



# REWARD

REal World Advanced Technologies for Diesel Engines

EUROPEAN COMMISSION

Horizon 2020

H2020-MG-2014-2015

GA No. 636380



<b>Deliverable No.</b>	REWARD D6.4	
<b>Deliverable Title</b>	Defined proposals for the EATS components	
<b>Deliverable Type</b>	REPORT	
<b>Dissemination level</b>	Confidential – member only (CO)	
<b>Written By</b>	Marie Stenfeldt (VCC)	2016-10-17
<b>Status</b>	<b>FINAL</b>	2016-10-26
<b>Checked by</b>	Tobias Stalfors (VCC) WP6 Leader	2016-10-26
<b>Submitted to Executive Board</b>	Tobias Stalfors (VCC) WP6 Leader Submitted to meeting EB14	2016-10-27
<b>Approved by Executive Board (EB)</b>	Approved and accepted by all members of Executive Board at meeting EB14	2016-10-27

H2020-MG-2014-2015 – 636380 – REal World Advanced Technologies for Diesel Engines

**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 - REN - Renault SAS - FR
- 3 - VCC - Volvo Car Corporation - SE
- 4 - CRF - CRF SCpA - IT
- 5 - CNRIM - Istituto Motori – Consiglio Nazionale delle Ricerche (CNR) - IT
- 6 - JM - Johnson Matthey Plc - UK
- 7 - RIC - Ricardo Plc - UK
- 8 - SCF - Schaeffler AG - DE
- 9 - LMM - Le Moteur Moderne - FR
- 10 - DELPHI - Delphi Automotive Systems Luxembourg S.A. - LU
- 11 - UNR - Uniresearch BV - NL
- 12 - IFPEN - IFP Energies Nouvelles - FR
- 13 - VIF - Virtual Vehicle Research Center - AT
- 14 - CTH - Chalmers Tekniska Högskola - SE
- 15 - CTU - Czech Technical University - CZ
- 16 - UPVLC - Universitat Politècnica de Valencia – Motores Termicos - ES

**Disclaimer:**

*This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 636380.*



## Publishable Executive summary

This report describes the exhaust aftertreatment system (EATS) development work for the demonstrator vehicle in WP6. The target was to develop an EATS system with the potential of reaching 50% Euro6 RDE emission levels with lowest possible backpressure and FC.

The work is performed in cooperation with WP2 (RIC, JM and CTH) and WP6 (AVL, CTH).

To evaluate various exhaust aftertreatment systems (EATS) Emission simulations was performed cooperation with WP2. WP2 suggested the initial aftertreatment technologies. Component and system testing was performed in cooperation with AVL within WP6 to verify the simulation results. CTH contributed with fundamental research on LNT ageing and SCRf modelling.

The EATS system consist of several components. Different component alternatives were investigated to find a solution that could meet the final program target. EATS system components:

- EATS layout
- Catalyst type
- Catalyst coating
- Catalyst substrate
- Catalyst volume
- Urea evaporation and mixing zone

The development work resulted in two alternative EATS systems:

- 1) Backpressure optimized EATS system (recommended system)
- 2) Emissions optimized EAST system (backup system).

Results from the multicylinder testing will determine the final system for the demonstrator vehicle.