



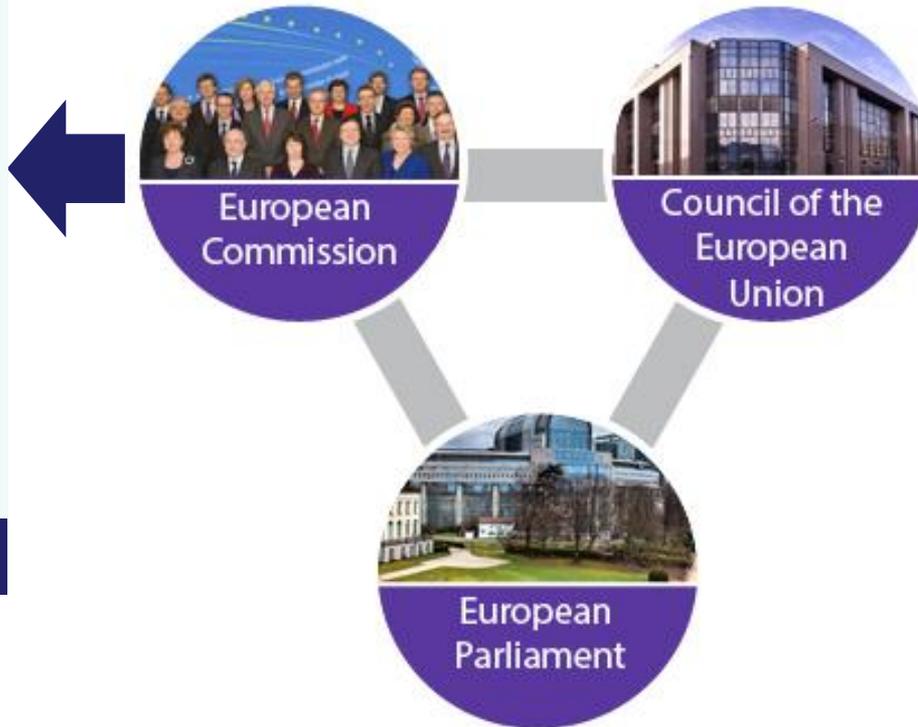
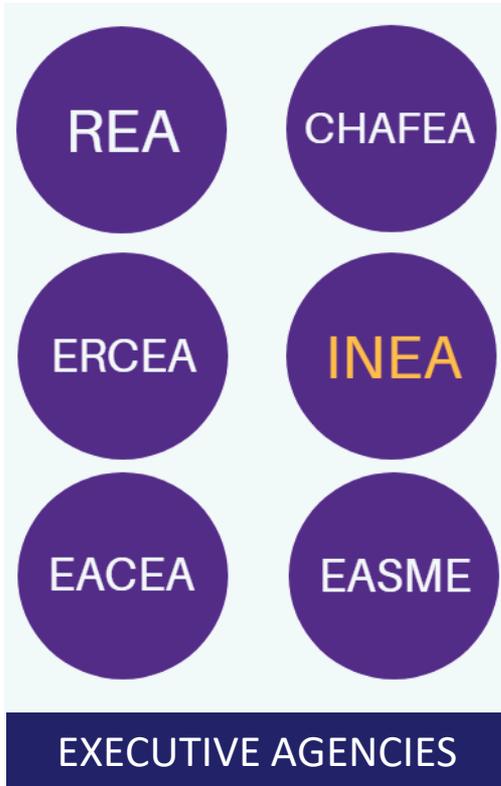
# H2020 funding opportunities for waterborne transport sector

*Renata KADRIC (INEA – H2020 Transport research  
unit)*



European  
Commission

## EU Players



European  
Council



Court of Justice  
of the European  
Communities



European  
Court of  
Auditors



European  
Commission

## Innovation and Networks Executive Agency



- Programmes managed by INEA (2014-2020): Parts of **Horizon 2020** and most of the **Connecting Europe Facility (CEF)**
- 10 years of experience: managing calls, financing/monitoring projects - currently managing close to **1,200 projects**
- Around 260 expert staff of **27 different nationalities**
- 4 parent DGs: **MOVE, ENER, RTD, CNECT**
- Supports applicants, uses high-quality evaluators, follows-up project implementation, increase visibility, of H2020 funding, gives feedback for policymaking , ensures 100% respect of deadlines



