



Transports in Horizon 2020

Webinar on Horizon 2020 (Transports) – March 13th

Organized by



NCP Transports - France



IFSTAR

Institut français
des sciences et technologies
des transports, de l'aménagement
et des réseaux,

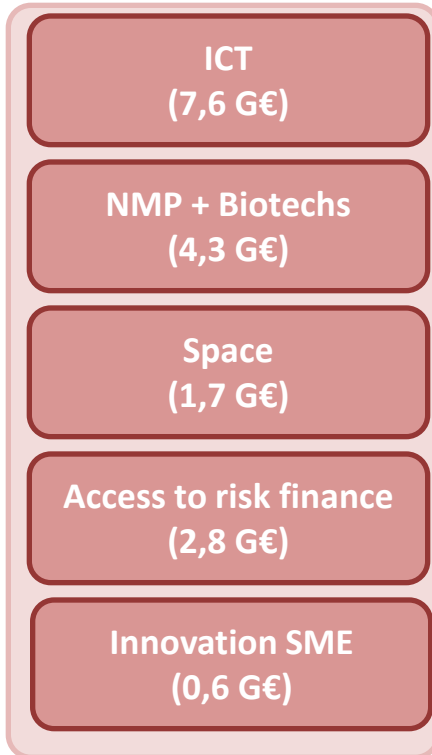
Transports in Horizon 2020

Excellence scientifique



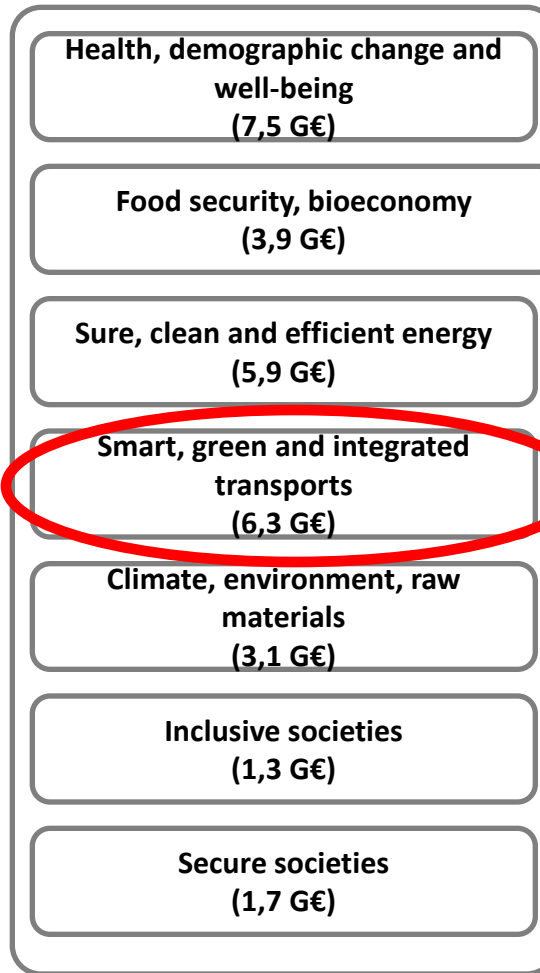
24,4 G€

Primauté industrielle



17 G€

Societal Challenges



29,7 G€

- Mobility for Growth
- Green Vehicles
- Small business and Fast Track

6,3 G€ = 8,2 %

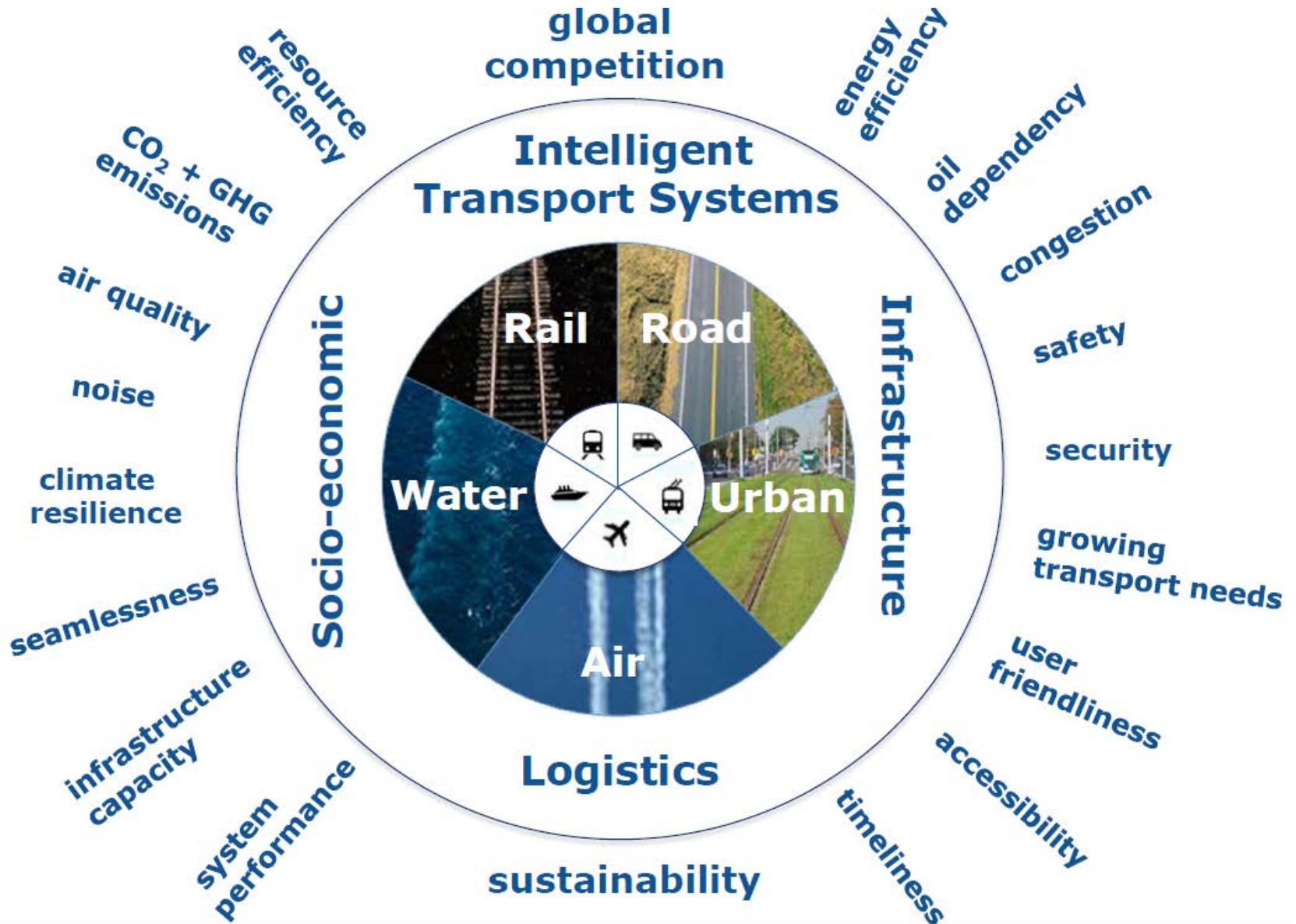
European Institute for Innovation and Technology (EIT) 2,7 G€

Joint Research Center(JRC) 1,9 G€

Spreading excellence and widening participation / Science 0,5 G€

Euratom
2 G€

Transport : resources, systems, objectives



Smart, green and integrated transports

- Objective: *“to achieve a European transport system that is resource-efficient, climate- and environmentally-friendly, safe and seamless for the benefit of all citizens, the economy and society”*
- Four main areas of action :
 - a) Resource efficient transport that respects the environment
 - b) Better mobility, less congestion, more safety and security
 - c) Global leadership for the European transport industry
 - d) Socio-economic and behavioural research and forward looking activities for policy making.

