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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<=1.7s, H<=0.35m, λ<=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

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

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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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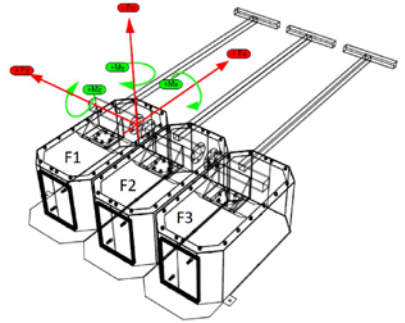
ESTEYCO

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



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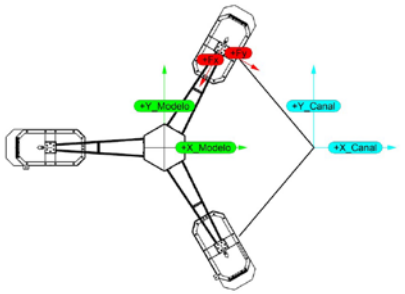

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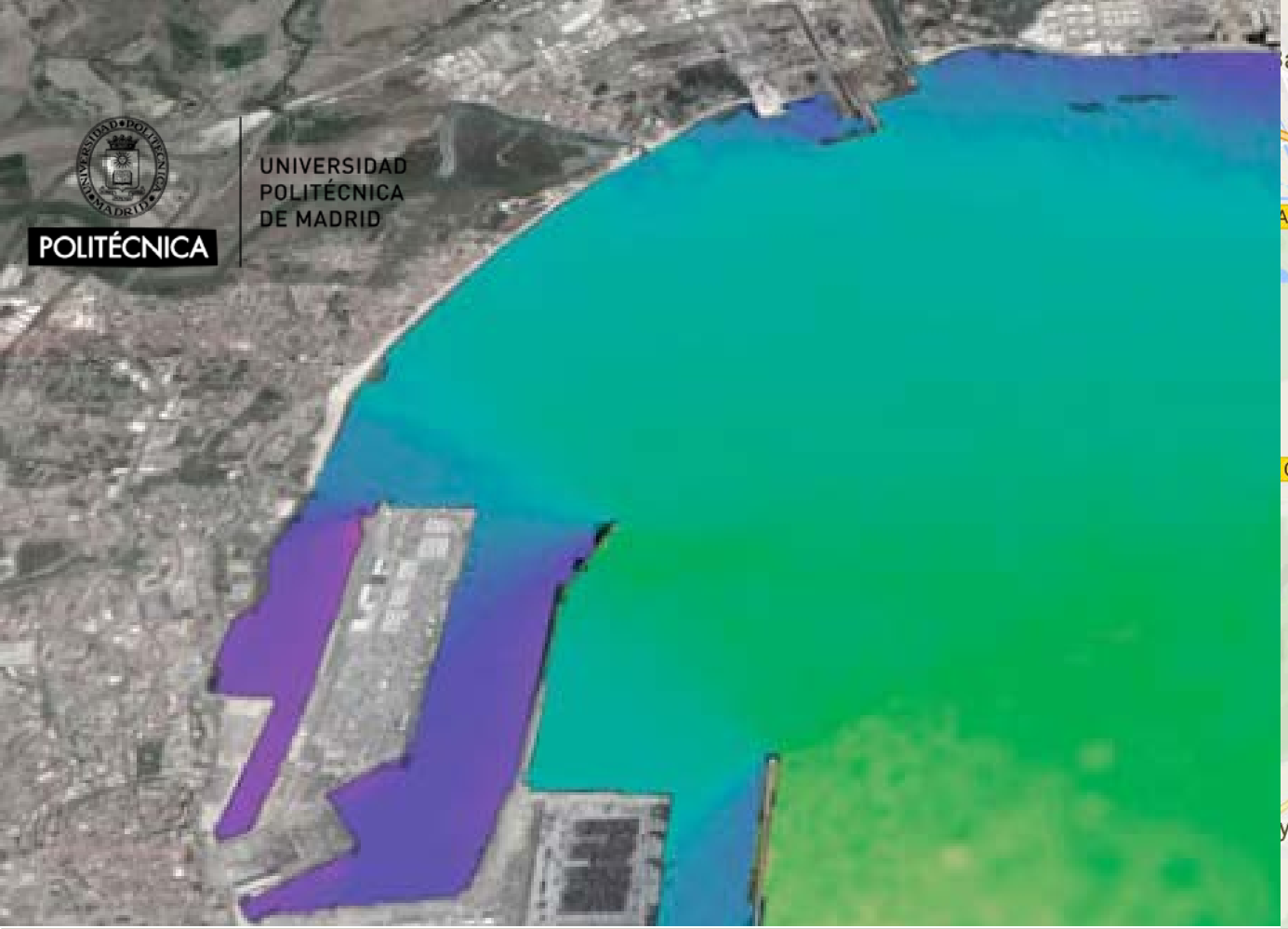
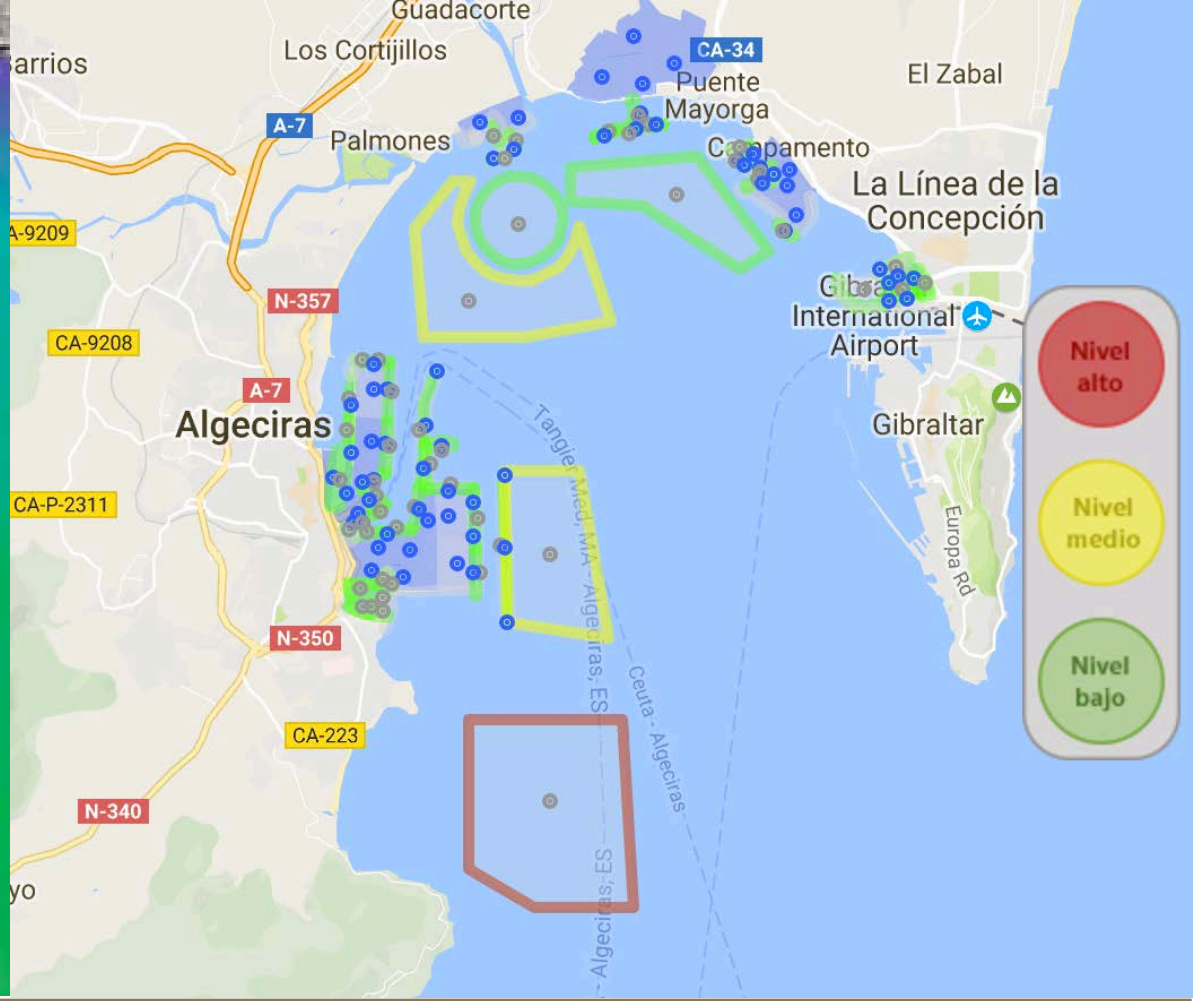
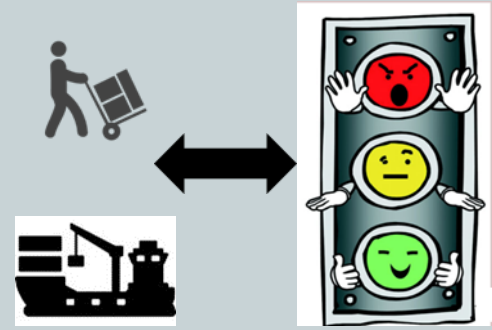
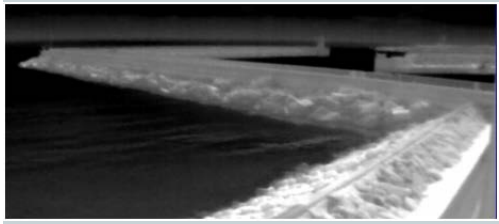




