

JOINT FINAL EVENT 12 & 13TH NOVEMBER 2019, SANTA OLIVA, SPAIN

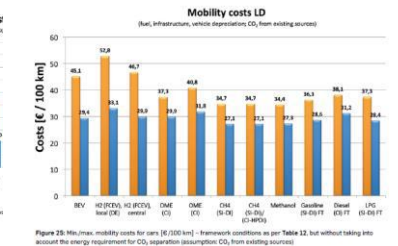
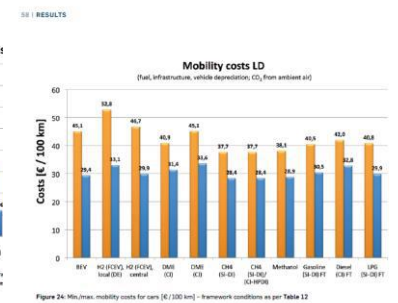
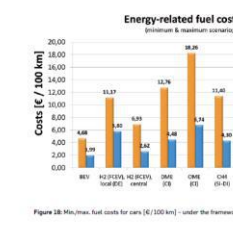
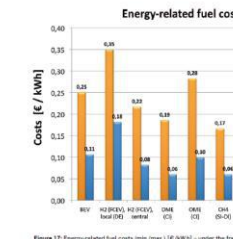
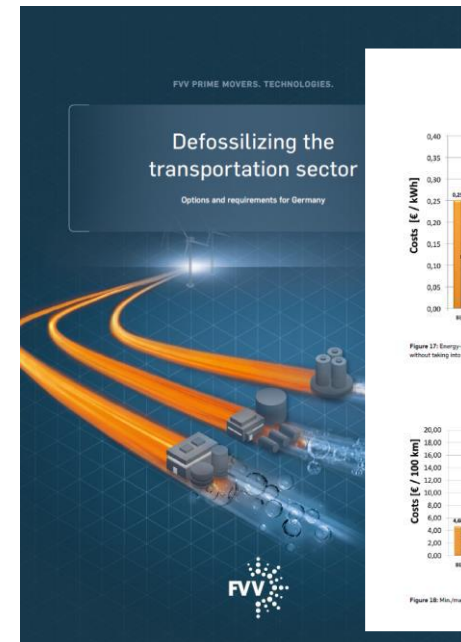
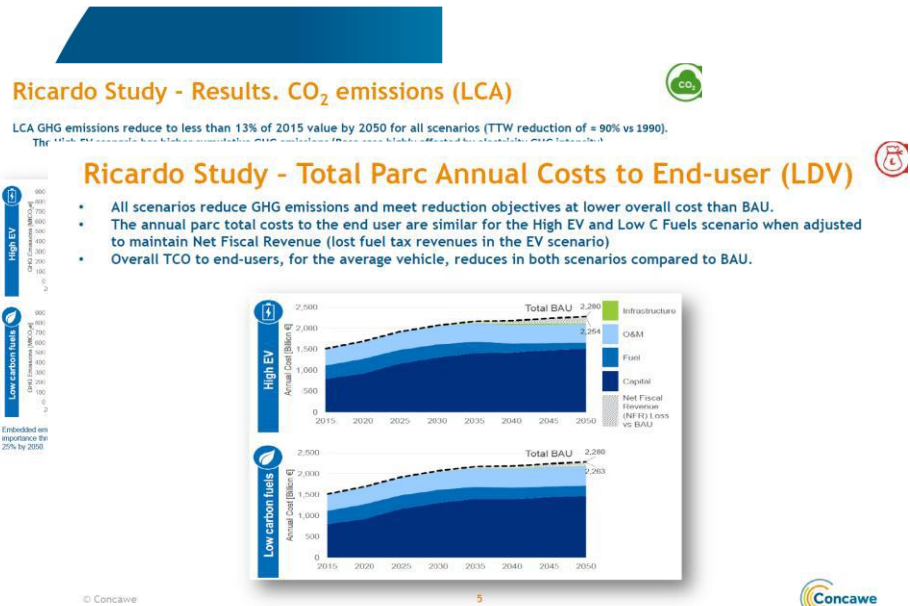


PaREGEEn: Project Overview

Simon Edwards – Ricardo – PaREGEEn Coordinator

Why work on combustion engines still?

