

# Commission proposal for **Horizon Europe**

THE NEXT EU RESEARCH & INNOVATION  
PROGRAMME (2021 – 2027)

#HorizonEU

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CPU - Conference  
20<sup>th</sup> June 2018 , Brussels



# Horizon Europe

is the Commission proposal for a **€ 100 billion** research and innovation funding programme for seven years (2021-2027)



**to strengthen the EU's scientific and technological bases**



**to boost Europe's innovation capacity, competitiveness and jobs**



**to deliver on citizens' priorities and sustain our socio-economic model and values**

Additional **€ 4.1 billion** are proposed to be allocated for defence research, in a separate proposal for a European Defence Fund

# Horizon Europe – Why?

# Horizon Europe: investing in R&I to shape our future

- The vision:  
" a Europe that protects,  
a Europe that empowers,  
a Europe that defends"  
*Jean-Claude Juncker*
- Tackling **climate change**  
(35 % budgetary target)
- Helping to achieve **Sustainable Development Goals**
- Boosting the Union's  
**competitiveness and growth**



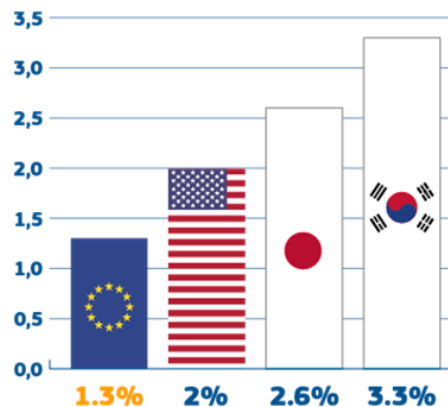
Credits: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>



# While benefiting from world-class research and strong industries...

Our knowledge and skills are our main resources.

- **7%** of the world's population
- **20%** of global R&D
- **1/3** of all high-quality scientific publications



**1.3%**  
EU business  
R&D  
investment

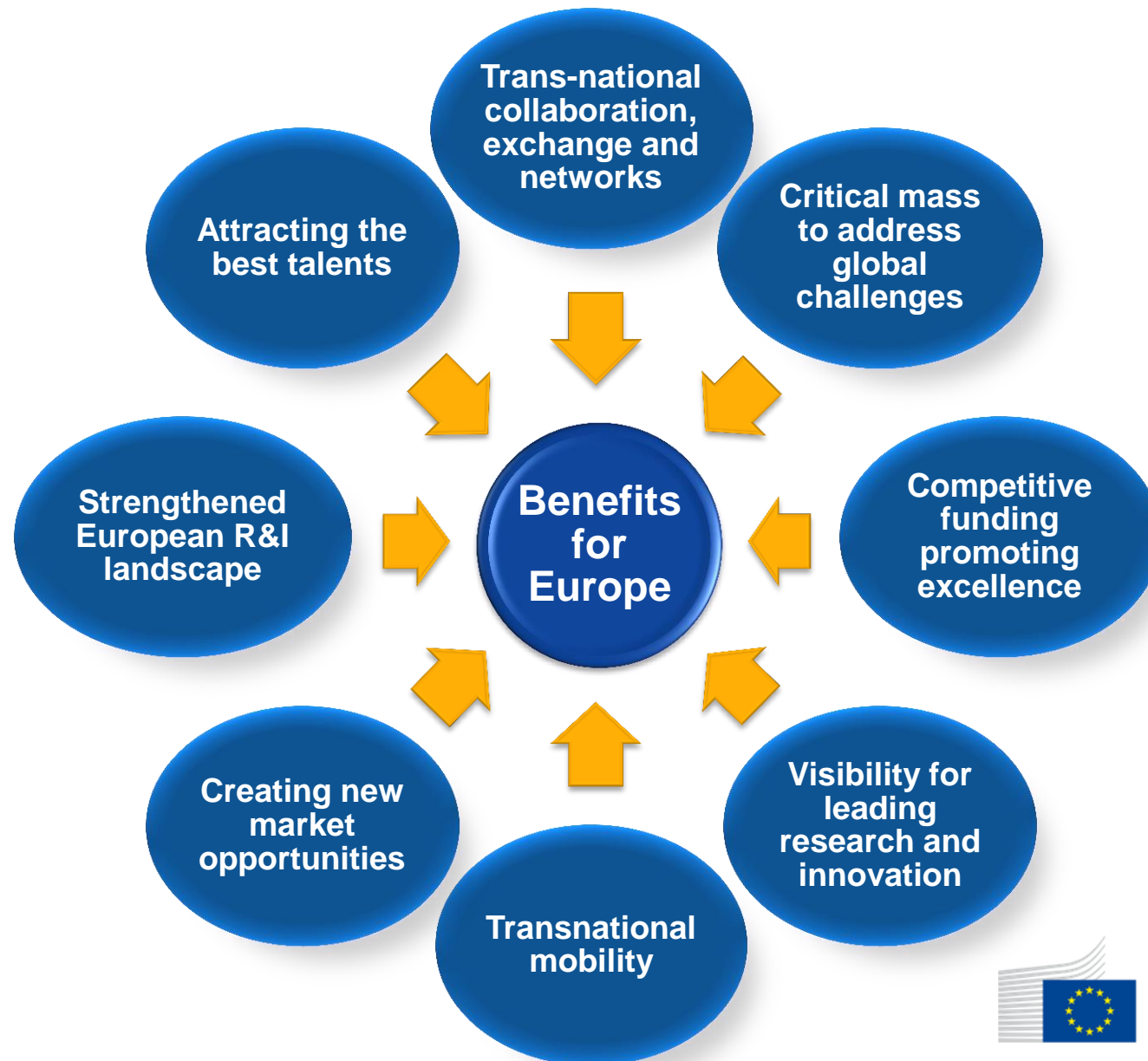
**...Europe fails to transform leadership in science into leadership in innovation and entrepreneurship**

