



CELTIC EUROGIA

Online Proposers Day

15th & 16th September 2020



iConnect-OWF

Intelligent connected offshore wind farm
maintenance planning framework

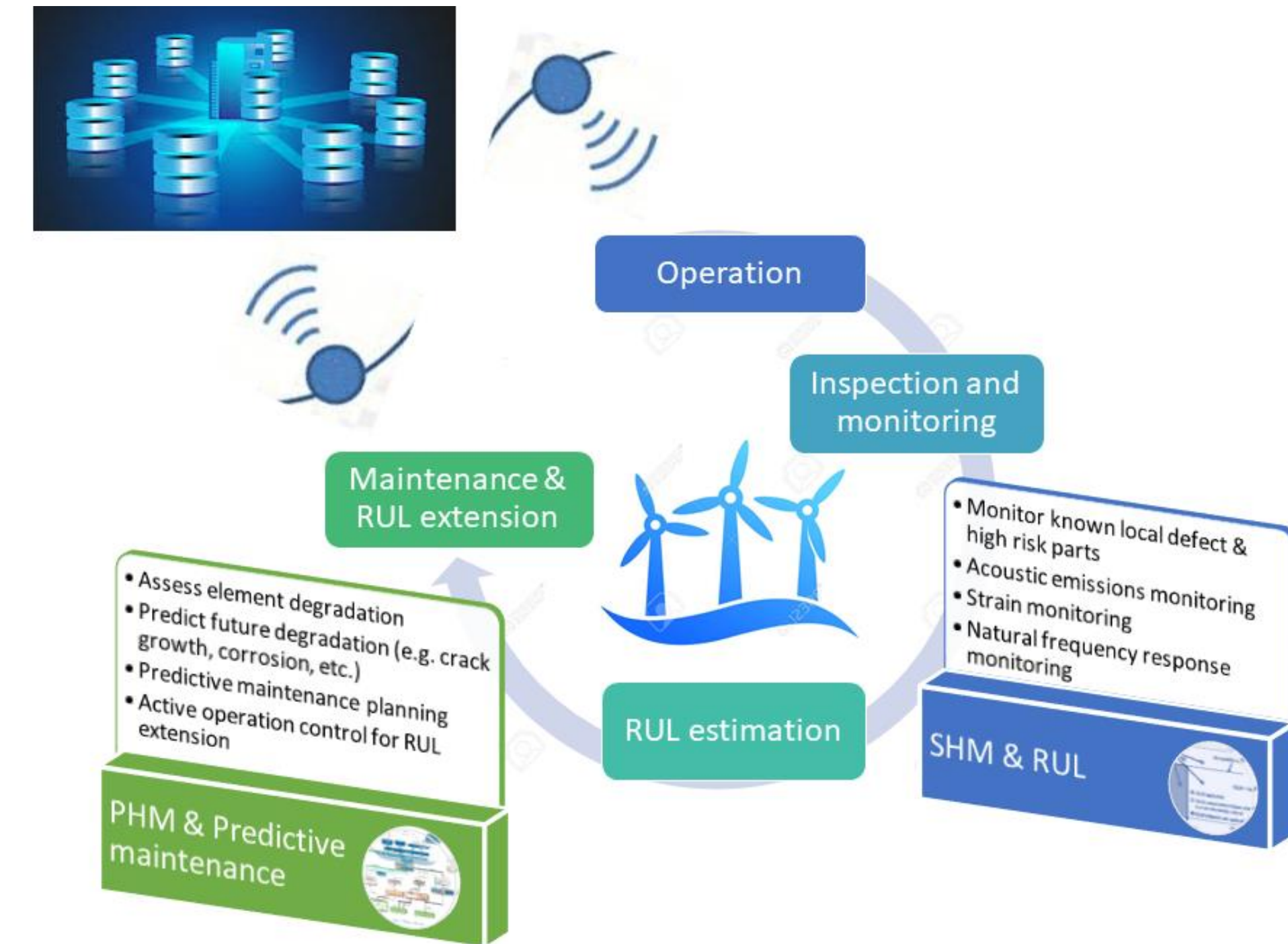


