

# INTRO TO HORIZON 2020.

## Focus on Geographical Information

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Punto di Contatto Nazionale per 'Climate action, environment, resource efficiency and raw materials' e 'Smart green and integrated transport'

**Agenzia per la Promozione della Ricerca Europea (APRE)**

[www.apre.it](http://www.apre.it)

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# Agenda

1. Horizon 2020 structure
2. Rules for participation
3. Tools for participation
4. Rules for funding

# HORIZON 2020

in brief



# What is Horizon 2020

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



A budget of € 78 billion for 7 years

## What's new?

- **Coupling research to innovation – from research to deployment**
- **Focus on the challenges that the EU society is facing, e.g. health, clean energy, transport,...**
- **Simplified access for participants**
- **A single programme bringing together three previously separate programmes/activities\***

\*the 7<sup>th</sup> Research Framework Programme (FP7), innovation aspects of Competitiveness and Innovation Framework Programme (CIP), EU contribution to the European Institute of Innovation and Technology (EIT)

# H2020 ARCHITECTURE





## Excellent Science

- **European Research Council**
  - Frontier research by the best individual teams
- **Future and Emerging Technologies**
  - Collaborative research to open new fields of innovation
- **Marie Skłodowska Curie actions**
  - Opportunities for training and career development
- **Research infrastructures (including e-infrastructure)**
  - Ensuring access to world-class facilities

## Industrial Leadership

- **Leadership in enabling and industrial technologies**
  - Information and Communication Technologies (ICT), nanotechnologies, materials, biotechnology, manufacturing, space
- **Access to risk finance**
  - Leveraging private finance and venture capital for research and innovation
- **Innovation in SMEs**
  - Fostering all forms of innovation in all types of SMEs

## Societal Challenges

- **Health, demographic change and wellbeing**
- **Food security, sustainable agriculture, marine and maritime research & the bioeconomy**
- **Secure, clean and efficient energy**
- **Smart, green and integrated transport**
- **Climate action, environment, resource efficiency and raw materials**
- **Europe in a changing world - Inclusive, innovative and reflective societies**
- **Secure society - Protecting freedom and security of Europe**

European Institute of Innovation and Technology (EIT)

Spreading Excellence and Widening Participation

Science with and for society

Joint Research Center (JRC)

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# EXCELLENT SCIENCE





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  - Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnology
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Spreading Excellence and Widening Participation

