

# Update on Horizon 2020

## ***PHEE Conference*** ***8 January 2014***

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[www.ukro.ac.uk](http://www.ukro.ac.uk)

# UK Research Office

## ▶ UKRO's Mission:

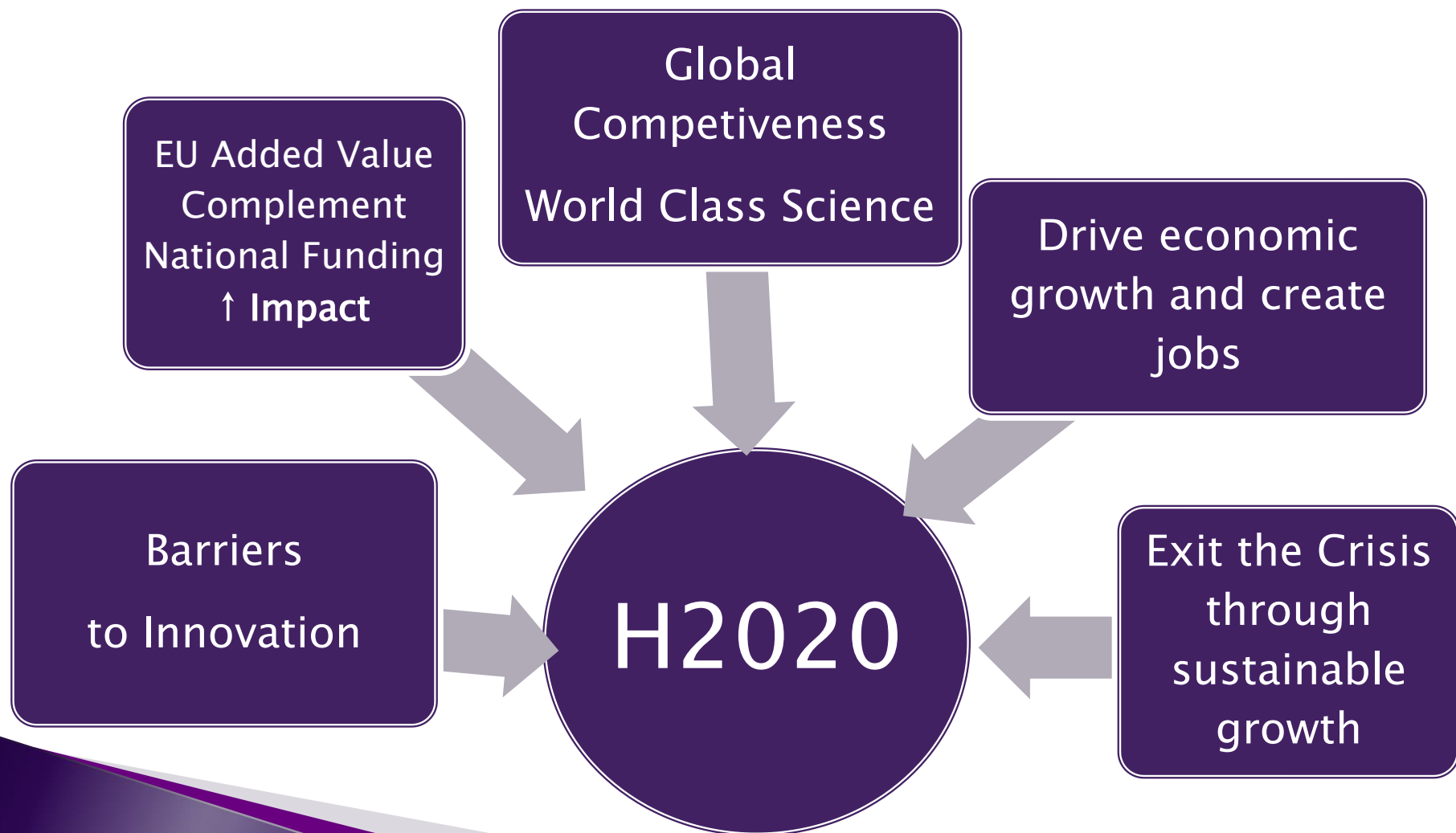
*“To promote effective UK engagement in EU research, innovation and higher education activities”*

