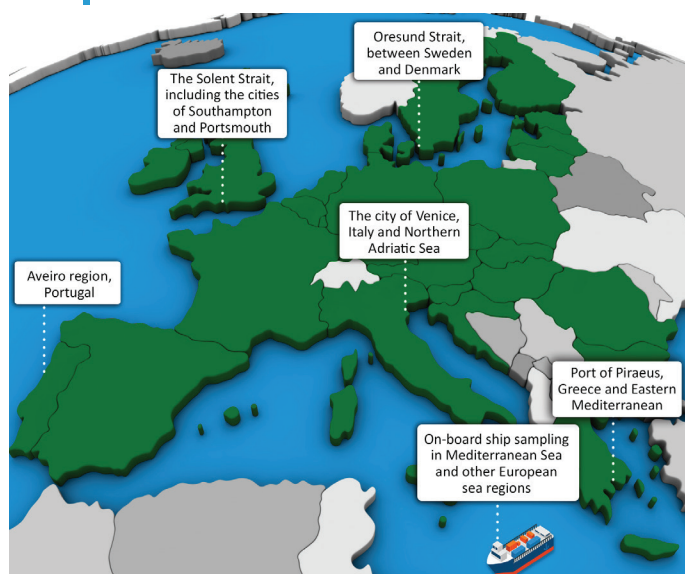


The **EMERGE** project's aims and objectives will be achieved through real-world test cases involving measurements and modelling on board vessels, along main shipping routes and in sensitive European marine regions.

The project will collect and synthesize experimental evidence on waste streams to water and emissions to air originating from ships, for different emission control technologies.

The project's measurements will focus on abatement techniques and will include emissions to, and concentrations in water, air and marine biota. It will especially investigate how the use of available scrubbers will influence the marine environments, human health and climate change.

Experimental work and more detailed analyses will be conducted in five geographical case studies, which are located in selected ecologically vulnerable regions. A mobile onboard case study will be also deployed in various European sea regions.



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EMERGE

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# EMERGE

Evaluation,  
control and  
Mitigation  
of the  
EnviRonmental  
impacts  
of shipping  
Emissions



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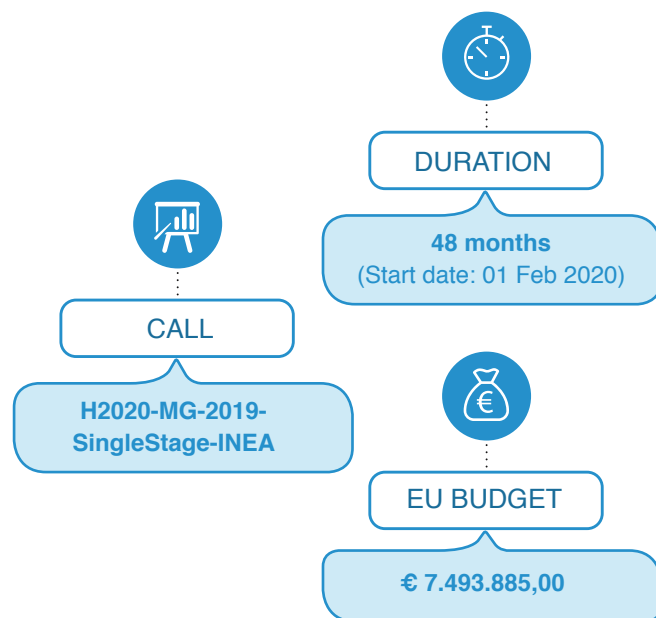
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New global standards were enforced on January 1<sup>st</sup> 2020 for shipping emissions. This is because of their potentially significant health and environmental effects, especially from sulfur gases and sulfate aerosols.

Technologies for controlling pollution from shipping is relatively new. Developing a robust scientific understanding of the environmental impacts of emission reduction technologies within the shipping sector remains a major scientific and societal challenge.

The **EMERGE** project aims to:

- 1 Quantify and evaluate the effects of potential emission reduction solutions for shipping in Europe for several scenarios.
- 2 Develop effective strategies and measures to reduce the environmental impacts of shipping.



The **EMERGE** project will systematically analyze the complex interactions between technological options, pollutant emissions and dispersion, and the environment.

The project will especially investigate how effectively available scrubber technologies will reduce the effects of key pollutants.

The **EMERGE** project will:

- ✓ Collect and synthesize experimental evidence on air emissions and waste streams from ships with potential emission control technologies.
- ✓ Develop an integrated modelling framework to assess the combined impacts of shipping emission control options on the aquatic and atmospheric environments.

The expected outcomes from the project are:

An assessment of the suitability, cost-effectiveness and impacts of a variety of shipping emission control scenarios.

Recommendations and guidance for the stakeholders and decision-makers on the most suitable, effective and cost-beneficial options to significantly reduce marine pollution.