## Who does what?



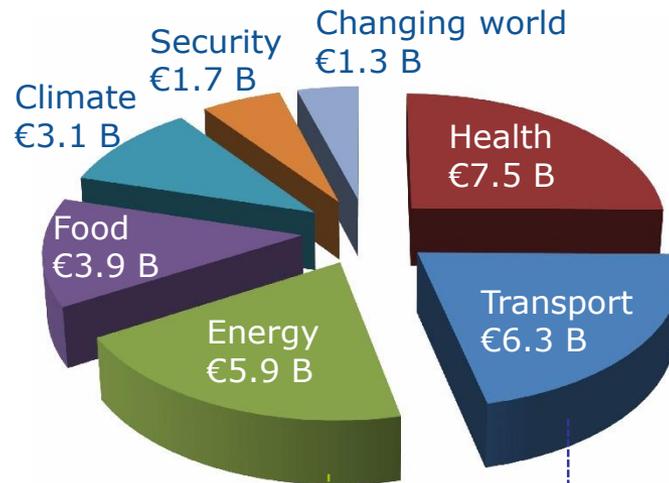
### DEFINES POLICY

- Defines strategy, objectives and priority areas/work programmes
- Selects projects for co-financing
- Makes programme decisions
- Evaluates the programme and the Agency's performance

### URNS POLICY INTO ACTION

- Organises calls for proposals
- Manages project life-cycle
- Monitors technical and financial implementation of projects
- Ensures sound financial management

## H2020: Seven societal challenges



### Share in H2020:

Health -	9.7%
<b>Transport -</b>	<b>8.2%</b>
<b>Energy -</b>	<b>7.7%</b>
Food -	5%
Climate -	4%
Security -	2.2%
Changing world -	1.7%

### Secure, clean and efficient energy

- Total budget € 5.9 billion
- INEA budget **€ 3.8 billion**
- **200 on-going projects**
- circa **400 projects** by 2020

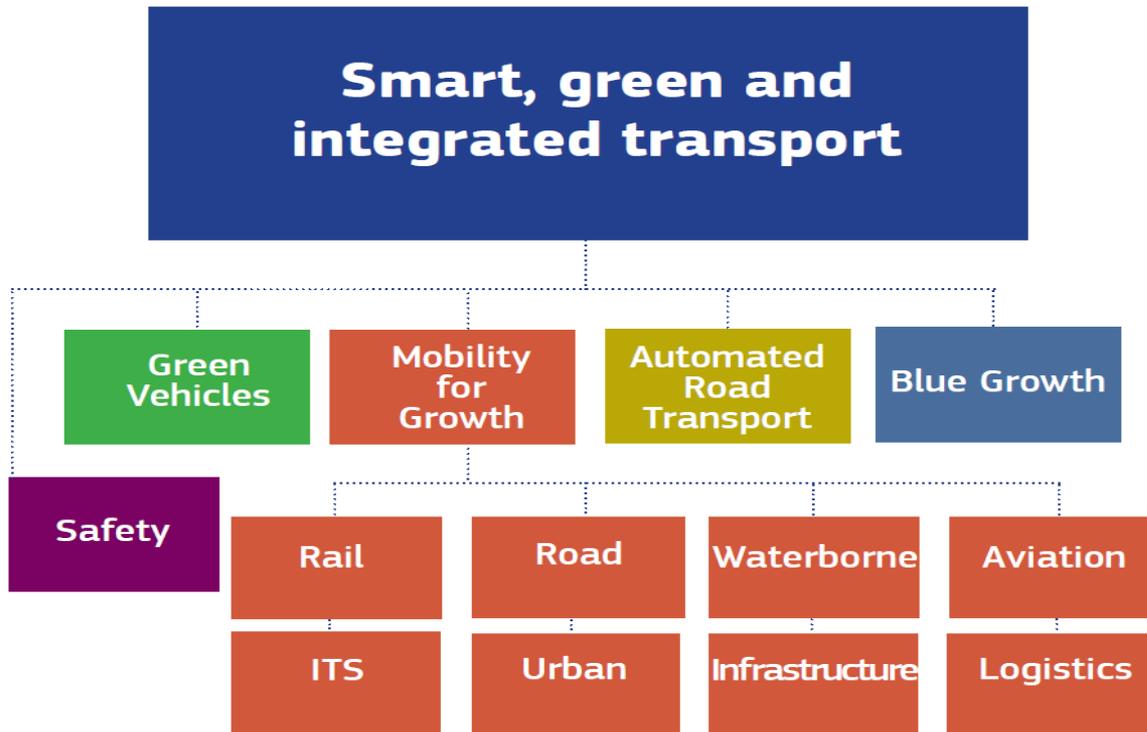
### Smart, green and integrated transport