# **We need a new level ambition and a renewed R&I agenda to be in pole position**

- **Ensuring essential investment and stimulating private investment**
- **Making regulatory frameworks fit for innovation**
- **Becoming a front runner in market-creating innovation**
- **Reconnecting R&I with citizens through EU-wide R&I missions**
- **Supporting the dissemination of innovation throughout the Union**
- **Investing in skills and empower universities to become more entrepreneurial and interdisciplinary**



# Added value through Horizon Europe:

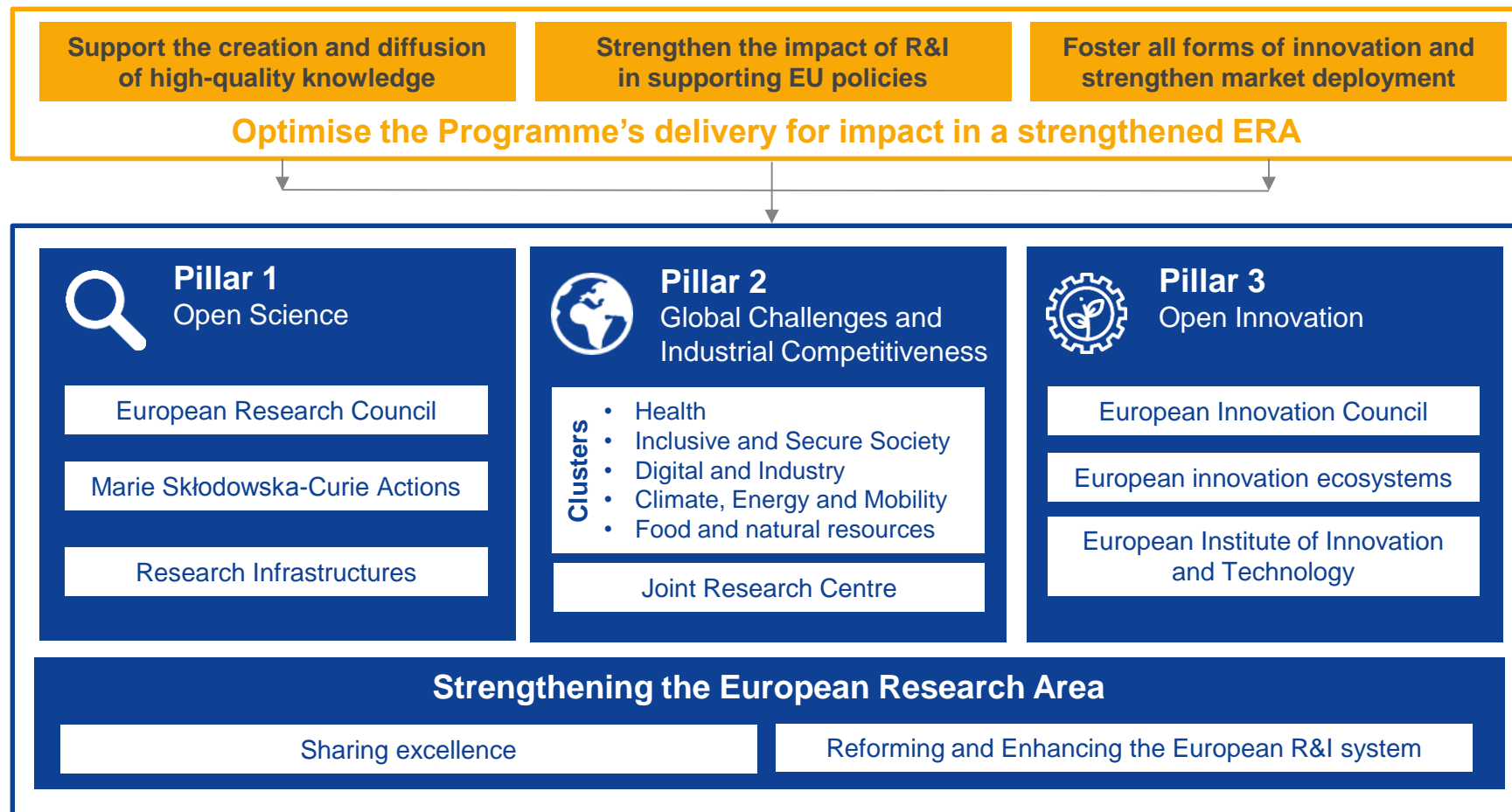


# Horizon Europe – What?

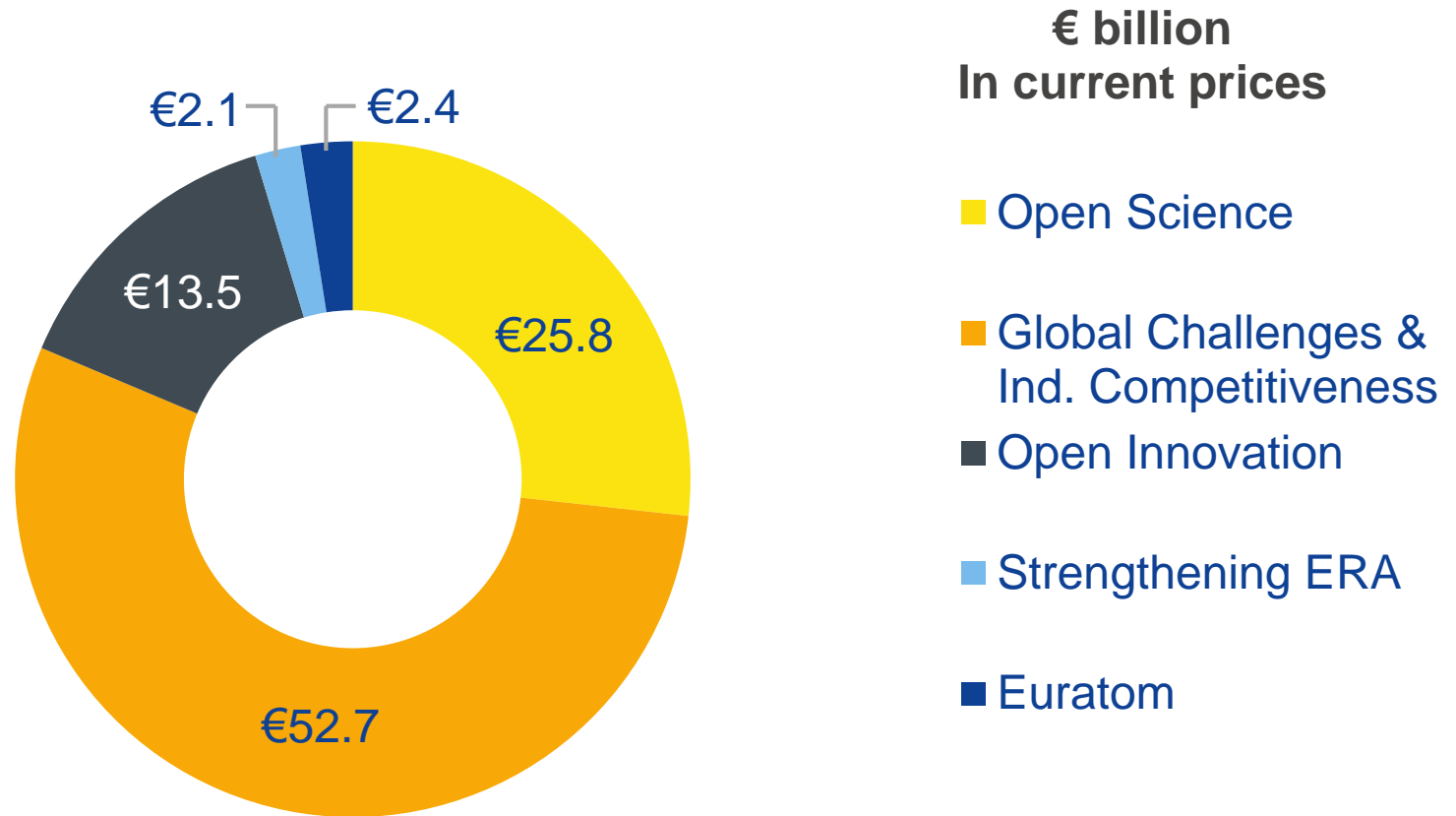


# Horizon Europe: evolution not revolution

## Specific objectives of the Programme



# Budget: €100 billion\* (2021-2027)



\* This envelope includes EUR 3.5 billion allocated under the InvestEU Fund.

