SESSION 1 • 12:00 – 13:00

ECMAR Introduction & EU Projects Showcase

Florian CARRE – European Council for Maritime Applied R&D (ECMAR)

Nick Markov – Bulgarian Ship Hydrodynamic Center (BSHC)

Mattias Liefvendahl – Research Institutes of Sweeden (RISE)

Konstantinos Voutzoulidis – ABS Hellenic

Session Focus:

Opening overview of ECMAR followed by targeted presentations on leading EU maritime research organisation.

ECMAR introduction: Driving Applied Research for a Competitive & Sustainable Maritime Europe

European Council for Maritime Applied R&D

Florian CARRE, Director of ECMAR

Who We Are

The Voice of Maritime Applied R&D in Brussels

25+ Members

Network of 25+ leading research organisation across 14+ European countries.

Pan-European Reach

Bridging academia, industry, and EU policymaking.

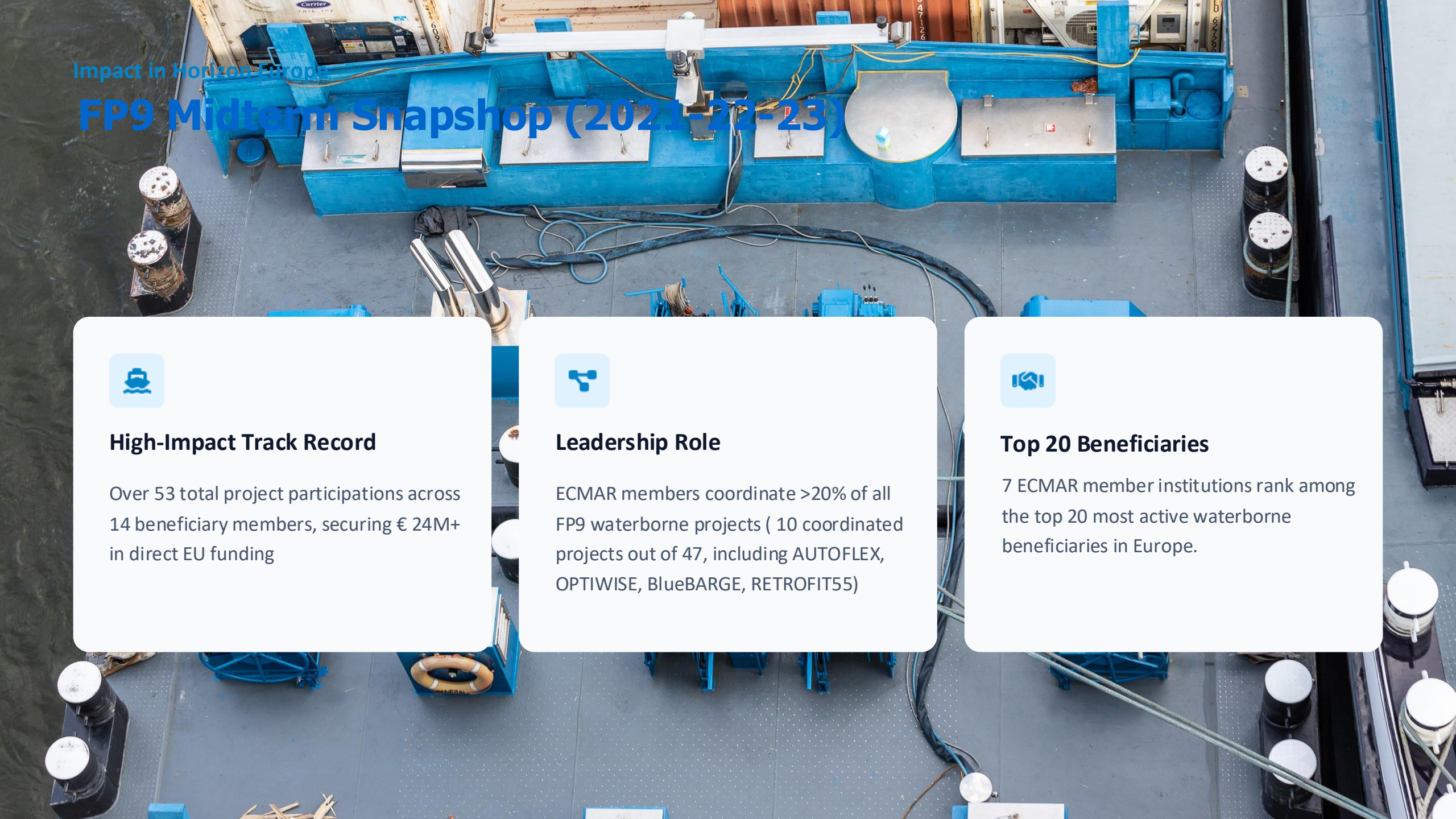
Active Waterborne Member

Active member of the Waterborne Technology Platform and of the Zero Emission Waterborne Transport (ZEWT) Partnership.



Impact in Horizon Europe

FP9 Midterm Snapshop (2021-22-23)



High-Impact Track Record

Over 53 total project participations across 14 beneficiary members, securing € 24M+ in direct EU funding

Leadership Role

ECMAR members coordinate >20% of all FP9 waterborne projects (10 coordinated projects out of 47, including AUTOFLEX, OPTIWISE, BlueBARGE, RETROFIT55)

Top 20 Beneficiaries

7 ECMAR member institutions rank among the top 20 most active waterborne beneficiaries in Europe.

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ECMAR Vision

Strategic Research Agenda (SRA 2030-2050)

Alignment with EU competitiveness frameworks

Draghi Report, Green Deal, Competitiveness Compass

Core Focus Areas

Decarbonisation & Alternative Fuels, Digitalisation & Digital Twins, Offshore Renewables, Arctic Navigation, Dual use & Underwater Technologies, and Nuclear Shipping

Applied Research

Advocating for **Low to Medium TRL** research to complement high-TRL deployment and close the knowledge gap.



FP10 & Horizon Europe Call Topic Influence



Success Story

From early ECMAR topic proposal (small automated zero-emission inland/coastal vessels) to the publishe call topic and winning project (AUTOFLEX)

FP10

Advocating for a unified Green & Digital Partnership in FP10 to maximise European technological sovereignty and economic competitiveness.

Thanks for your attention



Florian CARRE – Director of ECMAR
