The EU Framework Programme for Research and Innovation

# HORIZON 2020

## Smart, green and integrated Transport

### *Work Programme 2016-2017*

**Andrea Gentili**
**European Commission DG RTD**

**Champs-sur-Marne (FR), 28/06/2016**

# H2020 -Transport challenge policy goals: efficiency and sustainability

## Resource efficiency vs. climate change and oil dependency

*Transport accounts for 32% of all energy consumption*

➢ **Boost alternative fuels and infrastructure**

## Curb noxious emissions, improve air quality

*24% of CO2, 20% of GHG come from transport*

*400 000 premature deaths in EU, 1/5 due to transport*

➢ **Achieve the 2030 energy-climate targets: GHG -40%, 27% renewables, 27% energy savings**

## Network capacity and modal shift vs saturation and congestion

*Congestion costs: 1 to 2 % of GDP*

➢ **30% of road freight > 300 km moving to rail/water by 2030**

## Smart solutions for safety and security

*26000 road fatalities/year*

➢ **Vision zero: ½ road fatalities by 2020 (vs 2010), towards none by 2050**

## Fierce international competition

*Expanding markets but shrinking market shares*

➢ **Innovate to preserve market-shares and jobs**

## Objectives of Societal Challenge 4
## 'Smart, green and integrated Transport':

Achieving a European transport system that is

- resilient

- resource-efficient

- climate and environmentally friendly

- safe

- seamless

- competitive

...and that benefits citizens, economy and society

## Four lines of activities:

1. Resource efficient transport that respects the environment
2. Better mobility, less congestion, more safety and security
3. Global leadership for the European transport industry
4. Socio-economic and behavioural research and forward looking activities for policy making

# H2020 -Transport challenge budget

➢ *Over 6 billion € for 7 years 2014-2020*

➢ *50/50 JTIs/collaborative calls*
*- Clean Sky, SESAR, Shift2Rail , Fuel Cells & Hydrogen (contribution)*

➢ *946 M € for WP 2016-17*

➢ *495 M € for 2017*

# Implementation of H2020

- **Public calls, competitive selection, peer review**
- **Multi-partner transnational consortia**
- **Evaluation criteria:**
  - *Excellence, impact, implementation*
- **Work Programme cycle:**

1st | 2014 | 2015

2nd | 2016 | 2017

3rd | 2018 | 2019 | 2020

| Actions | Participants |
|---|---|
| **Research and Innovation Actions (RIAs)**<br>Main focus on research | **Consortia** of min. 3 partners from 3 different countries |
| **Innovation Actions (IAs)**<br>Main focus on close-to-market activities | |
| **Coordination and Support Actions (CSAs)**<br>Focus on coordination and networking of R&I projects, programmes and policies | **Single entities** or **consortia** |

# 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*' (2016)

➢ 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

➢ **Open Research Data extended to the whole H2020** to improve and maximise access to and re-use of research data generated by projects – There is always possibility to opt-out.

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# Transport Work programme 2016-2017 An overview

EN

Horizon 2020

Work Programme 2016 - 2017

11. Smart, green and integrated transport

Important notice on the second Horizon 2020 Work Programme

This Work Programme covers 2016 and 2017. The parts of the Work Programme that relate to 2017 are provided at this stage on an indicative basis. Such Work Programme parts will be decided during 2016.

(European Commission Decision C (2015)6776 of 13 October 2015)

➢ Calls are expected to open: 20/09/1016

➢ Budget : EUR 946 mio – 495 mio in 2017

➢ 3 main calls – 57 topics (30 for 2017)

➢ Several other activities tailored on specific needs

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## Transport Work Programme

**Calls for proposals:**

1) Mobility for Growth 437M

2) Automated Road Transport 114 M **New**

3) European Green Vehicles Initiative 211,5M

**Other activities**

- Blue Growth (SC2/Food)
- ELENA Facility (SC3/Energy)
- SME Instrument (119M)
- Fast Track to Innovation
- LEIT/NMBP, ICT, Space; SC/Energy, Security, Climate; Smart Cities

*Plus other actions (public procurements, …)*

*Complementarities with Clean Sky 2, SESAR, Shift2Rail, FCH2*

## Objectives



- **Reconcile competitiveness and sustainability, improved mobility and economic impact**

- Make equipments and systems smarter, cleaner, quieter, more efficient, less dependent on fossil fuels

- Boost interconnection of infastructure, transport means, travellers, goods

- Optimise door-to-door mobility, increase safety and resilience, reduce environmental impact and operational costs

- Focus on aviation, waterborne, cross-modal aspects

# 1. Call "Mobility for Growth"- *(H2020-MG-2016-17)*

- **Indicative budget**: EUR 437 mio (227 mio in 2017)

- **8 technical areas and 37 topics (18 in 2017—opening 20/9/2016)** addressing...

