

Seawatch Wind Lidar Buoy



Fugro has chosen Global Offshore Wind 2012, held on 13 and 14 June 2012, for the launch of the group's new Seawatch Wind Lidar Buoy, representing the next generation of multi-purpose buoys tailored for the renewable energy industry. It accurately measures the speed and direction of wind across the diameter of wind turbine rotors in profile up to 300m heights, whilst additional oceanographic sensors measure ocean waves and current profiles.

The new buoy is the result of a joint industry R&D project utilising offshore and wind technology expertise from Norwegian universities, research institutes, the energy company Statoil and Fugro OCEANOR.

Validation of the Wind Lidar Buoy took place at an exposed location off the coast of Norway. The tests were designed to compare wind data collected by the buoy to data from a similar Lidar located on land and from a fixed met tower. Wind velocities up to 20 m/s and wave heights up to 5 metres were recorded. The average deviation in wind speed measurements between the Wind Lidar Buoy and the reference stations was less than 2%.

The buoy is a smaller and more cost-effective alternative to existing fixed or larger floating wind profile solutions. It's built on the SEAWATCH Wavescan platform deployed by Fugro OCEANOR and other Fugro Group companies for clients in the most hostile oceanographic environments since 1985. Its technology includes the GENI controller, an intelligent power management unit and the ZephIR Lidar.

The ZephIR Lidar was selected after years of testing and comparison of various concepts. The ZephIR 300 provides highly accurate measurements across the entire rotor diameter and beyond, and can be configured to measure up to 10 different heights from 10 to 300 metres. Low power consumption of the ZephIR 300 and intelligent power management are key to efficient operation when using a small low-cost platform.

<https://www.hydro-international.com/content/news/seawatch-wind-lidar-buoy>
