SMART, GREEN and INTEGRATED TRANSPORT

Work Programme 2016-2017

HORIZON 2020
Transport Work programme 2016-2017
An overview

First calls published: 15/10/1015
All Transport 2016 calls now open!

Budget: EUR 938 mio – 450 mio in 2016
3 main calls – 55 topics

Call “Automated Road Transport”
Indicative budget: EUR 114 mio (64 mio in 2016)

Call “Green Vehicles”
Indicative budget: EUR 206,5 mio (78.5 mio in 2016)
Transport Work programme 2016-2017
What’s new?

- New call on Automation in road transport

- New R&I area on Safety

- Two inducement prizes for the "Cleanest engine"

- More emphasis on socio-economic aspects, behavioural research and forward-looking activities

- International cooperation in many selected topics (US, China, Brazil, Africa)
## Mobility for Growth - URBAN TRANSPORT

<table>
<thead>
<tr>
<th>Topic</th>
<th>Title</th>
<th>Action type</th>
<th>Stages</th>
<th>Budget (EUR Mio)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MG-4.1</td>
<td>Increasing the take up and scale-up of innovative solutions to achieve sustainable urban mobility</td>
<td>IA</td>
<td>2</td>
<td>22</td>
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<tr>
<td>MG-4.2</td>
<td>Supporting &quot;smart electric mobility&quot; in cities</td>
<td>IA</td>
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<tr>
<td>MG-4.3</td>
<td>Innovative approaches for integrating urban nodes in the TEN-T core network corridors</td>
<td>CSA</td>
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<td>2</td>
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<tr>
<td>MG-4.4</td>
<td>Facilitating public procurement of innovative sustainable transport and urban mobility solutions</td>
<td>CSA</td>
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<tr>
<td>MG-4.5</td>
<td>New ways of supporting development and implementation of neighbourhood-level and urban-district-level transport innovations</td>
<td>RIA</td>
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<tr>
<td>MG-5.1</td>
<td>Networked and efficient logistics clusters</td>
<td>RIA</td>
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<tr>
<td>MG-5.2</td>
<td>Innovative ICT solutions for future logistics operations</td>
<td>RIA</td>
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<tr>
<td></td>
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<tr>
<td>MG-5.4</td>
<td>Potential of the physical internet</td>
<td>RIA + CSA</td>
<td>2</td>
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<tr>
<td>MG-5.3</td>
<td>Promoting the deployment of green transport, towards Eco-labels for logistics</td>
<td>CSA</td>
<td>1</td>
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</tr>
</tbody>
</table>
New call on Automation in road transport

New R&I area on Safety

Two inducement prizes for the "Cleanest engine"

More emphasis on socio-economic aspects, behavioural research and forward-looking activities

International cooperation in many selected topics (e.g.: US, China, Brazil, Africa)

New approach for the two-stage procedure: "GO" proposals up to 3 times the budget available

Pilot on Open Research Data to improve and maximise access to and reuse of research data generated by projects: voluntary basis

Mobility for Growth - ITS

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<thead>
<tr>
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<th>Stages</th>
<th>Budget (EUR Mio)</th>
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<tbody>
<tr>
<td>MG-6.1</td>
<td>Innovative concepts, systems and services towards 'mobility as a service'</td>
<td>RIA</td>
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<td>MG-6.2</td>
<td>Large-scale demonstration(s) of cooperative ITS</td>
<td>IA</td>
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<tr>
<td>MG-6.3</td>
<td>Roadmap, new business models, awareness raising, support and incentives for the roll-out of ITS</td>
<td>CSA</td>
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<td>5</td>
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</tbody>
</table>
CALL: Automated Road Transport - priorities

- Vehicle-driver interface
- User and social acceptance
- Connectivity for advanced level of automation
- Road infrastructure
- Automation Pilots
- Safe AD systems in complex traffic situations
- Detect vehicle location and environment
## Automated Road Transport - Topics

<table>
<thead>
<tr>
<th>Topic</th>
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<th>Budget (EUR Mio)</th>
<th>2016</th>
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<tbody>
<tr>
<td>ART-02</td>
<td>Automation pilots for passenger cars</td>
<td>IA</td>
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<tr>
<td>ART-04</td>
<td>Safety and end-user acceptance aspects of road automation in the transition period</td>
<td>RIA</td>
<td>2</td>
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<tr>
<td>ART-05</td>
<td>Road infrastructure to support the transition to automation and the coexistence of conventional and automated vehicles on the same network</td>
<td>RIA</td>
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<td>ART-06</td>
<td>Coordination of activities in support of road automation</td>
<td>CSA</td>
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<tr>
<td>ART-01</td>
<td>ICT infrastructure to enable the transition towards road transport automation</td>
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<tr>
<td>ART-03</td>
<td>Multi-Brand platooning in real traffic conditions</td>
<td>IA</td>
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<tr>
<td>ART-07</td>
<td>Full-scale demonstration of urban road transport automation</td>
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</tbody>
</table>
ART 02 - Automation pilots for passenger cars

