D8.1 – Specifications and characteristics of the implemented solutions.

Research Innovation Action

EUROPEAN COMMISSION
Grant Agreement No. 874972

HORIZON 2020 PROGRAMME
Topic LC-GV-04-2019
Low-emissions propulsion for long-distance trucks and coaches

Deliverable No.	**LONGRUN D8.1**	
Related WP	WP8 – Long haulage hybrid ICE coach	
Deliverable Title	D8.1 – Specifications and characteristics of the implemented solutions	
Deliverable Date	2020-06 (M06)	
Deliverable Type	REPORT (R)	
Dissemination level	Confidential – member only (CO)	
Written By	Dion Verhulst (VDL)	2020-05-29
Checked by	Pieter Blom (VDL)	2020-09-17 2020-06-30 2020-09-04
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Reviewed by	Reviewer (IDIADA): Albert Hernandez Daniela de Lima Marco Mammetti	Review dates: 2020-07-15 2020-09-02
Approved by	Lukas Virnich (FEV)	2020-09-22
Status	~~Draft 1.0 / Draft 2.0 /~~ Final	2020-09-22

Publishable summary

Task and role in the project

Main task for VDL in this deliverable is, to joint all partners in this work package 8, in competences and capacity. During the writing of the call, most partners roughly shared their competences and contributions.
Next step, logical**ly, was to ask each** partner for their detailed competence specialities and tools to use in this work package. This input is used to write this deliverable and describes the specification and characteristics. So gathered information, given by all partners (and VDL) in this work package.

We did individual interviews, with all partners, to find out the real specialities, they delivered their ideas, reflecting the objectives, so we joined this information in the deliverable document.
Then we started to make a partner matrix, with all tasks and the partner contribution in competence and capacity. This overview shows directly which partner is involved, in what task. We moved some activities, so there were no double partners in one task with same activities.

Next exercise was to gather written input from each partner and add this to the specific tasks. In this way we described the specifications and characteristics, the actions which can be taken, to carry out the tasks.
We already experience a nice start up in recognition of the activities, within the development department of VDL, regarding the prediction, routing, HMI activities. Next step will be to assemble teams with a mixture of partners and VDL developers, to get started with joint development in the modelling and routing activities. The demonstrator vehicle, hardware development mainly is an activity within VDL with preferred suppliers, no partners.

Deliverable: Background

Existing know-how or pre-existing intellectual property.
Knowledge:
Optimised hybrid powertrain, E-auxiliaries and Long-range data predictor (connectivity)
Products and measures:
E-auxiliaries, fast chargeable HV battery pack & controls, efficient rear axle reduction.
Deliverable: Task objectives

1. >10% energy saving vs reference vehicle VDL Bus &Coach Futura FHD2- MY 2018 - Euro 6 demonstrated in new to develop ZEUZ hybrid Coach Demonstrator.
2. Realise Zero emission capability / electric charging for a long-distance Hybrid Coach (PHEV) in cities.
3. Optimisation of energy/ hybrid mode management by using model based Long Range Provider, dynamic traffic information - and battery model.
4. Recommendations future VECTO versions related to smart controls for hybrid coaches

Figure from Call LC-GV-04-2019 :

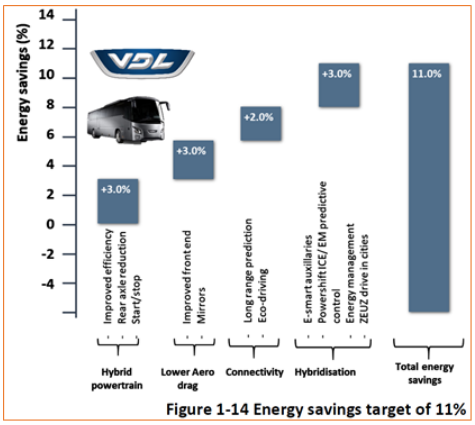

Figure 1-14 Energy savings target of 11%

Deliverable: Methods

Split-up of subtasks amongst the Partners, Information gathering and individual task description and expected results and deliverables.

Deliverable: Results

General Work package 8 deliverables:

- Deliverable 8.1 Concepts hybrid coach (this document):
  Specifications and characteristics of the implemented solutions.
- Deliverable 8.2 System and component design:
  Overview of the systems and component design.
- Deliverable 8.3 Prototype integration:
  Report on the hybrid prototype coach.
- Deliverable 8.4 Feedback to VECTO:
  Final feedback to VECTO, report from hybrid coach.
- Deliverable 8.5 Vehicle demonstration:
  Report vehicle testing and validation.

This first deliverable document (D8.1), will describe the content of the specifications and characteristics of the implemented solutions, AS MENTIONED in Task 8.1.

Acknowledgement

The author(s) would like to thank the partners in the project for their valuable comments on previous drafts and for performing the review.

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 Enegeies Nouvelles
15	AVL	AVL MTC MOTORTESTCENTER 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 TECHNALIA 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
29	UNIAQ	UNIVERSITA DEGLI STUDI DELL'AQUILA
30	VUB	VRIJE UNIVERSITEIT BRUSSEL

Disclaimer

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 875189. The information and views set out in this publication does not necessarily reflect the official opinion of the European Commission. Neither the European Union institutions and bodies nor any person acting on their behalf, may be held responsible for the use which may be made of the information contained therein.