director@ecmar.eu

Session 2: Strategic Maritime Forum: EU Funding & Regional Integration

European Council for Maritime Applied R&D

Florian CARRE, Director of ECMAR

SESSION 1• 14:00 – 14:30

ECMAR Vision, Governance, and Value Proposition

Strategic orientation, organizational framework, and tangible institutional benefits for member research organizations.

Session Focus:

30-minute interactive session detailing ECMAR's governance model, core pillars, and membership value proposition.

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Collaborative structure

ECMAR's activity is rooted in collaborative structure, ensuring that every member participate in shaping the future of European applied research



Governance

A Member-Led Council for Strategic Excellence



The General Assembly (GA)

The supreme decision-making body, the GA meets annually to define long-term strategy, approve the budget, and elect the Council members.



The Council

Operational leadership is provided by a Council of **five members**, elected by the GA for a two-year term. The Council defines the political and technical vision and oversees strategic positions.



Chairmanship

Led by a **Chairman** and a **Vice-Chairman** (currently held by **RISE**, Sweden, and **CETENA**, Italy).

Democratic structure

ECMAR's governance is rooted in a democratic and transparent structure, ensuring that every member has a voice in shaping the future of European applied research



The Secretariat & Director

Managed by the **ECMAR Director**, based in Brussels (Rue de la Loi), handling daily operations and permanent links with EU institutions.



Strategic Working Groups

Instead of thematic technical groups, we focus on cross-functional impact:

- **Scientific Collaboration:** Fostering technical synergies and building project consortia.
- **EU Influence:** Coordinating advocacy and policy responses to EU institutions.
- **Communication:** Increasing the visibility of applied R&D and the ECMAR network.

Strategic

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ECMAR Vision

Europe’s Maritime Competitiveness to 2030 and Beyond



OBJECTIVE 1:

"Re-Shipping" Europe

Securing leadership in high-value shipbuilding, repair, and clean tech.

OBJECTIVE 2:

Green Transition

Integrating green transition (fuels, electrification, energy efficiency) with digital revolution (AI, Industry 5.0, digital twins).