Challenge
Test automated cars in mixed traffic situations on public roads

Scope
- Test readiness and reliability of automated driving technologies for passenger cars in Field Operational Tests (FOTs)
- Evaluate effects of AD systems in a mixed traffic environment and under different conditions

Expected impact
- Demonstrate impacts in terms of road safety, transport management, energy use, etc.
- Better knowledge about user acceptance and behaviour

Estimated budget per proposal: EUR 18-36 Mio
ART 04 - Safety and end-user acceptance aspects

Challenge
• Develop automated driving technologies which are fully accepted by the users
• Ensure safety of automated driving systems (level 3) in all kinds of traffic situations

Scope
• Analyse user requirements, expectations and concerns related to the use of automated driving systems
• Design safe human-machine interface and driver monitoring strategies
• Develop fail-safe/fault tolerant systems and solutions for safe operations of AV in complex and mixed traffic situations

Expected Impact
• AD systems which are fully safe, reliable and in line with user expectations
• Proper validation procedures for automated driving systems to test functional safety and performance

Estimated budget per proposal: EUR 3-6 Mio
ART 05 - Road infrastructure to support Automated Driving

**Challenge**
Establish road infrastructure conditions to allow safe automated driving in the transition period

**Scope**
- New methods of traffic flow modelling
- Design, upgrading and adaptation of “hybrid” infrastructure
- Required forms of visual and electronic signalling and optical guidance
- Best ways to enlarge the electronic road horizon for AVs
- New safety performance criteria for road infrastructure

**Expected impact**
Support stepwise introduction of automated driving by innovative modelling, design and engineering of road infrastructure

**Estimated budget per proposal:** EUR 2-5 Mio
ART 06 - Coordination of activities in support of road automation

Challenge
More coordinated approach of Automated Vehicles testing
More efficient sharing of data and experiences of different FOTs

Scope (proposals should address 1, 2 or both areas)
Area 1 Solid knowledge base on all ongoing R&D
Forum for National & European stakeholders
Support international cooperation activities (USA, Japan)

Area 2 Platform of data exchange of FOT
Strategy for sharing and exploiting collected data in National, European and international FOTs

Expected impact
Provide comprehensive picture of the state of the art in terms of R&D in automated road transport
Better visibility, comparability and transferability of available results and data from FOTs

Estimated budget per proposal: EUR 0.5-3 Mio
TWINNING - Road vehicle automation

EC and US DOT encourage twinning to exchange knowledge and experience and exploit synergies

- Twinning activities are on voluntary basis
- Full flexibility for defining twinning activities

Examples for twinning activities: exchanges of information, data, visits, methodologies, researchers, results, joint workshops, publications etc.

In the proposal phase: 1st stage proposal: broadly outline planned areas for twinning with US organisations

2nd stage proposal: specify the workpackages and tasks for "twinning" activities with US organisations
No need to specify US organisations in the proposal

Twinning is foreseen only for a selected number of topics
# Green Vehicles – Topics

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<tr>
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<tr>
<td>GV-02</td>
<td>Technologies for low emission light duty powertrain</td>
<td>RIA</td>
<td>1</td>
<td>65</td>
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<tr>
<td>GV-03</td>
<td>System and cost optimised hybridisation of road vehicles</td>
<td>IA</td>
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<tr>
<td>GV-11</td>
<td>Stimulating European research and development for the implementation of future road transport technologies</td>
<td>CSA</td>
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<td>3.5</td>
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<tr>
<td>GV-12</td>
<td>ERA-NET Co-fund on electromobility</td>
<td>ERA-NET</td>
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</tbody>
</table>
GV 02 - Technologies for low emission light duty powertrains

Challenge
Increasingly stringent emission standards, but real driving emissions not sufficiently reduced

Scope
Addressing optimal combination of innovative engine and after-treatment technologies
Future combustion engines for electrified powertrains
Support for improved regulation of nanoparticles below 23 nm

Expected impact
Reduce CO2 and polluting emissions in real driving conditions

Estimated EC contrib. per proposal: EUR 5-10 Mio
International Cooperation (Japan, US) encouraged
GV 03 - System and cost optimised hybridisation of road vehicles

Challenge
Reducing cost and complexity of pure hybrid, plug-in hybrid and range extended electric vehicles

Scope
Identify potential for cost reduction by technical simplification of powertrain for light-duty and / or heavy-duty vehicles

Expected impact
Cost reduction allowing for higher market penetration of hybrid vehicles

Estimated EC contrib. per proposal: EUR 7-10 Mio
Horizon prize for the cleanest engine

Challenge
• Helping the development of technologies to reduce emissions of pollutants in real driving conditions

Scope
• Two prizes addressing (A) the existing fleet (retrofittable technology) and (B) future vehicles

Expected impact
• Reduce noxious emissions

Indicative budget: EUR 1,5 (A) + 3,5 (B) Mio

Target audience: individuals, SMEs, research centres, universities, suppliers of components, car manufacturers
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Find out more on H2020:

www.ec.europa.eu/research/horizon2020
www.ec.europa.eu/research/participants/portal/page/home

ETNA Plus
http://www.transport-ncps.net
Thank you for your attention!

Bogdan Cernat-Gruici
H2020 NCP for Smart Green and Integrated Transport

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