



**EGVI**  
European Green  
Vehicles Initiative

# European Green Vehicles Initiative Contractual PPP



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*26<sup>th</sup> October 2017, Brussels*

# The EGVI cPPP in Horizon 2020



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- **December 2013**: launch of the European Green Vehicles Initiative cPPP in Horizon 2020 involving the automotive, smart systems and smart grids industries

- Implemented by 3 ETPs -



to:

- ▶ Deliver green vehicles & mobility system solutions matching major societal, environmental & economic challenges
  - ▶ Impact on the innovative strength & global competitiveness of the European economy
- Based on successful experience of the Green Cars Initiative:
    - ▶ **3 pillars**: Electrification, Long Distance transport, Logistics & Co-modality
    - ▶ **EU contribution: € 418 million** - & a total budget of € 662 million
    - ▶ **113 projects (from 4 calls)** funded - gathering 1379 partners (10,8% being SMEs)
    - ▶ **2/3 of the budget** dedicated to **electrification**

# General Objectives of the EGVI PPP



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- **Help to reach the ambitious targets** set by the EU transport, energy and climate protection policies and matching **Grand Societal challenges**:
  - ▶ **20/20/20 targets on renewable energy use,**
  - ▶ **CO2 emissions regulation,**
  - ▶ **Euro emissions standards towards air quality improvement**
- **Support the policy goals** of the EU Transport White Paper and Energy Union
- **Research, development and demonstration of technologies** (CARS 2020 Strategy & the new GEAR 2030).
- **Contribute to diversify and strengthen energy options** for sustainable transport (SET-Plan Action 7)

# EGVI Roadmap



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2-Wheelers

Passenger  
Cars & LDV

Trucks

Buses

Resources

*Integration*

Modules

Systems

Vehicles

*Integration*

Infrastructure

- Alternative/lightweight materials
- Alternative fuels & energies
- Advanced materials, equipment and nano - /microtechnologies

- Advancement & adaptation of resources for green vehicles

- Processing, integrating advanced (lightweight) materials & technologies
- Electrification & hybridisation; components for sensing & control
- Energy storage, functional integration; design for manufacturing
- Power electronics

- Drivetrain for alternative/renewable fuels
- Reliability & robustness
- Advanced ICE & ICE in context of electrification & hybridisation
- PT systems design, optimisation, modularisation & integration

- PT integration, E/E architecture, thermal management, weight reduction
- Simulation, prototyping, testing, recycling
- Safety & security of data
- Novel vehicle concepts; tailored trucks

- Interface & interaction to infrastructure outside vehicles, e.g. smart grid integration, IST for energy efficiency

- Grid & road infrastructures
- Data networks
- Intermodal hubs

# Progress towards the roadmap implementation



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	EGVI 2014 – 2016 calls
<b>Patents</b>	<i>Estimation: 69</i>
<b>Standardisation activities</b>	<i>Estimation: 25 areas</i>
<b>New systems &amp; technologies</b>	<i>Estimation: 29</i> breakthrough technologies In parallel to <b>134</b> incremental innovations
<b>Project results taken-up for further investments</b>	<i>Estimation: all projects</i>
<b>Contribution to the reduction of energy use and CO2 emissions</b>	<i>Estimation: 15%</i> CO2 emission reduction and 15 to 40% less energy use
<b>Number of dissemination events</b>	<i>Estimation: 327</i> events

Estimation are based on 21 projects who answered the questionnaire sent for the yearly monitoring report in May 2017. These are provisional data.

# Progress towards the roadmap implementation



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	EGVI 2014 – 2016 calls
Number of funded projects	<p><b>36</b> <b>(186 proposals evaluated)</b></p> <p>2017: 16 new projects have been selected and are starting now</p>
SMEs participation	Participation rate: 17%
EU-funding contribution to EGVI projects (M€)	€ 281,66
Private Investments (M€) in funded projects	€ 58,49
Private investment in R&D (overall sector area)	<p>≈ €50 bn / year</p> <p>i.e over 3 years about <b>€150 bn</b></p>

# Expected Impacts of the cPPP



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- **Improvement of the energy transport system efficiency** by 50% from 2010 to 2030, including:
  - ▶ **+ 80% energy efficiency** of urban passengers transport
  - ▶ **+ 40% energy efficiency** of long distance freight transport
- **Deployment of alternative powertrains like** (cf. Electrification roadmap) :
  - ▶ **5 million electric & hybrid vehicles** in the EU by 2020 (0.5 million by 2016)
  - ▶ **battery life-time and energy density doubled**, at 30% lower cost, in 2020 compared to 2009 Li-Ion technology