ECMAR Vision

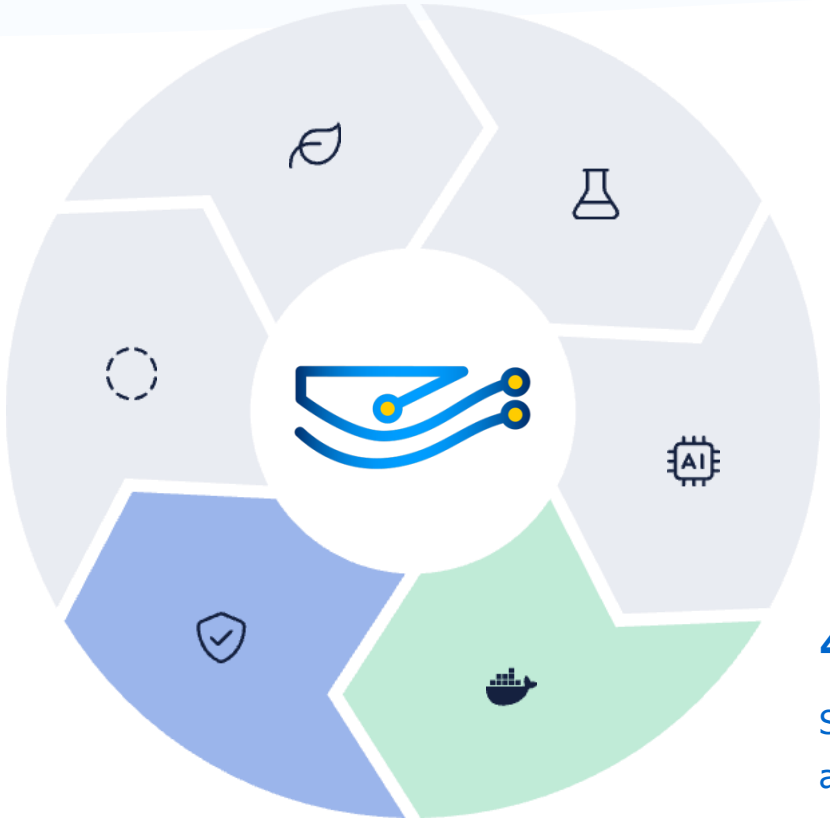
ECMAR’s critical priorities for maritime research

1. Energy Efficiency

Reducing resistance and improving ship design for low-carbon propulsion

2. Alternative Fuels

Integration, scalability, and safety of hydrogen, ammonia, and biofuels



6. Blue Economy

Boosting EU's leadership in sustainable maritime practices over the life-cycle

3. Digitalization

Digital twins, AI, and autonomous functions for maritime operations

5. Safety & Security

Vessel monitoring systems and cybersecurity for maritime operations

4. Clean Energy Transition

Supporting the journey to Net-Zero with a holistic approach, including renewables and CCS

Modelling is key to translating deep physical understanding into ship models, leveraging DT and AI-driven design optimization.

Low vs. High TRL research priorities: why?

Low TRL research is crucial for European maritime competitiveness and is less constrained by specific ship types, providing **broader applicability.**

Low to medium TRL Research (4-6)

- Innovative propulsion systems and energy efficiency
- Ship's automation technologies
- AI methods for ship's dynamics and safety
- New materials and production processes
- Carbon capture technologies
- Waterborne hydrogen production

High TRL Research (7-9)

- Ship's operations and energy efficiency solutions
- Alternative fuels integration and electrification
- Early-stage design alternatives generation
- Automation and AI applications
- Port electrification & bunkering infrastructures
- ➢ **Green retrofit technologies**

ECMAR prioritizes high TRL research solutions that can be rapidly deployed to address pressing issues, like **ships' retrofitting.**

Green & Digital Transformation: Short-To-Medium term challenges over the life-cycle

1 . Energy Transition

Energy efficiency, low carbon & zero emissions fuels: new design methodologies and experimental challenges.

