



Horizon 2020 Interim Evaluation: Results & Outlook

**2018, 2019, Horizon 2020 – New Calls
and results of the midterm review
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STRUCTURE OF THE PRESENTATION

- Where we stand (after three years)
- Key findings
- Lamy High Level Group report
- Economic case for R&I
- Foresight
- Towards FP9



WHERE DO WE STAND AFTER THREE YEARS

ALLOCATION OF HORIZON 2020 FUNDING 2014-2016

Additional priorities on widening participation, including society, EURATOM and the pilot for fast-track-to innovation:
EUR 994.1 million to 270 projects

36%

3. Priority /pillar Societal Challenges responds directly to grand societal challenges and aims to stimulate a critical mass of research and innovation efforts to help address these:
EUR 7.4 billion to 2941 projects

5%

EUR 20.4 billion

37%

1. Priority/pillar Excellent Science aims to reinforce and extend the excellence of EU's science base and to consolidate the European Research Area:
EUR 7.5 billion to 5964 projects

22%

2. Priority/pillar Industrial Leadership aims to speed up the development of the technologies and innovations that will underpin tomorrow's new technology and help innovative European SMEs to grow into world-leading companies:
EUR 4.5 billion to 1933 projects

75% of funding to **collaborative projects**
100,000 proposals received, **11,000 projects** funded
Participants from **131 countries**
60% of budget implemented by Executive Agencies



INTERIM PERFORMANCE DATA

SNAPSHOT OF FEW INDICATORS ON IMPLEMENTATION

Data as of 1 January 2017

	FP7 2007-2013 EUR 55 Billion	Horizon 2020 2014-2020 EUR 77 billion
Yearly number of eligible proposals	19 219	34 025
Yearly number of applications	80 440	126 390
Yearly applications from private sector	20 443 (19 027 by SMEs)	47 293 (33 145 by SMEs)
Success rate of projects' proposals	18.4%	11.6%
Time to grant in number of days (excl. ERC)	303 days	192.2 days
Concentration of funding to top 100 beneficiaries (% of EC contribution)	34.6%	32.9%
Newcomers (% of participants not taking part in previous programme), as of 01/01/2017	Above 70%	52.1% so far (half of them are SMEs)
Funding rate (EC contribution as % of total project costs)	70%	70%

1/4 of high quality proposals not funded: EUR 60 billion more would have been needed to fund them all



INTERIM EVALUATION RESULTS

Examples of early indications of progress towards scientific, economic and societal impacts



Integration of R&I efforts between countries, sectors, scientific disciplines; **340 000 researchers**, **365 national research infrastructures** made accessible, scientific **reputation** and **breakthroughs**



First **publications cited twice the world average**, more than **1 in 5 publications based on private sector/ academia collaboration**



Funded projects **~40 % more likely to be granted patents**; beneficiary SMEs have **higher growth paths** than unsuccessful applicants; generation of first **IPR and innovations**; reinforcement of **framework conditions** for R&I



GDP gain estimated between EUR 400 to EUR 600 billion by 2030 (**1 EUR -> EUR 6 to 8.5**)

83% of projects would not go ahead without EU funding



HORIZON 2020 INTERIM EVALUATION RESULTS

KEY STRENGTHS



An **attractive, simplified and well-performing programme**, highly relevant for stakeholders and societal needs.



On track to deliver **value for money** and **to meet its knowledge-creating objectives**.



Strong **EU Added Value** through unique collaboration opportunities, competition & access to new knowledge.



HORIZON 2020 INTERIM EVALUATION RESULTS

KEY AREAS FOR IMPROVEMENT



Underfunding

Has lower success rates than FP7, esp. for high quality proposals, which constitutes a waste of resources for applicants and of good proposals for Europe.



Support for market-creating innovation

Demonstrates potential for breakthrough, market-creating innovation, but it could be strengthened substantially.



Outreach to civil society

Could better communicate the results and impacts of R&I for society, and involve users & citizens more in the agenda-setting & implementation (co-creation).



TOWARDS FP9: FORESIGHT - THE BOHEMIA PROJECT

- A strategic foresight study towards the proposal for the next FP R&I.
- Part of a strategy for engagement and co-design.

