

# HORIZON 2020

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

**WORK PROGRAMME 2014 – 2015**

***Smart, green and integrated transport***  
**Surface Transport**

# What is Horizon 2020

## The new EU Framework Programme for Research and Innovation, 2014-2020



**A budget of € 77 billion for 7 years**



**A core part of Europe 2020, Innovation Union  
and the European Research Area:**

- **Investing in future jobs and growth to overcome the economic crisis**
- **Addressing people's concerns about their livelihoods, safety, environment...**
- **Strengthening the EU's global position in research, innovation, technology**

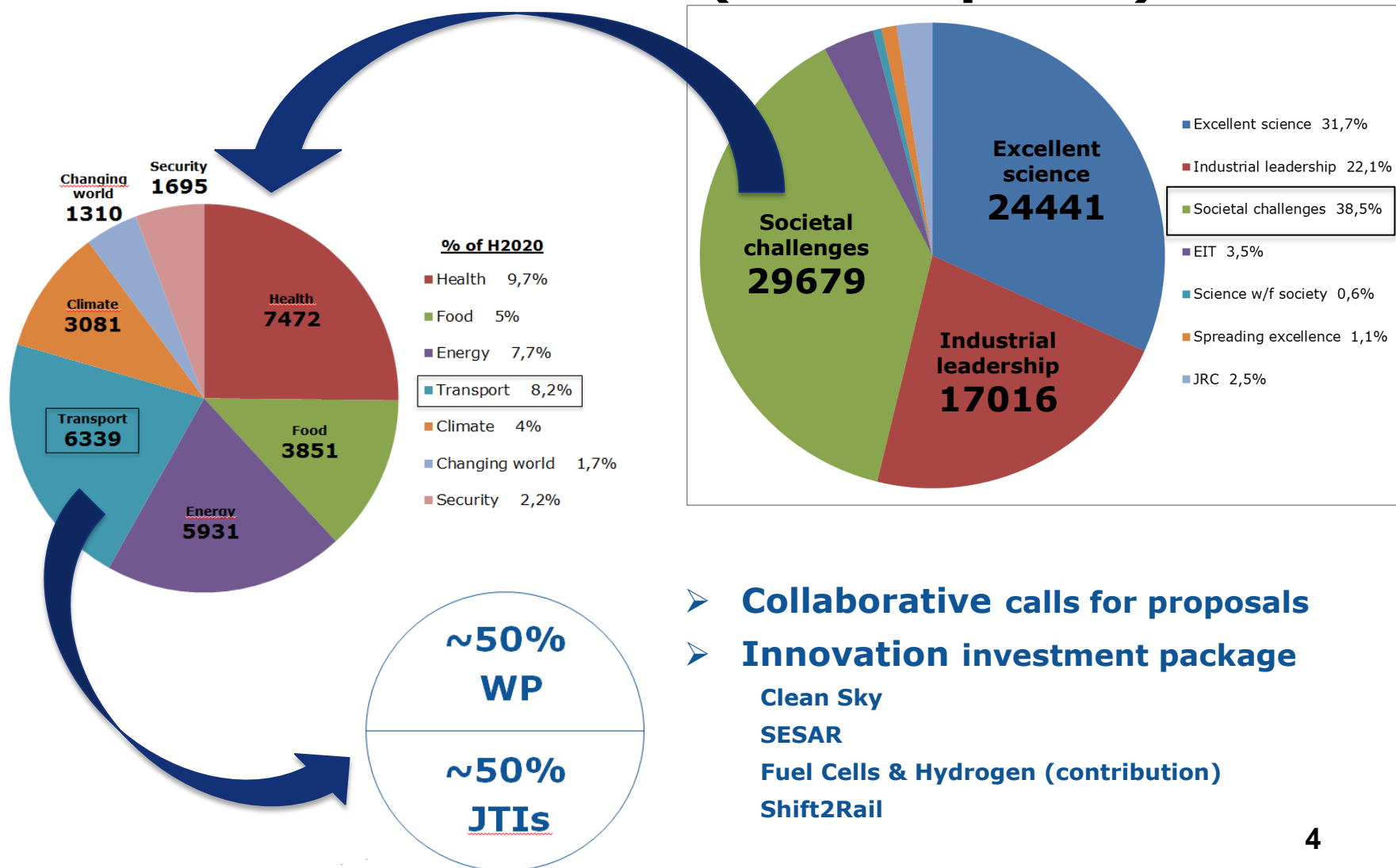
# Horizon 2020



**The new EU Framework Programme  
for Research and Innovation, 2014-2020**

