



Gabinete de Promoção dos
Programa Quadro ID&I

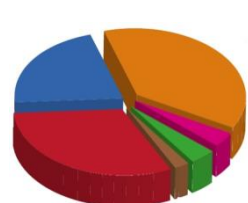
Programa de Trabalho 2016-2017

DS 3 – Energia (Eficiência Energética) e DS4 – Transportes (infra-estruturas de Transportes)

(Contém informação confidencial e provisória)

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Desafios Societais do Horizonte 2020



Societal Challenges

EUR 29.7 billion

Orçamento
2014-20
(mil M€)

1. Health, demographic change and wellbeing	7.5
2. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the Bioeconomy	3.9
 3. Secure, clean and efficient energy	5.9
 4. Smart, green and integrated transport	6.3
5. Climate action, environment, resource efficiency and raw materials	3.1
6. Inclusive, innovative and reflective societies	1.3
7. Secure societies	1.7

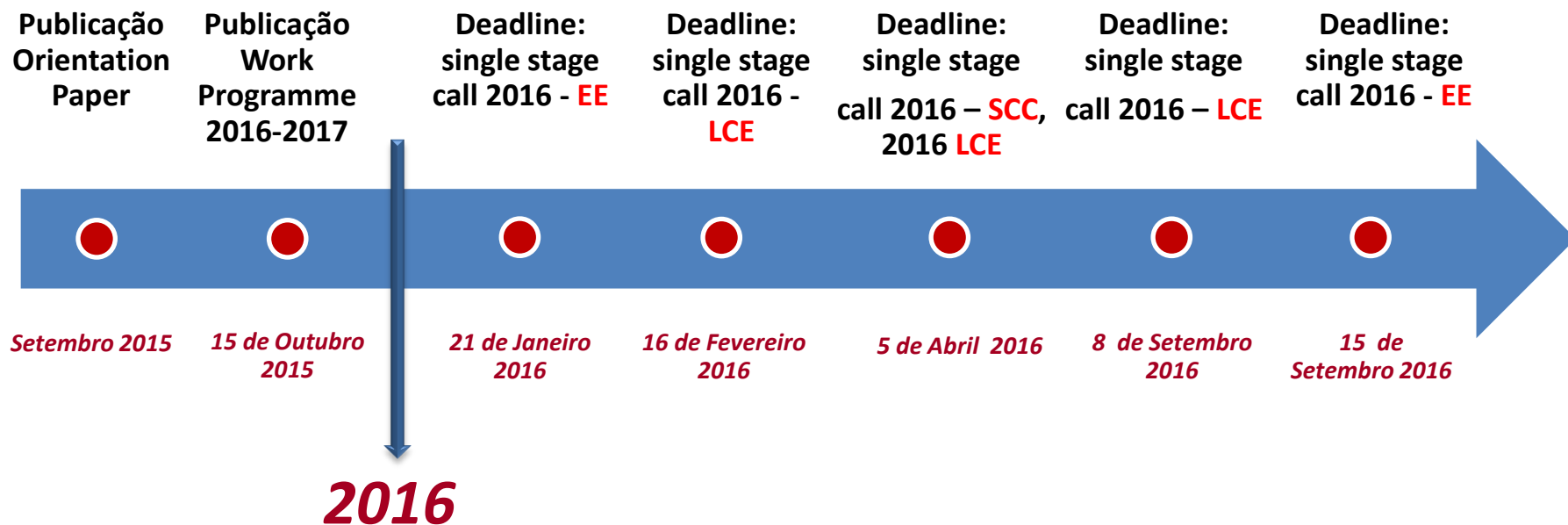
Desafio Societal 3

Energia segura, não-poluente e eficiente

Eficiência Energética



Calendário WP Energia 2016




Concursos do Programa de Trabalhos Energia 2016-2017



Secure, clean and efficient energy

Call	2016 (M€)	2017 (M€)
Energy Efficiency	93	101
Smart Cities and Communities	60,5	71,5
Competitive Low-Carbon Energy	351,54	368,62
SME Instrument	46	50
Fast Track to Innovation (tbc)	13,7	
<i>Other actions (e.g. tenders; ELENA; Concerted Actions)</i>	<i>107,91</i>	<i>79,13</i>
TOTAL	674,65	979,13

