

EU perspectives on Shipyards R&I projects

Fiber4yards; Resurgam; Mary4yards

Joint dissemination event Rotterdam, 30-31 May 2023

European Climate, Infrastructure and Environment Executive Agency (CINEA)

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European Climate Infrastructure and Environment Executive Agency

Agenda

- CINEA presentation
- EU Research and Innovation for transport
- Overview of CINEA's waterborne portfolio of R&I projects with focus on Horizon 2020 and Horizon Europe
- Focus on shipyard related projects
- Synergies with other EU programmes and future funding opportunities
- Conclusions



CINEA presentation



CINEA (European Climate, Infrastructure and Environment Executive Agency) in a nutshell:



~ 58 billion for the period 2021-2027



> 500 staff by 2027



From 2800+ projects managed in October 2021 to > 4500 projects in 2027

- Policy feedback as an essential part of funding activities
- Expertise at the service of beneficiaries in managing the complete lifecycle of projects
- Exploitation of synergies and dynamic ways to work across programmes



EU Research and Innovation for Transport



Horizon Europe

EU research & innovation framework programme (2021-2027)



Pillar I EXCELLENT SCIENCE



Pillar II GLOBAL CHALLENGES & EU COMPETITIVENESS



European Research Council

(Top "Frontier" researchers)

€ 16 billion

Marie Skłodowska-Curie

(Mobility of researchers) € 6.6 billion

Research Infrastructures € 2.4 billion

Collaborative R&I Clusters € 53.5 billion

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

Joint Research Centre

European Innovation Council

(start up & scale up SMEs)

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European Innovation Ecosystems

€ 10.6 billion

European Institute of Technology € 3 billion

WIDENING PARTICIPATION AND STRENGTHENING THE EUROPEAN RESEARCH AREA

Widening participation & spreading excellence

Reforming & Enhancing the European R&I system



2021- 2027 Horizon Europe R&I: Climate (1 € billion) + Energy (7 € billion) + Mobility (7 € billion)

Destination 1 – Climate science

Assessments (IPCC, EEA,...)

Knowledge Base: Earth System, adaptation, services, pathways to neutrality,

European Research Area on climate change Destination 2 – Cross-cutting solutions

Batteries

Cities

Breakthrough technologies

Citizen and stakeholder engagement

Destination 3 – **Energy supply**

Renewable energy

Energy system, grids, storage

Carbon
Capture, Usage
and Storage

Cross-cutting activities

Destination 4 – Energy demand

Buildings

Built4People

Industry

Destination 5 –

Clean and
competitive
solutions for all
transport modes

Road ZERO

AVIATION

Waterborne

Transportrelated health & environment Destination 6 –

Safe, Resilient
Transport and Smart
Mobility services

Connected,
Cooperative
Automated
Mobility

CCAM

Multimodal transport systems for passengers and goods

Safety and resilience





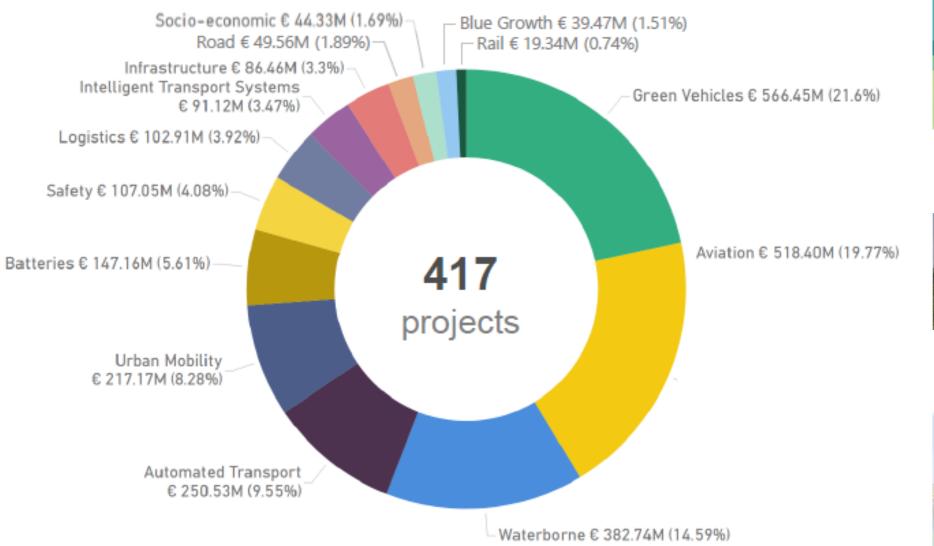




Overview of CINEA's waterborne R&I projects: focus on Horizon 2020 and Horizon Europe



