

EU R&I Policy and 2018-20 Work Programme of Horizon 2020

EU R&I Day
Seoul, 23 November 2017



#InvestEUresearch

“

Science is at the core of today's most promising **breakthrough innovations**. Europe is a world leader in science and technology and will play a major role in **driving innovation.**”

Commissioner for Research,
Science and Innovation
Carlos Moedas



Open Innovation, Open Science and Open to the World

- policy priorities set by European Commissioner Moedas

Open Science

- ✓ Open Access
- ✓ Open Data and European Open Science Cloud
- ✓ Research Integrity
- ✓ Inclusiveness & Citizen Science



Open Innovation

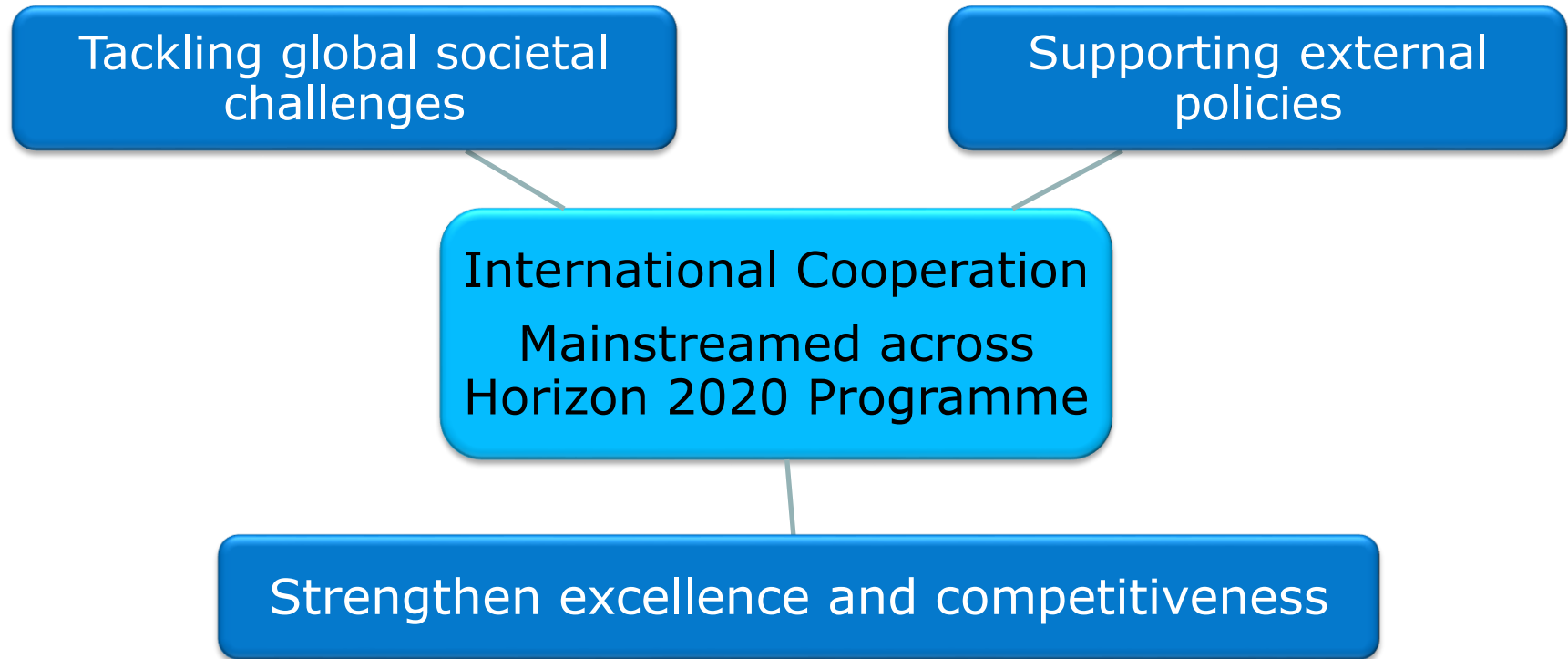
- ✓ European Innovation Council
- ✓ Venture capital funds of funds
- ✓ Pro innovation Regulatory Environment
- ✓ Boosting Private Investment
- ✓ Maximizing Impact of EU funding

Open to the World

- ✓ Leading & working with multilateral initiatives & international organisations
- ✓ Better framework conditions for research and innovation cooperation
- ✓ Science diplomacy and synergies with the EU's external policies

International Cooperation Strategy




Enhancing and focusing EU international cooperation in research and innovation



THREE YEARS ON

November '14 - November '17

OPEN TO THE WORLD

 @Moedas
 Carlos Moedas
 c_moedas
 moedas

- Launch of **PRIMA**, the Partnership for Research and Innovation in the Mediterranean Area addressing sustainable food and water management, including the signature of international agreements with



