



# H2020 FUNDING OPPORTUNITIES FOR THE MARITIME SECTOR

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## Remaining calls of H2020 (Work programme 2018 – 2020) - Transport

- *Building a low-carbon, climate resilient future: low carbon and sustainable transport*
  - **TOPIC LC-MG-1-13-2020: DECARBONISING LONG DISTANCE SHIPPING**
- *Global leadership and competitiveness*
  - **TOPIC MG-3-7-2020: IMPROVED PRODUCTION AND MAINTENANCE PROCESSES IN SHIPYARDS**
- *Blue Growth*
  - **TOPIC MG-BG-03-2020: UNDER WATER NOISE MITIGATION AND ENVIRONMENTAL IMPACT**

# Remaining calls of H2020 (Work programme 2018 – 2020) - Transport

- *Accounting for the people*
  - **TOPIC MG-4-10-2020: IMPROVING IMPACT AND BROADENING STAKEHOLDER ENGAGEMENT IN SUPPORT OF TRANSPORT RESEARCH AND INNOVATION – Subtopic 2 Broadening engagement and increasing impact from Waterborne transport research**

## Remaining calls of H2020 (Work programme 2018 – 2020) – Cross-cutting activities

- *Building a low-carbon, climate resilient future:  
Next generation batteries*
  - **LC-BAT-11-2020: REDUCING THE COST OF LARGE BATTERIES FOR WATERBORNE TRANSPORT**

## LC-MG-1-13-2020: DECARBONISING LONG DISTANCE SHIPPING

### *Challenge:*

- *Meet IMO decarbonisation goals; Cut total emission by 50% by 2050, cut carbon intensity by 40% by 2030.*
- *Shipping accounts for around 2.5% of global GHG's and around 13% of GHG's from the European Transport Sector with an increasing trend.*
- *Long distance shipping accounts for the overwhelming majority of these GHGs and is challenging to decarbonise.*
- *It is likely that solutions will need to combine technologies, operational practices and efficiency measures.*
- *Measures need to be linked to robust data and measurements to quantify their effectiveness.*

## **LC-MG-1-13-2020: DECARBONISING LONG DISTANCE SHIPPING**

*Address all of the following:*

- *Development of technologies combined with operational practices to substantially reduce GHG emissions from long distance shipping in line with IMO targets and without increasing other forms of pollution*
- *Excludes fuel development, many solutions possible, including in combination, consider infrastructure, develop KPI's/benchmarks*
- *Include CO2 equivalent from black carbon reduction. Address cost, GHG reduction, any new infrastructure, waste streams using real test data + theory*

## **LC-MG-1-13-2020: DECARBONISING LONG DISTANCE SHIPPING**

*Address all of the following:*

- Minimum TRL 5, test at full scale on operational ships, compare prediction with measured result. Bench mark operational measures robustly against state of the art.*
- Robust communication strategy. Cooperation with IMO and relevant EU activities/fora is encouraged.*

***RIA: Suggested contribution EUR 5-10 million (Total topic budget EUR 20 million)***

***2-stage topic: open since 03/09/2019, deadline for the 1<sup>st</sup> stage 09/01/2020***

## TOPIC MG-3-7-2020: IMPROVED PRODUCTION AND MAINTENANCE PROCESSES IN SHIPYARDS

### *Challenge:*

- *European ship building, repair, modification and maintenance is often founded on technology based competitive advantage. But competitors are becoming more advanced.*
- *Ship types that were developed in Europe are now built elsewhere. Still Europe leads in very high tech ships such as cruise vessels, but it's a niche and competitors are also trying to enter the high tech shipping market.*
- *Particularly a challenge for smaller shipyards which develop and maintain niche products or who are integrated in smart supply chains yet lack R&I resources.*
- *Continuous innovation is needed to remain competitive and lessons may be drawn for other sectors including automotive, aerospace and IT.*



## **TOPIC MG-3-7-2020: IMPROVED PRODUCTION AND MAINTENANCE PROCESSES IN SHIPYARDS**

*Address all of the following:*

- *Innovative technologies/systems to enhance competitiveness of production and maintenance processes in European shipbuilders and ship yards*
- *Identify skills development needs and strategies to maximize value from innovative production technologies and practices.*
- *Testing and demonstration to at least TRL 5. Benchmark against existing practices, consider environmental impacts and quantify additional value.*
- *Develop business plans and roll out strategies.*
- *IPR and or other measures to reduce innovation leakage outside of Europe.*

## **TOPIC MG-3-7-2020: IMPROVED PRODUCTION AND MAINTENANCE PROCESSES IN SHIPYARDS**

*Not excluding very large shipyards, an emphasis on the competitive needs of smaller and medium size shipyards across Europe would be welcome in those cases where incremental benefits from R&I maybe higher.*

