



Accelerating large-scale ocean energy solutions

Accelerator Services



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Interreg North Sea Region OESA

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BUSINESS | COMMERCIALISATION

Fundraising and Investment memorandum

Raising capital is of high relevance during each stage of the development and demonstration of ocean energy technologies. With a strong expertise in developing and assessing business plans as well as an in-depth insight into requirements of private investors, the OESA partners support technology developers to be able to present valuable and meaningful information to their potential investors.

DELIVERABLES:

- FID
- Investor readiness assesment
- Support towards approaching investors
- Pitch training

BUSINESS | COMMERCIALISATION

Business plan and Commercialisation strategies

Understanding and presenting the potential market for new technologies requires insight into techno-economics and relevant unique sales points. OESA partners can support developers from early stage techno-economic assessments towards optimisation of both market positioning and commercialisation strategy, to allow for an efficient and customer focussed development of their technology and company.

PARTNERS:





PARTNERS:



- Market assessments
- Business plans
- Commercialisation strategies
- USP analysis
- SWOT analysis





PERFORMANCE | EARLY STAGE

Design assessment, analysis and optimisation support

With more than 20 years of experience across all types of ocean energy, the OESA partnership has accompanied many technology developments. The skills and knowledge developed through this can help ocean energy companies today to maximise their success while avoiding typical pittfalls. Tailored to the development stage this service can range from a technology benchmarking, across recommendations for strategic partnerships towards specific development strategies, focussing on key advantages or risks of a certain technology.

DELIVERABLES:

- Technology assessment reports
- Development strategies
- Support in forming development partnerships with external partners

PERFORMANCE | EARLY STAGE

Numerical modelling – Performance and Design optimisation

With expertise from both academic research as well as offshore industry, OESA partners can provide numercial modelling services for both hydrodynamic as well as structural design across all development stages. From early stage performance estimates towards the simulation of entire ocean energy systems, including wake effects, mooring analysis and non-linear analysis, OESA partners can support developers with model development, full numercial studies as well as general advice on computational methods.

PARTNERS:



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PARTNERS:











- CFD models
- Numerical studies
- Hydrodynamic optimisation studies
- Mooring studies
- Wave2Wire modelling



PERFORMANCE | EARLY STAGE Technology mapping

As part of both technical advisory services as well as business planning, OESA partners can support developers with their extensive knowledge on ongoing and past developments in marine energy. While OESA aims to OESA offers lessons learned reports to follow an efficient development trajectory as well as IP and competitor analysis to understand the sector and ocean energy space. As for all other advisory services all OESA partners are acting with the utmost care to protect intelectual property and confidential knowledge on testing and other collaborations with developers.

DELIVERABLES:

- Patent analysis
- Lessons learned reports
- Competitor analysis
- Technology mapping



PERFORMANCE | FINANCIAL FEASIBILITY **Operations** & Maintenance management

Operations and maintenance accounts for a significant percentage of project life cycle costs. Developing effective O&M strategies is critical to understanding deployment methodologies, long term management plans and project risks. The OESA service delivery partners will use their industry expertise to model and maximise the benefits of a realistic, efficient O&M strategy supporting the cost validation of your technology. Partners can also support with practical aspects of preparing for deployment at sea, making connections to local supply chain and participating in health and safety review workshops.

PARTNERS:





PARTNERS:





- O&M strategies
- O&M cost models
- Optimised assumptions and input to models
- OPEX estimates







TECHNOLOGY CONCEPT DEMONSTRATION

Laboratory test preparation – Model design and test planning

OESA partners have extensive experience in performing hydrodynamic, mechanical and electrical testing of devices at different scales. To progress your technology through characterisation and validation, OESA can offer support in preparation of all tests. This covers designing and manufacturing scaled models and prototypes, test planning in accordance with relevant IECRE standards and best practice.

DELIVERABLES:

- Calculations and design drawings for scaled prototypes
- Instrumentation layout for model tests
- Specific schedules and plans for tests at OESA facilities
- Test planning according to IECRE standards

TECHNOLOGY CONCEPT DEMONSTRATION

Laboratory testing – Tank testing and validation

For both early stage characterisation as well as optimisation between design iterations, tank testing is the most feasible option in many cases. OESA partners can support developers to identify and strategically select the most suitable test facilities. Next to technical characteristics also ancillary services such as technician support and testing validation need to adhere to high standards to produce valuable output for new technologies. At each stage OESA partners can support this selection process, provide access to their own facilities and validate hydrodynamic and performance results. Additionally, OESA can offer accredited third party inspection of tests aligned with emerging IECRE standards, further improving confidence in results.



