Horizon 2020
The EU Framework Programme for Research and Innovation

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Delegation of the EU to Canada

2014-2020

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

- Smart & inclusive growth (€491bn)
  - Education, Youth, Sport
  - Connecting Europe
  - Cohesion
  - Competitive Business SMEs
  - Horizon 2020
- Sustainable growth, natural resources (€383bn)
- Security and citizenship (€18.5bn)
- Global Europe (€70bn)
- 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
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)

<table>
<thead>
<tr>
<th>Program</th>
<th>Funding (€)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>European Research Council</strong></td>
<td>13 268</td>
</tr>
<tr>
<td>Frontier research by the best individual teams</td>
<td></td>
</tr>
<tr>
<td><strong>Future and Emerging Technologies</strong></td>
<td>3 100</td>
</tr>
<tr>
<td>Collaborative research to open new fields of innovation</td>
<td></td>
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<tr>
<td><strong>Marie Curie actions</strong></td>
<td>5 572</td>
</tr>
<tr>
<td>Opportunities for training and career development</td>
<td></td>
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<tr>
<td><strong>Research infrastructures</strong></td>
<td>2 478</td>
</tr>
<tr>
<td>(including e-infrastructure)</td>
<td></td>
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<tr>
<td>Ensuring access to world-class facilities</td>
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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
<table>
<thead>
<tr>
<th><strong>Leadership in enabling and industrial technologies</strong> (ICT, nanotechnologies, materials, biotechnology, manufacturing, space)</th>
<th>13 781</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access to risk finance</strong></td>
<td>3 538</td>
</tr>
<tr>
<td>Leveraging private finance and venture capital for research and innovation</td>
<td></td>
</tr>
<tr>
<td><strong>Innovation in SMEs</strong></td>
<td>619 complemented by 6 829 (expected 15% of societal challenges + LEIT) and 'Access to risk finance' with strong SME focus</td>
</tr>
</tbody>
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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)

<table>
<thead>
<tr>
<th>Category</th>
<th>Funding (million euro)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health, demographic change and wellbeing</td>
<td>8 033</td>
</tr>
<tr>
<td>Food security, sustainable agriculture, marine and maritime research &amp; the bioeconomy</td>
<td>4 152</td>
</tr>
<tr>
<td>Secure, clean and efficient energy*</td>
<td>5 782</td>
</tr>
<tr>
<td>Smart, green and integrated transport</td>
<td>6 802</td>
</tr>
<tr>
<td>Climate action, resource efficiency and raw materials</td>
<td>3 160</td>
</tr>
<tr>
<td>Inclusive, innovative and secure societies</td>
<td>3 819</td>
</tr>
</tbody>
</table>

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

Public public partnerships:
- Trough « ERA-Nets » for topping up individual calls/actions (replacing current ERA-Net, ERA-Net Plus, Inco-Net, Inno-net)
- Trough 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

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

*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