



G7 Transport Academic Workshop

Enabling a maritime transport ecosystem to face global challenges

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Politecnico di Milano, Bovisa Campus, Milan (Italy)

Fincantieri: a leading global shipbuilding Group with widespread international presence

Global Production to address geopolitical macro trends

18 Shipyards In 4 Continents

Leadership & Scale in the 3 Core Businesses

- Cruise
- Naval
- Offshore

DIGITAL ENABLING TECHNOLOGIES
MARINE SYSTEMS AND COMPONENTS

- **Leading player in Shipbuilding** with a strong competitive positioning thanks to **technology, innovation and best-in-class execution**
- Growth led by organic diversification, global production capacity and wide client base

- 7.7 bn revenues¹**
- 34.8 bn total backlog²**
- +21,000 employees**
52% in Italy

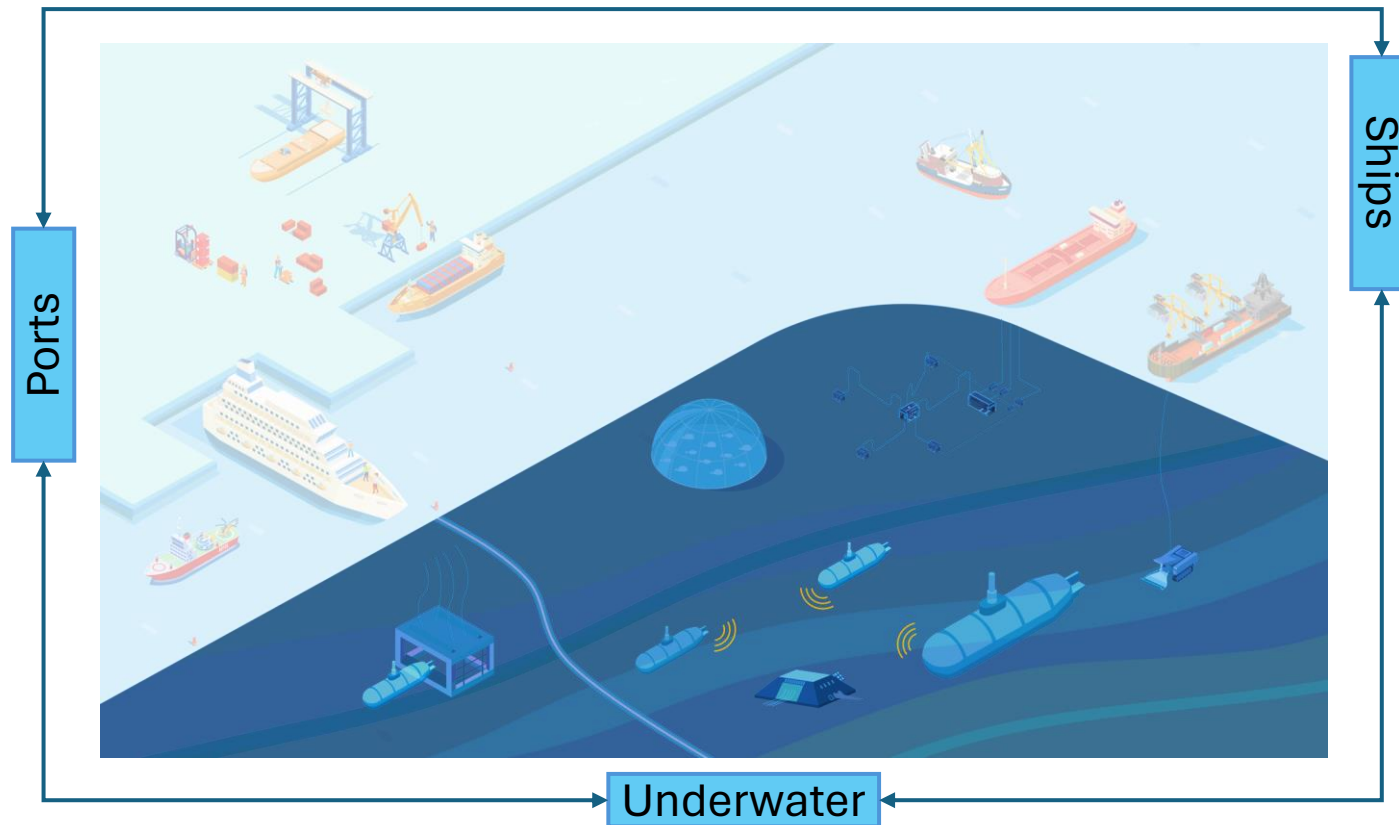
Current business outlook underpins potential to accelerate growth and global market share

