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CEHINAV

UPM Model Basin Research Group

Portfolio Highlights

CEHINAV facilities

- Model basin; Length: 100m; Width: 3.8m; Depth: 2.2 m
- Towing carriage: Max. Speed: 4 m/s
- Unidirectional Wave Generator
(deep water conditions, $T \leq 1.7s$, $H \leq 0.35m$, $\lambda \leq 4.5m$)
- Linear actuator for damping and added masses measurement
- Optical tracking tools for motion recording - OptiTrack
- Milling facilities, 5 axis.
- Models up to 500kg (L x 2.03 x 1.40 m)
- Antiroll tank Lab

Contact:

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CEHINAV Services

- Model construction and instrumentation
- Towing tests: resistance, propulsion & streamlines
- Wave (seakeeping) tests
- Decay tests
- Open water tests
- Antiroll tank design, test and modeling
- Advanced management of risk in ports



Cap de Barbaría	
Vessel type	Ferry
Shipyard	Armon, Spain
Shipowner	Balearia
Year	2022
Length / Breadth	80.76 m / 15.53 m
Tests at CEHINAV	-Resistance -Seakeeping





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Monteraiola	
Vessel type	Tuna Vessel
Shipyard	Cintranaval Defcar , Spain
Shipowner	Calvopesca
Year	2021
Length / Breadth	77 m / 16.65 m
Tests at CEHINAV	-Antiroll tank (design, testing & sea trials)





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Ponta Matirre	
Vessel type	Trawler
Shipyard	Armón, Spain
Shipowner	Pescanova
Year	2020
Length / Breadth	32,115 m / 8,513 m
Tests at CEHINAV	-Resistance





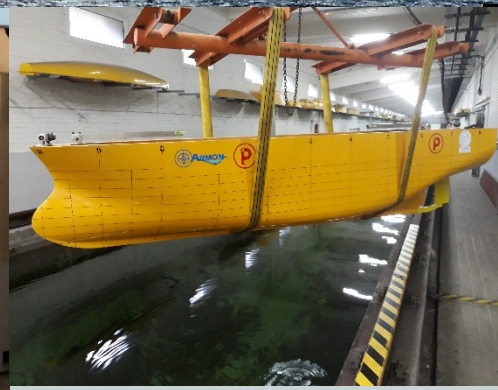
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Lalandii I

Vessel type	Trawler
Shipyard	Armón, Spain
Shipowner	Pescanova
Year	2019
Length / Breadth	49,65 m / 11,00 m
Tests at CEHINAV	-Resistance





