

The WATERBORNE^{TP} BLUE GROWTH WORKING GROUP

The Community of Maritime Engineering and Technologies to support
the Development of Industrial Activities at Sea

SCALABLE - MODULAR - LARGE SCALE
FLOATING OFFSHORE PLATFORMS



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Chair of the WATERBORNE
BLUE GROWTH working group
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sea THE FUTURE

● Oceans are planet's future

- The galloping world economy is reaching an alarming stage
- Oceans are recognised to be the only way to fulfil mankind's growing needs for food, energy, water, organic or mineral resources, etc.
- We are entering a new era, with the need to support Europe's economical and industrial development at sea, in a sustainable and secure way, respecting potential environment concerns
- This is similar to the space odyssey in the second half of the 20th century (Sea the Outer Space)

● The European Commission has launched the “Blue Growth Initiative”

- to harness the untapped potential of Europe's oceans, seas and coasts, for jobs and growth in the maritime sector.



sea THE FUTURE

- This is a **MAJOR OPPORTUNITY** for the **European maritime industry**, and more particularly for the **shipbuilding industry & equipment business**

- At the time men were only passing through oceans to link from A to B, maritime transport and ships were a logical primary focus for the maritime industry. Since then, Oceans have started to be more than waterways (e.g. oil&gas)
- Oceans are now, and will become more and more a place to do things that were not possible on shore, a place for human activity, a place to live.

renewable energies
deep sea mining fish farming desalination biofuel
cruise tourism shipping biotechnologies fisheries
yachting & marinas aquaculture aggregate mining
offshore oil & gas pharmaceutical offshore hubs
maritime security

Our Job →

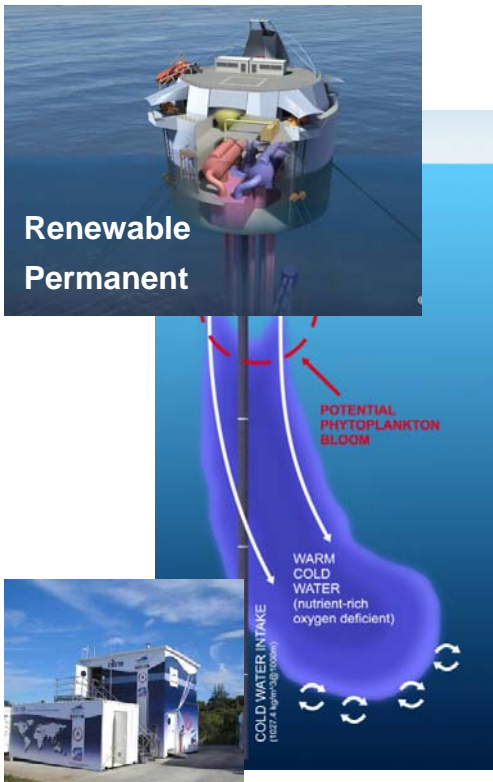
To provide whoever wants to do business at sea with the *systems, products, tooling, equipment, engineering, technology,* which they need to do it.

Formerly, just ships, now much more !



The nearest opportunity : Renewable Marine Energy...