Dr Jose Aizpurua, Dr Markel Peñalba
Mondragon University

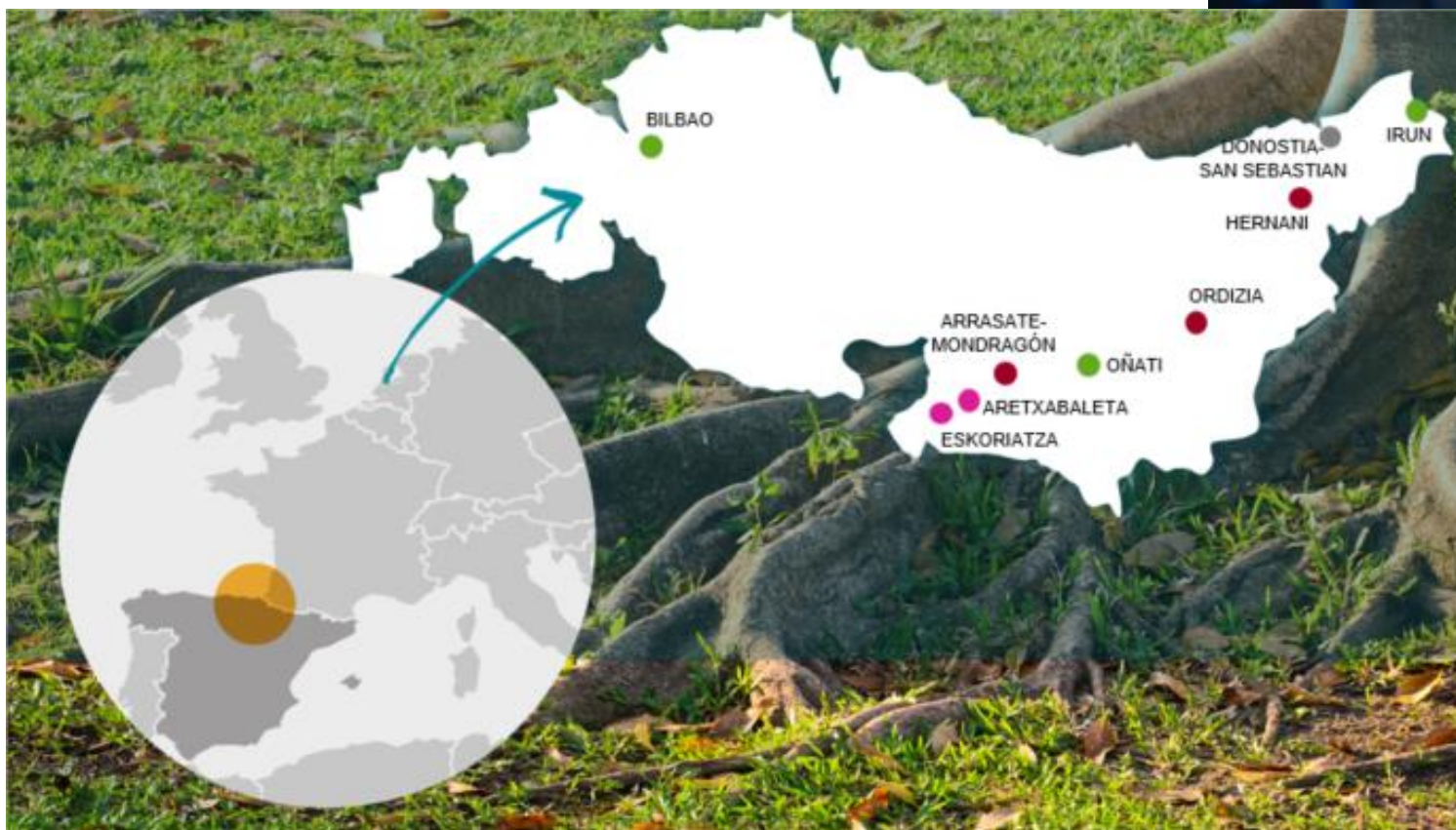
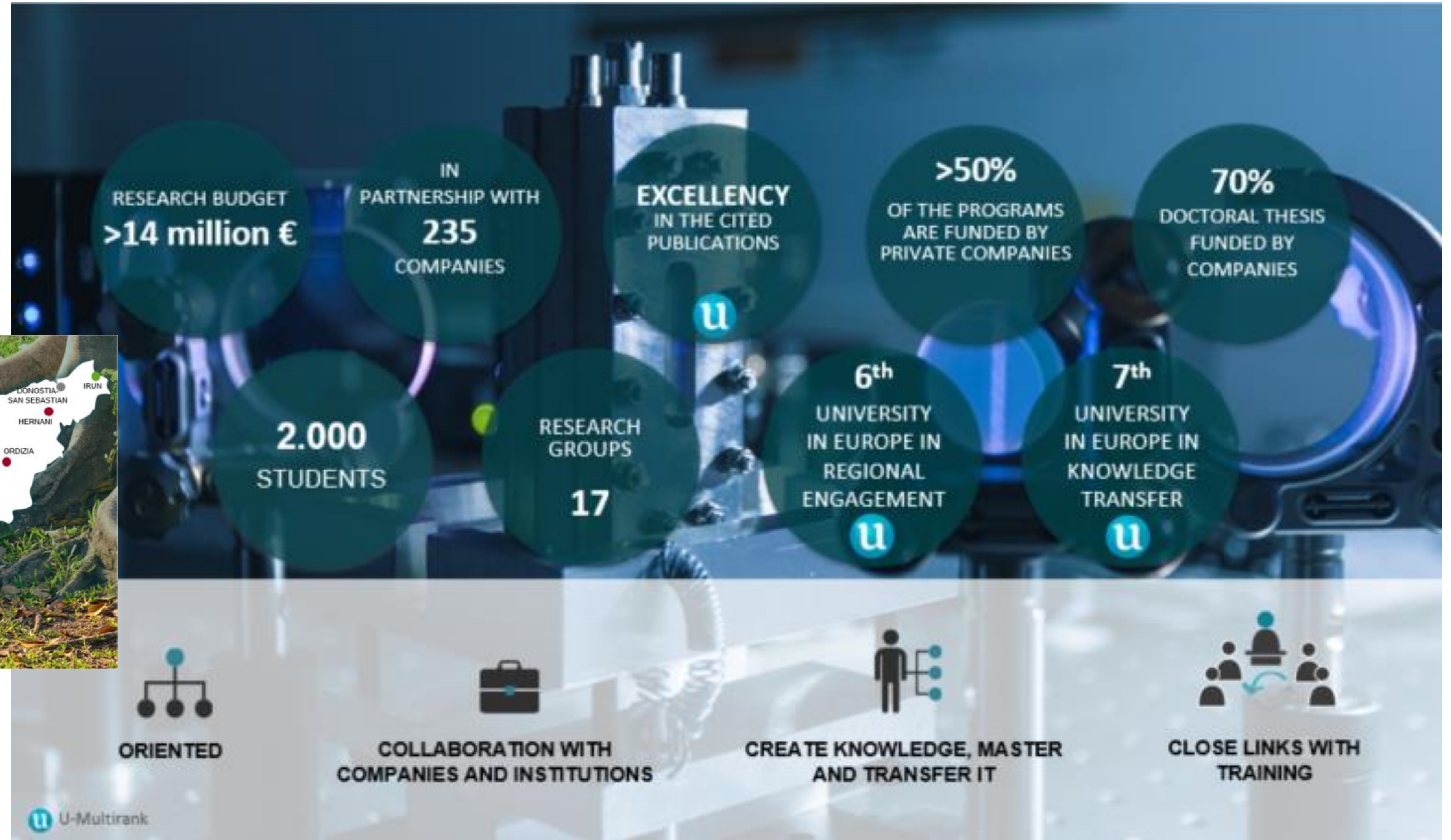
jiaizpurua@mondragon.edu, mpenalba@mondragon.edu