3 main calls (+1)

- CALL ‘MOBILITY FOR GROWTH’ (MG)
- CALL ‘GREEN VEHICLES’ (GV)
- CALL ‘SMALL BUSINESS AND FAST TRACK INNOVATION FOR TRANSPORT’ (IT)
- OTHER ACTIONS

CALL 'MOBILITY FOR GROWTH' (MG)

- AVIATION => 7 calls in 2014, 1 in 2015
- RAIL => 3 calls 2014
- ROAD => 5 calls in 2014, 1 in 2015
- WATERBORNE => 3 calls in 2014, 1 in 2015
- URBAN MOBILITY => 3 calls in 2014, 2 in 2015
- LOGISTICS => 2 calls in 2014, 1 in 2015
- INTELLIGENT TRANSPORT SYSTEMS => 2 calls in 2014
- INFRASTRUCTURE => 2 calls in 2014, 2 in 2015
- SOCIO-ECONOMIC AND BEHAVIOURAL RESEARCH AND FORWARD LOOKING ACTIVITIES FOR POLICY MAKING
=> 5 calls in 2014, 2 in 2015

CALL 'GREEN VEHICLES' (GV)

- 6 calls in 2014, 2 in 2015
- GV.1-2014. Next generation of competitive lithium ion batteries to meet customer expectations
- GV.2-2014. Optimised and systematic energy management in electric vehicle
- GV.3-2014. Future natural gas powertrains and components for cars and vans
- GV.4-2014. Hybrid light and heavy duty vehicles
- GV.5-2014. Electric two-wheelers and new light vehicle concepts
- GV.6-2015. Powertrain control for heavy-duty vehicles with optimised emissions
- GV.7-2014. Future natural gas powertrains and components for heavy duty vehicles
- GV.8-2015. Electric vehicles' enhanced performance and integration into the transport system and the grid

⇒ SINGLE STAGE calls

CALL 'SMALL BUSINESS AND FAST TRACK INNOVATION FOR TRANSPORT' (IT)

- 1 call in 2014, 1 in 2015
- IT.1-2014-2015. Small business innovation research for transport
- IT.2-2015. Fast Track to Innovation

⇒ TWO STAGES calls

OTHER ACTIONS

- 1. Developing a public European environmental modelling suite for aviation
 - in 2014
- 2. Europe wide open source transport models, technology watch, data and scenarios
 - in 2015
- 3.1. External expertise for evaluation and monitoring
 - No date
- 3.2. External expertise to advise on EU research policy
 - in 2014
- 4. An inducement prize for the cleanest engine
 - in 2015

Budgets

- CALL ‘MOBILITY FOR GROWTH’ (MG)
 - 374.5 M€ in 2014, 184.0 M€ in 2015
- CALL ‘GREEN VEHICLES’ (GV)
 - 129.0 M€ in 2014, 30.0 M€ in 2015
- CALL ‘SMALL BUSINESS AND FAST TRACK INNOVATION FOR TRANSPORT’ (IT)
 - 35.9 M€ in 2014, 39.0 M€ in 2015
- OTHER ACTIONS
 - 5.1 M€ in 2014, 8.8 M€ in 2015
- **TOTAL** : 544.5 M€ en 2014, 261.8 M€ en 2015

Rail 1/3

- **MG.2.1-2014. I.I – Intelligent Infrastructure**
- **RIA, Two-stage, Deadlines: 18/03/2014 then 28/08/2014**
- **Total budget call of MG.2. 1+2 = 36 M€**
- **Projects from 16 to 18 M€**
- **Challenge** : ... a step change in the productivity of the infrastructure assets... managed in a more holistic and intelligent way, using lean operational practices and smart technologies that can ultimately contribute to improving the reliability and responsiveness
- **Scope**: three complementary work streams:
 - *Smart, cost-efficient, high-capacity, user-friendly rail infrastructure*
 - *I2M – Intelligent mobility management*
 - *Energy management*
- **Expected impact** : ... surge in the utilisation of capacity within a range 70-90%, as well as a reduction in the recurrent costs of rail operations within a range of 25-45%. Part of the lower operating costs will evolve from reductions in the power supply operational and maintenance costs (~25%), reductions in transmission and distribution losses (~20%) and increases in reliability of operation (~20%).