  - ✓ <u>Mode-specific challenges</u>: 1) Aviation; 2) Waterborne

  - ✓ <u>Cross-modal / transport integration challenges</u>:
    3) Safety; 4) Urban; 5) Logistics; 6) ITS; 7) Infrastructure

  - ✓ <u>Cross-cutting issues</u>: 8) Socio-economic and behavioural research and forward-looking activities for policy making

- **Two-stage** procedure for **all RIAs** and **IAs** (<u>exception</u>: three RIA topics under area 1 and 8) **— Single stage** procedure for **all CSAs**

- **Deadlines 2017:** 26 January 2017 (1st stage proposals)
  - 1 February 2017 (single stage proposals)
  - 19 October 2017 (2nd stage proposals)

# 2. Call "Automated Road Transport" -

*(H2020-ART-2016-17)*

- **Indicative budget**: EUR 114 mio (50 mio in 2017)

- **7 topics** addressing technical and non-technical challenges - opportunities to cooperate with the US (3 topics 01,03 and 07 for 2017 – **opening 20/9/2016**)

- **Two-stage** procedure for **all RIAs** and **IAs – Single stage** procedure for **all CSAs**

- **Deadlines 2017:** 26 January 2017 (1st stage proposals)
  27 September 2017 (2nd stage proposals)

# 3. Call "Green Vehicles"- *(H2020-GV-2016-17)*

- **Indicative budget**: EUR 211,5 mio (133 mio in 2017)

- **13 topics** supporting the development of low-carbon vehicles, use of non conventional energies, reduce pollution an noise – 9 topics in 2017 – **opening 4/10/2016**

- **Single stage** procedure for **all topics**

- **Deadline 2017:** 1 February 2017

❑ Schemes to promote **close-to-market innovation**

➢ **SME Instrument:** Same approach as in 2014-2015
  - **Open in scope and fully bottom-up**: all technologies and innovative solutions for transport and mobility
  - **Open call**: several cut-off dates per year
  - **Transport dedicated budget**: EUR 118.8 mio (61 mio 2017)

➢ **Fast Track to Innovation:** Pilot action in 2016
  - Open in scope: **all areas** covered by all H2020 programmes
  - Remains to be seen whether it will continue after 2017

➢ **Public procurement projects**

## Global challenges call for global solutions

- Emissions, pollution, climate impact
- Oil dependency, energy efficiency
- Transport safety and security
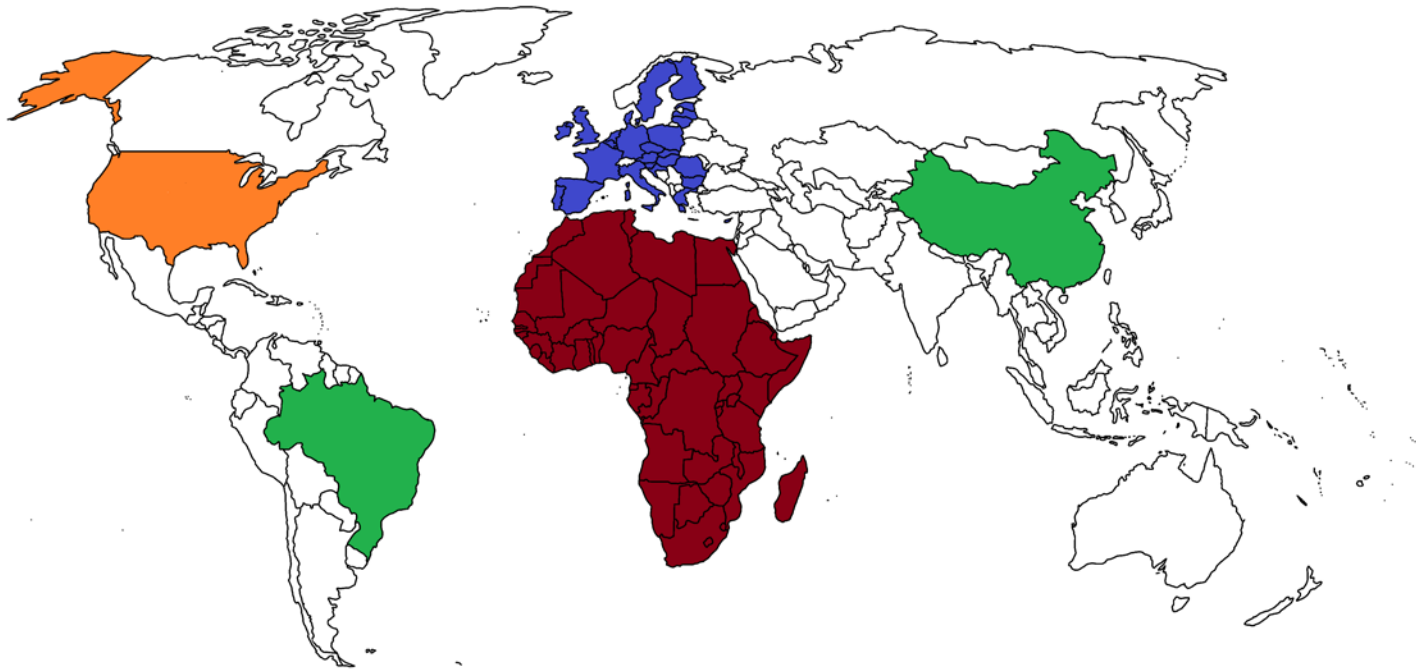- Standardisation of services, products and procedures

...