Contexto Político – Estratégias e Iniciativas Europeias de apoio ao desafio Energia no Horizonte 2020

- 
- *Climate and Energy Package framework 2030*
 - *Energy Union*
 - *Strategic Energy Technology Plan (SET-Plan) Integrated Roadmap*
 - *European Innovation Partnership (EIP) - Smart Cities and Communities*

Estratégia de definição do Programa de Trabalhos 2016-17

União da Energia



- Segurança no abastecimento energético
- Mercado de energia integrado
- Eficiência Energética
- Descarbonização do Sistema Energético
- **Investigação, Inovação e Competitividade**

Strategic Energy Technology (SET) Plan
Towards an Integrated Roadmap:
Research & Innovation Challenges and Needs
of the EU Energy System



- Líder mundial em tecnologias de energias renováveis e armazenamento
- **Participação ativa dos consumidores**
- **Sistemas de eficiencia energetica**
- Sistemas de transporte sustentáveis



Desafio Societal Energia – Concursos 2016 - Tópicos

- Tópicos baseados em desafios e mais abertos a propostas inovadoras
- Os tópicos estão estruturados da seguinte forma:
 - *Specific challenge*
 - *Scope*
 - *Expected impacts*
- Baseado num abordagem **integrada** e por **desafios**
- Abordagem transversal com outras disciplinas, setores e atores

EE 1 – 2017: Waste heat recovery from urban facilities and re-use to increase energy efficiency of district or individual heating and cooling systems

Specific challenge: Europe is not recovering enough of its waste energy. A vast amount of waste heat is produced in urban areas from a range of local sources (e.g. from metros, large buildings, extensive ventilation systems) and from urban waste or waste water systems. Data centres are another rapidly growing sector generating heat that could potentially be recovered and reused for heating or cooling buildings.

Thermal energy captured can be supplied through individual central heating and cooling systems or distributed through district heating and cooling networks to multiple buildings. In some cases, it might be needed to combine the recovery of waste heat with different technologies, (e.g., heat pumps) in order to bring the temperature level of the waste heat to those matching the existing heating and cooling applications addressed in the proposal.

Scope: Demonstrate waste heat and waste water heat recovery in urban areas, in services sector and transport system facilities and their connection and integration into the existing heating and cooling supply systems in buildings/facilities or district heating/cooling systems. Focus should be given to **replicability**, scalability and modularity that facilitate application and rapid deployment. Develop sustainable business models and organisational, managerial, and financial solutions for deployment of the proposed technological solutions in the EU, with due regard to the legislative framework.

Projects should build on previous projects supported under FP7 and Horizon 2020. The activities are expected to be implemented at Technology Readiness Level (TRL) 6-8 (please see part G of the General Annexes).

The Commission considers that proposals requesting a contribution from the EU of between EUR 3 and 4 million would allow this challenge to be addressed appropriately. This does not preclude submission and selection of proposals requesting other amounts.

Expected impact: Proposals are expected to demonstrate the impacts listed below, using quantified indicators and targets wherever possible:

- Primary energy savings and GHG emission savings triggered by the proposed actions (compared to best available solution existing today);
- Increase in share of waste heat captured and utilised in urban areas;
- Scale of the **replicability** potential of the proposed solutions.

