ZF Wind Power subjects 6-MW wind turbine components to cold start testing

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ZF Wind Power is a world leader in the development and manufacture of high-tech gearboxes for wind turbines. The manufacturer adheres to the trend of increasingly larger, heavier systems and integrated assemblies for the on- and offshore wind energy market.

Logistics challenge

Despite not all wind turbines being intended for polar or inaccessible areas, ZF Wind Power believes that it is essential that all components and assemblies are tested under harsh weather conditions, to ensure high reliability under all potential weather conditions worldwide. However, the ever-increasing dimensions are making it difficult to find appropriate test environments. The company therefore relies on Sirris expertise for the testing of the nacelle drive train of a 6-MW turbine in the large environmental test chamber at the Sirris test site at the Port of Antwerp. The assembly consists of a gearbox and integrated rotor shaft with bearings, weighing more than 90

tonnes. It is the largest wind turbine component tested at the large climatic test chamber to date. The weight and dimensions made it a very complex project, requiring two large cranes and logistics assistance from Zuidnatie to lift the complete assembly onto the test workbench and place the test object and corresponding test workbench in the
climatic test chamber.

The complete integrated drivetrain assembly was subjected to a battery of cold start tests at various temperatures as low as -40 °C. ZF Wind Power therefore knows the complete assembly holds up and works even under harsh weather conditions.

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