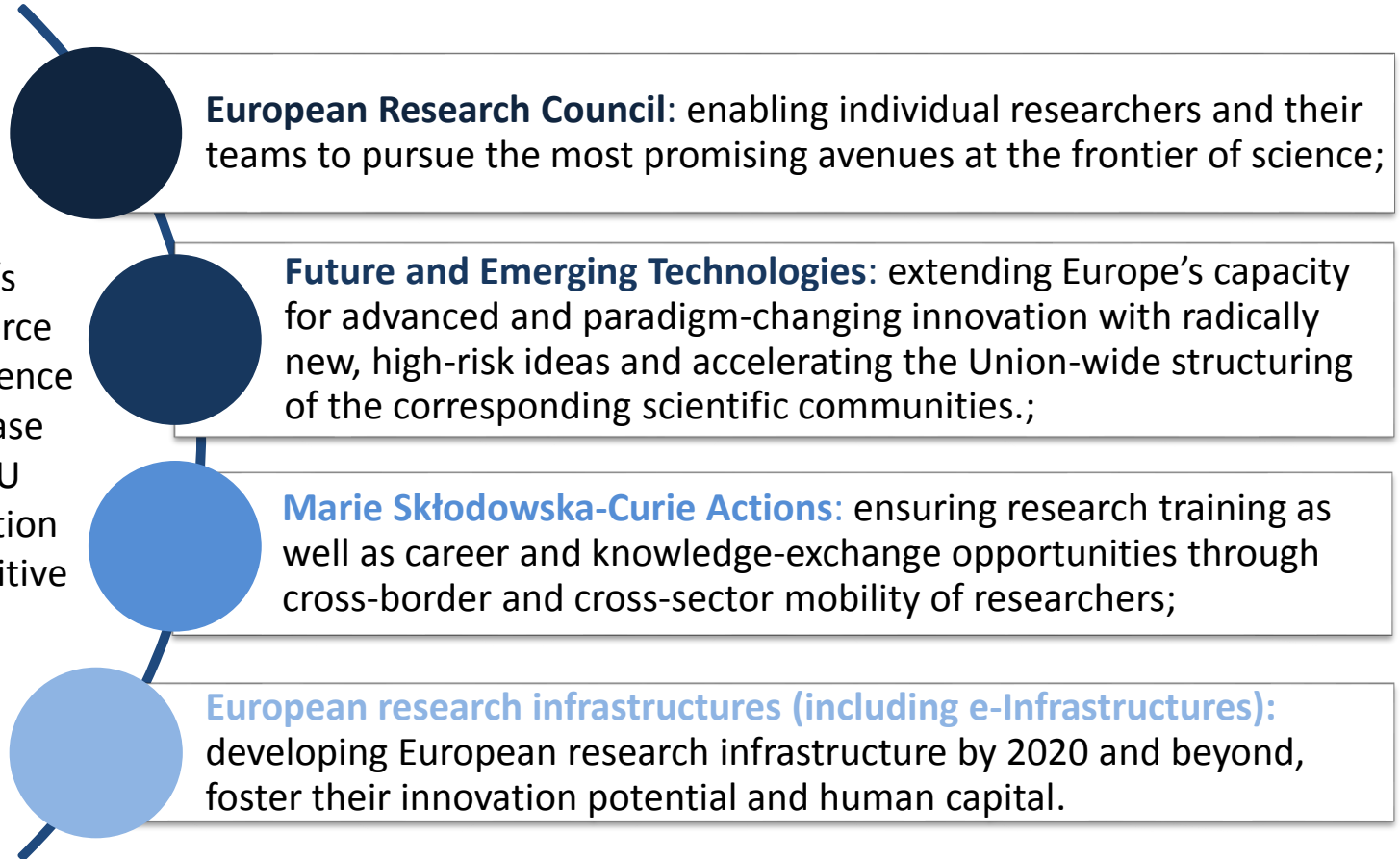
Science with and for society

Joint Research Center (JRC)



# Excellent Science

Excellent Science 's objective is to reinforce and extend the excellence of the EU science base and to make the EU research and innovation system more competitive on a global scale.



# INDUSTRIAL LEADERSHIP

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## Excellent Science

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  - Support all kinds of innovation in SMEs

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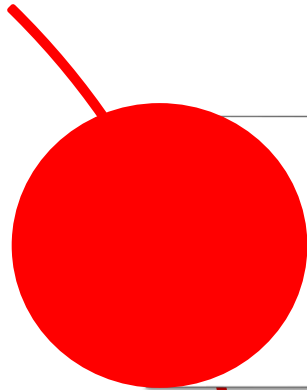
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Spreading Excellence and Widening Participation

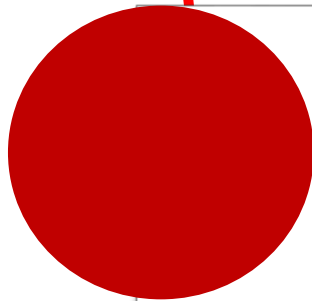
Science with and for society

Joint Research Center (JRC)

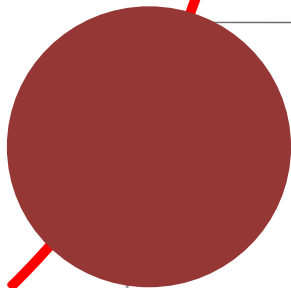
# Leadership in Enabling and Industrial Technologies (LEITs)



