



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**



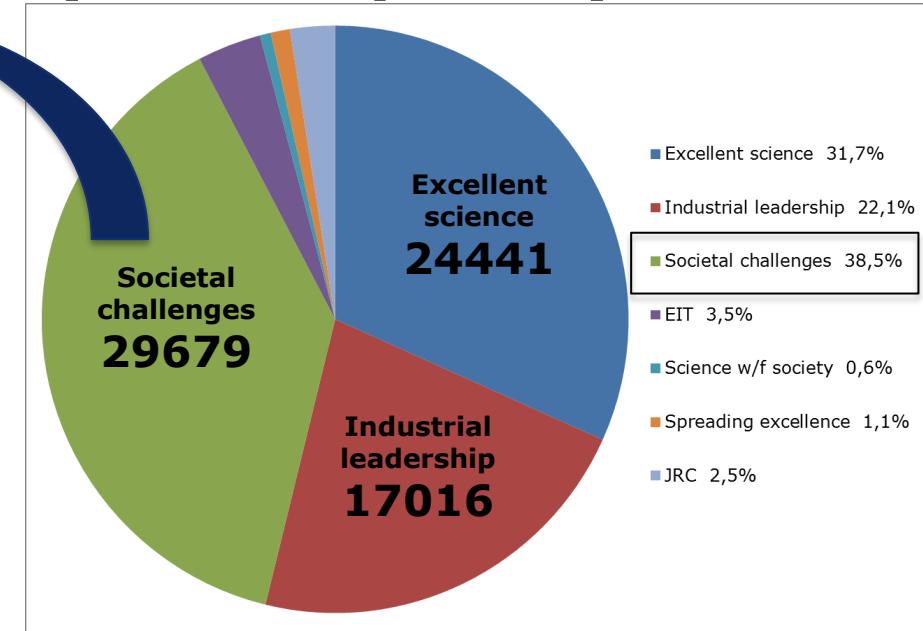
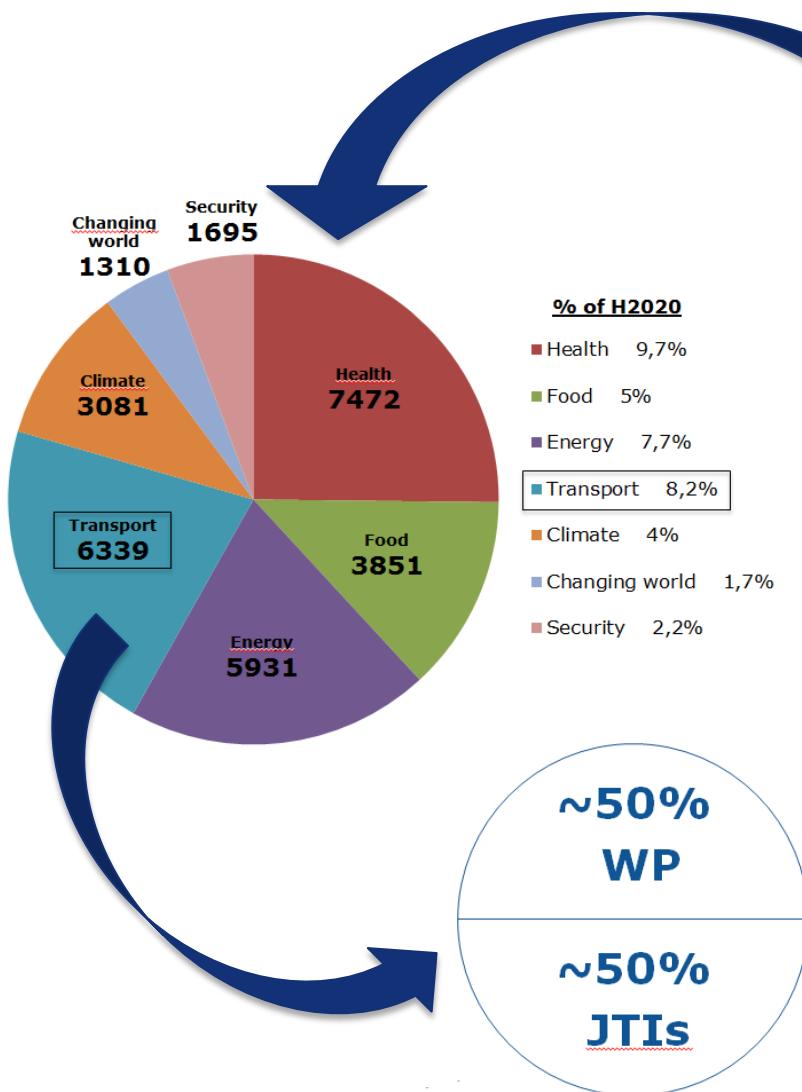
Horizon 2020