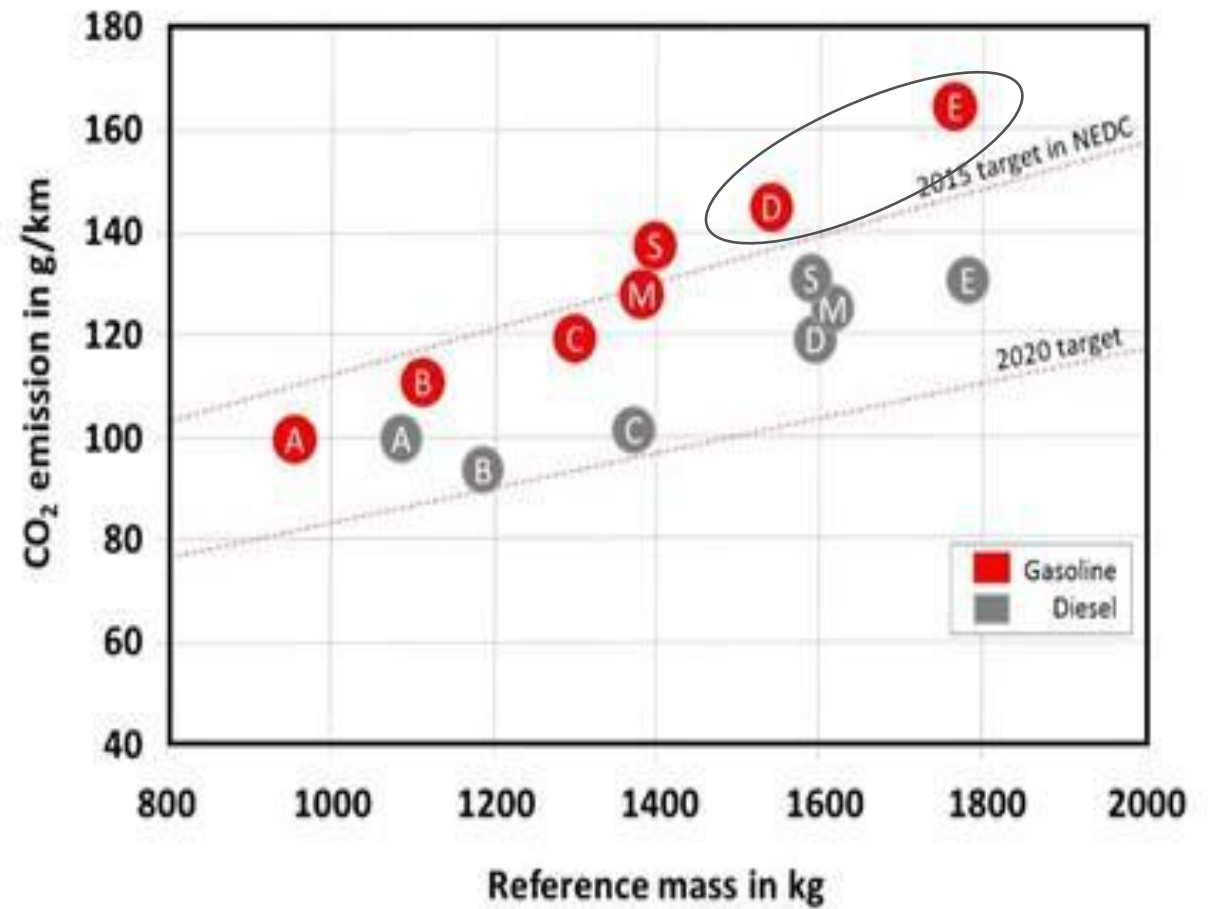
- ▶ A growing number of studies suggest that combustion engines, running on low carbon fuels, need to be part of the solution, if we are to have the most robust path towards reaching our 2030 & 2050 road transport decarbonisation targets



- ▶ Demonstrate a new generation of gasoline direct injection engines achieving a $\geq 15\%$ reduction in CO₂ emissions through the optimal combination of advanced engine and robust aftertreatment technologies
- ▶ These vehicles will comply with upcoming Euro 6 RDE limits with particle number emissions measured to a 10nm size threshold
- ▶ Modelling and simulation software will be verified that can improve the design and the control capability of the resulting vehicles

