

HORIZON 2020

Funding of R & D in the European Union / Az Európai Unió kutatás-fejlesztési forrásai

Based on official presentations and information of the EC
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EU R&D objectives, strategies and priorities I

To strengthen European competitiveness, economic growth and employment

Based on "Knowledge Triangle"

Research & Technology

Education Innovation

Programmes:
FP1 to FP7, 1984 – 2013
Horizon 2020, 2014 – 2020

EU R&D objectives, strategies and priorities II

Simplification

- Provisions
- Wording

Flexibility

- To accommodate particularities
- Usual cost accounting practices

Coherence

- Within H2020 and with other EU programmes

Continuity

- Where possible and adequate

EU R&D objectives, strategies and priorities - A single set of rules

- Covering all H2020 research and innovation actions
- Keeping flexibility where needed.

EU R&D objectives, strategies and priorities – need for H2020

- Commission proposal for a **79 Billion euro** research and innovation funding programme (2014-20)
- Part of the new EU budget 2014-2020, complementing Structural Funds, education, etc.
- A core part of Europe 2020, Innovation Union & European Research Area:
 - Responding to the economic crisis to invest in future jobs and growth
 - Addressing peoples' concerns about their livelihoods, safety and environment.
 - Strengthening the EU's global position in research, innovation and technology

EU R&D objectives, strategies and priorities – goals of H2020

- Strengthen the EU's position in science
Boost top-level research
- Strengthen European industry, in particular small companies (SMEs)
Greater access to capital and support for SMEs
Remove obstacles in industrial innovation
- Address major European concerns ("societal challenges")
Health problems, aging population, food safety, environment etc
Bridge the gap between research, healthcare and market

Impact of Horizon 2020 for R&I

Key Features

- Projects based on the basis of excellence
- Projects selected through internal peer-review competition
- Ambitious collaborative projects with critical mass
- Projects that address societal grand and global challenges
- Projects leveraging national private and public resources
- Seamless support from idea to market
- Early access for all participants including SMEs

Horizon 2020

Societal Impact and Contributions to Europe 2020

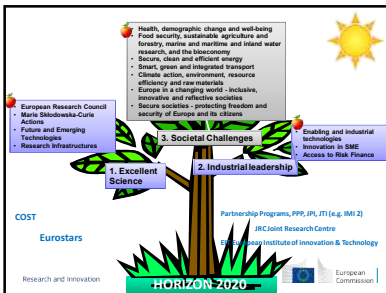
- Economic growth
 - EU invested in Horizon 2020 produces €15 more GDP per annum
- More high-tech jobs
 - 100,000 in the medium term
- Scientific publications
- Research and innovation outputs of Horizon 2020
- Improved R&D capabilities
- Scientific publications
- Mobile and sustainable
- Progress, competitiveness, jobs
- Patents
- New products, processes, services
- Spin-offs
- Inclusive & sustainable growth
 - Better health & more well-being
 - A more secure society
 - Sustainable agriculture
 - Smart, efficient energy
 - Smart, Green, Integrated
 - Reduced greenhouse gas emissions
 - Efficient use of natural resources
- Competitiveness
 - Exports increase by 1.4% and revenue increases by 5.2% in the medium term

EU R&D objectives, strategies and priorities – budget of H2020

HORIZON 2020 BUDGET (in current prices)

EU R&D objectives, strategies and priorities – H2020 priorities

HORIZON 2020



Priority 1 - Excellent Science

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

Research and Innovation

Priority 1 - Excellent Science ERC (European Research Council)

Basic frontier research, "bottom-up" (like VR)

Project types:

1. **Starting Grant**
2-7 years-Full qualification, ≤1.5 MC over 5 years
2. **Consolidator Grant**
6-13 years-From postdoctoral, ≤2 MC over 5 years
3. **Advanced Grant**
≤7, 8 (1,3) MC over 5 years
4. **Proof of Concept Grant**
≤1.5 MC over 1 year
For ERC Grant holders to investigate innovation potential

Research and Innovation

Priority 1 - Excellent Science Marie Skłodowska-Curie Actions

MSCA (People program in Fp7)

- Education, career development for researchers
- Mobility within, to and outside Europe
- Broadened interaction between industry and academia
- Bottom-up programmes

