



German engineered wind turbines

**PowerWind**

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### **Our company**

PowerWind GmbH is a German company that produces wind energy converters with rated outputs of 850/900 kW and 2500 kW and which also supplies services specifically related to these products. This dynamically expanding company was founded in 2007 and is financed by Warburg Pincus, an international investor. PowerWind GmbH has two locations in Germany, one in Hamburg, one in Bremerhaven.

The manufacturing facility in Bremerhaven offers 5000 m<sup>2</sup> of space and its two production lines are among the most modern in the world.

### **Our successes**

Following a development phase of only 12 months, the first prototype of the 900 kW wind turbine, PowerWind 56, was installed in July 2007. Serial production started in January 2008 at the manufacturing and servicing plant in Bremerhaven.

To date PowerWind has commissioned wind turbines in five European countries, impressing with superior energy yield and reliability.

We have sold a total of more than 100 PowerWind 56 wind turbines to customers in Italy, Poland, Romania, Bulgaria, Germany, Azerbaijan and USA.

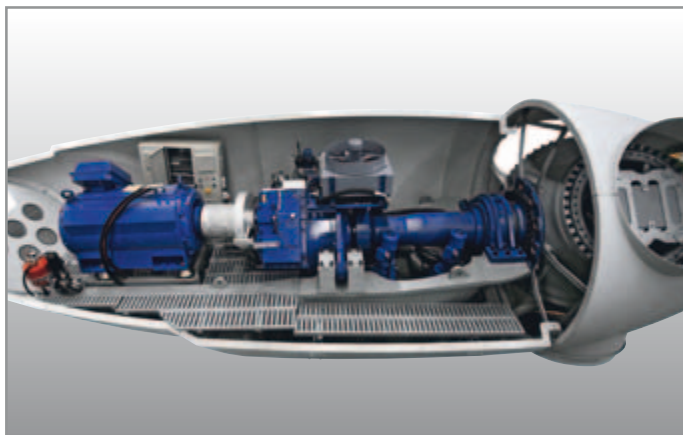
In March 2009, PowerWind GmbH made its first public presentation of the newly developed 2.5 MW wind turbine, the PowerWind 90. Installation of the first two prototypes is scheduled for 2010.

More than 130 people are employed in our research & development, quality management, purchasing, production, sales, product management, project management, installation, services and administration departments; their combined experience in the wind power sector totals over 600 years.

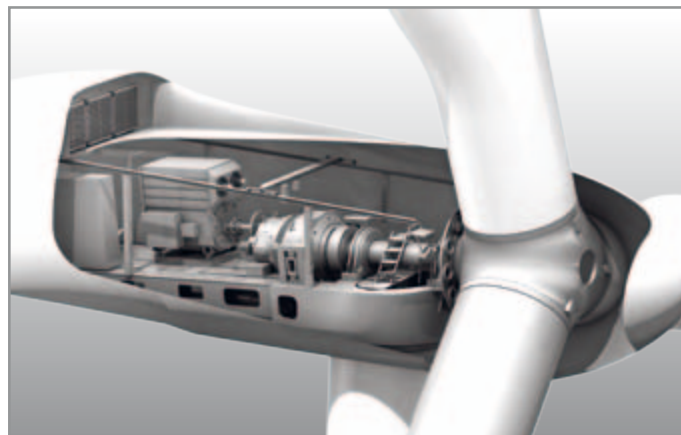




# PowerWind



**PowerWind 56/60\***



**PowerWind 90/100**

The PowerWind 56 is a state-of-the-art wind turbine, certified as an IEC wind class IIA. It has a rated power of 900 kW and a rotor with a diameter of 56 m.

The design of the PowerWind 56 meets the specific requirements of the emerging wind markets. Suitable logistics make the PowerWind 56 particularly beneficial for locations that are difficult to access or have weak infrastructures. The PowerWind 56 is equipped with a water-cooled asynchronous generator or with an optional air-cooled permanent magnet synchronous generator. Thanks to its full scale converter, the PowerWind 56 can be connected to weak electrical grids.

The advanced cooling system allows for smooth operation even under unfavourable climate conditions.

\* For rather moderate wind sites in accordance with class IIIA, the PowerWind 60 is recommended; rated power: 850 kW; available in selected markets from Q3 2011.

The PowerWind 90/100 is a highly efficient wind turbine with a rated power of 2500 kW and has a 90/100 m rotor diameter. Under IEC wind class IIA/IIIA certification it has an optimal application for sites with medium to high wind speeds.

The PowerWind 90/100 combines robust mechanical engineering with advanced power electronics. Its mechanical design is based on the proven concept of the modular drive train. Due to its electric drive train concept with a permanent magnet synchronous generator and a full scale converter, the PowerWind 90/100 can satisfy the most demanding electrical grid requirements and can be integrated into weaker grids.

The optimal combination between rotor, generator, converter, and control system maximizes its energy output.





Pictures: Jens Meier (p. 1, 3, 4)

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