- Total budget € 6.3 billion
- INEA budget **€ 2.9 billion**
- **200 on-going projects**
- circa **400 projects** by 2020



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# Smart, green and integrated Transport



# INEA – H2020 waterborne transport portfolio

- *Waterborne transport – including maritime transport, inland navigation and Blue Growth projects*
- *29 waterborne projects from the start of H2020 – around 230 million EUR worth of funding*
- *Average of around 8 million EUR of EU funding per project*
- *Mostly Innovation actions – higher TRL level*
- *6 recently finished, but another 6 currently in the Grant preparation stage*

# H2020 waterborne topics

- *Energy efficient and emission free vessel*
- *Safer and more efficient waterborne operations*
- *New technologies and smarter traffic management*
- *System modelling and life-cycle costs in ship building*
- *Specialised vessel concepts for service of coastal and offshore activities*
- *Response to oil spills and marine pollutions*
- *Sub-sea technologies for new services at sea*
- *Use of lightweight materials for vessels and equipment*
- *New and improved transport concepts*
- *Blue economy*
- *Innovations for energy efficiency and emission control in waterborne transport*

# H2020 waterborne topics

- *Complex and value-added specialised vessels*
- *Port of the future*
- *Unmanned and autonomous survey activities at sea*
- *Marine accident response*
- *The autonomous ship*
- *Reduction of transport impact on air quality*
- *Human factors in transport safety*

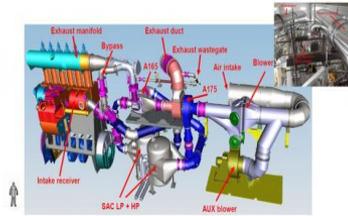


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Call	Project	Type of action	EU grant
H2020-BG-2014-2015, BG-05-2014 - Preparing for the future innovative offshore economy	MARIBE	CSA	1,977,951.25
H2020-MG-2014-2015, MG-4.1-2014-Towards the energy efficient and emission free vessel	E-FERRY	IA	16,001,856.50
	LeanShips	IA	17,256,399.21
	HERCULES-2	IA	16,813,399.63
H2020-MG-2014-2015, MG-4.2-2014 - Safer and more efficient waterborne operations through new technologies and smarter traffic management	EfficienSea2	IA	9,822,818.16
	LYNCEUS2MARKET	IA	7,260,975.00
H2020-MG-2014-2015, MG-4.4-2014-Promoting innovation in the Inland Waterways Transport (IWT) sector	PROMINENT	RIA	6,249,997.75
H2020-BG-2014-2015, BG-06-2014 - Delivering the sub-sea technologies for new services at sea	DexROV	RIA	4,631,182.50
	BRIDGES	RIA	7,791,810.00
H2020-MG-2014-2015, MG-4.3-2015 - System modelling and life-cycle cost optimisation for waterborne assets	SHIPLYS	RIA	6,144,150.00
	HOLISHIP	RIA	11,431,746.00
H2020-BG-2014-2015, BG-07-2015 - Response to oil spills and marine pollutions	GRACE	RIA	5,277,554.00
	FIBRESHIP	IA	8,866,322.75
H2020-MG-2016-2017, MG-2.2-2016 - Development, production and use of high performance and lightweight materials for vessels and equipment	RAMSSES	IA	10,799,440.65
H2020-MG-2016-2017, MG-2.3-2016 - New and improved transport concepts in waterborne transport	GASVESSEL	RIA	11,997,162.50
	NOVIMAR	RIA	7,923,951.25

Call	Project	Type of action	EU grant
H2020-MG-2016-2017, MG-3.3-2016 - Safer waterborne transport and maritime operations	SEDNA	RIA	6,498,752.50
H2020-BG-2016-2017, BG-02-2016-2017 - High value-added specialised vessel conspets enabling more efficient servicing of emerging coastal and offshore activities	LINCOLN	IA	6,343,600.00
	NEXUS	IA	3,337,098.88
H2020-MG-2016-2017, MG-2.1-2017 - Innovations for energy efficiency and emission control in waterborne transport	AIRCOAT	IA	5,299,097.38
	HYMETHSHIP	IA	8,438,110.00
H2020-MG-2016-2017, MG-2.4-2017 - Complex and value-added specialised vessels	HYSEASIII	IA	9,276,373.01
	TrAM	IA	11,741,430.63
	NAVAIS	IA	6,589,361.38
H2020-MG-2016-2017, MG-7-3-2017 - The Port of the future	PIXEL	RIA	4,890,222.50
	PortForward	RIA	4,994,311.25
	COREALIS	RIA	5,150,540.00
	DocksTheFuture	CSA	1,275,562.50
H2020-MG-2018-2019-2020, MG-BG-01-2018 - Unmanned and autonomous survey activities at sea	ENDURUNS	RIA	7,908,265.00

