European Green Vehicles Initiative
Information day in Paris on the 2016-2017 Horizon 2020 Transport WP

Jean-Luc di PAOLA GALLONI
28th September 2015 - Marne la Vallée
ERTRAC is the European Technology Platform (ETP) for Road Transport recognized and supported by the European Commission.

ERTRAC has more than 50 members, representing all the actors of the Road Transport System: transport industry, European associations, EU Member States, local authorities, European Commission services, etc.
ERTRAC Strategic Research Agenda
System Approach
Addressing Societal Challenges

<table>
<thead>
<tr>
<th>Research domains</th>
<th>Key elements in the road transport system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Mobility</td>
<td>Vehicles</td>
</tr>
<tr>
<td>Transport Interfaces</td>
<td>Infrastructure</td>
</tr>
<tr>
<td>Long-distance Freight Transport</td>
<td>Logistical and mobility services</td>
</tr>
<tr>
<td></td>
<td>Energy and resources</td>
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</tbody>
</table>

Societal needs

**Decarbonization**
- Energy efficiency of urban passenger transport
- Energy efficiency of long-distance freight transport
- Renewables in the energy pool

**Reliability**
- Reliability of transport schedules
- Urban accessibility

**Safety**
- Fatalities and severe injuries
- Cargo lost to theft and damage
ERTRAC Working Groups

Gathering experts from the ERTRAC members, responsible for the preparation of the ERTRAC documents. There are currently 5 WG:

- Urban Mobility
- Long Distance Freight
- Energy & Environment
- Safety & Security
- Global Competitiveness

+ Task Forces on dedicated topics: currently a TF on “Connectivity and Automated driving”
Horizon 2020 preparation by ERTRAC

Build recommendations for H2020 Work Programmes

- Following ERTRAC SRA, MAP and Roadmaps, keeping:
  - A Systems approach
  - The Guiding objectives
- Addressing the Horizon 2020 structure (pillars)
- PPP topics excluded (are managed by EGVIA)
ERTRAC provides recommendations to the European Commission on calls topics for the “mobility for growth” chapter of the Work Programme, including various topics such as urban mobility, safety …

In the Work programme 2016/2017, a specific chapter on Automated Road Transport has been drafted by the European Commission, based on the work performed by ERTRAC in drafting the “Automated & connected driving roadmap”.

The topics recommendations related to electric vehicles and alternative powertrains are included in the scope of the EGVI cPPP.
The EGVI PPP in Horizon 2020

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

- Based on successful experience of the Green Cars Initiative:
  - PPP of the industry and the EU (2009-2013) in FP7
  - €500 Mn EU funding over four years
  - Three pillars: Electrification, Long Distance Trucks, Logistics & Co-modality
  - Major focus on electrification (2/3 of budget)
  - 113 collaborative research projects launched

- Implemented by three ETPs (ERTRAC, EPoSS, SmartGrids) in order to:
  - Deliver green vehicles and mobility system solutions matching major societal, environmental and economic challenges ahead
  - Impact on the innovative strength and global competitiveness of the European economy
Scope of the EGVI PPP

- Covers all types of road transport vehicles:
  - passenger cars
  - trucks
  - buses
  - L-category vehicles
  - new vehicle concepts

- Defined goal and focus: energy efficiency of vehicles using alternative powertrains
Examples of topics contributing to the goal of the PPP:

- Electrification and hybridisation of powertrains
- Powertrain adaptation to renewable fuels
- Functionality improvement of the vehicle
- Reduction of the vehicle complexity and weight
- Management of the thermal and other energy flows of the vehicle

➢ any technological development supporting these objectives at the relevant product layers of the value chain - from modules to systems and vehicles
Example of technology content

10-Wheelers
2-Wheelers
Passenger Cars & LDV
Trucks
Buses

Resources

Integration

Modules

Systems

Vehicles

Integration

Infrastructure

- Alternative / lightweight materials
- Alternative fuels and energies
- Advanced materials, Equipment, Nano- / Microtechnologies

- Advancement and adaption of resources for green vehicles
  - Processing, integrating advanced (lightweight) materials & technologies
  - Electrification & hybridization; Components for sensing & control;
  - Energy Storage, functional integration; design for manufacturing
  - Power electronics
  - Drivetrain for alternative / renewable fuels;
  - Reliability and robustness
  - Advanced ICE and ICE in context of electrification & hybridization
  - PT systems design, optimization, modularization and integration
  - PT integration, E/E architecture, thermal management, weight reduction
  - Simulation, prototyping, testing, recycling
  - Safety & security of data
  - Novel vehicle concepts; tailored trucks

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

- Grid and road infrastructures
- Data networks
- Intermodal hubs
Expected Impacts of the PPP

- Improvement of the energy transport system efficiency by 50% from 2010 to 2030, including:
  - +80% energy efficiency of urban vehicles
  - +40% energy efficiency of long distance freight transport

- Deployment of alternative powertrains like electric and plug-in hybrid technologies, according to milestones in 2016 and 2020 and matching respective performance parameters (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
New association - **European Green Vehicles Initiative Association (EGVIA)** - gathering the private side members of the Public-Private Partnership

**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 **82 industry, research and associate members**
EGVIA Membership (82 members)

- 17 automotive OEMs
- 20 automotive suppliers
- 3 representatives of smart systems industry
- 1 representative of smart grid industry
- 15 research organisations
- 18 universities
- 8 associated members
**Governance Model of the PPP**