- Cruise market rebounding after Covid-crisis**
- Military market in a different global context**
- Offshore market driven by wind power sector**
- Growth and volatility in commodity and energy costs**
- Sector with strong push for ESG and decarbonization**

Acceleration driver

Strategic role of the Underwater segment

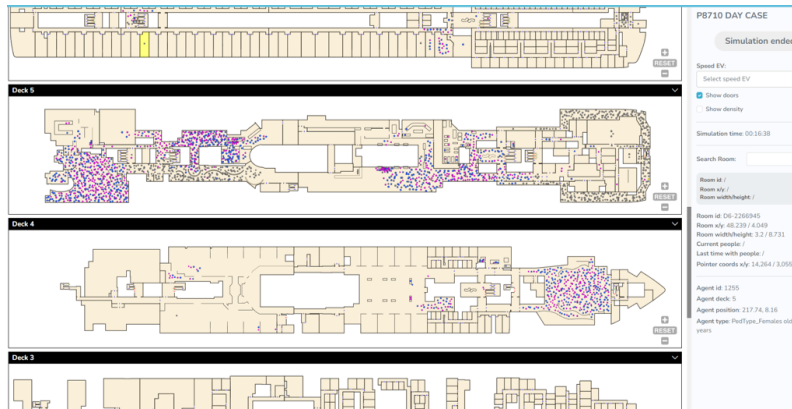
Maritime transport ecosystem: three interconnected and resilient domains



- Current **socio-economic, geopolitical and technological challenges** as well as the twin **energy and digital transition** are having a **significant impact** on the maritime transport
- Boost for the **transformation of the sector**
- **Ships, ports** and the **underwater** environment are three domains of the maritime transport ecosystem which are **closely interconnected**
- **Eco-sustainable design** of ships that takes into account the technological evolutions and the increasing focus on sustainability and energy transition issues
- Therefore, such cascade effects foster a **coordinated transformation of the overall ecosystem**

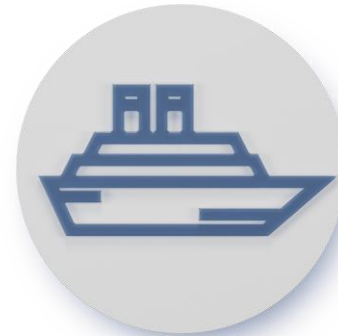
Ship domain

SAFETY



- Specialized evacuation and fire propagation studies
 - Main vertical zones
 - Active fire protection
 - Passive fire protection
- Increased level of safeguarding of passengers and crew from a health perspective
 - List of actions
 - Safe air

