

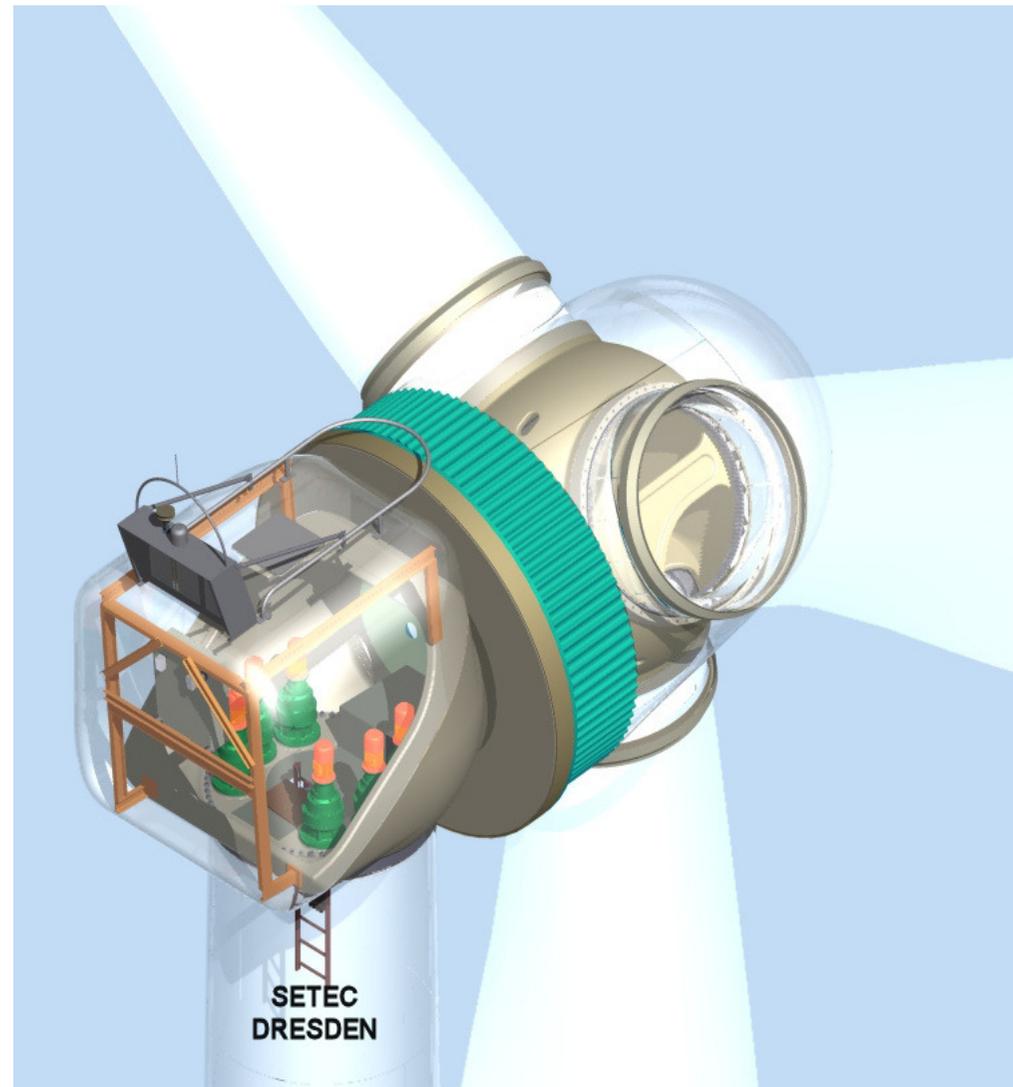
Direct Drive Wind-Turbine Low-Cost PM-Generator and proven LVRT

