



Fundação para a Ciência e a Tecnologia

MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA

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# Transporte de Superfície

## Descrição dos tópicos a concurso

### Chamadas 2014

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Ponto de Contato Nacional

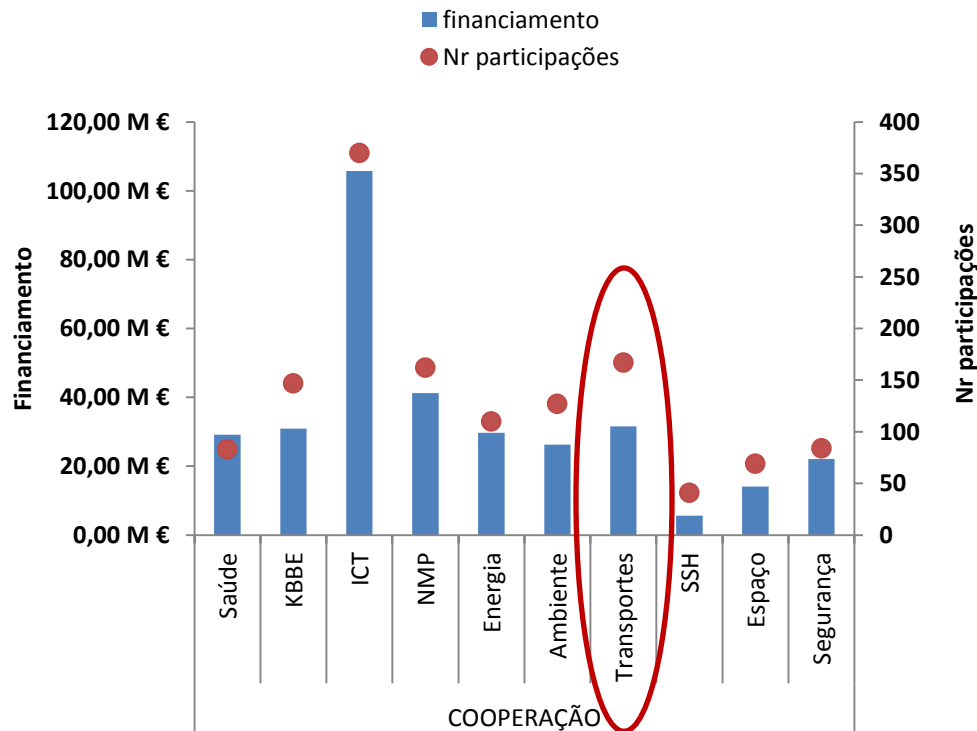
24 de janeiro de 2014

Auditório ANA

Aeroportos de Portugal

Direção de Infraestruturas Aeronáuticas

# Participação Portuguesa no tema Transportes do 7ºPQ (2007-2013)



## Ranking das entidades nacionais com maior nr. de participações no FP7 (Transp)

IST  
 TIS.PT  
 ISQ  
 INOVAMAIS  
 GMVIS SKYSOFT  
 UBI  
 Deimos  
 ENP  
 REFER

O Tema Transportes teve uma taxa de retorno para Portugal de 1,38%, superior à média global (1,18%). Salienta-se a elevada percentagem de participação PT no total de projetos europeus (15%), a verba contratualizada por entidades PT (31M€)

É um dos temas do FP7 com maior número de coordenações nacionais (19)

# SURFACE TRANSPORT

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## **Areas addressing mode specific challenges:**

- Rail, Road, Waterborne
- Call "Green Vehicles" H2020-GV-2014/2015

## **Areas addressing transport integration specific challenges:**

- Urban, Logistics, Intelligent Transport Systems, Infrastructure

## **Areas addressing cross-cutting issues:**

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

# Transport Work Programme - CALLS

**MOBILITY FOR GROWTH – 42 TOPICS**

**Call: H2020-MG-2014/2015 - 558,5M€**



**GREEN CARS – 8 TOPICS**

**Call: H2020-GC-2014/2015 – 159 M€**



**BLUE GROWTH– 3 TOPICS  
(Off-shore challenges)**

**Call: H2020-BG-2014/2015**



**SMALL BUSINESS & FAST TRACK  
INNOVATION – 2 TOPICS**

**Call: H2020-IT-2014/2015 - 74,5 M€**



**Work Programme  
2014-2015  
– Smart, Green and  
Integrated  
Transports  
539,37 M€  
(2014) / 252,96  
M€ (2015)**

**SMARTCITIES AND COMMUNITIES  
– 3 TOPICS**

**Call: H2020-SC-2014/2015**



**Transport Work Programme available:**

[http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014\\_2015/main/h2020-wp1415-transport\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/main/h2020-wp1415-transport_en.pdf)

