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**SEA FUTURE** STRATEGIC SPONSOR  
SUPERFUTURA **FINCANTIERI**

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**GREEN&BLUE**  
INNOVATION HUB

## **“Towards a Net-Zero ShipBuilding Industry”**

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## Blue Economy

- A blue economy will focus on looking after the water environment.
- It includes the ocean, rivers, lagoons, waterways and its inhabitants.
- Numerous activities.



## Green Economy

- A green economy focus on land's natural resources and make sure they are abundant and cater to the needs of the human population.
- The issue is that the 'blue economy' is central to the green ecosystem.
- Oceans influence all natural cycles and are also directly or indirectly involved with all economic sectors.

## Blue vs. Green Economy

<b>Aquaculture</b> 	<b>Biotechnology</b> 	<b>Desalination</b> 	<b>Fishing</b> 	<b>Agriculture &amp; Food</b> 	<b>Automobiles</b> 	<b>Biotechnology</b> 	<b>Construction &amp; Engineering</b> 
<b>Extractive Industries</b> 	<b>Plastic Pollution</b> 	<b>Maritime Insurance</b> 	<b>Maritime Transport</b> 	<b>Defense &amp; Aerospace</b> 	<b>Emission Reduction</b> 	<b>Forestry &amp; Paper Products</b> 	<b>Fashion &amp; Textiles</b> 
<b>Renewable Energy</b> 	<b>Ships, Boats, &amp; Submersibles</b> 	<b>Tourism</b> 	<b>Water Treatment</b> 	<b>Mining &amp; Minerals</b> 	<b>Nature Conservancy</b> 	<b>Renewable Energy</b> 	<b>Waste Management</b> 

Source: Institute for Sustainable Development



## Shipyards

- Sites where ships are built and repaired.
- Throughout the years the objective has been to optimise operations to streamline the production line, to implement lean logistics strategies to improve efficiency.
- Numerous polluting activities that are necessary but that destroy the surrounding ecosystem



## Shipyards

- However, shipyards are at a crossroad like all the shipping industry.
- If the maritime industry is to become net-zero carbon, then the net-zero approach must start from the beginning of a ship's life cycle.
- So, the question is

**“How to Create Net-zero Carbon Shipyards?”**



## Net-Zero Carbon Shipyards

- Look into the activities that produce all types of pollution and wastes.
- Define processes that produce same activities but in a more friendly way.
- In an extreme situation this could lead to a shipbuilding regulatory framework similar to the **Hong Kong International Convention for the safe and environmentally sound recycling of ships.**

**Can This be Feasible?**



## Net-Zero Carbon Shipyards

- Measures that can be implemented on an individual basis.
  - Onsite renewable energy generation
    - Currently a shipyard uses three sources energy: grid electricity, diesel and acetylene (a hydrocarbon).
    - The alternative could be a mix of solar (photovoltaic) panels and wind turbines or the use of cleaner fuels.
  - Better waste management of shipyard activities.
    - Shipyard recycling policies - ISO 14000 is an environmental management system.