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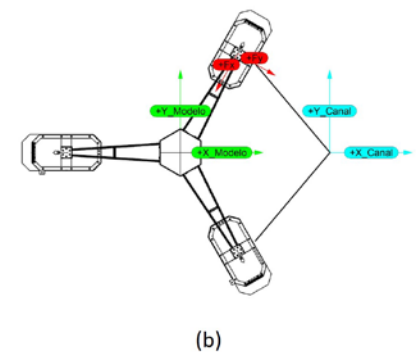
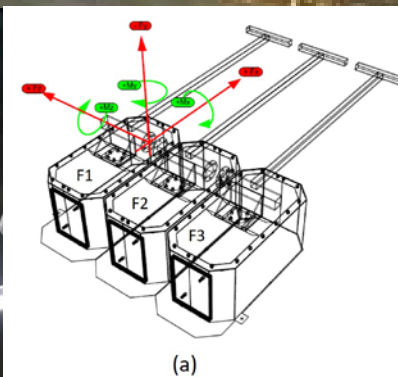
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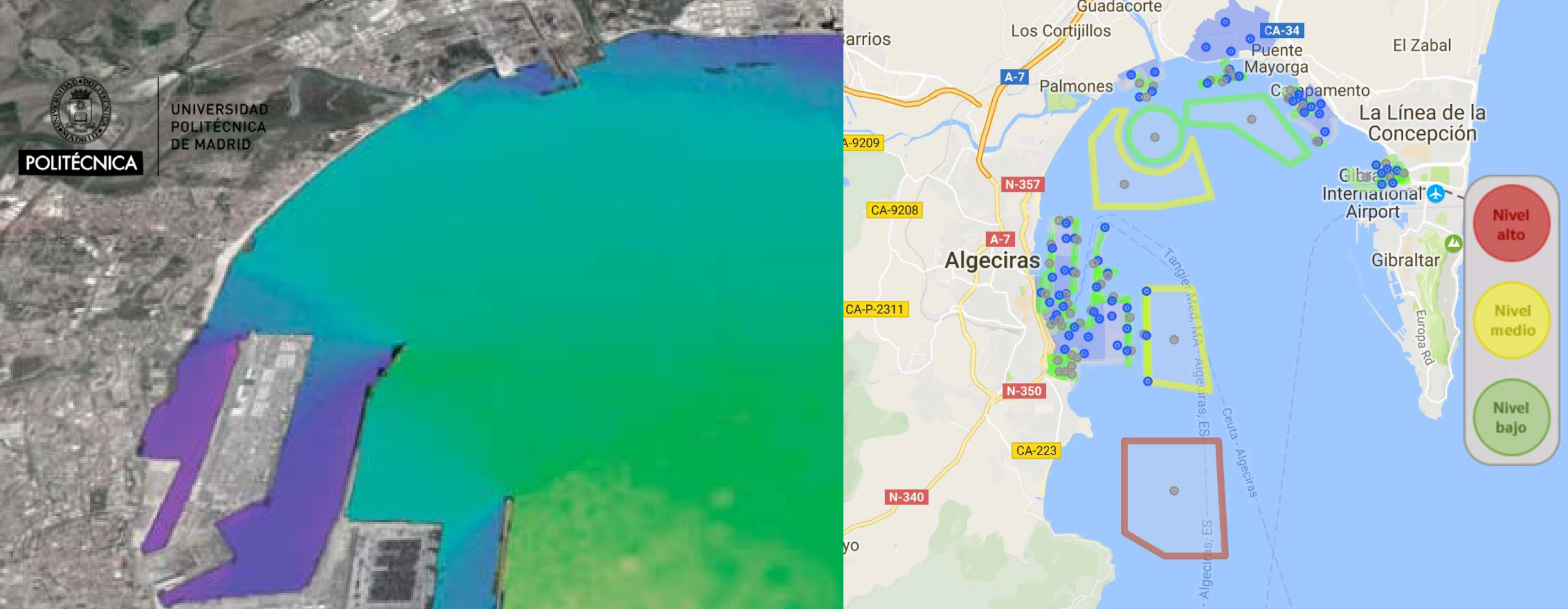
ESTEYCO 



Floating system for offshore wind turbine prototype

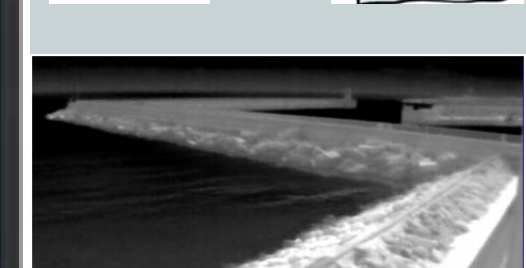
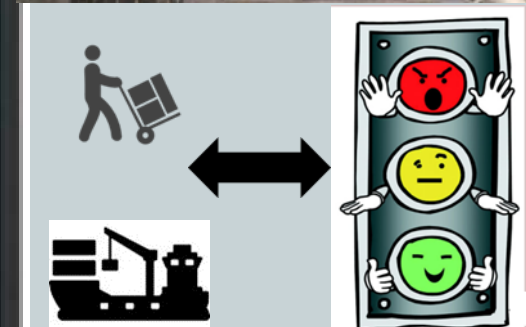
Design	Esteyco, Spain
Installation site	Canary Islands, Spain
Year	2018
Tests at CEHINAV	-Resistance (calm water & waves) -Added Resistance -Decay





SafePORT: Advanced management of ocean- meteorological risks in ports

Project summary / objectives	Improve the management of ocean-meteorological risks in port environments so that the port players can operate and develop its activity in a more secure, efficient and sustainable manner.
Client	Algeciras Port
Year	2018, 2019
Project outputs / deliverables	- Measurement network expanded and supported with real time data acquisition. - Historical series (1979-2014) homogeneous in time and space. Wave, wind, sea level in the Strait and Algeciras Port. - Wind, wave and agitation prediction system in the OAs of the Algeciras Port. - Web application- environmental dashboard that includes: Maritime Climate Atlas, operational Risk Prediction Model. - Warning system for overflow in Tarifa Port and Wave Atlas generated by vessels



SAMOA REBASE	
Project summary / objetivos	Scientific-technical advice in the acquisition, installation and commissioning of a monitoring system and measuring phenomena of overflow in ports and its integration into the table of environmental controls of the Spanish public ports.
Client	IHC: Institute of Environmental Hydraulics of Cantabria University
Year	2018, 2019
Project outputs / deliverables	- Advice to the Port Authorities for the selection, installation and commissioning of an artificial vision systems oriented to overflow monitoring. - Integration of a vision capture and image processing artificial system installed in each authority port. - Development of a front-end adapted to each authority port (web-GIS tool integrated in the Environmental Scorecard (CMA) of the “Puertos del Estado” entity. - that allows checking parameters and overshoot alerts that help the different Authorities Port or port operator in decision making.



