



D8.2 – Overview of the systems and components design

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Publishable summary

Considering that the main societal challenge for the heavy-duty long haulage transport sector is the reduction of real driving emissions, fuel consumption and its related Carbon dioxide (CO₂) emissions, the LONGRUN project will contribute to lower the impact by developing different engines, drivelines and Demonstrator vehicles, based on hybrid powertrain technology and Internal Combustion Engine (ICE) operating on renewable fuels aiming at superior energy-efficient operation and greenhouse gas emission reduction. Altogether, the project outcomes will accelerate the transition from fossil-based fuels to alternative and renewable fuels and to a strong reduction of fossil-based CO₂ and air pollutant emissions in Europe.

In that sense, Work Package 8 (WP8) of the LONGRUN project will allow to experimentally verify these objectives through a Demonstrator vehicle development, which is a long haulage series-hybrid e-coach with ICE range extender and zero-emissions driving range capability, enabling its operation in a Zero Urban Emission Zone (ZUEZ) within cities with this restriction/regulation. VDL, with direct support of several project partners, will equip the Demonstrator vehicle with the latest European e-technology by integrating a state-of-the-art hybrid powered electric powertrain, the latest battery technology and relevant guidance and navigation technology for predictive eco-routing and eco-driving, making use of dynamic Over The Air (OTA) route information. This will allow 11% of energy savings of the Demonstrator vehicle, with respect to an ICE-based reference vehicle manufactured by VDL Bus & Coach, the Futura FHD2-129 MY2018.

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Project partners:

#	Partner	Partner Full Name
1	FEV	FEV EUROPE GMBH
2	DAF	DAF TRUCKS NV
3	FPT	FPT INDUSTRIAL SPA
4	FORD	FORD OTOMOTIV SANAYI ANONIM SIRKETI
5	IRIZAR	IRIZAR S COOP
6	IVECO	IVECO S.p.A.
7	VOLVO	VOLVO TECHNOLOGY AB
8	VDL	VDL ENABLING TRANSPORT SOLUTIONS BV
9	ABEE	AVESTA BATTERY & ENERGY ENGINEERING
10	AVL	AVL LIST GMBH
11	EATON	EATON ELEKTROTECHNIKA SRO
12	GARR	GARRETT MOTION CZECH REPUBLIC SRO
13	IDIADA	IDIADA AUTOMOTIVE TECHNOLOGY SA
14	IFP	IFP Energies nouvelles
15	AVL	AVL MTC MOTORTTESTCENTER AB
16	NESTE	NESTE OYJ
17	PRIMA	PRIMAFRIO SL
18	SHELL	SHELL GLOBAL SOLUTIONS (DEUTSCHLAND) GMBH
19	SIE	SIEMENS INDUSTRY SOFTWARE SAS
20	TECNA	FUNDACION TECNALIA RESEARCH & INNOVATION
21	TOTAL	TOTAL MARKETING SERVICES
22	UMIC	UMICORE AG & CO KG
23	UNR	UNIRESEARCH BH
24	JRC	JRC -JOINT RESEARCH CENTRE – EUROPEAN COMMISSION
25	CHALM	CHALMERS TEKNISKA HOEGSKOLA AB
26	RWTH	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN
27	TU/e	TECHNISCHE UNIVERSITEI EINDHOVEN
28	TUG	TECHNISCHE UNIVERSITAET GRAZ
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