



The EU Framework Programme for Research and Innovation

HORIZON 2020

Smart, green and integrated Transport

Transport Work Programme 2018-2020

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DG MOVE**



H2020 Work Programme 2018-2020

H2020 WP Policy framework

Increased investment in **sustainable development** and **climate** related R&I

- 35% climate actions
- 60% sustainable development

Integrating **digitisation** in all industrial technologies and societal challenges

- Digital Single Market Strategy

Strengthening **international R&I cooperation**: Flagships to ensure scope and scale in targeted areas

Addressing **societal concerns**: security and migration, demographic changes and social inclusion

Market creating innovation: EU Innovation Council Pilot

Transport Challenge - Smart, green and integrated Transport

Objective:

*"To achieve a European transport system that is **resilient, resource efficient, climate and environmental friendly, safe and seamless** for the the benefit of all citizens, the economy and society."*

The logic:

- a holistic, **system approach**
- ... that is focused on **societal** challenges
- ... that recognises **modal specificities**
- ... and takes into account the imperatives of **competitiveness**

What's new in 2018-2020

- **3 year** coverage: 2018-2019 and 2020
- Increased support to activities addressing global challenges and cutting across sectors and programmes: the **Focus Areas (FA)* concept**
 1. *Building a low-carbon, climate resilient future*
 2. *Digitising and transforming European industry and services*
- Improved coordination to address technological challenges: EUR 200 mio indicative budget to R&I activities on **batteries**
- Reinforced **International Cooperation - InCo: 5 flagship initiatives** to address global challenges calling for global solutions (air quality, urban mobility, oil dependency and energy efficiency, exchange of best practices) and **10 specific topics** encouraging InCo
- Reduced number of topics and broader scope, new structure
- **Two-stage** procedure for MG call and **single-stage** procedure for GV and ART

* *Focus Areas: The other two FA aim at "Connecting economic and environmental gains – the Circular Economy" and at "Boosting the effectiveness of the Security Union"*

Main features

- **Budget 2018: EUR 298.6 mio** – EUR 945 mio in 2018-2020
- **3 calls for proposals** and 21 topics in 2018
 1. *Mobility for Growth (MG)*
 2. *Automated Road Transport (ART)*
 3. *Green Vehicles (GV)*
- **Opening of calls - 31 October 2017** - WP pre-published on H2020 web-site
- **3 types of actions: RIA, IA, CSA/EraNet** + **Other actions:** Prizes, SME Instrument, FTI, experts groups and procurements,
- **Transport relevant topics** in **other parts of the H2020 WP**: NMPB, ICT, ENERGY, SECURITY, FOOD and **complementarities** with calls and activities of CleanSky, SESAR, Shift2Rail, FCH2
- **Open Access to Data policy**: applies by default to the whole H2020 to scientific publications and research data generated by projects
- Improved **focus and clarity** in the topic descriptions (notably the **expected impacts**)...while keeping an open and non-prescriptive approach

MOBILITY FOR GROWTH – MG call



Overall objectives:

- ✓ **Reconcile sustainability and competitiveness**
- ✓ **Ensure better and safer mobility for all**
- ✓ **Address socio-economic aspects and provide evidence for policy-making**

**1. Low-carbon
& sustainable
transport**

**4. Accounting
for people**

**Mobility
for
Growth**

**2. Safe,
integrated &
resilient
transport
system**

**3. Global
leadership &
competitiveness**

**Blue
Growth**



MOBILITY FOR GROWTH – MG call

1. Low-carbon and sustainable transport

Focus on:

- The transition towards zero-emission and quieter mobility for all modes, for people and goods
- Tools and mechanisms for monitoring and detection of emissions & noise
- Scientific evidence for decision making process and planning
- Cross-modal/transport integration solutions in urban areas



