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#InvestEUresearch

Horizon 2020 Work Programme for Research & Innovation 2018-2020

Opportunities for participation in Horizon 2020

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Research and Innovation

Module overview

1. **Brief overview of Horizon 2020**

2. **Overview of the Work Programme 2018-2020**

3. **The European Research Council**

4. **FET**

5. **MSCA**

6. **Infrastructures**

7. **Industrial Leadership**

8. **Societal Challenges**

9. **Spreading Excellence and Widening Participation**

10. **Science with and for Society**

11. **Final thoughts**

1. Brief overview of Horizon 2020

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Horizon 2020 – pillars

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 Technologies

- Leadership in enabling and industrial technologies
  - ICT, nanotechnologies, materials, biotechnology, manufacturing, space

Societal Challenges

- Health, demographic change and wellbeing
- Food security, sustainable agriculture, marine and maritime research & the bio-economy
- Secure, clean and efficient energy
- Smart, green and integrated transport
- Climate action, resource efficiency and raw materials
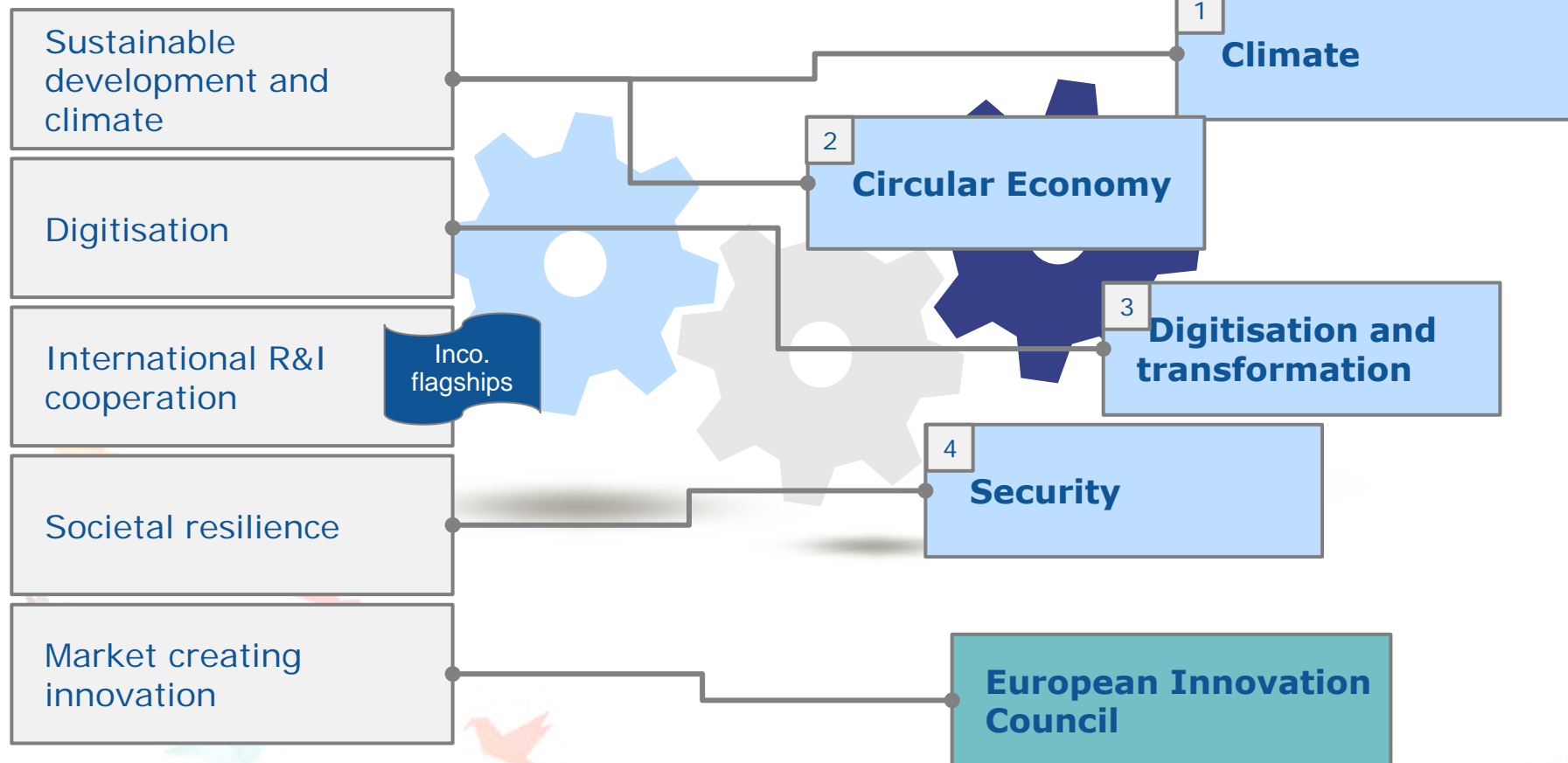- Inclusive, innovative and reflective societies
- Security society