Premium Passenger Cars

- ▶ CO₂ emissions by vehicle segment, engine type and curb weight:
 - ▶ EU for 2015 (NEDC)
 - ▶ Vehicle classes A to E, MPV & SUV
 - ▶ Source: FEV
- ▶ Demonstrator vehicles:
 - ▶ Mercedes E Class
 - ▶ Jaguar XE



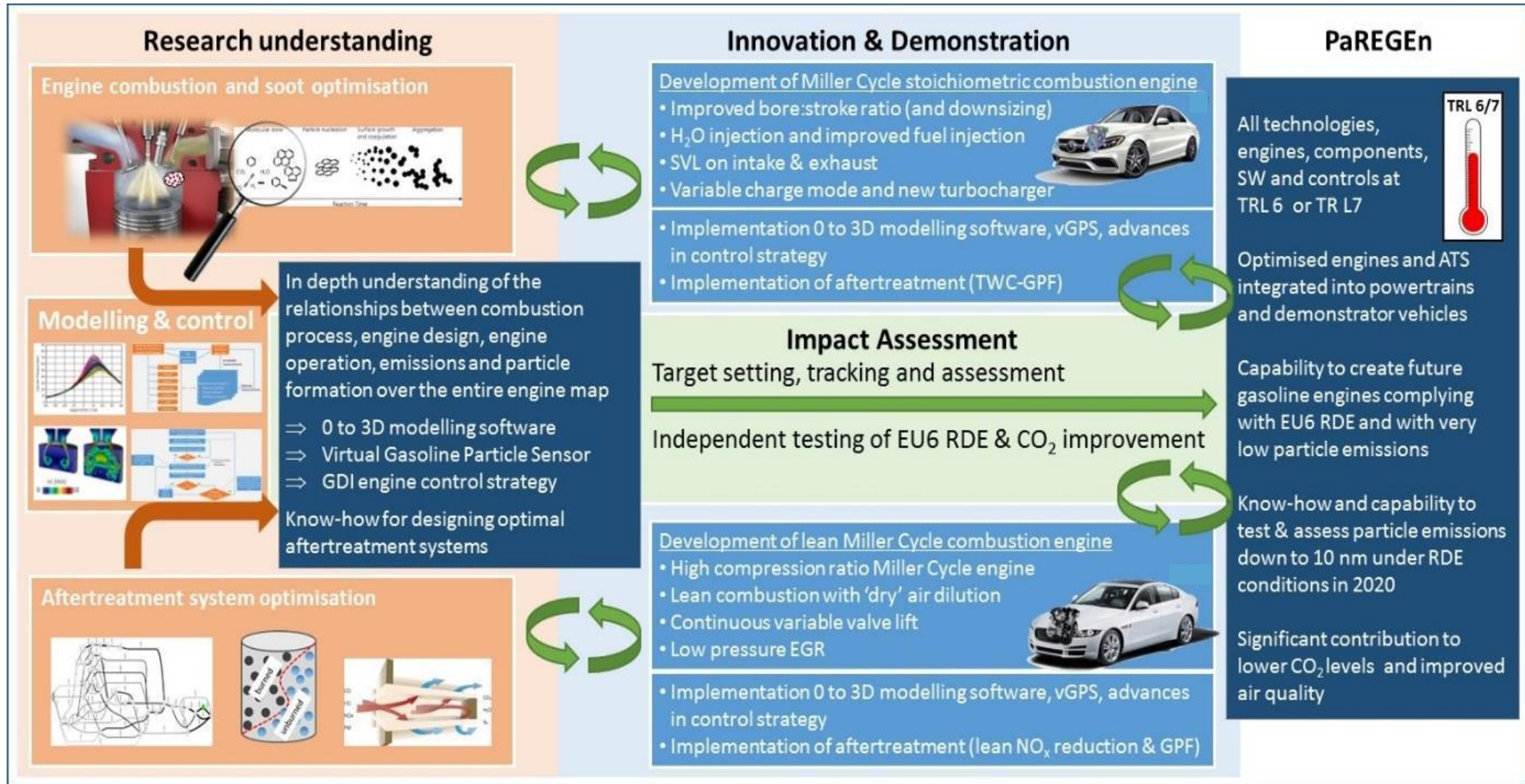
Consortium Details



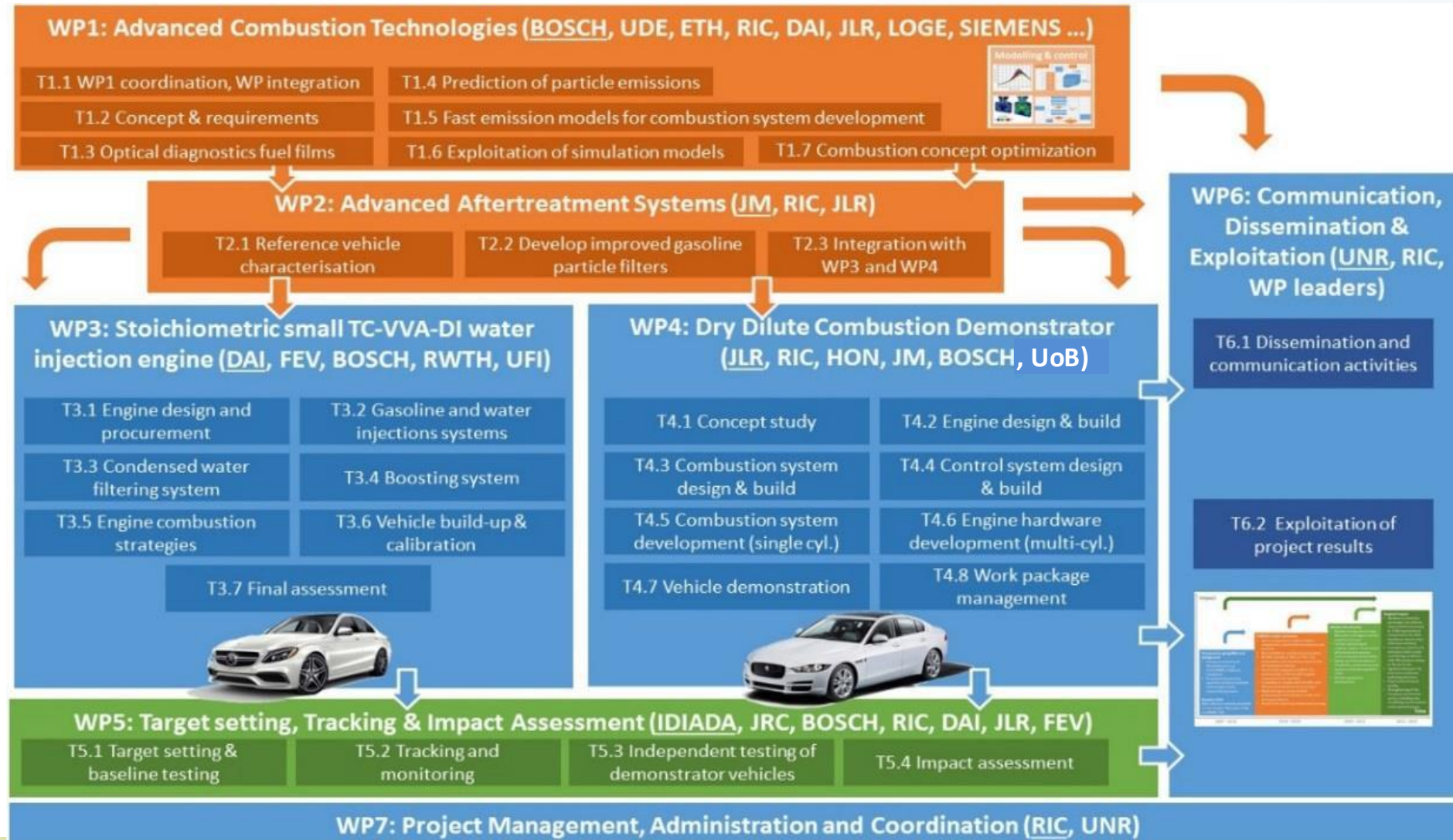
Partner Number	Partner Name	Partner Code	Partner Country	Organisation Type
1	Ricardo UK Ltd	RIC	UK	IND-SUPP
2	Daimler AG	DAI	DE	IND-OEM
3	Jaguar Land Rover Ltd	JLR	UK	IND-OEM
4	Robert Bosch GmbH	BOSCH	DE	IND-SUPP
5	FEV GmbH	FEV	DE	IND-SUPP
6	Johnson Matthey plc	JM	UK	IND-SUPP
7	Honeywell, Spoll. S.R.O. / Garrett Motion Czech Republic s.r.o.	HON / GAR	CZ	IND-SUPP
8	JRC - Joint Research Centre	JRC	IT	RESEARCH
9	Uniresearch BV	UNR	NL	IND-SME
10	IDIADA Automotive Technology SA	IDIADA	ES	IND-SUPP
11	Siemens Industry Software SAS	SIEMENS	FR	IND-SUPP
12	Lund Combustion Engineering LOGE AB	LOGE	SE	IND-SUPP
13	Eidgenoessische Technische Hochschule Zuerich	ETH	CH	HE
14	Universitaet Duisburg - Essen	UDE	DE	HE
15	Rheinisch-Westfaelische Technische Hochschule Aachen	RWTH	DE	HE
16	UFI Filters	UFI	IT	IND-SUPP
17	University of Brighton	UOB	UK	HE

