iConnect-OWF
Intelligent connected offshore wind farm maintenance planning framework

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Teaser

- Offshore wind energy
- Complex and dynamic interactions: operation, degradation
- Maintenance logistics: weather access windows

- Objective: manage complexity and improve key performance indicators
  - Increased operation hours & improve reliability
  - Increased efficiency: cost reduction & increased energy generation

- Focus of the proposal
  - Set of models, tools and supporting sensors & communication network infrastructure to support optimised wind farm operation & maintenance strategies

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Proposal Introduction

- Energy generation estimation
  - Diagnostics & forecasting
- Online probabilistic risk assessment model
  - Dependability analysis
  - Prognostics & health management
- Intelligent maintenance planning
  - PHM-informed and reliability centred
  - Energy generation and downtime trade-offs
- IoT infrastructure and sensor deployment
  - Cloud-based communication and sensor deployment

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Proposal Introduction

• **Expected outcome**
  • Online risk analysis and maintenance planning toolset
    • Prognostics & health management models
    • Risk analysis models
    • Maintenance planning engine
    • Cloud-based communication and monitoring infrastructure

• **Impact**
  • Remote, online health monitoring of offshore wind farms
  • More accurate estimation of risk through continual update of analyses
  • Better planning of maintenance procedures
  • Improved risk control

• **Planned project duration: 36 months**
Partners

- **Mondragon University, Spain**
  - Physical-numerical modelling, digital twin, experimental testing
  - Prognostics & health management, risk analysis, maintenance planning

- **We have started to contact people (UK, Norway)**

- **What we are looking for?**
  - **Plant operators**
    - O&M experience and data
  - **SME**
    - Embedded smart sensor and communication systems
  - **Research centre**
  - **Equipment development**

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18 Sept. 09.00 CET
Join the follow-up Telco

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Can’t join the meeting?