## Local issues benefit from exchange of best practices

- Traffic congestion
- Land use planning
- Behavioural issues

...

## Targeted Countries in WP 2016-17



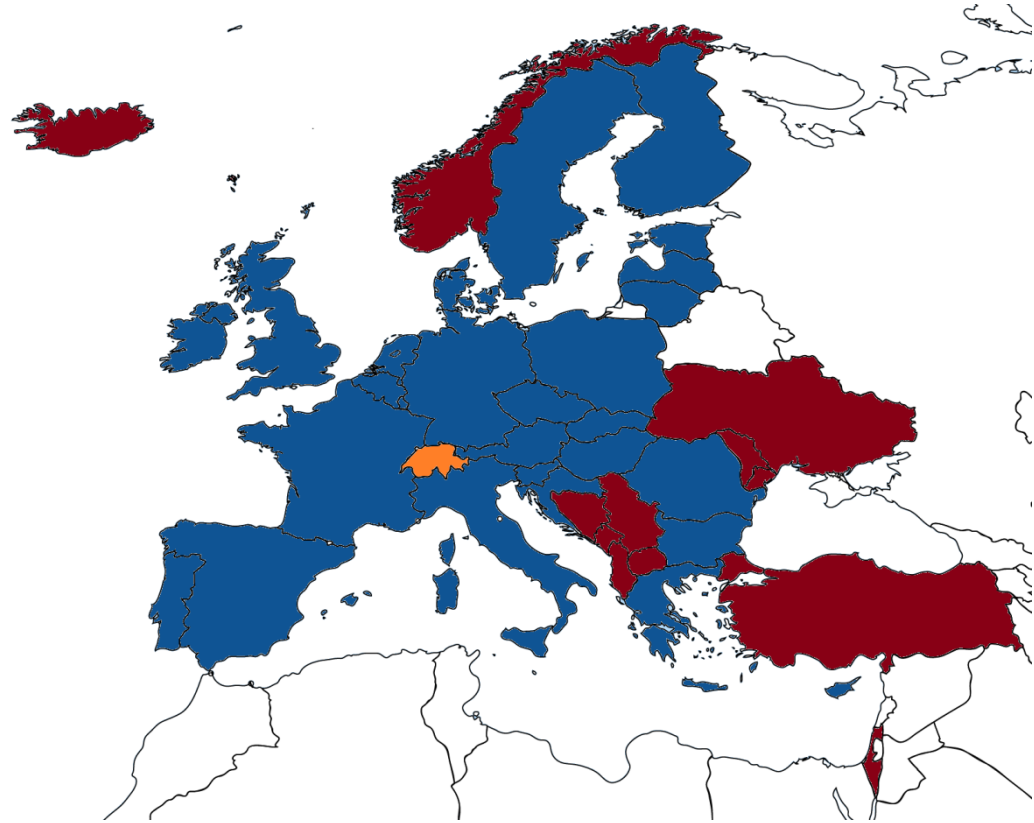**US: Road transport automation, ITS, Green Vehicles, Safety, Infrastructure, Climate Change**
**China, Brazil and others: Green Vehicles, Safety**
**Africa: Road Safety and Traffic Management**
*+ many topics encouraging international cooperation*

## 28 Member States

## 12+1 Associated Countries

- **Iceland**
- **Norway**
- **Albania**
- **Bosnia and Herzegovina**
- **FYROM**
- **Montenegro**
- **Serbia**
- **Turkey**
- **Israel**
- **Moldova**
- **Faroe Islands**
- **Ukraine** *(excl. Crimea)*
- Switzerland *(partial: not for transport)*

**Participants from any other Country can participate**
*Those from developing Countries can also get funded*

- **One project = One funding rate** for all beneficiaries / activities in the grant

- Funding **up to 100% of eligible costs** for 'Research and Innovation Actions' (RIA) and for 'Coordination and Support Actions' (CSA)

- Funding **up to 70%** for 'Innovation Actions' (IA), except non-profit organisations (up to 100%)

- **Indirect costs** (overheads): 25% flat rate

- **Minimum conditions**

  - **IAs, RIAs**: minimum three legal entities each established in a different Member State or an Associated Country

  - **CSAs**: one legal entity established in a Member State or in an Associated Country

  - Plus **additional conditions** as indicated in the WP

- **Time to Grant** (from call closure date) maximum **eight months**
  - Proposers to be informed within **five months**

# Research and Innovation Action

- ***Action primarily consisting of activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution***

  – For this purpose they may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment

  – Projects may contain closely connected but limited demonstration or pilot activities aiming to show technical feasibility in a 'near to operational' environment