# Budget breakdown

**77028 Million € (current prices)**



- Health, demographic change and wellbeing
- Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the Bioeconomy
- Secure, clean and efficient energy
- **Smart, green and integrated transport**
- Climate action, environment, resource efficiency and raw materials
- Inclusive, innovative and reflective societies
- Secure societies

# 'Smart, green and integrated Transport'

## **The challenge: achieve a transport system that is...**

- Resource efficient
- Environmentally friendly
- Safe and seamless
- Beneficial for the citizens, the economy and society



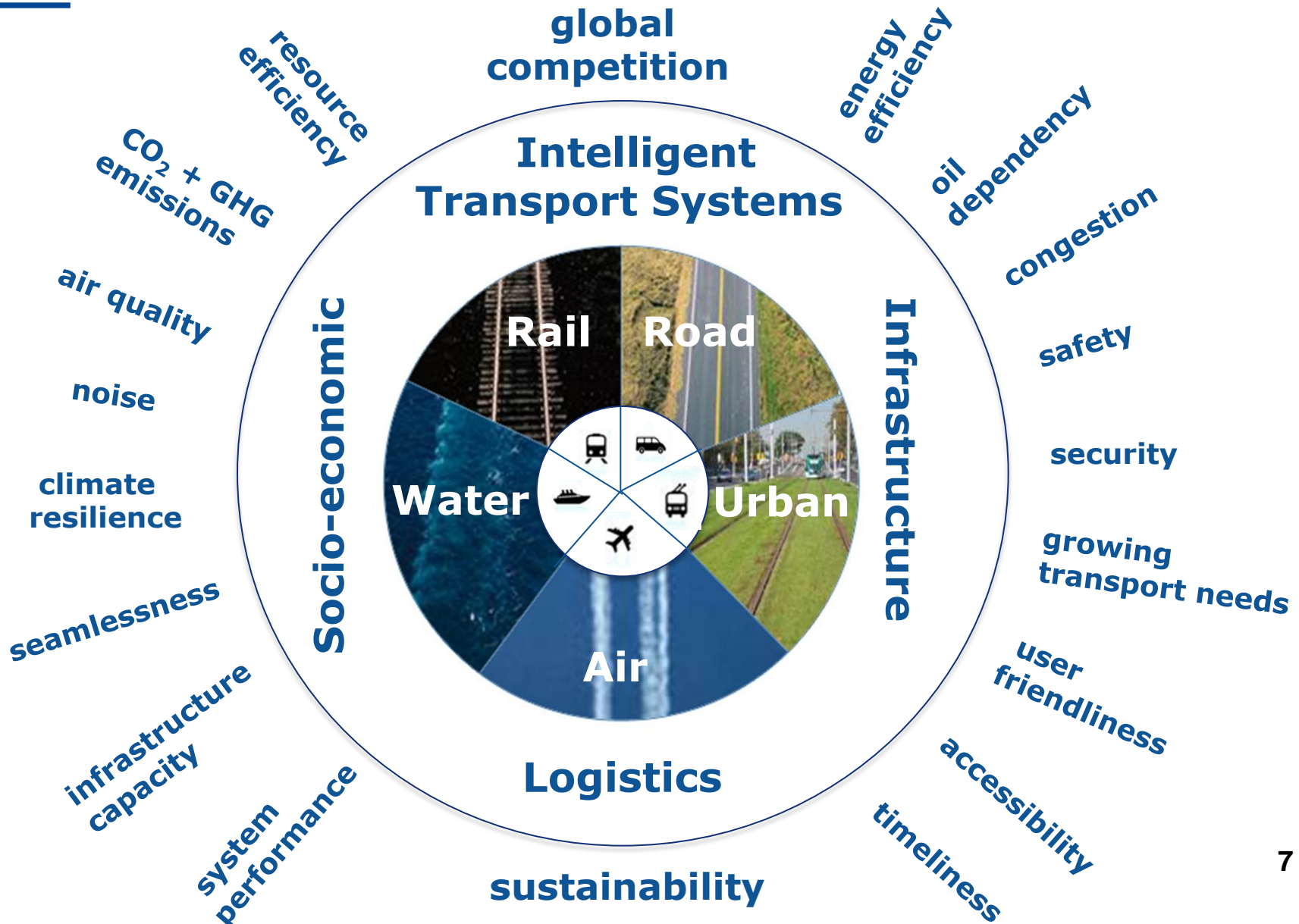
**and promote globally competitive transport industries**

