



MARINE WATERWAYS AS A SUSTAINABLE SOURCE OF WELLBEING, SECURITY AND SAFETY

The WATERWAYS project explores how the sustainable use of Baltic Sea maritime routes can be developed and maintained in a constantly evolving world - marked by shifting risk landscapes, regulatory environments, and societal values.

SOCIETAL CHALLENGE TO TACKLE

The use of marine space in the Baltic Sea is undergoing significant change, impacting the safety, security, and sustainability of maritime waterways in the region. The green transition, geopolitical tensions, and climate change are reshaping the maritime risk landscape, affecting both navigational safety and environmental pressures. At the same time, the data and tools required to monitor and address these trends remain underdeveloped in many respects, and fragmented regulatory frameworks impede coordinated and effective efforts.

PROJECT OBJECTIVES

The project aims to improve understanding of how key maritime-related sectors - such as shipping, boating, fisheries, and offshore wind energy - interact with and depend on the Baltic Sea marine routes. The objective is to strengthen the positive impacts of maritime routes on wellbeing, safety, and security in the northern Baltic Sea, while also minimizing negative environmental impacts.

MULTIDISCIPLINARY APPROACH

WATERWAYS examines the use of maritime routes in the Baltic Sea through the lens of the UN Sustainable Development Goals, taking into account impacts on marine life, climate, human health, safety, and well-being. Combining expertise from the fields of marine technology, environmental science, law, and computer science, the multidisciplinary project team engages stakeholders across public, private, and civil sectors.

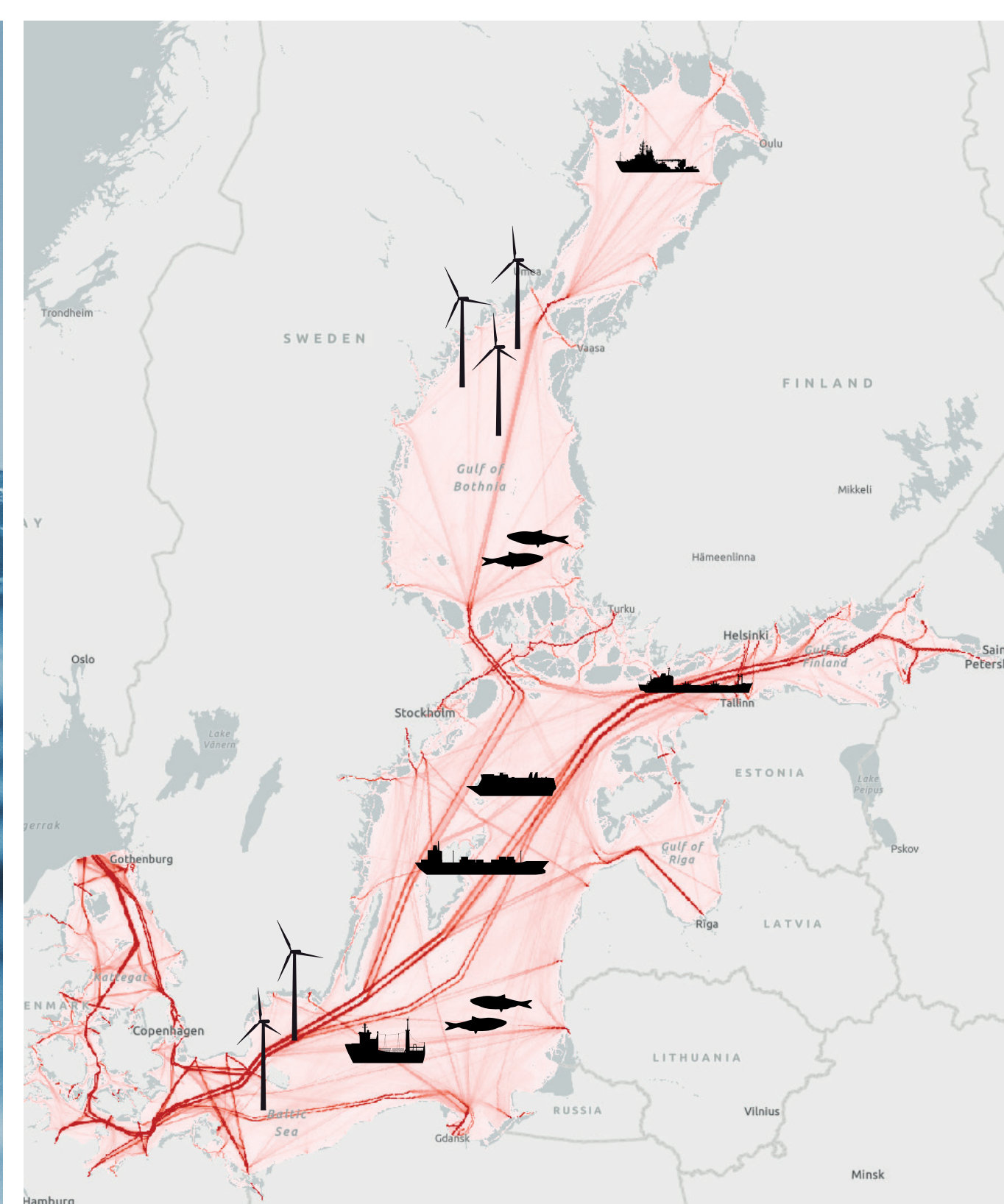
RESEARCH OUTPUTS

The project's output includes new data, monitoring tools, risk models, scenarios, and policy recommendations that inform governance and maritime spatial planning at national and international levels.



RESEARCH THEMES

- MULTIDISCIPLINARY USE OF MARITIME ROUTES AND ENVIRONMENTAL IMPACTS
- EVOLVING MARITIME RISK LANDSCAPE
- AI SOLUTIONS FOR SITUATIONAL AWARENESS AND CO-CREATION OF A SUSTAINABLE FUTURE
- COHERENT REGULATION AS AN ENABLER OF SUSTAINABLE MARITIME ROUTE USE
- UNCERTAINTY-AWARE SUSTAINABLE PLANNING AND DECISION MAKING



TARGETED SOCIETAL IMPACT

- 1** **ENHANCED** monitoring and environmental impact assessment capabilities: By improving the tracking and analysis of both legal and illegal marine activities, the project strengthens maritime law compliance and reduces operational pollution, contributing to a safer and cleaner sea.
- 2** **IMPROVED** conditions for sustainable coexistence of maritime sectors: The project develops solutions to align maritime activities, ensuring balanced resource use. Collaborative planning with stakeholders enhances shared understanding and capacity to take decisive, sustainability-driven action.
- 3** **UP-TO-DATE** risk awareness: Through advanced modelling and analytics, WATERWAYS enhances understanding of the evolving maritime risk landscape in the Baltic Sea, supporting timely and future-oriented navigational risk management and preparedness to oil and chemical spill response.
- 4** **READINESS** for more coherent maritime regulation: The project assesses current maritime legislation in light of new findings and identifies regulatory obstacles to safe and sustainable use of maritime routes, aiming to provide recommendations for more integrated, future-oriented regulation.

The project is part of the *Water for Welfare, Security, and Peace (WAWPE)* program, funded by the Finnish Strategic Research Council from 2024 to 2030. The WATERWAYS consortium consists of research teams from Aalto University, Finnish Meteorological Institute, Kotka Maritime Research Centre (Merikotka), University of Helsinki, and Åbo Akademi University.



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