# European Green Vehicles Initiative Association



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- **New association** gathering the members of the private side of the cPPP
- **Main objectives:**
  - ▶ deliver research topics recommendations for EGVI calls
  - ▶ disseminate information within the research community
  - ▶ promote the PPP and its collaborative cooperation
- **EGVIA** currently composed of **83 industry**, research and associate members



DAIMLER



IVECO



VOLKSWAGEN  
ARTIFICELENGENIAT

VOLVO



DENSO



FEV



SIEMENS



CONCAWE



RISE



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TNO innovation for life



CHALMERS



Univerza v Ljubljani



EUROBAT

mov'eo

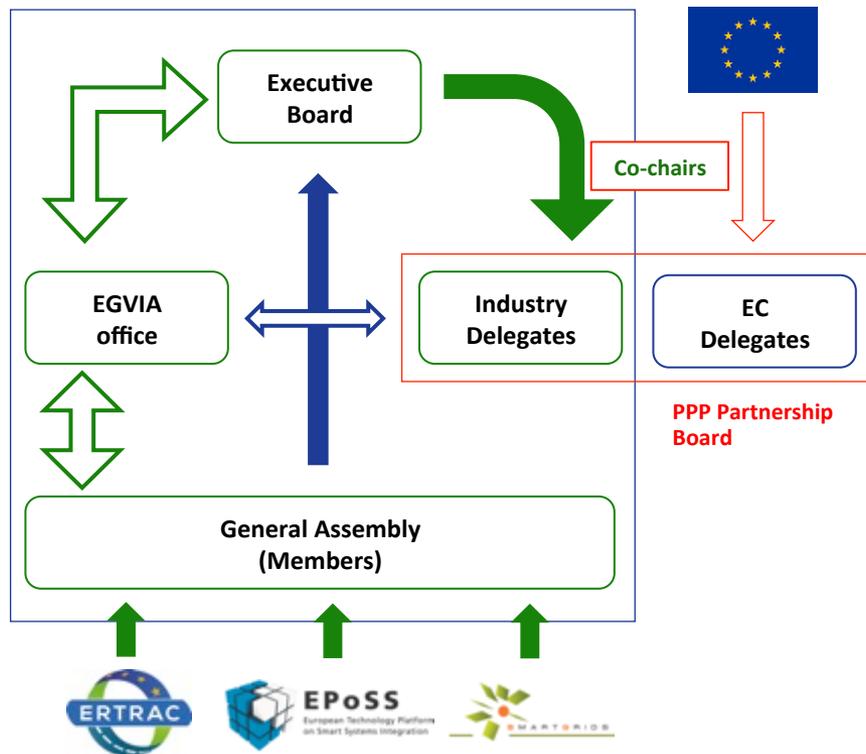


# Governance Model of the cPPP



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## EGVIA Association

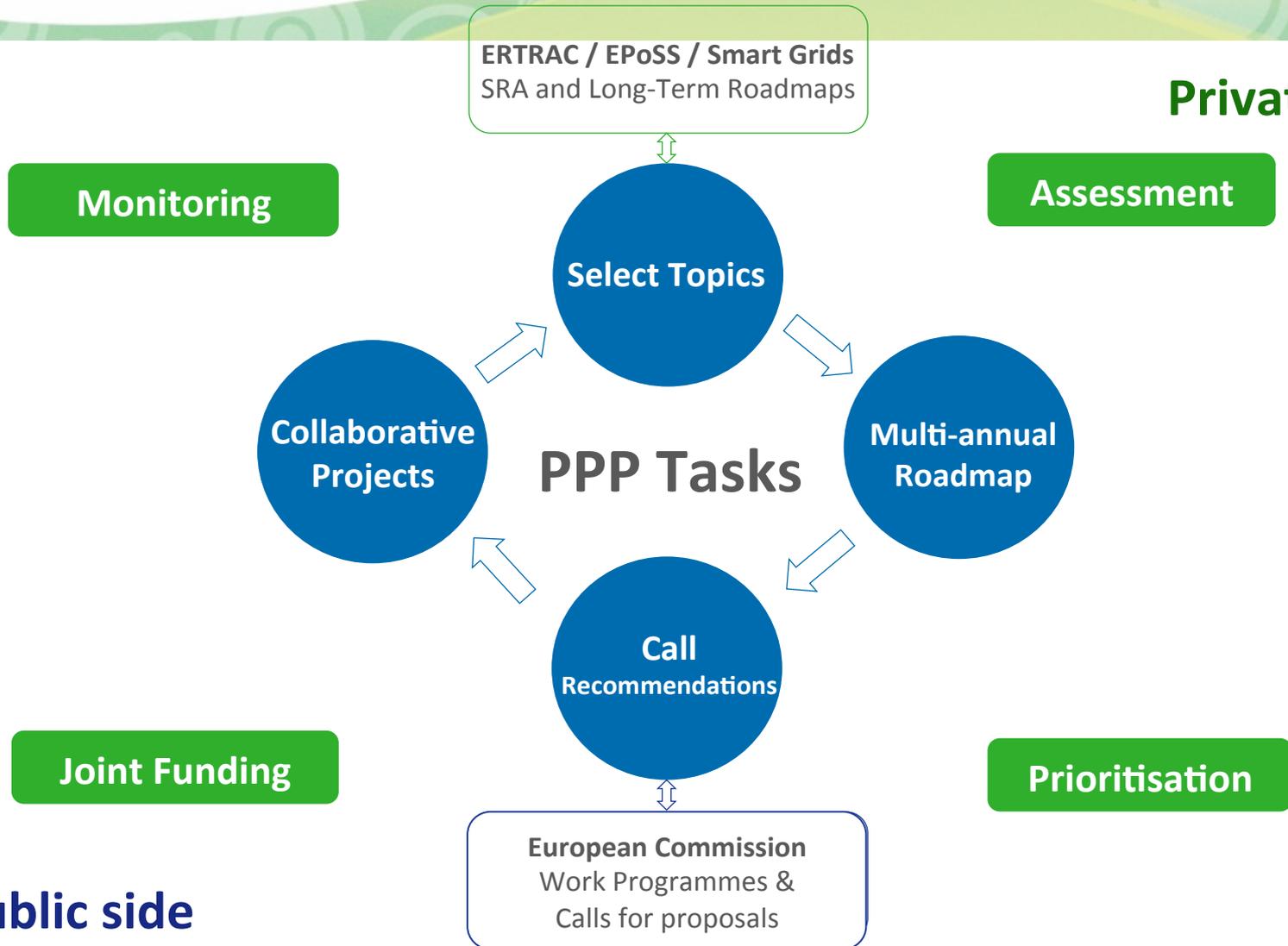


- **Partnership Board:** governing body of the EGVI cPPP gathering:
  - ▶ **Public side:** DG RTD, DG MOVE, DG CNECT
  - ▶ **Private side:** Members of the EGVI Industry Delegation
- **Main tasks:**
  - ▶ Preparation of the Work Programmes & the EGVI calls
  - ▶ Preparation of updates of the EGVI cPPP Multiannual Roadmap

# Implementation scheme



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# Development of a user-centric approach



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## CHALLENGES FOR THE FUTURE

### USER PERSPECTIVE

Range

Cost

Charging  
procedures

### TECHNICAL REQUIREMENTS

Testing

Safety

Alternative  
fuels

Automated driving

CO2 &  
air quality

# Updated version of the electrification roadmap



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1. Operation system dependent EVs in the urban environment