Research and Innovation

Priority 1 - Excellent Science Marie Skłodowska-Curie Actions II

IF – Individual Fellowships

- ✓ Research in an (another) EU country (1-2 years)
- ✓ Research outside EU (1-2 years) and within EU again

(1 year)

ITN – Innovative Training Networks

- ✓ European "Research Training school" (5 – 10 partners) - ETN
- ✓ Joint doctorate between Universities - EJD
- ✓ Industry doctorate (in conjunction with university) - EID

RISE – Research and Innovation Staff Exchange

- ✓ Knowledge exchange by two-way secondments

Researcher
PhD stud., Researcher
PhD stud., Researcher, Lab staff

Research and Innovation

Priority 1 - Excellent Science Future Emerging Technologies (FET)

Collaborative research to support radically new technological possibilities to "shape the future technology landscape"

Three lines:

FET Open	FET Proactive	FET Flagships
Early-stage, visionary new ideas (bottom-up)	Based on challenges (top-down)	Large-scale initiatives in areas of European interest

Research and Innovation

Priority 1 - Excellent Science Infrastructures

Create and coordinate European facilities, resources and services for research and innovation, e.g.

- ✓ Equipment, biobanks, databases

Single site, distributed or virtual
Based on ESFRI roadmap

Top-down programme

ESFRI = European Strategy Forum on Research Infrastructures

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Priority 2 - Industrial leadership

- Leadership in enabling and industrial technologies
- Innovation in SME
- Access to Risk Finance

Research and Innovation

Priority 2 - Leadership in enabling and industrial technologies

Collaborative projects to build industrial leadership within prioritized areas:

- ✓ ICT (Information and Communication Technologies)
- ✓ Nanotechnologies
- ✓ Advanced materials
- ✓ Biotechnology
- ✓ Advanced manufacturing and processing
- ✓ Space

Bridge the gap between research and marketable products and services

Top-down programme (needs in industry)

Research and Innovation

Priority 2 – Innovation in SME and Access to Risk Finance

Innovation in SME
Funding to SMEs, entrepreneur coaching, IPR helpdesk etc
- *May involve collaboration with University*

Access to Risk Finance
Loans, risk finance, bank guarantees to companies



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Priority 3 – Societal challenges

- Health, demographic change and well-being
- Food security, sustainable agriculture and forestry, marine and maritime and inland water research, and 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 societies - protecting freedom and security of Europe and its citizens

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R&D funding organizations I

Executive Agencies implementing Horizon 2020

- European Research Council (ERCEA)
- Research Executive Agency (REA)
- Executive Agency for Small & Medium-size Enterprises (EASME)
- Innovation and Networks Executive Agency (INEA)

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R&D funding organizations II - ERCEA

European Research Council

- Handling ERC Starting Grants (for top researchers with 2 to 7 years of experience after their PhD, grants up to €2million for five years)
- ERC Consolidator Grants (for top researcher with 7 to 12 years of experience after their PhD, grants up to €2.75 million for five years)
- ERC Advanced Grants (for excellent established researchers, leaders in their respective field of research, grants up to €3.5 million for five years)
- ERC Proof of Concept (for ERC grant holders only, bridging gap between research – earliest stage of marketable innovation, grants up to €150,000)

More info: <http://erc.europa.eu/>

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R&D funding organizations III - REA

Research Executive Agency (REA)

- The Agency makes a practical contribution to achieving the goals of the Innovation Union, a flagship EU initiative which is a part of Europe 2020, the EU's global strategy for growth. This includes help in delivering the European Research Area
- Fully operational since mid-2009, the Agency was set up in 2008 in Brussels to manage large parts of the Seventh Framework Programme for Research, Technological Development and Demonstration Activities (FP7), which runs until the end of 2013.
- As from 2014, the Agency manages a large share of Horizon 2020

More info: http://ec.europa.eu/rea/about_us/index_en.htm

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R&D funding organizations IV - EASME

The Executive Agency for Small and Medium-sized Enterprises (EASME) has been set-up by the European Commission to manage on its behalf several EU programmes such as:

- Most of COSME, the EU programme for the Competitiveness of Enterprises and Small and Medium-sized Enterprises (SMEs), including Enterprise Europe Network (EEN), Your Europe Business;
- Part of Horizon 2020, the EU Framework Programme for Research and Innovation, and in particular:
 - Part II 'Industrial leadership': Innovation in SMEs (including the European IPR Helpdesk and Peer learning for innovation agencies); the Sustainable Industry Low Carbon Scheme (SILC II); part of the Leadership in Enabling and Industrial Technologies

