

# LONG RUN

## D3.3 – New air handling concept, performance and control validation test

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

<b>Deliverable No.</b>	<b>LONGRUN D3.3</b>	
<b>Related WP</b>	WP3	
<b>Deliverable Title</b>	New air handling concept, performance and control validation test	
<b>Deliverable Date</b>	2022-02-28	
<b>Deliverable Type</b>	REPORT	
<b>Dissemination level</b>	Confidential – member only (CO)	
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<b>Status</b>	Final	2022-03-05



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 874972.

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## Publishable summary

Combustion concept design defined and analyzed in previous deliverables resulted into a novel engine airpath architecture with active high-pressure exhaust gas recirculation, fixed geometry turbine and electrically heated element upstream the engine aftertreatment system.

Core innovation in this deliverable is the EGR pump, used for active exhaust gas recirculation. Baseline prototype was modified to fit the future needs of a hybrid powertrain: the size was reduced, new options of mounting orientation were enabled and motor controls were redesigned to all 4-quadrant operation.

Functional and performance testing of EGR pump prototypes was done at Eaton test facilities.

The samples will be delivered to Volvo now and multi-cylinder engine tests will start in the next months.

## 7 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
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15	AVL	AVL MTC MOTORTTESTCENTER AB
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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
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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 874972. 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.