

PARTNERS



FACTS & FIGURES

Acronym: LONGRUN
Full name: Development of efficient and environmental friendly LONG distance powertrain for heavy duty trucks and coaches
Duration: 42 months
Start date: 1 January 2020
Total budget: 25M€
Partners: 30 partners from 12 countries including 7 OEMs



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CONTACT

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LONG RUN

Development of efficient and environmental friendly long distance powertrain for heavy duty trucks and coaches

www.h2020-longrun.eu



APPROACH

LONGRUN is an innovation action focusing on the development of engines, long distance coaches and long haulage truck demonstrators. The innovations are in the areas of electro-hybrid drives, optimized ICEs and aftertreatment systems for alternative and renewable fuels, electric motors, smart auxiliaries, RES production & storage and power electronics.

VISION

LONGRUN's main mission is to reduce CO₂ emissions in the heavy duty transport sector, and to contribute with tangible results to the EC review of CO₂ emission standards in this sector starting in 2022.

BACKGROUND

- The heavy duty sector is responsible for roughly 4.5% of total CO₂ emission in Europe.
- 6 standards and EC directives are influencing overall CO₂ emissions of the road transport sector in Europe, two of which directly impact the work of OEMs ->the CO₂ emission standard, and the Clean Vehicles Directive.
- Since July 2019, current Euro VI RDE Regulation is related to VECTO hence CO₂ emissions of certain trucks have to be calculated using VECTO and reported to the European Commission -> 4.250 €/gCO₂/tkm.
- VECTO calculates CO₂ emissions based on more than 100 parameters; knowing the impact of specific technologies on the CO₂ calculation is key.

OBJECTIVES

Overall objective is to reduce real driving emissions, fuel consumption and its related CO₂ emissions.

Objective 1 will entail CO₂ emissions reduction activities. These include six use cases of which four are focusing on advanced sustainable fuels, with low-carbon footprint on both the production level well-to-wheel (WtW effect), and carbon-content level tank-to-wheel (TtW effect): HVO, H₂, fuel mixtures and bio-methane. Each of them will show the best possible TtW CO₂ reduction and furthermore targets toward a WtW CO₂ reduction of >80%. Also activities related to the hybridization and the electrification of powertrains as well as energy efficiency measures contribute to the overall objective of CO₂ emission reduction.

Objective 2 is related to ICE performance increase to reach a peak thermal efficiency of 50%.

Objective 3 concerns emission reduction targets vis-a-vis NO_x, CO, Particulate Matter (PN), as well as other gaseous emission; the activities mostly focus on alternative fuel mixes with the aim to reduce emissions; advanced aftertreatment will contribute to achieving maximum emission reductions (regulated and unregulated).

Objective 4 will lead to at least 10% energy savings as a result of connected control strategies and predictive maintenance, hybridisation and waste heat recovery developments.

Graphic: Overview LONGRUN project