Phase 1:

Extensive review of available foresight to produce meta-scenarios relevant for Europe and deeper insights in topical fields (2016)

Phase 2:

Delphi survey to gain insights on future technologies, societal issues, and R&I practices based on the scenarios (April-May 2017)

Phase 3:

Analysis and policy recommendations (April-October 2017, with final report in October 2017)

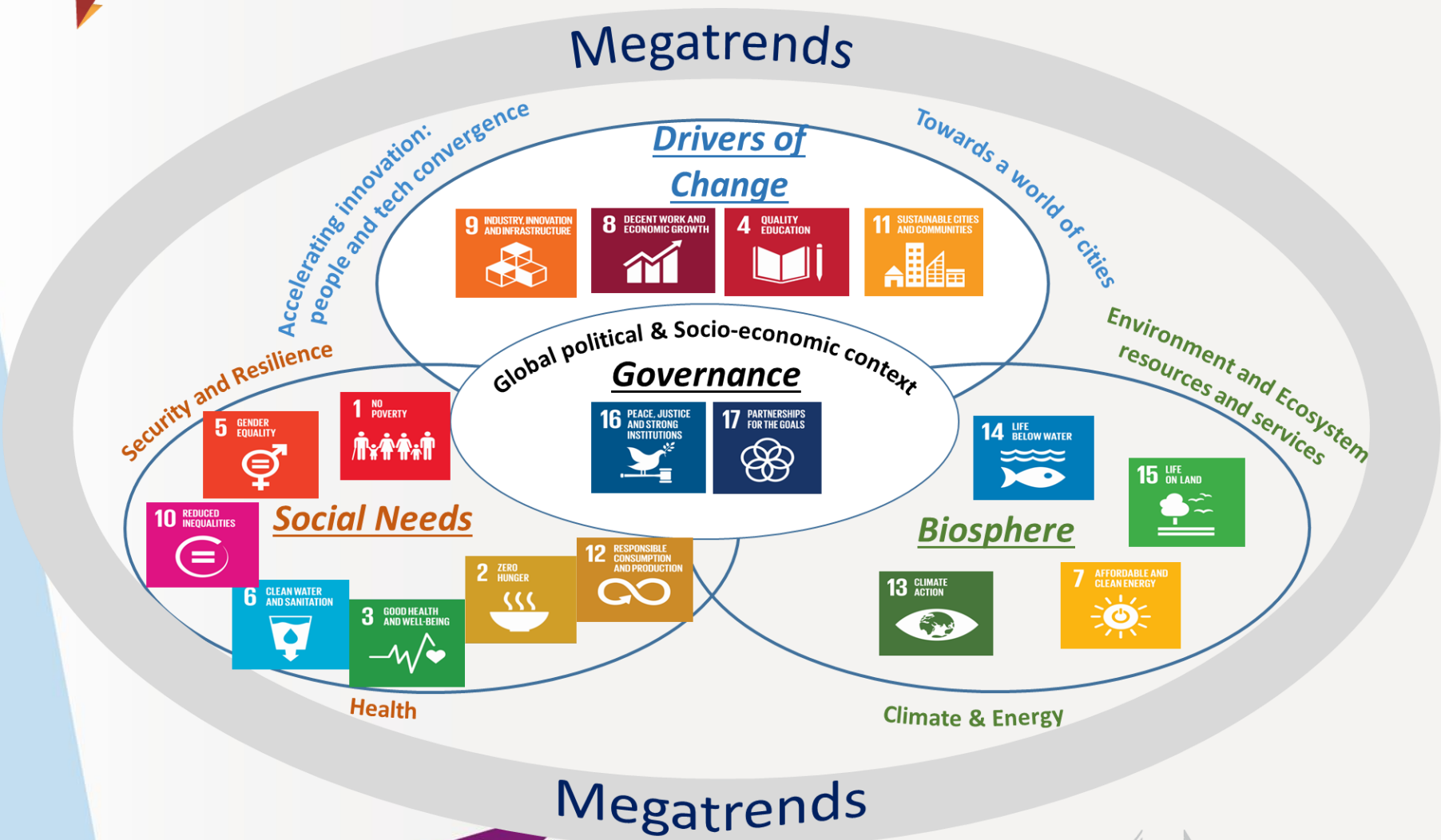
Report available:

<https://bookshop.europa.eu/en/new-horizons-pbKI0417246/?CatalogCategoryID=7QwKABstDHwAAAEjK5EY4e5L>





TOWARDS FP9: FORESIGHT - THE BOHEMIA SCENARIOS





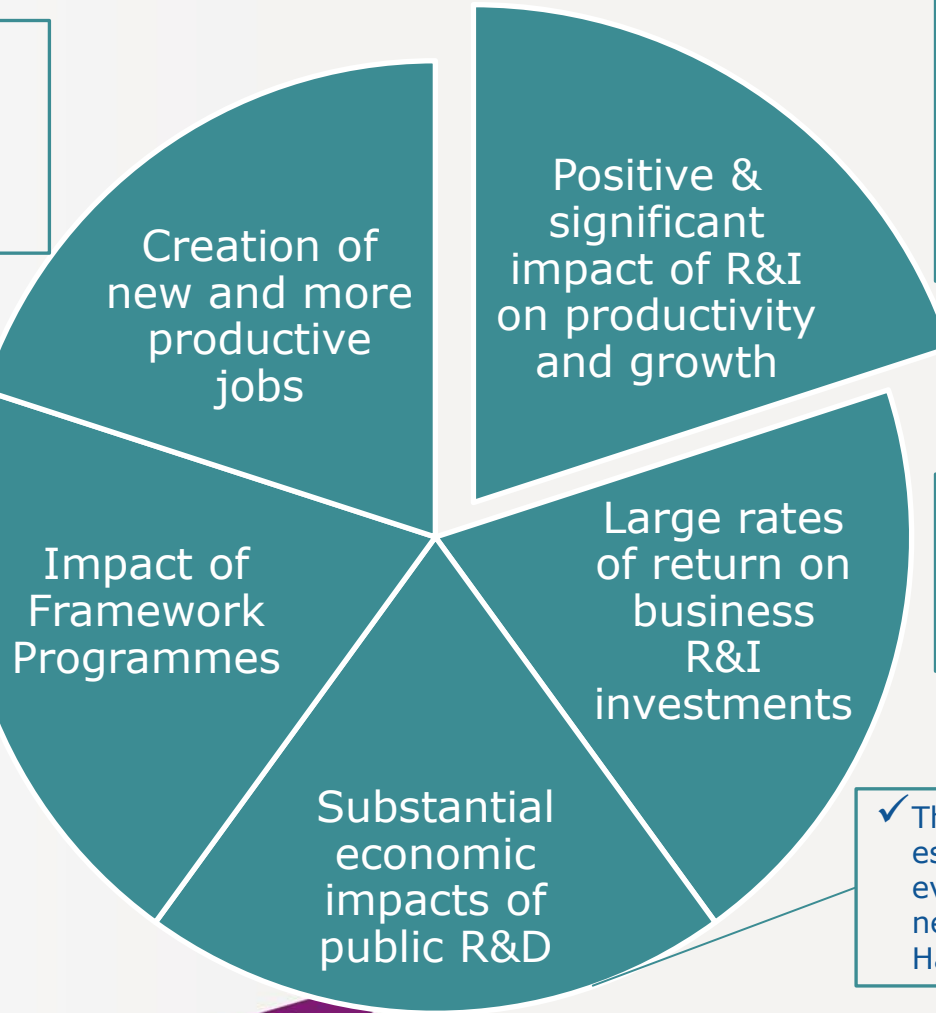
TOWARDS FP9: FORESIGHT – KEY MESSAGES FROM SCENARIOS REPORT

- R&I investment is key for a strong Europe in turbulent times
- The acceleration of change and the systemic nature of the challenges require:
 - **Flexibility for experimentation / learn from the best**
 - **Connecting disciplines / connecting policies / breaking down the silos**
- Need for options before crises strike:
 - **Requires direction (to create the conditions for future markets)**
 - **Requires openness / flexibility (for the markets to emerge)**
 - **e.g. global cooperation for global markets to solve global problems**
- Appropriate governance involves:
 - **Openness, inclusiveness and fairness as principles**
 - **Cities: a key level of governance / reaching for new actors**
 - **Public engagement and regulation making the difference for Europe**