2. Ship's Digitalization & Human Factor

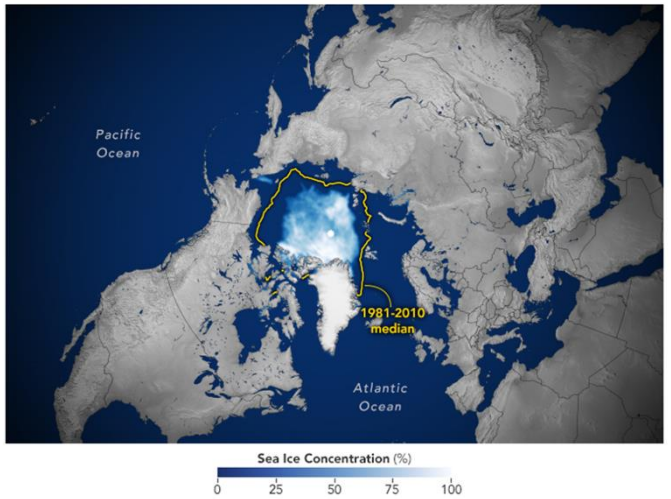
Technological challenges and human-centred solutions for clean and autonomous operations.

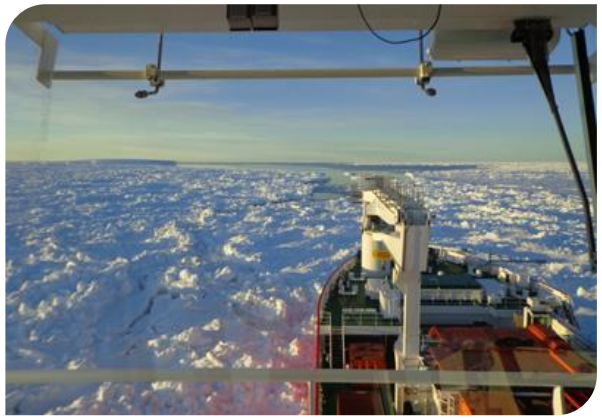
3. Maritime Renewables

Integration of wind-assisted propulsion systems and offshore wind energy technologies.

4. Strategic Domains

- **Arctic opportunities** addressing climate change impacts,
- **Underwater technologies**, and
- **Exploring nuclear energy** for economically viable green shipping.

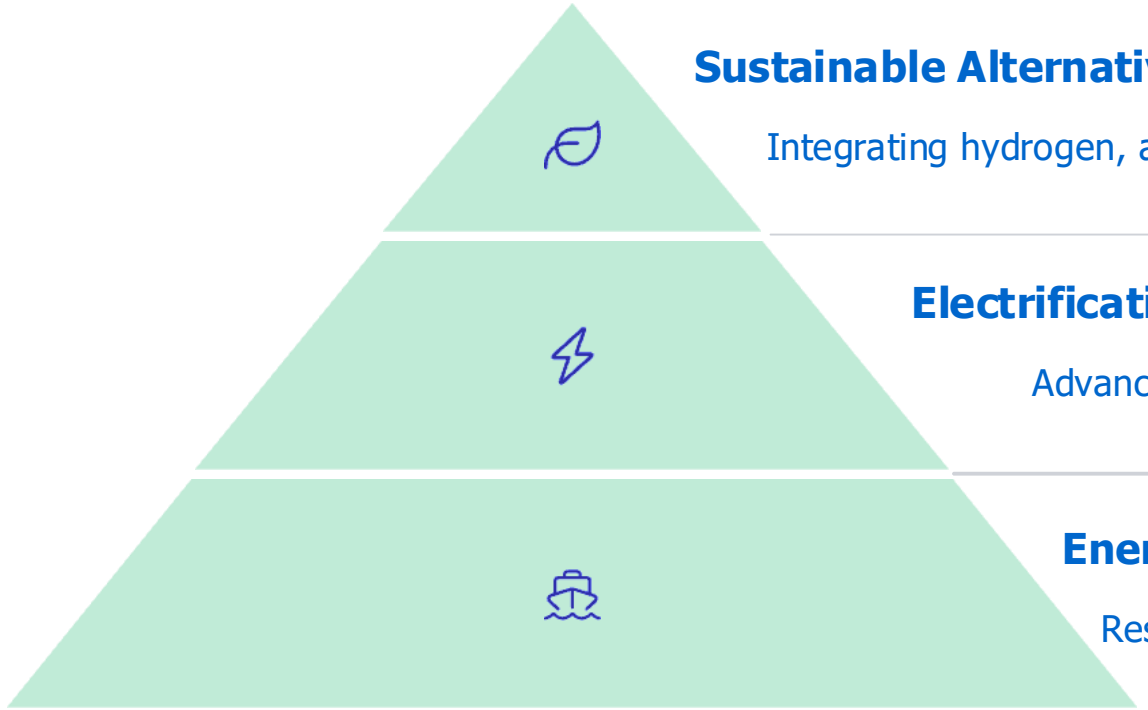






These challenges require risk-based class requirements for clean and digital ships throughout the lifecycle, with safety and circularity embedded in the design process.