***IA: Suggested contribution EUR 4-6 million (total topic budget EUR 15 million)***

***Single stage topic: opening on 03/12/2019, deadline 21/04/2020***

## TOPIC MG-BG-03-2020: UNDER WATER NOISE MITIGATION AND ENVIRONMENTAL IMPACT

### *Challenge:*

- *Underwater noise from shipping and boats impacts upon the behavior and health of water organisms in rivers and at sea, including marine mammals.*
- *Despite previous research, the environmental impacts from effects and the propagation of underwater noise at different amplitudes and frequencies remain poorly understood and largely unquantified.*
- *Few studies to better understand the potential noise reduction measures that could be applied to both existing and future vessels.*

## **TOPIC MG-BG-03-2020: UNDER WATER NOISE MITIGATION AND ENVIRONMENTAL IMPACT**

*Address all of the following:*

- Develop standardized methods to measure and assess the impacts from underwater noise generated by shipping and boats. Consider both acute and cumulative effects different water species in rivers and at sea including marine mammals.*
- Establish a stakeholder group of researchers together with other relevant actors including for example NGO's, marine and waterway authorities, industry, ship owners, naval industry etc and use to support methodology and standards development as well as its wide take up.*
- Identify, quantify and validate any negative impacts from different types and amplitudes of underwater noise from shipping and boats.*

## **TOPIC MG-BG-03-2020: UNDER WATER NOISE MITIGATION AND ENVIRONMENTAL IMPACT**

*Address all of the following:*

- *Propose the most effective feasible solutions to mitigate the effects of underwater noise and establish appropriate limits.*

***RIA: Suggested contribution of up EUR 8 million (total topic budget EUR 8 million)***

***Single stage topic: opening on 03/12/2019, deadline 21/04/2020***



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## **TOPIC MG-4-10-2020: IMPROVING IMPACT AND BROADENING STAKEHOLDER ENGAGEMENT IN SUPPORT OF TRANSPORT RESEARCH AND INNOVATION – Subtopic 2 Broadening engagement and increasing impact from Waterborne transport research**

### *Challenge:*

- *Organisation and participation in events that have major strategic importance help support this goal – e.g. Transport Research Arena (TRA); SMM Hamburg, the world’s largest Maritime Technology exhibition.*

### *Address all of the following:*

- *Identify the information gaps on innovation needs, awareness of outcomes and opportunities, and devise a communication strategy.*
- *Develop KPIs and benchmarks to monitor progress.*



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## **TOPIC MG-4-10-2020: IMPROVING IMPACT AND BROADENING STAKEHOLDER ENGAGEMENT IN SUPPORT OF TRANSPORT RESEARCH AND INNOVATION – Subtopic 2 Broadening engagement and increasing impact from Waterborne transport research**

- *Broaden lasting awareness and increase impact via participation in large strategic maritime and inland waterway events (e.g. SMM Hamburg in 2022 and 2024) and promote waterborne innovation in overall transport events.*
- *Produce high quality dissemination materials on scope and success stories arising from EU waterborne research.*

***CSA: Suggested contribution of up EUR 1.3 million (total topic budget EUR 4 million)***

***Single stage topic: opening on 03/12/2019, deadline 21/04/2020***

## LC-BAT-11-2020: REDUCING THE COST OF LARGE BATTERIES FOR WATERBORNE TRANSPORT

### *Challenge:*

- *Large battery packs are increasingly used to improve efficiency and to eliminate emissions from waterborne transport.*
- *The cost of waterborne transport batteries is up to ten times higher than an equivalent automotive battery (due to production processes, safety certification, fire suppression, lower economies of scale and higher assembly costs)*
- *High cost is an important barrier to increasing the deployment of both hybrid and fully battery electric shipping.*
- *Unlike other transport modes, space, weight and consequently battery power density for waterborne transport is usually secondary to the systems total life cycle cost.*



## **LC-BAT-11-2020: REDUCING THE COST OF LARGE BATTERIES FOR WATERBORNE TRANSPORT**

*Address all bullets:*

- *Research and develop large (applicable to minimum 1MWh systems) waterborne transport battery system and/or battery cells that are substantially cheaper on a total cost basis.*
- *Trials and testing to prove technology and manufacturing processes.*
- *Address production efficiency & requirements for type approval from relevant authorities, including risk based safety assessment.*
- *Develop a marine battery certification methodology with objective of: validating and verifying safety (also considering cooling system), include test method standardization and tools to cut certification costs.*

## **LC-BAT-11-2020: REDUCING THE COST OF LARGE BATTERIES FOR WATERBORNE TRANSPORT**

*Address all bullets:*

- *Considering different vessel types, address battery system integration.*
- *Undertake cost benefit analysis, assess end of life strategies, develop business case & potential finance models.*

***RIA: Suggested contribution EUR 8-12 million (total topic budget EUR 20 million)***

***Single stage topic: opening on 03/12/2019, deadline 21/04/2020***

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