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

Budget breakdown

77028 Million € (current prices)



- **Collaborative calls for proposals**
- **Innovation investment package**
 - Clean Sky
 - SESAR
 - Fuel Cells & Hydrogen (contribution)
 - Shift2Rail

Societal challenges

- 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

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

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

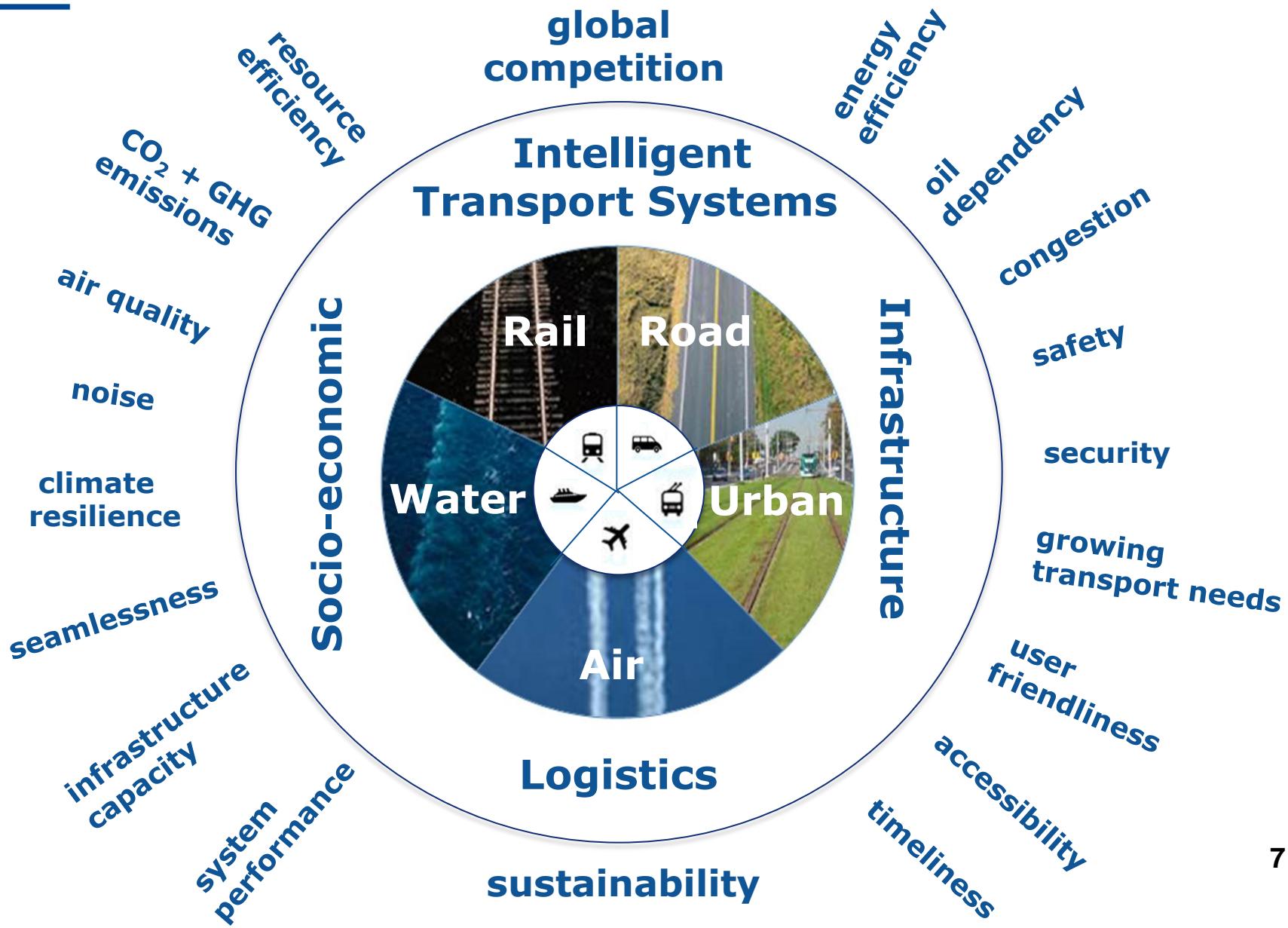


and promote globally competitive transport industries

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

SEEMLESS



Global leadership for the European transport industry

COMPETITIVE

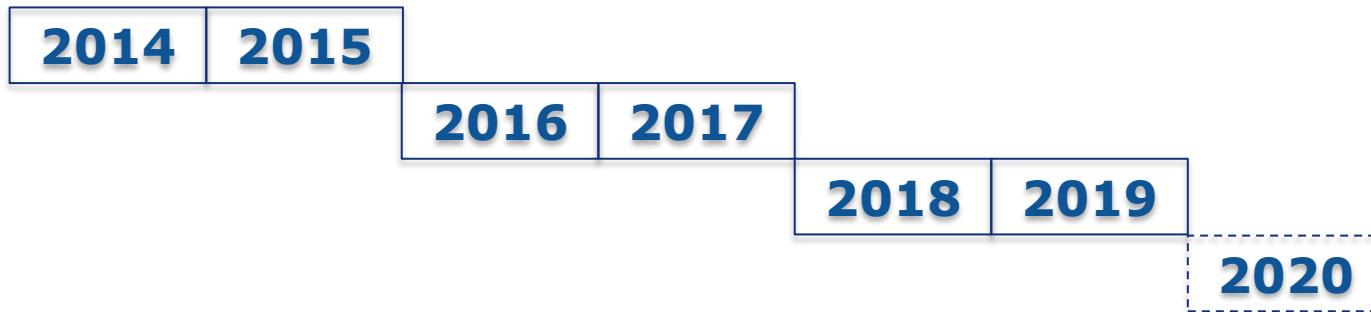


Socio-economic and behavioural research and forward-looking activities for policy-making

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