Energy Efficiency:
the cornerstone of sustainable (and competitive) shipping



Sustainable Alternative Fuels

Integrating hydrogen, ammonia, and methanol systems

Electrification

Advanced battery technologies and DC-powered ships

Energy-Saving Technologies

Resistance reduction and optimised hull designs



Energy saving technologies remain underdeveloped despite their relevance.

Focus must shift to cost-efficient saving technologies, alongside alternative fuels.

The Value Proposition

Why Engage with ECMAR ?

ECMAR Membership is opened to organisations which Undertake applied maritime R&D





ECMAR Membership will enable you to:

- Contribute to the EU Strategic Research and Innovation Agenda
- Define Horizon Europe topics
- Participate to brokerage events
- Join a family network of 25 research organisations

To evaluate your potential to Join ECMAR, **contact:**

Florian CARRE (Director ECMAR)

→ **director@ecmar.eu**

SESSION 2 • 14:30 – 15:15

Strategic Discussion: Strengthening Eastern European Presence

An open, guided dialogue to overcome regional barriers, leverage unique infrastructure, a
participation in European maritime research.

Format:

Moderated interactive discussion structured around three strategic questions.



QUESTION 1• 14:30 – 15:50

Guided discussion

Identifying Barriers: *What are the primary obstacles Eastern European maritime research organisations face when attempting to lead or join Horizon Europe consortia?*

> **Format:**
>
> Max 1 minute per speaker so that everyone can speak.

QUESTION 2• 14:50 – 15:05

Guided discussion

Unlocking Regional Strengths: *What unique technical capabilities and testing infrastructures exist in the Black Sea and Eastern European regions that are underutilised in current EU projects?*

> **Format:**
>
> Max 1 minute per speaker so that everyone can speak.

QUESTION 3• 15:05 – 15:15

Guided discussion

Strategic Synergies: *How can ECMAR better serve as a bridge to integrate regional institutes into early-stage topic creation and consortium building for upcoming calls?*

Format:

Max 1 minute per speaker so that everyone can speak.

Coffee break
Next session starts at 15:45



SESSION 3• 15:45 – 17:00

Interactive Session: Strategic Targeting of EU Funding

10-minute briefing on Horizon Europe 2027 topics followed by an interactive workshop mapping institutional expertise and forming research consortia.

Format:

Moderated interactive discussion structured around three strategic questions.



Horizon Europe: the EU Research and Innovation programme (2021-27)

The main WP (for civil applications) is based on 3 Pillars and one transversal part (ERA)

HORIZON EUROPE

SPECIFIC PROGRAMME: EUROPEAN DEFENCE FUND

Exclusive focus on defence research & development

- Research actions
- Development actions

SPECIFIC PROGRAMME IMPLEMENTING HORIZON EUROPE & EIT*

Exclusive focus on civil applications

Pillar I – EXCELLENT SCIENCE

- European Research Council
- Marie Skłodowska-Curie
- Research Infrastructures

Pillar II – GLOBAL CHALLENGES & EUROPEAN INDUSTRIAL COMPETITIVENESS

Clusters:

- Health
- Culture, Creativity & Inclusive Society
- Civil Security for Society
- Digital, Industry & Space
- Climate, Energy & Mobility
- Food, Bioeconomy, Natural Resources, Agriculture & Environment

Joint Research Centre

Pillar III – INNOVATIVE EUROPE

- European Innovation Council
- European Innovation Ecosystems
- European Institute of Innovation & Technology*

