



Key findings from the **HORIZON 2020** interim evaluation

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STRUCTURE OF THE PRESENTATION



Towards FP9 –Policy making process

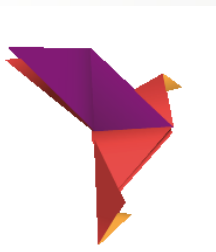
Horizon 2020 Interim Evaluation – Key findings

Foresight

Economic case for R&I

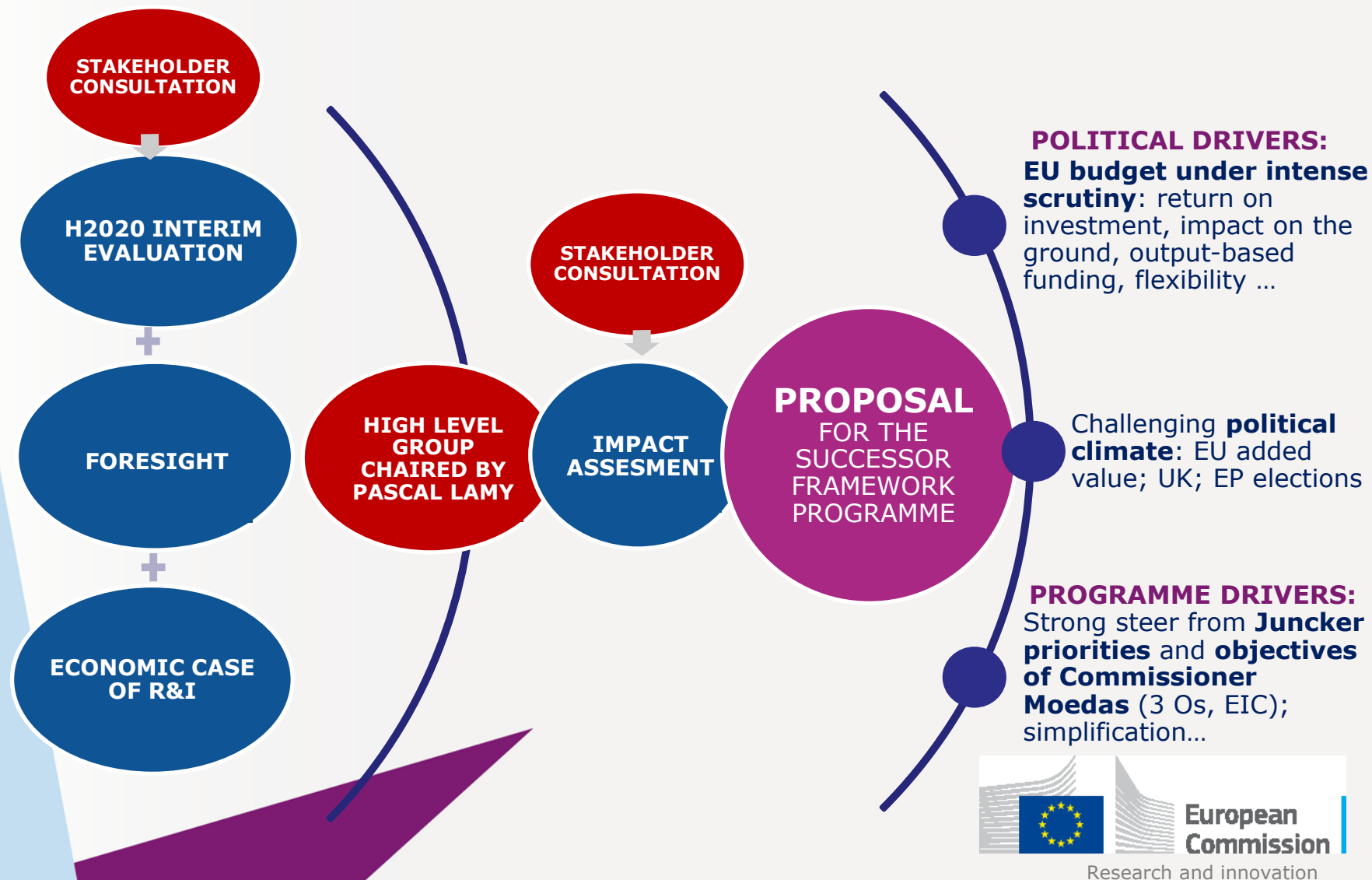
Lamy High Level Group report

Towards FP9



TOWARDS FP9 – OUR POLICY MAKING PROCESS

LEARNING FROM THE PAST, CONSIDERING THE FUTURE & BENEFITING FROM CO-DESIGN





HORIZON 2020 INTERIM EVALUATION

UNIQUE FEATURES OF HORIZON 2020

#1

The first **integrated programme**, covering both basic research and close-to-market innovation.



Total budget of ~ **EUR 77 billion**. Less than 10% of public R&D spending in the EU.



A **3 pillar approach** with one general objective: *"To contribute to building a society and economy based on knowledge and innovation across the Union."*



Excellence as guiding principle.



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

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

36%

5%

37%

EUR 20.4 billion

22%

1. Priority/pillar

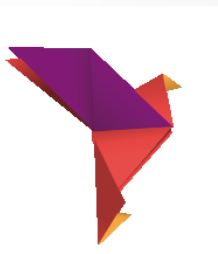
Excellent Science aims to reinforce and extend the excellence of EU's science base and to consolidate the European Research Area:

EUR 7.5 billion to 5964 projects

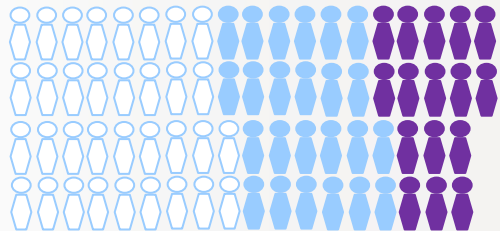
2. Priority/pillar

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



WHERE DO WE STAND AFTER THREE YEARS APPLICANTS, PROPOSALS AND SIGNED GRANTS

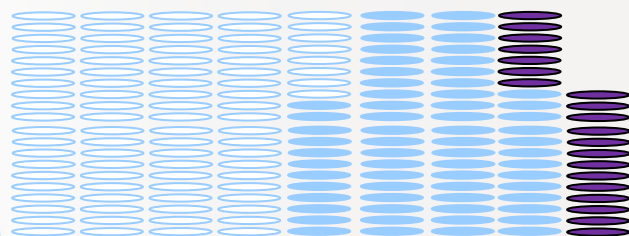


