

THE TROPOS PROJECT

Modular multi-use deep water offshore platform harnessing and servicing Mediterranean, subtropical and tropical marine and maritime resources

Call: FP7-OCEAN-2011

Project Duration: 3 years

Project Budget: €7 M

EC Contribution: €5 M

Project coordinated by: The Oceanic Platform of the Canary Islands - PLOCAN (Spain)

Cooperation Themes: Food, Agriculture, Fisheries and Biotechnology; Energy; Environment; Transport



Background of the TROPOS Project

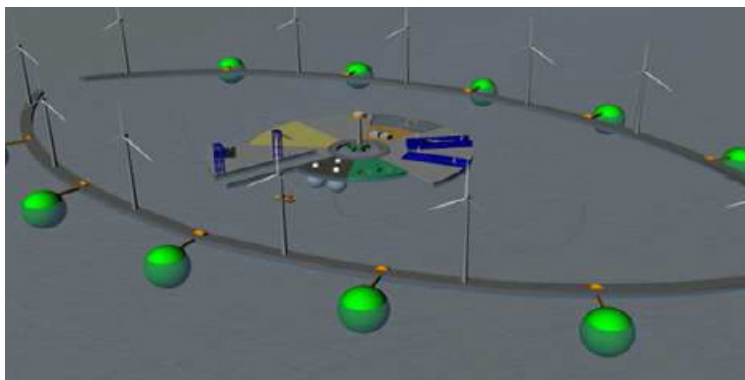
While availability of terrain on land is already limited, it is especially restricted in coastal regions. Thus, space and resources available in the oceans are attracting growing interest, for instance in the use and exploitation of energy and food resources, and in biomass production. Nevertheless, this wide range of resources should be exploited in an organised manner, in accordance with the demand and following eco-friendly principles. In this context, the need for new approaches and integrated solutions for the use of oceanic resources has become increasingly urgent.

There is a significant demand in coastal areas for finding innovative methods of production in the aquaculture sector and transportation supply. Shifting the energy supply towards renewable resources creates a high interest in improving use of resources. Finally, an integrated approach to the deployment of the oceans is critically required to prevent conflicts.

Sharing sites, infrastructures and costs in these diverse activities could therefore present a unique opportunity for improved oceanic exploitation as well as for sustainable economic growth.

Aware of this reality, the European Union has launched "The Ocean of Tomorrow" call for proposals. Through this programme, the EU has provided the scientific and entrepreneurial community with a total funding of €14-M, for up to three projects dedicated to the design of Offshore Multi-use Platforms. Selected projects – TROPOS (www.troposplatform.eu), H2OCEAN (www.h2ocean-project.eu) and MERMAID (www.mermaidproject.eu) – will be able to integrate the exploitation of various oceanic resources, in particular offshore wind, offshore aquaculture and maritime transport solutions (in relation with both offshore wind and offshore aquaculture).

The development of this Multi-use Oceanic Platforms concept has clearly become one of the EU's most interesting and ambitious projects in order to ensure the integrated, sustainable and ecological exploitation of oceanic resources. Such objectives are in complete accordance with the aim of the TROPOS Project, one of the three "The Ocean of Tomorrow" projects supported by the European Commission.



Benefits, support and resolution

The TROPOS project will contribute directly or indirectly to:

1. Increase the knowledge and efficiency regarding the exploitation of oceanic resources in Mediterranean, tropical and subtropical regions;
2. Diversify the use of marine resources, notably through improving the knowledge related to energy resources exploitation, aquaculture, transport and recreational activities;
3. Extend the sustainable exploitation of oceanic resources to low latitudes areas. These regions are much more abundant and gather a great potential of oceanic resources, even more than in high latitudes;
4. Promote the development of knowledge and appropriate technologies for the integrated, sustainable and eco-friendly exploitation of oceanic resources.

Several national and international institutions with highly relevant expertise have already expressed their support and joined the TROPOS network of advisors and stakeholders.