PARTNERS:









DELIVERABLES:

- Test facility recommendations
- Test result analysis
- Support services for laboratory testing
- Accredited third party inspection to IECRE standards (e.g. for prototype testing wave energy converters)

PARTNERS:









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TECHNOLOGY SYSTEM DEVELOPMENT

Concept engineering and sub-system design

In progressing from a technology concept towards the design of an ocean energy system or prototype experience across multiple engineering disciplines is needed. OESA partners have a broad range of naval engineering, electrical engineering, structural engineering and other experts, that can support this process. By providing the design of relevant sub-systems or equipment this will allow developers to go ahead with their project development.

DELIVERABLES:

- Sub-system engineering
- Design calculations, Design for maintenance
- FEED studies
- System decomposition
- CAPEX calculations



TECHNOLOGY SYSTEM DEVELOPMENT **Certification support**

For investments, both in ocean energy technologies and projects, certification can serve an important role to create confidence in a company. OESA partners have been actively involved in the development of standards and procedures for international and national standardisation institutes. The OESA partners can help you to understand the regulatory environment in your target markets, identify and inspect against the standards you may be required to meet and establish a certification regime for your product. Introductions can also be made to suitable certification bodies necessary to negotiate this critical requirement.

PARTNERS:







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PARTNERS:





- **DELIVERABLES:**
- Certification roadmaps
- TQ documentation
- Overview of relevant standards
- Test plans for certified measurements



TECHNOLOGY | ENGINEERING AND MANAGEMENT

Third party review

Technical as well as financial challenges of demonstrations are often seen as major concerns for investors and stakeholders. Through an external review, OESA partners can provide an independent review of design and fabrication of prototypes to reach consenting or provide the necessary evidence for financial closure. OESA partners can provide this review for for both private investments as well as publicly funded RD&I projects.

DELIVERABLES:

- Design review
- Risk assessments
- Regulatory Feasibility Study
- Construction/Fabrication validation

PARTNERS:











TECHNOLOGY | ENGINEERING AND MANAGEMENT

Access to European test sites

A range of tailored test facilities are available across Europe and beyond to support the advancement of marine energy solutions at all TRL levels. The OESA service delivery partners can support the development of an appropriate test regime for your technology, maximising the value of any test programme by ensuring the most appropriate, beneficial, test facilities and supporting academic resource are utilised for your development. From matching environmental characteristics to technology demonstration needs, identifying potentially funded routes to testing and ensuring the appropriate contractual arrangements are in place, OESA can help to ensure your route through testing is as cost effective and efficient as possible.

Once deployed, OESA can also offer data collection, analysis and power performance assessment services to maximise the value of your testing.

PARTNERS:





- Test site selection
- Test planning
- Environmental data collection
- Performance analysis
- Power Performance Assessment report







TECHNOLOGY | ENGINEERING AND MANAGEMENT

Work package and Engineering management

While moving from technology development and scale testing towards full project development, the skills and experience of the OESA service delivery partners can help developers to build their full project plan. Ensuring your technology development pathway follows the most efficient, recognised route, the OESA partners can help you to access their internal specialist engineering expertise and external market links. This allows you to have access to the right engineering team and keep a clear view of the full system engineering requirements.

DELIVERABLES:

- External management
- Engineering secondment

TECHNOLOGY | ENGINEERING AND MANAGEMENT

Commissioning and Testing management

The integration of new marine energy technologies into the real-world environment requires a range of physical infrastructure both onshore and offshore. From deployment platforms to voltage compliant grid connections the OESA service delivery partners will use their internal know how and wider networks to support the consideration and design of the critical infrastructure necessary for early stage field deployments.

PARTNERS:

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PARTNERS:



- Contracting suppliers
- Overseeing engineering work
- Managing contractors





Site development

Demonstration and early deployment are reliant on finding the right sites with the appropriate physical conditions, consents and licences to meet technology requirements. From sheltered locations to grid connected factilities, the OESA service delivery partners can help to identify and access the appropriate test sites to support the most effective early deployment of your technology.

Beyond, demonstration OESA partners may be able to facilitate site development through commercialisation services, support with site identification, stakeholder engagement and consenting.

DELIVERABLES:

- Test site access
- Site comparison
- Data analysis
- Necessary surveys for site development

PARTNERS:









Get in contact with us to learn more!

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