Type of action: Innovation Actions

Programa de Trabalhos de Energia 2016-2017

ENERGY EFFICIENCY – 25 TÓPICOS



SMART CITIES AND COMMUNITIES – 1 TÓPICO



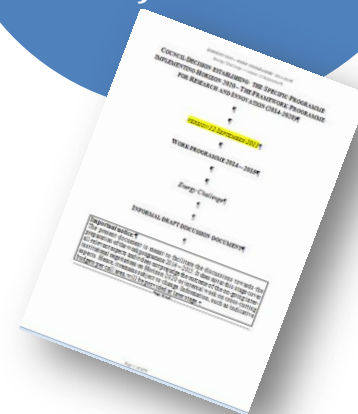
COMPETITIVE LOW CARBON ENERGY – 37 TÓPICOS



SMES FOR A LOW CARBON ENERGY AND EFFICIENT ENERGY SYSTEM 1 TÓPICO



*Programa de
Trabalhos 2016-
2017
– Energia Segura,
Não Poluente e
Eficiente*

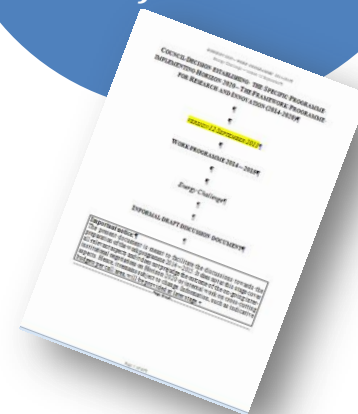


Programa de Trabalhos de Energia 2016-2017

ENERGY EFFICIENCY – 25 TÓPICOS



*Programa de
Trabalhos 2016-
2017
– Energia Segura,
Não Poluente e
Eficiente*



Desafio Societal Energia – Concursos Eficiência Energética

- Responde aos mais recentes desafios de políticas e objetivos a atingir na área da Eficiência Energética
- **Prioridades definidas no SET-Plan Integrated Roadmap** e as prioridades que constam nas PPP em edifícios (EeB) e na indústria (SPIRE)
- Aborda as mais **atuais barreiras tecnológicas e de mercado**, em particular os tópicos que têm um **enfoque maior nos consumidores**
- Tem em conta os resultados e as lições aprendidas nos concursos de EE de 2014, tendo por base os resultados de anteriores programas e projetos (Intelligent Energy Europe, FP7)

Experiência dos concursos EE de 2014

- Taxa de subscrição muito elevada.
- A descrição dos tópicos foi melhorada

Desafio Societal Energia – Concursos 2016/2017 – Eficiência Energética

Areas de financiamento TOTAL 194 M€

2016 – 93 M€ - 17 tópicos

2017 – 101 M€ - 18 tópicos



Sistemas de
Aquecimento e
Arrefecimento



Edifícios e
Consumidores



Indústria e Produtos



Investimento

Desafio Societal Energia – Concursos 2016/2017 – Eficiência Energética

Areas de financiamento TOTAL 194 M€

2016 – 93 M€ - 17 tópicos

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Sistemas de
Aquecimento e
Arrefecimento



Edifícios e
Consumidores



Indústria e Produtos



Investimento



Aquecimento e arrefecimento

Heating and Coolings	TOPIC	Type of scheme	EC Contribution
EE 3 – 2016	Standardised installation packages integrating renewable and energy efficiency solutions for heating, cooling and/or hot water preparation	IA (TRL 6-8)	3-4M€
EE 4 – 2016/2017	New heating and cooling solutions using low grade sources of thermal energy	RIA (TRL4-6)	3-4M€
EE 5 – 2016/2017	Models and tools for heating and cooling mapping and planning	RIA (TRL5-7)	2,5-3M€

Keywords: combine energy sources, energy storage, smart controls, integration in buildings

*Keywords: technologies to use low grade energy sources (residual and RES sources of thermal energy) and/or technologies that are able to take advantage of **very low and low** (moderate) temperature resources by upgrading them*

Keywords: administrative practices of public authorities, planning tools to describe the energy system and development of all relevant supply and demand elements (energy resources, infrastructures, buildings)



Consumidores

Engaging consumers	TOPIC	Type of scheme	EC Contribution
EE 6 – 2016/2017	Engaging private consumers towards sustainable energy	CSA	1-2M€

Keywords: awareness of the collective consumer action, actions to motivate changes, prosumers, vulnerable consumers, ict-solutions, understading energy bills

EE 7 – 2016/2017	Behavioural change toward energy efficiency through ICT	IA	1-2M€
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Keywords: ICT-based solutions (smart meters, smart plugs, smart appliances), energy savings, factors influencing consumer choices and behaviour