## **The logic: a holistic approach which...**

- Recognises modal specificities
- Responds to policy requirements
- Is focused on the societal challenges
- Reconciles competitiveness and sustainability



# Transport means, modes, systems, policy goals and societal challenges



# Specific Programme priorities

## Four broad lines of activities addressing:

**Resource efficient transport that respects the environment**

**SUSTAINABLE**



**Better mobility, less congestion, more safety and security**

**SEAMLESS**



**Global leadership for the European transport industry**

**COMPETITIVE**



**Socio-economic and behavioural research and forward-looking activities for policy-making**

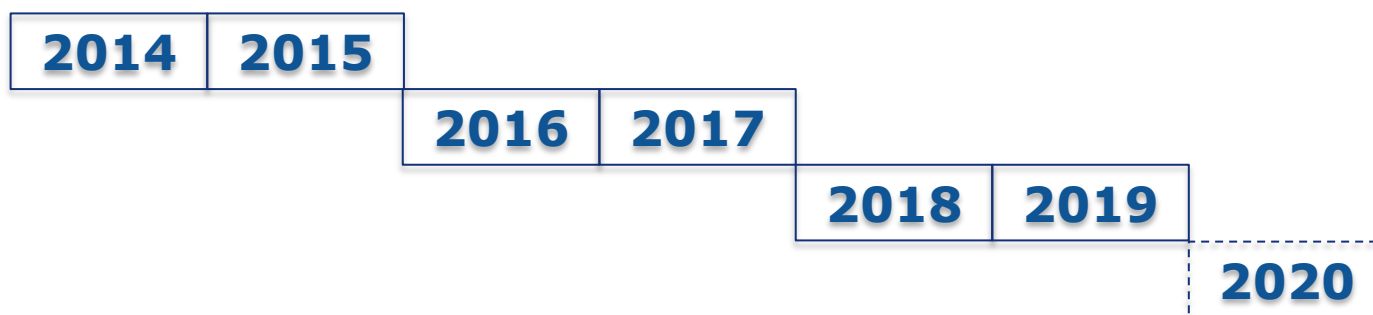
**RESPONSIVE**





# Work Programme: new features

- **challenge-based approach: broad latitude for applicants to devise innovative solutions**
- **broader topics, less prescription, focus on impact**
- **biannual WP, annual calls (in most cases)**



- **simplified types of actions/funding rates**  
(research and innovation actions: 100%; innovation actions: 70%/100%;...)
- **2-stage evaluation for most topics**



# WP 2014-15 Transport calls

<b>Calls (publication 11 December 2014)</b>	<b>Budget (€ Mio) 2014</b>	<b>Budget (€ Mio) 2015</b>
<b>Call 'Mobility for Growth'</b>	<b>374,5 (+2)</b>	<b>184 (+10)</b>
<b>1. Aviation</b>	70 (+2)	36
<b>2. Rail</b>	52	-
<b>3. Road</b>	66	23 (+5)
<b>4. Waterborne</b>	56	18
<b>5. Urban</b>	40	66,5
<b>6. Logistics</b>	32	18
<b>7. ITS</b>	31	-
<b>8. Infrastructure</b>	19	17,5
<b>9. Socio-economic and behavioural research</b>	8,5	5 (+5)
<b>Call 'Green Vehicles'</b>	<b>129</b>	<b>30</b>
<b>Call Small business and Fast Track</b>	<b>35,87</b>	<b>38,69</b>
<b>Contribution to Smart Cities, Blue Growth</b>	<b>33.5</b>	<b>25.5</b>