# *Innovation Action*

- *Action primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services*

  - **For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication**

  - **Aiming to validate the technical and economic viability in a (near) operational environment and/or aiming to support the first application/deployment in the market of an innovation that has already been demonstrated but not yet applied/deployed in the market due to market failures/barriers to uptake**

  - **Projects may include limited research and development activities**

# Coordination & Support Action

- ***Actions consisting primarily of accompanying measures such as***

    - standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including design studies for new infrastructure, and

    - may also include complementary activities of strategic planning, networking and coordination between programmes in different countries

# Important elements for applicants

- **Calls are challenge-based, and therefore more open to innovative proposals**

  – Calls are less prescriptive - they do not outline the expected solutions to the problem, nor the approach to be taken to solve it

  – Calls/topics descriptions allow plenty of scope for applicants to propose innovative solutions of their own choice

- **There is a greater emphasis on impact, in particular through each call or topic impact statements**

  – Applicants are asked **to explain how** their work will contribute to bringing about the described impacts

  – During the evaluation, evaluators are asked to assess this potential contribution

- **There is more emphasis on innovation**

  - Horizon 2020 supports all stages in the research and innovation chain including non-technological and social innovation and activities closer to the market

- **Proposals may bring together different disciplines, sectors and actors to tackle specific challenges**

  - e.g. scientists, industry, SMEs, societal partners, end-users...

- **Gender and SME participation: an important element (where pertinent of course..)**

**Some useful advice:**

- **Read the topic identifier (e.g MG-6.3-2016) as well as the type of Action (RIA, IA, CSA) and look also at the respective call conditions.**

- **In the Scope part, pay attention to whether you are required to address, <u>one</u>, <u>several</u> or <u>all of</u> the areas concerned. Justify your choices.**

- **Pay attention to the expected Impact. You are supposed to demonstrate HOW your proposal will contribute to it (avoid simply stating the impact text…)**

✓ For the first stage of a two-stage procedure, only the aspects of the criteria in yellow are evaluated

## Excellence

**Clarity and pertinence of the objectives**

**Soundness of the concept, including trans-disciplinary considerations, where relevant**

**Extent that proposed work is ambitious, has innovation potential, and is beyond the state of the art (e.g. ground-breaking objectives, novel concepts and approaches)**

Credibility of the proposed approach

## Impact

**The expected impacts listed in the work programme under the relevant topic**

Enhancing innovation capacity and integration of new knowledge

Strengthening the competitiveness and growth of companies by developing innovations meeting the needs of European and global markets; and, where relevant, by delivering such innovations to the markets

Any other environmental and socially important impacts (not already covered above)

Effectiveness of the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, and to manage research data where relevant

## Implementation

Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources

Complementarity of the participants within the consortium (when relevant)

Appropriateness of the management structures and procedures, including risk and innovation management

✓ For the first stage of a two-stage procedure, only the aspects of the criteria in yellow are evaluated

## Excellence

**Clarity and pertinence of the objectives**

**Soundness of the concept**

**Quality of the proposed coordination and/or support measures**

Credibility of the proposed approach

## Impact

**The expected impacts listed in the work programme under the relevant topic**

Effectiveness of the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, and to manage research data where relevant

## Implementation

Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources

Complementarity of the participants within the consortium (when relevant)

Appropriateness of the management structures and procedures, including risk and innovation management

# 2016-17 calls: key dates

| Date | Calls / topics |
|---|---|
| **NEED TO CHECK THE OPENING/CLOSING DATES in the REVISED WP TEXT in August 2016 (Participant Portal)** | |

| | Date | Calls / topics |
|---|---|---|
| **2016** | **29 September** | **Closing of the first call**<br>**Two-stage** topics: **2nd stage** proposals |
| **2016** | **20 September**<br>**4 October** | **Opening of 2017 calls**<br>Calls **Mobility for Growth** & **Autom. Road Transport**<br>Call **Green Vehicles** |
| **2017** | **26 January**<br>**1 February**<br>**27 September**<br>**19 October** | **Closing**<br>**Two-stage** topics: **1st stage** proposals<br>**Single-stage** topics<br>**Two-stage** topics: **2nd stage** proposals - call ART<br>**Two-stage** topics: **2nd stage** proposals - call MG |

# For further information

- **Participant Portal**

  http://ec.europa.eu/research/participants/portal/desktop/en/home.html

- **Helpdesk**

  http://ec.europa.eu/research/enquiries

- **Expert evaluators needed!**
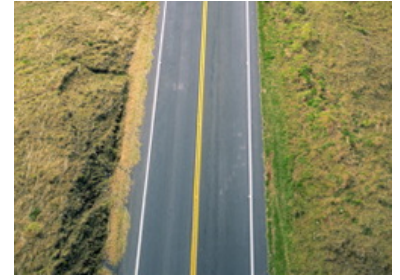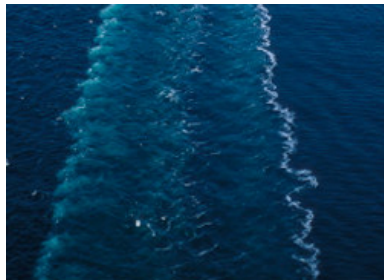  http://ec.europa.eu/research/participants/portal/desktop/en/experts/index.html

