



Horizon 2020

*The EU Framework
Programme for
Research and Innovation*

Neville Reeve

European Commission, DG RTD A3

2014-2020

A large graphic for 'Horizon 2020'. The word 'HORIZON' is in white, uppercase, sans-serif font, followed by a globe that serves as the letter 'O'. The word '2020' is also in white, uppercase, sans-serif font. The entire text is set against a background of a blue sky with white clouds and a bright sunburst effect emanating from behind the globe. The globe itself shows a view of Earth from space, with blue oceans and white clouds. Below the globe, there is a dark, curved horizon line.

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)

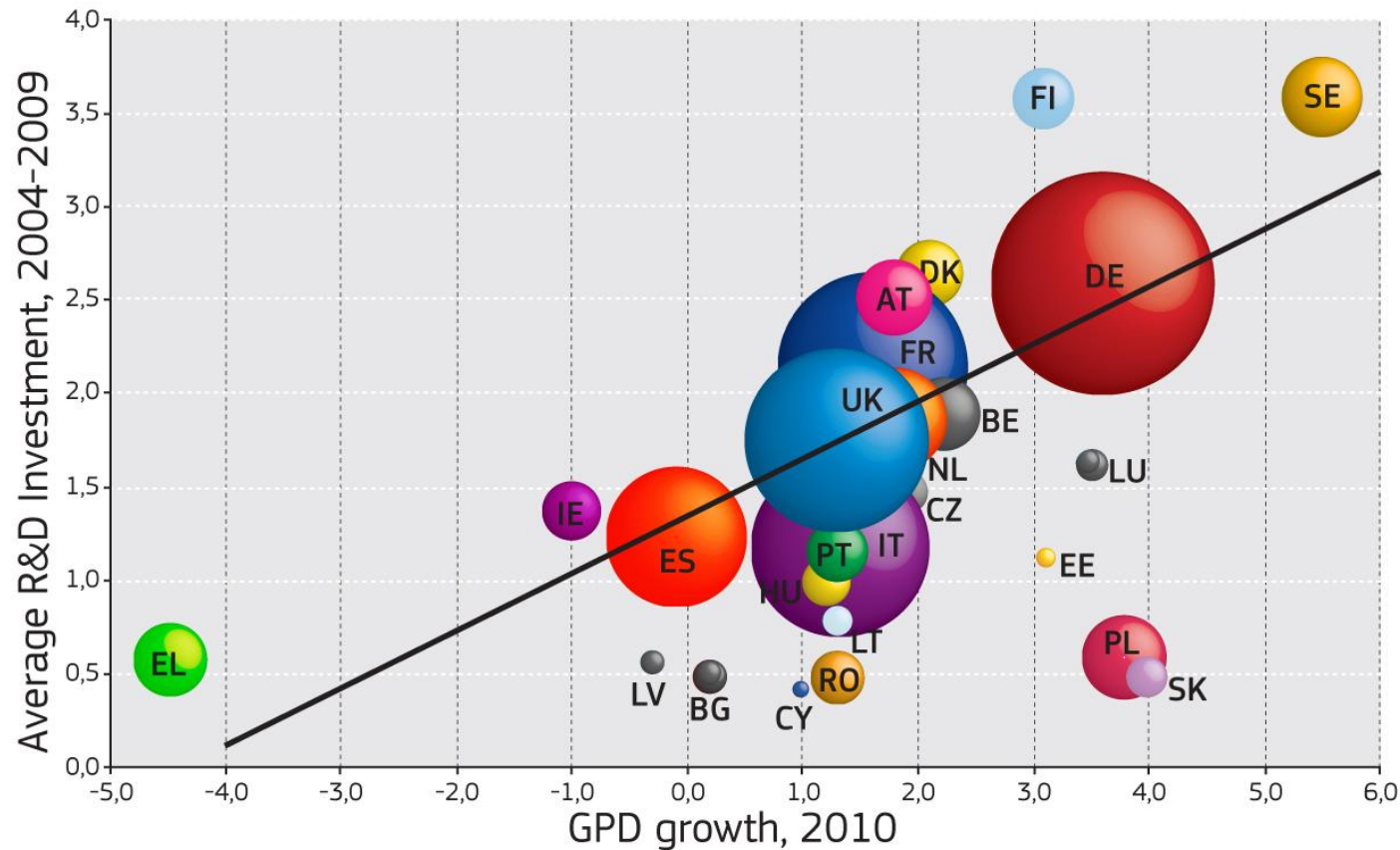
3. Security and citizenship (€18.5bn)