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

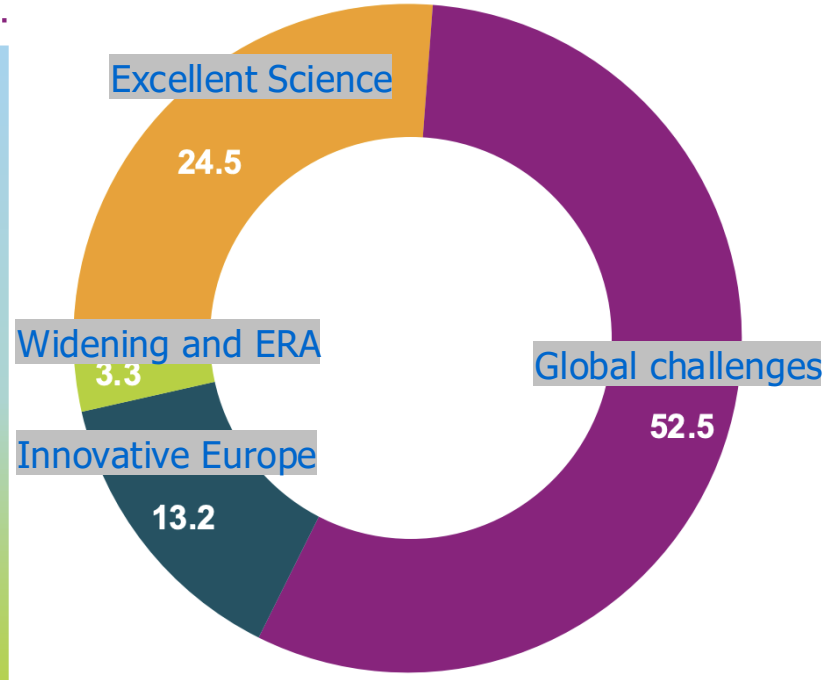
- Widening participation & spreading excellence
- Reforming & Enhancing the European R&I system

EURATOM

- Fusion
- Fission
- Joint Research Center

* The European Institute of Innovation & Technology (EIT) is not part of the Specific Programme

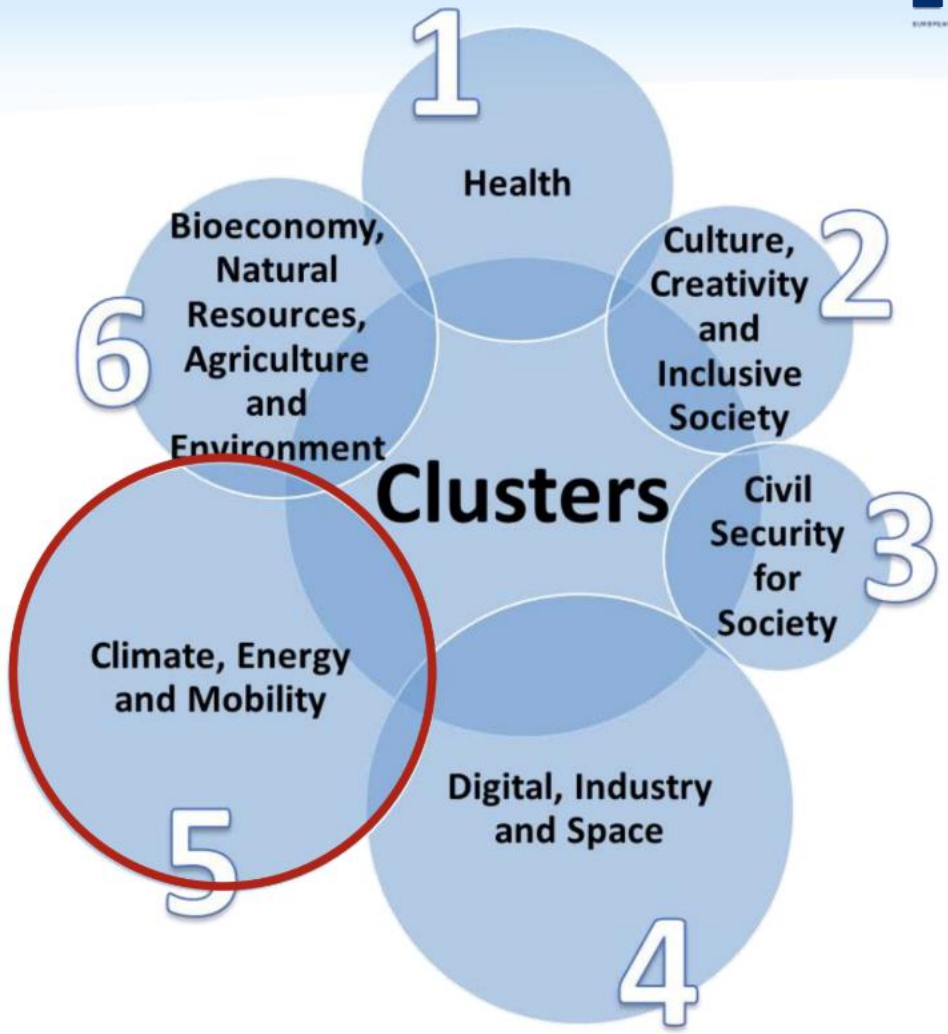
Horizon Europe Budget: €93.5 billion (2021-2027)



