Group discussion on future of ITTC
Point of view of towing tank research institute

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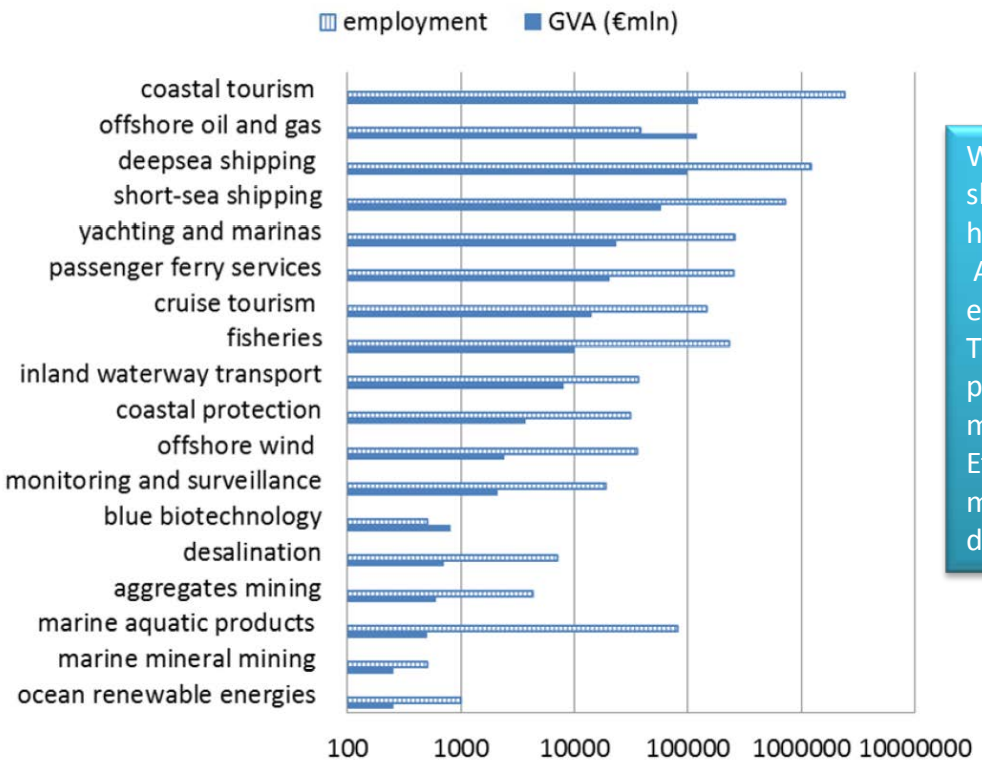
From *Green* to *Blue* Economy



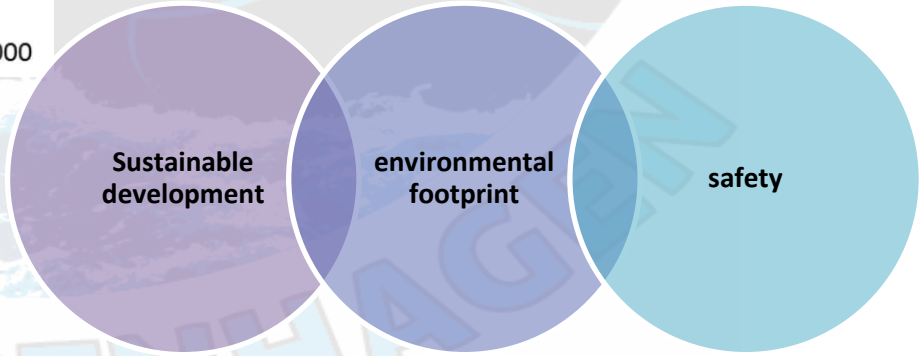
Data for Europe based on the Blue Growth Study 'Scenarios and drivers for sustainable growth from the oceans, seas and coasts', ECORYS, 2012. https://webgate.ec.europa.eu/maritimeforum/content/2946

We need to prepare for technological progress, demographic shifts, increasing scarcity of natural resources and growth in hitherto underdeveloped economies.

