

LONG RUN

D2.3 – Generic eco-routing strategy and range estimation algorithm

Innovation Action

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Publishable summary

This work package deals with the development of certain connected and energy management features, specifically the eco-routing and electric range estimation features.

For the first, the goal is to optimize the on-board energy consumption of a heavy-duty vehicle, and associated costs by providing an optimal mission profile planning, among multiple alternatives allowed by the road network and provided by a Geographic Information System (GIS), and taking into account traffic conditions and events as well as external conditions.

For the second, the goal is an Electric Range estimation feature integrated in the Energy Management system on-board of a hybrid HD vehicle with a pure electric capability, making use of the connected features for a more accurate range estimation, and manage the battery State of Charge in anticipation of the presence of Zero Emissions zones to cross in city centres.

To develop and validate the connected features, a complete simulation workflow including the vehicle model, as well as a generated realistic speed profile, taking into account the infrastructure (speed limits, traffic lights, junctions, roundabouts, etc.) as well as traffic, is setup and made use of.

After its development, testing and validation, the connected feature of Eco-routing has been deployed on the LONGRUN cloud, with its associated API and documentation, and a demonstration web page has been setup to illustrate the feature.

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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
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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	TECHNA	FUNDACION TECHNIALIA 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
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