EE 8 – 2016	Socio-economic research on consumer's behaviour related to energy efficiency	RIA	1-1,5M€
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Keywords: consumer's decision making on energy efficient investments, impacts of energy efficiency policy

EE 9 – 2016/2017	Engaging and activating public authorities	CSA	1-1,5M€
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*Keywords: a) develop, finance and implement sustainable energy plans and measures
b) peer to peer learning for pub. Authorities – capacity to help deliver the energy transition*



Edifícios

Buildings	TOPIC	Type of scheme	EC Contribution
EE 10 – 2016	Supporting accelerated and cost-effective deep renovation of buildings	IA (TRL 6-8)	3-4M€
EE 11 – 2016/2017	Overcoming market barriers and promoting deep renovation of buildings	CSA	1-2M€
EE 13 – 2016	Cost reduction of new Nearly Zero-Energy buildings	CSA	1-2M€
EE 14 – 2016/2017	Construction skills	CSA	1-2M€

Keywords: more cost effective, higher quality, faster deep renovation, increase rate of renovation, pre-fabricated mass manufactured components

Keywords: remove regulatory barriers and non-regulatory barriers, at least 60% of energy savings, financial mechanisms, instruments and business models

Keywords: market ready cost reductions, integration of RES in NZEB, measurable nearly zero energy consumption and LCA in buildings

Keywords: upgrading or setting up qualification and training schemes to increase the number of skilled building professionals/blue collar workers



Indústria, Serviços e Produtos

Industry, Services, products	TOPIC	Type of scheme	EC Contribution
EE 16 – 2016/2017	Effective implementation of EU product efficiency legislation	CSA	1-2M€

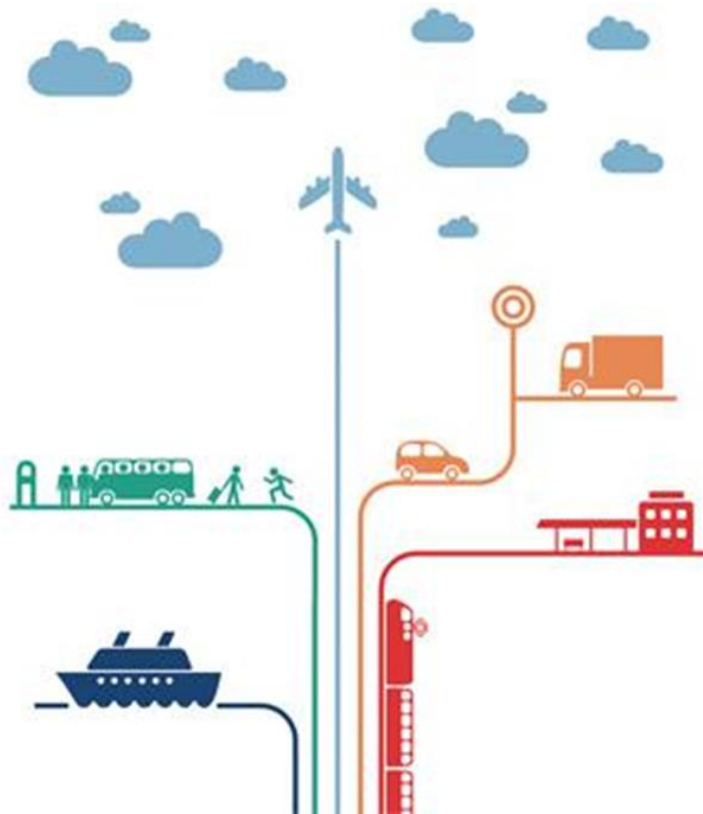
Keywords: Energy efficient products regulations: market “push” and market “pull”

EE 17 – 2016/2017	Valorisation of waste heat in industrial systems	RIA (TRL5-7)	4-5M€
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Keywords: Energy Intensive Industries, design, build and test & demonstrate new processes/components or innovative adaptation of existing solutions for waste energy recovery in large industrial systems