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2. Overview of the Work Programme 2018-2020

4. Overview of Work Programme 2018-2020

Political drivers

Focus areas

Sustainable development and climate

Digitisation

International R&I cooperation

Inco. flagships

Societal resilience

Market creating innovation

1 **Climate**

2 **Circular Economy**

3 **Digitisation and transformation**

4 **Security**

European Innovation Council

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3. The European Research Council

What does the European Research Council (ERC) offer?

- For **excellent researchers** wishing to conduct their groundbreaking research **in Europe**

- No thematic priorities → bottom-up approach

- Investigator-driven

- **ERC Principles:**

  – 1 Principal Investigator and team

  – 1 Host institution in the EU/country associated to Horizon 2020

  – 1 Selection criterion: EXCELLENCE

  – At least 50% of the research has to be done in Europe

  – Project duration: Up to 5 years

More than 500 grants to non-EU/AC Principal Investigators

erc
European Research Council

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Four ERC main funding lines

Starting Grant:

Early career top researchers, 2-7 years after PhD | €1.5 mio.

Consolidator Grant:

Top researchers, 7-12 years after PhD | €2 mio.

Advanced Grant:

Senior researchers with significant research achievements

€2.5 mio.

Synergy Grant:

2-4 excellent researchers and their teams, researchers with complementary skills, knowledge and resources, project duration max. 6 years | €10 mio.

Useful links and ERC promotional video

Helpful links

ERC:

https://erc.europa.eu/

Information for Non-EU Researchers:

https://erc.europa.eu/funding/non-european-researchers

ERC videos:

