

PROJECT

GOMECSYS VCR system

Variable Compression Ratio System for the reduction of fuel consumption and CO2 emissions in motor vehicles

Funding: European (Horizon 2020)

Duration: Aug 2017 - Nov 2017

Status: Complete

Total project cost: €71,429

EU contribution: €50,000



[CORDIS RCN : 211508](#)

Background & policy context:

Increasingly stringent emission and fuel economy standards have been pushing old combustion engines into an accelerated evolution phase. In this context, OEMs in the industry have shifted their R&D efforts towards more thermally efficient, less polluting and down-sized engines, thus viewing the production of low emission and fuel consumption vehicles. The concept of VCR engines (i.e. the compression ratio (CR) of the internal combustion engine can be modified under dynamic driving conditions and performance needs) has been considered as an essential future technology to meet these targets. However, limitations associated with their effect in engine's architecture, their impact on the reduction of CO2 emissions and additional productions costs have hindered their widespread commercial application.

Objectives:

Our ground-breaking VCR system will be the first able to address the burning needs of the industry. Gomecsys VCR system is a highly innovative system differentiated from alternatives due to its engineering simplicity able to significantly enhance the performance of conventional combustion engines achieving a staggering 5-10% reduction on fuel consumption and CO2 emissions. Our core aim is to commercialize the 6th generation of our VCR system in 2020 and its commercial viability will be based on our ability to define business opportunities in target markets and attract key partners and customer OEMs for our project. Moreover, we are convinced that our project will provide "resource efficient transport that respects the environment" which is considered a critical aspect to meet "Smart, Green and Integrated Transport" societal challenge addressed by Horizon 2020 programme.

Finally, through the completion of Gomecsys VCR system project we expect to reach €15 million revenues five years after its commercialization. Phase 2 will require a €2 million investment, which will present a Cumulative Return of Investment of 4.99 in 2024.

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Lead Organisation:

Gomecsys Bv

Address:

ENERGIESTRAAT 23 B 1

1411 AR NAARDEN

Netherlands

EU Contribution: €50,000

Technologies:

Road vehicle propulsion
Variable compression ratio

Development phase: Implementation

STRIA Roadmaps: Vehicle design and manufacturing

Transport mode: Road transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Environmental/Emissions aspects

Geo-spatial type: Other