www.marpowerproject.eu

marpower

Pioneering sustainable maritime transport

MARPOWER PROJECT: Efficient zero-emissions gas turbine POWER system for MARitime transport

The MARPOWER project aims to decarbonize maritime transport with net-zero fuels. This EU-funded initiative is developing an innovative energy conversion system with a hydrogen-ready combustion design that can operate on many different sustainable fuels, requiring only minimal modifications.

THE OBJECTIVES

01 Advance sustainable maritime transport

Position Europe as a global leader in innovative power and propulsion technologies that drive environmentally responsible and energy-efficient shipping.

02 Accelerate the transition to clean energy use

Reduce the maritime sector's reliance on fossil fuels by advancing cleaner energy solutions, with the ultimate goal of achieving zero-emissions shipping.

03 Strengthen economic competitiveness

Ensure that the MARPOWER energy conversion system offers a cost-effective alternative to fossil fuel technologies, fostering broad adoption across the maritime sector.

04 Support port infrastructure for alternative fuels

Promote the development of essential port infrastructure for the supply and distribution of alternative fuels, enabling the shift towards sustainable maritime operations.

05 Inform policy and regulatory frameworks

Contribute to the development of effective regulations and policies that accelerate the adoption of alternative fuels in the maritime sector.

THE BENEFITS

01 Improved energy efficiency

Delivers higher performance and flexibility through a low-range two-shaft gas turbine with integrated waste heat recovery, significantly boosting efficiency and reducing fuel consumption.

02 Fuel flexibility and operational resilience

Capable of using a wide range of fuels — including renewable options such as hydrogen and ammonia — while maintaining reliable performance, even with variable fuel quality. Unlike systems that require highly purified inputs.

03 Cost-effective solution

Delivers lower operational costs in the medium/long term through higher efficiency and significant GHG emission reductions, notably by avoiding methane slip.

04 Environmental benefits

Supports maritime decarbonisation by enabling the use of net-zero fuels, eliminating methane slip, reducing other pollutants, and improving energy efficiency.

Funded by the European Union

Funded by the European Union under grant agreement No 101138341. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.

MARPOWER PROJECT HIGHLIGHTS

The MARPOWER project is driving a major step forward in sustainable shipping. Our energy conversion system cuts greenhouse gas emissions by up to 21% and boosts electrical efficiency to 54%, slashing the maritime carbon footprint.

Built to run on carbon-neutral fuels, the compact and resilient MARPOWER energy conversion system fits a variety of ship types and maintains top performance even under changing conditions. It is fully scalable for both short and long voyages, making clean tech accessible across the industry.

Performance — covering scalability, safety, and fuel flexibility — is being validated through advanced simulations, real-world testing, and case studies, powered by a cutting-edge digital twin.

THE PROJECT IN FIGURES

8.000.000 € funding

6 European countries involved in this worldwide project

48 months

11 partners

STAY CONNECTED

www.marpowerproject.eu

Our newsletters

MARPOWER Project

@MARPOWERproject

THE TEAM

LUT University · POLITECNICO MILANO 1863 · DLR Deutsches Zentrum für Luft- und Raumfahrt German Aerospace Center · DTU · UniversidadeVigo · Aurelia · ALFA LAVAL · RINA · CHANTIERS DE L'ATLANTIQUE · zabala INNOVATION