



## THE MERMAID PROJECT

The MERMAID project, consisting of a consortium of 28 partners, will develop concepts for a next generation offshore platforms for multi-use of ocean space for energy extraction, aquaculture and platform related transport. The project does not envisage building a new platform but aims at examining different concepts, such as a combination of structures or complete new structures on representative sites under different conditions. The MERMAID project aims to address the following key-questions:

- ≈ What are the best practices to develop multi-use platforms?
- ≈ What are the accumulated effects of multi-use platforms on the marine environment?
- ≈ What are the best strategies for the installation, maintenance and operation of multi-use offshore platforms?
- ≈ What is the economical and environmental feasibility of multi-use offshore platforms?



## MERMAID PARTNERS:

## GET MORE INFORMATION ABOUT THE PROJECT

Are you interested in the outcomes of the MERMAID project? Do you want to get involved as an end-user? [www.mermaidproject.eu](http://www.mermaidproject.eu)

## PROJECT COORDINATOR

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## INTRODUCTION

Increasingly, European seas and oceans are subject to the development of marine infrastructure. Massive offshore wind farms are being constructed and new prototypes for marine renewable energy extraction from tides and waves are tested in order to meet the objectives for renewable energy, set by the EU Energy Strategy and international agreements such as the Kyoto protocol. By the end of 2011, a total of 1371 turbines were installed and grid connected in European Seas, totalling 3813 MW and many more new offshore projects are under construction or in preparation. Meanwhile, offshore facilities are required to explore the vast potential of marine aquaculture in European waters and more and more offshore platforms are needed to address the demands of maritime transport.

These novel offshore activities require specific technology and governance in order to address the challenges linked with the installation, operation and maintenance of these facilities. Moreover, the development and operation of marine infrastructure unavoidably exerts environmental pressure on the oceans, threatening marine ecosystems. In this regard, it is crucial that the economic costs, use of marine space and environmental impacts of these activities remain within acceptable limits. Hence, offshore platforms that combine multiple functions within the same infrastructure offer significant benefits in terms of economics, optimizing spatial planning and reducing the impact on the environment.



## OBJECTIVES AND OUTCOMES

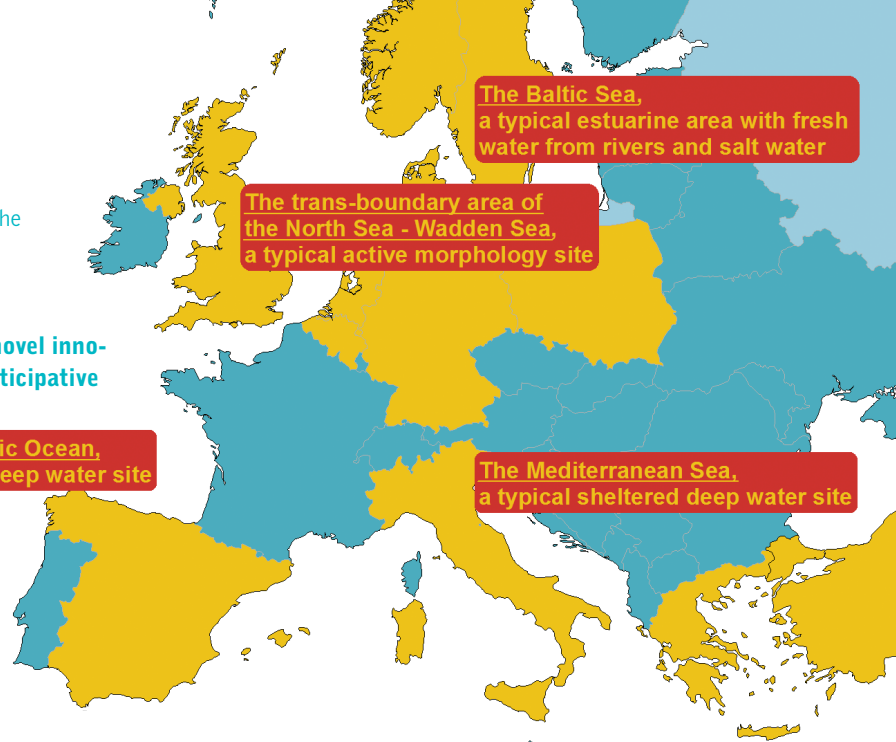
The objectives and the expected outcomes of the MERMAID project are arranged under four areas:

- ≈ **The management and development of novel innovative multi-use offshore platform (participative approach with procedures for involvement of all stakeholders; procedures to address variations in legislation and policies; guidelines for project development)**
- ≈ **Innovative technology and design (integrated concepts for marine renewable energy; offshore aquaculture technology; large scale platform design concepts)**
- ≈ **The sustainable integration of multi-use offshore platforms (Integration with stakeholders; the socio-economic viability of multi-use offshore platforms; environmental and ecological sustainability; acceptable multi-use platforms for different social groups)**
- ≈ **The integration of management, technology, social-economics and governance requirements at four contrasting test sites (research suitable for immediate use; tools, techniques and decision support systems may be applied, tested and validated)**

In the MERMAID project, four offshore test study sites with typical environmental characteristics are considered:

- ≈ **The Baltic Sea - a typical estuarine area with fresh water from rivers and salt water.**
- ≈ **The trans-boundary area of the North Sea-Wadden Sea - a typical active morphology site**
- ≈ **The Atlantic Ocean - a typical deep water site**
- ≈ **The Mediterranean Sea - a typical sheltered deep water site.**

**The Atlantic Ocean, a typical deep water site**



**The Baltic Sea, a typical estuarine area with fresh water from rivers and salt water**

**The trans-boundary area of the North Sea - Wadden Sea, a typical active morphology site**

**The Mediterranean Sea, a typical sheltered deep water site**

## THE H2OCEAN AND TROPOS PROJECTS

Simultaneously with the MERMAID project, two other EU-FP7 projects on multi-use offshore platforms are ongoing (see below). Throughout the project, dissemination of results and interaction between the three consortia will be established.

**H2Ocean** ≈ **The H2Ocean project is about about the development of a wind-wave power open-sea platform equipped for hydrogen generation with support for multiple users of energy.**  
<http://www.h2ocean-project.eu>



≈ **The Tropos project aims at developing a floating modular multi-use platform system for use in deep waters.**  
<http://www.troposplatform.eu>