Low-carbon & sustainable transport: topics and budget

Total EU contribution: EUR 61 m in 2018

Topic	Title	Action type	Stages	Budget		
				2018	2019	2020
LC-MG-1-1 <i>InCo flagship 1</i>	Reduction of transport impact on air quality	RIA	2	30.00		
LC-MG-1-2	Sustainable multi-modal inter-urban transport , regional mobility & spatial planning	RIA	2	12.00		
LC-MG-1-3	Harnessing and understanding the impacts of changes in urban mobility on policy making by city-led innovation for sustainable urban mobility	CSA	1	3.00		
		RIA	2	11.00		
LC-MG-1-4	Hardening vehicle environmental protection systems against tampering	RIA	2	5.00		
LC-MG-1-5	Advancements in aerodynamics & innovative propulsion systems for quieter & greener aircrafts	RIA	2		15.00	
LC-MG-1-6 <i>InCo flagship 2</i>	Aviation operations impact on climate change	RIA	1		10.00	
LC-MG-1-7 <i>InCo flagship 2</i>	Future propulsion & integration: towards a hybrid/electric aircraft	RIA	1		15.00	
LC-MG-1-8	Retrofit Solutions and Next generation propulsion for Waterborne Transport	IA	2		8.00	
		RIA	2		15.00	
LC-MG-1-9	Upgrading transport infrastructure in order to monitor noise and emissions	RIA	2		7.00	
LC-MG-1-10	Logistics solutions that deal with requirements of the 'on demand economy' and for shared-connected and low-emission logistics operations	RIA	2		10.00	



MOBILITY FOR GROWTH – MG call

2. Safe, integrated and resilient transport systems

Focus on:

- **Transport safety: contribution to the "*zero road fatalities*" goal in a changing environment**
- **Innovative solutions to reduce congestion and ensure seamless, safe and sustainable mobility for people and freight**
- **More resilient transport system and support network capacity**

Safe, integrated and resilient transport system: topics and budget

Total EU contribution: EUR 73 m in 2018

Topic	Title	Action type	Stages	Budget		
				2018	2019	2020
MG-2-1	Human Factors in Transport Safety	RIA	2	18.00		
MG-2-2	Marine Accident Response	IA/RIA	2	35.00		
MG-2-3	Airworthiness of mass-market drones	CSA	1	3.00		
MG-2-4	Coordinating national efforts in modernizing transport infrastructure and provide innovative mobility services	CSA	1	1.00		
MG-2-5 <i>InCo flagship 2</i>	Innovative technologies for improving aviation safety and certification in icing conditions	RIA	1	16.00		
MG-2-6	Moving freight by Water: Sustainable Infrastructure and Innovative Vessels	RIA	2		30.00	
MG-2-7	Safety in an evolving road mobility environment	RIA	2		8.00	
MG-2-8	Innovative applications of drones for ensuring safety transport	RIA	2		15.00	
MG-2-9 <i>InCo flagship 3</i>	Integrated multimodal, low-emission freight transport systems and logistics	RIA	2		14.00	

MOBILITY FOR GROWTH – MG call

3. Global Leadership & Competitiveness

Focus on:

- **Vehicle/vessel design and manufacturing and life-cycle approaches**
- **Rapid integration of ICT and IoT**
- **Human component of CAT technologies**

Global Leadership & Competitiveness: topics and budget

Total EU contribution: EUR 44 Mio

Topic	Title	Action type	Stages	Budget		
				2018	2019	2020
MG-3-1	Multidisciplinary and collaborative aircraft design tools and processes	RIA	2	12.00		
MG-3-2	The Autonomous Ship	IA	2	20.00		
MG-3-3	"Driver" behaviour and acceptance of connected, cooperative and automated transport	RIA	2	12.00		



