



Horizon 2020

*The EU Framework
Programme for
Research and Innovation*

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2014-2020

HORIZON 2020

Research and
Innovation

The Multiannual Financial Framework 2014-2020: Commission's proposals 29 June 2011

Key challenge: stabilise the financial and economic system while taking measures to create economic opportunities

1. Smart & inclusive growth (€491bn)



2. Sustainable growth, natural resources (€383bn)

3. Security and citizenship (€18.5bn)

4. Global Europe (€70bn)

5. Administration (€62.6bn)

**Total:
€ 1,025bn**

What is Horizon 2020

- **Commission proposal for a 80 billion euro research and innovation funding programme (2014-2020)**
- **A core part of Europe 2020, Innovation Union & European Research Area:**
 - **Responding to the economic crisis** to invest in future jobs and growth
 - **Addressing people's concerns** about their livelihoods, safety and environment
 - **Strengthening the EU's global position** in research, innovation and technology

What's new

- **A single programme** bringing together three separate programmes/initiatives*
- **Coupling research to innovation** – from research to retail, all forms of innovation
- **Focus on societal challenges** facing EU society, e.g. health, clean energy and transport
- **Simplified access**, for all companies, universities, institutes in all EU countries and beyond.

*The 7th Research Framework Programme (FP7), innovation aspects of Competitiveness and Innovation Framework Programme (CIP), EU contribution to the European Institute of Innovation and Technology (EIT)



Three priorities:

1. Excellent science
2. Industrial leadership
3. Societal challenges

Priority 1. Excellent science

Why:

- World class science is the foundation of tomorrow's technologies, jobs and wellbeing
- Europe needs to develop, attract and retain research talent
- Researchers need access to the best infrastructures

Proposed funding (million euro, 2014-2020)

<p><i>European Research Council</i> Frontier research by the best individual teams</p>	13 268
<p><i>Future and Emerging Technologies</i> Collaborative research to open new fields of innovation</p>	3 100
<p><i>Marie Curie actions</i> Opportunities for training and career development</p>	5 572
<p><i>Research infrastructures (including e-infrastructure)</i> Ensuring access to world-class facilities</p>	2 478

Priority 2. Industrial leadership

Why:

- Strategic investments in key technologies (e.g. advanced manufacturing, micro-electronics) underpin innovation across existing and emerging sectors
- Europe needs to attract more private investment in research and innovation
- Europe needs more innovative SMEs to create growth and jobs

Proposed funding (million euro, 2014-20)

<p><i>Leadership in enabling and industrial technologies</i> (ICT, nanotechnologies, materials, biotechnology, manufacturing, space)</p>	<p><i>13 781</i></p>
<p><i>Access to risk finance</i> Leveraging private finance and venture capital for research and innovation</p>	<p><i>3 538</i></p>
<p><i>Innovation in SMEs</i> Fostering all forms of innovation in all types of SMEs</p>	<p><i>619</i> complemented by <i>6 829</i> (expected 15% of societal challenges + LEIT) and <i>'Access to risk finance'</i> <i>with strong SME focus</i></p>

Priority 3. Societal challenges

Why:

- Concerns of citizens and society/EU policy objectives (climate, environment, energy, transport etc) cannot be achieved without innovation
- Breakthrough solutions come from multi-disciplinary collaborations, including social sciences & humanities
- Promising solutions need to be tested, demonstrated and scaled up

Proposed funding (million euro, 2014-2020)

<i>Health, demographic change and wellbeing</i>	<i>8 033</i>
<i>Food security, sustainable agriculture, marine and maritime research & the bioeconomy</i>	<i>4 152</i>
<i>Secure, clean and efficient energy*</i>	<i>5 782</i>
<i>Smart, green and integrated transport</i>	<i>6 802</i>
<i>Climate action, resource efficiency and raw materials</i>	<i>3 160</i>
<i>Inclusive, innovative and secure societies</i>	<i>3 819</i>

***Additional €1 788m for nuclear safety and security from the Euratom Treaty activities (2014-2018). Does not include ITER.**



Euratom Programme 2014-2018

Budget: TOTAL: € 1665 million, including Fission €336m; Fusion € 673m; JRC € 656m.

Programme for 5 years, in line with the Euratom Treaty (art.7)

What is new?

- Stronger focus on nuclear safety and nuclear training
- A single Euratom programme bringing together three separate decisions
- The same rules for participation as in the Horizon 2020 - simplified access
- Programme contributes to the implementation of priorities of the 'Horizon 2020'
- Fusion research programme will be restructured

Funding for ITER outside MFF in a separate supplementary programme: € 2573 million for 2014-2018

Simplification: Rules for Participation

1. A single set of rules

- Adapted for the whole research and innovation cycle
- Covering all research programmes and funding bodies
- Aligned to the Financial Regulation, coherent with other new EU Programmes

2. One project – one funding rate

- Maximum of 100% of the total eligible costs (except for actions close to market, where a 70% maximum will apply)
- Indirect eligible costs: a flat rate of 20% of direct eligible costs

3. Simple evaluation criteria

- Excellence – Impact – Implementation (Excellence only, for the ERC)

4. New forms of funding aimed at innovation: pre-commercial procurement, inducement prizes, dedicated loan and equity instruments

5. International participation: facilitated but better protecting EU interests

Simplification: Rules for Participation

6. *Simpler rules for grants:* broader acceptance of participants accounting practices for direct costs, flat rate for indirect costs, no time-sheets for personnel working full time on a project, possibility of output-based grants

7. *Fewer, better targeted controls and audits*

- Lowest possible level of requirements for submission of audit certificates without undermining sound financial management
- Audit strategy focused on risk and fraud prevention

8. *Improved rules on intellectual property*

- Balance between legal security and flexibility
- Tailor-made IPR provisions for new forms of funding
- A new emphasis on open access to research publications

Beyond the Rules: further simplified provisions in the Grant Agreement and implementing procedures to facilitate access to Horizon 2020 (e.g. common IT platform).



