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Could Multi-Use Platforms at Sea offer one solution for ocean sustainability?



Possible scenario for Multi-Use Platform at Sea

With increasing concern regarding the over-development of offshore marine infrastructures, offshore platforms, also known as Multi-Use Platforms at Sea, or MUPS, can represent a viable solution to meet these growing demands. These are the findings from ENTROPI, a European funded project which has identified specific areas of targeted innovation that could achieve significant cost reductions for the development of Multi-Use Platforms at Sea to make them more economically attractive.

The forecast massive development of offshore marine infrastructures such as wind farms, marine aquaculture farms and wave energy technologies will cause increasing pressures on the anthropogenic exploitation of the oceans and therefore needs to implemented in an integrated and sustainable way in order to limit the impacts on fragile marine ecosystems. Cost has been a major barrier to the development of multi-use facilities to date and the ENTROPI project aimed to find ways to significantly reduce these costs.

The two year ENTROPI project which was co-funded by the EU Maritime and Fisheries Fund undertook a thorough review of conceptual and existing multi-use offshore platform projects, Key Enabling Technologies that currently exist as well as the value chain opportunities for businesses. The project focused on the geographical area of the Atlantic Sea Basin where much of the existing technological capability is based. After significant research and evaluation, the project identified three areas of innovation that could significantly reduce the development costs of Multi-use platforms:



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- Anchoring and Mooring Solutions
- Security and Surveillance Applications
- A concept platform supporting renewable energy devices and aquaculture facilities

For each of these areas the project partners researched the engineering, technology, construction and operational issues in order to produce <u>Road-Maps</u> which businesses, investors, developers and users can download to quickly and easily understand the key actions, benefits and milestones for each innovation scenario.

British project partner Marine South East led the work looking at innovative anchoring and mooring solutions and concluded that the use of sub-sea helical screw pile anchors would significantly reduce the costs and installation times compared to traditional approaches. This capability would enable tethering of floating platforms at both substantially lower cost and without the need for specialist installation vessels.

Pole Mere Bretagne Atlantique, from France, researched, evaluated and identified innovative remote security and surveillance capabilities to provide efficient, low-risk protection for a variety of multi-use platforms at sea. They also propose equipping the platforms with strategic airborne and sub-sea facilities to enlarge the geographical coverage capacity further offshore and provide possible additional revenue streams.

Project partner PLOCAN, based in the Canary Islands, looked at the viability, financing and investment potential of Multi-Use platforms at sea. Their findings indicate that a concept platform that could support renewable energy devices and aquaculture facilities has the most immediate potential for development. The likely financial mix for such an investment is likely to be a combination of venture capital, private investment, government grants and commercial banks.

The project has also identified a consortium of international companies and expert partners that have the competence to contribute towards the deployment of all three scenarios, including large 'pillar companies' as well as small innovative businesses with existing expertise and experience. Relevant research centres and public funding programmes have also been highlighted to stimulate future public and private investment in the development of multi-use platforms at sea.

The project has created an online 'Interest Group' to keep businesses, stakeholders and interested parties informed of relevant news, events, projects, activities and opportunities regarding multi-use offshore platforms.

To sign up to the Interest Group please click here.

A video explaining the ENTROPI project has been prepared by project partner PLOCAN and is available to view <u>here</u>.

More information and background to the ENTROPI project can be accessed here.







Marine South East led the ENTROPI project which was co-funded by the EU Maritime and Fisheries Fund, under its Blue Technology programme; the project partners include marine and energy cluster organisations and research institutes in Ireland, Great Britain, France, Spain and Portugal:



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