# ENERGY EFFICIENT AND EMISSION FREE VESSEL – FROM COMPONENT TO VESSEL DEPLOYMENT



HERCULES-2



LEANSHIPS



E-FERRY

- 
- 
- Fuel flexible, near-zero emission, adaptive performance marine engine
- 
- 

Efficient, less polluting new/retrofitted vessels with end users' requirements

The first mid-size 100% electric ferry

## Technology readiness levels (TRL)



## H2020 – Call 2019

***Recently closed topics – 2 two-stage topics, deadline for the first stage: 16/01/2019***

- ***LC-MG-1-8-2019:*** Retrofit solutions and next generation propulsion for waterborne transport

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/lc-mg-1-8-2019.html>

- ***MG-2-6-2019:*** Moving freight by Water: Sustainable Infrastructure and Innovative Vessels

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/mg-2-6-2019.html>

# Retrofit Solutions and Next Generation Propulsion for Waterborne Transport - 1

**LC-MG-1-8-2019**  
(RIA/IA)

## Challenge:

Retrofit solutions and next generation new builds (including fuel cells) to substantially reduce air pollution from shipping.

## Scope (one of the following sub topics):

### RIA:

- Concept passenger ship primarily powered by fuel cells of at least 5MW.
- Combined cycle OK for improved efficiency, using LNG, LBG, CPG or synthetic fuels with additional consideration of full H2.

Indicative cost per proposal:

Topic A €4-8M

Topic B €3-5M

Budget:

Topic A: €8M

Topic B: €15m

## Retrofit Solutions and Next Generation Propulsion for Waterborne Transport - 2

**LC-MG-1-8-  
2019**  
(RIA/IA)

Indicative cost per proposal:

Topic A €4-8M

Topic B €3-5M

Budget:

Topic A: €8M

Topic B: €15m

IA - One or more of:

- To TRL 5 Highly efficient next gen electrified, clean fuel, or renewable energy propulsion system
- To TRL 5 very innovative large area high efficiency or renewable energy assisted propulsion such as novel wind power, whale tale, bio mimic, considering all aspects.
- To TRL6 Cost effective retrofits for marine shipping that substantially reduce emissions and exceed current legislative requirements.
- As above for inland shipping

### **Expected impact:**

Reduce air pollution from shipping, for retrofits particularly in coastal and port areas. Increase take up. Next gen solutions >10% reduction in CO2 emissions.

# Moving freight by Water: Sustainable Infrastructure and Innovative Vessels - 1

**MG-2-6-  
2019 (RIA)**

## Challenge:

Find innovative solutions to move more European freight by water using inland waterways or short sea shipping.

## Scope

Proposals should focus on either (a) Inland waterways, or (b) maritime transport. Proposals should indicate which is being addressed.

Those projects addressing:

Inland Waterways must address solutions for infrastructure maintenance and operations (4th bullet), plus at least 4 of the other bullets.

Marine Transport must address the development of innovative vessel(s) for more effective intermodal integration and with a focus of the TEN-T network, plus at least 4 of the other bullets.

Indicative cost per  
proposal:

€5M to €10M

Topic Budget:

€30M

To ensure balance,  
at least the highest  
ranked proposal  
addressing (a) and  
b) will be selected

# Moving freight by Water: Sustainable Infrastructure and Innovative Vessels - 2

**MG-2-6-  
2019 (RIA)**

## Expected impact:

- Decongest land transport.
- Reduce CO2 and air pollution from intra-European freight transport.
- Improve performance of TEN-T network.
- Substantially increase waterborne freight fed from intercontinental ports.
- Modernise and increase reliability.
- Demonstrate that the proposed solution increases the quantity of waterborne freight carried.

