## Key benefits

Hyper-accurate characterization of winds aloft.

Instant wind and turbulence profiles at the flight location for full-scale testing in the real environment.

WindCube Insights provides cloud-based data management system for the WindCube sensors.

## Why Vaisala?

With over 85 years of experience in weather and environmental technology, Vaisala is the world's most trusted provider of weather observation systems for tactical operations.

Committed to excellence, we take every measure to ensure our systems are not only comprehensive in their observations but also meet the most stringent performance requirements in any situation.

We provide 24/7 global support, extensive project capabilities and thorough training throughout the entire lifespan of your system to help you make weather your ally when it matters most.

Weather is a key contributor to overall UAS flight safety and effectiveness. Therefore it is the most critical factor to precisely measure and understand. Traditional weather sensors and data sources provide limited information.

Vaisala's industry-leading WindCube® lidar sensors utilize remote sensing laser beam technology to measure wind speed and direction. Based on pulsed Doppler heterodyne laser principle, the lidar sends a light pulse at high frequency in the atmosphere and observe the signal backscatter by aerosols naturally present in the air. The time between pulse and the detection of the backscattered signal is processed by the system thanks to the Doppler effect and provides an accurate measurement of the wind speed and direction. This measurement is based on a physical constant of high accuracy: light speed.

WindCube lidar technology has provided highly accurate, reliable wind data for decades. Get that same quality and expertise for securing UAV performance in nearly any location.

From plug-and-play setup to real-time data availability, WindCube Scan is ready for nearly any application where you need to know the wind profile, up to the top of the boundary layer.