## RAIL

## 52 M €

### EUROPE NEEDS:

- Radical progress in service, costs, interoperability, capacity, noise reduction and competitiveness and further developments in terms of carbon footprint
- Novel business, organizational and logistics solutions, new partnerships with service and technology providers from more advanced sectors
- New technologies in all rail segments, services infrastructure



## RAIL

### TOPICS:

- Intelligent Infrastructure – **MG2.1**
- Smart Rail Services – **MG2.2**
- New generation of rail vehicles – **MG2.3**

*All are 2 stages for 2014*

*Projects will contribute to the objectives of the envisaged 'Shift2Rail' initiative*

**in red: topics open in 2014**



# Call 'Mobility for Growth'

**ROAD**

**94 M €**

## **EUROPE NEEDS:**

- R&I for road transport in complement to the 'Green Vehicles' call
- Activities in the field of:

Internal combustion engines; support to air quality policy; safety of road transport; production technology; new vehicle concepts for road and urban transport



## ROAD

### TOPICS:



- Technologies for low emission powertrains – **MG3.1** - 2014 – 2 stages
- Advanced bus concepts for increased efficiency – **MG3.2** - 2014 – 2 stages
- Global competitiveness of the automotive supply chain management – **MG3.3** - 2014 – 2 stages
- Traffic safety analysis and integrated approach towards the safety of Vulnerable Road Users – **MG3.4** - 2014 – 2 stages
- Cooperative ITS for safe, congestion-free and sustainable mobility – **MG3.5** - 2014 – 2 stages
- Safe and connected automation in road transport – **MG3.6** - 2015 – 2 stages
- The cleanest engine (under 'Other Actions' in WP) – **OA4** - 2015 - Inducement prize

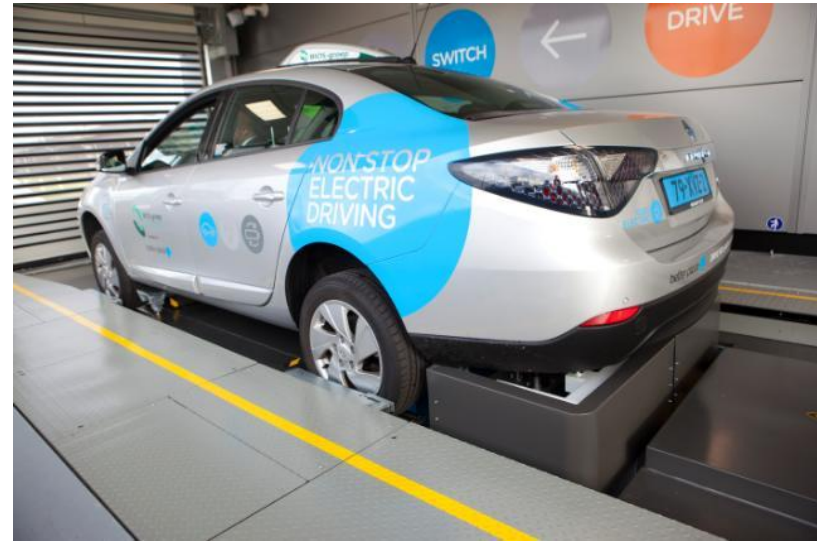
in red: topics open in 2014



# Call 'Green Vehicles'

## **EGVI PPP: 'EUROPEAN GREEN VEHICLES INITIATIVE'**

**159 M €**



**The call on Green Vehicles is an essential component of road transport R&I, it supports:**

- Improvement of energy efficiency of road transport vehicles
- Use of new types of non-conventional energies in road transport, such as electricity, CNG and LNG, bio-based fuels

