



HORIZON 2020

The New EU
Framework Programme for
Research and Innovation

2014-2020

Giorgio Clarotti



The Multiannual Financial Framework 2014-2020: European Council conclusions, 8 February 2013

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

1. Smart & inclusive growth (€451 billion)



2. Sustainable growth, natural resources (€373 billion)

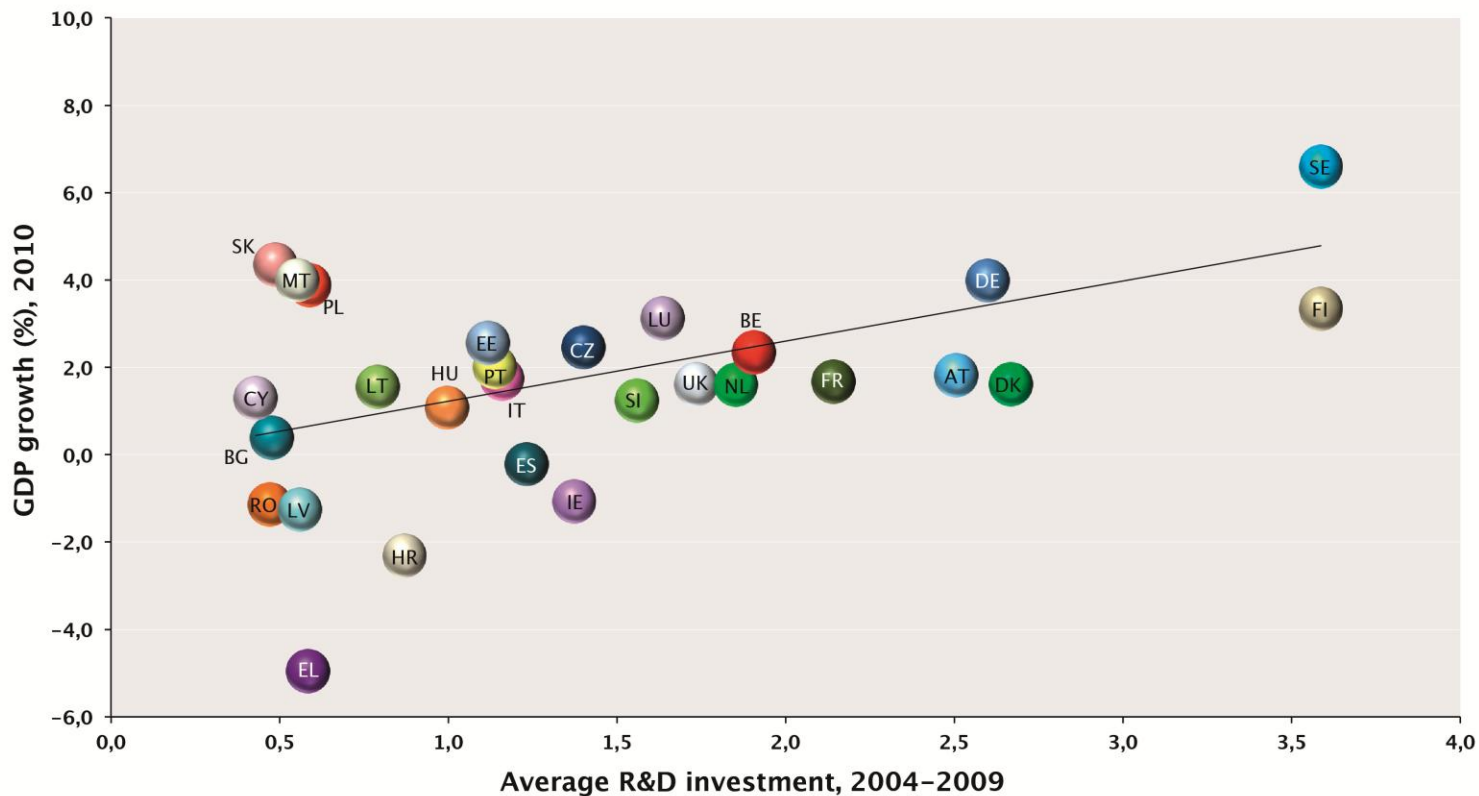
3. Security and citizenship (€16 billion)

4. Global Europe (€58 billion)

5. Administration (€61.6 billion)



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



Source: DG Research and Innovation - Economic Analysis Unit
 Data: Eurostat

Notes. (1) Greece: average R&D intensity refers to 2004-2007.
 (2) Denmark, Portugal, Slovenia, Sweden: Break in series between 2004-2009.