A number of traditional activities will remain significant employers, while emerging sectors will provide new jobs.

The blue economy needs to be sustainable and to respect potential environmental concerns given the fragile nature of the marine environment.

Efforts are needed to reduce negative environmental impacts of maritime activities such as the emissions of pollutants and the discharge of noxious substances.



From *Green* to *Blue* Economy

Marine Transport Targets

Figure 2: Guiding objectives 2050

		GUIDING OBJECTIVES 2050	
Towards Zero Accidents	Pre-incident prevention	All Vessels	• Collision / grounding avoidance (-30%) • Fire avoidance (-15%) • Structural breakdown avoidance (-10%) • Adverse conditions avoidance (-20%)
	During-incident prevention	Cargo	• Cargo loss avoidance (-50%) • Damage stability (-20%) • Fire resistance (variable)
		Passengers	• Damage stability (-80%) • Fire resistance (-25%)
		Complex	• Cargo loss avoidance (-50%) • Damage stability (-20%)
		All Vessels	• Structural damage resilience (-20%) • Excessive motions and accelerations (-30%)
	Post-incident prevention	Complex	• Environmental damage (-50%)
		All Vessels	• Inability to return to port (-50%) • Casualties (-80%)
The Eco-Efficient Vessel	Emission Reduction CO_2, NOx, SOx	All Vessels	CO_2: >80% NOx: ≈100% SOx: ≈100%
	Noise Reduction	All Vessels	Decibels: -10