Transport R&I at CINEA - Overview (Horizon 2020)









H2020 WATERBORNE PORTFOLIO (2014-2021)

CINEA's Horizon 2020 waterbone portfolio covers projects funded via:

BLUE GROWTH

waterborne transport related topics

2020 GREEN DEAL CALL / AIRPORTS & PORTS TOPIC / PORTS SUBTOPIC

Infrastructure

The Port of the future (PIXEL, PortForward, COREALIS, DocksTheFuture)

Green airports and ports as multimodal hubs for sustainable and smart mobility (PIONEERS, MAGPIE) System modelling and lifecycle cost optimisation for waterborne assets (SHIPLYS, HOLISHIP)

Innovative shipbuilding and complex value-added specialised vessels

Development, production and use of high performance and lightweight materials for vessels and equipment (FIBRESHIP, RAMSSES)

High value-added specialised vessel concepts enabling more efficient servicing of emerging coastal and offshore activities (LINCOLN, NEXTIS)

Complex and value-added specialised vessels (<u>HYSEASIII</u>, TrAM, NAVAIS)

Improved Production and Maintenance Processes in Shipyards (Mari4_YARD, FIBRE4YEARDS, RESURGAM)

MOBILITY FOR GROWTH

waterbone transport topics (and related topics)

Safer and more efficient waterborne operations

Safer and more efficient waterborne operations through new technologies and smarter traffic management (EfficienSea2, LYNCEUSZMARKET)

Response to oil spills and marine pollutions (GRACE)

Safer waterborne transport and maritime operations (SEDNA) Marine Accident Response (LASHFIRE, SAFEPASS, FLARE, PALAEMON)

Human Factors in Transport Safety (SAFEMODE)

New and improved waterborne transport concepts

Preparing for the future innovative offshore economy (MARIBE)

Delivering the sub-sea technologies for new services at sea (DexROV, BRIDGES)

New and improved transport concepts in waterborne transport (GASVESSEL, NOVIMAR) Unmanned and autonomous survey activities at sea (ENDURUNS)

The Autonomous Ship (AUTOSHIP)

Moving freight by Water: Sustainable Infrastructure and Innovative Vessels (IW-NET, NOVIMOVE, AEGIS, MOSES)

Energy efficient and zero emission vessel

Towards the energy efficient and emission free vessel (E-FERRY, LeanShips, HERCULES-2)

Promoting innovation in the Inland Waterways Transport (IWT) sector (PROMINENT)

Innovations for energy efficiency and emission control in waterborne transport (AIRCOAT, HYMETHSHIP)

InCo flagship on reduction of transport impact on air quality (SCIPPER)

Ship emission control scenarios, marine environmental impact and mitigation (EMERGE) Retrofit Solutions and Next Generation Propulsion for Waterborne Transport (Nautilus, FASTWATER, GATERS, SeaTech)

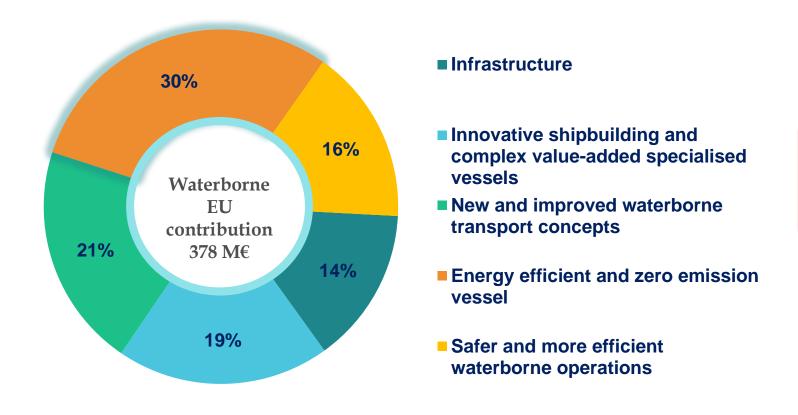
Structuring R&I towards zero emission waterborne transport (STEERER)

