



# SAFE, EFFICIENT AND AUTONOMOUS: MULTIMODAL LIBRARY OF EUROPEAN SHORTSEA AND INLAND SOLUTIONS

SEAMLESS aims at developing and adapting missing technology building blocks and key enabling technologies into a fully automated, economically viable, cost-effective, and resilient waterborne freight feeder loop service for Short Sea Shipping (SSS) and/or Inland Waterways Transport (IWT).

The service will use autonomous systems to ensure safe, efficient, and environmentally friendly operation.

A fleet of autonomous cargo shuttles will be operated by humans-in-the-loop from Remote Operation Centres, which will cooperate with automated shore-side infrastructure and interact with conventional systems.

Real-time information from a digital bird's-eye view will be used for planning optimisation and reconfiguration, including digitalised administrative procedures.

The SEAMLESS building blocks will be verified and validated by conducting full-scale demonstration in selected real-world scenarios, and transferability will be demonstrated in selected use cases throughout Europe.

The project will also develop novel business models to minimise investment risk for first movers. Regulatory gaps and challenges related to autonomous vessel operation will be identified, and recommendations for policy makers will be provided for smooth and safe deployment of fully automated services.

## IMPACT



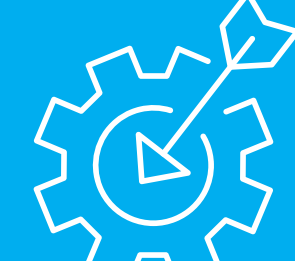
Increased and early deployment of climate neutral fuels and significant electrification of shipping, in particular and foremost in intra-European transport connections.



Increased overall energy efficiency and drastically lower fuel consumption of vessels.



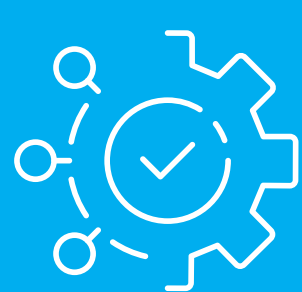
Enable innovative port infrastructure to achieve zero-emission waterborne transport (inland, maritime).



Enable clean, climate-neutral, and climate-resilient inland waterway vessels before 2030 helping a significant market take-up and a comprehensive green fleet renewal which will also help modal shift.



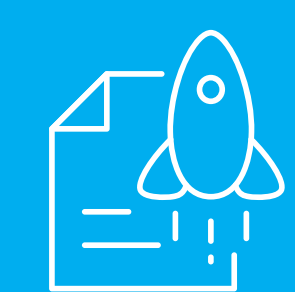
Strong technological and operational momentum towards achieving climate neutrality and the elimination of all harmful pollution to air and water.



Achieve the smart, efficient, secure and safe integration of maritime and inland shipping into logistic chains, facilitated by full digitalisation and automation.



Enable fully automated shipping (maritime and inland) and efficient connectivity.



Competitive waterborne industries, including the globally active European maritime technology sector, providing the advanced green and digital technologies which will support jobs and growth in Europe.



#seamless-project



@seamless\_heu



www.seamless-project.eu

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