The Simplicity
of
Wind-Power
Generation

Based on
Intellectual
Property
of
SETEC-Dresden

*WIND-POWER COMPETENCE
by EXPERIENCE since 1995*

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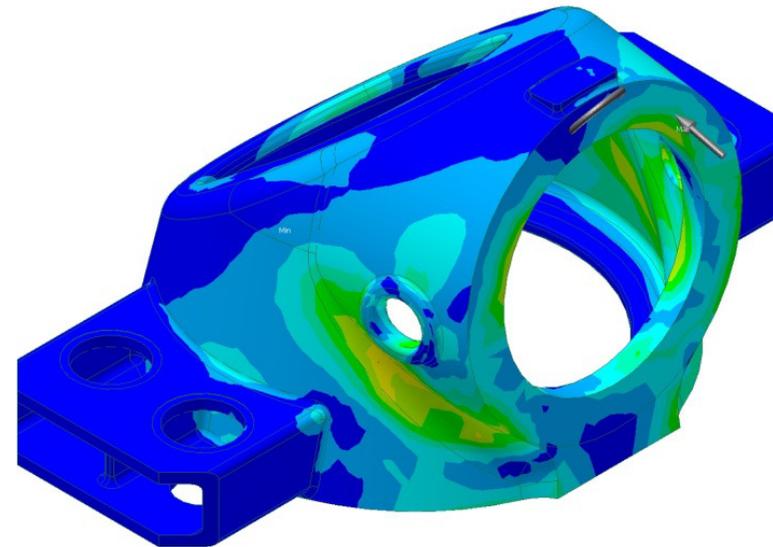
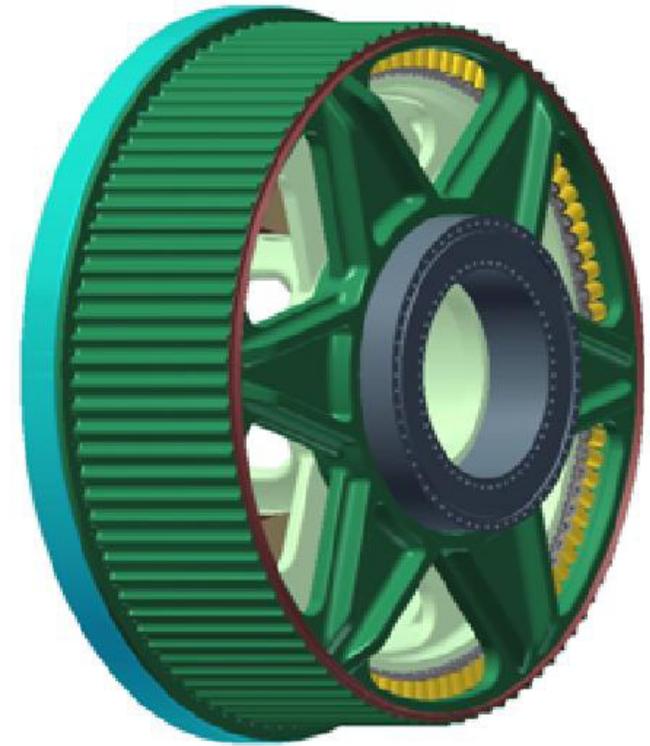
Advanced Wind-Turbine Design

- The features of the design are typified by technology of generator and electronics, and also includes the performance for Grid-Fault-Ride-Through. As a result high profit can be expected.
- There are neither oil containers nor hydraulics at the complete wind-turbine.
- The modular design of the permanent-magnet-generator makes low-cost fabrication possible. The design of the stator winding guarantees an increase in reliability.
- This is probably the best pitch system available at the market. Safety is excellent, compared with standard AC-Pitch-Drive, as well as with the DC-system. No batteries are needed at the pitch-system because of the super-capacitor.
- Design can easily be modified for offshore application



The latest, cheapest and most highly reliable technology

- Replace each type of gearbox from the drive-train.
- Use a wind-turbine mainly free of maintenance ”
- “ No hydraulic at the whole turbine ”
- Apply AC pitch-drive with energy storage by capacitor and **double safety at each rotor-blade drive system.**
- Use a decentral control system connected via direct bus, for the **replacement of PC- and PLC control.**
- Remote control, diagnosis, condition monitoring and wind-farm SCADA without barrier.
- Water-cooled permanent-magnet generator for insulation from contaminants includes **modular winding** structure, **reduces costs and increases reliability**
- Water-cooled IGBT converter and direct drive experience since 1998



Engineering for Wind-Power

- Complete electronic system for wind-turbine including manufacturing, sales and service of converter, pitch system and control system.
- Calculation and design “ from tower-foundation to the rotor-blade”, including tower, nacelle, generator and hub (except of rotor- blades).
- Instructions for transport, installation, safety, commissioning, maintenance and service, and support for process of certification.
- Documents for the fabrication of PM generator, assembling and power-test. Generator shows an enormously simplified structure in order to ensure easy manufacturing and operation.

ENGINEERING and LICENSING
for **MECHANICS, GENERATOR, IGBT-CONVERTER**
The likely best **PITCH-SYSTEM,**
The **CONTROL and SCADA SYSTEM**

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