Presentation of Pillar II – Horizon Europe

Main funding opportunities:

- Cluster 5 Climate, Energy and Mobility
- Zero Emission Waterborne Transport Partnership



Most relevant topics 2027 for the Maritime sector

Waterborne / ZEWT Partnership topics

HORIZON-CL5-2027-03-D5-16: Autonomous vessels for short sea shipping

Explores self-operating or remotely controlled ships designed for regional coastal routes, aiming to enhance maritime transport safety, lower labor costs, and streamline cargo operations.

HORIZON-CL5-2027-03-D5-18: Electric operation and battery durability

Examines fully or hybrid-electric vessel propulsion systems, focusing on optimizing battery performance, longevity, and charging infrastructure to support zero-emission marine transport.

HORIZON-CL5-2027-03-D5-15: Nuclear power potential for shipping

Evaluates the feasibility, safety, regulatory frameworks, and technological requirements for using small modular reactors (SMRs) or nuclear propulsion to power commercial merchant vessels long-term.

Most relevant topics 2027 for the Maritime sector

Waterborne / ZEWT Partnership topics

HORIZON-CL5-2027-03-D5-14: Onboard renewable energy solutions & energy saving measures

Focuses on integrating clean energy technologies (such as wind or solar power) and operational energy-efficiency practices directly onto ships to reduce overall fuel consumption and carbon emissions.

HORIZON-CL5-2027-03-D5-17: Mitigating environmental impact in marine ecosystems

Addresses methods and technologies to minimize ecological damage caused by maritime activities, including reducing underwater noise, preventing invasive species transport in ballast water, and preventing marine pollution.

Most relevant topics 2027 for the Maritime sector

Other opportunities from Mission Ocean, INFRA,

HORIZON-MISS-2027-03-OCEAN-03: Green, circular and resilient harbours

This topic focuses on transforming port infrastructure and port city operations by deploying sustainable, low-impact, and climate-adaptable technologies. It emphasizes reducing environmental pollution, integrating circular economy practices (such as waste recycling and resource efficiency), and strengthening harbour resilience against climate risks like rising sea levels and extreme weather events.

HORIZON-INFRA-2027-DEV-01-02: Consolidation of the research infrastructure landscape

Focuses on streamlining, integrating, and strengthening existing research facilities and networks to reduce duplication, enhance operational sustainability, and improve trans-national access for maritime researchers and industry stakeholders.

HORIZON-INFRA-2027-TECH-01-01: Testing and optimising models of co-creation of advanced research infrastructure technologies

Aims to develop and refine collaborative frameworks between research organizations, industrial partners, and technology providers to jointly design, test, and deploy cutting-edge technologies tailored for next-generation research infrastructures.

QUESTION 2• 15: 30– 15:50

Guided discussion

Topics selection (20 min): *Which topic aligns best with your organisation's R&D roadmap?*

Format:

Max 1 minute per speaker so that everyone can speak.

QUESTION 2• 15: 50– 16:10

Guided discussion

Concept Pitching (20 min): *Do you have any project idea that would be relevant at EU level / could be funded through Horizon Europe Topics ?*

> **Format:**
>
> Max 1 minute per speaker so that everyone can speak.

QUESTION 2• 15: 30– 15:50

Guided discussion

Matchmaking (20 min): *Which skills or expertise are you missing to conduct your project at EU level ?*

Format:

Max 1 minute per speaker so that everyone can speak.

Thanks for your participation !

Let’s get in touch:

ECMAR’s Director
Florian CARRE
director@ecmar.eu