~75,000 applicants
submitted over **100,000 proposals**
requesting **EUR ~173 billion**

~11,000 grants were signed for
~EUR 20 billion



Overall **success rate was 11.6%**



**Less than 1 in 4 high-quality
proposals could be funded**



KEY FINDINGS RELEVANCE



ITS INITIAL OBJECTIVES ARE STILL FULLY VALID

- the EU still underinvests in R&I activities
- the identified Societal Challenges are still present



IS ATTRACTIVE TO STAKEHOLDERS

- ~33,000 applications per year (vs. 20,000 in FP7)



HAS PROVEN FAIRLY FLEXIBLE

- to emerging needs and political priorities (e.g. emergency Ebola call, more funds to deal with migration)



KEY FINDINGS RELEVANCE


ROOM FOR IMPROVEMENT



Establish an **impact-focused, mission-oriented approach**.



The strategic challenges and objectives are **not always clearly translated in specific calls** and topics.



Low involvement of civil society (but improved over FP7). Need to **bring R&I closer to the public**.



KEY FINDINGS EFFICIENCY



ON TRACK TO BE MORE EFFICIENT THAN FP7

- Administrative expenditure below the 5% legal target
- Time-to-grant 110 days faster than FP7



NETWORKS A WIDE RANGE OF STAKEHOLDERS

- Participants from over 130 countries
- 52% of participants are **newcomers**; more of them come from EU-13 (31.2%) than EU-15 (19.7%)



LARGE-SCALE OVERSUBSCRIPTION

- Success rate only 11.6% (vs. 18.4% in FP7)
- ~EUR 1.7 billion spent to write unsuccessful proposals



KEY FINDINGS EFFICIENCY

ROOM FOR IMPROVEMENT



Over **EUR 60 billion more** needed to fund **all high quality proposals**.