Rail 2/3

- **MG.2.2-2014. Smart rail services**
- **RIA, Two-stage, Deadlines : 18/03/2014 then 28/08/2014**
- **Total budget call of MG.2. 1+2 = 36 M€**
- **Projects from 12 to 6 M€**
- **Challenge** : 1. Seamless multimodal travel ; 2. Logistic services
- **Scope**: One of the above challenge
 - 1. Seamless multimodal travel: planning and reservation of user-friendly multimodal trips and services, including specific needs of persons with reduced mobility and to the environmental impact of user choices... economics of these e-services in the long-term.
 - 2. Logistic services: addressing the key challenges of freight through a systematic "top-down" approach that backtracks from the performance indicators to be achieved
- **Expected impact** :
 - *Seamless Travel*: increased rail attractiveness... integrated end-to-end solution for travel needs
 - Logistic services: 98% level on-time delivery; doubling of both the revenue per employee and the annual load-runs per wagon, reduction of up to 50% in dwell times and a two-fold increase in the load factor for trains/wagons

Rail 3/3

- **MG.2.3-2014.New generation of rail vehicles**
- **RIA, Two-stage, Deadlines : 18/03/2014 then 28/08/2014**
- **Total budget call of MG.2.3-2014 = 16 M€**
- **Projects from 14 to 16 M€**
- **Challenge** : Imposing the delivery of enhanced functionality, comfort, safety, operational performance, interoperability and reduced life cycle costs. A whole new way of thinking on product development....
- **Scope**: Improvements in product reliability, cost-effectiveness, user-friendliness, safety and security, environmental impacts, ease of manufacture and interoperability. Will ensure interoperability through better Electro-Magnetic Compatibility (EMC) between the railway vehicles and the electrical installations of the network...
- **Expected impact** : The key goal will be to deliver a reduction of up to 40% in life cycle costs of rolling stock products, an increase in passenger train capacity up to 15%, reductions of downtime by increased reliability (up to 50%), whilst delivering superior performance in terms of overall service quality, safety and customer experience in rail transport...

Other examples - 1

- **MG.3.6-2015. Safe and connected automation in road transport**
- **RIA : 2015, Two stage, EU subvention: 5 M€ to 10 M€ (*Total = 22 M€*)**
- **CSA : 2015, One stage, EU subvention: 1 M€ (*Total call budget = 1 M€*)**
- **Deadlines : 31/03/2015 then 27/08/2015**

- **Challenge:** Automation in road transport should make best use of the evolution of Cooperative ITS... Connectivity and cooperative mobility will be the key driving force...
- **Scope:**
 - **Research and innovation** activities could address one or more of the following:
 - ADAS, HMI ; Novel transport, service and mobility concepts in real-life situations enabled by automated driving and connectivity)
 - **Coordination and Support Actions** could address one or more of the following:
 - Dissemination and take-up of results...
 - Liability and standardisation policy and regulatory framework...
- **Expected Impact:**
 - Reduction of the automated driving systems' development costs, as well as raising competitiveness of the European industry in developing breakthrough technological solutions...

Other example - 2

- **GV.5-2014. Electric two-wheelers and new light vehicle concepts**
- **RIA single stage - échéance 28/08/2014**
- **EU subvention pour GV.5 : 5-8 M€ (*Total pour GV.1,2,3,4,5,7 = 129 M€*)**

- **Challenge:** ... The challenge is to develop a new generation of electrified powertrains for L category vehicles that are quiet, clean, energy efficient and safe and to investigate radically new light vehicle concepts for personal mobility in urban areas...
- **Scope:** Proposals should focus on energy efficiency improvements for a wide range of vehicle types (from mopeds to quads and light quadricycles). Research will address cost efficiency, integration and modularity of battery packs, electric and plug-in hybrid power trains, system integration and innovative vehicle architecture. The scope also includes the development and proof of concept of new ultra-light vehicles for passenger...
- **Expected impact:** The research will contribute to a significantly reduction of emission... and noise, congestion, greenhouse gas emissions and energy consumption. The research will also enhance the competitive position of the European industry... will also support the implementation of the Clean Power for Transport strategy by developing the next generation of alternatively powered light urban e-vehicles...

