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CHALLENGE ONE

Modelling pitch system behaviour with high frequency data



The Asset

The Levenmouth Demonstration Turbine (LDT) is a unique 7MW Samsung turbine, owned by the Offshore Renewable Energy Catapult and operated by Wood since December 2015. This offshore turbine not only delivers clean energy to the National Grid but allows demonstration of physical and software innovations, allowing technologies to accelerate up the TRL scale.

Industry Context

Original Equipment Manufacturers (OEMs) are starting to offer high frequency SCADA data (>10 min granularity) to customers as additional service. However, the industry is not clear about what value/use this offers

Pitch system issues are known in the wind industry as a source of significant lost production downtime and unplanned maintenance

The challenge

- 10 minute SCADA statistics are typically used in the wind industry for turbine performance analysis. The participants will be asked to show what additional value/insight can be gained by using higher frequency data
- Using this higher frequency data, the participant should build a model which can predict the behaviour of the pitch system