

DTOcean NEWSLETTER



DTOcean - **OPTIMAL DESIGN TOOLS FOR OCEAN ENERGY ARRAYS** is a European collaborative project funded by the European Commission under the 7th Framework Programme for Research and Development.

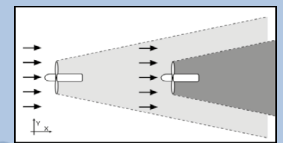
DTOcean aims to accelerate the industrial development of ocean energy power generation knowledge, and provide design tools for deploying the first generation of wave and tidal energy converter arrays. This newsletter highlights the latest DTOcean's outputs.

www.dtocean.eu

ARRAY LAYOUT

An assessment of the capabilities of available tools for the hydrodynamic analysis of ocean energy converter array layouts. Features benefits and drawbacks as regards modeling of individual devices, interactions within an array, and wave and current transformations.

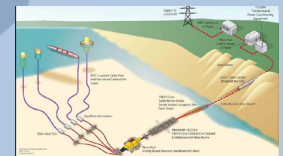
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ELECTRICAL SYSTEM ARCHITECTURE

A state-of-the-art assessment and specification of data requirements for electrical system architecture including a comprehensive review of all existing electrical infrastructure technologies as well as those foreseen to be deployed in the near future.

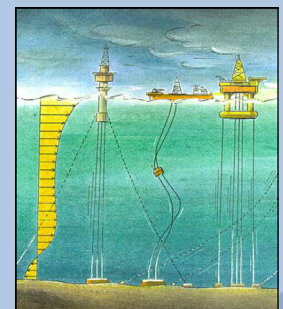
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MOORING & FOUNDATIONS

A comprehensive assessment of the applicability of available and proposed offshore mooring and foundation technologies and design tools for array applications.

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Specific requirements for Marine Renewable Energy foundation analysis.

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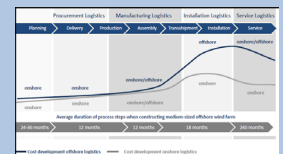
Mooring and Foundation Module Framework for DTOcean Tool.

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LIFECYCLE LOGISTICS

Methodology report and logistic model flow charts including a detailed analysis of existing external databases and tools, as well as interviews with project developers, marine contractors and wave and tidal technology developers

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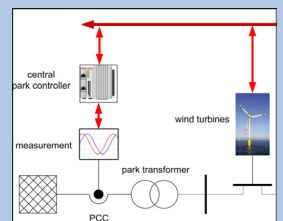
SYSTEM CONTROL & OPERATION

Best practice guidelines for offshore array monitoring and control with consideration of offshore wind and oil & gas experiences in order to assess existing array level operation, maintenance and control methods and tools.

[Access full report](#)

Evaluation according to costs, downtimes, etc. of different maintenance strategies including a selection process for the components of a wave or tidal energy device and the required parameters for the detailed description of the maintenance costs.

[Access full report](#)



DESIGN TOOL DEVELOPMENT & OPERATION

Requirements and criteria for the design and planning of ocean energy arrays including a review of existing approaches and methodologies for the analysis of ocean energy arrays and the definition of quantifiable and qualitative metrics for economic viability, reliability and environmental impact.

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