What is Horizon 2020

- **Initial Commission proposal for a €80 billion research and innovation funding programme (2014-2020); now just over €70 billion (79 billion in current prices including inflation)**
- **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



In addition 8% are invested in the EIT and in the JRC

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, 2014-2020) = 31%

54 %

11 %

European Research Council (ERC) Frontier research by the best individual teams	13 095
Future and Emerging Technologies Collaborative research to open new fields of innovation	2 696
Marie Skłodowska-Curie actions (MSCA) Opportunities for training and career development	6 162
Research infrastructures (including e-infrastructure) Ensuring access to world-class facilities	2 488

10 %

25 %

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 small and medium-sized enterprises (SMEs) to create growth and jobs**

Proposed funding (€ million, 2014-2020) = 22%

80 % Leadership in enabling and industrial technologies (LEITs) (ICT, nanotechnologies, materials, biotechnology, manufacturing, space)	17 % 13 557
Access to risk finance Leveraging private finance and venture capital for research and innovation	2 842
Innovation in SMEs Fostering all forms of innovation in all types of SMEs 4% - 20%	616 + complemented by expected 20% of budget of societal challenges + LEITs and ' Access to risk finance ' with strong SME focus

* Additional funding for nuclear safety and security from the Euratom Treaty activities (2014-2018)

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, 2014-2020) = 39%

Health, demographic change and wellbeing	7 472	24%
Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the Bioeconomy	3 851	12%
Secure, clean and efficient energy *	5 931	19%
Smart, green and integrated transport	6 339	20%
Climate action, environment, resource efficiency and raw materials	3 081	10%
Inclusive, innovative and reflective societies	1 310	4%
Secure societies	1 695	5%
<i>Science with and for society</i>	<i>462</i>	<i>1%</i>
<i>Spreading excellence and widening participation</i>	<i>816</i>	<i>3%</i>

* Additional funding for nuclear safety and security from the Euratom Treaty activities (2014-2018)

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-NET COfund action 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

Innovation Investment Package

€22 billion Innovation Investment Package

Joint Technology Initiatives (under Article 187)

- Innovative Medicines Initiative 2
- Clean Sky (Aeronautics) 2
- Fuel Cell and Hydrogen 2
- Bio-based Industries
- Electronic components and systems

Joint programmes (under Article 185)

- European and Developing Countries Clinical Trials Partnership (EDCTP) 2
- European Metrology Research Programme 2
- Eurostars (for SMEs) 2
- Active and Assisted Living 2

Benefits of Partnerships

Joint Technology Initiatives (with industry)

- Industry driven research agenda
- Fixed budget for 7 years to leverage more industry investment
- Sector structuring to achieve impact
- Coverage of longer value chains and interrelated sectors
- Higher level of SME participation (30%) than in FP7
- Links and synergies with Structural and Investment Funds

Joint programmes (with Member States)

- Link to national programmes
- Leverage effect
- Industry involvement
- Cross-border collaboration

Role of the EIT and JRC in Horizon 2020

	<i>Proposed funding (€ million, 2014-2020)</i>
<i>European Institute of Innovation & Technology (EIT)</i> Combining research, innovation & training in knowledge and Innovation Communities	2 711 (3.5%)
<i>Joint Research Centre (JRC)*</i> Providing a robust, evidence base for EU policies	1 903 (2.4%)

* Additional funding for the JRC for Euratom Treaty activities

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 innovation actions, where a 70% maximum will apply for profit making entities)
- ✓ Indirect eligible costs: a flat rate of 25% 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:** time-to-grant of 8 months; exceptions for the ERC and in duly justified cases
- **No negotiation of the grant agreement in future, what is submitted will be evaluated. Potential participants must now be aware of this.**

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 20% 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** 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)

Socio-economic sciences and humanities (SSH)

- **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 and reflective 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, MSCA, 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 international partner 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)

EURATOM

Budget: €1603 million (2014-2018) to support Fusion and Fission indirect actions and nuclear direct actions of the JRC

Duration of the Programme - 5 years, in line with the Euratom Treaty

What is new?

- Euratom Programme complements Horizon 2020 and addresses the same key challenges;
- The same rules for participation apply to Horizon 2020 and Euratom Programme;
- A streamlined fusion research programme focusing on the implementation of the fusion roadmap;
- A single regulation instead of four separate decisions during FP7



HORIZON 2020

**Thank you
for your attention!**

Find out more:
www.ec.europa.eu/horizon2020