## ▶ The Office:

- Is based in Brussels, was established in 1984
- Is sponsored by the seven UK Research Councils
- Over 130 research organisations subscribe to UKRO



# Political Reason for H2020



# Types of H2020 Opportunities

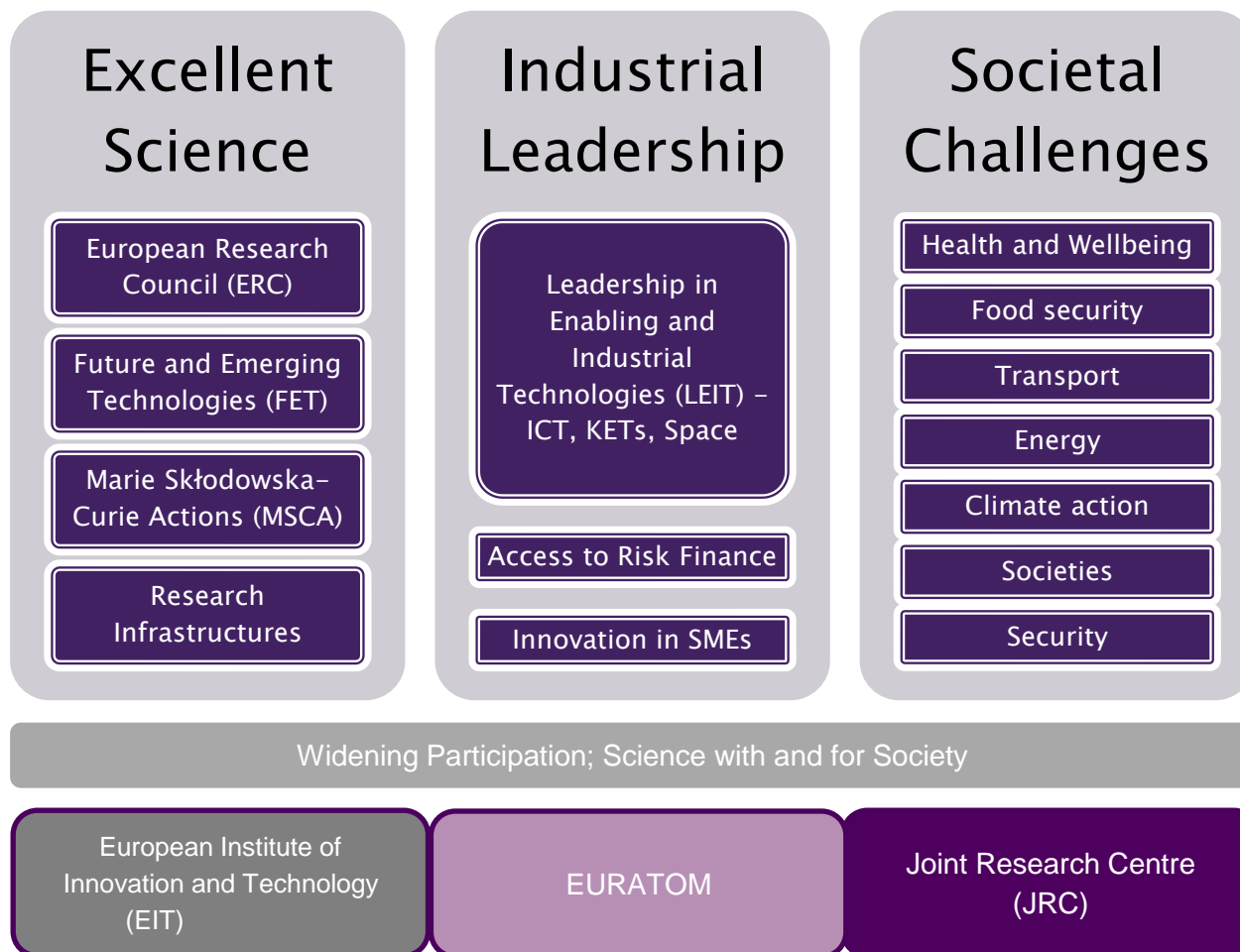
## “Top-Down” Priority Driven Opportunities

- Pan-EU Consortium to address challenges
- Various Levels of Involvement from Co-ordinator to Work Package Leader
- Addressing barriers to Innovation

## “Bottom-up” Researcher Driven Opportunities

- European Research Council (ERC) Grants
- Marie Skłodowska-Curie Actions (MSCA)
- Future and Emerging Technologies (FET)

# Navigating H2020



# Activities

## Excellent Science

- Bottom-up funding
- Basic & applied research
- Investigator centred projects (ERC)
- PhD training (MSCA)
- Fellowships (MSCA)
- Networks (MSCA)
- Transnational, collaborative projects for novel technology ideas / concepts (FET)
- “Excellence over impact?”