Under water noise mitigation and environmental impact (SATURN)

Improving impact and broadening stakeholder engagement in support of transport research and innovation (LASTING, PLATINA 3)

Decarbonising long distance shipping (CHEK, ENGIMMONIA)

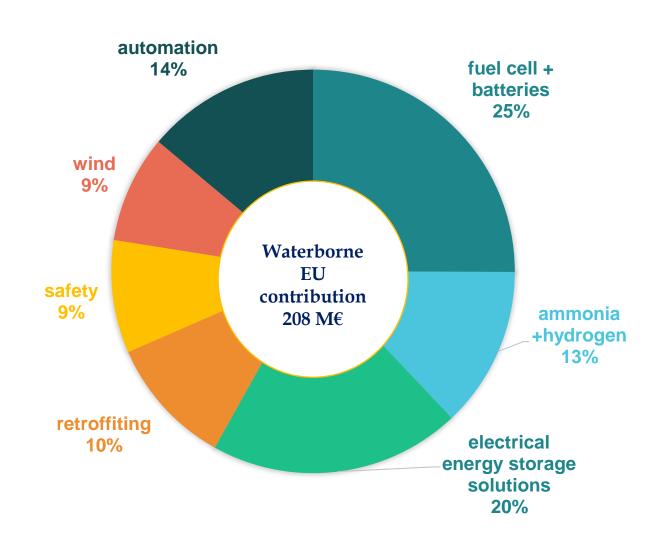
Transport R&I at CINEA - Overview (Horizon 2020)



> 60 projects > 980 beneficiaries



Transport R&I at CINEA - Overview (Horizon Europe)



31 projects so far 440 participants



Overview of CINEA's waterborne portfolio of R&I projects: focus on shipyard projects



Shipyards and shipbuilding in Horizon programme

- Focus on competitiveness projects (shipyards; materials; design). Objectives to preserve competitiveness and reinforce shipbuilding sector; target high value ship market segment (ie offshore vessels; roro; ferries) but also conventional and repair.
- Greening/climate change and digitalisation are major drivers of Horizon Europe.
- Structure of R&I topics is not prescriptive (ie topic 2023) to match the needs of stakeholders.
- Shipyards are often essential partners in high TRL projects to implement innovative solutions. Either retrofit or new built.
- Fully dedicated topics on shipyards are regularly implemented ensuring a permanent portfolio of projects.



Shipbuilding related projects



IT tools for ship modelling and building



Numerous high TRL tests for new materials for shipbuilding



Ship design optimization methods



Fibre-Reinforced Polymers for ship structure





IT platform for vessel design and building



Modular ferry shipbuilding + 1 full scale built



Shipbuilding related projects







SEUS

- 2023-2026. 8,5M€.
- Building the smartest EU shipbuilding expertise
- Integrated platform that combines the most modern shipbuilding life-cycle management with computer-aided design, manufacturing, engineering and product data software.



Synergies with other EU programmes and future funding opportunities





- Climate, Energy and Mobility - EUR 9.6 billion

LIFE
- Environment EUR 4.7 billion

EUROPEAN CLIMATE,
INFRASTRUCTURE AND
ENVIRONMENT
EXECUTIVE AGENCY

European Maritime Fisheries Fund EUR 0.3 billion

Renewable Energy Financing Mechanism EUR 0.5 billion

EUR 31.1 billion

CONNECTING EUROPE

FACILITY 2 (CEF)

