FROM RESEARCH TO INDUSTRY

cea tech

CEA TECH SERVICES FOR THE MARITIME INDUSTRY

Technology for tomorrow's maritime-industry challenges

CHALLENGES FOR THE MARITIME INDUSTRY

Port infrastructures
Shipping of goods; charging terminals; ship-to-shore logistics; safety; energy recovery and storage; waste management

Safety and monitoring at sea
Monitoring of passengers and goods; geolocation; search and rescue; embedded systems reliability; leak (gas) detection

User experience
Navigation systems; on-board interfaces; ergonomics; noise reduction; odor and waste treatment

Environmental responsibility
Monitoring and detection of waste and emissions; water-quality monitoring; recycling; depollution

Port logistics
Flow management (passengers and goods); traceability and safety of goods shipped

On-board energy efficiency
Carbon-free energy production; backup power; safe, compact energy storage; auxiliary power supply equipment weight and energy consumption

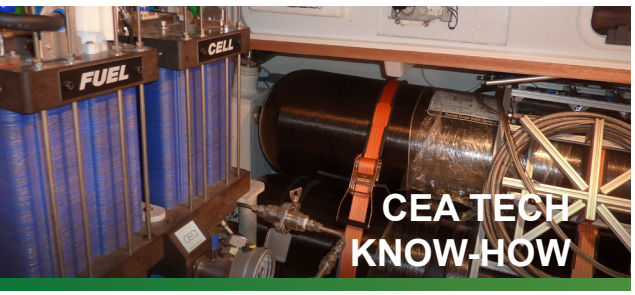
CEA Tech technology

- Materials
- Vision systems
- Robotics and cobotics
- Sensor development and integration
- Production and storage of carbon-free energy
- Data transmission and processing
- Expert systems and advanced decision-assistance software

CEA Tech can help the following businesses:

- Maritime vessel/boat builders and equipment manufacturers
- Port infrastructure manufacturers
- Port operators
- Shipping companies (passengers and goods) and ship-owners
- Logistics companies

Here are some of the ways CEA Tech can support your development:



CEA TECH KNOW-HOW

APPLICATIONS FOR THE MARITIME INDUSTRY

Vision systems	Night vision, video surveillance, navigation and docking assistance; geolocation; detection and control of passengers and goods on board and at port
Robotics and cobotics	Container-loading assistance, ship-to-shore logistics, maintenance solutions (cranes), boat loading systems for dry-docking
Non-destructive testing	Preventive maintenance, manufacturing-defect inspection, troubleshooting marine and underwater equipment and infrastructures
Energy (fuel cells, batteries)	Energy efficiency, offshore energy storage, renewable energy production and production-system integration, ship-to-shore charging networks
Materials	Materials for depollution, heavy materials capture, lightweight structures
Recycling	Materials recycling, lifecycle analysis, waste recovery
Sensor integration	Air and water quality, sail deformation monitoring, fishing net monitoring, docking assistance, shipping container traceability, collision avoidance
Communication	Secure ship-to-ship and ship-to-shore communication, connectivity for navigation systems, connected at-sea infrastructures
HMI (virtual and augmented reality, touch screens)	Control panels, interactive displays, augmented vision systems for maintenance or logistics assistance at port
Cabling diagnostics	Embedded diagnostics, cable network diagnostics, assistance systems for locating underground or undersea cables
Data analysis and expert systems	Route optimization, port logistics, cost traceability, real-time docking-slip management
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