Indicative cost per  
proposal:  
€5M to €10M

Topic Budget:  
€30M

To ensure balance,  
at least the highest  
ranked proposal  
addressing (a) and  
b) will be selected

## H2020 – Call 2019

***Currently open topics – 2 single stage topics, opening from 04/12/2018, deadline: 25/04/2019***

- ***LC-MG-1-11-2019:*** Structuring R&I towards zero emission waterborne transport
- ***MG-BG-02-2019:*** Ship emission control scenarios, marine environmental impact and mitigation

<http://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/mg-bg-02-2019.html>

# Structuring R&I towards zero emission waterborne transport - 1

**LC-MG-1-  
11-2019  
(CSA)**

## Challenge:

- Need a structured approach towards R&I to decarbonise waterborne transports as well as reducing other pollutants such as SOX, NOX and PMs.
- All stakeholders need to be engaged.
- Priorities need to be established and widely communicated so that they can become a focus for the greening of waterborne transport as a whole.

Indicative cost per  
proposal:  
€1M

Topic Budget  
€1M

## Structuring R&I towards zero emission waterborne transport - 2

**LC-MG-1-  
11-2019  
(CSA)**

### Proposals should address:

- Establish a comprehensive “green shipping stake holder group which should cooperate with waterborne TP and take into account other activities such as ESSF, STRIA, CEF TEN-T.
- Establish a quantified vision considering all pollutants and a strategic research agenda with the steps to achieve it.
- Support take up, including the establishment and implementation of a strong communications strategy.
- Some related activities concerning digitalisation, safety and competitiveness may also be included.

### Expected impact:

- Towards zero-emission goal
- Increase competitiveness
- Better targeting and synergies
- Wider awareness and "buy in" to a European zero emission strategy

Indicative cost per  
proposal:

€1M

Topic Budget

€1M

# Ship Emission Control scenarios, marine environmental impact and mitigation - 1

**MG-BG-02-  
2019 (RIA)**

## Challenge:

- Increasingly strict emission limits apply to ships around coastlines of most developed countries.
- Now focussed on SOX but a focus on NOX and PM may follow.
- Some compliant solutions impacts and new waste streams. The effects and scenarios in the short and long term are not well understood.

## Proposals should address:

- Assessment of the range of emission reduction technologies, considering their costs benefits.
- Experimentally characterise waste streams,
- Considering several scenarios model discernment around the European coast, considering main ship routes and real data, hydrological and weather as well as the constituents discharged

Indicative cost per  
proposal:  
€8M

Topic Budget  
€8M

# Ship Emission Control scenarios, marine environmental impact and mitigation - 2

**MG-BG-02-  
2019 (RIA)**

- Environmental impact in the medium and long term including bio accumulation.
- Propose sustainable cost effective solutions.
- Recommended to provide open source access to dispersion model data.

## **Expected impact:**

- Comprehensive understanding of dispersion and any long term environmental impacts.
- Identify most affected regions.
- Provide sound basis for future policies.

Indicative cost per  
proposal:

€8M

Topic Budget

€8M

## H2020 – Call 2020

- 2 topics confirmed, calls open in fall 2019
  - **MG-3-07-2020: Improved Production Processes in Ship building - IA, budget 15 million EUR**
  - **MG-BG-03-2020: Underwater noise mitigation and environmental impact – RIA, budget 8 million EUR**
- 1 additional topics currently being discussed by the H2020 Transport Committee
  - **LC-MG-1-13-2020: Decarbonising long distance shipping – RIA, budget 20 million EUR**

## How to participate?

- All information available on Funding and Tenders portal  
<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home>
- Application process and project management in details  
[http://ec.europa.eu/research/participants/docs/h2020-funding-guide/index\\_en.htm](http://ec.europa.eu/research/participants/docs/h2020-funding-guide/index_en.htm)
- All current and upcoming topics  
<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-search>
- Partner search tool  
<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/how-to-participate/partner-search>

## Useful information for participation

- Consortium of at least 3 entities from 3 member or associated states addressing topics defined in a published call
- 100% (CSA, RIA and IA for non-profit entities) or 70% (IA for profit entities)
- A typical 50% prepayment at start of project
- International cooperation welcomed, but funding from EU available only for EU countries plus H2020 associated countries

## Expectations from projects

- Demonstration activities
- Progress beyond the state of the art
- Clear impacts as defined for the topic and EU added value
- Public engagement and dissemination
- Clear and ambitious exploitation plans beyond the project

**Renata Kadric**

**[Renata.KADRIC@ec.europa.eu](mailto:Renata.KADRIC@ec.europa.eu)**

**+32 (02)229 0224**



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**<https://ec.europa.eu/inea/en>**