

Hamburg, June 2019

Kittlitz II wind farm: Spinner anemometer iSpin detects the impact of additional turbines on turbulence intensity and yield

Wind turbine optimiser ROMO Wind is to equip all eight Vestas V90 turbines in the Kittlitz II wind farm with its iSpin spinner anemometer. The patented ultrasonic wind measurement at the tip of the hub detects all relevant wind data directly in front of the rotor. Repartner Wind, owner of the wind farm in Brandenburg, Germany, identifies yield capacity, loads and turbulence intensities before and after the installation of six turbines over 130 metres high nearby in the main wind direction.

How do newly erected wind turbines influence directly neighbouring turbines, how do changes in the park layout affect the performance capacity and loads of existing turbines? These questions concern all wind farm operators affected by new turbines in the immediate surrounding area. Markus Romberg, Managing Director of Repartner Wind GmbH, wants to know how the eight Vestas V90 turbines at the Kittlitz II wind farm will react when, from October 2019, six significantly higher Vestas turbines will be installed in the main wind direction – three V126 and three V136 turbines, all with tower heights of over 130 metres, the nearest only 700 metres away.

Up to now, there has been no reliable experience on how wind turbines with rotor diameters of more than 120 metres and tower heights of more than 130 metres interact and behave with existing turbines at short distances.

"We need a reliable, permanent measurement of the actual turbulence intensities before and after the new installations. So far, only iSpin technology has been able to do this. With the measurement data, we can recognise the wake characteristics of neighbouring turbines, avoid unnecessary sector shutdowns and ensure that the turbines continue to operate within the turbulence assessments and the applicable standards", says Romberg, who already knows the iSpin system. "We've already used iSpin in other wind farms and

achieved higher yields by correcting nacelle misalignments and increasing running smoothness. Since the iSpin data also includes flow inclination, free wind speed in all sectors and manufacturer-independent power curve, we minimise cost risks during continued operation after 20 years", Romberg continues.

The iSpin technology offered by ROMO Wind is so far the only measurement method available that measures the actual turbulence intensities. The system, which uses ultrasound to simultaneously detect all significant wind parameters directly at the hub, has already been installed on more than 1,000 wind turbines. With iSpin, operators of wind farms can identify the real earning capacity of their plants and directly compare the performance of different turbines of a wind farm.

Jens Müller-Nielsen, Managing Director of ROMO Wind Deutschland GmbH: "The holistic approach to wind farms is becoming increasingly important. Continued economic operation after 20 years, effects of additional installations and repowering, accurate measurement of comprehensive wind data instead of calculation models – with the iSpin system we can comprehensively meet the constantly increasing requirements for higher data quality. This helps operators and business managers to control their wind farms in the optimal range between maximum yield and minimum loads."

The iSpin technology was developed by the Technical University of Denmark (DTU) and has been continuously tested since 2004. In 2013, iSpin was launched as an independent wind measurement technology designed for permanent installation that meets the international standard IEC 61400-12-2 for measuring the absolute power curve.

About ROMO Wind:

ROMO Wind is the exclusive provider of the iSpin spinner anemometer. iSpin is the only technology on the market that measures wind where it first hits the wind turbine, at the tip of the hub directly in front of the rotor. With the iSpin technology, ROMO Wind enables manufacturer-independent performance monitoring, targeted load reduction and insights into flow inclination, turbulence intensities and actual wind conditions in all sectors. Operators of wind farms can thereby identify the real earning capacity of their turbines.

ROMO Wind AG, headquartered in Zug, Switzerland, is represented by regional teams in Denmark, France, Germany, Italy and Spain.

Contact ROMO Wind Deutschland GmbH:

Jens Müller-Nielsen
Managing Director
ROMO Wind Deutschland GmbH
Christoph-Probst-Weg 3
D - 20251 Hamburg, Germany
Phone: +49 40 4609 3944
E-mail: jmn@romowind.com

About Repartner Wind:

Repartner Wind GmbH is the German subsidiary of Repartner Produktions AG with headquarters in Poschiavo, Switzerland. Repartner is an association of energy companies in Switzerland and Liechtenstein and is managed by Repower AG. Repartner invests exclusively in renewable production technologies. Repower is a company with over 100 years of experience in the energy sector. Key markets are Switzerland, Germany and Italy. Repower is active in the entire value chain of electricity supply from production and trading to distribution and sales, as well as in the gas business.

Contact Repartner Wind GmbH:

Markus Romberg
Managing Director
Repartner Wind GmbH
Hagener Str. 337
D - 44229 Dortmund, Germany
Phone: +49 170 47 65 307
E-mail: mr@str-olsberg.de

Further information on iSpin technology and images for free editorial use: www.romowind.com