CYBERSECURITY



SYSTEM OF SYSTEMS

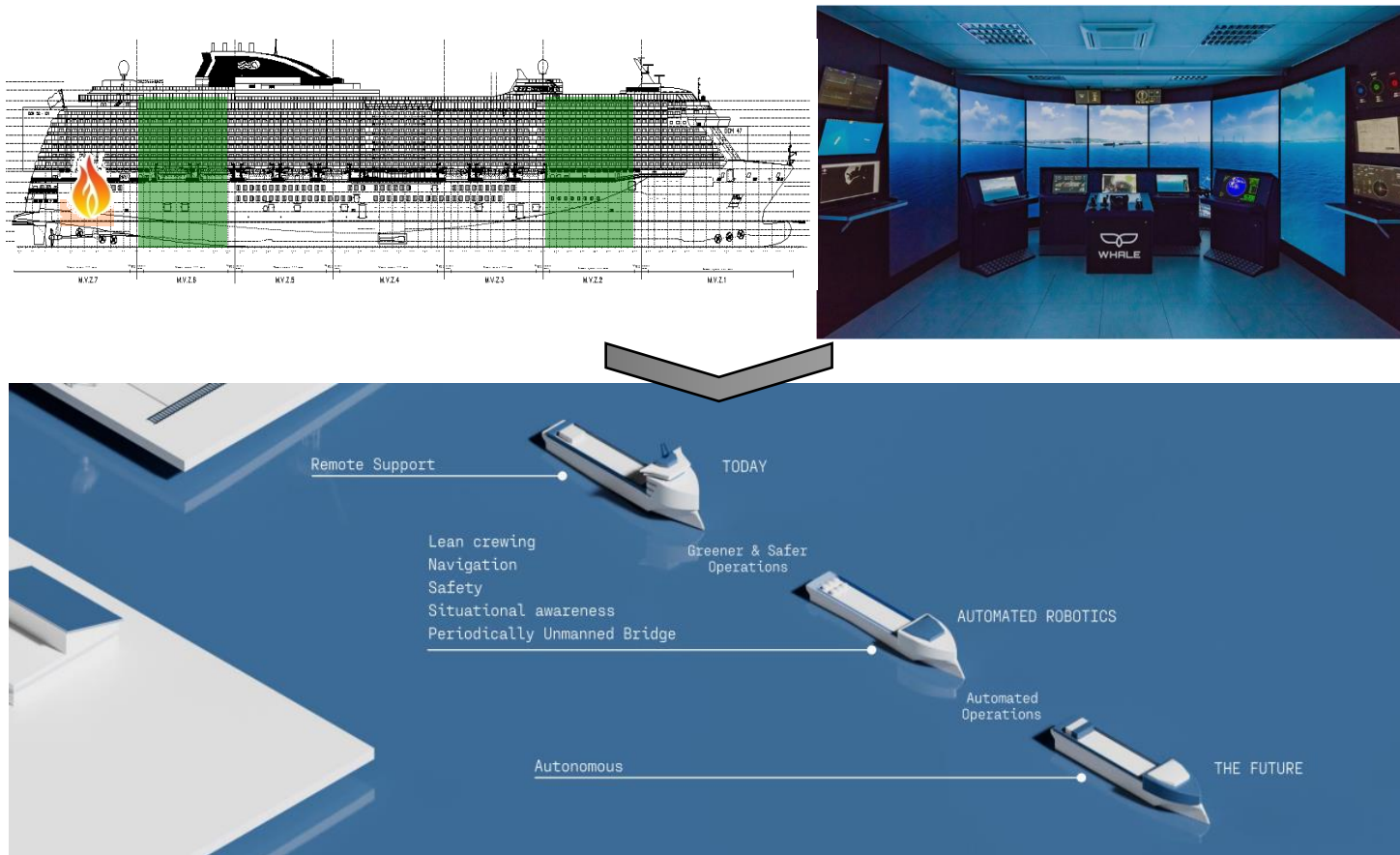
- Vessel as “System of systems”: modern ships leverages on digital systems to control core operational equipment
- Comprehensive approach embracing shipbuilding and operational phases (“cybersecurity by design” approach)

ENERGY TRANSITION AND DIGITAL TRANSFORMATION



- On-board sensor systems and ship-to-shore connectivity
- Green propulsion systems and a single digital platform
- Transition to autonomous navigation and remote management of critical naval activities