OTEC



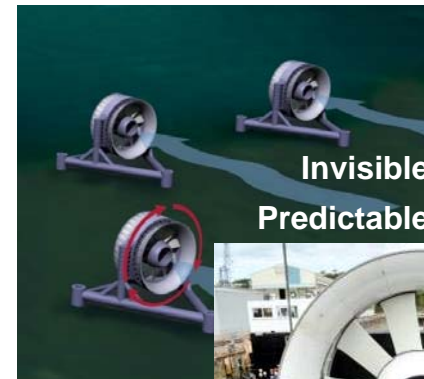
Floating Wind Turbines



Wave Energy



Tidal



... and beyond : Seaborne and Subsea Industrial Activities

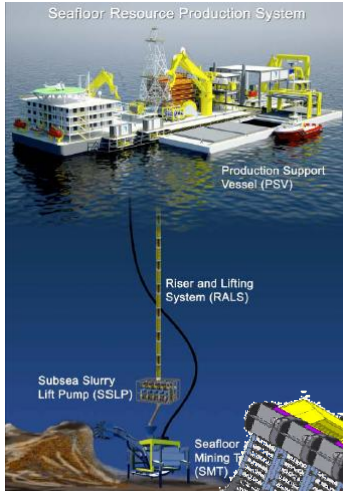
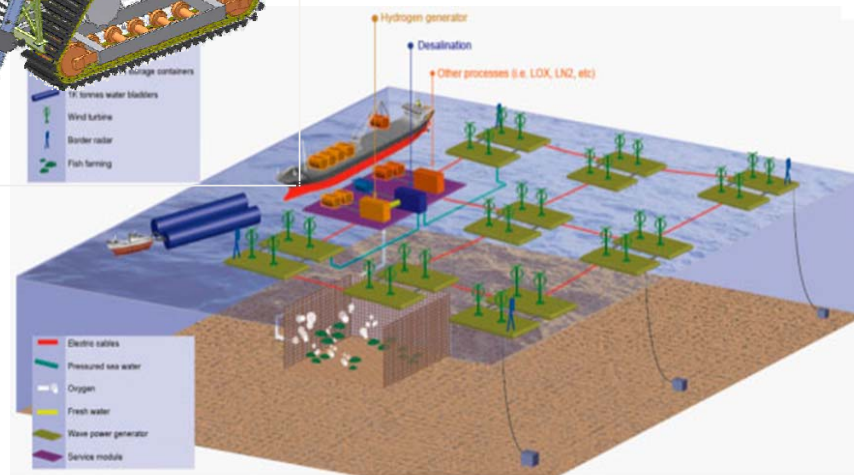
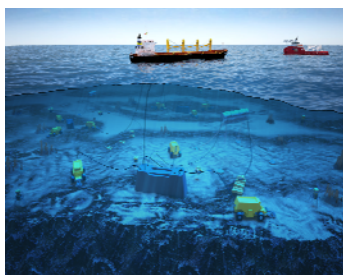
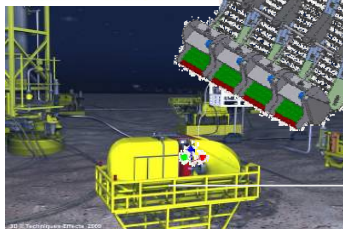


Figure 19-5: Seafloor Resources



H2OCEAN CONCEPT (©Copyright 2011 by VirtualPIE Ltd)



European 7th Framework and Horizon 2020 programmes



- 2013 – FP7 – The European Commission has launched 3 parallel projects on Multi-use Offshore Platforms



18 partners



19 partners



29 partners

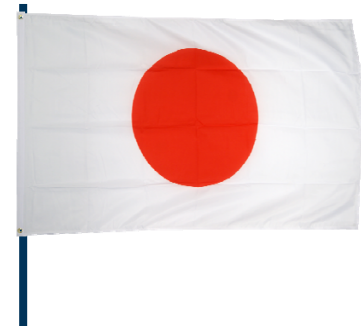
- 2015 – HORIZON 2020 – the MARIBE Coordination & Support Action (Marine Investment for the Blue Economy) .



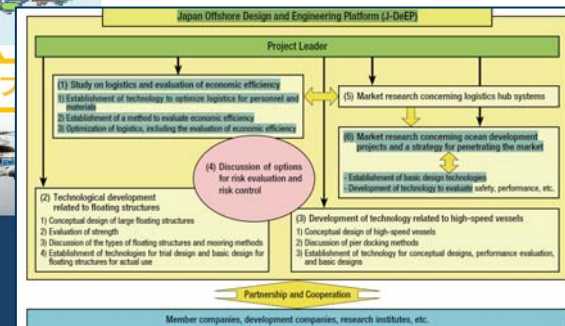
J-DeEP : Japan Offshore Design & Engineering Platform

NEWS : JAPAN TO BUILD “MEGA-PLATFORM” OFF BRAZIL COAST

THE JAPANESE GOVERNMENT AND A CONSORTIUM OF BUSINESSES ARE PLANNING TO BUILD A GIANT FLOATING STRUCTURE OFF THE COAST OF BRAZIL WHICH WILL ACCOMMODATE 200 WORKERS FROM OIL AND GAS PLATFORMS.