# Transport Work Programme – CALLS 2014

## GREEN CARS – 8 TOPICS

Call: H2020-GC-2014/2015 – 159 M€



## GREEN CARS – 6 TOPICS

Call: H2020-GC-2014 – 129 M€

Topics  
open in  
2014

## MOBILITY FOR GROWTH – 42 TOPICS

Call: H2020-MG-2014/2015 - 558,5M€



## MOBILITY FOR GROWTH – 28 TOPICS

Call: H2020-MG-2014 – 374,5M€

AVIATION - 7 TOPICS

RAIL – 3 TOPICS

ROAD – 5 TOPICS

WATERBORNE – 4 TOPICS

URBAN MOBILITY – 3 TOPICS

LOGISTICS – 2 TOPICS

ITS – 2 TOPICS

INFRASTRUCTURE – 2 TOPICS

SOCIOECONOMICS – 5 TOPICS

Topics  
open in  
2014

# Transport Work Programme – CALLS 2014

<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>
1. Aviation	70 (+2)	36
2. Rail	52	-
3. Road	66	23 (+5)
4. Waterborne	56	18
5. Urban	40	66,5
6. Logistics	32	18
7. ITS	31	-
8. Infrastructure	19	17,5
9. Socio-economic and behavioural research	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>
Contribution to Smart Cities, Blue Growth	33.5	25.5

# Deadlines– CALLS 2014

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	18 March	27 March	28 August
<b><u>Mobility for Growth</u></b>			
• RIAs + IAs stage 1	X		
• RIAs + IAs stage 2			X
• CSAs (single stage)		X	X
<b><u>Green vehicles (single stage)</u></b>			X
<b><u>SME instrument (open call)</u></b>	cut-off dates: 18 June, 24 Sept, 17 Dec		
<b><u>Fast track to innovation</u></b>	[pilot action in 2015]		

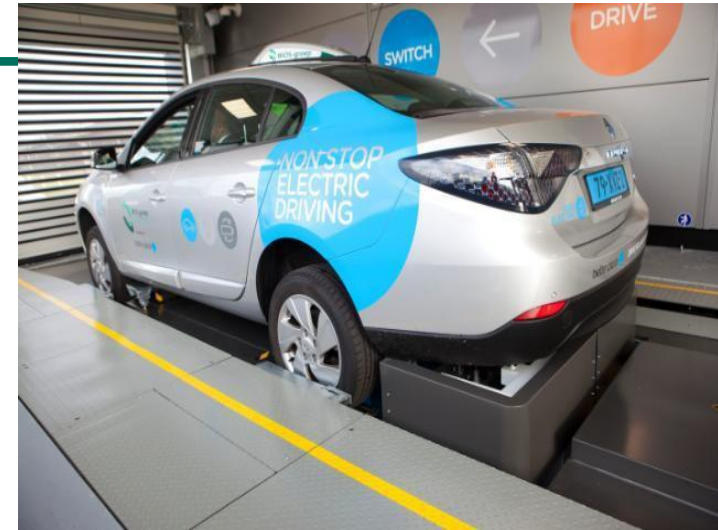
**Time to grant: max 8 months**



# Call 'Green Vehicles'

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

**129 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

# **GV.1-2014. Next generation of competitive lithium ion batteries to meet customer expectations**

**Single stage: deadline 28/08/2014**

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## **SPECIFIC CHALLENGE:**

Made in Europe Li ion batteries that are competitive and deliver better performance electrified vehicles (complementary to topic pursuing longer terms solutions in the Advanced Materials 2014 Work Programme)

## **SCOPE (1 or more issues):**

Optimisation of cost, safety, resistance to high-power charging, durability, recyclability, hybridisation with other types of storage, scale-up

Better knowledge on the ageing mechanism and its modelling to support test procedures and the development of standards (open for international cooperation)

## **EXPECTED IMPACT:**

Facilitate the launch of production in Europe by demonstrating industrial scale prototypes showing cell-level energy densities at least 20%, and costs by 20% better than the best cell chemistries on the market

## **TYPE OF ACTION: Research and Innovation Actions**

# GV.2-2014. Optimised and systematic energy management in electric vehicles

Single stage: deadline 28/08/2014

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## **SPECIFIC CHALLENGE:**

Optimize energy efficiency of powertrain and auxiliaries in all driving and climate conditions by improving the integration of components and sub- systems without sacrificing comfort.

## **SCOPE (1 or more issues):**

Comprehensive thermal management system (including thermal insulation, innovative heating and cooling approaches)

Battery life duration enhancement as a side effect of thermal management  
Electronic control of energy and power flows, energy efficiency of electrified accessories, energy harvesting functions and automated and eco-driving strategies.