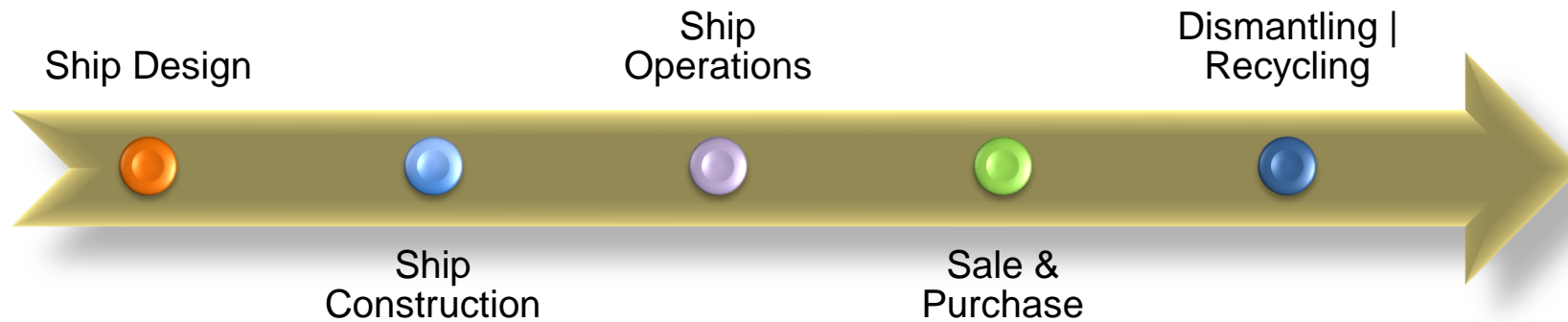




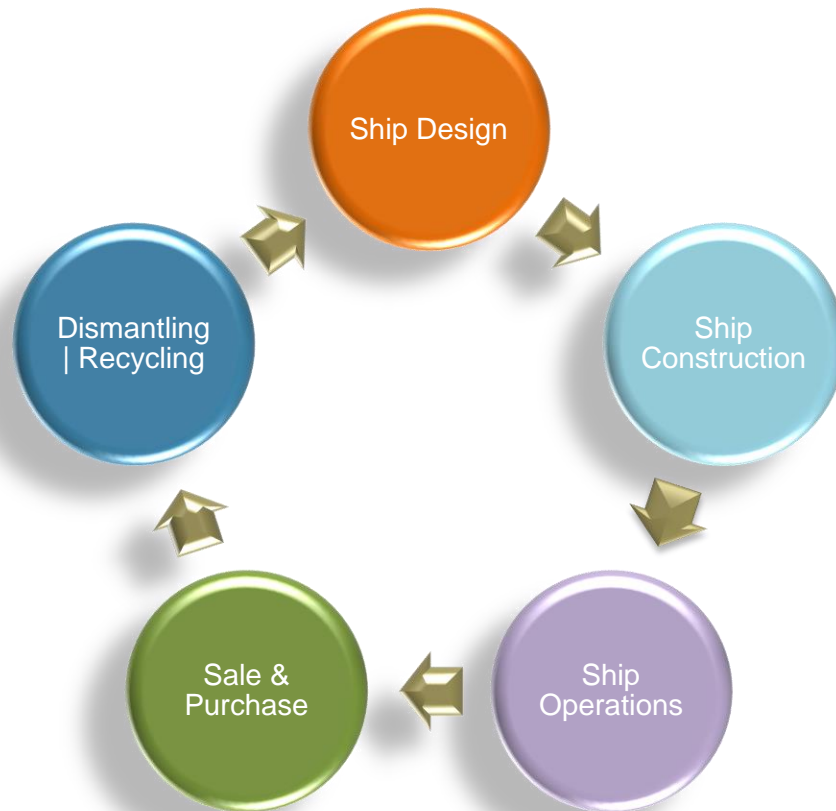
## Net-Zero Carbon Shipyards

- Measures that can be implemented on an individual basis.
  - Use environmentally friendly materials
    - Green steel vs blue steel
    - Composite materials | Fibre-reinforced plastics | Bio-based fibre composites
  - Managing change, Managing people
  - Environmental, Social and Governance

## Shipping Industry Life-Cycle



## Shipping Industry Life-Cycle – The Circular Economy



See the maritime industry as a whole process and not as the sum of parts.

Only then it is possible to look at the value chains and create clusters dedicated to meet the circular economy objectives!



## Orange Economy | Creative Economy

- The Orange Economy as defined by John Howkins, includes all the sectors whose goods and services are based on intellectual property:
  - advertising, architecture, crafts, design, fashion, film, games and toys, music, publishing, **research and development**, **coding**, **entrepreneurship**, TV and radio, and videogames, and visual and performing arts.

**Are shipyards ready to be part of the Orange Economy?**



**Thank you for your attention!**

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