- Transport & Energy -

INNOVATION FUND
with ETS revenues
(depending on carbon price)
EUR 7.7→38 billion

Just Transition Mechanism
EUR 1.5 billion



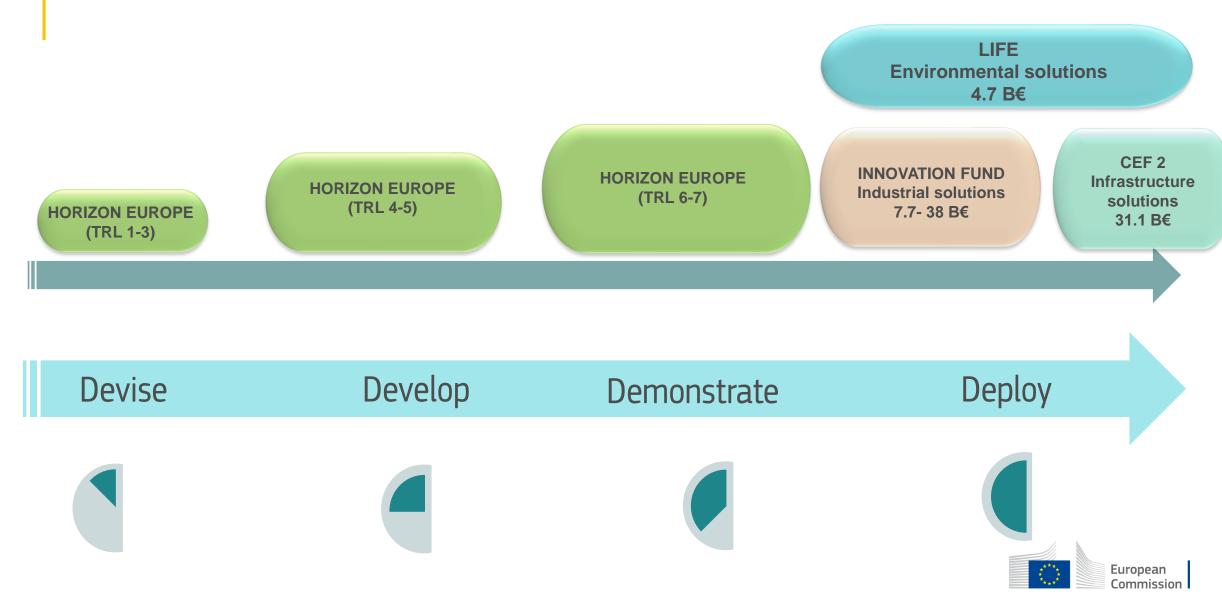


From 2800+ projects managed in 2021 to > 4500 projects in 2027



> 55.4 billion (2021-2027)

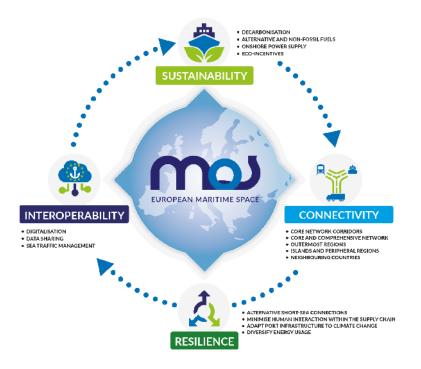
Synergies between programmes to deliver solutions



Connecting Europe Facility (CEF2) and its waterborne perspective







- Alternative Fuels Infrastructure Facility: Recharging/refuelling infrastructure; Maritime and IWW Vessels, LNG bunkering vessels
- Motorways of the Sea: Upgrade of port infrastructure, Facilitation of Short Sea Shipping through ICT platforms
- Maritime and Inland Ports: Facilitation of port access, Shore-side electricity supply, Rail/road connections within the port
- European Maritime Single Window environment (EMSWe)
- Vessel Traffic Monitoring and Information Systems (VTMIS)
- River Information Services (RIS), inland single window, inland port community systems



Innovation Fund and its waterborne perspective





Production and use of Renewable energy

including manufacturing plants for components

Carbon Capture Use and Storage

Scaling up clean tech

Large-scale demo & First of A Kind

Energy-intensive industries

including substitute products

Energy storage

including manufacturing plants for components

Some examples of waterborne related projects:

- FirstBio2Shipping: producing bio-LNG that substitutes carbon intensive marine fuel (funded).
- HYDROGEN EUROPAX: Zero-emission vessel powered by a large-scale fuel cell system will exclusively use green hydrogen from renewable sources (in PDA).
- WAVE: Large sailing cruise ship featuring an innovating wind propulsion technology (in PDA).