Calls (publication 11 December 2014)	Budget (€ Mio) 2014	Budget (€ Mio) 2015
Call 'Mobility for Growth'	374,5 (+2)	184 (+10)
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)
Call 'Green Vehicles'	129	30
Call Small business and Fast Track	35,87	38,69
Contribution to Smart Cities, Blue Growth	33.5	25.5



Call 'Mobility for Growth'

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

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:

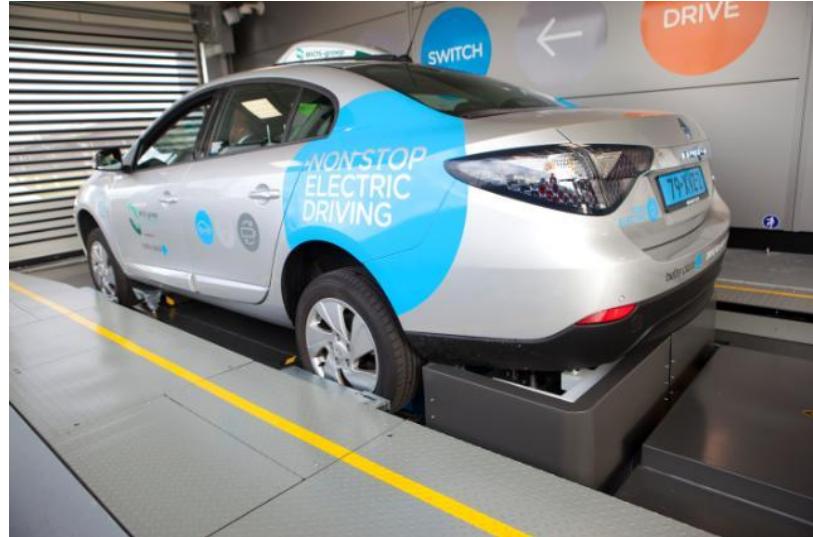


- Technologies for low emission powertrains – **MG3.1** - 2014 – 2 stages
- Advanced bus concepts for increased efficiency – **MG3.2** - 2014 – 2 stages
- Global competitiveness of the automotive supply chain management – **MG3.3** - 2014 – 2 stages
- Traffic safety analysis and integrated approach towards 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*

