

Overall project budget: € 5.956.938
Start date: 1 May 2022
End date: 31 October 2025
Total months: 42

RHODAS is composed of 9 partners of 6 EU countries (3 Universities, 2 Research & Technology organisations, 2 SMEs, 2 industrial partners). Together, they collaborate in the execution of the project and contribute with significant expertise and research infrastructures, ensuring an integrated approach for proper holistic design, development and validation of the proposed solutions where nothing is left behind.

COORDINATOR ▶**PARTICIPANTS** ▶

LET'S MAKE HEAVY DUTY TRANSPORT GREENER!

BETTER PERFORMANCES FOR A BETTER ENVIRONMENT

Heavy-duty vehicles account for 40% of total CO² emissions from road transport in Europe. The electrification of those vehicles is a promising strategy to limit environmental pollution, contributing significantly to the mitigation of global change, with its consequent societal benefits.

In line with the main directives and roadmaps on road transport, the research and innovation activities of the RHODaS project are expected to make measurable contributions in the medium-term to achieve the targets set by the European Union. At **RHODAS**, we aim to:

- ▶ Develop disruptive topologies of power converters using new semiconductor materials;
- ▶ Improve efficiency and performance of power converters while increasing affordability of powertrains for heavy-duty EVs;
- ▶ Reduce size and weight of the power converters by up to 40%;
- ▶ Extend the truck driving range by 10%;
- ▶ Achieve greater efficiency level in the integrated motor drive due to less energetic losses at the power conversion and a thermal management system;
- ▶ Integrate cutting-edge digital technologies to improve architecture efficiency, power density, reliability, cost and sustainability.
- ▶ Apply digital technologies and sensors for advanced online monitoring and prediction techniques using Big Data Analysis and Artificial Intelligence;
- ▶ Achieve cost reduction of powertrains, increasing their affordability and reliability, and promoting a full-market penetration of heavy-duty electric vehicles;
- ▶ Integrate ecodesign, material criticality and circularity considerations into the RHODaS powertrain solution;
- ▶ Design modular converters that are also applicable to light-duty vehicles;
- ▶ Promote collaborative research and interaction between academia and industry throughout the entire supply chain.