Comprehensiveness of **evaluation feedback** is a concern.



International cooperation should be further increased.



Low participation from **EU-13**, but improving over time.



Research and innovation



KEY FINDINGS EFFECTIVENESS - SCIENTIFIC IMPACT

INVOLVING AND TRAINING THE BEST



- Attracting **EU's and world's best institutions** & researchers
- ~340,000 researchers supported
- International mobility for 27,000 researchers (MSCA)

GENERATING SCIENTIFIC BREAKTHROUGHS



- ~4,000 peer-reviewed publications (2/3 in Open Access), **cited more than 2x world average**
- 17 Nobel Prize winners supported;
- 71% of ERC projects made scientific breakthroughs



BUILDING COLLABORATION NETWORKS

- 1 in 5 publications from collaboration **academia-private sector**
- More **interdisciplinary publications** than in FP7 (7.5%)



KEY FINDINGS EFFECTIVENESS - ECONOMIC IMPACT

PRODUCING INNOVATIONS & COMPETITIVENESS



- More **private sector participations** (33.2%) than FP7
- Funded projects ~40% more likely to be granted patents; patents are of **higher commercial value** than other peers
- 70% of SMEs aim at **new-to-market innovations**

GENERATING JOBS, GROWTH & INVESTMENTS



- GDP gain between EUR 400 to EUR 600 billion by 2030
- Every euro invested **brings back 6 to 8.5 euros**

SUPPORTING & NETWORKING BUSINESS & SMEs



- 5,700 organisations funded under Access to Risk Finance
- EUR 13 billion **private funds leveraged**



KEY FINDINGS EFFECTIVENESS - IMPACT

ROOM FOR IMPROVEMENT



Slow progress on **spreading excellence** in Europe.



Make Horizon 2020 data and publications even more **openly accessible**.



Support for **breakthrough, market-creating-innovation** can be strengthened.



KEY FINDINGS - COHERENCE



INCREASED COHERENCE WITH OTHER INITIATIVES

- With **Structural Funds**: e.g. through the Seal of Excellence
- **Structuring effect**: e.g. through ERC quality label & Teaming for Excellence
- R&I: engine to implement the **Sustainable Development Goals**

RESEARCH AND
INNOVATION



3-PILLAR STRUCTURE



CHALLENGE-BASED
APPROACH



USE OF FOCUS AREAS



INCREASED COHERENCE
INTERNALLY



KEY FINDINGS - COHERENCE

ROOM FOR IMPROVEMENT



R&I funding landscape should be rationalised.



Internal coherence can be further improved, e.g. limit the **number of focus areas**.



Synergies with ESIF & other EU funding can be strengthened.



KEY FINDINGS – EU ADDED-VALUE



SPEED, SCALE AND SCOPE

- Create excellence through **EU-wide competition**
- Improve **competitive advantage** of participants
- Critical mass to tackle **global challenges**
- Raise **EU attractiveness** as a place to carry out R&I

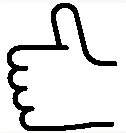


COMPARED TO NAT. & REG. LEVEL, EU-FUNDED TEAMS

- Attract **2x more researchers** from other EU countries
 - **Achieve results faster** in **45%** of projects
 - Have **2x more collaborations**
-
- 83% of projects **would not go ahead without EU funding!**
 - **No evidence of substitution** effect (EU - national support)



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 opportunities, competition & access to new knowledge.



KEY AREAS FOR IMPROVEMENT



Underfunding

Has lower success rates than FP7, esp. for high quality proposals.