## Industrial Leadership

- Defined topics
- Applied research
- Transnational, multidisciplinary, multi-sectoral projects
- Innovation Actions
- Research & Innovation Actions
- SME actions
- Industrial problem solving
- “Impact over excellence?”

## Societal Challenges

- Defined topics
- Applied research
- Transnational, multidisciplinary, multi-sectoral projects
- Research & Innovation Actions
- Innovation Actions
- SME actions
- Societal problem solving
- “Impact over excellence?”

# Funding in Horizon 2020

- ▶ Basic model for research projects
  - 100% direct costs +
  - 25% indirect costs (overhead)
- ▶ Basic model for “innovation” projects
  - 70% direct costs +
  - 25% indirect costs

For Universities involved in innovation projects: 100% direct costs

Some calls different – e.g. inducement prizes

Marie Curie calls different – fixed allowances

# Who will be eligible for funding?

- ▶ 28 EU Member States (Croatia joined in 2013)
  - Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom
  - Overseas Countries and Territories (OCT) linked to the Member States
  
- ▶ Associated Countries
  - Similar list to FP7 expected
  
- ▶ Third countries (funding will depend on GDP)
  - BRIC no longer eligible for automatic funding
  - List of eligible third countries in Horizon 2020 'General Annexes':  
[http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014\\_2015/annexes/h2020-wp1415-annex-ga\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/annexes/h2020-wp1415-annex-ga_en.pdf)



# Specific highlights

- ▶ Industrial Leadership
- ▶ ERC
- ▶ Marie Skłodowska-Curie Actions
- ▶ Future and Emerging Technologies and High Performance Computing
- ▶ Research Infrastructures

# Industrial Leadership - Basics

- ▶ Strategic investments in key technologies underpin innovation across existing and emerging sectors
- ▶ Europe needs to attract more private R&I investment
- ▶ Europe needs more innovative SMEs to create growth and jobs
- ▶ The involvement of industrial participants, and of SMEs in particular, is crucial in maximising the expected impact of the actions.
- ▶ Emphasis on combining enabling technologies to find solutions for societal challenges – particularly energy efficiency targets, sustainability and climate change objectives

# Industrial Leadership

Combining Key Enabling Technologies to find solutions to Societal Challenges

- ▶ Micro- and nano-electronics
- ▶ Photonics
- ▶ Nanotechnologies
- ▶ Advanced Materials
- ▶ Biotechnology
- ▶ Advanced Manufacturing & Processing



*New successful products combine different KETs in one*

User and customer pilots to prove feasibility and added value

Demonstration of capacity to make and deliver innovative products and services

**Societal Challenge**  
**Information**



**Digital Society**



Smartphone



Advanced materials



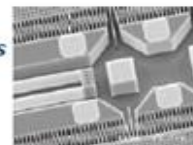
substrate

Microelectronics



Chip

Nanotechnologies



Mems

Photonics



Camera

Biotechnologies

Next ?

# Technology Readiness Levels

TRL 1	Basic principles observed
TRL 2	Technology concept formulated
TRL 3	Experimental proof of concept
TRL 4	Technology validated in lab
TRL 5	Technology validated in relevant environment (industrial environment in the case of KETs)
TRL 6	Technology demonstrated in relevant environment (industrial environment in the case of KETs)
TRL 7	System prototype demonstration in operational environment
TRL 8	System complete and qualified
TRL 9	Actual system proven in operational environment (competitive manufacturing in the case of KETs; or in space)