https://vimeo.com/28818767

https://vimeo.com/31716309

Excellent Science

Indicative summary of main ERC calls from the 2018 budget

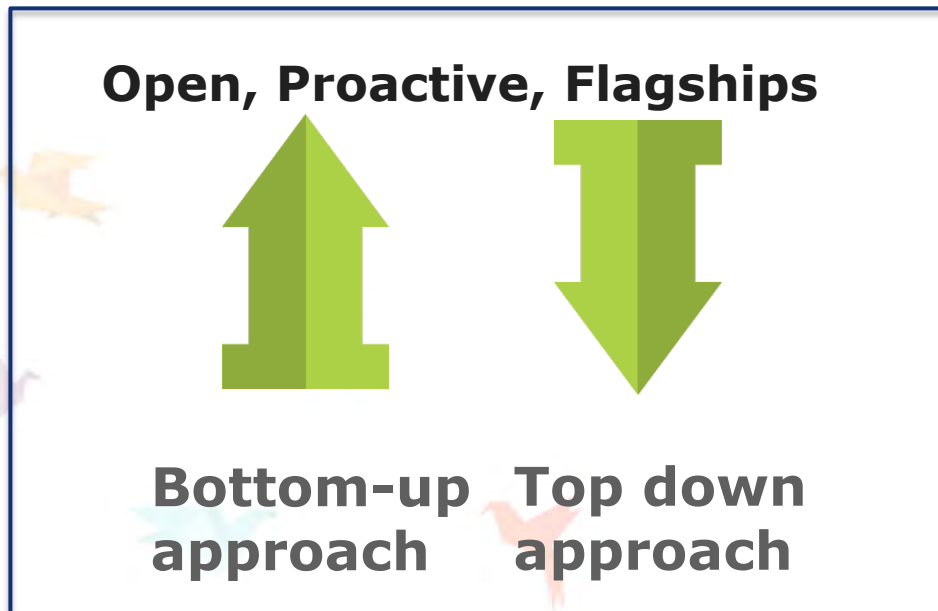|	Starting Grant	Consolidator Grant	Advanced Grant	Synergy Grant	Proof of Concept Grant
Call identifier	ERC-2018-StG	ERC-2018-CoG	ERC-2018-AdG	ERC-2018-SyG	ERC-2018-PoC
Call Opens	03/08/2017	24/10/2017	17/05/2018	03/08/2017	06/09/2017
Deadline or cut-off dates for PoC	17/10/2017	15/02/2018	30/08/2018	14/11/2017	16/01/2018 18/04/2018 11/09/2018
Budget million EUR (estimated number of grants)	581 (391)	550 (287)	450 (194)	250 (30)	20 (130)
Planned dates to inform applicants (after each step or cut-off date)	14/05/2018 14/08/2018	06/07/2018 30/11/2018	29/01/2019 08/04/2019	23/04/2018 29/08/2018 19/10/2018	30/03/2018 21/07/2018 10/12/2018
Indicative date for signature of grant agreements (by cut-off date for PoC)	14/12/2018	30/03/2019	08/08/2019	19/02/2019	30/07/2018 21/10/2018 10/04/2019

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4. FET

Future Emerging Technologies (FET)

- Collaborative research for **radically new lines of technology**

- Supports frontier research: alternative ideas, concepts or paradigms of a risky or non-conventional nature (similar to ERC)

Open, Proactive, Flagships

Bottom-up approach

Top down approach

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FET Openings and deadlines under WP 2018-2020

Funding scheme	Publication	Budget	Deadline
FETOPEN1	07. Nov.17	647,5 Mio. €	*
FETOPEN2	07. Nov.17	2 Mio. €	11. April 18
FETOPEN3	07. Nov.17	8,2 Mio. €	**
FETPROACT1	31. Okt. 17	88 Mio. €	22. March 18
FETPROACT2	31. Okt. 17	0,5 Mio. €	22. March 18
FETPROACT3	05. June 18	6 Mio. €	18. Dec. 18
FETHPC1	01. Feb. 18	4 Mio. €	15. May 18
FETHPC2	07. May 19	64 Mio. €	24. Sept. 19
FETFLAG1	31. Okt. 17	6 Mio. €	***
FETFLAG2	31. Okt. 17	10 Mio. €	17. April 18
FETFLAG3	31. Okt. 17	130 Mio. €	20 Jan. 18

* 16. May 18, 24. Jan. 19, 18. Sep. 19 and 13. May 20
** 16. Okt. 18, 08. Okt. 19 and 14. Okt. 20
*** 20. Feb. 18 first stage and 18. Sept. 18 second stage

5. MSCA

What do Marie Skłodowska-Curie actions (MSCA) offer?

– Opportunities for training and career development

– **Mobility of researchers is mandatory**

MSCA principles:

– Open to all career stages and nationalities

– Bottom-up approach

– International, inter-sectoral and interdisciplinary career and knowledge-exchange

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Three MSCA main funding lines

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

IF: Individual Fellowships (European Fellowship)

- As an experienced researcher of any nationality you can apply with your individual research project to be conducted at a European organisation

- An individual fellowship provides tailored training for your career in research

- You will receive a work contract including social security for 12-24 months

ITN: Innovative Training Networks

- As an early-stage researcher you can participate in existing joint research training or doctoral programmes of international networks in Europe

- As a network of organisations you can apply for funding within the following funding schemes:

ETN

European Training Networks

Participants implement a joint research programme

EID

European Industrial Doctorates

Doctoral programme with the non-academic sector

EJD

European Joint Doctorates

Doctoral programme to deliver joint degrees

RISE: Research and Innovation Staff Exchange

- As a university, research centre or company you can conduct short term staff exchanges within a joint research project.

