

Modular multi-use offshore platform for harnessing efficiently medium potential ocean resources



POLITÉCNICA



INABENSA



THALES
INSTRUMENTS



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PROPOSAL CONCEPT

- ✓ Multiuse Oceanic Platform: Wind and wave energy + aquaculture + transportation
- ✓ Design for Atlantic sites to operate efficiently in areas where the marine energy resources offer a medium-low potential
- ✓ Modular approach, a core with operational modules
- ✓ Sustainable and eco-friendly
- ✓ Applicability to outermost regions

WORKPACKAGES:

WP1: Management, strategy and coordination

- Management, quality, dissemination

WP2: Application scope

- Requirements, site selection, assessment of energy resources: wind, waves, solar, meteorological and oceanographic conditions, ocean bottom types, interactions with other activities: fishing, recreation, etc., feasibility, bottlenecks and critical factors for the development of the activities outlined in the draft, socio-economic aspects, market research

WP3: Integrated utilization of ocean resources

- Integration of applications: efficiency, requirements, coupling technologies
- Use of renewable energy in the aquaculture activities and in the platform itself: seawater desalination, etc.
- Test-bed for the development of new technologies: infrastructure and services facilities
- *Energy*: Integration of renewable energy in the platform for own consumption: wind, waves, currents, solar, etc.; Platform as a central hub connecting devices to transfer power to land
- *Aquaculture*: new materials and designs for cages; compatibility with existing equipment for handling, breeding, growth, etc. to implement it in a multi-purpose platform; Integration of technical information for the selection of suitable locations
- Navigation, communications between the platform and land, facilities for mooring and supply, offshore terminal, instrumentation and control: autonomous and remote

WP4: Design and new technologies

- Study of existing concepts: shape, dimensions, materials, etc

WP5: Exploitation

- Operation, dismantling, maintenance, security
- Design of tools necessary to ensure the safety of the platform and associated activities: terrestrial and marine observing systems, auxiliary boats (dinghies...), operational protocols, etc.

WP6: Economic viability and societal benefits

- Cost study for the building, operation and dismantling phases; added value for other users; market research; comparison with non multi-purpose platforms (specific aspect mentioned in the call

WP7: Environmental assessment

- Identification of potential environmental impacts that may occur during the building, operation and dismantling of the platform, establishment of environmental indicators to quantify impacts; proposal for corrective and/or mitigation measures for the different phases; proposal of an environmental monitoring program; comparison with non multi-purpose platforms

PARTNERSHIP

Confirmed partners

- PLOCAN (**Spain**) - Coordinator
- U. Bremen/MARUM (**Germany**)
- Runde Environmental Center – Aquaculture, marine energy (**Norway**)
- INABENSA (**Spain**) – Ocean energies, Installations
- Universidad Politécnica de Madrid / Navales (**Spain**)
- Thales Instruments (**Germany**)

Received support or agreement of principle from

- Fraunhofer Gesellschaft, Wind Energy and Energy System Technology (**Germany**)
- Marine Institute – EIA, Smart sensing, Aquaculture, Renewables, Market research (**Ireland**)
- NIVA (Resource, Environmental Impact) (**Norway**)
- EATIP (European Aquaculture Technology & Innovation Platform) (**EU**)

Contacts made with

- **France** (aquaculture & marine renewables)
- **Italy** (off-shore technologies)

Searching PARTNERS in:

- Off-shore aquaculture (complementing regional capacities)
- Off-shore construction industry
- Maritime supply chain
- SMEs in off-shore renewables, aquaculture, related transport maritime services