

PRESS RELEASE

For immediate release

Leosphere Presents its Wind Iris Lidar for Turbine Control to OEMs in the Wake of Goldwind's E-Farm Announcement

Paris, France, 28 November 2017. **Leosphere announces a quantum leap in wind turbine ROI with the Wind Iris TC (Turbine Control). This new Lidar sensor, providing real-time characterization of wind up to 200 metres in front of the rotor plane enables turbine manufacturers to make major strides in improving the efficiency of wind energy production both on and offshore.**

The Wind Iris TC platform, used in China's Goldwind's ground-breaking E-Farm technology, is the output of Leosphere's Avent Lidar Technology program and the result of years of intensive research and development to deliver the first Lidar matching the reliability and performance requirements to be installed as a component of today's advanced wind turbines.

"Leosphere has been investing in maturing Lidar-Assisted Control since 2009" said Alexandre Sauvage, CEO of Leosphere. "We have been working closely with some of the world's leading turbine manufacturers, as well as other key experts in this industry, to enable the entire wind industry to finally harvest the potential of this technology. With the knowledge we have acquired, the solution we have developed and our unique track record as the world's number one Lidar provider, we can short circuit the development process for any OEM wanting to enable their turbines to see and react to the wind before it reaches the rotor."

The Wind Iris TC Lidar measures all essential incoming wind conditions, including rotor averaged wind speed, wind direction, shear and turbulence, at multiple distances before it reaches the turbine rotor. This provides the turbine control system with the essential rotor coverage and preview time required to establish and implement appropriate control actions before the wind reaches the rotor with the critical measurement accuracy and precision required to extract maximum benefit from conditions as the wind reaches the rotor plane.

"Our years of research have shown that only the market leading capabilities of the Wind Iris TC delivers the performance to successfully implement an efficiency improvement of this magnitude that works in the real world throughout a turbine's lifetime and not just in a simple test scenario", commented Thomas Velociter, Leader of Leosphere's Avent program. "The industry expects a Lidar that allows a total transformation of the control system and, with it, a new set of rules and design limits, not just the simple replacement of existing sensors. The Wind Iris TC gives the turbine a short look into the future, providing it with all the time it needs to prepare for the wind before it arrives at the rotor plane. "

In addition, integrating the Lidar into the turbine platform also enables optimized operation of the wind turbine over the entire lifetime of the investment by improving the alignment, gaining additional turbine availability, extending turbine life and reducing maintenance costs. Thus manufacturers can reduce LCOE significantly and improve profitability of both existing and new schemes.



Whether installed as part of turbine construction or as a retrofit as an element in a turbine life-extension project, Lidar assisted turbine control technology has the potential to redefine wind turbine design limits by reducing loads, mitigating extreme events and increasing energy capture. With typical load reductions from 10-15%, operators can use the longest possible turbine blades for a given class, or even upgrade the wind class of a given turbine platform, both of which will lead to significant energy production increases.

The system uses four beams and ten simultaneous measurements at a frequency of 4Hz across the 200m range to capture events several seconds before they reach the rotor plane and track them as they evolve. Thus it provides a robust representation of the wind field in front of the rotor that is vital to ensure reliable control actions under all possible circumstances.

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NOTE TO EDITORS:

About LEOSPHERE

LEOSPHERE, founded in 2004, and its subsidiary AVENT Lidar Technology are world leaders in ground-based and nacelle-mounted LIDAR (Light Detection and Ranging) for atmospheric observation. The companies design, develop, manufacture, sell and service new turnkey remote-sensing instruments allowing wind measurement and aerosol characterization. LEOSPHERE has deployed hundreds of LIDARs throughout the world in severe environments. www.leosphere.com

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