

SMART OPERATIONS & MAINTENANCE (O&M)

Challenge Background

The landscape of Scotland's energy sector is undergoing a rapid and exhilarating transformation as we progress towards a net-zero future. With the Scottish Government steadfastly committed to achieving net-zero emissions by 2045, the call for innovation has never been more urgent.

To achieve these ambitious net-zero targets, a significant increase in the pace of deployment of offshore wind is required. It currently takes approximately 12 years to develop and build an offshore wind farm, with seven of those years required to achieve consent for an offshore wind project. This length of time needs to be reduced, and the processes involved streamlined, both of which could in part be enabled by the adoption of novel data gathering, analysis and mitigation methods to deliver greater volumes of marine environmental data with more accuracy. The other end of the build, the long-term operations and maintenance (O&M) phase, also represents another significant opportunity to achieve meaningful reductions in carbon emissions.

Launch Academy: Scotland is seeking innovative technologies, services and solutions that target challenges associated with ***O&M Decarbonisation*** and ***Environmental Monitoring & Mitigation Methodologies***.

O&M Decarbonisation

- Zero/low-carbon vessels
- Innovative remote monitoring and operational solutions
- Novel surface coatings and protections
- Logistics and planning/coordination

Environmental Monitoring & Mitigation Methodologies

- Innovative monitoring techniques and equipment
 - i.e. Acoustics, cameras, electronic tags/tracking tools, biomonitoring tools
- Novel use of platforms
 - i.e. Autonomous Underwater Vehicles (AUVs), Remotely Operated Vehicles (ROVs), Unmanned Surface Vehicles (USVs) or Unmanned Aerial Vehicles (UAVs)
- Integrated environmental digital / data solutions
 - Automated environmental data analysis systems/solutions

These solutions should seek to:

- Reduce carbon emissions associated with the offshore wind lifecycle
- Improve sustainability of offshore wind, particularly during its O&M phase (in terms of emissions and environmental impacts)
- Enable greater volumes, accuracy and clarity of environmental data capture and analysis

Please note that the above list of examples is non-exhaustive and that all solutions relevant to offshore wind that support O&M decarbonisation or environmental monitoring would be considered relevant.

Eligibility and Further Information

Eligibility	Entrants to this competition must be: - Established businesses, start-ups, SMEs (Small-Medium Enterprises) or individual entrepreneurs - Scotland-based or have the intention to set up a Scottish-base - Minimum of TRL (Technology Readiness Level) Four. See the link below for further information associated with the TRL scale: https://enspire.science/trl-scale-horizon-2020-erc-explained/
Assessment	Applications will be assessed on: - Applicability to the challenge - Innovativeness of the solution - Coherence of proposed business model and company vision - Feasibility and economic viability, including ability of the team to progress the solution - Development potential - Maturity of the solution - Ability to launch product and ease of implementation
IP & Commercial Route	- Existing background IP associated with a potential solution will remain with Launch Academy applicant(s)/participant(s). Where any new IP generation is envisaged during the Launch Academy programme, it will be subject to the mutual IP agreement of the Launch Academy participant(s) and Launch Academy sponsors if it is jointly developed. If new IP is developed solely by the Participant then it will remain with the Participant. - Where necessary, a non-disclosure agreement (NDA) may be signed to uphold confidentiality in the engagement between the Launch Academy Participant(s) and Launch Academy Sponsors. - ORE Catapult do not take any share of IP ownership or enter commercial ventures through the Launch Academy programme.