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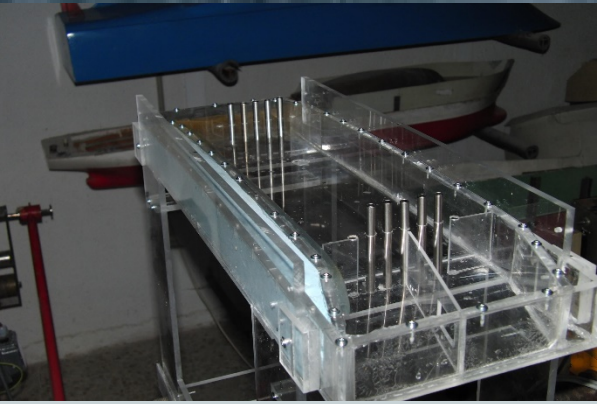
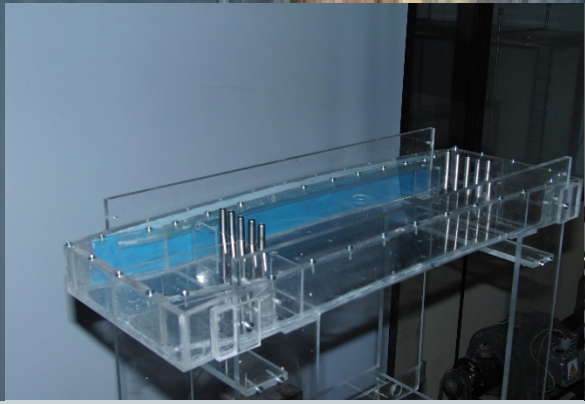
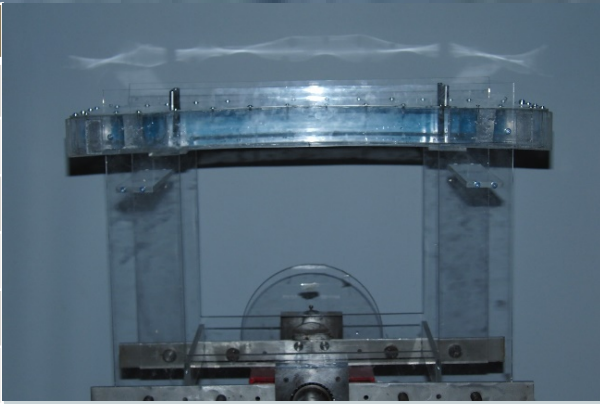
Vessel model calibration for port dock modeling

Vessel type	Bulkcarrier
Client	Universidade Da Coruña (UDC)
Year	2018
Length / Breadth	19355 m / 32,24 m
Tests at CEHINAV	-Model restore -Decay





Antarctic Endeavour	
Vessel type	Fishing vessel
Shipyards	Deris, Chile
Shipowner	Deris, Chile
Year	2017
Length / Breadth	73,50 m / 13,00 m
Tests at CEHINAV	-Antiroll tank (design, testing & sea trials)





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Grampian Freedom

Vessel type	Multi-role Emergency Response and Rescue Vessel
Shipyard	Balenciaga, Spain
Shipowner	North Star Shipping, UK
Year	2016
Length / Breadth	59,20 m / 13,20 m
Tests at CEHINAV	-Antiroll tank (design, testing & sea trials)





