

1. Brief overview of Horizon 2020



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Horizon 2020 – relevant areas for international participation

Excellent Science	Industrial Technologies	Societal Challenges
<ul style="list-style-type: none">▪ European Research Council<ul style="list-style-type: none">▪ Frontier research by the best individual teams▪ Future and Emerging Technologies<ul style="list-style-type: none">▪ Collaborative research to open new fields of innovation▪ Marie Skłodowska Curie actions<ul style="list-style-type: none">▪ Opportunities for training and career development▪ Research Infrastructures (including e-infrastructure)<ul style="list-style-type: none">▪ Ensuring access to world-class facilities	<ul style="list-style-type: none">▪ Leadership in enabling and industrial technologies<ul style="list-style-type: none">▪ ICT, nanotechnologies, materials, biotechnology, manufacturing, space	<ul style="list-style-type: none">▪ 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▪ Secure societies



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2. The European Research Council



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The European Research Council



- For excellent researchers of any nationality wishing to conduct their groundbreaking research in Europe (EU Member State or Associated Country)
- No thematic priorities → bottom-up approach
- Investigator-driven



More than 600 grants to non-EU/AC Principal Investigators since start of ERC

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The European Research Council



ERC Main Principles

- 1 Principal Investigator (PI) and team
- 1 Host institution in an EU Member State or Associated Country to Horizon 2020
- 1 Selection criterion: EXCELLENCE
- Project duration: Up to 5 years
- Minimum 50% (StG), 40% (CoG), 30% (AdG, SyG) of PI working time on ERC project
- Minimum 50% of ERC PI working time in a EU Member State or Associated Country
- Possibility to move with the grant to any place in Europe if necessary

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Four ERC main funding lines



Starting Grant (StG)

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

Consolidator Grant (CoG)

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

Advanced Grant (AdG)

Senior researchers with a significant ten-year-track record | up to €2.5 mio.

Synergy Grant (SyG)

2-4 excellent researchers and their teams (researchers with complementary skills, knowledge and resources) project duration max. 6 years | up to a maximum of €10 mio.

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Additional Funding

- Start-Up costs for scientists moving to EU / Associated Countries
 - Purchase of major equipment
 - Access to large facilities
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- ✓ Up to €500 000 for Starting
 - ✓ Up to €750 000 for Consolidator
 - ✓ Up to €1 Million for Advanced grantees



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Useful links and ERC promotional video

ERC:

<https://erc.europa.eu/>

ERC videos:

<https://vimeo.com/28818767>

<https://vimeo.com/31716309>



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Indicative summary of main ERC calls from the 2018 budget

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

Source: ERCEA



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3. Future Emerging Technologies (FET)

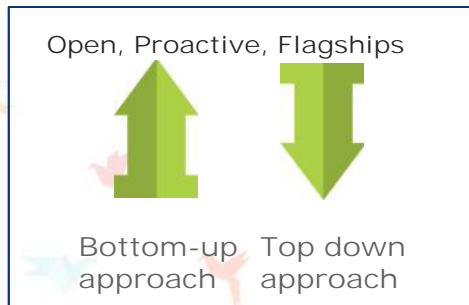


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Future Emerging Technologies (FET)

- 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)



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FET Openings and deadlines under WP 2018-2020

Funding scheme	Publication	Budget	Deadline
FETOPEN1	07.11.2017	647,5 Mio. €	*
FETOPEN2	07.11.2017	2 Mio. €	11.04.2018
FETOPEN3	07.11.2017	8,2 Mio. €	**
FETPROACT1	31.10.2017	88 Mio. €	22.03.2018
FETPROACT2	31.10.2017	0,5 Mio. €	22.03.2018
FETPROACT3	05.06.2018	6 Mio. €	18.12.2018
FETHPC1****	01.02.2018	4 Mio. €	15.05.2018
FETHPC2****	07.05.2019	64 Mio. €	24.09.2019
FETFLAG1	31.10.2017	6 Mio. €	***
FETFLAG2	31.10.2017	10 Mio. €	17.04.2018
FETFLAG3	31.10.2017	130 Mio. €	20.01.2018

* 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
 **** FET PROACTIVE – HIGH PERFORMANCE COMPUTING

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Useful links and FET Open promotional video

- FET Open:
<http://ec.europa.eu/programmes/horizon2020/en/h2020-section/fet-open>
- FET Proactive:
<http://ec.europa.eu/programmes/horizon2020/en/h2020-section/fet-proactive>
- FET Flagships:
<http://ec.europa.eu/programmes/horizon2020/en/h2020-section/fet-flagships>
- [FET Open video](#)



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4. Marie Skłodowska-Curie actions (MSCA)

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

- Opportunities for training and career development
- Mobility of researchers is mandatory

Excellent
Science

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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Four MSCA main funding lines – Part I

Individual Fellowships (IF):

- Supporting experienced international researchers to do research in Europe for 12-36 months
- Host institutions: from academia or industry

Co-funding of regional, national and international programmes (COFUND):

- COFUND provides funding for funders, stimulating regional, or international programmes
- At all stages of researchers' careers (ESR, ER)

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Four MSCA main funding lines – Part II

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
- Exchange of all types of staff (research, management, administrative and technical)

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IF: Individual Fellowships

- 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
- Work contract including social security for 12-36 months
- Possibility to spend 2 years in a TC and one year in Europe (Global Fellowships)