## **EXPECTED IMPACT:**

Reduction of at least 50% of energy used for passenger comfort and at least 30% for component cooling in extreme conditions

Increased range and improved market acceptance of Evs

## **TYPE OF ACTION: Research and Innovation Actions**

# GV.3-2014. Future natural gas powertrains and components for cars and vans

Single stage: deadline 28/08/2014

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## **SPECIFIC CHALLENGE:**

Reach the CO<sub>2</sub> and pollutant emissions targets for cars and light commercial vehicles using advanced engine and after-treatment concepts for natural gas while demonstrating extended driving range with no space penalty

## **SCOPE:**

Any combination of combustion process optimisation, variable compression, control systems, dual fuel operation, optimised fuel injection, adaptive systems and sensors to cope with different qualities and blends, after-treatment systems and overall powertrain optimisation

Advanced fuel tanks and other NG-specific ancillaries.

## **EXPECTED IMPACT:**

One demonstrator vehicle per platform to prove real driving emissions at least below upcoming Euro 6 limits, reduction of at least 20% in CO<sub>2</sub> emission levels and 600km range with no useful volume reduction

## **TYPE OF ACTION: Innovation Actions**

# GV.4-2014. Hybrid light and heavy duty vehicles

Single stage: deadline 28/08/2014

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## **SPECIFIC CHALLENGE:**

Recover a leading position in hybrid technology in view of positive effect on the reduction of CO2 emissions and improved air quality

## **SCOPE (1 or more issues):**

Hybrid components (storage system, motors/generators, power electronics, auxiliaries etc.)

System engineering, simulation and technology integration in light and/or heavy duty vehicles

For light duty, preference for concepts with significant zero emission range

## **EXPECTED IMPACT:**

One demonstrator vehicle per platform to prove real driving emissions at least below Euro 6/VI limits, reduction of at least 20% in CO2 emission levels with respect to best in class, 20% reduction of additional weight and volume while keeping cost premium within 10% of basis model

## **TYPE OF ACTION: Innovation Actions**

# GV.5-2014. Electric two-wheelers and new light vehicle concepts

**Single stage: deadline 28/08/2014**

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## **SPECIFIC CHALLENGE:**

Tackle air quality, GHG emissions, noise, congestion, competitiveness issues by developing new and more efficient mobility concepts based on electrified powertrains for L category vehicles up to light quadricycles and radically new vehicle concepts

## **SCOPE (1 or more issues):**

Energy efficiency improvements for mopeds, quads and while reducing costs, developing integrated modular battery packs, electric and plug-in hybrid powertrains, system integration and vehicle architecture.

Development and proof of concept of new ultra-light vehicles for passengers taking into account integration with infrastructure and any necessary changes to homologation requirements and regulations.

## **EXPECTED IMPACT:**

Demonstrators will prove benefits in noise, energy efficiency and congestion reduction (as well as real driving emissions below Euro 5 level in case of hybrids).

## **TYPE OF ACTION: Research and Innovation Actions**

# GV.7-2014. Future natural gas powertrains and components for heavy duty vehicles

**Single stage: deadline 28/08/2014**

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## **SPECIFIC CHALLENGE:**

Advanced non-hybrid powertrain concepts for either dual- or single-fuel natural gas operation to comply with air quality and upcoming CO2 targets.

## **SCOPE:**

Any combination of combustion process optimisation, variable compression ratios, engine control, dual fuel operation, optimised injection systems, adaptive systems and sensors to take into account different fuel qualities, new generation after-treatment (in particular for NOx and methane slip in transients and at low temperatures) and overall powertrain optimisation

Advanced fuel tanks (in particular for liquid storage) and any other innovative concepts and components for the different vehicle categories.

## **EXPECTED IMPACT:**

Demo vehicle(s) achieving at least 10% lower CO2-equivalent emissions using the same fuel of the base engine. 800 km range with no weight, volume and cost penalty in comparison to best in class vehicles

## **TYPE OF ACTION: Innovation Actions**

# Call 'Mobility for Growth'

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**ROAD**

**66 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





# Call 'Mobility for Growth'

## 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 white : topics open in 2014

# MG.3.1-2014. Technologies for low emission powertrains

**Two stage: deadlines 18/03/2014 and 28/08/2014**

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## **SPECIFIC CHALLENGE:**

Stricter post Euro 6 limits under real world driving conditions

Future legislation on CO2 emission with less noise

## **SCOPE:**

Future spark-ignited non-hybrid engines (cars and vans)

Future diesel non-hybrid engines (cars and vans)

Low environmental impact brake systems

## **EXPECTED IMPACT:**

15% and 5% energy efficiency for gasoline and diesel respectively

Contribution to Super Low Emission Vehicles 50% reduction particle emissions for brakes