1. Setting policy targets and development of laws (political initiative);
2. Building a foundation (government initiatives supported by the private sector);
3. Fostering projects for commercialization through applied use (private-public partnerships);
4. Encouraging commercialization and reinforcement of international competitiveness (private initiatives supported by the public sector).



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Blue Growth V

ロジスティック・ハブ方式のイメージ

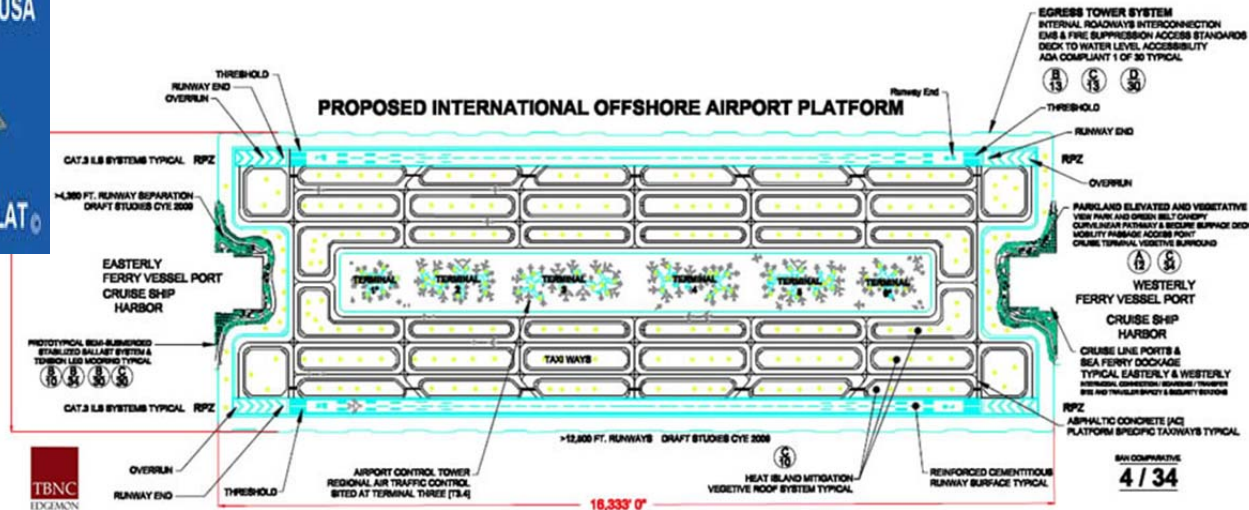


San Diego Floating Airport



TBNC envisions an ocean-based multi-dimensional and multi-purpose infrastructure facility, 250 hectares, permanently-moored by 400m depth approximately 10 miles offshore San Diego within the Southern California Bight.