- **16 COUNTRIES ASSOCIATED** to Horizon 2020



- **EU LEADERSHIP OF MISSION INNOVATION**, accelerating global clean energy transition through research and innovation

- **10 ERC AGREEMENTS** with



- Opening **SESAME** research infrastructure boosting scientific cooperation and science diplomacy

- 5 EU funded projects dedicated to **ZIKA RESEARCH** with 119 partners from 58 countries

- Signature of **BELÉM STATEMENT** with Brazil and South Africa to cooperate on Atlantic research and innovation

- **12 HORIZON 2020 CO-FUNDING** mechanisms with



Horizon 2020

After nearly 4 years of implementation

Interim Evaluation

- ✓ **An attractive, simplified and well-performing € 77 billion programme**
- ✓ On track to deliver **value for money** and **to meet its knowledge-creating objectives**
- ✓ Strong **EU Added Value** through unique opportunities, competition & access to new knowledge.

Participation (Oct. 2017)

- ✓ 15,000 grant agreements
- ✓ with € 27 billion EU contribution
- ✓ 65,000 participations

€30 billion
investment

under Horizon 2020 for
Research & Innovation
2018-2020



EU
C



Horizon 2020 – Work Programme 2018-2020

Strategic Orientations

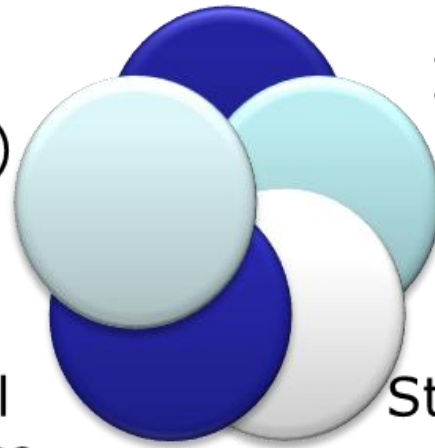
Increased investment in
sustainable development and
climate related R&I

Market creating
innovation (EIC pilot)

Integrating digitisation in
all enabling technologies
and societal challenges

Societal
Resilience

Strengthening international
R&I cooperation



Horizon 2020 – Work Programme 2018-2020

Open to the World

- ✓ **600+ topics open for international cooperation**
- ✓ **150+ topics targeting cooperation with specific (group of) countries**
- ✓ **Over €1 billion investment for around 30 international cooperation flagship initiatives:** e.g. Climate action in support of the Paris Agreement; clean energy in context of Mission Innovation; All Atlantic Ocean Research Alliance Flagship; wide range of bilateral cooperation initiatives.
- ✓ Strong international component in **European Research Council** & **Marie Skłodowska-Curie actions**

Targeted opening for international cooperation

- ✓ Topics **strongly encouraging** or **requiring** international cooperation with ***specific country, groups of countries,*** or ***all***
- ✓ Topics implemented through **joint or coordinated call** with specific country, **or** requiring **twinning with projects** funded by specific country/programme

Contributing to:

→ Solve **(global) challenge**

→ Objectives of **(global) multilateral initiative**

- E.g. Mission Innovation, Belmont Forum, GloPID-R ...

→ (European) **Joint Programme/Call**

- E.g. ERA-NET Cofund ...



Information and Communication Technologies

Topic Code	Topic Title	Targeted countries	Deadline	Indicative budget 2018 (m€)	Indicative budget 2019 (m€)
EUK-02-2018	5G	KR	31/01/2018	4	0
EUK-01-2018	Cloud, IoT and AI technologies	KR	31/01/2018	2,2	0
ICT-06-2019	Unconventional Nanoelectronics	JP, KR, TW, US	28/03/2019	0	30



Nanotechnologies, Materials, Biotechnologies, and Production technologies

Topic Code	Topic Title	Targeted countries	Deadline	Indicative budget 2018 (m€)	Indicative budget 2019 (m€)
NMBP-13-2018	Risk Governance of nanotechnology	US, KR, BR, CA, AU, CN, JP, ZA	23/01/2018	14	0
NMBP-14-2018	Nanoinformatics: from materials models to predictive toxicology and ecotoxicology	US, KR, BR, CA, AU, CN, JP, ZA	23/01/2018	14	0
NMBP-15-2019	Safe by design, from science to regulation: metrics and main sectors	US, KR, BR, CA, AU, CN, JP, ZA	22/01/2019	0	24



Work Programme 2018-2020

Space

Topic Code	Topic Title	Targeted countries	Deadline	Indic. budget 2018 (m€)	Indic. budget 2019 (m€)
SPACE- GNSS -4-2019	Awareness Raising and capacity building	All	5/03/2019	0	2
DT-SPACE-06-EO-2019	International Cooperation Copernicus – Designing EO downstream applications with international partners	Partners with Copernicus cooperation arrangement	12/03/2019	0	5
SU-SPACE-22-SEC-2019	Space weather	All	12/03/2019	0	9