- Staff (research or technical) of **any nationality** can participate.

- Sharing of knowledge and ideas from research to market through trans-border and inter-sectoral collaboration with Europe.

RISE: Research and Innovation Staff Exchange

Conditions:

- At least 3 entities from 3 different countries out of which 2 should come from the EU
- Staff should be engaged in or linked to research and innovation activities for at least six months prior to the secondment
- Duration: Up to 4 years
- Costs covered: Secondment of staff members for one month up to one year

MSCA Openings and deadlines under WP 2018-2020

Funding scheme	Publication	Budget	Deadline
ITN 18	12. Oct.17	442 Mio. €	17. Jan. 18
ITN 19	13. Sept. 17	470 Mio. €	15. Jan. 19
RISE 18	22. Nov. 17	80 Mio. €	21. March 18
RISE 19	04. Dec. 18	80 Mio. €	2. April 19
IF 18	12. April 18	273 Mio. €	12. Sept. 18
IF 19	11. April 19	295,62 Mio. €	11. Sept. 19

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6. Infrastructures

4d. Research Infrastructures (RI)

Goal:

- Integrate and open global research infrastructures

- Build consortia of several key research infrastructures in a field and unite stakeholders from different countries

Research Infrastructures Topics under WP 2018-20

Call identifier	Opening	Budget Mio €	Deadline
INFRADEV-03-2018-2019 (RIA)	05 Dec 2017	15.00	22 Mar 2018
INFRAEOSC-04-2018 (RIA)		95.00	
INFRAEOSC-01-2018 (RIA)		12.00	
INFRAIA-01-2018-2019 (RIA)		101.50	
INFRAEDI-01-2018 (RIA)		24.00	
INFRAEDI-02-2018 (RIA)		72.00	
INFRAEDI-02-2018 (CSA)		2.00	
INFRAEDI-03-2018 (CSA)		0.90	
INFRASUPP-01-2018-2019 (CSA)		6.60	
INFRASUPP-01-2018-2019 (RIA)		6.00	

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Research Infrastructures Topics under WP 2018-20

Call identifier	Opening	Budget Mio €	Deadline
INFRADEV-02-2019-2020 (CSA)	16 Oct 2018	20.00	29 Jan 2019
INFRADEV-03-2018-2019 (RIA)	14 Nov 2018	45.00	20 Mar 2019
INFRADEV-01-2019-2020 (RIA)	25 Jul 2019	20.00	12 Nov 2019
INFRAEOSC-05-2018-2019 (CSA)	10 Jan 2018	20.00	19 Apr 2018
INFRAEOSC-05-2018-2019 (RIA)	26 Jul 2018	15.00	21 Nov 2018
INFRAEOSC-02-2019 (RIA)	16 Oct 2018	28.50	29 Jan 2019
INFRAEOSC-06-2019-2020 (RIA)	14 Nov 2018	2.00	20 Mar 2019
INFRAIA-01-2018-2019 (RIA)	14 Nov 2018	125.00	20 Mar 2019
INFRAINNOV-01-2019 (RIA)	16 Oct 2018	1.50	29 Jan 2019
INFRAINNOV-02-2019 (CSA)	14 Nov 2018	9.50	20 Mar 2019
INFRASUPP-01-2018-2019 (CSA) INFRASUPP-01-2018-2019 (RIA)	14 Nov 2018	27.00	20 Mar 2019

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7. Industrial Leadership

Leadership in enabling and industrial technologies (LEIT)

Industrial Leadership

- ICT
- Nanotechnology
- Materials
- Biotechnology
- Manufacturing
- Processing
- Space

Top down approach

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Leadership in enabling and industrial technologies (LEIT)

The emphasis for Leadership in Enabling and Industrial Technologies (LEIT) actions will be on:

- Research and innovation to strengthen Europe's industrial capacities and business perspectives, including SMEs

- Public-private partnerships (PPPs)

- Cross-cutting KETs

- Seizing ICT opportunities

- Contributing to solving Societal Challenges and to Focus Areas

- Cross-cutting aspects, like international cooperation and responsible research and innovation.