## **TYPE OF ACTION: Innovation Actions**

# MG.3.2-2014. Advanced bus concepts for increased efficiency

Two stage: deadlines 18/03/2014 and 28/08/2014

## **SPECIFIC CHALLENGE:**

Increase the share of public passenger transport, in particular by bus

Promote co-modality

## **SCOPE:**

Energy and thermal management of buses Drive

assistance technologies

Exterior and interior design

Introduction of IT standards

## **EXPECTED IMPACT:**

More attractive buses, 30% energy reduction for climate control

Leading role of European industries

## **TYPE OF ACTION: Innovation Actions**

# MG.3.3-2014. Global competitiveness of automotive supply chain management

Two stage: deadlines 18/03/2014 and 28/08/2014

## **SPECIFIC CHALLENGE:**

Alternative fuelled vehicles require new production processes Respond to customer needs in a flexible way, affordable products

## **SCOPE:**

Increased flexibility and near-real time reactivity

Multi-powertrain platforms

Integration of the full spectrum of components

## **EXPECTED IMPACT:**

Retaining leading edge European automotive products

Advanced collaboration schemes on a global scale

## **TYPE OF ACTION: Research and Innovation Actions**

# **MG.3.4-2014. Traffic safety analysis and integrated approach towards the safety of Vulnerable Road Users**

**Two stage: deadlines 18/03/2014 and 28/08/2014**

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## **SPECIFIC CHALLENGE:**

Fatalities still too high in Europe

Vulnerable End Users account for a disproportionately high percentage

## **SCOPE:**

Advanced safety measures to reduce fatalities involving Vulnerable Road Users

In-depth understanding of road accident causation for all road users

## **EXPECTED IMPACT:**

Halving the number of road deaths by 2020

Transport White paper's "Zero accident" vision

## **TYPE OF ACTION: Research and Innovation Actions**

# MG.3.5-2014. Cooperative ITS for safe, congestion-free and sustainable mobility

CSA, Single Stage: deadline 28/08/2014, RIA, two stage: deadlines 18/03/2014 and 28/08/2014

## **SPECIFIC CHALLENGE:**

How to use Big Data for better traffic & transport management in view of

- environmental challenges, congestion and safety

How to distribute mobility services

- in a connected mobile world

## **SCOPE:**

Support of European Wide Service Platforms with

- Seamless connectivity, improved positioning, accurate dynamic maps

## **EXPECTED IMPACT:**

Improvements in:

- Safety level, efficiency, flexibility and sustainability

**TYPE OF ACTION: Research and Innovation Actions, Coordination and Support Actions, Budget (indicative): 20 M€**

# Call 'Mobility for Growth'

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## WATERBORNE

56 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

# Call 'Mobility for Growth'

## Waterborne

### TOPICS:

- Towards the energy efficient and emission free vessel – MG4.1 -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





# MG.4.1-2014.Towards the energy efficient and very-low emission vessel

**Two stage: deadlines 18/03/2014 and 28/08/2014**

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## **SPECIFIC CHALLENGE:**

Make new and existing vessels used in maritime operations (including leisure) and in inland navigation significantly more efficient and less polluting

## **SCOPE (1 or more issues):**

Optimisation of conventional ship engines

Low-maintenance, affordable off-the-shelf retrofit solutions for engines

LNG/dual fuel powered engines for small and mid-size ships plus related aspects

New and improved propulsion means and vessel configurations

New energy sources including renewables, alternative fuels, hybrid and electric solutions

## **EXPECTED IMPACT:**

Go significantly beyond normal progress / BAT:

Efficiency +15% (retrofit), +30% (new); GHG -30%, pollutants -80%

## **TYPE OF ACTION: Innovation Actions**

# MG.4.2-2014. Safer and more efficient waterborne operations through new technologies and smarter traffic management

Two stage: deadlines 18/03/2014 and 28/08/2014

## **SPECIFIC CHALLENGE:**

- A: Ensuring and enhancing the safety of waterborne operations, esp. for large passenger ships and in extreme conditions
- B: Efficiency gains in all areas through better traffic management and integration

## **SCOPE (1 or more issues):**

- A1: Safety through innovations in vessel and systems design
- A2: New devices for evacuation, fire protection, black out avoidance, salvage
- B1: Systems for surveillance, monitoring and integrated management
- B2: GNSS and ICT solutions for safer port approach, pilotage and guidance
- B3: Solutions supporting e-maritime and e-navigation, incl. input to international regulations

## **EXPECTED IMPACT:**

- Significant improvements in navigational safety and efficiency (in particular emission reductions), decrease in administrative burdens.
- Decrease in fatalities, ship losses and specific incidents
- Relevant input to international maritime safety regimes

## **TYPE OF ACTION: Innovation Actions**

# MG.4.4-2014. Advancing innovation in the Inland Waterways Transport (IWT) sector

**Two stage: deadlines 18/03/2014 and 28/08/2014**

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## **SPECIFIC CHALLENGE:**

Achieve a step change for IWT in efficiency and emission reductions  
Support the NAIADES II policy agenda: IWT as a quality mode of transport: well-governed, efficient, safe, integrated into the intermodal chain, with quality jobs occupied by a skilled workforce, and adhering to high environmental standards

