ENTROPI

Enabling Technologies and Roadmaps for Offshore Platform Innovation

Maria Looney

maria.looney@nmci.ie

Co-funded by the EMFF programme of the European Union

Halpin Overview

HALPIN
Centre for Research & Innovation at NMCI
Ionad um Thaighde agus Nuálaíocht ag NMCI

- HALPIN is the research and innovation pillar of the National Maritime College of Ireland (**NMCI**)
- NMCI is a constituent College of the Cork Institute of Technology **(CIT)** and a partnership with the Irish Naval Service (**INS**)
- HALPIN is the *maritime* research and innovation activity for CIT
- Through the NMCI partnership, HALPIN undertakes research and innovation activities for the INS.

farnet
fisheries areas network

ENTROPI Overview and Objectives

The ENTROPI project addressed the challenge of marine activities moving further offshore by exploring:

1. How integration of multiple uses on a single platform could bring economies of scale;
2. How innovation in key cost centres could make such platforms commercially viable.

Multi Use Platforms at Sea

- Increasing demand for offshore infrastructure:
  - To exploit energy resources
  - To expand aquaculture capacity
  - To move risks from coastal infrastructure
  - Minimise impacts on coastal ecosystems

- Two strategic priorities:
  - Integrate activities to ensure ocean sustainability
  - Raise capacity for planning, designing, building, installing and operating large, offshore facilities

ENTROPI Video

Experience to date

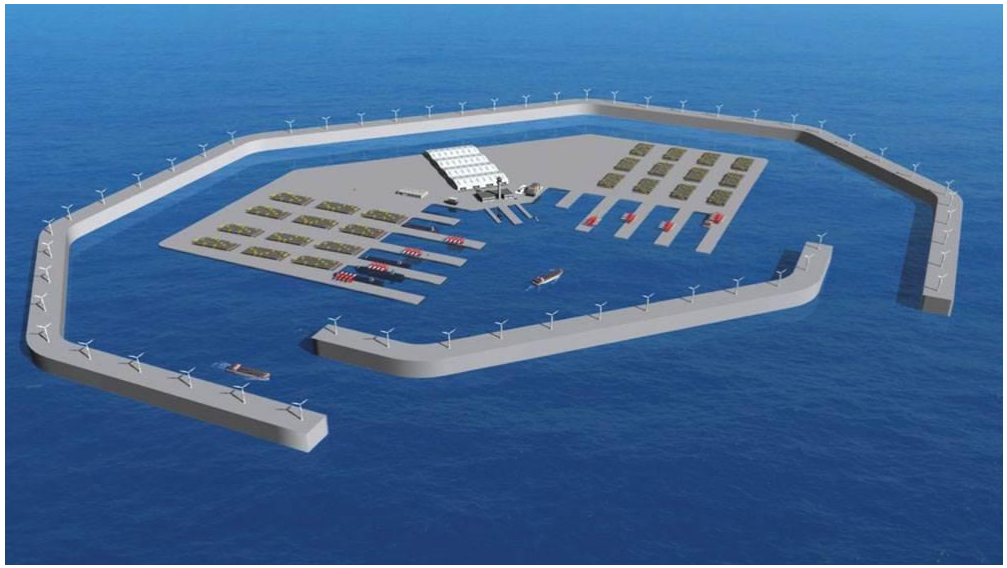
- Large floating infrastructure projects can be economically viable:
  - If the revenue potential is high; or,
  - Alternatives are more costly
- Cost-effectiveness is a major challenge.
  - Increase the revenue potential via multi-use
  - Reduce costs along the value-chain
  - Target ‘early adopters’ where alternative options are limited

Cost Reduction

- Invest in Key Enabling Technologies
  - Anchors and moorings
  - Concepts optimised for installation
  - Autonomous operations
  - Etc
- Exploit economies of scale
  - Multiple application markets
  - Modular designs
    - High-volume fabrication
    - In standard yards

Early Adopters

- Locations which lack infrastructure but need facilities, e.g.
  - Electricity
  - Cruise tourism terminal
  - Sustainable aquaculture
- Tow-in pre-fabricated floating facilities
  - Use highly efficient fabrication
  - Minimise lead-in time



Increase Revenue Potential

- Monetise multiple benefits of MUPS
  - Share platform costs over multiple revenue streams
- Exploit fundamental platform capabilities
  - Shelter on leeward side for aquaculture, marine operations etc
  - Remote from population
  - Deepwater access for ultra large vessels
  - Energy storage in large submerged volume
- Explore new business models
  - Landlord/tenant
  - Power by the hour
  - Public/private

Conclusions

- Large floating infrastructure has key roles to play:
  - Exploiting ocean resources sustainably
  - Minimising hazards (terrorism, accidents)
  - Overcoming coastal congestion
  - Resilience to sea-level rise
- Need smart ideas to make floating infrastructure economically viable:
  - Multiple-uses
  - Economies of scale
  - Novel business models
- Progress depends on collaboration:
  - Tap expertise and experience, avoid duplication
  - Align policy goals
  - Share costs & optimise market access

To be kept informed of the ENTROPI project and other upcoming multi-use of space projects please visit offshoreplatforms.eu and join our Interest Group.

Thank you !

follow us on

The content and views expressed in this presentation are those of the author(s) and not those of the European Commission.