*Demonstration is essential to ensure timely deployment of the new technologies*

# Call 'Green Vehicles'

## TOPICS:

*They are all single stage*



- Next generation of competitive Li-ion batteries to meet customer expectations – **GV1** - 2014
- Optimised and systematic energy management in electric vehicles – **GV2** - 2014
- Future natural gas powertrains and components for cars and vans – **GV3** - 2014
- Hybrid light and heavy duty vehicles – **GV4** - 2014
- Electric two-wheelers and new new light vehicle concepts – **GV5** - 2014
- Powertrain control for heavy-duty vehicles with optimised emissions – **GV6** - 2015
- Future natural gas powertrains and components for heavy duty vehicles – **GV7** - 2014
- Electric vehicles' enhanced performance and integration into the transport system and the grid – **GV8** - 2015

## **WATERBORNE**

**74 M €**

### **EUROPE NEEDS:**



- A modern, safe, secure and resource efficient waterborne transport system
- Sustainable development: optimal use of energy sources, minimization of environmental impacts
- Competitiveness: creation and deployment of R&I solutions; exploring new frontiers in terms of vessels, operational paradigms and industrial use of oceans

## WATERBORNE

### TOPICS:

- Towards the energy efficient and emission free vessel – **MG4.1** - 2014 – 2 stages
- Safer and more efficient waterborne operations through new technologies and smarter traffic management – **MG4.2** - 2014 – 2 stages
- System modelling and life-cycle cost and performance optimisation for waterborne assets – **MG4.3** - 2015 – 2 stages
- Advancing innovation in the Inland Waterways Transport (IWT) sector – **MG4.4** - 2014 – 2 stages



## URBAN MOBILITY

**106.5 M €**

### EUROPE NEEDS:

Innovation in resource-efficient and competitive urban mobility and transport ('CIVITAS 2020'):

- Transformation towards a cleaner and better urban mobility and transport
- Five complementary challenge-topics
- Framework for coordinated evaluation, dissemination and information exchange
- Build on legacy (CIVITAS, STEER market take-up, ...)





## URBAN MOBILITY

### TOPICS:

- Transforming the use of conventionally fuelled vehicles in urban areas  
– **MG5.1** - 2014 – 2 stages
- Reducing impacts and costs of freight and service trips in urban areas  
– **MG5.2** - 2014 – 2 stages
- Tackling urban road congestion – **MG5.3** - 2014 – 2 stages
- Strengthening the knowledge and capacities of local authorities  
– **MG5.4** - 2015 – 2 stages
- Demonstrating and testing innovative solutions for cleaner and better urban transport and mobility – **MG5.5** - 2015 – *Innovation actions: 2 stages; CSA: 1 stage*





## LOGISTICS

50 M €

### EUROPE NEEDS:

- To increase efficiency and sustainability in the EU logistics supply chain
- To remove the communication bottlenecks between stakeholders
- To improve the potential for collaboration, the utilization of equipment and connectivity across the transport modes



## LOGISTICS

### TOPICS:

- Fostering synergies alongside the supply chain (including e-commerce)  
– **MG6.1** - 2014 – 2 stages
- De-stressing the supply chain – **MG6.2** - 2014 – 2 stages
- Common communication and navigation platforms for pan-European logistics applications – **MG6.3** - 2015 – 2 stages

**in red: topics open in 2014**



## INTELLIGENT TRANSPORT SYSTEMS

**31 M €**

### EUROPE NEEDS:

- ITS and ICT technologies provide a set of strategies for addressing the challenges of:

Assuring safety and reducing congestion; Delivering safe, efficient, sustainable and seamless transport options across Europe; Accommodating the growth in passenger and freight traffic; Safeguarding the competitiveness of the European industry

- Progress in the ITS area under H2020 shall contribute to decarbonizing the transport sector and materializing the "Zero" vision of road safety
- Topics adding value to mode-specific activities



