IMPERIUM

IMplementation of Powertrain Control for Economic and Clean Real driving emlIssion and fuel ConsUMption

Funding: European (Horizon 2020)
Duration: Sep 2016 - Aug 2019
Status: Complete
Total project cost: €9,915,292
EU contribution: €6,625,977

Call for proposal: H2020-GV-2015
CORDIS RCN: 204189

Objectives:

Fuel economy is a key aspect to reduce operating costs and improve efficiency of freight traffic, thus increasing truck competitiveness.

The main objective of the IMPERIUM project (IMplementation of Powertrain Control for Economic and Clean Real driving Emission and Consumption) is to achieve fuel consumption reduction by 20% (diesel and urea) whilst keeping the vehicle within the legal limits for pollutant emissions. The approach relies on three stages targeting the improvement of the control strategy:

- Direct optimisation of the control of the main components (engine, exhaust after-treatment, transmission, waste heat recovery, e-drive) to maximize their performances.
- Global powertrain energy manager to coordinate the different energy sources and optimize their use depending on the current driving situation.
- Providing a more comprehensive understanding of the mission (eHorizon, mission-based learning) such that the different energy sources can be planned and optimized on a long term.

The IMPERIUM consortium consist of major European actors and is able to provide a 100% European value chain for the development of future powertrain control strategies for trucks.

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:

Avl List Gmbh
Address: Hans-List-Platz 8020 Graz Austria

Organisation Website: http://www.avl.com
EU Contribution: €1,391,439

Partner Organisations:
<table>
<thead>
<tr>
<th>Company</th>
<th>Address</th>
<th>Organisation Website</th>
<th>EU Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rheinsche Bahngessellschaft Aktiengesellschaft</td>
<td>LIERENFELDER STRASSE 42 40231 DÜSSELDORF Germany</td>
<td><a href="http://www.ricardo.com">http://www.ricardo.com</a></td>
<td>€487,133</td>
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<tr>
<td>Rheinisch-Westfälische Technische Hochschule Aachen</td>
<td>Templergraben 52062 Aachen Germany</td>
<td><a href="http://www.rwth-aachen.de">http://www.rwth-aachen.de</a></td>
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<td>Iveco S.p.a.</td>
<td>Via Puglia 35 10156 Torino Italy</td>
<td><a href="http://www.iveco.com">http://www.iveco.com</a></td>
<td>€869,001</td>
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<tr>
<td>Daf Trucks N.v.</td>
<td>HUGO VAN DER GOESLAAN 1</td>
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<td>5600 PT EINDHOVEN</td>
<td>Netherlands</td>
<td>€863,458</td>
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<td>Ceske Vysoke Uceni Technicke V Praze</td>
<td>Zicova 4, 16636 PRAHA 6, Czech Republic</td>
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<td>Politecnico Di Torino</td>
<td>Corso Duca Degli Abruzzi, 10129 Torino, Italy</td>
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<tr>
<td>Politecnico Di Milano</td>
<td>Piazza Leonardo Da Vinci 32, 20133 Milano, Italy</td>
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<td>Continental Ag</td>
<td>Vahrenwalder Strasse 9, 169 HANNOVER, Germany</td>
<td>€312,275</td>
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<td>Honeywell, Spol. S.r.o</td>
<td>V PARKU 18, 14800 PRAHA, Czech Republic</td>
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**EU Contribution:** €114,500

**Fpt Motorenforschung Ag**

**Address:**
SCHLOSSGASSE 2  
9320 ARBON  
Switzerland

**EU Contribution:** €0

**Technische Universiteit Eindhoven**

**Address:**
Den Dolech  
5612 AZ Eindhoven  
Netherlands

**Organisation Website:**
[http://www.industrialdesign.tue.nl](http://www.industrialdesign.tue.nl)

**EU Contribution:** €204,500

**Fev Europe Gmbh**

**Address:**
Neuenhofstrasse 181  
52078 Aachen  
Germany

**EU Contribution:** €393,500

**Chalmers Tekniska Hoegskola Ab**

**Address:**
-  
41296 GOTHENBURG  
Sweden

**Organisation Website:**
[http://www.chalmers.se](http://www.chalmers.se)

**EU Contribution:** €152,000

**Technologies:**
- Emissions control systems
- Emission reduction systems utilising ammonia

**Development phase:** Research/Invention

**STRIA Roadmaps:** Vehicle design and manufacturing, Low-emission alternative energy for transport

**Transport mode:** Road transport

**Transport sectors:** Freight transport

**Transport policies:** Environmental/Emissions aspects

**Geo-spatial type:** Other