Prazos de submissão – Concurso Eficiência Energética 2016

Concurso	Tópico	Data de Abertura	Data de Submissão
H2020-EE-2016-RIA/IA	EE-03, 04, 05, 07, 08,	15 de Outubro 2015	Single stage 21 de Janeiro de 2016
H2020-EE-2016-PPP	EE-10, 17	15 de Outubro 2015	Single stage 21 de Janeiro de 2016
H2020-EE-2016-CSA	EE-06, 09, 11, 13, 14, 22, 24, 25	15 de Março 2016	Single stage 15 de Setembro 2016

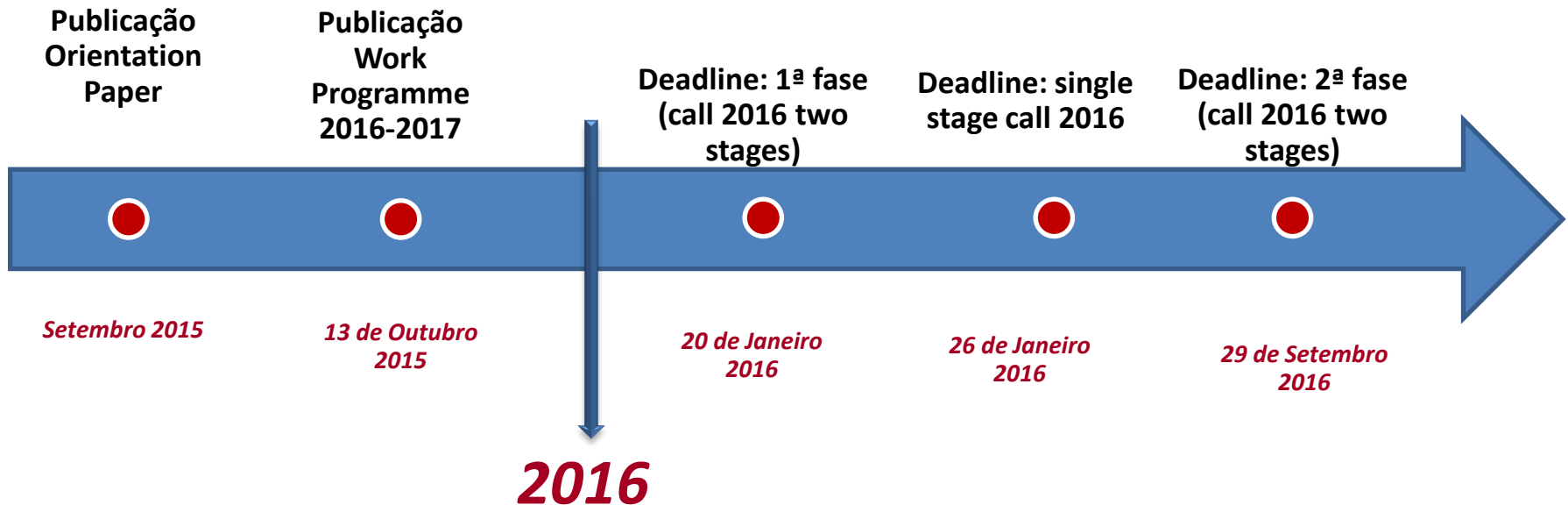


Desafio Societal 4

Transportes Inteligentes, Ecológicos e Integrados

Infra-estruturas de Transporte

Calendário do WP Transportes 2016



Contexto Político – Estratégias e novidades de apoio ao desafio Transportes no Horizonte 2020

- 
- *Em linha com a estratégia do Livro Branco dos Transportes*

(targets 2030 e 2050)

- *Agendas estratégicas das plataformas tecnológicas europeias*
- *Cooperação internacional (EUA, China, Brazil, África)*
- *Open research data pilot*