## INTELLIGENT TRANSPORT SYSTEMS

31 M €



### TOPICS:

- Connectivity and information sharing for intelligent mobility  
– **MG7.1** - 2014 – 2 stages
- Towards seamless mobility addressing fragmentation in ITS deployment in Europe – **MG7.2** - 2014 – R&I: 2 stages; CSA: 1 stage

in red: topics open in 2014

## INFRASTRUCTURE

36.5 M €

### EUROPE NEEDS:

- To make infrastructure more resilient
- To keep pace with the growing mobility needs and aspirations of people and businesses
- To reduce the impact of infrastructure on the environment
- To maintain and upgrade deteriorating transport infrastructures
- To facilitate the uptake of innovation





## INFRASTRUCTURE

### TOPICS:

- Smarter design, construction and maintenance  
– **MG8.1** - 2014 – *R&I: 2 stages; CSA: 1 stage*
- Next generation transport infrastructure: resource efficient, smarter and safer – **MG8.2** - 2014 – *R&I: 2 stages; CSA: 1 stage*
- Facilitating market take-up of innovative transport infrastructure solutions – **MG8.3** - 2015 – *Public procurement of innovative solutions*
- Smart governance, network resilience and streamlined delivery of infrastructure innovation – **MG8.4** - 2015 – *R&I: 2 stages; CSA: 1 stage*





# Call 'Mobility for Growth'

## **SOCIO-ECONOMIC and BEHAVIOURAL RESEARCH and FORWARD-LOOKING ACTIVITIES for POLICY- MAKING**

**18.5 M €**



### **EUROPE NEEDS:**

- To help generate the innovative solutions necessary for smarter, greener and more integrated transport and mobility by embedding the social sciences and humanities throughout this challenge
- To address the specific needs in terms of socio-economic and behavioural research: data, models and scenarios; user needs and behaviour; transport economics and policy support

# Call 'Mobility for Growth'

## SOCIO-ECONOMIC AND BEHAVIOURAL RESEARCH AND FORWARD-LOOKING ACTIVITIES FOR POLICY-MAKING

### TOPICS:

- Transport societal drivers
  - **MG9.1** - 2015 – 1 stage
- User behaviour and mobility patterns in the context of major societal trends
  - **MG9.2** – 2014 – 1 stage
- Analysis of funding schemes for transport and infrastructure
  - **MG9.3** – 2014 – 1 stage
- Research, technology development and market prospects for the European transport industries
  - **MG9.4** – 2014 – 1 stage
- Fostering transnational cooperation in European transport R&I – NCP network
  - **MG9.5** – 2015 – 1 stage
- Strengthening the R&I strategies of the transport industries in Europe
  - **MG9.6** – 2014 – 1 stage
- Innovation awards for students and researchers in the context of the TRA 2016 Conference
  - **MG9.7** – 2014 – 1 stage
- Europe wide open source transport models, data and scenarios (under 'Other Actions' in WP)
  - **OA2** – Tender 2015 (under 'Other Actions')



# Call 'Small business and Fast track'

**84.5 M €**

## **EUROPE NEEDS:**

- The best products and services, in a time and cost efficient manner, in order to preserve transport sector's leadership and create new jobs
- The role of SMEs is critical in order to meet these challenges



# Call 'Small business and Fast track'

## TOPICS:

- Small business innovation research for Transport  
– **IT1** – 2014-2015 – *SME instrument*
- Fast Track to Innovation – **IT2** – 2015

in red: topics open in 2014



# Transport related topics in WP 2014-15/ other challenges

- **Energy:**
  - biofuels and alternative fuels
  - bioenergy engines
  - energy storage
  - 'Smart Cities'
- **Climate/environment:**
  - urban air quality
- **Security:**
  - crisis and disaster resilience
  - critical infrastructure protection
  - freight inspection technologies
- **Food/'Blue growth':**
  - offshore economy
  - sub-sea technologies
  - response to oil spills and maritime pollution

