Heavy Duty Gas Engines integrated into Vehicles

EUROPEAN COMMISSION
Horizon 2020
H2020-MG-2014
GA No. 653391

Deliverable No.	HDGAS D4.4	
Deliverable Title	Prototype of new FPT Cursor 13 pure NG LPDI engine	
Dissemination level	Confidential (CO)	
Written By	Stefano Golini (FPT)	2017-03-17
Checked by	Giancarlo Dellora (FPT) – WP4 leader	2017-03-17
Approved by	José Luis Perez Souto (IVECO) - Reviewer Gernot Hasenbichler (AVL)	2017-03-23 2017-03-24
Status	FINAL	2017-03-24

H2020-MG-2014 – 653391 – Heavy Duty Gas Engines integrated into Vehicles

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:
1 - AVL - AVL List GmbH - AT
2 - BWR - Borgwarner Ludwigsburg GmbH - DE
3 - BOSCH - Robert Bosch GmbH - DE
4 - DAI - Daimler AG - DE
5 - DINEX - Dinex Ecocat OY - DK
6 - FPT - FPT Industrial S.p.A. - IT
7 - IDIADA - Idiada Automotive Technology S.A.- ES
8 - IVECO - Iveco España SL - ES
9 - MAN - MAN Truck & Bus AG - DE
10 - POLIMI - Politecnico di Milano - IT
11 - RCD - Ricardo UK Limited - UK
12 - SAG - SAG Motion GmbH - AT
13 - TNO - Nederlands organisatie voor toegepast natuurwetenschappelijk onderzoek - NL
14 - TUG - Technische Universiteat Graz - AT
15 - UEF - ITA-Suomen Ylipisto (University of Eastern Finland) - FI
16 - UASE - Hochschule Esslingen - DE
17 - UNR - Uniresearch BV - NL
18 - VOLVO - Volvo Technology AB - SE
19 - VIF - Virtual Vehicle Research Center – AT

Disclaimer:
This project has received funding from the European Union's Horizon 2020, programme for research, technological development and demonstration under grant agreement no 653391.

Executive summary

The first prototype of an innovative NG engine has been assembled and delivered to WP4-partner IVECO, as foreseen in the HDGAS project. The delivery of this prototype also represents milestone no. 6 of the project.

Severe difficulties were overcome in order to have the prototype ready. As this is the first time that several technical solutions are employed on an HD engine, suppliers' capabilities were stretched to procure such components as the cylinder head, the cylinder overhead, the cam-phaser for variable valve timing actuation, the fuel injection system.
The prototype assembly was also an innovative task, as this is the first FPT Industrial engine equipped with a double overhead camshaft, cam-phaser, advanced ignition system and direct-injection of natural gas.

This prototype will be installed on the IVECO vehicle demonstrator, to prove progress in terms of fuel efficiency and GHG emission reduction under real life conditions.
Two more prototypes will be delivered to FPT Industrial and Ricardo for installation on test bench and calibration: FPT will develop stoichiometric combustion while Ricardo will devote their effort to the lean burn version.