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Leadership in enabling and industrial technologies (LEIT)

Key Enabling Technologies (KETs), ICT and Space are areas of key industrial competences determining Europe's global competitiveness.

KETs cover different areas: Nanotechnologies, Advanced materials, Advanced manufacturing and processing as well as Biotechnology

ICT-LEIT has six main activities: A new generation of components and systems, Advanced Computing, Future Internet, Content technologies and information management, Robotics, Micro- and nano-electronic technologies, Photonics

The motto for EU **Space R&D for 2014 to 2020** is 'Prepare for the increasing role of space in the future and reap the benefits of space now'.

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8. Societal Challenges

Societal Challenges

1. **Health**, demographic change and wellbeing

2. **Food** security, sustainable agriculture and forestry, marine and maritime and inland water research and the bio-economy

3. Secure, clean and efficient **energy**

4. Smart, green and integrated **transport**

5. **Climate** action, environment, resource efficiency and raw materials

6. Europe in a changing world: Inclusive, innovative and reflective **societies**

7. **Secure societies** – Protecting freedom and security of Europe and its citizens

Top down approach

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Societal Challenge 1 : Health, demographic change and wellbeing

Budget: € 7,472 billion

Main objectives:

- Improve our understanding of the causes and mechanisms underlying health

- Improve our ability to monitor health and to prevent, detect, treat and manage disease

- Support older persons to remain active and healthy

- Test and demonstrate new models and tools for health and care delivery

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Societal Challenge 2 : Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bio economy

Budget: € 3,851 billion

Main objectives:

- Population growth requires a change in approach to production, consumption , processing, storage and recycling of waste

- Environmental contamination responses

- Agriculture, forestry and industrial sectors of food and bio-based products play an important role in rural development and management of the natural heritage

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Societal Challenge 2 : Topics under WP 2018-2020

Call identifier	Opening	Budget Mio €	Deadline
LC-SFS-19-2018-2019 (RIA)	31 Oct 2017	7.00	13 Feb 2018 (First Stage) 11 Sep 2018 (Second Stage)
SFS-01-2018-2019-2020 (RIA)		14.00	
SFS-05-2018-2019-2020 (RIA)		7.00	
SFS-06-2018-2020 (RIA)		5.00	
SFS-07-2018 (RIA)		8.00	
SFS-08-2018-2019 (RIA)		10.00	13 Feb 2018
CE-SFS-25-2018 (IA)		20.00	
DT-SFS-14-2018 (IA)		28.00	
LC-SFS-03-2018 (IA)		42.00	

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Societal Challenge 3 : Secure, clean and efficient energy

Budget: € 5,931 billion

Main objectives:

- Energy is the driving force of the modern economy - maintaining our standard of living requires huge amounts of energy

- As the second largest economy in the world, Europe depends too much on the rest of the world in terms of energy

- The EU has set ambitious climate and energy targets to be achieved

Societal Challenge 4 : Smart, green and integrated transport

Budget: € 6,339 billion

Main objectives:

- Transportation will boost employment, economic development, welfare and global trade

- Growing connections between individuals and communities

- Reduction of societies based on oil stocks

- Reduction of traffic congestion and air pollution, road safety - influence on health and quality of life

- Creating a sustainable transport system adaptable to a modern, competitive Europe

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Societal Challenge 5 : Climate action, environment resource efficiency and raw materials

Budget: € 3,081 billion

Main objectives:

- Securing access to raw materials and clean water

- Protection of biodiversity and ecosystems

- Investing in innovative solutions to support a "green" economy that is in harmony with the natural environment

- Tackling climate change as a multidisciplinary priority (35% of the total budget of the program)

- Management of water and waste

Societal Challenge 6 : Europe in a changing world - Inclusive innovative and reflective societies