- **Learn more about the Transport Challenge and the WP**

  http://ec.europa.eu/programmes/horizon2020/en/h2020-section/smart-green-and-integrated-transport

- **Learn more about Horizon 2020**

  http://ec.europa.eu/horizon2020

# Thank you!

*2016–17:* **5 topics open**
**EUR 146 Mio** *EU budget*
*Complements* **Clean Sky 2** *and* **SESAR**

## Context

- Market growth: new **opportunities** for Europe
- Europe's **leadership** in products and services, but **challenges** arising from international competition
- Keyword: **sustainability** of growth (safety, security, environmental concerns)
- Rising **expectations** from users – **integration** with other transport modes needed

## Contents and structure

- WP complements **Clean Sky 2** and **SESAR**
- It addresses **medium to long-term R&I**
- Topics in line with H2020 Specific Programme, ACARE challenges (Flightpath 2050) and SRIA
- Focus on:
    - Reducing **energy** consumption, **environmental** impact and **noise**
    - Industrial **leadership** and breakthrough **technologies**
- **International cooperation** encouraged in certain topics
- Relevant actions also financed under other challenges

# Aviation: topics and budget
## Total EU contribution: EUR 146 Mio

| Topic | Title | Action type | Stages | Budget (EUR Mio) | |
|---|---|---|---|---|---|
| | | | | 2016 | 2017 |
| MG-1.1 | Reducing energy consumption and environmental impact of aviation | RIA | 2 | 40 | |
| MG-1.2 | Reducing aviation noise | RIA | 1 | | 20 |
| MG-1.3 | Maintaining industrial leadership in aeronautics | RIA | 2 | | 45 |
| MG-1.4 | Breakthrough innovation | RIA | 2 | 15 | 15 |
| MG-1.5 | Identification of gaps, barriers and needs in aviation research | CSA | 1 | 4 | 7 |

CSA = Coordination and Support Action
RIA = Research and Innovation Action

*2016-17:* **4 topics open**

**EUR 78 Mio** *EU budget*

## Context

- Economic, environmental and social sustainability are challenges for waterborne transport

- Need for a modern, resource-efficient, interconnected, safe, secure and resilient system

- Efficiency gains, improved use of energy sources, minimisation of environmental impacts desirable

- Competitors challenging Europe's leadership in design, production and operation of waterborne assets

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# Waterborne: topics and budget
*Total EU contribution: EUR 78 Mio*

| Topic | Title | Action type | Stages | Budget (EUR Mio) | |
|---|---|---|---|---|---|
| | | | | 2016 | 2017 |
| MG-2.1 | **Innovations for energy efficiency and emission control in waterborne transport** | IA | 2 | | 40 |
| MG-2.4 | **Complex and value-added specialised vessels** | IA | 2 | | |
| MG-2.2 | **Development, production and use of high performance and lightweight materials for vessels and equipment** | IA | 2 | 38 | |
| MG-2.3 | **New and improved transport concepts in waterborne transport** | RIA | 2 | | |

*IA = Innovation Action; RIA = Research and Innovation Action*

> *2016-17:* **6 topics open**
>
> **EUR 66 Mio** *EU budget*

## Context

- Safety improved across all modes over last 10 years
- EU targets for transport safety: halving road casualties by 2020, towards zero fatalities by 2050
- Aim: reducing accident rates, fatalities and injuries in each mode
- Increasing knowledge and awareness, developing technologies, products, services, solutions

# Safety: topics and budget
*Total EU contribution: EUR 66 Mio*

| Topic | Title | Action type | Stages | Budget (EUR Mio) | |
|---|---|---|---|---|---|
| | | | | 2016 | 2017 |
| MG-3.1 | Addressing aviation safety challenges | RIA | 2 | 15 | |
| MG-3.2 | Protection of all road users in crashes | RIA | 2 | | 14 |
| MG-3.3 | Safer waterborne transport and maritime operations | RIA | 2 | 22 | |
| MG-3.5 | Behavioural aspects for safer transport | RIA | 2 | | |
| MG-3.4 | Transport infrastructure innovation to increase the transport system safety at modal and intermodal level | RIA | 2 | 12 | |
| MG-3.6 | Euro-African initiative on road safety and traffic management | CSA | 1 | 3 | |

*RIA = Research and Innovation Action; CSA = Coordination and Support Action*

*2016-17:* **5 topics open**

**EUR 36 Mio** *EU budget*

*Expanding the* **CIVITAS initiative***; links with* **Connecting Europe** *and* **ELENA** *Facilities*

## Context

- Transport White Paper targets:
  - By 2030: $CO_2$-free city logistics in major centers
  - By 2050: phasing out of conventionally fuelled cars in cities
- Efficiency of urban transport, mitigation of its negative effects: crucial for performance of cities
- Need for change in use of vehicles patterns, more efficiency, less impacting city logistics