Concursos do Programa de Trabalhos Transportes 2016-2017



Smart, green and integrated transport

Call	2016 (M€)	2017 (M€)
Mobility for Growth	210,10	225,5
Automated Road Transport	64	50
Green Vehicles	78,5	128
SME Instrument	57,57	61,23
Fast Track to Innovation (tbc)	14,65	
<i>Other actions (e.g. tenders; ELENA)</i>	<i>16,95</i>	<i>14,05</i>
TOTAL	450,77	486,78

Programa de Trabalhos de Transportes 2016-2017

MOBILITY FOR GROWTH – 36 TÓPICOS



GREEN VEHICLES – 12 TÓPICOS

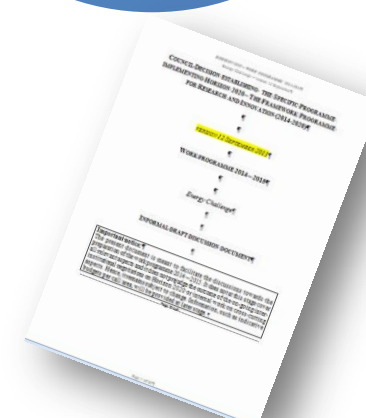


*Work Programme
2016-2017
– Smart, Green
and Integrated
Transports*

AUTOMATED ROAD TRANSPORT– 7 TÓPICOS



SME INSTRUMENT– 1 TÓPICO



Desafio Societal Transportes – Concursos Mobility for Growth

- Responde aos mais recentes desafios de políticas e objetivos a atingir na área da de transportes – “smart mobility”
- **Infra-estrutura, meios de transporte, passageiros e mercadorias** estarão cada vez **Desenvolver e validar novas soluções** que podem ser implementados nos corredores e nas áreas urbanas, e em diversos meios de transporte e infra-estruturas e integrando-os sistema europeu de transportes.
- **Áreas:** aviação, transporte marítimo, segurança, mobilidade urbana, logística, ITS, infra-estrutura, questões sócio-económicas.
- Fortes sinergias com outras áreas do H2020 (NMP e ICT)

Call Mobility for Growth – Segurança – 34 M€



3 - SAFETY

TOPIC

Type of scheme

EC contribution

MG-3.4-2016.

Transport infrastructure innovation to increase the transport system safety at modal and intermodal level

RIA

2-5M€

Keywords: improve new designs and upgradings of infrastructures at safety level, maintenance methods, adaptation to V2I/I2V (Internacional Cooperation USA)

MG-3.5-2016.

Behavioural aspects for safer transport

RIA

4-9M€

Keywords: key factors that influence safe transport user behaviour: distraction, social and demographic factors, conditions, measures to modify behaviour

Call Mobility for Growth – Infraestruturas – 37 M€



7-INFRASTRUCTURE	TOPIC	Type of scheme	EC Contribution
MG-7.1-2017	Resilience to extreme (natural and man-made) events	RIA	3-5 M€
<p><i>Keywords: identification of risk factors and risk analysis; new materials, techniques an systems; integration of terrestrial and satellite systems for monitoring; innovative engineering of links and connections; cooperation with USA</i></p>			
MG-7.2-2017	Optimisation of transport infrastructure including <u>terminals</u>	RIA	2-6 M€
<p><i>Keywords: re-engineering/design methods to adapt the network to new needs; innovative design and construction methods;</i></p>			
MG-7.3-2017	The Port of the future	RIA	3-5 M€
<p><i>Keywords: new ports concepts, management tools, innovative design, engineering, construction and operation</i> <i>RIA – multi-modal optimised cost-effective and flexible operations; better capacity management; sustainable maintenance and repair; efficient connections</i> <i>CSA - clustering retained proposals; identify KPIs;</i></p>			

Call Automated Road Transport - 50 M€



AUTOMATED ROAD TRANSPORT

TOPIC

Type of scheme

EC Contribution

ART-05-2016.