SafePORT: Advanced management of ocean- meteorological risks in ports

Project summary / objetives	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 OAIs 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 / objetives	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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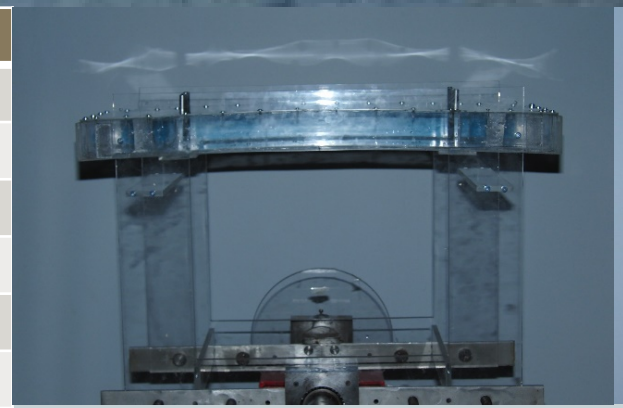
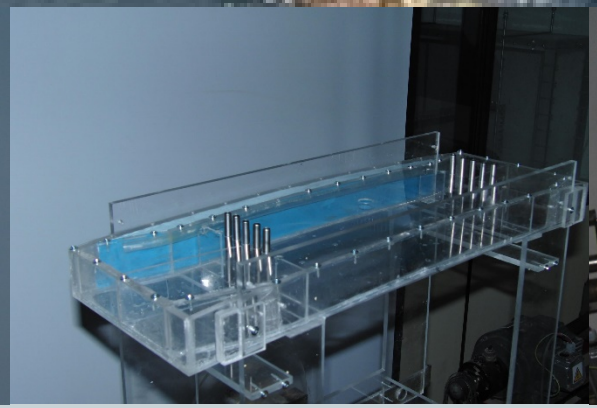
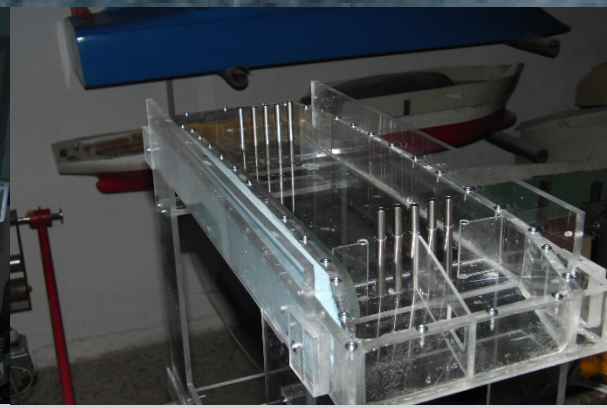
Vessel model calibration for port dock modeling	
Vessel type	Bulkcarrier
Client	Universidade Da Coruña (UDC)
Year	2018
Length / Breadth	19355 m / 32,24 m
Tests at CEHINAV	-Model restore -Decay

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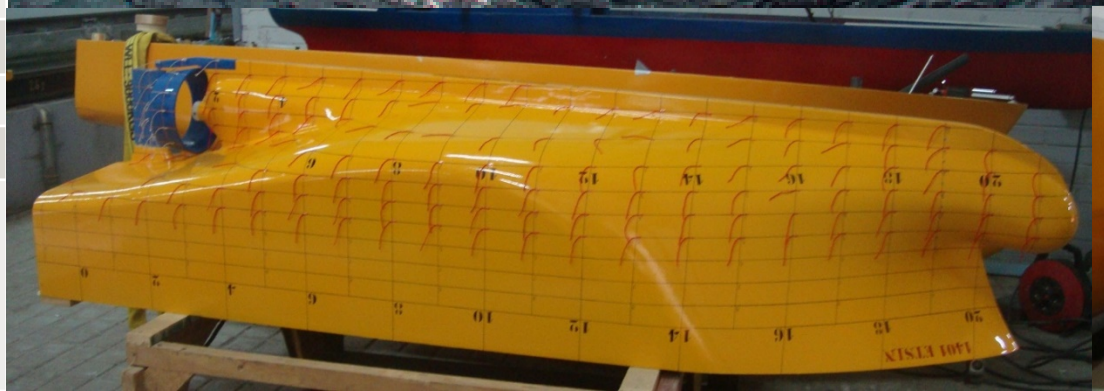
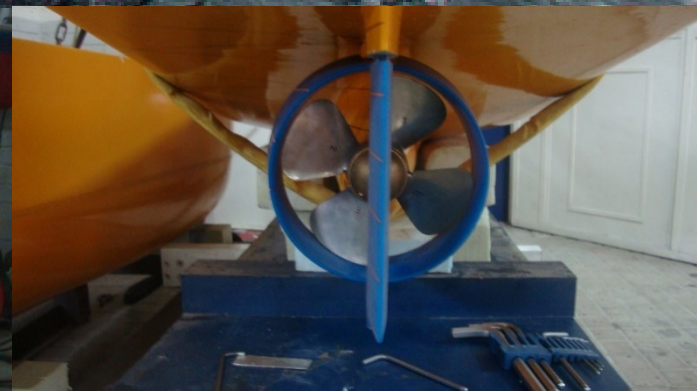
Jean Pierre Le Roch	
Vessel type	Trawler
Shipyard	Armón, Spain
Shipowner	Scapeche, France
Year	2015
Length / Breadth	41,70 m / 11,00 m
Tests at CEHINAV	-Resistance -Open water -Selfpropulsion -Streamlines -Antiroll tank (design, testing & sea trials)





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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	Atlanticoline, 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