# ERC - Basics

- ▶ The ERC seeks to fund the best ‘frontier research’ proposals submitted by excellent researchers, with excellence as the single peer review criterion.
- ▶ Will fund projects led by a Principal Investigator, if necessary supported by a team (no need for pan-European collaboration)
- ▶ Operates on ‘bottom-up’ basis, without pre-determined research priorities. 25 panels in 3 domains which proposals can be submitted to:
  - Physical Sciences and Engineering
  - Life Sciences
  - Social Sciences and Humanities

# ERC Grants

<b>Starting Grants</b>	2–7 years postdoc	Up to €1.5–2m for 5 years
<b>Consolidator Grants</b>	7–12 years postdoc	Up to €2–2.75m for 5 years
<b>Advanced Grants</b>	Leading researchers	Up to €3–3.5m for 5 years
<b>Synergy Grants</b>	2 – 4 PIs	Up to €15m for 6 years
<b>Proof of Concept</b>	ERC grant holders	€150k for up to 18 months

Horizon 2020 general funding rate of 100% direct + 25% indirect costs applies

# ERC calls – 2014-15 timetable

Call identifier	Publication date	Deadline	Call budget, €M (estimated number of grants)
ERC-2014-StG	11 December 2013	25 March 2014	485 (370)
ERC-2014-CoG	11 December 2013	20 May 2014	713 (400)
ERC-2014-AdG	17 June 2014	21 October 2014	450 (200)
ERC-2014-PoC	11 December 2013	1 April 2014 1 October 2014	15 (100)
ERC-2015-StG	tbc	3 February 2015	411 (315)
ERC-2015-CoG	tbc	12 March 2015	603 (340)
ERC-2015-AdG	tbc	2 June 2015	640 (285)
ERC-2015-PoC	tbc	23 April 2015 1 October 2015	15 (100)

# Marie Skłodowska-Curie Actions - Basics

- ▶ Operates in a 'bottom-up' basis
- ▶ Open to all research and innovation domains – from basic research to market take-up
- ▶ Mobility is a key requirement
- ▶ Aim: develop new knowledge / enhance skills of people behind research and innovation
- ▶ Dissemination and public engagement through public outreach activities



# Marie Skłodowska-Curie Actions

## Horizon 2020 – MSCA

ITN	Innovative Training Networks (Early Stage Researchers)
IF	Individual Fellowships (Experienced Researchers)
RISE	Research and Innovation Staff Exchange (Exchange of Staff)

Simplified funding, based on unit costs

# Future Emerging Technologies (FET) - Basics

- ▶ Supports alternative ideas, concepts or paradigms of risky or non-conventional nature but with a technological concreteness

Open, light and agile research

Roadmap based

## FET Open

- ‘Fostering novel ideas’
- Individual research projects
- Early ideas and promising new areas

## FET Proactive

- ‘Nurturing emerging themes and communities’
- Open research clusters
- 3 topics: Global Systems Science (GSS); Knowing, doing being: cognition beyond problem solving; Quantum simulation