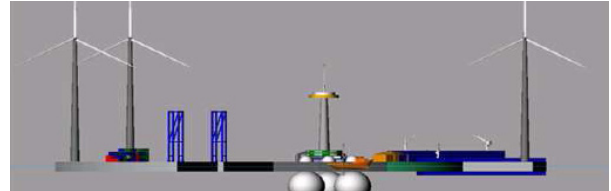


Objectives of the TROPPOS Project

1. Determining the ideal sites for the offshore platform system;
2. Exploring the links and integration of a broad range of sectors including energy, aquaculture and related maritime transport;
3. Developing an Offshore Multi-use Platform innovative design to allow the integration of these activities;
4. Studying the aspects related to logistics, security, installation, operational & maintenance requirements;
5. Considering the economic viability of the Offshore Multi-use Platform;
6. Researching the potential environmental impact of the Platform;
7. Configuring the Platform for possible use in the Mediterranean, subtropical and tropical areas.

The TROPPOS Project

To help tackle this European challenge, the Oceanic Platform of the Canary Islands (PLOCAN) considers that the creation of a **Multi-use Offshore Platform System** integrating a broad range of specific functions from different sectors, would allow to overcome the needed issues. TROPPOS is a collaborative project gathering **18 academic and industrial partners** with high expertise and extensive experience. Its main objective is the **innovative design of a modular floating platform**. The platform will be adapted to deep waters and will enable integrated exploitation of oceanic resources (including energy, aquaculture, maritime transport, recreational and oceanic observation activities), with a focus on tropical, subtropical and Mediterranean areas.



Specific impacts of the TROPPOS Project The TROPPOS Project and the EU OuterMost Regions

The EU Outermost Regions (ORs) – namely the Azores, the Canary Islands, Guadeloupe, French Guiana, Madeira, Martinique and Reunion – represent a specific geographical and economic reality due to their remote location and reduced dimensions. Indeed, contrary to the rest of the European territory, their scarce territory, limited resources and restricted market dimensions cannot be compensated

by the nearby presence of significant markets. These elements have led the ORs to consider the surrounding ocean as an outstanding location of resources and available space, which can be exploited and could strengthen both economic growth and job creation. The TROPPOS project is thus particularly interesting for the EU ORs regarding energy, aquaculture, transport and tourism sectors.

Impacts on four sectors: energy, aquaculture, tourism and transport



ENERGY

The energy sector in the ORs is characterised by the total isolation of the overall system, by a restricted supply dimension as well as by a strong dependency on a single source of non-renewable energy. In parallel, climate change will undeniably lead to an increased cost of this traditional energy production and to a growing insecurity regarding supply conditions.

Therefore, the TROPPOS platform concept foresees the analysis of synergies, limits and economic viability related to the integration of different technologies developed for offshore wind, ocean thermal, tidal current, solar and wave energies exploitation.



TRANSPORT

Marine transportation provides increasing critical services to society ranging from building commercial and leisure ships, shipping goods and fuel around the world to servicing offshore structures. Currently, 80 to 90% of all goods imported and exported by Europe are transported by sea.

The exploitation of maritime transportation activities and service-driven infrastructures will be integrated to the TROPPOS platform.

The project will notably explore potential synergistic and limiting factors regarding the exploitation of the TROPPOS platform as an offshore port and as a basis of logistic services.



AQUACULTURE

Aquaculture is the fastest growing economic sector in the food industry (FAO, 2009). To reduce fishing pressure on the oceans and supply the increasing demand, aquaculture producers will have to double their production in the coming years. This need is driving producers to move from coastal areas to offshore waters, such evolution involving important technological challenges.

The TROPPOS concept, focused on the integrated exploitation of resources, will provide offshore aquaculture with significant synergies for energy exploitation, cages protection, mooring, logistics and transport.



TOURISM

The tourism industry generates more than 10% of EU's GDP and represents 12% of the total employment. ORs and the EU Mediterranean area are regions of intense touristic pressure on their coastlines, and there is a constant demand of space for the development of new activities.

Used as a service-driven platform for nautical and tourist activities, the TROPPOS concept is an innovative approach to the space problem concerning these areas, through contributing to reduce the pressure on coastal regions while creating new business and offshore tourist attraction opportunities.



The TROPPOS Project

Project cofinanced by the European Commission under the Seventh Framework Programme

www.troposplatform.eu