**ICT**



**Nanotechnologies, Advanced Materials,  
Biotechnology and Advanced  
Manufacturing and Processing**



**Space**

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# SOCIETAL CHALLENGES





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# RULES FOR PARTICIPATION

# Legal entities that may participate in actions (art.6, RfP\*)/ Eligibility for funding (art.9, RfP)

This information is included in the **General Annex to the main Work Programmes**, downloadable [here](#)

## WHO CAN PARTICIPATE?

**Any legal entity, regardless of its place of establishment, or international organization:**

- Any legal entity established in an EU Member State or Associated Country to H2020 (the latter are listed [here](#))
- Joint Research Centre (JRC)
- Any international organization.
- Any legal entity established in a Third Country

## WHO CAN BE FUNDED?

- Any legal entity established in a Member State and Associated Country.
- JRC
- Among Third Countries: Low-income countries (Former ICPC countries)  
The list is available at page 3 of the General Annex
- Any international European interest organization.

International organizations or legal entities established in a HIGH INCOME third country, in a BRIC (Brazil, Russia, India, China) country or in Mexico DO NOT RECEIVE AUTOMATIC FUNDING. They get funding:

- only if the participation is deemed essential for carrying out the action
- if it is foreseen by the Work Programme
- if funding is provided for under a bilateral scientific and technological agreement
- Joint Calls with third countries or international organizations

\*Horizon 2020 Rules for Participation, downloadable [here](#)



## Minimum Conditions for participation (art.9, RfP)

**3 LEGAL ENTITIES** independent of each other and established in different Member States or associated countries.

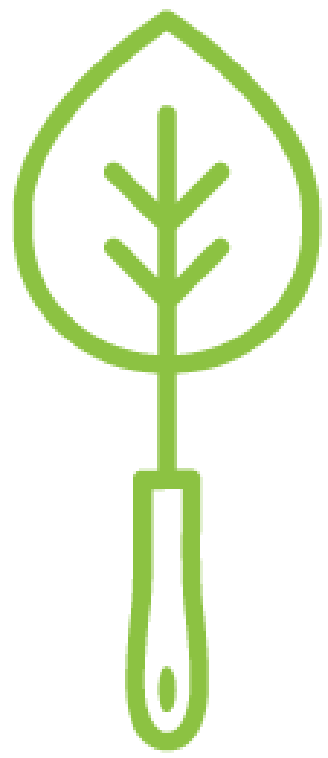
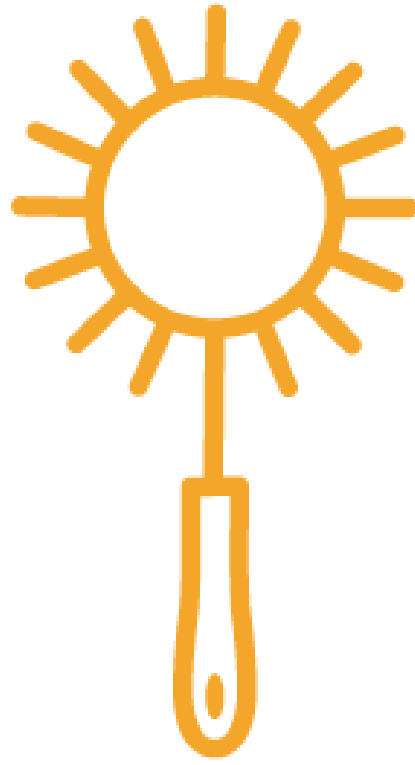
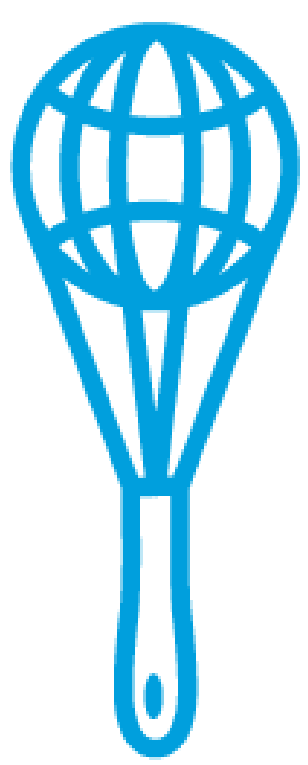
### **1 LEGAL ENTITY**

ERC, SME Instrument, Co-fund actions, CSA and Marie S. Curie Actions.