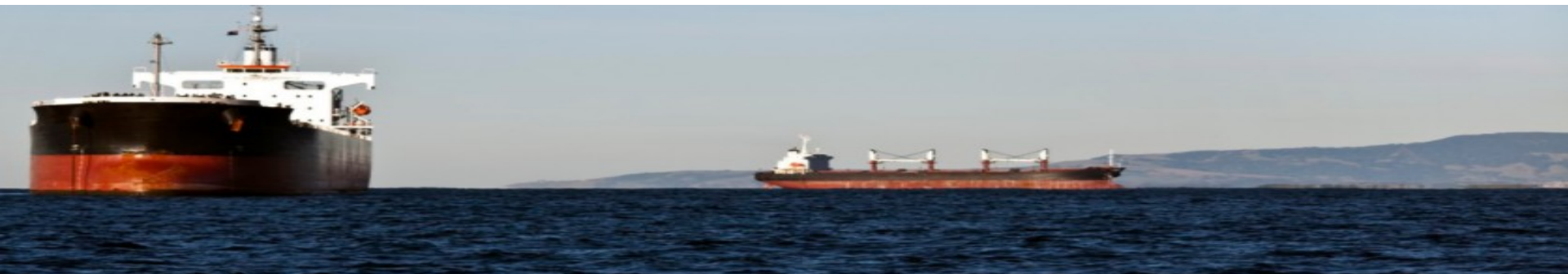
MOBILITY FOR GROWTH – MG call

4. Accounting for the People

Focus on:

- Innovative solutions for an accessible & inclusive transport system
- Behavioural issues and user needs
- Appropriate regulatory frameworks and policies to support innovation and deployment
- Dissemination and exploitation of sustainable mobility solutions

Topic	Title	Action type	Stages	Budget		
				2018	2019	2020
MG-4-1	New regulatory frameworks to enable effective deployment of emerging technologies & business/operating models for all transport modes	CSA	1	2.00		
MG-4-2	Building Open Science platforms in transport research	CSA	1	3.00		
MG-4-3	Demographic change and participation of women in transport	CSA	1	5.00		
MG-4-4	Support for dissemination events in the field of Transport Research	CSA	1	1.40	0.70	
MG-4-5	An inclusive digitally interconnected transport system meeting citizens' needs	RIA	1		7.00	
MG-4-6	Supporting Joint Actions on sustainable urban accessibility and connectivity	ERA-NET-Cofund	1		6.00	



MOBILITY FOR GROWTH – MG call

Two **'Blue Growth'** topics' in 2018-2019 aiming at:

- Reduce the costs of deep sea exploration
- Explore several possible scenarios for the wide scale adoption of different emission control technologies

Blue Growth: topics and budget

Total EU contribution: EUR 8 m in 2018

Topic	Title	Action type	Stages	Budget		
				2018	2019	2020
MG-BG-01	Unmanned and autonomous survey activities at sea	RIA	1	8.00		
MG-BG-02	Ship emission control scenarios , marine environmental impact and mitigation	RIA	1		8.00	



Automated Road Transport – ART call

Focus on:

- Large-scale/cross-border demos to promote market introduction of highly automated driving systems
- Trials on sustainable automated functions in real driving conditions - various traffic scenarios and urban areas
- Regulatory framework, certification procedures and standards
- New concepts for shared, connected and automated mobility
- ART-related cross-cutting issues: safety, users' needs, business models,...

Automated Road Transport: topics and budget

Total EU contribution: EUR 15 m in 2018

Topic	Title	Action type	Stages	Budget		
				2018	2019	2020
DT-ART-01 <i>InCo flagship 4</i>	Testing, validation and certification procedures for highly automated driving functions under various traffic scenarios based on pilot test data	RIA	1	6.00		
DT-ART-02 <i>InCo flagship 4</i>	Support for networking activities and impact assessment for road automation	RIA	1	6.00		
		CSA	1	3.00		
DT-ART-03 <i>InCo flagship 4</i>	Human centred design for the new driver role in highly automated vehicles	RIA	1		8.00	
DT-ART-04 <i>InCo flagship 4</i>	Developing and testing shared, connected and cooperative automated vehicles fleets in urban areas for the mobility of all	IA	1		30.00	
DT-ART-05	Efficient and safe connected and automated heavy-duty vehicles in real logistics operations					
DT-ART-06	Large-scale, cross-border demonstration of highly automated driving functions for passenger cars					



GREEN VEHICLES – GV call

Bring forward the activities of the **EU Green Vehicle Initiative**: prepare the ground for a **potential massive introduction of electrified vehicles**

- **Support design and manufacturing of 3rd generation of electrified vehicles, components and new generation of batteries**
- **Improve the charging solutions to meet end-users needs (access, time, cost, payment systems, etc.)**
- **Develop new concepts to reduce energy consumption and emissions of long-distance vehicles**
- **Cooperate with developing and emerging economies for demonstration activities and pilots in large urban areas**