Budget: € 1,309 billion

Main objectives:

- Reduction of poverty - 80 million people with lack of access to education and work

- Funding of new strategies and governance structures in order to overcome the prevailing economic instability

- Supporting new forms of innovation such as open innovation, innovation of business models, public sector innovation and social innovation to meet social needs

- Supporting research and innovation in European heritage, identity, history and culture and the role of Europe throughout the world

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Societal Challenge 6 : WP 2018-2020

Call identifier	Title	Opening	Budget	Deadline
MIGRATION-02-2018 (RIA)	Towards forward-looking migration governance: addressing the challenges, assessing capacities and designing future strategies	07 Nov 2017	9 Mio €	13 Mar 2018
SU-GOVERNANCE-10-2019 (RIA)	Drivers and contexts of violent extremism in the broader MENA region and the Balkans	06 Nov 2018	9 Mio €	14 Mar 2019

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Societal Challenge 7 : Secure societies – Protecting freedom and security of Europe and its citizens

Budget: € 1,695 billion

Main objectives:

- Maintaining public security through
  - combating crime and terrorism
  - protect communities from natural disasters
  - tackling illegal trafficking of people, drugs and counterfeit goods
- Development of new technologies for the protection of citizens
- Respect for privacy and compliance with fundamental rights

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9. Spreading Excellence and Widening Participation

Spreading Excellence and Widening Participation

Budget: € 816,5 million

Main objectives:

- Enhancing economic growth and competitiveness in Low Research & Innovation (R&I) Performing Countries

- Facilitating access to networks and partnering opportunities

- Providing technical assistance and expertise

- Increasing efficiency of the national research and innovation systems

- Cooperation is established through several actions: "Teaming", "ERA-Chairs", "Twinning", "COST" and more

FUNDING FOR 3-7 YEARS

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Spreading Excellence and Widening Participation – WP2018-2020

EN

Horizon 2020

Work Programme 2018-2020

15. Spreading Excellence and Widening Participation

Important notice on the Horizon 2020 Work Programme

This Work Programme covers 2018, 2019 and 2020. The parts that relate to 2019 and 2020 are provided at this stage on an indicative basis. Such Work Programme parts will be decided during 2018 and/or 2019.

(European Commission Decision C(2017)7124 of 27 October 2017)

http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-sewp_en.pdf

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Spreading Excellence and Widening Participation WP 2018-2020

Call identifier	Opening	Budget Mio €	Deadline
WIDESPREAD-01-2018-2019 (CSA)	15 May 2018	103.00	15 Nov 2018
WIDESPREAD-02-2018 (CSA)		1.50	
WIDESPREAD-03-2018 (CSA)		30.00	
WIDESPREAD-04-2019 (CSA)	26 Jul 2018	30.00	15 Nov 2018

Call identifier	Opening	Budget Mio €	Deadline
WF-01-2018 (MSCA-IF-EF-CAR) WF-01-2018 (MSCA-IF-EF-RI) WF-01-2018 (MSCA-IF-EF-SE) WF-01-2018 (MSCA-IF-EF-ST)	12 Apr 2018	5.00	12 Sep 2018
WF-02-2019 (MSCA-IF-EF-CAR) WF-02-2019 (MSCA-IF-EF-RI) WF-02-2019 (MSCA-IF-EF-SE) WF-02-2019 (MSCA-IF-EF-ST)	11 Apr 2019	6.00	11 Sep 2019

10. Science with and for Society

Science with and for Society (SwafS)

Budget: € 462 million

- Integrates Horizon 2020 cross-cutting issues

- Emphasizes on Responsible Research and Innovation (RRI) including gender, and enhancing the attractiveness of the research profession

Main objectives:

- Ensure responsible science and enable the development of policies more relevant to citizens

- Improve science-literacy, citizens' responsibility and access to scientific careers

- Further enhance active participation and focus on science, research and innovation

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Thank you!

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www.ec.europa.eu/research

Participant Portal

www.ec.europa.eu/research/participants/portal

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