

**NEW****Wind iris****Turbine-mounted  
Lidar**

Four years after its first introduction to the market by Avent, discover the new Wind Iris turbine-mounted Lidar, bringing radical improvements in metrology and operations.



## One year of successful prototype testing and validation

In addition to environmental testing and certifications, several onsite campaigns on the new 4-beam Wind Iris showed:

- **100% uptime and high data availability** in all weather conditions (down to -30°C, in freezing conditions, and in clean air)
- **High correlation with IEC met mast measurements**, both in simple and complex terrain (0.1 m/s wind speed accuracy)
- **Full operational assessment in 3-6 weeks**, from yaw misalignment to power curve measurement and NTF verification

## Verify and optimise wind farm performance, turbine after turbine

### Power curve measurements

Assess turbine performance with IEC equivalent or Operational power curves using an industry proven procedure, and evaluate the benefits of maintenance actions and performance upgrades with before/after power curves.

### Yaw misalignment correction

Increase energy production with a direct, independent and automated measure of the yaw misalignment in a few days.

### Nacelle transfer function characterization

Obtain an accurate site specific calibration for your nacelle anemometer and improve the value of your SCADA monitoring.

### Advanced applications

Including site calibration, wind sector management or wakes analysis. Plus feed-forward turbine control applications with our dedicated entity Avent Lidar Technology.

## Key features

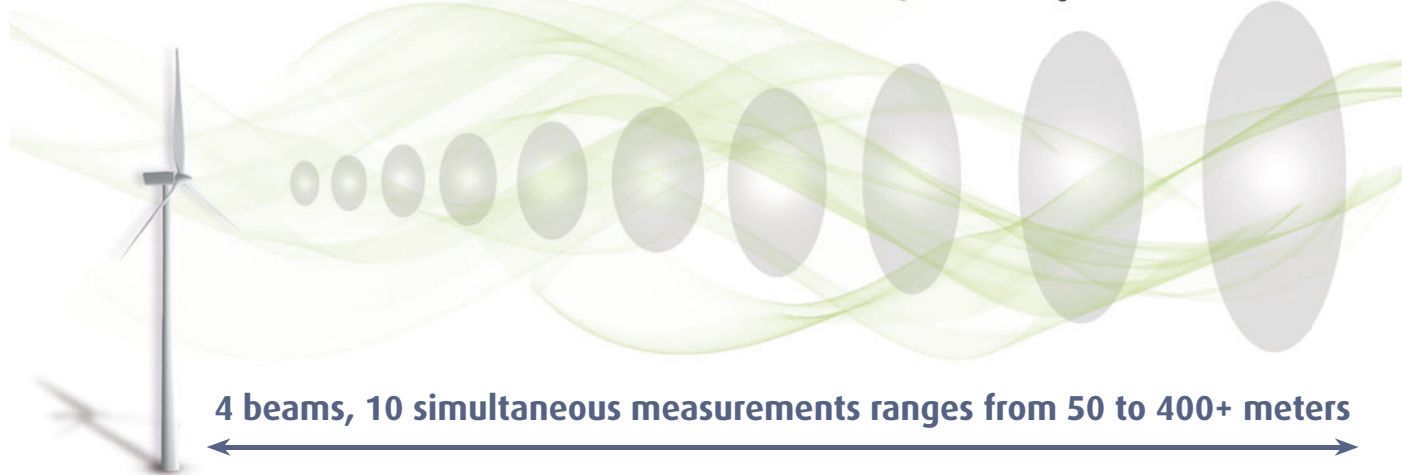
- Comprehensive **hub-height and rotor equivalent measurements** for in-depth analysis on **all terrain types**
- **Constant accuracy** from 50 to 400+ meters, suitable for **all turbine sizes and types**
- **Straightforward installation** with lightweight system parts and embedded screen for configuration
- **Proven platform** benefiting from 4 years of customer feedback and **200+ turbine deployments experience**
- **Complete range of supporting services**, from installation to data analysis training and tools

# Wind data output at hub-height and through the rotor swept area

## Reconstructed data output:

- Wind speed and Direction
- Shear and Veer
- Turbulence intensity

## Beam geometry:



## Specifications

### PERFORMANCE

|                     |   |
|---------------------|---|
| Range               | 50 to 400+ meters   |
| Data sampling rate  | 1 Hz  |
| Measuring distances | 10 user defined distances simultaneously                              |
| Speed accuracy      | 0.1 m/s   |
| Speed range         | -20 to +50 m/s  |
| Direction accuracy  | +/- 0.5°  |
| Number of beams     | 4 beams   |
| Beam geometry       | Horizontal opening: 15° half angle<br>Vertical opening: 5° half angle |

### DATA

|                      |   |
|----------------------|---|
| Output data          | 1s/10min radial and reconstructed wind data (see above)<br>Yaw misalignment<br>Tilt and roll angles<br>CNR (signal to noise)<br>Data availability |
| Data storage         | 64 GB – about 1.5 years @1Hz  |
| Data format          | ASCII (encoding), .CSV (file)   |
| Communication        | Ethernet (RJ45), CAN Bus (DB9),<br>3G modem (optional)<br>+ Peripheral (USB, HDMI, RS232)   |
| Time synchronization | GPS, NTP  |

### OPERATIONS

|                      |  |       |
|----------------------|--|-------|
| Optical Head (OH)    | L53cm, W36cm, H36 cm   | 21 kg |
| Processing Unit (PU) | L50cm, W37cm, H13 cm   | 12 kg |
| Tripod               | 14 kg  |       |
| Connecting cables    | Power: 8m length, Ø12.1mm<br>Communications: 8m length, Ø9.6mm   |       |
| Power consumption    | 180 W nominal  |       |
| Temperature range    | OH: -30°C/-22°F to +50°C/+122°F<br>PU: -30°C/-22°F to +65°C/+149°F   |       |
| Environnement        | Housing classification IP65<br>Marine atmosphere compliant (IEC 60068-2-11)<br>Operating humidity 0 to 100% RH |       |
| Safety               | Class 1M / EN 60825-1  |       |
| Compliance           | CE   |       |



**LEOSPHERE**  
THE ATMOSPHERE IS YOURS

info@leosphere.com  
[www.leosphere.com](http://www.leosphere.com)