Support for market-creating innovation

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

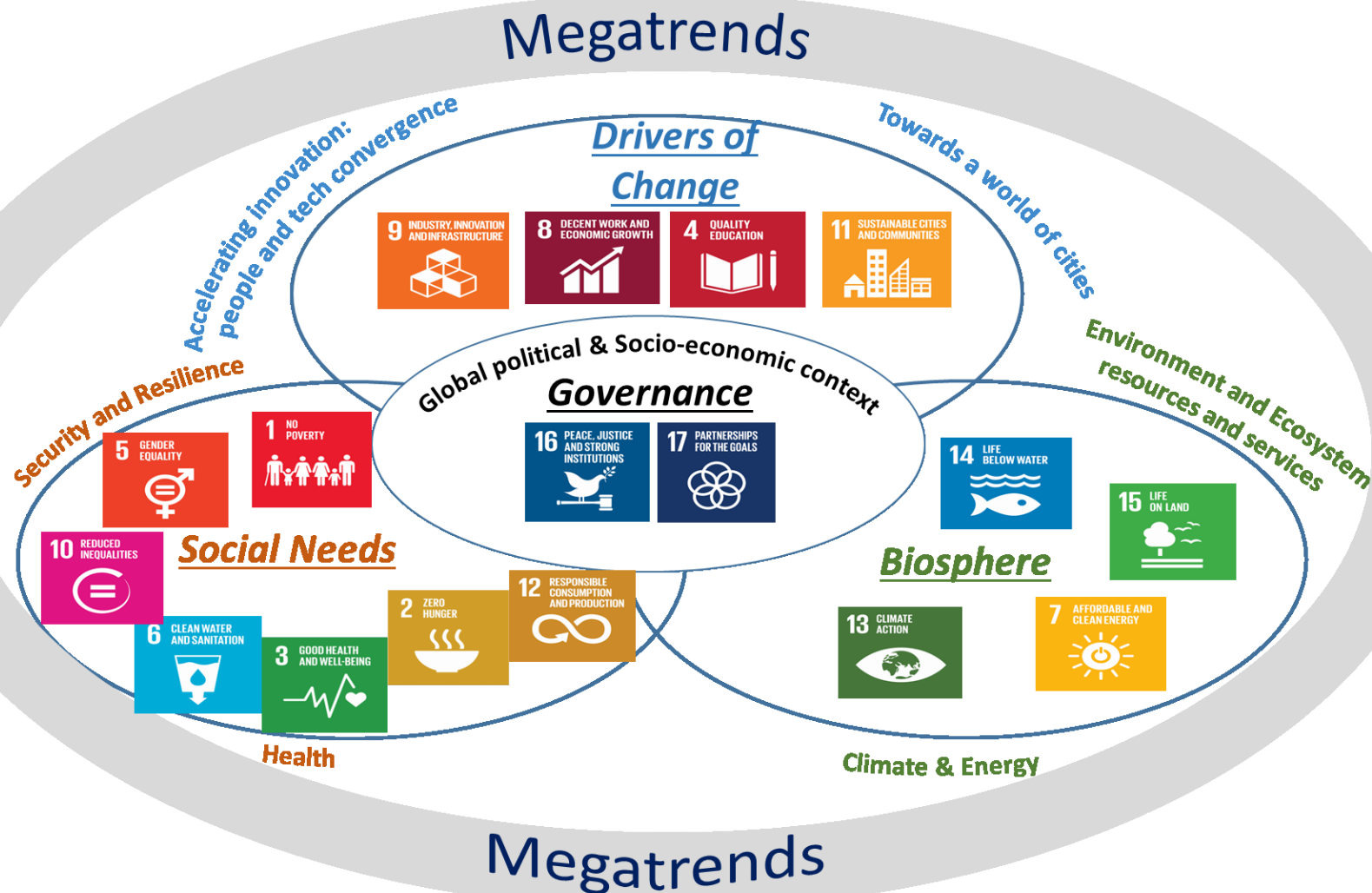


Greater outreach to civil society

Should better explain the impacts of R&I, and involve even more the users & citizens in agenda-setting & implementation.