**ADDITIONAL/SPECIAL CONDITIONS** might be identified in the work programme or work plan (n. of participants, type of entities, etc...)

# TOOLS FOR PARTICIPATION



## MAIN WEB PORTALS RELATED TO THE H2020:

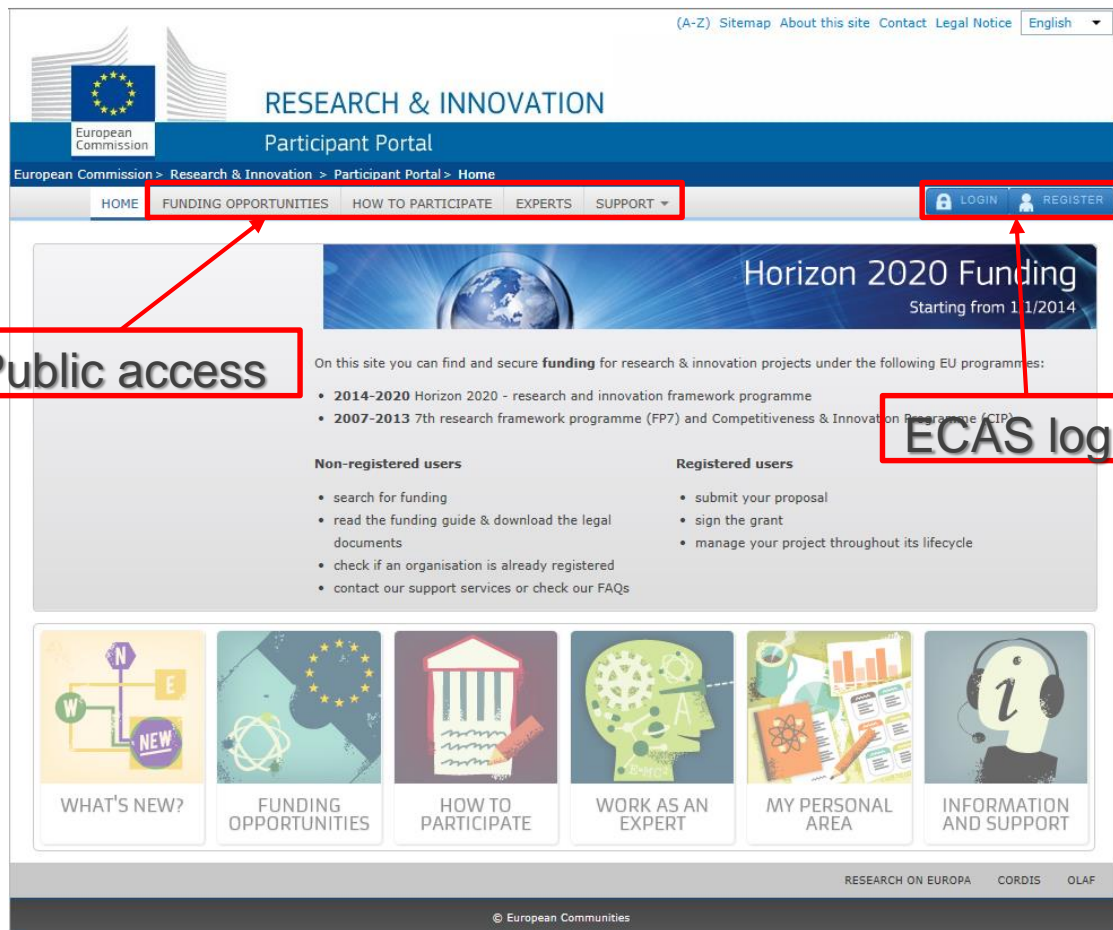
- RESEARCH on EUROPA: political information  
<http://ec.europa.eu/research/index.cfm>
- PARTICIPANT PORTAL: interactions with participants  
<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>
- CORDIS: dissemination of FP7 results  
<http://cordis.europa.eu/fp7/>