# Urban mobility: topics and budget
## *Total EU contribution: EUR 36 Mio*

| Topic | Title | Action type | Stages | Budget (EUR Mio) | |
|---|---|---|---|---|---|
| | | | | **2016** | **2017** |
| MG-4.1 | Increasing the take up and scale-up of innovative solutions to achieve sustainable urban mobility | IA | 2 | | 22 |
| MG-4.2 | Supporting "smart electric mobility" in cities | IA | 2 | | |
| MG-4.3 | Innovative approaches for integrating urban nodes in the TEN-T core network corridors | CSA | 1 | | 2 |
| MG-4.4 | Facilitating public procurement of innovative sustainable transport and urban mobility solutions | CSA | 1 | 2 | |
| MG-4.5 | New ways of supporting development and implementation of neighbourhood-level and urban-district-level transport innovations | RIA | 2 | 10 | |

*CSA = Coordination and Support Action*
*RIA = Research and Innovation Action; IA = Innovation Action*

# Logistics

> *2016-17:* **4 topics open**
>
> **EUR 27 Mio** *EU budget*
>
> *Complements relevant topics under* **Urban Mobility** *and* **Intelligent Transport Systems**

## Context

- In 2012, **45%** of freight transport (tkm) on the road, **40%** by sea, **9%** by rail, **3%** by inland waterways
- **One in four** trucks in the EU **runs empty**, overall efficiency (weight-based) as low as 43%
- Need for an increase in **efficiency** and **sustainability**
- Opportunities provided by **digitalisation**
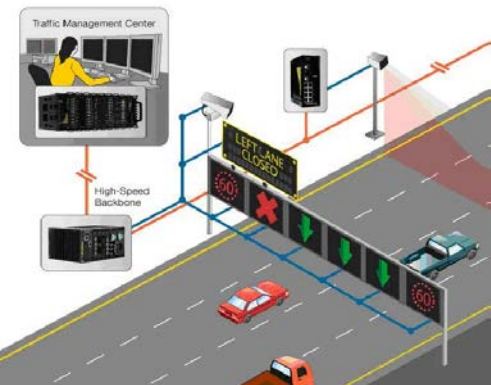- Need to remove **bottlenecks**

# Logistics: topics and budget
## Total EU contribution: EUR 27 Mio

| Topic | Title | Action type | Stages | Budget (EUR Mio) | |
|---|---|---|---|---|---|
| | | | | 2016 | 2017 |
| MG-5.1 | Networked and efficient logistics clusters | RIA | 2 | 12 | |
| MG-5.2 | Innovative ICT solutions for future logistics operations | RIA | 2 | | 12 |
| MG-5.4 | Potential of the physical internet | RIA + CSA | 2 1 | | 1 |
| MG-5.3 | Promoting the deployment of green transport, towards Eco-labels for logistics | CSA | 1 | 2 | |

CSA = Coordination and Support Action
RIA = Research and Innovation Action

2016-17: **3 topics open**

**EUR 30 Mio** *EU budget*

*Complements topics under the Call on* **Automated Road Transport**

## Context

- By connecting all elements of the transport system, ITS are key to achieving seamless passengers and goods transport

- ITS enable better use of existing infrastructure

- Need for Europe-wide real-time transport information data combining information from all transport modes

# ITS: topics and budget
*Total EU contribution: EUR 30 Mio*

| Topic | Title | Action type | Stages | Budget (EUR Mio) | |
|---|---|---|---|---|---|
| | | | | 2016 | 2017 |
| MG-6.1 | **Innovative concepts, systems and services towards 'mobility as a service'** | RIA | 2 | 25 | |
| MG-6.2 | **Large-scale demonstration(s) of cooperative ITS** | IA | 2 | | |
| MG-6.3 | **Roadmap, new business models, awareness raising, support and incentives for the roll-out of ITS** | CSA | 1 | 5 | |

*CSA = Coordination and Support Action*
*RIA = Research and Innovation Action*
*IA = Innovation Action*

# Infrastructure

> *2016-17:* **3 topics open**
>
> **EUR 38 Mio** *EU budget*
>
> *Proposals addressing Rail (in a multimodal approach) and Aviation infrastructure:* **ensure complementarity** *with activities in 'Shift to Rail' and 'SESAR' respectively*

## Context

- Growing need to make infrastructure more resilient, to keep pace with growing mobility needs and extreme events

- Coping with declining resources to maintain and upgrade transport infrastructure

- Challenge: identify innovative solutions to increase efficiency and robustness of transport infrastructure

# Infrastructure: topics and budget
## Total EU contribution: EUR 38 Mio

| Topic | Title | Action type | Stages | Budget (EUR Mio) | |
|-------|-------|-------------|--------|------|------|
| | | | | 2016 | 2017 |
| MG-7.1 | **Resilience to extreme (natural and man-made) events** | RIA | 2 | | |
| MG-7.2 | **Optimisation of transport infrastructure including terminals** | RIA | 2 | | 37 |
| MG-7.3 | **The Port of the future** | RIA CSA | 2 1 | | 1 |