HORIZON 2020

Work Programme 2018-2020

Health

Topic Code	Topic Title	Targeted countries	Deadline	Indic. budget 2018 (m€)	Indic. budget 2019 (m€)
SC1-HCC-03-2018	Support to further development of international cooperation in digital transformation of health and care	US, CA, CN, JP, KR	24/04/2018	2	0

+ Topics contributing to **Global Health Multilateral Initiatives**

HORIZON 2020

Work Programme 2018-2020

Energy

Topic Code	Topic Title	Targeted countries	Ddl	Budget 2018 (m€)	Budget 2019 (m€)
LC-SC3-RES-4-2018	Renewable energy system integrated at the building scale	Mission Innovation countries	31/01/2018	27	0
LC-SC3-RES-5-2018	Increased performance of technologies for local heating and cooling solutions	Mission Innovation countries	13/02/2018	10	0
LC-SC3-RES-25-2020	Development of next generation biofuel and alternative renewable fuel technologies from CO2 and renewable energy (Power and Energy to Fuels)	Mission Innovation countries	To be decided	To be decided	To be decided
LC-SC3-CC-1-2018-2019-2020	Social Sciences and Humanities (SSH) aspects of the Clean-Energy Transition	Mission Innovation countries	2 steps: 6/9/2018; 27/8/2019	10	10
CE-SC3-NZE-2-2018	Conversion of captured CO2	Mission Innovation countries	06/09/2018	12	0
LC-SC3-NZE-5-2019-2020	Low carbon industrial production using CCUS	Mission Innovation countries	27/08/2019	0	33
LC-SC3-ES-3-2018-2020	Integrated local energy systems (energy islands)	All	05/04/2018	32	0



Work Programme 2018-2020

Transport

Topic Code	Topic Title	Targeted countries	Deadline	Indic. budget 2018 (m€)	Indic. budget 2019 (m€)
DT-ART-01-2018	Testing, validation and certification procedures for highly automated driving functions under various traffic scenarios based on pilot test data	US, JP, KR, SG, AU	4/04/2018	6	0
DT-ART-02-2018	Support for networking activities and impact assessment for road automation	US, JP, KR, SG, AU	4/04/2018	9	0
DT-ART-03-2019	Human centred design for the new driver role in highly automated vehicles	US, JP, KR, SG, AU	24/04/2019	0	8
DT-ART-04-2019	Developing and testing shared, connected and cooperative automated vehicle fleets in urban areas for the mobility of all	US, JP, KR, SG, AU	24/04/2019	0	30
LC-MG-1-10-2019	Logistics solutions that deal with requirements of the 'on demand economy' and for shared-connected and low-emission logistics operations	All	2 steps: 16/01/2019 12/09/2019	0	10

HORIZON 2020

Work Programme 2018-2020

Climate action

Topic Code	Topic Title	Targeted countries	Deadline	Indic. budget 2018 (m€)	Indic. budget 2019 (m€)
LC-CLA-07-2019	The changing cryosphere: uncertainties, risks and opportunities	US, CA, CN, JP, RU, KR, NZ, IN, SG	19/02/2019	0	39
LC-CLA-08-2018	Addressing knowledge gaps in climate science, in support of IPCC reports	All	2 steps: 27/02/2018 04/09/2018	60	0

HORIZON 2020

Work Programme 2018-2020

Secure societies

Topic Code	Topic Title	Targeted countries	Deadline	Indic. budget 2018 (m€)	Indic. budget 2019 (m€)
SU-DRS02-2018-2019-2020	Technologies for first responders	JP, KR	2 steps: 23/8/2018; 22/8/2019	28	21

European Research Council



European Research Council

- For excellent researchers wishing to conduct their groundbreaking research in Europe
- Investigator-driven, no thematic priorities, bottom-up approach
- 1 Principal Investigator and team; 1 Host institution in Europe; 1 Selection criterion: Excellence
- At least 50% research to be done in Europe; Project duration: Up to 5 years

Korean researchers can apply to join ERC teams

- So far, more than 1500 ERC principal investigators have expressed interest in temporarily hosting a Korean researcher in their team
- So far, more than 100 Korean researchers on short term visits

Marie Skłodowska-Curie actions

Individual Fellowships (IF):

- Supporting experienced international researchers to do research in Europe for 12-24 months
- Host institutions: from academia or industry

Innovative Training Networks (ITN):

- Networks of organisations offering research and training to early-stage researchers

Research and Innovation Staff Exchange (RISE):

- International and inter-sectoral cooperation

More information:

Participant Portal

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

Horizon 2020 National Contact Points

http://ec.europa.eu/research/participants/portal/desktop/en/support/national_contact_points.html

Research Enquiry Service

<http://ec.europa.eu/research/index.cfm?pg=enquiries>