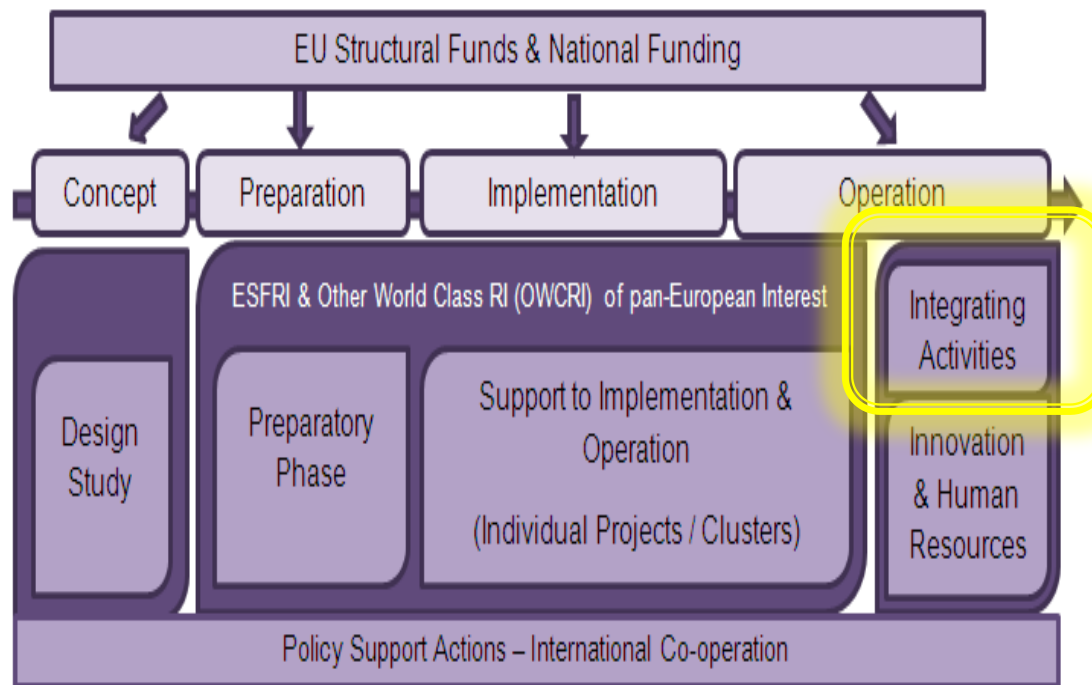
## FET Flagships

- ‘Tackling grand Interdisciplinary science and technology challenges’
- Common research agendas
- Graphene
- Human Brain
- Support to Flagships

## High-Performance Computing (HPC) Strategy

Developing the next generation towards exascale

# Research Infrastructures in H2020 - Basics



- Integrating and opening national RIs of pan-European interest
- Development, deployment and operation ICT based e-Infrastructures

# Joint Technology Initiatives

JTIs are public–private partnerships

- Bio–Based Industries
- Clean Sky
- Electronic Components and Systems
- Fuel Cells and Hydrogen
- Innovative Medicines

# Horizon 2020 Pages



## HORIZON 2020

The EU Framework Programme for Research and Innovation

European Commission > Horizon 2020 > Areas > ICT Research & Innovation

Home

What is  
Horizon 2020?

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### Related Horizon 2020 sections

- ▶ Information and Communication Technologies
- ▶ Leadership in Enabling and Industrial Technologies
- ▶ Health, Demographic Change and Wellbeing
- ▶ Secure, Clean and Efficient Energy
- ▶ Smart, Green and Integrated Transport
- ▶ Climate Action, Environment, Resource Efficiency and Raw Materials

## ICT Research & Innovation

The ICT sector represents 4.8% of the EU economy.

It generates 25% of total business expenditure in Research and Development (R&D), and investments in ICT account for 50% of all European productivity growth. EU investments in ICTs are due to increase by about 25% under Horizon 2020 compared to FP7. This EU investment will support the whole chain from basic research to innovation that can deliver new business breakthroughs, often on the basis of emerging technologies.

Information and Communication Technologies underpin innovation and competitiveness across private and public sectors and enable scientific progress in all disciplines. Thus in H2020, ICT-related topics can be found in all priorities, from 'Excellence Science' to 'Industrial Leadership', to 'Societal Challenges'.

'Excellent science' research will cover the radically new technological possibilities through the 'Future



### Get funding

- ▶ ICT 2014 - Information and Communications Technologies  
From 12/10/2013 to 25/11/2014
- ▶ FET-Open - novel ideas for radically new technologies

# Research Participant Portal

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



## RESEARCH & INNOVATION

### Participant Portal

European Commission > Research & Innovation > Participant Portal > Experts

HOME

FUNDING OPPORTUNITIES

HOW TO PARTICIPATE

**EXPERTS**

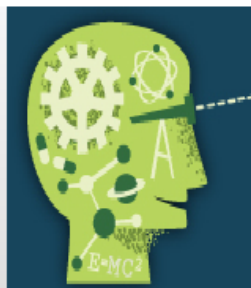
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#### News

H2020 call for expression for interest for experts (11/2013)  
 New calls for expression of interest for [individual experts](#) and for [organisations to suggest experts](#) were just published in [OJ C342 of 22 November 2013](#).  
 European Commission will soon need experts to evaluate first Horizon 2020 proposals. Don't forget to tick the H2020 box in



## Experts

H2020 ONLINE MANUAL

Join the database of independent experts for European research and innovation.