## **SCOPE (all issues combined):**

Introduction of alternative energy concepts and technologies for energy efficiency and emission reductions (incl. retrofit and certification)  
Establishment of a comprehensive testing and monitoring regime for the application of strict emission limits  
Digital tools for education/training and cost-efficient navigation, vessel operation and cargo handling (including modal links) (International co-operation and standardisation inputs as required)

## **EXPECTED IMPACT:**

Major progress in environmental performance and energy efficiency  
New qualifications for a more mobile and up-skilled work force

## **TYPE OF ACTION: Research and Innovation Actions**

# Call 'Mobility for Growth'

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**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 to harness economies of scale
- New technologies in all rail segments, services infrastructure



# Call 'Mobility for Growth'

## RAIL



### TOPICS:

- Intelligent Infrastructure – **MG2.1** – 2014 – 2 stages
- Smart Rail Services – **MG2.2** – 2014 – 2 stages
- New generation of rail vehicles – **MG2.3** – 2014 – 2 stages

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



**in white : topics open in 2014**

# MG.2.1. I<sup>2</sup>I - Intelligent Infrastructure

2 stages: deadlines 18/03/2014 and 28/08/2014

## **SPECIFIC CHALLENGE:**

- Achieve a step change in the productivity of infrastructure assets for improved efficiency, reliability and responsiveness of customer service

## **SCOPE:**

- Smart, cost-efficient, high-capacity, passenger-friendly rail infrastructure
- I2M – Intelligent mobility management
- Energy management

## **EXPECTED IMPACT:**

- Higher capacity utilisation, lower operating costs and potential savings in investment costs

## **TYPE OF ACTION: Research and Innovation Actions**

## MG.2.2. Smart Rail Services

2 stages: deadlines 18/03/2014 and 28/08/2014

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### **SPECIFIC CHALLENGE:**

- Provide solutions that respond to user needs for seamless multimodal travel and excellent logistics services

### **SCOPE:**

- Seamless travel: online, mobile suite of integrated facilities
- Logistic Services: systematic top-down approach

### **EXPECTED IMPACT:**

- Seamless travel: increased rail attractiveness through a new service profile
- Logistic services: reaching 98% level on-time delivery, with improved loading capacity

### **TYPE OF ACTION: Research and Innovation Actions**

## MG.2.3. New generation of rail vehicles

2 stages: deadlines 18/03/2014 and 28/08/2014

### **SPECIFIC CHALLENGE:**

- Enhanced functionality, comfort, safety, operational performance, interoperability and reduced life cycle costs

### **SCOPE:**

- Improvements in product reliability, cost-effectiveness, user-friendliness, safety and security, environmental impacts, ease of manufacture and interoperability

### **EXPECTED IMPACT:**

- Reduction of up to 40% in life cycle costs of rolling stock products, increased train capacity and reliability, overall service better quality, safety and customer experience in rail transport

### **TYPE OF ACTION: Research and Innovation Actions**



# Call 'Mobility for Growth'

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## LOGISTICS

32 M €

### EUROPE NEEDS:

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



# Call 'Mobility for Growth'

## 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



# MG.6.1. Fostering synergies alongside the supply chain (including e-commerce)

2 stages: deadlines 18/03/2014 and 28/08/2014

## **SPECIFIC CHALLENGE:**

- Decoupling the growth of urban and inter-urban freight transport demand from its consequences on traffic and the environment

## **SCOPE:**

- Mechanisms to foster synergies through: improved collaboration and concerted actions / co-operative Intelligent Transport Systems (C-ITS) and cloud based services / concept model for e-commerce logistics execution / tools and test cases for the mutualisation of truck use

## **EXPECTED IMPACT:**

- Reduce the number of delivery vehicles by at least 10%, improve truck and container load factors

## **TYPE OF ACTION: Research and Innovation Actions**

## MG.6.2. De-stressing the supply chain

2 stages: deadlines 18/03/2014 and 28/08/2014

### **SPECIFIC CHALLENGE:**

- Seamless transports of goods

### **SCOPE:**

- Assess the added value of, and the technical, economic, political, social (including the effect on employment and safety) and organisational aspects of the whole transport and logistics supply chain

### **EXPECTED IMPACT:**

- Logistics to operate more sustainably, at lower costs and at higher quality

### **TYPE OF ACTION: Research and Innovation Actions**

# Call 'Mobility for Growth'

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## 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