Interconnection between ship and port domain

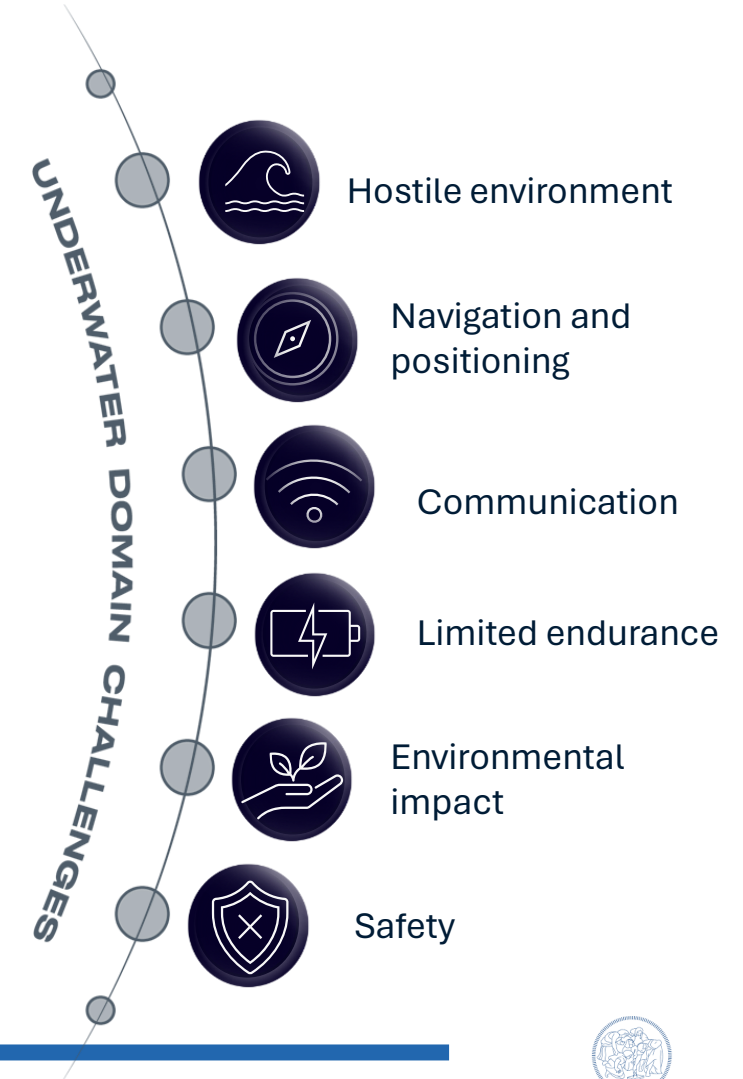
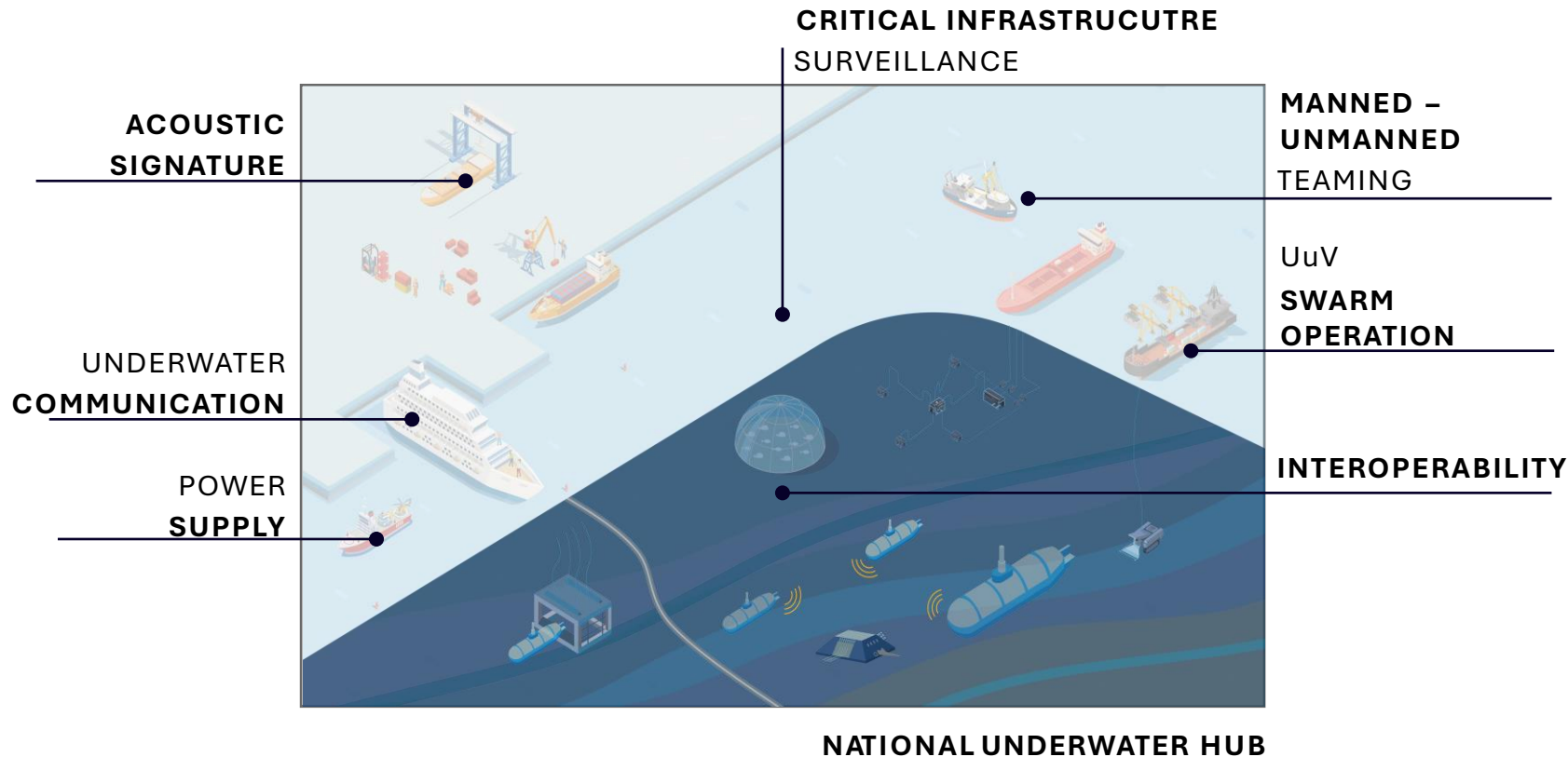