# PARTICIPANT PORTAL

The Participant Portal is the single entry point for **electronic administration of EU-funded research and innovation projects**, and hosts the services for managing your proposals and projects throughout their lifecycle

**Public access**

**ECAS login**



(A-Z) Sitemap About this site Contact Legal Notice English

RESEARCH & INNOVATION  
 Participant Portal

European Commission > Research & Innovation > Participant Portal > Home

HOME FUNDING OPPORTUNITIES HOW TO PARTICIPATE EXPERTS SUPPORT

LOGIN REGISTER

Horizon 2020 Funding  
 Starting from 1/1/2014

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 & Innovation Programme (CIP)

**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 project throughout its lifecycle

WHAT'S NEW? FUNDING OPPORTUNITIES HOW TO PARTICIPATE WORK AS AN EXPERT MY PERSONAL AREA INFORMATION AND SUPPORT

RESEARCH ON EUROPA CORDIS OLAF

© European Communities

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



# RESEARCH & INNOVATION

## Participant Portal



European Commission > Research & Innovation > Participant Portal > Home

HOME

FUNDING OPPORTUNITIES

HOW TO PARTICIPATE

EXPERTS

SUPPORT

Search PP



LOGIN

REGISTER



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

- **2014-2020** Horizon 2020 - research and innovation framework programme
- **2007-2013** 7th research framework programme (FP7) and Competitiveness & Innovation Programme (CIP)
- Research Fund for Coal & Steel, COSME, 3rd Health Programme, Consumer Programme

### Non-registered users

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### Registered users

- submit your proposal
- sign the grant
- manage your project throughout its lifecycle
- register as expert advising the Commission



WHAT'S NEW?



FUNDING OPPORTUNITIES



HOW TO PARTICIPATE



WORK AS AN EXPERT



MY PERSONAL AREA



INFORMATION AND SUPPORT



# RESEARCH & INNOVATION

## Participant Portal

European Commission > Research & Innovation > Participant Portal > Funding

HOME

FUNDING OPPORTUNITIES

HOW TO PARTICIPATE

EXPERTS

SUPPORT

Search PP



LOGIN



H2020 Online Manual

Reference Documents

Beneficiary Register

Financial Viability Self-Check

SME Participation



### How to participate

H2020 ONLINE MANUAL

The first steps to prepare your proposal and apply for EU research funding. Learn how to find a suitable Call for proposals or project partners and how to submit a proposal.

The following guidance services facilitate your participation:

- **H2020 Online Manual:** step-by-step online guide through the Portal process from proposal preparation and submission to reporting on your on-going project
- **Reference documents:** library of legal documents, guidance notes, and a reference material for H2020 and FP7
- search for already registered organisations and their **PICs**
- **Financial viability self-check tool** allows you simulating the financial viability check of your organisation
- **SME participation:** dedicated H2020 guidance page for SME

FIND a call

1

FIND partners

2

CREATE your account

3

REGISTER your organisation

4

SUBMIT a proposal

Step 1 - Find a suitable Call for Proposals

H2020 ONLINE MANUAL

Work Programmes

2014-15

2016-17

Main WP

1. Introduction 2016-17 >
2. Future and Emerging Technologies (FETs) 2016-17 >
3. Marie Skłodowska-Curie actions (MSCA) 2016-17 >
4. Research infrastructures (including e-Infrastructures) 2016-17 >
5. Introduction to Leadership in enabling and industrial technologies (LEITs) 2016-17 >
- 5i. Information and communication technologies (ICT) 2016-17 >
- 5ii. Nanotechnologies, advanced materials, advanced manufacturing and processing, biotechnology 2016-17 >
- 5iii. Space 2016-17 >
6. Access to risk finance 2016-17 >
7. Innovation in SMEs 2016-17 >
8. Health, demographic change and wellbeing 2016-17 >
9. Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy 2016-17 >
10. Secure, clean and efficient energy 2016-17 >
11. Smart, green and integrated transport 2016-17 >
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13. Europe in a changing world - inclusive, innovative and reflective societies 2016-17 >
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15. Spreading excellence and widening participation 2016-17 >
16. Science with and for society 2016-17 >
17. Cross-cutting activities (Focus Areas) 2016-17 (NEW) >
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General Annexes to the Main WP