Green vehicles: topics and budget

Total EU contribution: EUR 56 m in 2018

Topic	Title	Action type	Stages	Budget		
				2018	2019	2020
LC-GV-01	Integrated, brand-independent architectures, components and systems for next generation electrified vehicles optimised for the infrastructure	IA	1	42.00		
LC-GV-02	Virtual product development and production of all types of electrified vehicles and components	RIA	1	14.00		
LC-GV-03	User centric charging infrastructure	IA	1		35.00	
LC-GV-04	Low-emissions propulsion for long-distance trucks and coaches	IA	1		25.00	
LC-GV-05 InCo flagship 5	Urban mobility and sustainable electrification in large urban areas in developing and emerging economies	IA	1		18.00	
LC-GV-06	Next generation and realisation of battery packs BEV & HEV					
LC-GV-07	Advanced light materials and their production processes for automotive applications					
LC-GV-08	Reducing the environmental impact of hybrid light duty vehicles					
LC-GV-09	Next generation electrified vehicles for urban use					

Deadlines

Work Programme 2018-2020	2018		2019	
	Opening	Closing	Opening	Closing
Single Stage (MG, ART and GV calls)	31/10/2017	4/4/2018	4/12/2018	24/4/2019
First Stage of 2-Stages (MG call only)	31/10/2017	30/1/2018	5/9/2018	16/1/2019
Second Stage of 2-Stages (MG call only)	-	19/9/2018	-	12/9/2019

Budget (in million €)

	2018	2019	2020	Total
MG Call	197.4	168.7	147.5	513.6
ART Call	15	38	50	103
GV Call	56	78	112	246
<i>Other Actions</i>	7.4	8	1.6	17

Evaluation criteria

Excellence

Clarity and pertinence of the objectives

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

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

Credibility of the proposed approach

Impact

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

Enhancing innovation capacity and integration of new knowledge

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

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

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

Implementation

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

Complementarity of the participants within the consortium (when relevant)

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

Stage-1 proposals: only the aspects of the criteria in red are evaluated

Other actions

- **Prize** on the "*Cleanest engine of the future*" open till 20/08/2019 - EUR 3,5 mio
 - **ELENA Facility & Smart Cities** (in the Energy WP)
- **Public Procurements & Expert Contracts for studies, monitoring/evaluation exercises and forward-looking activities**
- New mobility patterns in EU cities
 - Employment implications of connected and automated driving
 - EU-US Transport research symposia
 - Dissemination and exploitation of results
 - Cooperation with ITF on decarbonisation of transport and with JRC on transport modelling
 - Ex-post analysis of transport JUs

SME Instrument & Fast-Track-to-Innovation

Schemes to promote close-to-market innovation – WP
«Towards the next EU FP for R&I: European Innovation Council (EIC) Pilot »

1. SME Instrument – EUR 480 m in 2018

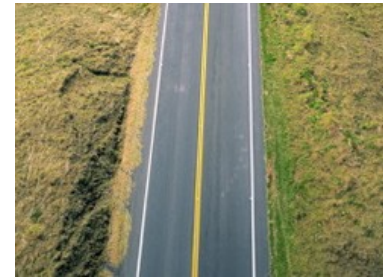
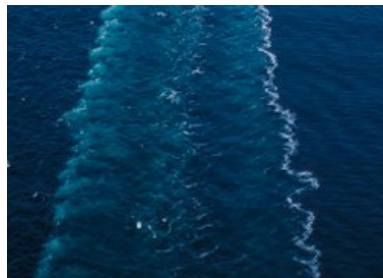
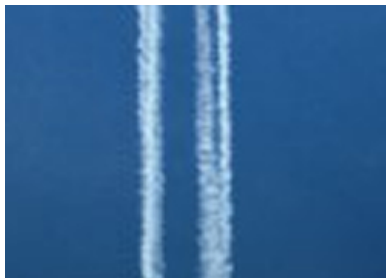
- ✓ Open to SMEs only

2. Fast track to innovation (FTI) - EUR 100 m per year

- ✓ Open to all types of participants – industry involvement mandatory

- **Bottom-up logic:** all areas covered by all H2020 programmes = all technologies and innovative solutions for transport and mobility
- **Open call:** several cut-off dates per year

Thank you



Save the date:
16-19 April

Find out more:

Participant Portal <http://ec.europa.eu/research/participants/portal/desktop/en/home.html>

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

Learn more about the Transport Challenge and the WP

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

International cooperation

Global challenges call for global solutions

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

...