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R&D funding organizations IV - EASME

Executive Agency for Small & Medium-size Enterprises (EASME)

- Part III 'Societal challenges': the Energy Efficiency part of the challenge 'Secure, Clean and Efficient Energy'; calls for proposals in the fields of waste, water innovation and sustainable supply of raw materials under the challenge 'Climate action, Environment, Resource Efficiency and Raw Materials'
- The SME instrument
- Fast Track to Innovation (FTI) Pilot
- Part of the EU programme for the Environment and Climate action (LIFE)
- Part of the European Maritime and Fisheries Fund (EMFF)
- The legacy of the Intelligent Energy – Europe programme and the Eco-innovation Initiative

More info: <http://ec.europa.eu/easme/en/about-easme>

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R&D funding organizations V - INEA


Innovation and Networks Executive Agency (INEA)

INEA officially started its activities on 1 January 2014 in order to implement the following EU programmes:

- Connecting Europe Facility (CEF)
- Parts of Horizon 2020 – Smart, green, and integrated transport + Secure, clean and efficient energy
- Legacy programmes: TEN-T and Marco Polo 2007-2013

INEA's main objective is to increase the efficiency of the technical and financial management of the programmes it manages.

More info: <http://ec.europa.eu/inea/>

Research and Innovation 

What is different from FP7? – single set of rules, simple evaluation


Single set of rules
Adapted for the whole research and innovation cycle covering all research programmes and funding bodies

Simple evaluation criteria

STANDARD AWARD CRITERIA

EXCELLENCE	IMPACT	QUALITY & EFFICIENCY OF THE ACTION
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ERC frontier Research actions - only EXCELLENCE
Innovation actions - higher weighting for IMPACT, (X1.5)

Research and Innovation 

What is different from FP7? - Time to grant: speeding up the process I

A maximum TTG of 8 months

5 months for informing all applicants on scientific evaluation

3 months for signature of GA

Some exceptions apply

Research and Innovation

What is different from FP7? - Time to grant: speeding up the process II

How to speed up the process

- ✓ **No more negotiations:** each proposal evaluated "as it is, not as 'what could be'";
- ✓ **Legal entity validated in parallel.**
- ✓ **No more paper:** e-communication & e-signature of grants.



Research and Innovation

What is different from FP7? - Forms of funding

What is NEW

- ✓ **Specific provisions targeting innovation:**
 - pre-commercial procurement,
 - procurement of innovative solutions
 - and inducement prizes.
- ✓ **Financial instruments:**
 - a debt financial instrument,
 - a financial instrument providing equity finance for R&I, etc.
- ✓ **Possibility of output-based grants (lump-sums per project).**
- ✓ **Enhanced use of other lump-sums, flat rates and unit costs.**

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What is different from FP7? - Forms of funding - a single funding rate

	FP7	HORIZON 2020
Research and Innovation	80% (75% (**))	100%
Industrial and SMEs	75%	100% (***)
Small and medium enterprises	75%	100% (***)

One project = One rate


- ✓ For all beneficiaries and all activities in the grant.
- ✓ Defined in the Work Programme:
 - Up to 100 % of the eligible costs;
 - but limited to a maximum of 70 % for innovation projects (exception for non-profit organisations - maximum of 100%).

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What is different from FP7? - Forms of funding - cost reimbursement

Personnel costs

- ✓ **Wider acceptance of average personnel costs**
- ✓ **Acceptance of supplementary payments** for non-profit organisations of up to 8000 euros/person/year
- ✓ **Simplifying participation for SMEs**
- ✓ **Less requirements for time records**
- ✓ **...and more in the Horizon 2020 Model Grant Agreement**



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What is different from FP7? - Forms of funding - single indirect cost model

60% ? 20% ?

Real ?

FP7

Simplified?

HORIZON 2020

Single model: 25 % Flat Rate

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New funding model: what impact on the EU contribution?