*CSA = Coordination and Support Action*
*RIA = Research and Innovation Action*

*2016-17:* **7 topics open**

**EUR 15,1 Mio** *EU budget*

## Context

- Address emerging societal challenges and trends: the sharing economy; big data; accessibility issues

- Explore the techno-economic prospects and skills requirements of a fast evolving sector

| Topic | Title | Action type | Stages | Budget (EUR Mio) | |
|---|---|---|---|---|---|
| | | | | 2016 | 2017 |
| MG-8.1 | Research, technology, development and market trends for the European transport manufacturing industries | CSA | 1 | 1,5 | |
| MG-8.2 | Big data in Transport: Research opportunities, challenges and limitations | CSA | 1 | | 2 |
| MG-8.3 | Assessing future requirements for skills and jobs across transport modes and systems | RIA | 1 | 3 | |

*...continues on next slide*

*CSA = Coordination and Support Action*
*RIA = Research and Innovation Action*

| Topic | Title | Action type | Stages | Budget (EUR Mio) | |
|-------|-------|-------------|--------|------|------|
| | | | | 2016 | 2017 |
| MG-8.4 | Improving accessibility, inclusive mobility and equity: new tools and business models for public transport in prioritised areas | RIA | 1 | | 7,5 |
| MG-8.5 | Shifting paradigms: Exploring the dynamics of individual preferences, behaviours and lifestyles influencing travel and mobility choices | RIA | 1 | | |
| MG-8.6 | Innovation awards for students and researchers in the context of the Transport Research Arena conference – TRA 2018 | CSA | 1 | 0,6 | |
| MG-8.7 | Future research needs and priorities in the area of transport | CSA | 1 | | 0,5 |

*CSA = Coordination and Support Action*
*RIA = Research and Innovation Action*

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## Objectives

- **Increase safety, efficiency, user convenience, livability of cities**

- **Meet the next competitiveness challenge: new frontier for industrial leadership, growth and jobs**

# Automated Road Transport: topics and budget – *Total EU contribution: EUR 114 Mio*
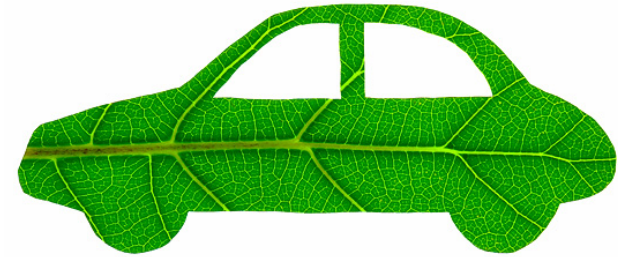
| Topic | Title | Action type | Stages | Budget (EUR Mio) | |
|-------|-------|-------------|--------|------|------|
| | | | | 2016 | 2017 |
| ART-01 | ICT infrastructure to enable the transition towards road transport automation | IA | 2 | | 50 |
| ART-03 | Multi-Brand platooning in real traffic conditions | IA | 2 | | |
| ART-07 | Full-scale demonstration of urban road transpoirt automation | IA | 2 | | |
| ART-02 | Automation pilots for passenger cars | IA | 2 | 48 | |
| ART-04 | Safety and end-user acceptance aspects of road automation in the transition period | RIA | 2 | | |
| ART-05 | Road infrastructure to support the transition to automation and the coexistence of conventional and automated vehicles on the same network | RIA | 2 | 13 | |
| ART-06 | Coordination of activities in support of road automation | CSA | 1 | 3 | |

*CSA = Coordination and Support Action*
*IA = Innovation Action;  RIA = Research and Innovation Action*

## Objectives

- **Boost competitiveness and growth**

- **Clean transport, de-carbonise society**

- Promote energy efficiency, use of non conventional energies (electricity, CNG, LNG, renewables), alternative fuels

- Reduce pollution, noise, impacts on health

- Improve engines, power-trains, vehicle architecture, manufacturing processes

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# Green Vehicles [1/2]
*Total EU contribution: EUR 211,5 Mio*

| Topic | Title | Action type | Stages | Budget (EUR Mio) |
|-------|-------|-------------|--------|------------------|
|       |       |             |        | 2016 |
| GV-02 | **Technologies for low emission light duty powertrain** | RIA | 1 | 65 |
| GV-03 | **System and cost optimised hybridisation of road vehicles** | IA | 1 | |
| GV-11 | **Stimulating European research and development for the implementation of future road transport technologies** | CSA | 1 | 3,5 |
| GV-12 | **ERA-NET Co-fund on electromobility** | ERA-NET | 1 | 10 |

*CSA = Coordination and Support Action*
*RIA = Research and Innovation Action*
*IA = Innovation Action*
*ERA-NET = ERA-NET Cofund Action*

