ROMEO, Reliable OM decisions tools and strategies for high LCoE reduction on Offshore wind

César Yanes Iberdrola Renovables







## What is ROMEO Project

ROMEO H2020 project aims to develop advanced technological solutions enabling Offshore O&M cost reduction.

- H2020 Innovation Action for Societal Challenges.
- 16.4 M€ Total Budget (~10M€ EU contribution).
- 5-year project (2017-2022)
- The consortium..
  - Led by Iberdrola Renovables.
  - Formed by 12 partners across Europe.
  - Involves some of the most important players in the offshore wind industry.







## What are the objectives?

Greater reliability, less repairs, more safety



Increase wind farm reliability and decrease the number of failures leading to downtime.



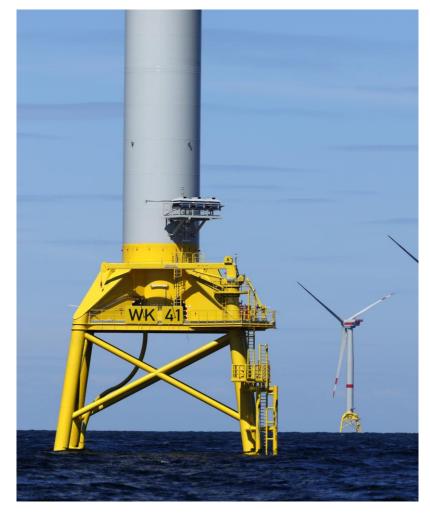
Increase the life time of key turbine components.



Reduce the WT O&M costs through the reduction of the resources required for annual inspections of the turbine.



Reduce the O&M costs associated to foundation through reduction in jacket substructures inspections.







## Work description

#### WT Condition Monitorina



- Detect degradation patterns related to critical failure modes
- Develop innovative DIAGNOSIS and PROGNOSIS solutions

#### Health Structural Monitoring



- Develop low-cost Structural Health Monitoring system for jackets
- Assess RUL for lifetime extension purposes

WT SCALE Components and structure

#### Data Acquisition & Analytics Ecosystem



- &interoperable IoT platform
- Based on distributed processing

Hybrid cloud/edge architecture with advanced analytics ecosystem

#### **0&M** Information Management Platform

- > Intelligent reporting & visualisation
- > Facilitate maintenance-decision making
- Asset management & advisory information

IT SCALE Ecosystem, Platform & Environment

#### Pilot Tests Real scale implementation



- ➤ Real time data integration
- > On-site validation of developed solutions
- Testing Asset management tool









#### Impact assessment & Replication



- Ouantification of innovative O&M practices against baseline
- > Assessment of impact from using the developed solutions:
  - ✓ LCOE & OPEX reduction (%)







### www.romeoproject.eu

Take part in ROMEO Project and give us your opinion here



We appreciate your feedback!

Follow ROMEO on Twitter

@RomeoProjectEU #RomeoProject







# Thank you!