CALL 'SMALL BUSINESS AND FAST TRACK INNOVATION FOR TRANSPORT' (IT)

- **IT.1-2014-2015. Small business innovation research for transport**
 - **In phase 1**, a feasibility study shall be developed verifying the technological/practical as well as economic viability of an innovation idea/concept
 - Lump sum of EUR 50.000 , duration +/- 6 months
 - **In phase 2**, innovation projects
 - EU contribution 0.5 - 2.5 M€, duration 12 - 24 months
 - Type d' action : PME (financement à 70%)
 - Echéances tous les trois mois : 18/06/2014, 24/09/2014 etc.
- **IT.2-2015. Fast Track to Innovation**
 - Prévu pour 2015

Other Transports instruments in Horizon 2020

Keep watch on all H2020 programmes

- There are other opportunities beyond « Transports »
- Research institutes are mostly concerned by :
 - Scientific Excellence in Pillar 1 (research fellowships)
 - Industrial leadership in Pillar 2, as partners of leading companies
 - Other Societal Challenges in Pillar 3
- Industry is mostly concerned by :
 - Scientific Excellence in Pillar 1 (FET)
 - Industrial leadership in Pillar 2
 - Other Societal Challenges in Pillar 3

Transports in other societal challenges (1/3)

- Health
 - Topic “Understanding common mechanisms of diseases and their relevance in co-morbidities”
 - Transports are mentioned as an area of study
- Bioeconomy
 - Call for “Blue Growth: Unlocking the potential of Seas and Oceans”
 - Transports topics are mentioned in :
 - Innovative offshore economy,
 - Sub-sea technologies,
 - Response capacities to oil spills and maritime pollutions.

Transports in other societal challenges (2/3)

- Energy
 - Sustainable biofuels and alternative fuels for the European transport sector
 - Appel **smart cities and communities**: cf. diapo suivante
 - Energy storage
 - Bioenergy: engine tests with new types of biofuels
- Climate change and resources
 - Increase air quality and reduce carbone print
 - Ensuring the sustainable supply of non-energy and non-agricultural raw materials (production chain)

Transports in other societal challenges (3/3)

- Security

- Crisis management: Demonstration activity on large scale disasters' governance and resilience of EU external assets against major identified threats or causes of crisis
- Crisis management: Crises and disaster resilience – operationalizing resilience concepts
- Critical Infrastructure Protection: Demonstration activity on tools for adapting building and infrastructure standards and design methodologies in vulnerable locations in the case of natural catastrophes
- Supply Chain Security: Technologies for inspections of large volume freight.

Smart cities and communities

- EIP (European innovation partnership)
- Specific call in « Energy » work-programme
 - SCC 1 – 2014/2015: Smart Cities and Communities solutions integrating energy, transport, ICT sectors through lighthouse (large scale demonstration - first of the kind) projects - IA
 - SCC 2 – 2014: Developing a framework for common, transparent data collection and performance measurement to allow comparability and replication between solutions and best-practice identification - CSA
 - SCC 3 – 2015: Development of system standards for smart cities and communities solutions - CSA
 - SCC 4 – 2014: Establishing networks of public procurers in local administrations on smart city solutions - CSA
 - SCC 5 – 2015: Smart solutions for creating better cities and communities – assistance for a prize competition - CSA
- **Deadlines** : 07/05/2014 and 03/03/2015
- **Budgets** : 92.3 M€ in 2014, 108.2 M€ in 2015 (ess. for SCC1)