# Green Vehicles [2/2]
## Total EU contribution: EUR 211,5 Mio

| Topic | Title | Action type | Stages | Budget (EUR Mio) 2017 |
|-------|-------|-------------|--------|------------------------|
| GV-01 | Optimisation of heavy duty vehicles for alternative fuels use | IA | 1 | |
| GV-04 | Next generation electric drivetrains for fully electric vehicles, focussing on high efficiency and low cost | RIA | 1 | |
| GV-05 | Electric vehicle user-centric design for optimised energy efficiency | RIA | 1 | |
| GV-06 | Physical integration of hybrid and electric vehicles batteries at pack level aiming at increased energy density and efficiency | IA | 1 | |
| GV-07 | Multi-level modelling and testing of electric vehicles and their components | RIA | 1 | 133 |
| GV-08 | Electrified urban commercial vehicles integration with fast charging infrastructure | IA | 1 | |
| GV-09 | Aerodynamic and flexible trucks | IA | 1 | |
| GV-10 | Demonstration (pilots) for integration of electrified L-category vehicles in the urban transport system | IA | 1 | |
| GV-13 | Production of next generation battery cells in Europe | RIA | 1 | |

*IA = Innovation Action; RIA = Research and Innovation Action*

## 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*

# Other activities [2/2]

**Measures to promote close-to-market innovation :**

- **SME instrument**

  Small business innovation research for transport and smart cities mobility

- **Fast track to innovation (FTI)**

  Pilot action to:
  - Reduce time from idea to market
  - Stimulate the participation of first-time applicants to EU research funding
  - Increase private sector investment in R&I

# SME instrument

## Specific features

- Open to all types of innovative SMEs in the transport sector and its value chain - **market-oriented SMEs** with strong **potential to develop**, grow and internationalise

- Company-focused: only SMEs allowed to apply for funding; single company support possible

- 3 phases:
  - **Proof of concept** (€ 50 000 lump sum EU funding; Feasibility study; Initial 10-page business proposal)
  - **Innovation Projects** (€0.5 to €2.5 million EU funding; Develop an innovation strategy; 30-page business plan)
  - **Market launch** (No direct funding; Extensive support – coaching – networking opportunity; Facilitate access to risk finance)
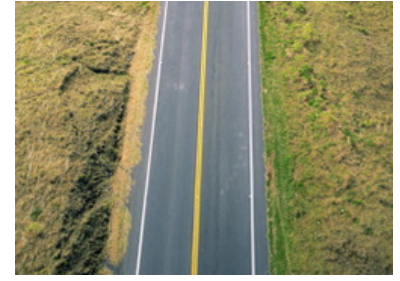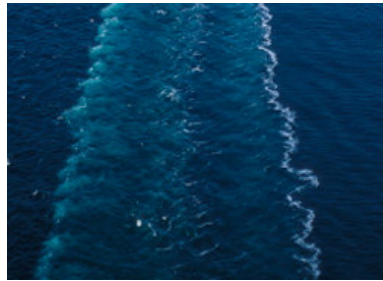
## Specific features

- Bottom-up logic covering all priorities of H2020 Industrial Leadership and Societal Challenges

- Fast development & market take-up / wide deployment no more than 3 years after the beginning of the FTI project, business development, growth and job creation

- Open to all types of participants: consortia of 3 – 5 partners. Industry involvement in the consortium is mandatory

- SMEs and first-time industrial applicants particularly welcome

- Proposals shall include a business plan (market development strategy)

# Other actions: tenders

| Title | Budget (EUR Mio) | |
|---|---|---|
| | 2016 | 2017 |
| **Sustainable infrastructure charging** | 1 | |
| **ELTIS: supporting exchange of knowledge, information and experiences in the field of urban mobility** | 2 | |
| **The role of urban mobility in supporting the 2011 White Paper objectives – data collection** | | 1,9 |
| **Establishment of Transport Research and Innovation Monitoring and Information System** | | 1,5 |
| **Dissemination and exploitation of results** | | 0,2 |
| **Support to the development, implementation, monitoring and evaluation of transport research and innovation policy activities** | 1 | |

# From submission to Grant Agreement preparation: overview

- **One project = One funding rate** for all beneficiaries / activities in the grant

- Funding **up to 100% of eligible costs** for 'Research and Innovation Actions' (RIA) and for 'Coordination and Support Actions' (CSA)

- Funding **up to 70%** for 'Innovation Actions' (IA), except non-profit organisations (up to 100%)

- **Indirect costs** (overheads): 25% flat rate

- **Minimum conditions**
    - **IAs, RIAs**: minimum three legal entities each established in a different Member State or an Associated Country
    - **CSAs**: one legal entity established in a Member State or in an Associated Country
    - Plus **additional conditions** as indicated in the WP

- **Time to Grant** (from call closure date) maximum **eight months**
    - Proposers to be informed within **five months**

# Thank you
# for your attention

*Find out more:*

*www.ec.europa.eu/research/horizon2020*
*www.ec.europa.eu/research/participants/portal/page/home*
*www.ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/11.%20SC4_*
*2016-2017_pre-publication.pdf*