
Case Study

Cooling Fan Upgrade

CERAMICSPEED

Cooling Fan Upgrade for Offshore Wind Turbines

Modern offshore wind turbines rely on very advanced power electronics to be able to supply grid-quality voltage while operating at variable speeds.

To cool these essential electronics a number of cooling fans are installed. In many ways small, insignificant and inexpensive units – just 1.5 kW or less, but when failing the very same units cause a reduction or a full stop of power production costing thousands of Euro per day. On top of this, the total replacement cost is immense due to the cost of actually getting to the turbine by boat or helicopter.

CeramicSpeed has established a repair loop for these critical units. During this defined process, the units are tested, repaired, and upgraded with CeramicSpeed hybrid bearings increasing the mean time between services from below 1 year to a guaranteed 3 years or more. All by the means of customizing the bearing, seals, and lubricant to the exact conditions in the turbine.



The benefits are obvious; while repairing rather than scrapping material is saved to the benefit of the environment, the cost is saved to the benefit of the operator, and reliability is increased to the benefit of power output and overall profitability. A win(d)-win-win one might say.

Technical Highlights

- Temperature regime: 40 –80 C
- Speed: <3500 rpm
- Lubrication: Sealed and greased for life
- Environment: Clean indoor