Horizon 2020 and partnering

Public private partnerships:

- Through Joint Technology Initiatives or other formal structures (Art. 187)
- Through contractual agreements, which provide inputs for work programmes
- Only when criteria met, e.g. clear commitments from private partners

Public public partnerships:

- Through « ERA-Nets » for topping up individual calls/actions (replacing current ERA-Net, ERA-Net Plus, Inco-Net, Inno-net)
- Through participation in joint programmes between Member States (Art. 185)
- Supporting agendas of Joint Programming Initiatives when in line with Horizon 2020
- Only when criteria met, e.g. financial commitments of participating countries

European Innovation Partnerships:

- Not funding instruments, but for coordination with broader policies and programmes



Contributing to the European Research Area (ERA)

- ERA framework proposal in 2012 to create a single market for knowledge research and innovation
- Complemented by Horizon 2020:
 - Boosting support to ERA priorities – mobility, infrastructures, knowledge transfer, policy learning
 - Stronger partnerships with Member States and private sector to invest more efficiently
 - Taking account of gender, ethical issues, researcher careers and open access to results

Widening participation

- **Principle of excellence:** continue to allocate funding on the basis of competitive calls, selecting only the best projects.
- **Clear division of labour** between cohesion policy and Horizon 2020.
 - Cohesion policy: support for regions in building up their research and innovation capacity.
 - Horizon 2020: widen participation, better coordination between the two Union funding programmes, support policy learning reforms.
- **Accompanying measures in Horizon 2020** to ensure that excellence prevails wherever it exists, including: twinning, ERA chairs, support for access to international networks, development of smart specialisation strategies.

International cooperation

- **International cooperation is crucial** to address many Horizon 2020 objectives.
- **Principle of general openness:** the programme will remain to be the most open funding programme in the world.
- Horizon 2020 shall be open to the **association** of: acceding countries, candidate countries and potential candidates and selected third countries that fulfil the relevant criteria (capacity, track record, close economic and geographical links to the Union, etc.).
- Targeted actions to be implemented taking a **strategic approach to international cooperation** (dedicated measures in the 'Inclusive, innovative and secure societies' challenge).



Energy R&I in Horizon 2020

Energy research and innovation, an important part of Horizon 2020:

- Included as a key challenge 'Secure, clean and efficient energy' under the societal challenges' block of Horizon 2020
- Separate but complementary programme for nuclear energy activities adopted under the Euratom Treaty
- Important elements in the other pillars of H2020 (ICT, materials, bio-energy etc)

Key challenge 'secure, clean and efficient energy' (1)

- **Objective:** to make the transition to a reliable, sustainable and competitive energy system, in the face of increasingly scarce resources, increasing energy needs and climate change.
- **Broad lines of activities:** (1) Reducing energy consumption and carbon footprint by smart and sustainable use; (2) Low-cost, low-carbon electricity supply; (3) Alternative fuels and mobile energy sources; (4) A single, smart European electricity grid; (5) New knowledge and technologies; (6) Robust decision making and public engagement; (7) Market uptake of energy innovation.

Key challenge 'secure, clean and efficient energy' (2)

- **Support the implementation of the SET-Plan:**

SET-Plan roadmaps, implementation plans and governance structure

- **Partnering with European stakeholders important to share resources and implement jointly:**

Existing EIs may be turned into formalised PPP (case by case basis)

Support may be given, including with MSs, to alliances of public research performers, in particular, the EERA

International coordination actions shall support the SET-Plan

- **SETIS mobilised to develop, together with stakeholders, KPIs**

- **Improve coordination of relevant Union Programmes, initiatives and policies (e.g. Cohesion policy and the ETS mechanisms)**

Key challenge 'secure, clean and efficient energy' (3)

Complementarities and cross-cutting actions:

- Energy research and innovation to be implemented across the Horizon 2020
- Strong synergies needed with the other societal challenges as well as with the other parts of Horizon 2020 such as 'Excellence Science' and 'Industrial leadership'
- A strong link with the EIT needed to expand the knowledge, competence and innovation base and to accelerate the diffusion of low-carbon technologies into national research, education and innovation systems

Next steps

- Ongoing:** Parliament and Council negotiations on the basis of the Commission proposals
- Ongoing:** Parliament and Council negotiations on EU budget 2014-2020 (including overall budget for Horizon 2020)
- Mid 2012:** Final calls under 7th Framework Programme for research to bridge gap towards Horizon 2020
- Mid 2013:** Adoption of legislative acts by Parliament and Council on Horizon 2020
- 1/1/2014:** **Horizon 2020 starts, launch of first calls**

Initial reactions: positive overall

European Parliament level:

- Widening participation/ link with Cohesion Policy
- 100/20 Funding model
- Better facilitate small players participation

Council level:

- 100/20 Funding model
- Widening participation/ link with Cohesion Policy
- Role of MSs (comitology)
- Not enough human and social sciences
- Extent of cooperation amongst MSs



Thank you for your attention!

Find out more:

www.ec.europa.eu/research/horizon2020