# Call 'Mobility for Growth'

## INTELLIGENT TRANSPORT SYSTEMS



### 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

# MG.7.1. Connectivity and information sharing for intelligent mobility

2 stages: deadlines 18/03/2014 and 28/08/2014

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## **SPECIFIC CHALLENGE:**

- Come up with, new, efficient, affordable, safe, secure and accessible **solutions to address the complexity of the travel experience for individuals**

## **SCOPE:**

- Improve and maximise the availability and (cross-border/cross-system) interoperability of transport data; real-time information exchange, Green driving support systems

## **EXPECTED IMPACT:**

- Unlocking the potential of vast amounts of transport data; new environmentally-friendly mobility solutions for European citizens; alleviating congestion, reducing pollution levels and emergency-response times

**TYPE OF ACTION: Research and Innovation Actions**

# MG.7.2. Towards seamless mobility addressing fragmentation in ITS deployment in Europe

RIA part: 2 stages: deadlines 18/03/2014 and 28/08/2014; CSA part: 1 stage: dl 28/08/2014

## **SPECIFIC CHALLENGE:**

- Towards an easy door-to-door pan-European intermodal trip through multi-modal integrated travel information, planning and ticketing services

## **SCOPE:**

- Interoperability and linking of the existing services, interoperable navigation and ticketing services, cooperation and decision making mechanisms between stakeholders, coordinated ITS deployment across Europe, monitoring of ITS developments across the EU through a dedicated ITS observatory

## **EXPECTED IMPACT:**

- Better modal integration, increased travel time reliability, efficient use of the existing transport infrastructure, inclusive transport services across Europe, accelerated roll-out of ITS services and technologies

**TYPE OF ACTION: Research and Innovation Actions  
/Coordination and Support Actions**



# Call 'Mobility for Growth'

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## URBAN MOBILITY

40 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
- More efficient and lower impact city logistics
- Reduction in urban road congestion
- Take-up of cleaner vehicles powered by alternative fuels and drive trains



# Call 'Mobility for Growth'

## 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*



in white : topics open in 2014

# MG.5.1. Transforming the use of conventionally fuelled vehicles in urban areas

2 stages: deadlines 18/03/2014 and 28/08/2014

## **SPECIFIC CHALLENGE:**

- Increased **use of non-conventionally fuelled vehicles in urban areas** is a key challenge

## **SCOPE:**

- Measures and tools that will, inter alia, halve the use of conventionally fuelled vehicles in cities, while increasing accessibility of urban areas and improve air quality and road safety
- Exploring policy frameworks and measures to ensure the uptake of alternative fuelled vehicle fleets in urban areas

## **EXPECTED IMPACT:**

- Increased knowledge and awareness of cost effective strategies, policies and approaches to increase the use of non-conventionally fuelled vehicles in urban areas. This should result in accelerated take up and rollout of innovative solutions.

**TYPE OF ACTION: Research and Innovation Actions**

# MG.5.2. Reducing impacts and costs of freight and service trips in urban areas

2 stages: deadlines 18/03/2014 and 28/08/2014

## **SPECIFIC CHALLENGE:**

- Improved knowledge and understanding of freight distribution and service trips and the development of best practice guidance on innovative approaches and how to replicate them

## **SCOPE:**

- Improving basic knowledge and understanding of freight distribution and service trips in urban areas, of ensuring a better use of infrastructure, and of consolidation and distribution centres in urban areas

## **EXPECTED IMPACT:**

- Understanding of cost effective strategies, measures and tool to achieve essentially zero emission city logistics in urban centres by 2030. Practical guidance. This should result in accelerated take up and rollout of innovative solutions.

## **TYPE OF ACTION: Research and Innovation Actions**

## MG.5.3. Tackling urban road congestion

2 stages: deadlines 18/03/2014 and 28/08/2014

### **SPECIFIC CHALLENGE:**

- Improved understanding of **measures to reduce urban road congestion** whilst increasing urban accessibility for passengers and freight and contributing to broader urban transport objectives

### **SCOPE:**

- Understand and secure a long term reduction in urban road congestion, **significant growth in public transport** at limited extra costs and assess the **role of walking and cycling in the urban modal split**

### **EXPECTED IMPACT:**

- Understanding of measures, tools and technology options to reduce congestion, insights on the feasibility of public transport growth options at limited extra costs and increased cycling and walking. This should result in accelerated take up and rollout of innovative solutions.