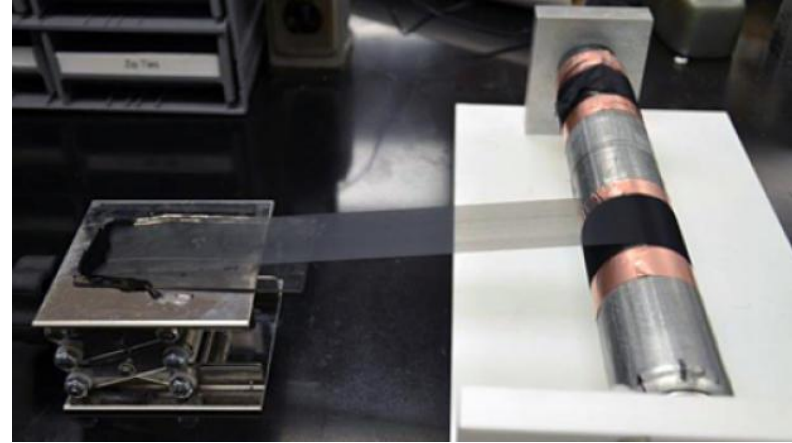




# Transport related topics in WP 2014-15/ other parts of H2020

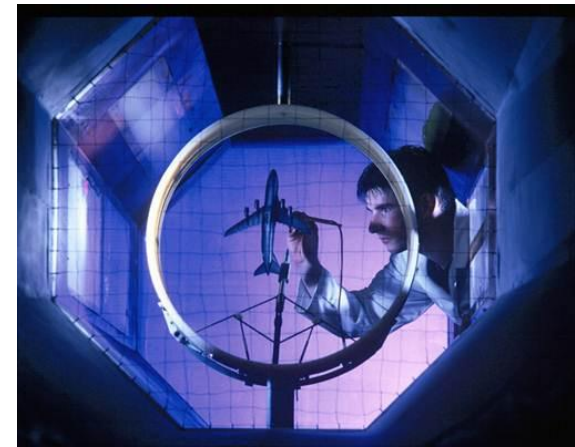
- **Leadership in enabling and industrial technologies:**

- ICT for Transport applications
- Post lithium-ion batteries
- Advanced functional materials
- Fibre-based materials



- **Other areas:**

- Future and emerging technologies
- European Research Council
- Marie Skłodowska Curie actions
- Research infrastructures
- Access to risk finance
- Spreading excellence, widening participation
- Science with and for society
- Joint Research Centre





# Types of action in Transport WP 2014-15

- **Research and innovation actions/RIA**

**target:** produce new knowledge, explore new technologies/solutions

**features:** min 3 participants; 100% funding rate

- **Innovation actions/IA**

**target: deployment oriented:** demonstration, pilot, prototype, testing, product validation, market replication

**features:** min. 3 participants; 70% funding (100% for non-profit)

- **Coordination and support actions/CSA**

**target:** accompanying measures: coordination, standardization, dissemination, awareness-raising, communication, networking, studies

**features:** 1 or more participants; 100% funding rate

# Types of actions in Transport WP 2014-15 (2/2)

- **Public Procurement of Innovative solutions (PPI co-fund)**  
**target:** groups of public procurers, sharing innovation deployment risks  
**features:** 20% funding rate; 2 phases: preparation + execution
- **Inducement prize**  
**target:** result oriented cash incentive to induce cutting edge solutions  
**features:** subject to the outcome of an on-going study
- **SME instrument**  
**target:** innovative SMEs; covers feasibility, R&D, demo, market take-up  
**features:** 3 phases:
  1. Concept and feasibility (lump sum 50 k€, ~6 months)
  2. R&D, demo, market replication (1-5 M€, 12-24 months)
  3. Commercialisation (SME window in loan & equity schemes)
- **Fast Track to Innovation**  
**target:** increase participation of industry, SMEs, first time applicants (LEIT+SC)  
**features:** pilot in 2015; 1-5 participants; grants up to 3 M€.