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Co-funding of regional, national and international programmes (COFUND):

- COFUND provides funding for funder
- Stimulates regional, national or international programmes
- At all stages of researchers' careers (ESR, ER)

Doctoral Programmes

Fellowship Programmes

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ITN: Innovative Training Networks

- Participation of early-stage researchers in existing joint research training or doctoral programmes of international networks
- Duration: 4 years, any nationality of researchers, funds covering researchers' and institutional costs
- Network of organisations can apply for funding within the following funding schemes:

ETN

European Training Networks

Participants implement a joint research programme

Min. 3 beneficiaries from any sector from 3 different MS/AC
540 PM

EID

European Industrial Doctorates

Doctoral programme with the non-academic sector

Min. 2 beneficiaries from 2 different MS/AC:
1 academic + 1 non-academic sector 180PM
540 PM > 2 entities

EJD

European Joint Doctorates

Doctoral programme to deliver joint degrees

Min. 3 beneficiaries from academic sector, awarding PhD from 3 different MS/AC
540 PM

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RI SE: 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 of any nationality, employed by the organisations from the network, can participate
- All types of staff are eligible (research, management, administrative or technical)
- Sharing of knowledge and ideas from research to market through trans-border and inter-sectoral collaboration with Europe.

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RI SE: Research and Innovation Staff Exchange

Conditions:

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

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Openings and deadlines under WP 2018-2020

Funding scheme	Publication	Budget	Deadline
ITN 19	13.09.2018	470 Mio. €	15.01.2019
ITN 20	12.10.2019	525 Mio. €	09.01.2020
RISE 18	22.11.2017	80 Mio. €	21.03.2018
RISE 19	04.12.2018	80 Mio. €	02.04.2019
RISE 20	05.12.2019	80 Mio. €	07.04.2020
IF 18	12.04.2018	273 Mio. €	12.09.2018
IF 19	11.04.2019	295,62 Mio. €	11.09.2019
IF 20	08.04.2020	325 Mio. €	09.09.2020
COFUND 18	12.04.2018	80 Mio. €	27.09.2018
COFUND 19	04.04.2019	90 Mio. €	26.09.2019
COFUND 20	08.04.2020	100 Mio. €	29.09.2020

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5. Research Infrastructures

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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

Third countries eligible for funding:

- Australia, Brazil, Canada, China, India, Japan, Russia, Mexico and USA
- They provide, under the grant, access to their research infrastructures

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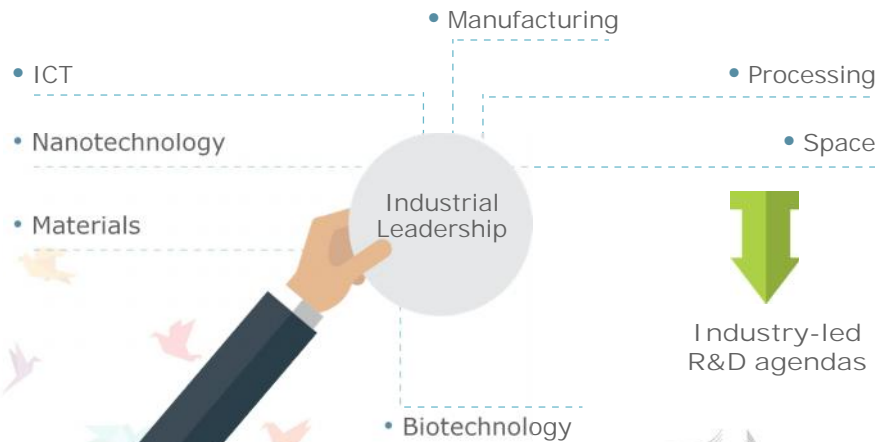
Please only use if relevant for the country (see note below)

6. Industrial Leadership

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Leadership in enabling and industrial technologies (LEIT)



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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 currently 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 and reap the benefits of space now'.

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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 Key Enabling Technologies (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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7. Societal Challenges

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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 Bioeconomy
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 Bioeconomy

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 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

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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 societal dependence 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

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

Budget: € 1,309 billion

Main objectives:

- Reduce inequalities, promote social fairness and propose solutions for adapted governance structures
- Identify untapped sources of growth and support new forms of innovation (e.g. open innovation, innovation of business models, public sector innovation, social innovation) to meet social needs
- Support research and innovation in European heritage, identity, history and culture
- Strengthen EU's capacities for developing and improving its external action and international cooperation
- Main themes for 2018-2020: migration, transformations in the Industry 4.0 context, governance for the future

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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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8. Spreading Excellence and Widening Participation



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Spreading Excellence and Widening Participation

Budget: € 816,5 million

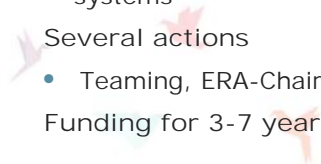
Main objectives:

- 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

Several actions

- Teaming, ERA-Chairs, Twinning, COST and more

Funding for 3-7 years



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9. Science with and for Society



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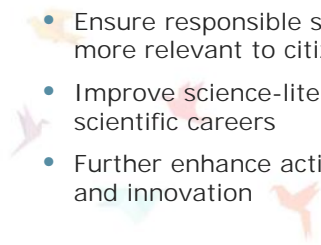
Science with and for Society (SwafS)

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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Participant Portal

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

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