Today

Future

- **Safe Return to Port (SRtP)**
 - Ship Casualty: fire or flooding
 - Ship functions to be guaranteed
 - Availability of about 100 systems
- **Port assessment**
 - Risk assessment
 - Maneuvering simulations
 - Mooring analysis
 - Port logistics
 - On-site environmental measurements
- **Automated robotics**
 - Lean crewing
 - Navigation
 - Safety
 - Situational awareness
 - Periodically unmanned bridge
- **The future**
 - Autonomous

Underwater domain



Key takeaways

- Unexpected geopolitical, environmental and societal events along with technological trends are having a **significant impact** also on the **maritime transport, unlocking new challenges and opportunities**
- The maritime transport sector is composed by **three intertwined “domains”** that prove its resiliency
- The **ship design and construction** needs to address the **energy and digital transition as well as new socio-economic changes**;
- A **parallel transition** must happen **at port** to ensure **continuous ship-to-shore connectivity and the necessary “green” supply chain** and to adapt and maintain their performance in consideration of the transformation of the ship and under possible extreme circumstances;
- Given the ongoing geopolitical tensions, actions for the **protection and preservation of critical infrastructure** and the **underwater** domain may be required. In this context, the Mediterranean will be "the sea of the underwater", because it is the smallest, but most congested maritime space in the world, in terms of infrastructure;
- To face global challenges, maritime transport ecosystem **must aim at a common framework of practices and technological standards** to foster openness and resilience