TOWARDS FP9: FORESIGHT – New Horizons



European
Commission

Research and innovation

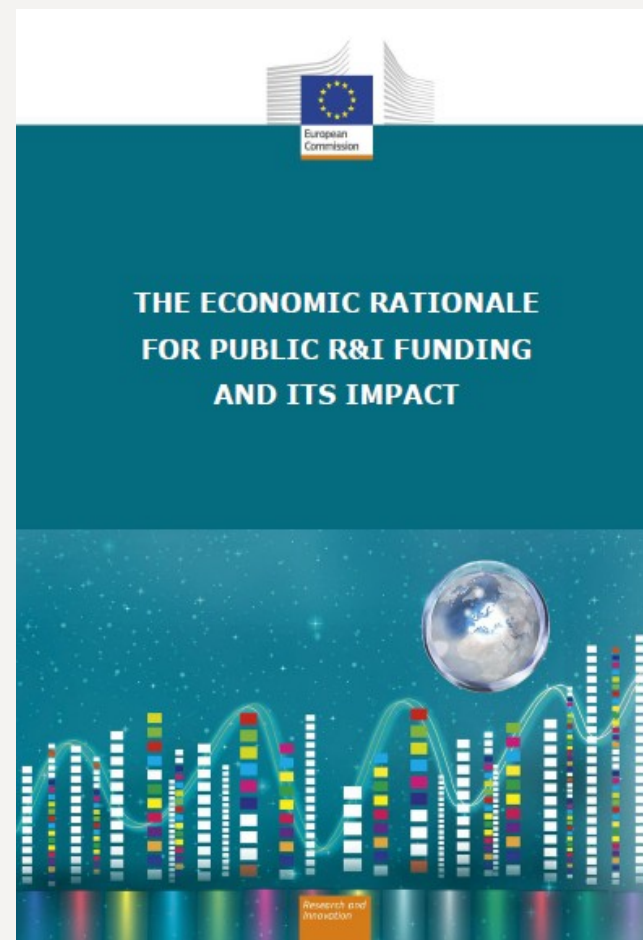


TOWARDS FP9: ECONOMIC CASE OF R&I FIRST CONCLUSIONS

- 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



Set up by Commission Decision in September 2016, in the context of the results of the Horizon 2020 interim evaluation, the Group's mandate was:

- to formulate **a vision** for future EU research and innovation;
- to **draw strategic recommendations** on maximising the impact of EU R&I programmes in the future, i.e. how to fulfil that vision.



Published on 3 July 2017 during 'R&I – Shaping our Future' conference in Brussels, the report '*LAB – FAB – APP: Investing in the European future we want*' with 11 recommendations and accompanying actions is available at:

https://ec.europa.eu/research/evaluations/index_en.cfm?pg=hlg





TOWARDS FP9



"I am convinced that the core values of Horizon 2020 and its successor have to be:"

EXCELLENCE

OPENNESS

IMPACT



#InvestEUresearch

Horizon 2020 Work Programme for Research & Innovation 2018-2020

(First information subject to the
Commission Decision)