Next Calls for proposals

- -Launch of small scale call on 30/03/2023
- -Call deadline on 19/09/2023
- -Expected results in January 2024
- -Large scale call just closed. Next one in 2024



European Maritime, Fisheries and Aquaculture Fund (EMFAF) and its waterborne perspective







Project: Airseas

- Wind propulsion
- Ship stabiliser

- More sustainable **fishing and aquaculture** practices
- Support the growth potential of the blue economy
- Protect marine ecosystems



Project: Bound4Blue

- Onshore Power Supply
- Retrofit fuel

In Maritime transport, EMFAF supports Seabasin Strategies with a high interest on:

- Green shipping in the Western Mediterranean Region
- Ports in the Atlantic Region

14 waterborne related projects funded for a total €24M in 12 EU countries





EIC PATHFINDER

early-stage €350 million technology research

grants

< €4 million



Deadline 18 October 2023



EICTRANSITION

technology validation €131 and spin-out million

grants

< €2.5 million



Deadline 27 September 2023

EIC ACCELERATOR

commercialisation €1.16 and scale-up billion

< €2.5 grants million

<€15

equity investments million

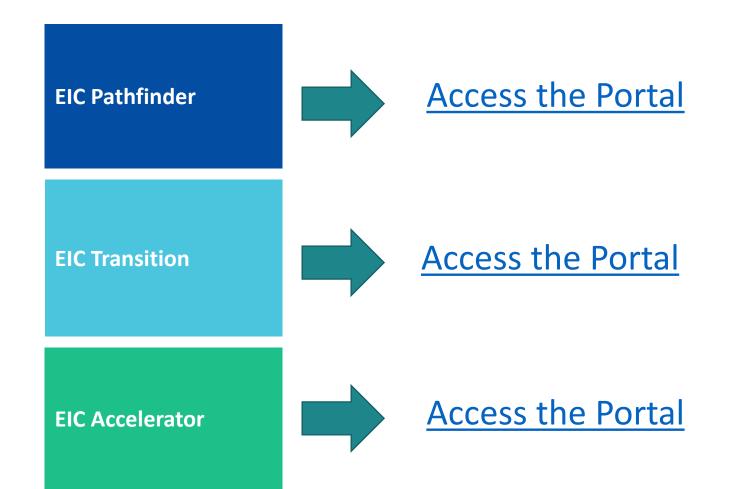


Deadline 7 June 2023





Where to apply?





GREEN ASSIST

The expert advice to make your investment **greener**



GREEN ASSIST offers:



Cost-benefit analysis, review of business model, financial structuring and planning, environmental due diligence, procurement support, etc.



Capacity building



Market studies & Market development activities

For projects addressing:

Environmental

&

Non-Environmental sectors



Does my project qualify?
How to apply?





Currently under evaluation: topic HORIZON-CL5-2023-D5-01-15 Reducing the environmental impact from shippards and developing a whole life strategy to measure and minimise the non-operational environmental impacts from shipping. 2 projects expected to be funded with 4,5M€ each.

Waterborne transport	Deadline April 2024	Shipyard relevance
HORIZON-CL5-2024-D5- 01-12	Combining state-of-the-art emission reduction and efficiency improvement technologies in ship design and retrofitting for contributing to the "Fit for 55" package objective by 2030 (ZEWT Partnership)	+++
HORIZON-CL5-2024-D5- 01-13	Demonstration of Technologies to minimise underwater noise generated by waterborne transport (ZEWT Partnership)	+
HORIZON-CL5-2024-D5- 01-15	Advanced digitalisation and modelling utilizing operational and other data to support zero emission waterborne transport (ZEWT Partnership)	++



Conclusions



Conclusions

- CINEA stands by the side of the waterborne sector to implement projects helping to reach the green deal objectives
- CINEA manages numerous programmes of relevance for the sector, so
 please don't hesitate to contact us to explore the best funding opportunity for
 your project and build a pipeline of projects towards market deployment
- Shipyards will continue to be part of the Horizon Europe programme.
- Shipyards and equipment manufacturers are strong players to push the sector to take the green shift.



Keep in touch - CINEA





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