European Research Council

Euratom

Templates & forms

Proposal templates

Proposal evaluation forms

Call

Topic

# Work programme

European Commission

EN

Horizon 2020

Work Programme 2016 - 2017

11. *Smart, green and integrated transport*

**Important notice on the second Horizon 2020 Work Programme**

This Work Programme covers 2016 and 2017. The parts of the Work Programme that relate to 2017 are provided at this stage on an indicative basis. Such Work Programme parts will be decided during 2016.

*(European Commission Decision C (2015)6776 of 13 October 2015)*

*HORIZON 2020 - Work Programme 2016 - 2017*  
*Smart, green and integrated transport*

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### MG-3.5-2016: Behavioural aspects for safer transport

**Specific Challenge:** To make all transport modes safer (roads, rail, waterborne and aviation), an increased understanding is needed of the behaviour of individual users (in this case drivers, riders, pilots, cyclists, pedestrians and other transport users), and of their interaction with their associated safety-related systems and services (such as on-board technologies, mobile devices and infrastructure).

The challenge is to study those key factors that influence safe transport user behaviour, both individually and collectively, taking into account demographic factors (gender, age, socio-cultural aspects, etc.) and societal framework conditions (changing living conditions etc.). Using the knowledge gained on the interacting parameters that define user behaviour and their combined effects, appropriate measures and systems should be developed and assessed to ensure safe user performance, to pro-actively anticipate user response and reduce the number of errors and potential accidents in the transport system.

**Scope:** Proposals should address the following aspects:

—Distraction and health related factors such as: studying the parameters that influence user condition (fatigue, illness, use of drugs, medicines, alcohol, etc.); distraction caused by using on-board and mobile devices; behaviour causing unsafe conditions (e.g. switching off safety functions, extreme emotions) affecting response in pre-crash situations; assessment of the psychological condition of those in charge of vehicles/vessels; and identification and development of suitable mitigation measures.

—Social and demographic factors such as: variations in safety behaviour, socio-cultural issues, gender, age and disability and their impact on risk assessment and exposure of each individual or group; and identification and development of measures to address these factors and reduce their impact.

—Risk appraisal such as: development of analysis and assessment methods for factors affecting the level of risk users are willing to take, e.g. the ability to judge and manage conditions like weather, infrastructure condition and traffic levels; and development of means to reduce hazardous risk taking.

—Measures to modify transport user behaviour such as: novel enforcement and incentive schemes for high risk groups; focused and coordinated training schemes and tools for transport users based on reliable interaction and behavioural models piloted widely across different types of traffic and geographical regions; analysis of changes in users' behaviour from first use to familiarisation and confidence in new safety assistance systems.

Extensive knowledge on user behaviour has been developed within each transport mode, e.g. mental overload for pilots, the effect of shift rotation on train driver response time. Transfer of knowledge between transport modes and an effective deployment of multi-modal solutions are recommended, as well as the inclusion of non-traditional transport modes, such as personal mobility devices.

Active participation of SMEs is strongly encouraged.

In line with the strategy for EU international cooperation in research and innovation<sup>12</sup>, international cooperation is encouraged, in particular with industrialised countries (i.e. US, Japan, Canada, Australia) and emerging economies (primarily China, India, Brazil). Proposals should foresee twinning with entities participating in projects funded by US DOT<sup>13</sup> to exchange knowledge and experience and exploit synergies.

The Commission considers that proposals requesting a contribution from the EU of between EUR 4 and 9 million each would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

**Expected Impact:** Solutions will contribute to achieving the objective of the Transport White Paper to ensure that the EU remains a world leader in the safety of all modes of transport.

