



PROJECT ACRONYM AND TITLE: Transformation of Maritime Transport: Digital Technologies and Alternative Fuels (TRANSMAR)

FUNDING PROGRAMME: Call for funding of Institutional research projects of the University of Rijeka financed from source 581 – Recovery and Resilience Mechanism (**University of Rijeka, Institutional Research Projects**)

PERSON RESPONSIBLE: Prof. Edvard Tijan, PhD

Project budžet

33.256,16 EUR

SUMMARY AND OBJECTIVE: The project is focused on enhancing maritime transport through the implementation of innovative digital technologies, smart energy management systems and the use of alternative fuels. In this context, the research of digital technologies in port process management and shipping will enable the development of new business models in the maritime sector, with their application encompassing a wide range of innovations. Key components include the use of artificial intelligence, blockchain, the Internet of Things (IoT), advanced analytics, and autonomous systems for container traffic management, as well as the development of platforms for route optimization. This will result in faster and more efficient cargo handling, reduced congestion in ports, and significant improvements in energy efficiency. Particular emphasis is placed on the exploration of sustainable fuels such as hydrogen, ammonia, and LNG, in line with European decarbonization and environmental protection goals.

The project contributes to raising the scientific excellence of the Faculty through research and the implementation of digital and green technologies in the maritime sector, thereby increasing its international recognition and academic reputation. At the same time, it strengthens cooperation with industry by developing innovative solutions for optimizing logistics operations, attracting investments, and improving the competitiveness of Croatian and European ports. Students will have the opportunity to learn about the latest technologies and trends, while the project results will serve as examples of best practices for port concessionaires in the region and beyond, encouraging the broader adoption of green technologies and strategies for reducing the ecological footprint.

Start date

1 October 2025

End date

30 September 2029

PROJECT TEAM

No.	Member	Affiliation	Role
1.	Prof. Edvard Tijan, PhD	University of Rijeka, Faculty of Maritime Studies, Croatia	Project manager
2.	Assoc. Prof. Saša Aksentijević, PhD	University of Rijeka, Faculty of Maritime Studies, Croatia	Lead researcher
3.	Gea Miščević, MSC	University of Rijeka, Faculty of Maritime Studies, Croatia	PhD student
4.	Marija Jović, PhD	Institute of Shipping Economics and Logistics, Germany	Researcher