4. Global Europe (€70bn)

5. Administration (€62.6bn)

**Total:
€ 1,025bn**

Investment in R&D is part of the solution to exit from the economic crises



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

Active involvement of stakeholders

- **EU Presidencies: Sweden** (societal challenges-based approach), **Spain** (integration of research and innovation), **Hungary** (FP7 interim evaluation), **Poland** (widening participation), **European Council conclusions** from 4.2.2011 (Common Framework to bring together all EU research and innovation funding)
- **European Parliament** reports: Merkies (Innovation Union), Audy (FP7 evaluation), Matias (Horizon 2020) and Carvalho (simplification)
- Overwhelming response to the **public consultation** on Horizon 2020 (more than 2000 contributions)
- **Survey on administrative costs for participants in FP7**
- **25 workshops on the content** of Horizon 2020

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)

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

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

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.**

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

Role of the EIT and JRC in Horizon 2020

<i>European Institute Technology (EIT)</i> Combining research, innovation & training in knowledge and Innovation Communities	<i>1 360+</i> <i>1 440*</i>
<i>Joint Research Centre (JRC)**</i> Providing a robust, evidence base for EU policies	<i>1 962</i>

****Second tranche pro rata from LEIT and Societal challenges (subject to review)***

*****Additional €656 m for the JRC to be funded from the Euratom Treaty activities***

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).

Simplification: summary

- **Single set of** simpler and more coherent participation **rules**
- New **balance between trust and control**
- Moving from several **funding rates** for different beneficiaries and activities to just two
- Replacing the four methods to calculate overhead or «indirect costs» with a **single flat rate**
- Major simplification under the **forthcoming financial regulation**
- **Successful applicants to get working more quickly:** reduction of average time to grant by 100 days (current average of around 350 days under FP7)

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

Strong participation by SMEs

- **Integrated approach** - around 15% of the total budget for societal challenges and LEITs to go to SMEs.
- **Simplification** of particular benefit to SMEs (e.g. single entry point).
- A **new SME instrument**, building on the SBIR model, will be used across all societal challenges as well as for the LEITs
- A dedicated activity for research-intensive SMEs in **'Innovation in SMEs'**.
- **'Access to risk finance'** will have a strong SME focus (debt and equity facility)

Links to COSME

Horizon 2020 and COSME are complementary programmes to generate growth and jobs

Different focus:

- Horizon 2020 = innovation driven growth
- COSME = support to create favourable business environment and competitiveness

Closely coordinated, for instance:

- Integrated financial instruments (debt and equity), with facilities in both programmes serving complementary objectives
- Enterprise Europe Network set up under COSME, but support to SMEs for EU funding

Socio-economic sciences and humanities

- **Integrated approach:** SSH included as an integral part of the activities, working beyond 'silos' (*e.g. understanding the determinants of health and optimising the effectiveness of healthcare systems*).
- The '**Inclusive, Innovative and Secure Societies**' **challenge**: issues such as smart and sustainable growth, social transformations, social innovation and creativity, the position of Europe as a global actor as well as the social dimension of a secure society (*SSH have the tools to contribute to addressing security challenges, enhancing the societal dimension of security policy and research*).
- **Bottom-up funding:** ERC, MCA, Research Infrastructures.

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).

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**



Thank you for your attention!

Find out more:

www.ec.europa.eu/research/horizon2020