Research and innovation on this topic will result in: reduction of fatal, serious and minor accidents through measures to mitigate unsafe transport user behaviour patterns; economic savings linked to the reduction of accidents; safer use of vehicles and increased awareness of other users; effective enforcement and training schemes based on reliable behavioural models; safe integration of new types of vehicle and increased usage of 'soft' modes.

**Type of Action:** Research and Innovation action

*The conditions related to this topic are provided at the end of this call and in the General Annexes.*

# Topic structure 1

## Topic structure 2

### SPECIFIC CHALLENGE

- sets the context, the problem to be addressed, why intervention is necessary

### SCOPE

- delineates the problem, specifies the focus and the boundaries of the potential action BUT without describing specific approaches

### EXPECTED IMPACT

- describe the key elements of what is expected to be achieved in relation to the specific challenge

### TYPE OF ACTION

- e.g. Research and Innovation Action (RIA), Innovation Action (IA), Coordination and Support Action (CSA); exc.

# Types of action\*

## RESEARCH AND INNOVATION ACTION

Activities aiming to establish new knowledge and/or to explore the feasibility of a new or improved technology, product, process, service or solution. For this purpose they may include basic and applied research, technology development and integration, testing and validation on a small-scale prototype in a laboratory or simulated environment.

Projects may contain closely connected but limited demonstration or pilot activities aiming to show technical feasibility in a near to operational environment.

***Reimbursed up to 100% of eligible costs***

\* From the General Annexes to the Main WP:

[http://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016-2017/annexes/h2020-wp1617-annex-ga\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/other/wp/2016-2017/annexes/h2020-wp1617-annex-ga_en.pdf)

## INNOVATION ACTION

Action primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services. For this purpose they may include prototyping, testing, demonstrating, piloting, large-scale product validation and market replication.

*Reimbursement of the 70% of eligible costs (except for non-profit legal entities, where a rate of 100% applies)*

A **'demonstration or pilot'** aims to validate the technical and economic viability of a new or improved technology, product, process, service or solution **in an operational (or near to operational) environment**, whether industrial or otherwise, involving where appropriate a larger scale prototype or demonstrator.

A **'market replication'** aims to support the first application/deployment in the market of an innovation that has already been demonstrated but not yet applied/deployed in the market due to market failures/barriers to uptake. '

## COORDINATION AND SUPPORT ACTION

Actions consisting primarily of accompanying measures such as standardisation, dissemination, awareness-raising and communication, networking, coordination or support services, policy dialogues and mutual learning exercises and studies, including complementary activities of strategic planning, networking and coordination between programmes in different countries.

***Reimbursed up to 100% of eligible costs***

# SME INSTRUMENT (General Annex)

## PHASE 1: Concept & Feasibility Assessment

Input:  
Idea/Concept in "**Business Plan I**"  
(~ 10 pp)

Main activities:  
Feasibility of concept  
Risk assessment  
IP regime  
Partner search  
Design study  
Pilot application

Output:  
"**Business plan II**"

Lump sum: about 50.000 €  
~ 6 months

## PHASE 2: Demonstration Market replication R&D

Input:  
"**Business plan II**" +  
"**description of the activities to be performed in phase 2**"  
(~ 30 pp.)

Main activities :  
Development Prototyping  
Testing  
Piloting  
Miniaturisation  
Scaling-up  
Market replication

Output: investor-ready  
"**Business plan III**"

Payments on the basis of expenditures:  
1 to 3 M€ EU  
~ 12 to 24 months

## PHASE 3: Commercialisation

Input:  
"**Business plan III**"  
+  
Opportunities:  
'**quality label**' on the basis of the success of phase 1 and/or 2

Easier access to private funding  
Support via networking, training, coaching, information, knowledge sharing, dissemination

SME window in the EU financial facilities (debt facility and equity facility)

No financial support

## SME INSTRUMENT (General Annex)

- Only a single **FOR-PROFIT SME** or a consortium of for-profit SMEs can apply (Other partners like research providers or larger companies can be involved as third parties).
- **START-UPS** are eligible for funding.
- Only a single SME or a consortium of SMEs, all **established in EU MEMBER STATES OR ASSOCIATED COUNTRIES** are eligible for funding.
- **BOTTOM UP APPROACH**
- **OPEN CALL**
- No obligation for applicants to sequentially cover all **3 PHASES**

For-profit SMEs' means micro-, small- and medium-sized enterprises, as defined in Commission Recommendation 2003/361/EC, that are not 'non-profit legal entities' as defined in Article 2 of the Rules for Participation and Dissemination.