Transport in other H2020 topics

- European research infrastructures (including e-Infrastructures)
 - Call 2 - Integrating and opening research infrastructures of pan-European interest fait bien mention de "Smart, green and integrated transport"
- Leadership in enabling and industrial technologies
 - Information and Communication Technologies: Smart Cyber Systems and internet of things for transport applications
 - Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing. Several entries for transport application of new materials. Detailed under the impact section as a field of possible deployment.
 - Materials for severe operating conditions, including added-value functionalities. Transport mentioned as field of application
 - Fibre-based materials for non-clothing applications. Transport as field of deployment.
 - Battery work in NMP work programme, topic 17: Post-lithium ion batteries for electric automotive applications.
- Access to risk finance
 - Even if Transport is not explicitly mentioned
- Innovation dans les PME
 - Transport is one of the potentiel application domains

H2020 : Timeline

- The content of Horizon 2020 is developed over several timelines:
 - A specific programme over 7 years -2014-2020
 - A strategic programme over 3 years : 2014 – 2017
 - Pluriannual work programmes over 2 years
 - Texts proposed by the European Commission
 - Discussed with Member States via the programme committees

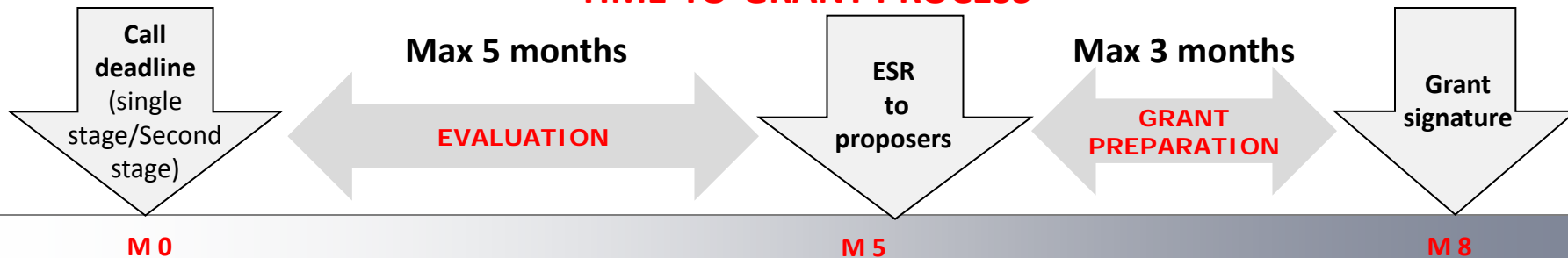
2014	2015	2016	2017	2018	2019	2020
Strategic programme						
Work programme 1		Strategic programme				
		Work programme 2		Strategic programme		
				Work programme 3		Work programme 4?

Shortened periods

EVALUATION PLANNING 2014

GV <i>(1 stage)</i>					Deadline 28/08 GV	Evaluation 15-26/09 + Consensus/Final Panel 06-24/10	Nov.	ESR to proposers : Beginning December		
MG CSA <i>(1 stage)</i>	Deadline 27/03 CSA	Evaluation 14/04 - 02/05 + Consensus/Final Panel 12-23/05		Deadline 28/08 CSA						
MG RIAs and IAs <i>(2 stages)</i>	Deadline 18/03 Stage 1			Deadline 28/08 Stage 2						
	Mars	April	May	June	July	August	Septemb er	Octobe r	Nov.	Decemb er

TIME-TO-GRANT PROCESS



Calendar

- Variable submission deadlines : **depend of the topic**
- Two-stages topics :
 - **Stage 1 : 18/03/2014**
 - Answer: begin. of June
 - Then **Stage 2 : 28/08/2014**
 - Answer begin. of December
 - Start of projects: begin. of March 2015
- One-stage topics :
 - **Either on 27/03/2014 (« A »)**
 - Answer: begin. of June
 - Start of projects: begin. Of September 2014
 - **Either le 28/08/2014 (« B »), incl. Green Vehicles)**
 - Answer: begin. of December
 - Start of projects: begin. of March 2015

Useful links

- http://ec.europa.eu/research/horizon2020/index_en.cfm?pg=h2020-documents
 - General modalities
 - « work programmes » in project
- European Transport Network Alliance
<http://www.transport-ncps.net/>