An example

FP7	Majority of MS & RTDs	Direct costs	Indirect costs	Total costs	% EU contribution	EU contribution
Flat-rate (60%)		100	60	160	75%	€ 120

HORIZON 2020	Direct costs	Indirect costs	Total costs	% EU contribution	EU contribution
100/25 Funding	100	25	125	100%	€ 125

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What is different from FP7? - Forms of funding - specific procedures I

Fast Track to Innovation Pilot:

To be launched in 2015, with the following features

- ✓ **maximum of 5 partners/ maximum €3 M per project**
- ✓ **Bottom-up approach**
- ✓ **Continuously open call with three cut-off dates per year**
- ✓ **Time to grant not exceeding 6 months**
- ✓ **Covering all fields across LEITs (Leadership in enabling and industrial technologies) and Societal Challenges**

Research and Innovation

What is different from FP7? - Forms of funding - specific procedures II

SME Instrument:

- ✓ Implemented via single centralised management structure
- ✓ Bottom-up approach
- ✓ Continuously open call
- ✓ Only SMEs eligible for participation



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What is different from FP7? - Forms of funding - Controls and Audits


Financial viability → Restricted to coordinators for projects ≥ €500 k€

Audit certificates → Only for final payments/per beneficiary //for actual costs ≥ €325 000 € (previously)
→ Optional Certificates on average personnel costs

Ex-post audits → Provisions in Horizon 2020 Regulation
→ Commission's audits up to two years after payment of the balance (previously years)
→ Audit strategy focused on risk and fraud prevention

Extrapolation → New Financial Regulation will apply

Guarantee Fund → Continuity with FP7

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What is different from FP7? - International Cooperation I

Participation

Open for all legal entities established in third countries and for international organisations.

Restrictions only possible if introduced in the work programme.

- ✓ For reciprocity reasons;
- ✓ For security reasons.



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What is different from FP7? - International Cooperation II

Funding

- ✓ Third country identified in the Work Programme or
- ✓ participation deemed by the Commission essential in the action or
- ✓ when provided under a bilateral scientific and technological agreement



Research and Innovation 

What is different from FP7? - Intellectual Property Rights I

We keep

- ✓ **Ownership**
 - for the participant who generates results;
 - joint-ownership only in specific circumstances
- ✓ **Protection** where appropriate
- ✓ **Exploitation**
 - General obligation to exploit
- ✓ **Dissemination**
 - principle maintained;



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What is different from FP7? - Intellectual Property Rights II

- ✓ **Transfer and exclusive licences outside the Union/Associated Countries**
 - the grant agreement may foresee right to object if a participant has received Union funding
- ✓ **Access rights**
 - for implementation and for exploitation purposes (also for affiliated entities established in MS/AC)
- ✓ **Tailor-made provisions in the MGA for:**
 - security-related activities;
 - ERC frontier research;
 - SME instrument;
 - mobility;

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What is different from FP7? - Intellectual Property Rights III

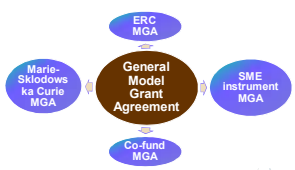
What is NEW


- ✓ **Additional exploitation /dissemination obligations** (in the work programme)
- ✓ **Open access:**
 - obligatory for scientific publications and;
 - to research data (in appropriate areas and when foreseen in the work programme)
- ✓ **Access rights:**
 - for the Union under all parts of the programme and;
 - for MS under 'Secure societies'.

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What is different from FP7? - Model Grant Agreement

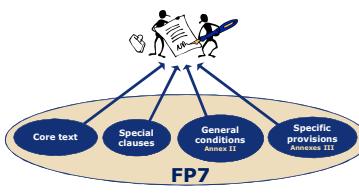
Horizon 2020 model Grant Agreement:




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Horizon 2020 model Grant Agreement:

A single document with all provisions



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Horizon 2020 model Grant Agreement:

Some novelties

- ✓ Global architecture common with the other EU programmes; with all the possibilities offered by the new FR
- ✓ Terminology: terms and meanings defined in the Financial Regulation except for those terms specific to H2020
- ✓ On-line explanations for each article of the grant ("annotated GA")

Research and Innovation 

Electronic communication for the management of the Grant:

Electronic signature

- *Of the Grant Agreement*
- *Of the Amendments*
- *Financial Statements and Technical reports*

Communication between the Commission and the beneficiaries

- *Through the Participant Portal*
- *Electronic-only submission of reports*

Research and Innovation  European Commission



 **HORIZON 2020**

**Thank you very much
for your attention!**

Find out more:
<http://ec.europa.eu/programmes/horizon2020/>
<http://ec.europa.eu/research/participants/portal/desktop/en/home.html>