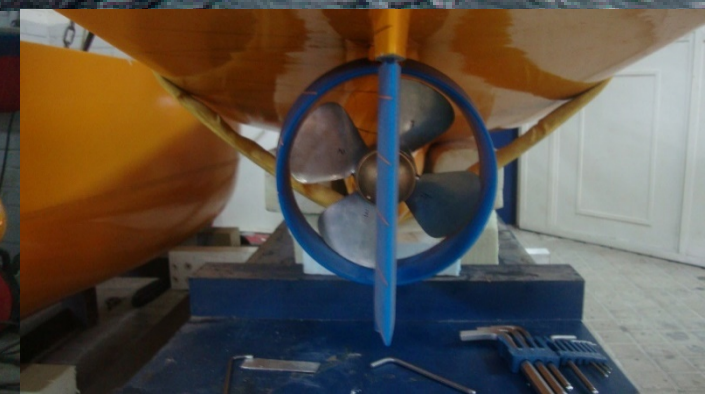
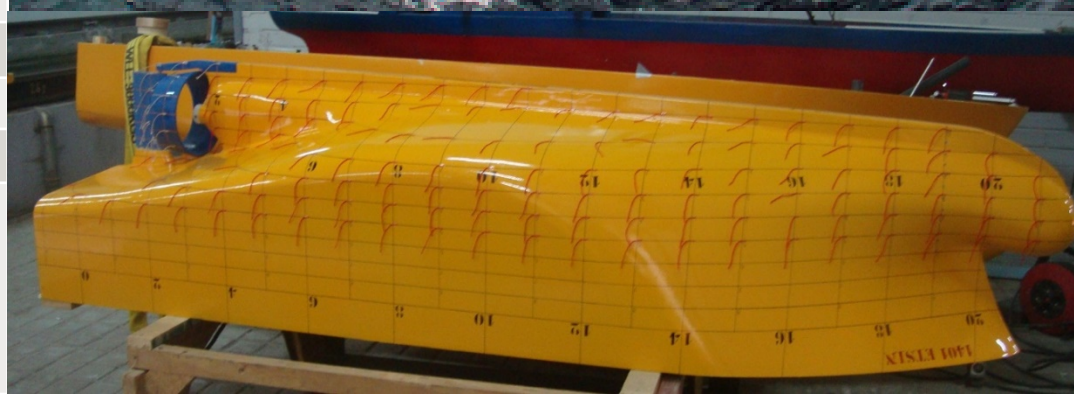
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Jean Pierre Le Roch

Vessel type	Trawler
Shipyard	Armón, Spain
Shipowner	Scapeche, France
Year	2015
Length / Breadth	41,70 m / 11,00 m
Tests at CEHINAV	-Resistance -Open water -Selfpropulsion -Streamlines -Antiroll tank (design, testing & sea trials)





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BIPO Inapesca

Vessel type	Oceanographic
Shipyard	Armón, Spain
Shipowner	Inapesca, México
Year	2014
Length / Breadth	58,65 m / 13,00 m
Tests at CEHINAV	-Resistance -Streamlines





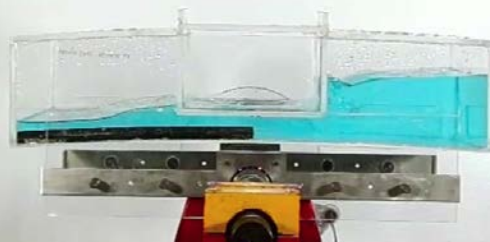
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Gijón

Vessel type	Tuna Vessel
Shipyard	Armón, Spain
Shipowner	Martuna, México
Year	2014
Length / Breadth	79,50 m / 13,65 m
Tests at CEHINAV	-Resistance -Open water -Selfpropulsion -Streamlines -Antiroll tank (design, testing & sea trials)





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Mapinduzi II

Vessel type	Ferry
Shipyard	POSCO PlanTEC (South Korea). (Engineering: SENER, Spain)
Shipowner	Zanzibar Government.
Year	2014
Length / Breadth	90,00 m / 17,00 m
Tests at CEHINAV	-Resistance -Streamlines





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**Gravity based foundations for
wind farms meteorological towers**

Design	DRACE-TYPSA, Spain
Installation site	Moray Firth & Inch Cape (UK)
Year	2013 - 2014
Tests at CEHINAV	Resistance (calm water & waves)





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Mestre Simao

Vessel type	Ferry
Shipyard	Armón, Spain
Shipowner	Atlantiline, Portugal
Year	2013
Length / Breadth	40 m / 10,75 m
Tests at CEHINAV	-Resistance -Open water -Selfpropulsion -Seakeeping -Streamlines





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Cerro

Vessel type	Tugboat
Shipyard	Armón, Spain
Shipowner	Autoridad Canal de Panamá
Year	2013
Length / Breadth	28,90 m / 13,50 m
Tests at CEHINAV	-Resistance -Manoeuvring (captive) -Streamlines