- **Partnership Board:** governing body of the EGVI PPP gathering public and private representatives
  - Public side: DG RTD, DG MOVE, DG CNECT
  - Private side: Members of the EGVIA Industry Delegation

- **Main tasks:**
  - preparation of the Work Programmes and the EGVI calls for proposals
  - preparation of updates of the EGVI PPP Multiannual Roadmap
EGVI PPP Governance Scheme
EGVI PPP Implementation scheme

Public side

- European Commission
  - Work Programmes and Calls for proposals

Private side

- ERTRAC / EPoSS / Smart Grids
  - SRA and Long-Term Roadmaps

- Consultations

- Monitoring

- Collaborative Projects

- Multi-annual Roadmap

- Call

- Recommendations

- Assessment

- Prioritisation

- Joint Funding

- Proposal
Topics opened in the 2014 call for proposals:

► Post-lithium ion batteries for electric automotive applications (NMP 17-2014)
► Next generation of competitive lithium ion batteries to meet customer expectations (GV.1-2014)
► Optimised and systematic energy management in electric vehicles (GV.2-2014)
► Future nature gas powertrains and components for cars and vans (GV.3-2014)
► Hybrid light and heavy duty vehicles (GV.4-2014)
► Electric two-wheelers and new light vehicle concepts (GV.5-2014)
► Future natural gas powertrains and components for heavy duty vehicles (GV.7-2014)
# Outcomes of 2014 calls

<table>
<thead>
<tr>
<th>Call Reference</th>
<th>Submitted proposal</th>
<th>Evaluation results</th>
<th>Success rate%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Submitted proposals</td>
<td>Eligible proposals</td>
<td>% of retained</td>
</tr>
<tr>
<td>H2020-GV-2014</td>
<td>77</td>
<td>76</td>
<td>98.70%</td>
</tr>
<tr>
<td>H2020-NMP-GV-2014</td>
<td>22</td>
<td>22</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>99</strong></td>
<td><strong>98</strong></td>
<td><strong>98.99%</strong></td>
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</tbody>
</table>
### Outcomes of 2014 calls

<table>
<thead>
<tr>
<th>Call Reference</th>
<th>Publication date</th>
<th>Evaluation period</th>
<th>Nr of GAs signed</th>
<th>Indicative budget [max funding] (M€)</th>
<th>EU contribution</th>
<th>Private /cPPP contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2020-GV-2014</td>
<td>11th December 2013</td>
<td>Sept - Oct 2014</td>
<td>15</td>
<td>€ 129</td>
<td>€ 133.6</td>
<td>€ 23.7</td>
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<tr>
<td>H2020-NMP-GV-2014</td>
<td>11th December 2013</td>
<td>Nov - Dec 2015</td>
<td>2</td>
<td>€ 16</td>
<td>€ 14.9</td>
<td>-</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>17</strong></td>
<td><strong>€ 145</strong></td>
<td><strong>€ 148.5</strong></td>
<td><strong>€ 23.7</strong></td>
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# EGVI calls 2016/2017

<table>
<thead>
<tr>
<th>#</th>
<th>Topic title</th>
<th>Year</th>
<th>Type of action</th>
</tr>
</thead>
<tbody>
<tr>
<td>GV-01-2017</td>
<td>Optimisation of heavy duty vehicles for alternative fuels use</td>
<td>2017</td>
<td>IA</td>
</tr>
<tr>
<td>GV-02-2016</td>
<td>Technologies for low emission light duty powertrains</td>
<td>2016</td>
<td>RIA</td>
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<tr>
<td>GV-03-2016</td>
<td>System and cost optimised hybridisation of road vehicles</td>
<td>2016</td>
<td>IA</td>
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<tr>
<td>GV-04-2017</td>
<td>Technologies for low emission light duty powertrains</td>
<td>2017</td>
<td>RIA</td>
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<tr>
<td>GV-05-2017</td>
<td>Electric vehicle user-centric design for optimised energy efficiency</td>
<td>2017</td>
<td>RIA</td>
</tr>
<tr>
<td>GV-06-2017</td>
<td>Physical integration of hybrid and electric vehicle batteries at pack level aiming at increased energy density and efficiency</td>
<td>2017</td>
<td>IA</td>
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<tr>
<td>GV-07-2017</td>
<td>Multi-level modelling and testing of electric vehicles and their components</td>
<td>2017</td>
<td>RIA</td>
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<tr>
<td>GV-08-2017</td>
<td>Electrified urban commercial vehicles integration with fast charging infrastructure</td>
<td>2017</td>
<td>IA</td>
</tr>
<tr>
<td>GV-09-2017</td>
<td>Aerodynamic and flexible trucks</td>
<td>2017</td>
<td>IA</td>
</tr>
<tr>
<td>GV-10-2017</td>
<td>Demonstration (pilots) for integration in transport system of electrified L-category vehicles</td>
<td>2017</td>
<td>IA</td>
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<tr>
<td>GV-11-2016</td>
<td>Stimulating European research and development for the implementation of future road transport technologies</td>
<td>2016</td>
<td>CSA</td>
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<tr>
<td>GV-12-2016</td>
<td>ERA-NET Co-fund on electromobility</td>
<td>2016</td>
<td>ERA-NET Cofund</td>
</tr>
<tr>
<td>NMP-08</td>
<td>Affordable weight reduction of high-volume vehicles and components taking into account the entire lifecycle</td>
<td>2016</td>
<td>RIA</td>
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Thank you for your attention!

More information? www.egvi.eu

Contact: info@egvi.eu