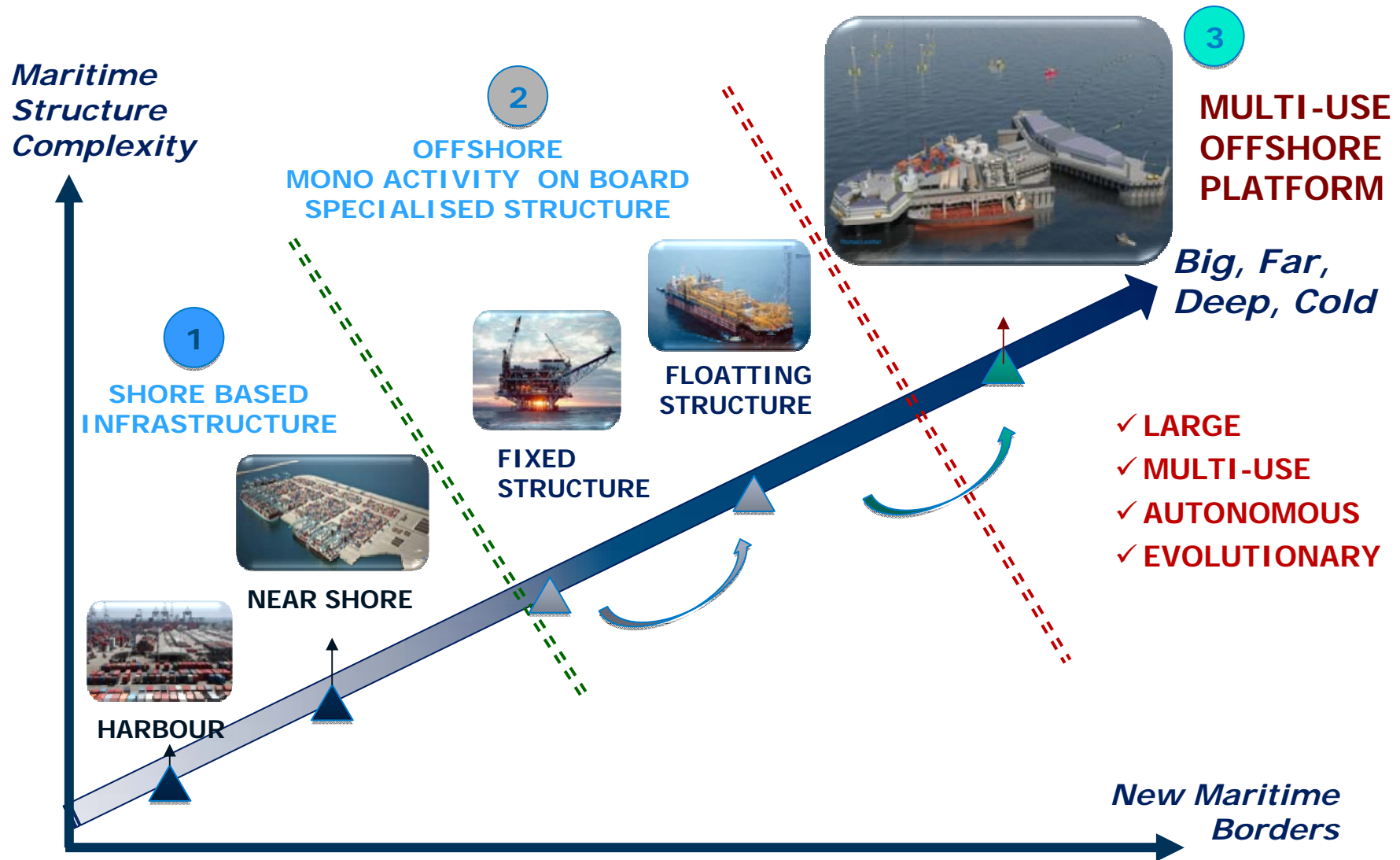
This project will solve the air transportation and water challenges that California is facing today. It is in alignment with California's long term plan to protect the ocean while developing needed infrastructure and alternative energies.



REPRESENTATIONAL AIR TRAFFIC CONTROL PROCEDURES AT SAN DIEGO INTERNATIONAL AIRPORT [SDIA]



OFFSHORE INDUSTRIAL ACTIVITIES - TREND



There is a Need for Innovation to overcome current limitations

MARITIMISATION of SHORE BASED INDUSTRIAL STRUCTURES, MONO-ACTIVITY, WITH DIMENSIONS MITIGATED BY THE CAPACITY OF BUILDING SITES



BREAKTHROUGH INNOVATION :

- ✓ LARGE
- ✓ SCALABLE
- ✓ MODULAR
- ✓ SELF SUFFICIENT

MULTI-USE OFFSHORE PLATFORMS



- Bring together CIVIL & MARITIME ENGINEERING
Steel & fiber reinforced concrete building culture
- Bring together MARINE SCIENCE & MARITIME ENGINEERING,

