

Successful launch of the new 2.0 MW turbine by W2E Wind to Energy GmbH

License agreements signed with Asian clients

W2E kicked off the development of its new wind turbine type early in 2008. This turbine, bearing the name W93, has an installed power of 2.0 MW and a rotor diameter of 93.2 m. With its extra large rotor, the W93 is also ideally suited for wind class 2a. Once again, the company has set the industry benchmark – thanks to a combination of a lean, specially designed rotor blade from **WINDnovation** and **W2E**'s proven operating system and safety concept.

W2E decided to stick to the successful procurement concept of its W9x wind turbine platform, otherwise known as FL2500. This concept allows systems and subsystems to be installed across wind turbine types. As a result, W2E is able to develop new wind turbine types efficiently in minimal time.

The 2.0 MW wind turbine features the **W2E** technologies **LARUS COMPACT**, **LARUS SMART**, and **LARUS SAFE**, which have already gained a respectable reputation through their utilization within the field-proven wind turbine platform W9x.

LARUS COMPACT, *the clever drive train*, protects the gearbox optimally by transmitting only torque into the gearbox. No shear forces are acting on the gearbox; hence, there is no related housing deformations and bearing damages at the input or output shaft side. The concept completely decouples the structural-borne noise of the drive train from the machine frame while slimming down the weight and dimensions of the nacelle. The drive train is easy to assemble and provides access to the hub regardless of the weather.

LARUS SAFE, *the safety matrix system*, controls the event driven reactions of the safety system. It reduces certain extreme loads as well as wear on mechanical components. The system complies with the strict requirements of the new European Machinery Directive.

LARUS SMART, *the intelligent pitch system*, uses a *pluggable slip ring* developed collaboratively with **Harting**, the industrial connector specialist. This pitch system is backed up by maintenance-free *lithium ion batteries* with an exceptionally long life – an absolutely novelty in the wind energy sector.

W2E licenses the W93 technology. At the beginning of the year, **Lanco Wind Power Private Limited (Lanco)**, India's biggest independent, privately owned electricity generating company, became the first licensee. The W93 will be marketed by **Lanco** under the name **L93**. **Lanco** plans to erect two prototypes in Germany in 2009, and is considering building a production facility in the same region as **W2E**'s head office in North Germany.

In September 2008, **W2E** sold another license to **Baoding Huide Wind Engineering Co. Ltd. (BHD)**, the Chinese turbine producer. The brand name adopted for the W93 in China is **HD2000**. **BHD** intends to manufacture not only the nacelles but also – through its affiliated company **Baoding Propeller Factory** – rotor blades in numbers that meet its own needs as well as that of other **W2E** customers.

The W93 has already undergone preliminary checking at **TÜV NORD**, Germany's leading certifier of wind turbines. A "C Assessment" design certificate was awarded to **W2E** last June. In the meantime, all the components have been specified and designed. The full "B Design" check is due to commence in January 2009. The availability of these components for prototype and series production is guaranteed by agreements concluded with established suppliers such as **Rothe Erde** and **Converteam Group SAS**.