

INNOVATION

*Research & Development • Design & Engineering • Forecasting & Analysis
• Consultancy • Certification & Standards • Efficiency • Emerging Technologies*

LEOSPHERE'S FCR TECHNOLOGY VALIDATED BY DTU FOR GREATER LIDAR WIND MEASUREMENT ACCURACY IN COMPLEX TERRAIN



LEOSPHERE, a leader in LiDAR technology, has announced today the validation of its patented Flow Complexity Recognition (FCR) system upgrade to deliver wind measurement data of superior accuracy on complex wind sites. The strong performance of the FCR-upgraded WINDCUBE V2 LiDAR was

field-tested and validated by DTU, on ERS' 48 MW wind farm located in Bosnia & Herzegovina.

Alexandre Sauvage, LEOSPHERE CEO, explained: "Until now, traditional LiDARs weren't able to measure the wind speed in complex terrain with sufficient accuracy because the wind speed is not

horizontally homogeneous. LEOSPHERE's Flow Complexity Recognition (FCR) upgrade is the only innovative solution on the market to fix this issue. The FCR technology is essentially an online correction system which can be paired with our WINDCUBE V2 LiDAR. Thanks to the unique fifth vertical beam, it accounts for the impact of the terrain complexity on the measurements. The FCR upgrade combines hardware and software innovations to enable our WINDCUBE V2 LiDAR to reach a measurement difference of only 1.5 percent compared to met mast based measurements."

The Hrgud wind farm, chosen for the field validation testing, is a turbulent and complex wind site, located on an oblong 100 meter-high hill about 1.5 kilometers North of a 1,000 meter-deep and 2,000 meter-wide canyon. In this field test, a 77.5-meter reference met mast was erected and instrumented by COWI to perform the wind resource assessment as part of a larger feasibility study for ERS, the wind farm owner.

A WINDCUBE V2 LiDAR was installed next to the met mast in order to provide an additional set of wind data and establish a LiDAR/Met Mast comparison.

This measurement campaign, led by DTU, was conducted with both the regular WINDCUBE LiDAR, and the FCR-upgraded machine. The results showed that the use of the FCR option on the WINDCUBE has led to a reduction of the measurement bias from -4.1% to +1.5% compared to the cup anemometer met mast. The greater accuracy of the results is in line with other FCR field tests.

"Until now, in both complex terrain and complex flow situations, all remote sensors on the market have shown a measurement bias due to the lack of flow homogeneity across the measured volume. With our FCR option, we offer a product that significantly reduces this bias. The WINDCUBE V2 provides direct and accurate wind measurements on complex terrain, thereby eliminating the need for CFD-based post-processing or post-correction of data, and saving time and money for project developers," continued Alexandre Sauvage.

This measurement campaign proves the accuracy of the WINDCUBE v2 whatever the terrain configuration, flat or complex. Wind energy developers can use this light, ultra-portable and easy-to-move remote sensor with ease and confidence at all sites for bankable wind measurements, whether in simple or complex terrain. ↙

GENERATOR EXCHANGE PROGRAM

GE 1.5MW
Siemens 2.3MW
Vestas V-47
Vestas V-80
Turn-key or component only

888-SHERMCO

Si
Shermco Industries
One Line. One Company.

gowind@shermco.com
shermco.com

THE SWITCH TO BE ACQUIRED BY YASKAWA ELECTRIC CORPORATION

Yaskawa Electric Corporation, has announced that it has signed a definitive agreement to acquire The Switch, a supplier of megawatt-class permanent magnet generator and full-power converter packages for wind power and other renewable energy applications. This acquisition will support both companies' strategic objectives and strengthen their international presence. The estimated schedule for closing the deal is within a few weeks.

The Japan-based Yaskawa System Engineering Division has been focusing on growing its market share in renewable, marine and industrial applications over the past few years. In autumn 2013, the two companies entered a strategic collaboration

agreement whereby Yaskawa gained access to The Switch's proven capability in megawatt-class power generation and The Switch was able to develop its presence in Japan.

"This acquisition is a natural next step forward from our initial strategic collaboration. Over the months, we have learned more about our strengths and now understand better how to leverage our synergies," says Hiroyuki Ougi, Yaskawa's Corporate Senior Vice President, General Manager, System Engineering Division. "Now we can both gain



access to new global markets with our wider range of innovative products."

The product portfolios of The Switch and Yaskawa complement each other well for applications in renewables, marine and industry. Permanent magnet (PM) machines and low-voltage converters from The Switch range from 500 kW to 8.0+ MW, whereas Yaskawa offers medium-voltage converters that extend the offering to large wind turbines and other applications. Yaskawa's global network will be used to promote The Switch's products in wind power, marine and industrial applications.

"From our customers' point of view, this acquisition ensures global availability of The Switch offering. Yaskawa is an industrial company that understands our strengths and shares our strategic views. With close cooperation with Yaskawa group we can further extend our offering and can serve better our customers in a broader range of wind and marine applications as well as numerous other industrial applications," says Jukka-Pekka Mäkinen, President and CEO of The Switch. ↘

Flash Technology



Vanguard® II Integrated L-864 LED

- Superior Surge Suppression
- Radar Interface
- Integrated Design
- Rugged GPS Receiver
- IR (NVG) Option

888.313.5274

flashtechnology.com