CONCRETE BASED - EXISTING ACHIEVEMENT



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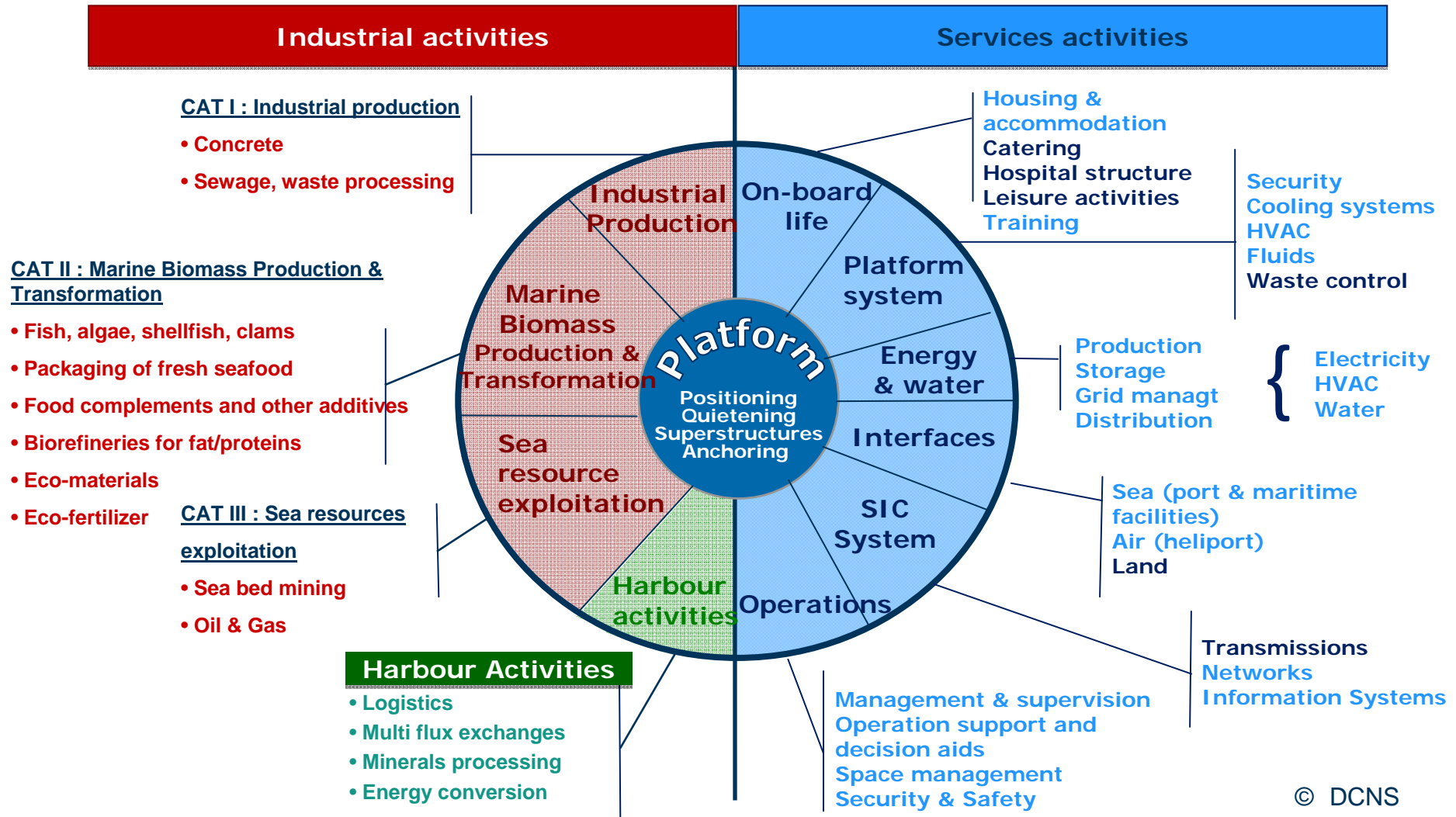
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Integrated Industrial Activities ...

... embedded in one Eco-System ...

... with Standardized Support Functions.



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SEA IMPERIUM - SCALABLE AND MODULAR FLOATING OFFSHORE PLATFORM



● Offshore Quarantine / Custom / Safe Zone

- integration of safety/security authorities with non intrusive inspection systems,
- Before suspicious cargo enters protected areas,
- Saving harbour space for commercial docking

● Safe

- to guarantee the development of maritime industrial activities in the best conditions

● Cost-efficient

- compared to onshore solutions, or offshore reduced scale mono activity

● Sustainable

- integration of an innovative circular economy approach, fulfilling environmental and societal requirements

- 5 hectares of industrial space
- 2 x 200m docking spots
- 10,000m² office space, accommodation, storage, etc.
- 30MW energy production
- Integrated information and communication systems



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