3. No compromise electric urban bus system

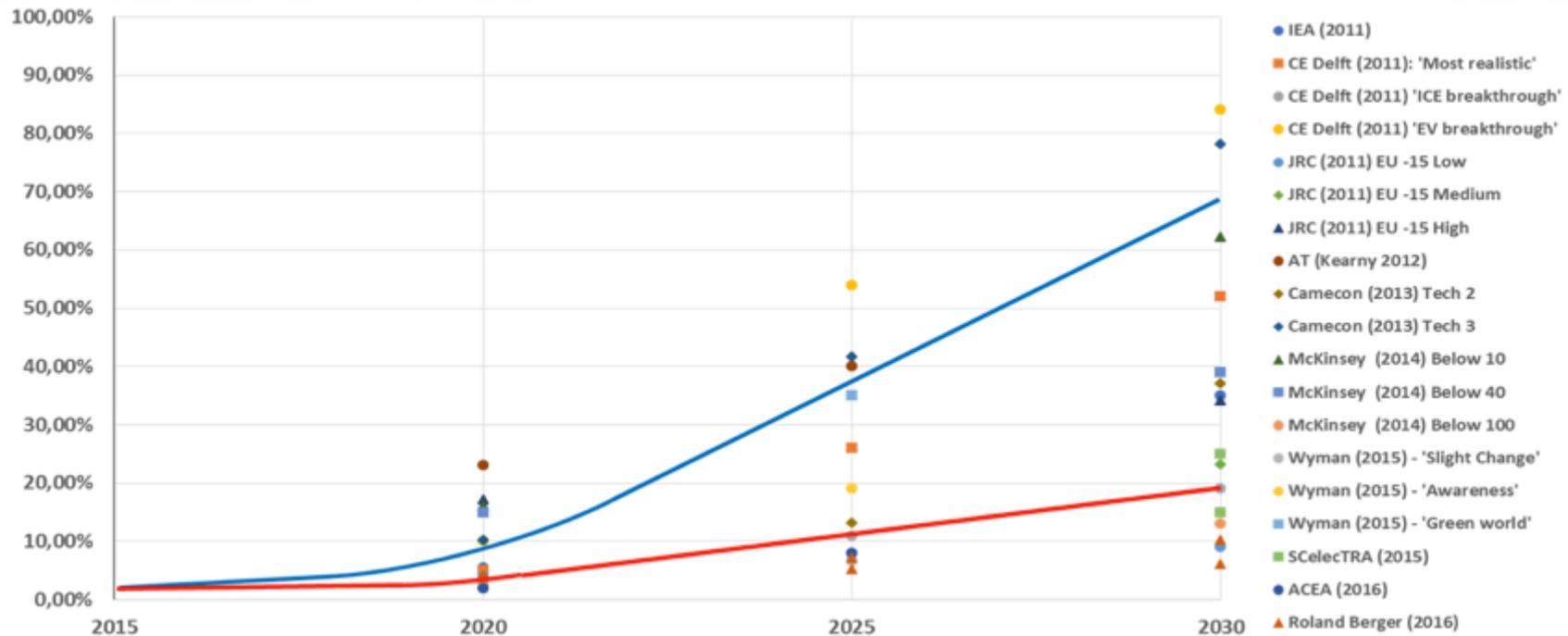
2. User-friendly affordable LEV/EC passenger car + infrastructures

4. Sustainable electrified long-distance trucks and coaches

# EGVI forecast of EVs & PHEVs technologies penetration in Europe



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Mass Production of passenger cars and scaling up of HDV electrification

Fully Revised Electric Vehicle Concept

Redesigned electrified road transport meeting the requirements of the future connected society

- **Lower curve:** market scenario based on CO<sub>2</sub> targets achieved via technology improvements & hybridisation of ICE-based vehicles.
- **Upper curve:** expected penetration based on technology breakthrough in battery technologies enabling medium-size PHEV & small (urban) FEVs to be competitive.

# EGVI cPPP as part of the system approach



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Efficient  
vehicles



Intelligent traffic  
management



Better  
infrastructure



Public transport &  
intermodality



Improved  
logistic

**Decarbonisation can only be  
solved by  
a system approach !**



Infrastructure for  
connected  
& automated vehicles



Decarbonised  
Energy / fuels



Flexible & shared  
mobility services

**JOIN US**



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▶ **29 & 30 November 2017 - Brussels:**

EGVIA & ERTRAC 1<sup>st</sup> European Conference

With the support of the European Commission

Results from road transport research in H2020 projects

More information: <http://www.egvi.eu>



**1st European Conference**

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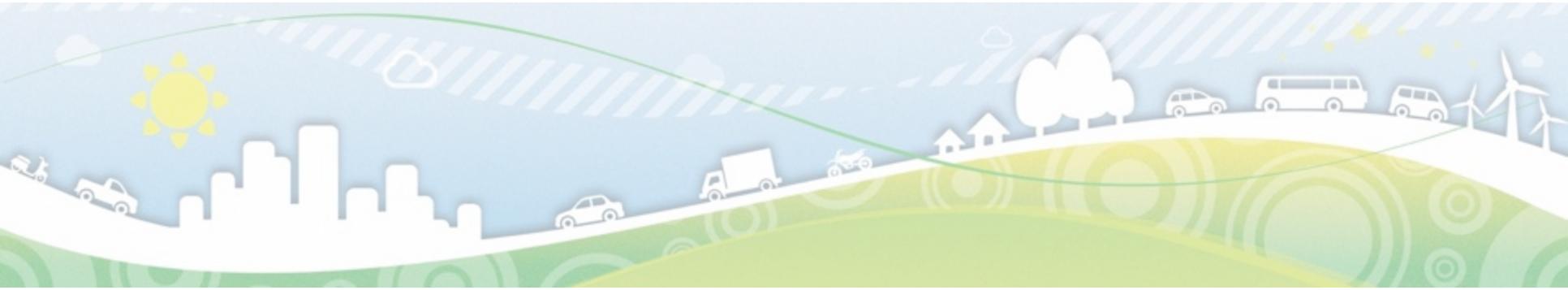


▶ **16 - 19 April 2018 - Vienna:**

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your attention !**

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