Local issues benefit from exchange of best practices



- Traffic congestion
- Land use planning
- Behavioural issues

...

InCo in the Transport WP 2018-20

Joint Calls

- **Used for specific actions (e.g. identified through Joint Steering Committees)**
- **One call, one evaluation, two contracts**

Synchronized /Coordinated calls

- **Used for specific actions (e.g. identified through Joint Steering Committees)**
- **Paired calls, linked evaluations, two contracts** (e.g. *MG.1.10-2015 International cooperation in aeronautics with China*)

Programme- level coordination (twinning)

- **Funding Agencies share and agree priorities for implementing through their own programmes** (e.g. *twinning and symposia via the **EU-US Implementing Arrangement***)

Transport WP2018-2020 – Flagships

Targeted countries

Area	Topic	Title	Targeted opening
<i>International Cooperation on particles in relation to health and climate change</i>			
MG - Low-carbon and sustainable transport	LC-MG-1-1-2018	<i>InCo flagship on reduction of transport impact on air quality</i>	Asia (e.g. China), CELAC and the US
<i>Aviation International Cooperation Flagship – Safer and Greener in a Smaller World</i>			
MG - Low-carbon and sustainable transport	LC-MG-1-6-2019	<i>Aviation operations impact on climate change</i>	China (bilateral)
	LC-MG-1-7-2019	<i>Future propulsion and integration – Towards a hybrid/electric aircraft</i>	Canada and Japan
MG - Safe, integrated and resilient transport systems	MG-2-5-2018	<i>Innovative technologies for improving aviation safety and certification in icing conditions</i>	Australia, Brazil, Canada, Japan, Russia and the US
<i>Integrated multimodal freight transport systems and (the last mile) logistics</i>			
MG - Safe, integrated and resilient transport systems	MG-2-9-2019	<i>Integrated multimodal, low-emission freight transport systems and logistics *</i>	Canada, China, Japan, Latin America and the US

*** Proposals should foresee twinning with projects funded by US DOT**

Transport WP2018-2020 – Flagships

Targeted countries

Area	Topic	Title	Targeted opening
EU-US Road vehicle automation and safety			
Automated road transport	DT-ART-01-2018	Testing, validation and certification procedures for highly automated driving functions under various traffic scenarios based on pilot test data *	Australia, Japan, Singapore, South Korea and the US
	DT-ART-02-2018	Support for networking activities and impact assessment for road automation *	
	DT-ART-03-2019	Human centred design for the new driver role in highly automated vehicles *	
	DT-ART-04-2019	Developing and testing shared, connected and cooperative automated vehicle fleets in urban areas for the mobility of all *	
* Proposals should foresee twinning with projects funded by US DOT			
Clean urban transport in medium/mega sized cities in developing and emerging economies			
Green vehicles	LC-GV-05-2019	InCo flagship on "Urban mobility and sustainable electrification in large urban areas in developing and emerging economies	Africa, Asia (e.g. China, India) and Latin America (CELAC)

