Description of Funded Research Projects
1st Call for H.F.R.I. Research Projects to support Post-Doctoral Researchers

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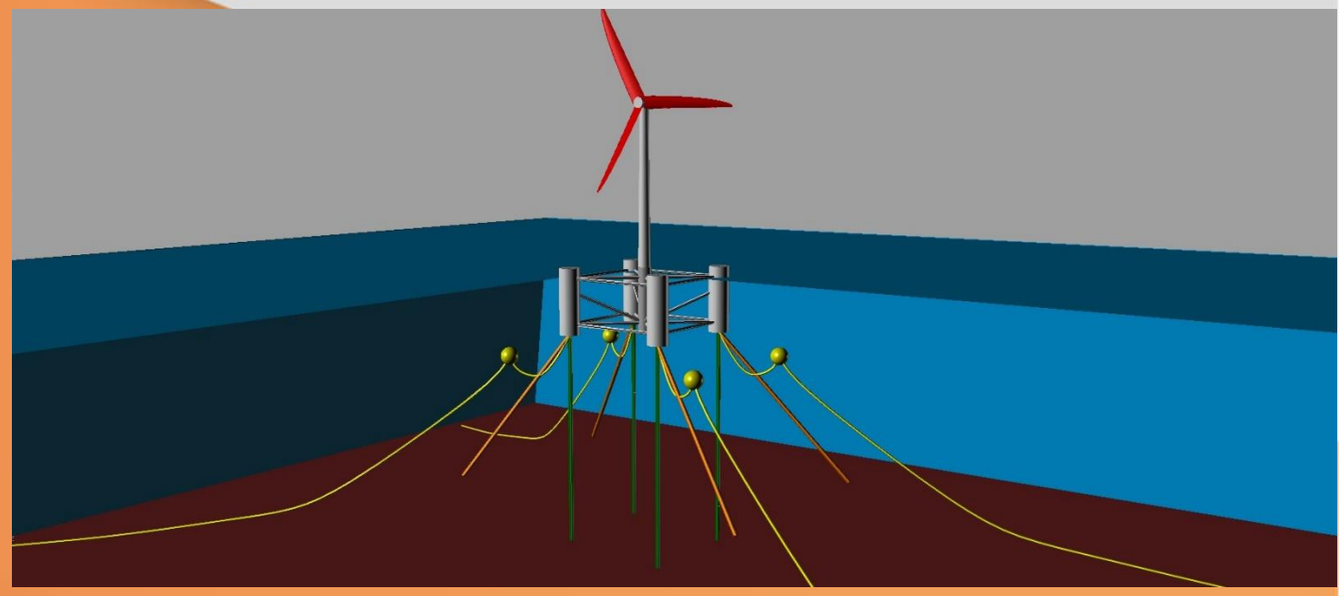
Research Project Title:

Floating Hybrid Mooring Wind Turbine Energy System (Acronym: FHMES)

Principal Investigator:

Thomas P. Mazarakos



Popular Title:

Floating Hybrid Mooring Wind Turbine Energy System

Scientific Field:

Engineering and Technology Sciences

Host Institution:

National Technical University of Athens (NTUA)

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FHMES (Floating Hybrid Mooring Wind Turbine Energy System) is a contemporary project, aiming at the development and design of a moored steel platform, suitable for offshore wind energy resource exploitation. It involves an interdisciplinary collaboration, which covers all aspects of FHMES platform analysis and design, validated through scaled-down hydrodynamic testing.

The purpose of the FHMES project is the design of an offshore floating platform suitable for supporting a wind turbine (WT) in the Mediterranean Sea area, for given extreme and operational environmental conditions at selected locations. The examined platform will be equipped with a 10 MW WT. FHMES proposal also investigates possible mooring systems arrangements of the floating offshore WT.

Project Impact on Society

The project results and, in particular, the developed final design of the FHMES (Floating Hybrid Mooring Wind Turbine Energy System) platform can be used by designers, contractors and end users. Furthermore, the analytical and numerical results, covering a wide spectrum of offshore and structural engineering will be presented in a concise document, to support the final design as a background document.

The common practice and tool obtained from FHMES project will ensure a shared approach to the design and manufacturing high-quality structural components, for the use of steel in the wind energy sector. Finally, the FHMES proposal results and deliverables can be used for wind-energy efficiency comparison between several installation locations, i.e. in the Mediterranean Sea, for optimum site installation.

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Funding

Amount: **150,050 €**

Duration: **36 months**

Foundation: **H.F.R.I.**

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