

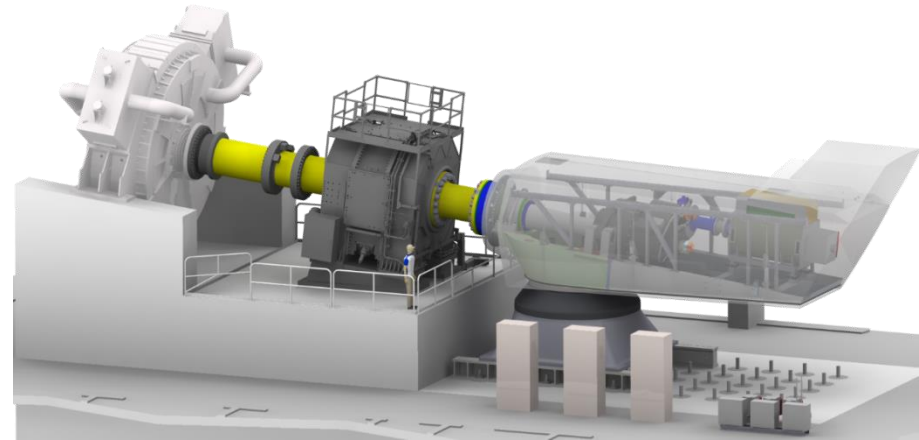


HIWI Job:

Support in the research project VirTuOS

Content:

The share of wind energy in the energy generation has steadily increased in recent years. For this reason, wind turbines must contribute to grid stability. As part of the VirTuOS research project, a converter test bench is to be developed enabling the measurement of electrical properties at component level. The underlying idea is that both the complete drive train and the electrical grid are reproduced in real-time simulations. The results of the real-time simulation are subsequently converted into physical quantities by a Power Hardware in the Loop (PHIL) setup in order to test the converter of the wind turbine as a real hardware component.



[Source: CWD RWTH-Aachen]

Tasks:

Together with the project team, you will develop various models of the electrical grid that are suitable for different testing purposes. These include, for example, frequency or voltage changes in the grid. You then examine the models for their real-time capability. In addition, you have the opportunity to help to develop new test procedures according to the power hardware in the loop principle by choosing suitable interface algorithms of the power amplifiers for communication between simulator and the test bench.

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