**Road Infrastructure to support the transition to automation
and the coexistence of conventional and automated
vehicles on the same network**

RIA

2-5 M€

Keywords: interaction with conventional and automated vehicles ; international cooperation

Prazos de submissão – Concurso Mobility for Growth & Automated Road Transport 2016

Concurso	Tópico	Data de Abertura	Data de Submissão
H2020-MG-2016-RIA/IA H2020-ART-2016	MG 3.2, 3.5, ART 05	15 de Outubro 2015	First Stage 20 de Janeiro de 2016 Second Stage 29 de Setembro 2016
H2020-MG-2017-RIA/IA	MG 7.1, 7.2,7.3	20 de Setembro 2016	First Stage 26 de Janeiro de 2017 Second Stage 19 de Outubro 2017

Publicação dos “drafts” dos Programas de Trabalho

Programa de Trabalhos Energia

https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/10.%20Energy_2016-2017_pre-publication.pdf

Programa de Trabalhos Transportes

https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/11.%20SC4_2016-2017_pre-publication.pdf

Plataformas Tecnológicas dos Transportes



ERTICO – ITS Europe

<http://ertico.com/>



European Road Transport Research Advisory Council

<http://www.ertrac.org/>



European Rail Research Advisory Council

<http://www.errac.org/>



Waterborne

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

Call SME Instrument

Deadline - 17 Setembro | 25 Novembro



Fase 1 Análise da viabilidade	Fase 2 ID, Demonstração, Replicação	Fase 3 Comercialização
Viabilidade do conceito Análise de Risco Regime de PI Procura de Parceiros Estudo de Design Testes de utilização Aplicação Piloto	Demonstração Testes Prototipagem Pilotos Miniaturização Scale-up Design Market replication	financiamento privado certificação qualidade formação networking mecanismos financeiros (<i>debt e equity facility</i>)
50.000 € ~ 6 meses	0,5 a 2,5 M€ ~ 12 a 24 meses	Sem financiamento direto

Portal do Participante – como participar

The screenshot shows the 'Participant Portal' for 'RESEARCH & INNOVATION' under the 'European Commission'. The navigation bar includes 'HOME', 'FUNDING OPPORTUNITIES', 'HOW TO PARTICIPATE', 'EXPERTS', and 'SUPPORT'. There are 'LOGIN' and 'REGISTER' buttons. The main content area is titled 'Research and Innovation Funding' and contains the following text:

On this site you can find and secure **funding** for research & innovation projects under the following EU programmes:

- 2014-2020 Horizon 2020 - research and innovation framework programme
- 2007-2013 7th research framework programme (FP7) and Competitiveness

There are two columns of user instructions:

Non-registered users

- search for funding
- read the funding guide & download the legal documents
- check if an organisation is already registered
- contact our support services or check our FAQs

Registered users

- submit your proposal
- sign the grant
- manage your projects

There are five main navigation icons: 'WHAT'S NEW?', 'FUNDING OPPORTUNITIES', 'HOW TO PARTICIPATE', 'WORK AS AN EXPERT', and 'MY PROJECTS'. A 'H2020 ONLINE MANUAL' box provides detailed guidance on participation, including a list of services like the 'H2020 Online Manual', 'Reference documents', 'Financial viability self-check tool', and 'SME participation'. At the bottom, a 5-step process bar is shown: 1. FIND a call, 2. FIND partners, 3. CREATE your account, 4. REGISTER your organisation, 5. SUBMIT a proposal.

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

Eventos

- **Sessões Horizonte 2020** promovidas pelo GPPQ – consulte o nosso calendário de eventos - www.gppq.pt
- **ICT Conference** – Lisboa, 20-22 de Outubro de 2015
<http://ec.europa.eu/digital-agenda/en/ict2015-innovate-connect-transform-lisbon-20-22-october-2015>
- **Infoday Energia & BE** - Bruxelas, 14-16 Setembro de 2015 -
<http://ec.europa.eu/research/index.cfm?pg=events&eventcode=0B56FA95-AFE0-D63B-DD0527FE301EC26C>
- **Infoday Transportes & BE** – Bruxelas, 5 de Novembro de 2015
<http://ec.europa.eu/research/index.cfm?pg=events&eventcode=D7185674-DE6C-2C3A-6BFC1426216A4F51>





Gabinete de Promoção dos Programa Quadro ID&I