BUDGET: €12.1 million
FUNDING: €9.95 million
START: October 2016
DURATION: ~ 39 months
Call: H2020-GV-02-2016-INEA
CONTRACT NUMBER: 723954
COORDINATOR: Simon Edwards, Ricardo
CONTACT: secretary@uniresearch.com
WEBSITE: www.paregen.eu

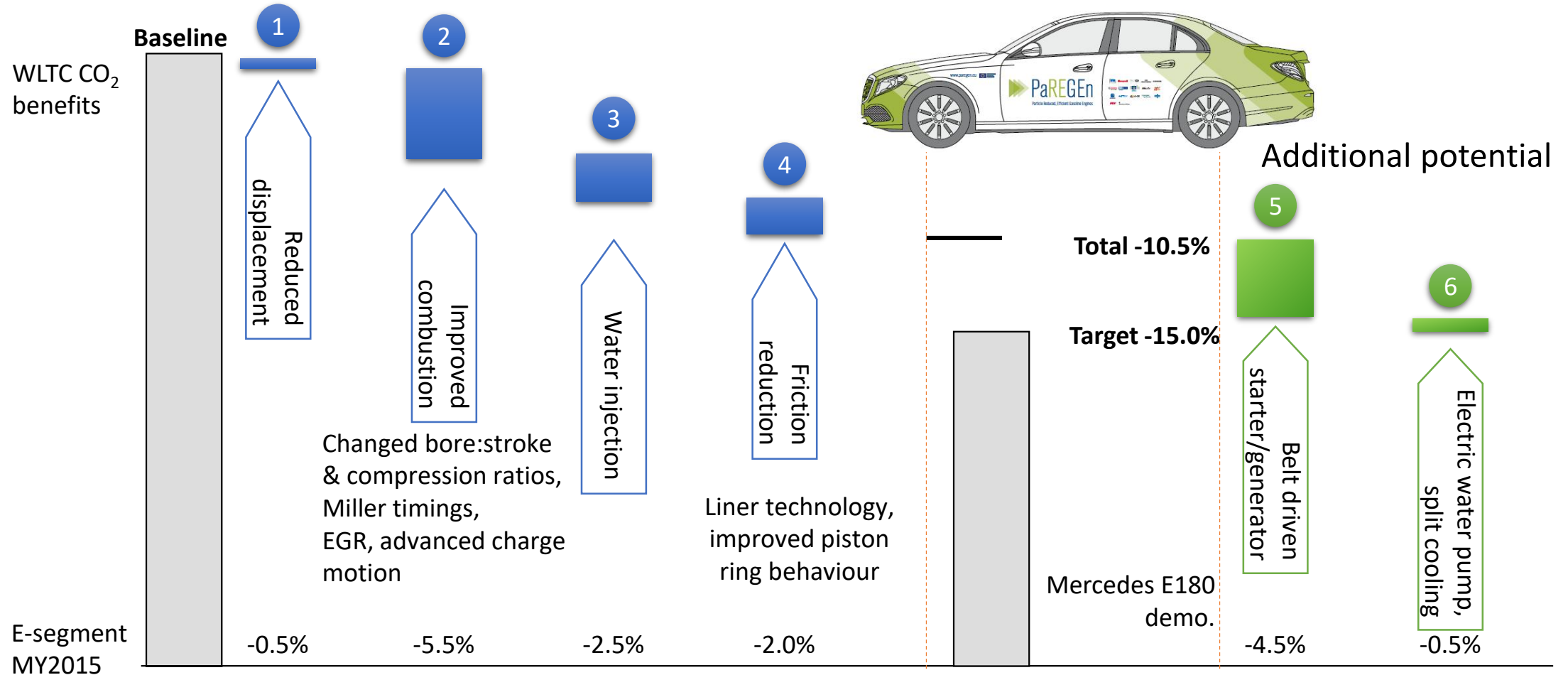
Project Approach



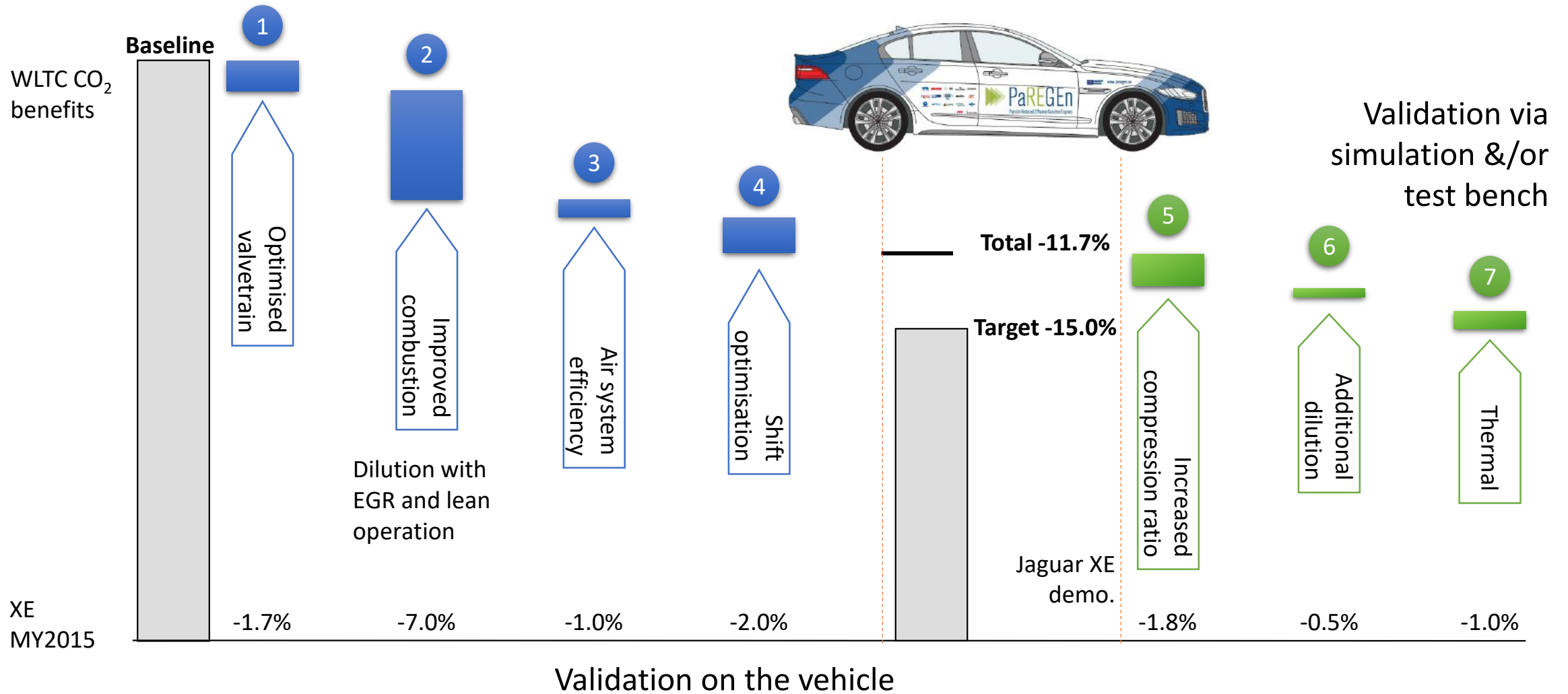
Project Organisation



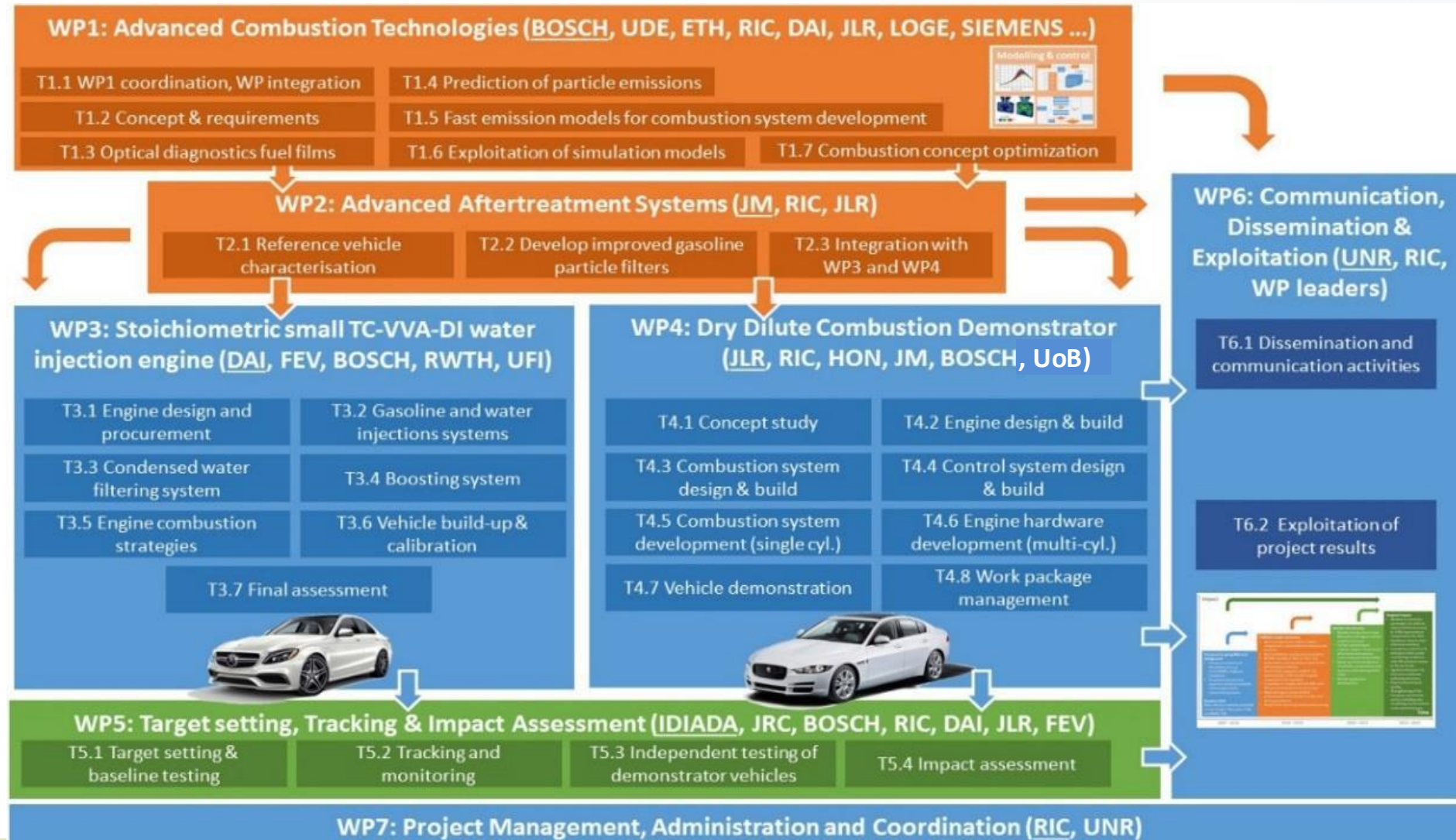
Stoichiometric small TC-VVA-DI water injection engine (WP3)



Dry Dilute Combustion Demonstrator (WP4)



Project Organisation



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