<b>Single stage</b>	<ul style="list-style-type: none"><li>• <b>All Coordination and Support Actions (CSAs)</b></li><li>• <b>'Green Vehicles' call (RIA &amp; IA)</b></li></ul>
<b>Two stage</b>	<ul style="list-style-type: none"><li>• <b>'Mobility for Growth' call (RIA &amp; IA)</b></li></ul>

**A two-stage procedure fits well with the H2020 character:**

topics with broad scope, bottom up approach & low prescriptiveness

# Two-stage evaluation

<b>Stage 1</b>	<ul style="list-style-type: none"><li>• <b><u>proposal submission</u></b> max 15 pages; focus on content and results</li><li>• <b><u>proposal evaluation</u></b> 2 criteria: excellence and impact outcome: 'GO' or 'NO GO'</li></ul>
<b>Stage 2</b>	<ul style="list-style-type: none"><li>• <b><u>proposal submission</u></b> only stage 1 'GO' proposals admitted</li><li>• <b><u>proposal evaluation</u></b> 3 criteria: excellence, impact, implementation</li></ul>

# Two-stage evaluation

**Publication of the call for proposals**

**Month 0**

## **Stage 1** proposal submission

Proposals of max 15 pages, focus on the S&T content, intended results and impact + 2 additional pages to describe the consortium and the estimated resources (this info is not subject to evaluation)

**Month 3**

## **Evaluation stage 1** proposals

Proposals evaluated remotely, two evaluation criteria: excellence and impact  
Outcomes: "NO GO" and "GO" proposals

**Month 4**

## **Stage 2** proposal submission – "go" proposals only!

Proposals retained in stage 1 invited to submit a complete proposal. Evaluation criteria: excellence, implementation and impact

**Month 8**

## **Evaluation Stage 2** proposals

Remote evaluation with final panels in BXL. Information on the outcome to be made available max 5 months from call deadline

**Month 9**

## **Negotiations and signature of the GAs**

**Month 12- 13**

Signature: max 3 months from the results of the evaluations

# Evaluation of proposals

## STANDARD AWARD CRITERIA

**EXCELLENCE**

**IMPACT**

**QUALITY &  
EFFICIENCY  
OF THE ACTION**

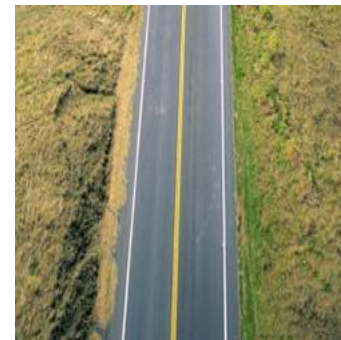
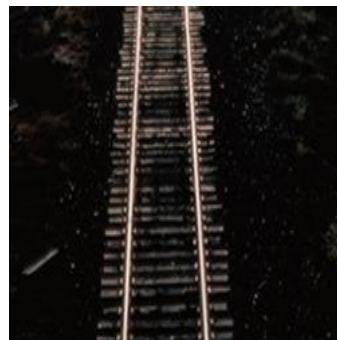
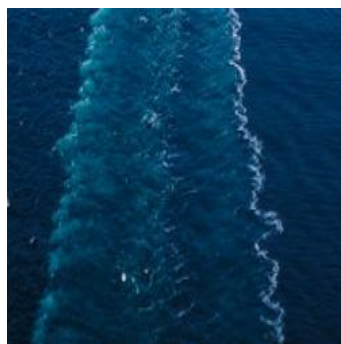
- ✓ **ERC** frontier Research actions >> only EXCELLENCE
- ✓ **Innovation actions** >> higher weighting for "IMPACT"



# Calendar

- *Publication of Work Programme* **11 December 2013**
- Opening of 2015 call **10 December 2014**
- Transport Info Day in Brussels **02 February 2015**
  - [http://ec.europa.eu/research/transport/events/infoday2014/index\\_en.htm](http://ec.europa.eu/research/transport/events/infoday2014/index_en.htm)
- Submission deadline **23 April 2015**





# Thank you for your attention!

***Find out more:***

[www.ec.europa.eu/research/horizon2020](http://www.ec.europa.eu/research/horizon2020)

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