The European Commission appoints independent experts to assist with research and innovation assignments including the evaluation of proposals, monitoring of projects, and evaluation of programmes, and design of policy.

#### New experts

##### Who can be an expert?

You have a chance of being selected as an expert if you:

##### What do expert assignments involve?

Experts, as peer reviewers, assist in the:

<http://ec.europa.eu/research/participants/portal>



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## EU Funding Programmes

This section mainly focuses on Horizon 2020, the next EU funding programme for research and innovation, which will run from 2014 to 2020 with a budget of EUR 70.2 billion. Links are also provided to other relevant post-2013 European funding opportunities for research, innovation and higher education. The pages follow the basic structure of Horizon 2020.

To give sponsors and subscribers a better and quicker overview of what is planned for each part of Horizon 2020, UKRO is producing short factsheets for researchers containing the most relevant information in a condensed format. These can be found under the 'UKRO Guidance' section on the right-hand side of each page. For example, you will find the factsheet on the European Research Council on the page on Pillar 1 of Horizon 2020, called 'Excellent Science'. Please note that these factsheets are for the use of UKRO sponsors and subscribers only, and should not be published externally.

### Horizon 2020 – EU funding for research and innovation

Horizon 2020, the EU's funding programme for research and innovation, runs for seven years from January 2014. The 'Horizon 2020 Condensed' factsheet' gives an overview of the Horizon 2020 structure and its features.

<h3>Excellent Science</h3> <ul style="list-style-type: none"><li>European Research Council (ERC)</li><li>Future and Emerging Technologies (FET)</li><li>Marie Skłodowska-Curie Actions (MSCA)</li><li>Research Infrastructures</li></ul>	<h3>Industrial Leadership</h3> <ul style="list-style-type: none"><li>Leadership in Enabling and Industrial Technologies (LEIT) - ICT, KETs, Space</li><li>Access to Risk Finance</li><li>Innovation in SMEs</li></ul>	<h3>Societal Challenges</h3> <ul style="list-style-type: none"><li>Health and Wellbeing</li><li>Food security</li><li>Transport</li><li>Energy</li><li>Climate action</li><li>Societies</li><li>Security</li></ul>
Widening Participation; Science with and for Society, Mainstreaming of Social Sciences and Humanities (SSH) and ICT		
European Institute of Innovation and Technology (EIT)	EURATOM	Joint Research Centre (JRC)

### Latest News

- Call for Tenders - Study on Internationalisation of Higher Education
- Call for Tenders - EU-GCC Trade and Business Cooperation Facility
- EU Strengthens Co-operation with Israel in Transport
- Horizon 2020: Open Access and Data Management Plan Guideline Documents Now Available
- ELIXIR Founding Ceremony and Launch Event

[More](#)

### UKRO Guidance

- Horizon 2020 Condensed (.pdf)
- Horizon 2020 Deadline Calendar (.pdf)

### Links

[European Commission Horizon 2020 website](#)

# UKRO's Services

## Subscriber Services

- ▶ **UKRO Portal**
  - offering tailored news articles and clear and accessible web pages on the latest in EU funding
- ▶ **Enquiry service**
  - individual support from a dedicated European Advisor
- ▶ **Annual briefing visits**
  - bespoke training for subscribing institutions
- ▶ **Meeting Room**
  - and office facilities in Brussels

## Additional Services

- ▶ **UK National Contact Point**
  - Marie Curie Actions
  - European Research Council
- ▶ **European RTD Insight**
  - free monthly publication funded by the British Council
- ▶ **UKRO Annual Conference**
  - a key event for EU policy and networking
- ▶ **Training and development**
  - workshops for European Liaison Officers

Monitoring, Liaison Activities and Policy Work



# Final Thoughts – Let's Build on UK's FP7 Success

By End July 2013:

- ▶ UK-based organisations awarded €5.2 billion of FP7 funding, (the second highest share by country, after Germany), equivalent to 15% of the programme's overall budget
- ▶ Academic organisations were awarded 62% of this share (thus 10.9% of the entire FP7 budget went to UK academia), and around 17% to SMEs
- ▶ UK organisations were involved in around 8100 funded projects (the highest number by country)
- ▶ The highest number of European Research Council grants went to the UK, with around 800 grants based at over 75 different host institutions