TOWARDS FP9: THE ECONOMIC CASE OF R&I

✓ Companies with innovative products generate **30%-40% of new jobs in manufacturing** (Harrison et al 2014)



✓ **62% of growth in Europe** from 1995 to 2007 derives from R&I (NESTA, 2013)

✓ An **increase in R&D investment of 0.2% of GDP** can lead to an **increase of 1.1% of GDP**, i.e. five-fold in absolute terms (Donselaar and Koopmans, 2016)

✓ On average, the net **benefits** for a company that **invests 100 € in R&D** are **20 €**, and **up to 54 €** for R&D intensive companies (Hall et al, 2010)

✓ The **rate of return to public R&D** is estimated to be **around 20%**, i.e. for every 100 € of public R&D funding, the net benefit is of 20 € (Sveikaucas 2012, Haskel et al. 2014, Georghiou 2015)



TOWARDS FP9: FIRST CONCLUSIONS ON THE ECONOMIC CASE OF R&I

- ▶ **Public R&I policy is fully justified by market failures, positive spill-overs and need to shape/create markets for innovation**
- ▶ **Its economic impacts are large and significant**
- ▶ **It needs to target faster and more effective the creation and diffusion of innovation**

✓ **Report available:**

<http://bookshop.europa.eu/en/the-economic-rationale-for-public-r-i-funding-and-its-impact-pbKI0117050/>





TOWARDS FP9: LAMY HIGH LEVEL GROUP

- ▶ Europe's competitiveness is increasingly determined by investment and performance in R&I and education.
- ▶ We excel at producing scientific knowledge in Europe, but we are not good at getting growth out of science.
- ▶ Europe has an innovation deficit compared to global trading partners.
- ▶ The rate of technological and economic change, and the urgency of global challenges, make it imperative for Europe to address this problem now.



TOWARDS FP9

POLICY PRIORITIES SET BY COMMISSIONER MOEDAS

Open Science

- ✓ Open Access
- ✓ Open Data and European Open Science Cloud
- ✓ Research Integrity
- ✓ Inclusiveness & Citizen Science



Open Innovation

- ✓ European Innovation Council
- ✓ Venture capital funds of funds
- ✓ Pro innovation Regulatory Environment
- ✓ Boosting Private Investment
- ✓ Maximizing Impact of EU funding

Open to the World

- ✓ Leading & working with multilateral initiatives & international organisations
- ✓ Better framework conditions for scientific cooperation
- ✓ Science diplomacy and synergies with the EU's external policies

"I am convinced that the core values of Horizon 2020 and its successor have to be: excellence, openness and impact".



TOWARDS FP9

COMMISSION COMMUNICATION ON THE INTERIM EVALUATION OF HORIZON 2020

- Draw policy conclusions from the results of the interim evaluation - highlighting some of the current findings by giving them a political endorsement;
- React to HLG recommendations for the future framework programmes;
- Also tie up with the ongoing dedicated evaluations of Art 185 and Art 187 initiatives.



TOWARDS FP9

A BRIDGING PHASE: HORIZON 2020 WORK PROGRAMME 2018-2020

- ▶ Prepare for a bridge in the last years of the programme to enable a smooth transition to any successor to Horizon 2020:
 - ▶ investment of 30 billion EUR for 3 years;
 - ▶ ... testing new approaches: European Innovation Council, simplification, international cooperation flagships...
 - ▶ ... flexibility for 2020, with 'minimum' content to bridge to the successor Framework Programme.





NEXT STEPS

**OCT.
2017**

Publication of the **evaluations of Public-Private Partnerships and Public-Public Partnerships** (Art.185 & Art. 187 initiatives)

**DEC.
2017**

Publication of **Commission Communication** on the Interim Evaluation of Horizon 2020 (tbc)

**DEC.
2017 –
MARCH
2018**

Public stakeholder consultation **next Framework Programme** (tbc)

**JUNE
2018**

Adoption Commission proposal for the **next Framework Programme** & accompanying Impact Assessment (tbc)