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*



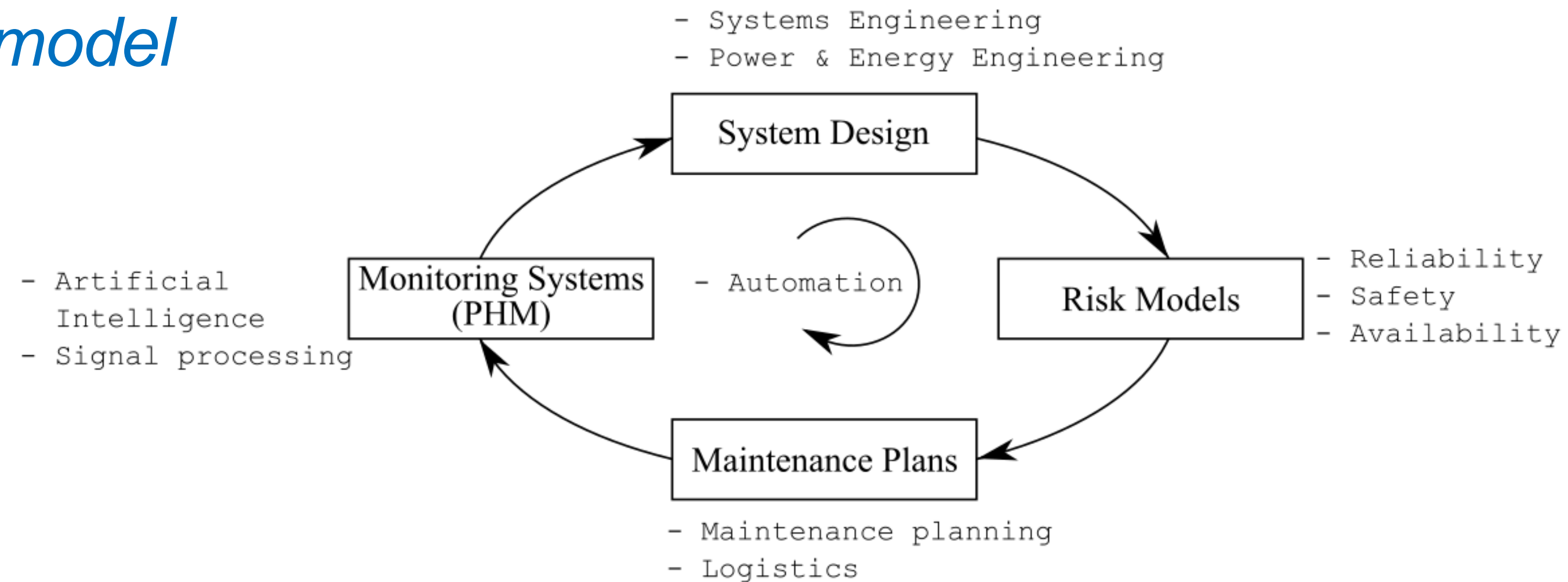
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Proposal Introduction



- *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*



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*

Contact Info



For more information and for interest to participate please contact:

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18 Sept. 09.00 CET

Join the follow-up Telco

[Join Webex meeting](#)

Meeting number (access code): **163 191 4324**

Meeting password: **JphKiasS545**

Join by phone

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