S ETIPOCEAN

European Technology & Innovation Platform for Ocean Energy

ETIP Ocean & EERA Ocean Energy webinar: Installation & marine operations





THE UNIVERSITY of EDINBURGH





The slides & recording will be available at: <u>www.etipocean.eu</u>





2

Agenda

- Jose Luis Villate, Offshore Renewable Energy Director, Tecnalia
- Jason Schofield, Managing Director, Green Marine
- Richard Parkinson, Managing Director, Inyanga
- Michael Henriksen, CEO, Wavepiston
- Moderator: Lotta Pirttimaa, Policy & Project Officer, OEE







eceived funding from the European Union's Ho

- A reference document for the whole ocean energy sector and specifically for **public funding organisations** (EC, Member States and Regional Agencies) with the aim of inspiring research calls.
- Updates **key priority challenge areas** for research, technology development and innovation from the previous strategic agenda in 2016
- Defines specific objectives and actions to carve the path towards **Ocean Energy commercialisation**
- Developed in close cooperation with **sector stakeholders**
- Officially launched on June 19th

Link to download











Public funding will leverage private investment

The right EU and national public funding at the right stages of development can attract and unlock significant volumes of private investments.







Challenge Areas

- Not to be addressed in isolation
- Implementation driven by a systemic innovation approach
- Optimal balance between open data and confidentiality
- Contribute to the expected impacts described in each Priority Topic
- Demonstrate a wider impact on European Green Deal objectives







Priority Topics

For each priority topic, the SRIA defines:

- Scope
- Applicability (wave, tidal, others)
- Actions
- Expected impact
- TRL (entry/exit)
- Budget Required (number and size of projects)

DESIGN AND VALIDATION OF OCEAN ENERGY DEVICES

Demonstration of ocean energy devices to increase experience in real sea conditions

Demonstration of ocean energy pilot farms

Improvement and demonstration of PTO and control systems

Application of innovative materials from other sectors

Development of novel wave energy devices

Improvement of tidal blades and rotor

FOUNDATIONS, CONNECTIONS AND MOORING

Advanced mooring and connection systems for floating ocean energy devices

Improvement and demonstration of foundations and connection systems for bottom-fixed ocean energy devices

LOGISTICS AND MARINE OPERATIONS

Optimisation of maritime logistics and operations

Instrumentation for condition monitoring and predictive maintenance

INTEGRATION IN THE ENERGY SYSTEM

Developing and demonstrating near-commercial application of ocean energy in niche markets

Quantifying and demonstrating grid-scale benefits of ocean energy

DATA COLLECTION & ANALYSIS AND MODELLING TOOLS

Marine observation and modelling to optimise design and operation of ocean energy device

Open-data repository for ocean energy

CROSS-CUTTING CHALLENGES

Improvement of the environmental and socioeconomic impacts of ocean energy

Standardisation and certification





Logistics and Marine Operations

Optimisation of maritime logistics and operations

Scope:

- Cost reduction in ocean energy installation and operation: emphasis on "learning by doing"
- Actions:
 - Select, adapt and implement good practices from other sectors
 - Identify novel requirements and design bespoke methods and tools
 - Develop modelling tools to simulate marine operations
 - Evaluate existing remote maintenance technologies
 - Document and share real experience

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- Expected impact
 - Demonstrate reduction in cost of marine operations and maintenance.
 - Improve know-how and data available to industry

Instrumentation for condition monitoring and predictive maintenance

- Scope:
 - Combination of smaller and cheaper sensor technology with telecommunication (Internet of Things) to reduce O&M costs
- Actions:
 - Apply recent advances in condition and structural health monitoring from other sectors
 - Document and share experience on sensors performance and reliability
 - Improve conditions-based and predictive maintenance with analysis of data streams (big data, machine learning, digital twins)
- Expected impact
 - Reduce OPEX by optimising O&M
 - Increase energy production by improving availability and improved survivability