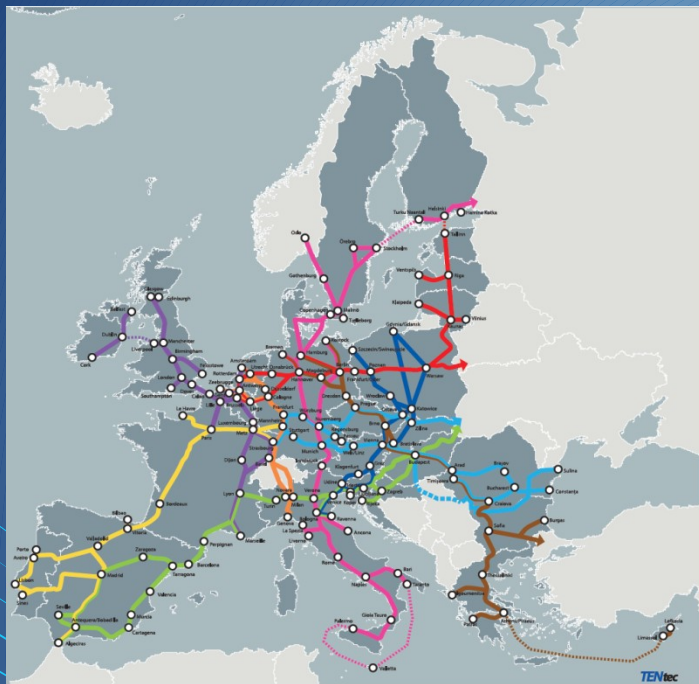
Transport WP2018-2020 – R&I topics

Targeted countries

Area	Topic	Title	Targeted opening
MG - Low-carbon and sustainable transport	LC-MG-1-2-2018	<i>Sustainable multi-modal inter-urban transport, regional mobility and spatial planning *</i>	US
	LC-MG-1-3-2018	<i>Harnessing and understanding the impacts of changes in urban mobility on policy making by city-led innovation for sustainable urban mobility</i>	China, India and the US
	LC-MG-1-9-2019	<i>Upgrading transport infrastructure in order to monitor noise and emissions *</i>	US
	LC-MG-1-10-2019	<i>Logistics solutions that deal with requirements of the 'on demand economy' and for shared-connected and low-emission logistics operations</i>	Any Third Countries
MG - Safe, integrated and resilient transport systems	MG-2-1-2018	<i>Human Factors in Transport safety</i>	
	MG-2-2-2018	<i>Marine Accident Response</i>	
	MG-2-7-2019	<i>Safety in an evolving road mobility environment</i>	
MG - Accounting for the people	MG-4-1-2018	<i>New regulatory frameworks to enable effective deployment of emerging technologies and business/operating models for all transport modes</i>	
	MG-4-2-2018	<i>Building Open Science platforms in transport research</i>	
Blue Growth	MG-BG-02-2019	<i>Ship emission control scenarios, marine environmental impact and mitigation</i>	

* **Proposals should foresee twinning with projects funded by US DOT**

Connecting Europe Facility



- CEF Transport focuses on **cross-border projects** and projects aiming at **removing bottlenecks** or **bridging missing links** in various sections of the TEN-T Core Network and on the Comprehensive Network, as well as **innovation** in the transport system.
- 2014-2015: €20 billion CEF grants already allocated to 458 projects, mobilizing €37.6 billion of total investment.
- 2016 call: € 1.9bn available, 4x oversubscribed.



Connecting Europe Facility

Funding objectives:

- Removing bottlenecks and bridging missing links, enhancing rail interoperability, and, in particular, improving cross-border sections
- Ensuring sustainable and efficient transport systems in the long run, with a view to preparing for expected future transport flows, as well as enabling all modes of transport to be decarbonised through transition to innovative low-carbon and energy-efficient transport technologies, while optimising safety
- Optimising the integration and interconnection of transport modes and enhancing the interoperability of transport services, while ensuring the accessibility of transport infrastructures





Connecting Europe Facility

- **Priorities:**
- Corridors of the Core Network
- Other Sections of the Core Network
- Rail Interoperability
- European Rail Traffic Management System (ERTMS)
- New Technologies and Innovation
- Safe and Secure Infrastructure
- Single European Sky – SESAR
- Intelligent Transport Services for Road (ITS)
- Motorways of the Sea (MoS)
- Nodes of the Core Network
- Multimodal logistics platforms



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CEF "Blending" Call

The 2017 CEF Transport Blending MAP Call for Proposals, opened on 8 February 2017, makes €1.35 billion of funding available for projects of common interest in the transport sector aiming at maximising the leverage of private involvement and capital in the delivery of CEF Transport projects. This call is open to all EU Member States.



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CEF "Blending" Call

- ↯ Support through debt financing and risk-sharing may not always be sufficient for complex projects of the trans-European transport network.
- ↯ A targeted grant will enable the financial case to be established.
- ↯ Blending in this Work Programme is the use of CEF grants with private finance, or with finance from National Promotional Banks or EIB.
- ↯ The European Fund for Strategic Investments should be used whenever possible in order to maximise the leverage of private sector involvement.