# EARTH OBSERVATION IN H2020





# Earth Observation in H2020

- Earth observation (EO) activities under H2020 are an essential element to accompany the investments made by the EU in **Copernicus**, the EU Earth observation and monitoring programme, and in the **Global Earth Observation Systems of Systems (GEOSS)**.
- The activities addressing Earth Observation are funded by Societal Challenge 5 (SC5), LEIT/Space and Research Infrastructures.
- **Activities under SC5** focus in particular on GEOSS, notably the development of comprehensive and sustained global environmental observation and information systems that stimulate the smart use of strategic resources.
- **Activities under the 'Leadership in Industrial Technologies – Space'** focus on the evolution of Copernicus and the exploitation of existing European space infrastructure by promoting the development of innovative products and services based on remote sensing, geo-positioning or other types of satellite enabled data.

# EO topics

SC5 – ‘Climate action, environment,  
resource efficiency and raw materials’



SC2 – ‘Food  
security’

LEITs – ‘Space’

# SC5 – ‘Climate action, environment, resource efficiency and raw materials’

| <b>TOPICS 2017*</b>                                                     | <b>TYPE OF ACTION</b> | <b>EVALUATION TYPE</b> | <b>BUDGET (€MIO)</b> | <b>PROVISIONAL DEADLINES</b> |
|-------------------------------------------------------------------------|-----------------------|------------------------|----------------------|------------------------------|
| <b>SC5-18-2017:</b> Novel in-situ observation systems                   | RIA                   | 1-stage                | <b>15</b>            | 07/03/2017                   |
| <b>SC5-19-2017:</b> Coordination of citizens' observatories initiatives | CSA                   | 1-stage                | <b>1.5</b>           | 07/03/2017                   |

\*Opening date: 08/11/2016

## SC2 – ‘Food security’

| <b>TOPICS 2017*</b>                                                                                     | <b>TYPE OF ACTION</b> | <b>EVALUATION TYPE</b> | <b>BUDGET (€MIO)</b> | <b>PROVISIONAL DEADLINES</b> |
|---------------------------------------------------------------------------------------------------------|-----------------------|------------------------|----------------------|------------------------------|
| <b>SFS-43-2017:</b> Earth Observation services for the monitoring of agricultural production in Africa. | RIA                   | 1-stage                | <b>10</b>            | 14/02/2017                   |

\*Opening date: 04/10/2016

# LEITs – ‘Space’

| <b>TOPICS 2017*</b>                                                             | <b>TYPE OF ACTION</b> | <b>EVALUATION TYPE</b> | <b>BUDGET (€MIO)</b> | <b>PROVISIONAL DEADLINES</b> |
|---------------------------------------------------------------------------------|-----------------------|------------------------|----------------------|------------------------------|
| <b>EO-2-2017:</b> EO Big Data Shift                                             | RIA                   | 1-stage                | <b>7.5</b>           | 01/03/2017                   |
| <b>COMPET-2-2017:</b> Competitiveness in Earth observation mission technologies | RIA                   | 1-stage                | <b>7</b>             | 01/03/2017                   |

\*Opening date: 08/11/2016

## SME Instrument (H2020-SMEInstr-2016-2017)

- SMEInst-04-2016-2017: Engaging SMEs in space research and development
- SMEInst-12-2016-2017: Boosting the potential of small businesses in the areas and priorities of Societal Challenge 5

# Grazie per l'attenzione!

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