### **TYPE OF ACTION: Research and Innovation Actions**

# Call 'Mobility for Growth'

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## INFRASTRUCTURE

19 M €

**EUROPE NEEDS to increase  
the performance of transport infrastructure:**

- 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 infrastructure



# Call 'Mobility for Growth'

## 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



in white : topics open in 2014

# MG.8.1. Smarter design, construction and maintenance

RIA part: 2 stages: deadlines 18/03/2014 and 28/08/2014; CSA part: 1 stage: dl 28/08/2014

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## **SPECIFIC CHALLENGE:**

- Fewer, faster, more sustainable and better planned interventions with maximum safety for the workers and other traffic participants

## **SCOPE:**

- Advanced, quick, cost-effective and flexible interventions, self-monitoring, self-reporting, non-intrusive inspection and testing methods, low energy construction and maintenance

## **EXPECTED IMPACT:**

- Transition towards zero traffic disruption from inspection, construction and maintenance by 2030; increase infrastructure capacity, reliability, sustainability and life span through new construction and maintenance techniques; reduction of the energy intensity and CO2 and noise pollution from construction and maintenance

**TYPE OF ACTION: Research and Innovation Actions /  
Coordination and Support Action**



## **MG.8.2. Next generation transport infrastructure: resource efficient, smarter and safer**

**RIA part: 2 stages: deadlines 18/03/2014 and 28/08/2014; CSA part: 1 stage: dl 28/08/2014**

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### **SPECIFIC CHALLENGE:**

- Resource efficient, smarter and safer 21<sup>st</sup> century transport infrastructure; better integration of infrastructure in its natural habitat

### **SCOPE:**

- Enhanced cross-modal inter-connectivity and active traffic management; innovative alternative fuels infrastructure; energy harvesting infrastructure; pro-active safety systems; preventing malicious acts and disruption

### **EXPECTED IMPACT:**

- Improvement of infrastructure capacity and incident management; deployment of alternative fuels infrastructure in Europe; reduction of the energy intensity and CO2 and noise pollution from construction and maintenance

**TYPE OF ACTION: Research and Innovation Actions /  
Coordination and Support Action**

# Call 'Mobility for Growth'

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

**8.5 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



**in white : topics open in 2014<sup>1</sup>**

## **MG. 9.2 User behaviour and mobility patterns in the context of major societal trends**

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### **SPECIFIC CHALLENGE:**

- Understanding how societal trends – ageing, urbanisation, cultural diversity, etc. – affect user behaviour and mobility patterns

### **SCOPE:**

- Analysis of the relations between socio-economic conditions and mobility attitudes, with an impact on the sustainability of the transport system;
- How new organisational models and the spreading of ICT applications can help address future mobility needs

### **EXPECTED IMPACT:**

- Help facilitate the acceptance of innovative and more sustainable mobility options;
- Provide policy makers, transport authorities and services providers with evidence-based information to underpin the design of viable mobility solutions

### **TYPE OF ACTION: Coordination and Support Action**

## **MG. 9.3 Analysis of funding schemes for transport infrastructure**

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### **SPECIFIC CHALLENGE:**

- Provide a comprehensive analysis of alternative funding schemes (public, PPP or other) based on the existing experiences in different transport sectors and geographical areas, and assess their impact

### **SCOPE:**

- Identify the lessons to be learned from current procurement practices, their limitations and possible alternatives
- Analyse the effects of the crisis on the funding of transport infrastructure;
- Assess the potential of transport investments to contribute to economic recovery, in view of future infrastructure needs with a 2050 horizon

### **EXPECTED IMPACT:**

- Give policy makers and procurers evidence-based comparative information on the pros and cons of different funding schemes;
- Improve awareness underpinning long-term prioritisation of major infrastructure projects

### **TYPE OF ACTION: Coordination and Support Action**

# MG. 9.4 Research, technology development and market prospects for the European transport industries

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## **SPECIFIC CHALLENGE:**

- Provide an overview of research, technology development and innovation capacities and strategies of the European transport industries, and identify present and emerging market prospects at a global scale

## **SCOPE:**

- Analyse strategies and practices of the European transport manufacturing and service industries, and assess their innovation and global competitive prospects;
- Consider the incidence of legislative and regulatory frameworks on industrial practices, innovation potential and global competitiveness of those industries
- Explore possible areas and conditions under which international cooperation would be advantageous

## **EXPECTED IMPACT:**

- Provide a comprehensive picture of the research and technology development capabilities, innovation challenges and market prospects, and help identify possible RTDI gaps

## **TYPE OF ACTION: Coordination and Support Action**

## **MG.9.6 Strengthening the R&I strategies of the transport industries in Europe**

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### **SPECIFIC CHALLENGE:**

- Strengthening the willingness and capability of European transport industries and other transport stakeholders to collaborate at European level and define common agendas

### **SCOPE:**

- Update R&D agendas and roadmaps; define implementation plans; monitor the progress of transport research and innovation activities;
- Reinforce coordination between transport related ETP and the corresponding national platforms;
- Increase outreach and dissemination activities

### **EXPECTED IMPACT:**

- Optimised coordination of research and innovation capacities in the Transport sector at European level