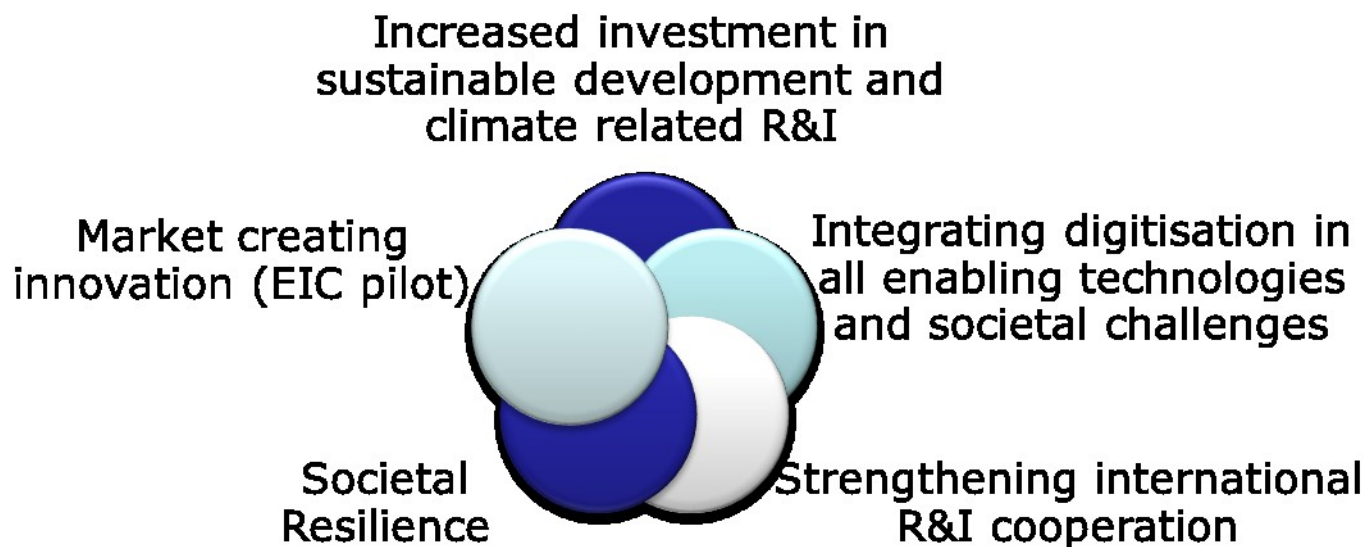
Research and
Innovation

Objective of Work Programme 2018-2020

- ✓ Provide for a coherent implementation of the **Horizon 2020 objectives** and the multiannual approach, taking account of the **Interim Evaluation and first two work programmes**
- ✓ Enhance relevance and impact by delivering against the **EU policy priorities and three O's**
- ✓ Prepare for a bridge in the last years of the programme to **enable a smooth transition to any successor to Horizon 2020**

Work Programme 2018-2020

- ✓ R&I investment of around **30 billion EUR for 3 years**
- ✓ **Five mutually reinforcing strategic orientations** addressing main concerns of citizens:



- 

Launch of Work Programme 2018-2020

- ✓ Adoption and publication expected for **27 October 2017**
- ✓ **H2020 information days** planned for all work programme parts and three topical events:
 - Lisbon 7 November: Web summit - Open Innovation
 - Jordan 10 November: World Science Forum - Open to the World
 - Brussels 28-29 Nov: European Open Science Cloud-EOSC Stakeholder Forum - Open Science

- ✓ **Pre-publication of work programme parts**

<https://ec.europa.eu/programmes/horizon2020/en/what-work-programme>



TOWARDS FP9 INDICATIVE TIMELINE

2017	
Jan	<ul style="list-style-type: none">• Public stakeholder consultation for the interim evaluation (closed on 15 January)
29 May	<ul style="list-style-type: none">• Publication of the Interim Evaluation (SWD)
June	<ul style="list-style-type: none">• Assessment of Horizon 2020 for its interim evaluation and FP9 proposal (EP);• ERAC Opinion on the interim evaluation of H2020 and the next FP
July	<ul style="list-style-type: none">• Lamy High Level Group report and stakeholder conference• Informal Competitiveness Council, Tallinn
Nov.- Dec.	<ul style="list-style-type: none">• H2020 Work Programme 2018-20 integrating main findings from the Evaluation• Publication of Commission Communication on Interim Evaluation of Horizon 2020
2018	
~May	<ul style="list-style-type: none">• Next MFF Commission proposal
~June	<ul style="list-style-type: none">• Commission proposal tabled for the next Framework Programme & accompanying Impact Assessment
2019	
	<ul style="list-style-type: none">• European Parliament elections, appointment of the new Commission
2021	
	<ul style="list-style-type: none">• Launch of the 9th Framework Programme

Conclusion: ATTRACTIVE & WELL-PERFORMING BUT UNDERFUNDED



~20 billion €
invested in
~11,000 projects



- **Only 1 in 4** high-quality proposals funded
- **~EUR 60 billion** more needed to fund them all

Thank you for your attention!

- Full Horizon 2020 Interim Evaluation results:

ec.europa.eu/research/evaluations/index_en.cfm?pg=h2020evaluation

- e-mail: RTD-A5-Support@ec.europa.eu