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 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

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

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')



in red: topics open in 2014



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

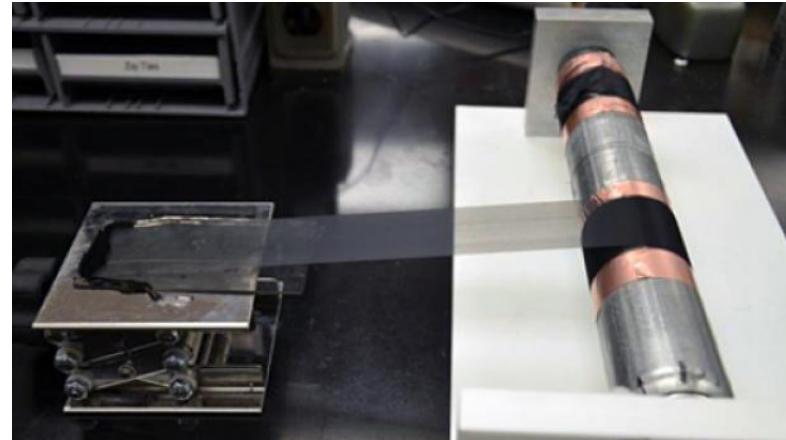
- **Energy:**
 - biofuels and alternative fuels
 - bioenergy engines
 - energy storage
 - 'Smart Cities'
- **Climate/environment:**
 - urban air quality
- **Security:**
 - crisis and disaster resilience
 - critical infrastructure protection
 - freight inspection technologies
- **Food/'Blue growth':**
 - 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€.



Transport Challenge 2015 evaluations

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

A two-stage procedure fits well with the H2020 character:
topics with broad scope, bottom up approach & low prescriptiveness

Two-stage evaluation

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

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

Month 4

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

Stage 2 proposal submission – "go" proposals only!

Month 8

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

Evaluation Stage 2 proposals

Month 9

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

Negotiations and signature of the GAs

Month 12- 13

Signature: max 3 months from the results of the evaluations

Evaluation of proposals



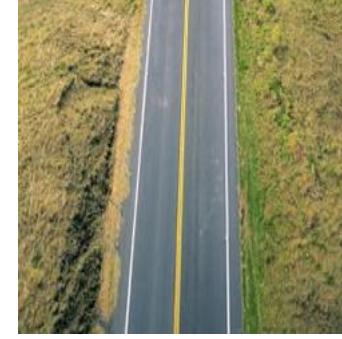
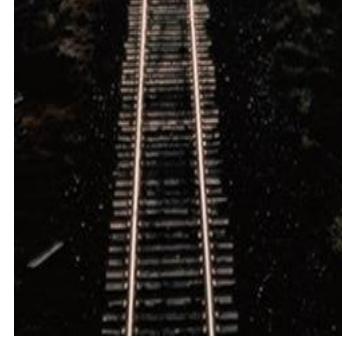
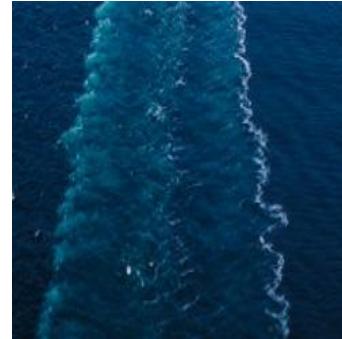
- ✓ **ERC** frontier Research actions ➤ only EXCELLENCE
- ✓ ***Innovation actions*** ➤ higher weighting for "IMPACT"



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
- *Submission deadline* **23 April 2015**





**Thank you
for your attention!**

Find out more:

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