### **TYPE OF ACTION: Coordination and Support Action**

# MG 9.7 Innovation awards for students and researchers in the context of the TRA 2016 conference

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## **SPECIFIC CHALLENGE:**

- Promoting the interest of students and researchers in surface transport R&I

## **SCOPE:**

- Organise two competitions for transport research and innovation awards to be announced at the TRA conference in 2016: one for students and young researchers and one for senior researchers

## **EXPECTED IMPACT:**

- Increase the attractiveness of transport related studies and reinforce the pursuit of excellence by giving recognition and visibility to the best achievements

**TYPE OF ACTION: Coordination and Support Action**



# Deadlines– CALLS 2014

	18 March	27 March	28 August
<b><u>Mobility for Growth</u></b>			
• RIAs + IAs stage 1	X		
• RIAs + IAs stage 2			X
• CSAs (single stage)		X	X
<b><u>Green vehicles (single stage)</u></b>			X
<b><u>SME instrument (open call)</u></b>	cut-off dates: 18 June, 24 Sept, 17 Dec		
<b><u>Fast track to innovation</u></b>	[pilot action in 2015]		

**Time to grant: max 8 months**



# Iniciativas Tecnológicas Conjuntas : Fuel Cells & Hydrogen 2

## FUEL CELLS AND HYDROGEN JOINT UNDERTAKING



Industry Grouping



European Union  
represented by the  
European Commission



Research Grouping

### Transportes

Veículos rodoviários,  
Infraestrutura de abastecimento,  
Aplicações para transporte  
marítimo, rodoviário e aviação

### Energia

Pilhas combustível para geração e  
produção combinada de calor;  
Produção e distribuição de  
hidrogénio; Hidrogénio através  
geração de energias

### CROSS-CUTTING ISSUES

(e.g. standards, consumidor, fábrica, métodos, estudos)



**Orçamento: 2014-2020:**  
**1.045 M € ( EU + Industry )**

### Objetivo Estratégico

✓ As tecnologias de pilhas de combustível e hidrogénio serão demonstradas até 2020 como um dos pilares do sistema energético e de transportes do futuro, contribuindo para a transformação de uma economia hipocarbónica.

Adotado pela COM no dia 10 de  
Julho de 2013

## Iniciativas Tecnológicas Conjuntas : Shift2Rail



- **Iniciativa coordenada pela UNIFE** (European Rail Industry) e que envolve até ao momento 15 entidades
- Orçamento estimado: entre 800M€ - 1000M€, dos quais **450M€** da Comissão Europeia e o restante da Indústria (sobretudo contribuições *inkind*)
- **Período de execução: entre 6 a 7 anos. Em princípio, irá iniciar-se em 2015.**
- **Objetivo:** contribuir para o desenvolvimento do transporte ferroviário como modo de transporte através da promoção de inovações significativas a nível do material circulante para passageiros, do transporte de mercadorias, dos sistemas de gestão do tráfego e das infraestruturas ferroviárias.
- Projetos de demonstração de TRL 4-7

Adotado pela COM no dia 16 de Dezembro de 2013

# Plataformas Tecnológicas Europeias – Transportes de Superfície

Lideradas pela indústria, com acompanhamento da CE, que têm como principal objectivo estabelecer Agendas Estratégicas de Investigação em sectores industriais estrategicamente importantes



ERTRAC – European Road Transport Advisory Council  
<http://www.ertrac.org/>



ERRAC – European Rail Research Advisory Council  
<http://www.errac.org/>



WATERBORNE  
<http://www.waterborne-tp.org/>



LOGISTICS  
<http://www.etp-logistics.eu/alice/en/home/>

**Participe nas ativamente das Plataformas Tecnológicas..... Ou limita-se a esperar pelo lançamento dos concursos...**

# Desafios no Horizonte 2020

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- Projetos de grande escala - Enfoque industrial
- Projetos interdisciplinares e multi-setoriais
- Grande número de iniciativas Público – Privadas, incluindo 6 JTIs no Horizonte 2020
  - Exemplo: Shift2Rail, CleanSky2, BioBased Industries, FCH-JU2, ...
- Presença pouco regular de entidades nacionais nos grandes grupos de influência dos Programas de Trabalho:
  - Plataformas Tecnológicas Europeias
  - Peritos em Grupos de Trabalho

**Obrigado!**

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**Questões?**

# Short Presentations:

**António Serrador - ISEL**

**Bernardo Campos Pereira - URBACTIV**

**Carlos Gaivoto - Carris**

**Elisabete Freitas - Universidade do Minho**

**Fátima Pereira Silva - INOUTCISTER**

**João Figueiredo - Estradas de Portugal**

**João Oliveira - Veeco**

**Paulo Monteiro – INESC TEC**

**Jorge Pinho de Sousa – INESC Porto / FEUP**

**Monica Lamas - GLEXYZ**

**Ricardo Barbosa - INEGI**