

# FLOATING WIND CONDITION & INTEGRITY MONITORING

## MOORINGS - CABLES - TOWER - TURBINE - BLADES

*A modular, model-based, and holistic monitoring solution for floating wind turbines which supports O&M by providing insights into fatigue loading, risk-of-failure indicators, and operational states.*

Combining **optimised instrumentation** with verified **real-time simulation models** and **machine learning** for dynamic load reconstruction and condition assessments.



always-on telemetry and cloud storage



anywhere accessible indicators for  
**Predictive Maintenance**  
**Risk-Based Inspections**



### Turbine

- > Acceleration limits
- > Generator power / thrust
- > Rotor speed / torque limits

### Tower Structure

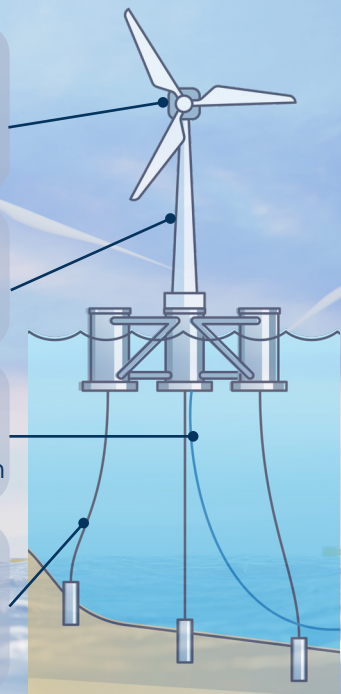
- > Base bending moment limits
- > Fatigue life accumulation

### Cables

- > Cable integrity status
- > Tension and bending utilisation

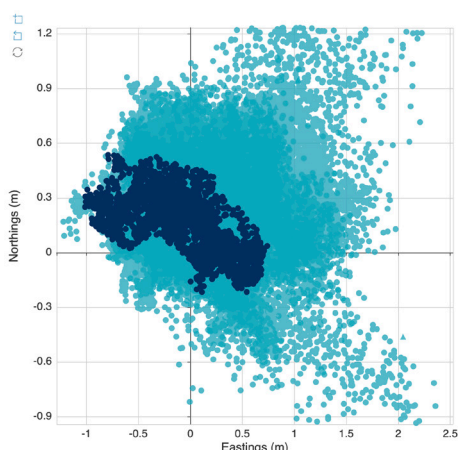
### Moorings

- > Mooring line failure detection
- > Fatigue life accumulation
- > Wear indicators



Benefits include the **flexibility and modularity** of the system, easy to use **web-based access** to the assets' health and states, **improving the long term profitability** of floating wind farm projects

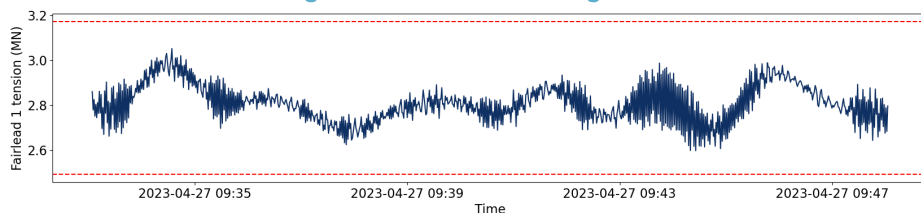
This **reduces O&M costs** and **makes inspections more plannable** by predicting failures and giving insight in the status and the integrity of the asset



Provides **clear primary health indicators** while allowing transparency through **interrogation of raw and calculated data**

### Mooring Integrity Status: **HEALTHY**

Mooring Line Tension from Surrogate Sensor



AMOG is a global company founded in Australia with over **30 years of offshore engineering experience**. AMOG has **proven monitoring technologies** for mooring and subsea systems which have already been deployed on major offshore assets.



sowento have a **deep understanding of the wind energy industry** - in particular, the potential of lidar for wind turbines and hydrodynamic simulation. With **expert control, structural and ocean engineers**, sowento is based in Germany and has worked on projects worldwide