From Vessels for the Future initiative

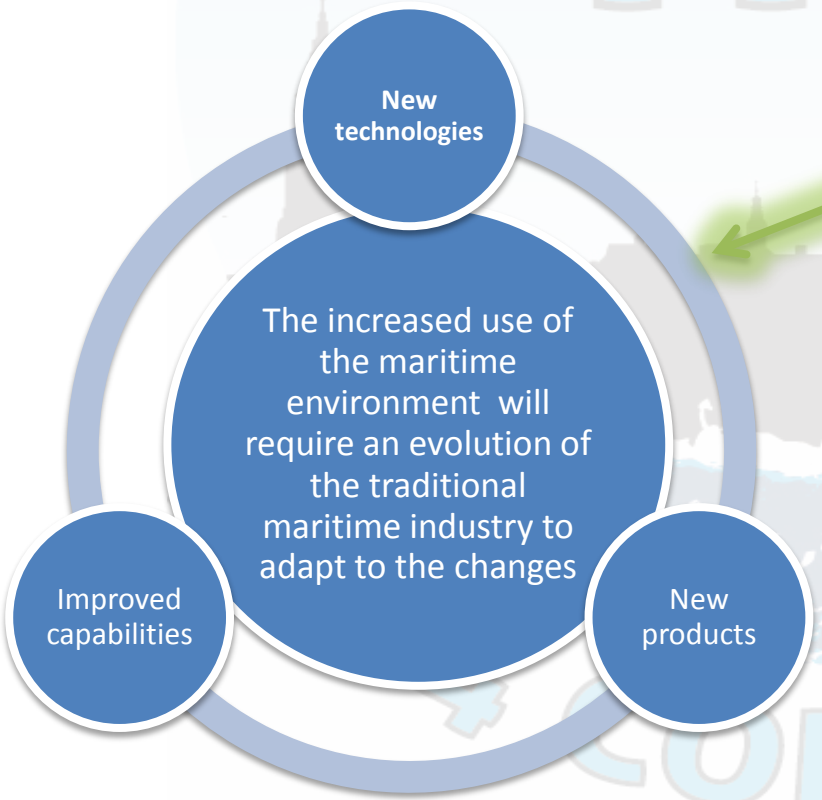
From *Green* to *Blue* Economy

Sustainable development

Environmental footprint

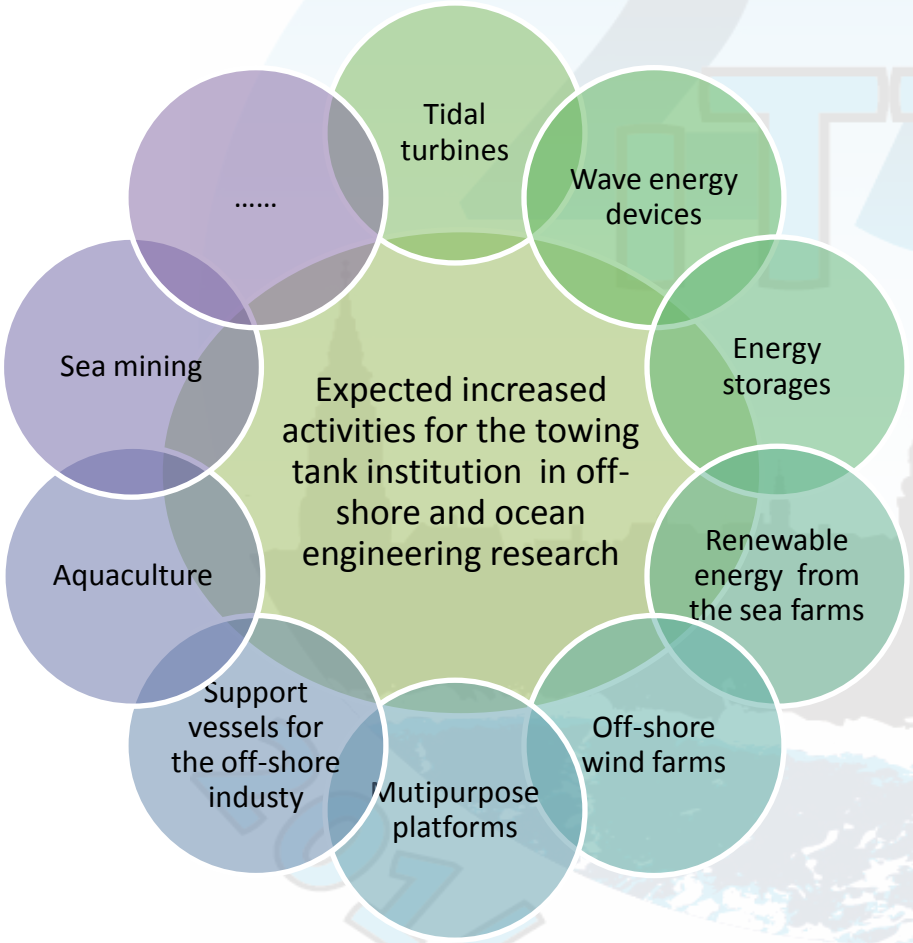
Safety

The future research and innovation will be oriented on food security, clean energy, green transport, climate action and resource efficiency, as well as cross-thematic marine and maritime research.



What will be the role of towing tank Institutions in this process?

Ocean Engineering



Towing Tank Research Institution has to enlarge the mission in the next future because:

They have the technology(facilities, computational tools, know-how) to deal with maritime problems. (whoever ?)

Towing tank customers are changing business plans

Research funding "*moved*" from naval to maritime sector

Future role of ITTC

- Is it the actual ITTC organization reflecting the evolution of the Towing Tank Institutions for the next industrial maritime needs?
- Actual ITTC Committee organization it is "*vessel/naval*" oriented even if a general Ocean Engineering Committee has been settled since 24th ITTC conference and cooperation with ISSC is under discussion.
- Actual role in promoting research is very passive and is oriented in producing guidelines and procedures from assessed technology (Research Observatory)
- Takes up to 10 years for an hot topic in research to become an hot topic for the ITTC Technical Committees
- Ability in promoting benchmark is good, nevertheless timing is too slow