Call 2020

MarTERA Priority Areas

Maritime and Marine Technologies for a new Era

25.02.2020
<table>
<thead>
<tr>
<th>Types of organisations eligible for funding*:</th>
<th>1,2,3,4,5,6,7,8,9,10,11,12,13,14,15</th>
<th>1,2,3,4,5,6,7,8,9,10,11,12,13,14,15</th>
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1. Environmental friendly maritime technologies

- Emission reduction
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- Energy efficiency
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- Noise and vibration reduction
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- Innovative propulsion and powering systems (e.g. fully electric ships)
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- Technologies for sensitive regions
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2. Innovative concepts for ships and offshore structures

- Novel materials
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- Biofouling and corrosion prevention
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- Structures
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- New vessel design incl. inland water vessels
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- Improved models for marine vehicles and structures behaviour
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- Oil and gas
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- Deep sea mining
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3. Automation, sensors, monitoring and observations

- Technologies for detection and removal of munition
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- Intelligent predictive maintenance systems
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- Sensor development
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- Underwater technology
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4. Advanced manufacturing and production

- Digitalisation and automation of production
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- Optimisation of production: improved and novel production technologies for flexible manufacturing, with focus on organization and networking along the value chain
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Funding Agency:

- VLAIO
- NASB
- BMWi
- CDTI
- ANR
- MCST
- RCN
- NCBR
- UEFISCDI
- TÜBİTAK
- DSI

Country

<p>| BE  | BY  | DE  | ES  | FR  | MT  | NO  | PL  | RO  | TR  | ZA  |
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<td>ICT tools for monitoring and optimization of maritime operations (e.g. routing following best weather conditions)</td>
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<td>Hinterland connection through inland waterways</td>
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<td>Improved operations</td>
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<td><strong>COMMITTED FUNDING in million €:</strong></td>
<td>2</td>
<td>0,07</td>
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<td>0,5</td>
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</table>

*) The numbers below a funding agency indicate **the types of organisations that are eligible** for funding via the funding agency:

1. Start-ups
2. SME
3. Large scale enterprises
4. Research institutes
5. Universities
6. Other

The initials “FID” are used to indicate the supported types of R&D of an agency’s programme:

F: Fundamental research
I: Industrial research
D: Experimental development

For further information and additional descriptions of the supported types of R&D for a specific funding agency, please read carefully the respective National Guidelines.
MarTERA Priority Areas

- **PA1: Environmental friendly maritime technologies**
  - Emission reduction:
    - Exhaust gas treatment (CO2, SOX, NOX, black carbon etc.)
    - Waste and ballast water management
    - Response to marine pollutions (e.g. oil spills, micro- and nano plastics)
    - Reducing greenhouse gases at oil and gas platforms
  - Energy efficiency:
    - Voyage optimisation, on-board power, vessel efficiency and energy management,
    - Advanced technologies for the use of new fuels
    - Improving energy efficiency at oil and gas platforms
  - Noise and vibration reduction
  - Innovative propulsion and powering systems (e.g. fully electric ships)
  - Technologies for sensitive regions

- **PA2: Innovative concepts for ships and offshore structures**
  - Novel materials:
    - Light, robust and resistant materials
    - Environmental impact assessment (material testing)
    - Joining technologies
    - Intelligent materials and metamaterials
  - Biofouling and corrosion prevention:
    - Coatings
    - Advanced technologies
  - Structures:
    - Development, monitoring, maintenance and dismantling of maritime structures
    - Development of technologies for economic and environmental sustainable renewable energy from sea;
    - Sustainable and cost-efficient platforms for offshore technologies, including multi-purpose offshore platforms and deep-sea structures
  - New vessel design incl. inland water vessels
  - Improved models for marine vehicles and structures behaviour
    - Software and simulation tools
    - Advanced model testing procedures incl. hybrid testing
    - Full scale measurements
  - Oil and Gas
    - Exploration and recovery technologies
    - Drilling, completion and intervention technology
    - Top-side and subsea production technology, processing and transport of hydrocarbons
  - Deep Sea Mining:
- Environmentally friendly technologies for exploitation, exploration and monitoring of deep sea resources

- **PA3: Automation, sensors, monitoring and observations**
  - Technologies for detection and removal of munition
  - Intelligent predictive maintenance systems
  - Sensor development:
    - Detection of marine pollutions (e.g. oil spills, micro- and nano plastics)
    - Robust and efficient technologies for detection, monitoring and observation (physical, geological, chemical and biological measurements, including remote sensing)
    - Sensor fusion technologies covering observation systems, condition monitoring
    - Miniaturisation of sensors
    - Data transmission, E-infrastructure and telemetry for data transfer. Remote control platforms and systems, including satellite and land based control systems

- Underwater technology:
  - For inspection, intervention, monitoring and control (Robotics)
  - Development of intelligent and cost efficient systems and devices
  - Path planning, guidance, navigation (e-navigation) and control methodologies for ships and other marine vehicles, including multiple cooperative vehicles (incl. swarm technologies)
  - Innovative, robust and reliable power supply for automated sub-marine technologies
  - Underwater navigation and communication

- **PA4: Advanced manufacturing and production**
  - Digitalisation and automation of production
  - Optimisation of production: improved and novel production technologies for flexible manufacturing, with focus on organization and networking along the value chain
  - Circular economy concepts:
    - Life cycle management
  - Intelligent/innovative interacting components
  - Human machine interaction, Augmented and Virtual Reality

- **PA5: Safety and security**
  - Individual safety concepts harmonized with navigational requirements
  - ICT tools for monitoring and optimization of maritime operations (e.g. routing following best weather conditions)
  - Hinterland connection through inland waterways
  - Early warning and accident management systems
  - Evacuation and rescue concepts
  - Decision support systems
  - Improved operations:
    - Automation of processes
    - Dynamic positioning
    - Docking and mooring
    - Handling of goods
- Subsea intervention
  
  - Applications for increased fire safety
    - Risk reduction of major accidents from offshore activities