# Horizon Europe – What's new?

# Lessons Learned

## from Horizon 2020 Interim Evaluation



Support breakthrough innovation



Create more impact through mission-orientation and citizens' involvement



Strengthen international cooperation



Reinforce openness



Rationalise the funding landscape



# Key Novelties

## in Horizon Europe

European Innovation Council

R&I Missions

Extended association possibilities

Open science policy

New approach to Partnerships





# European Innovation Council

Support to innovations with breakthrough and disruptive nature and scale up potential that are too risky for private investors.

**European  
Innovation  
Council**

**Helping innovators create markets of the future,  
leverage private finance, scale up their companies,  
Innovation centric, risk taking & agile, pro-  
active management and follow up**

Two complementary instruments bridging the gap from idea to investable project

**Pathfinder: grants**  
(from early technology  
to pre- commercial)

**Accelerator:**  
**grants & blended finance**  
(from pre-commercial  
to market & scale-up)



# R&I Missions

## R&I Missions

Relating EU's research and innovation better to society and citizens' needs; with strong visibility and impact

A mission is a portfolio of actions intended to achieve **a bold and inspirational as well as measurable goal** within a set timeframe, with impact for science and technology, society and citizens that goes beyond individual actions.

- Horizon Europe proposal defines mission characteristics and elements of governance
- Specific missions will be **co-designed with Member States, stakeholders and citizens** and programmed within the Global Challenges and Industrial Competitiveness pillar (drawing on inputs from other pillars)



# International Cooperation

## International Cooperation

Tackling together global societal challenges; access to the world's best talents, expertise and resources; enhanced supply and demand of innovative solutions

### Extended openness to association

- Third countries with good capacity in science, technology and innovation
- Taking into account objective of driving economic growth in Europe through innovation
- General opening for international participation
- Intensified targeted actions (flagship initiatives, joint calls, etc.)



# Open Science across the programme

## Open Science

Better dissemination and exploitation of R&I results and support to active engagement of society

- **Mandatory Open Access to publications:** beneficiaries must ensure the existence of sufficient rights to comply with open access requirements
- **Mandatory Data Management Plan for FAIR (Findable, Accessible, Interoperable, Re-usable) and Open Research Data :** for all research data with possibilities to opt-out from open access requirements
- Support to researcher skills in and reward systems for open science
- Use of European Open Science Cloud





# New approach to European Partnerships

New generation of objective-driven and more ambitious partnerships in support of agreed EU policy objectives

## Key features

- Simple architecture and toolbox
- Coherent life-cycle approach
- Strategic orientation

### Co-programmed

Based on Memoranda of Understanding / contractual arrangements; implemented independently by the partners and by Horizon Europe

### Co-funded

Based on a joint programme agreed by partners; commitment of partners for financial and in-kind contributions & financial contribution by Horizon Europe

### Institutionalised

Based on long-term dimension and need for high integration; partnerships based on Articles 185 / 187 of TFEU and the EIT-Regulation supported by Horizon Europe



European  
Commission

# Horizon Europe – In detail

“  
**We built a four wheel drive nano-car.  
It would not have been possible  
without the ERC funding.**  
”

***Prof. Ben Feringa***

*Nobel laureate 2016, Davos 2018*

## Pillar 1

# OPEN SCIENCE:

reinforcing and extending the excellence of the Union's science base

### European Research Council

- Frontier research by the best researchers and their teams

**€ 16.6 billion**

### Marie Skłodowska-Curie Actions

- Equipping researches with new knowledge and skills through mobility and training

**€ 6.8 billion**

### Research Infrastructures

- Integrated and inter-connected world-class research infrastructures

**€ 2.4 billion**



**“ Horizon 2020  
allows my organisation  
to demonstrate our research excellence  
and our commitment to work  
for the benefit of society  
on a much larger scale  
than would otherwise  
be possible! ”**

*From a Norwegian Research Institute*

## Pillar 2

# Global Challenges & Industrial Competitiveness:

boosting key technologies and solutions underpinning  
EU policies & Sustainable Development Goals

<b>Clusters</b> implemented through usual calls, <b>missions &amp; partnerships</b>	Budget (€ billion)
Health	€ 7.7
Inclusive and Secure Societies	€ 2.8
Digital and Industry	€ 15
Climate, Energy and Mobility	€ 15
Food and Natural Resources	€ 10
<b>Joint Research Centre</b> supports European policies with independent scientific evidence & technical support throughout the policy cycle	€ 2.2

**“ Embracing both  
research and innovation  
under one programme Horizon 2020  
has given a boost to bringing  
Europe's excellent research to  
the market preparing the ground  
for the innovations  
of tomorrow ”**

*University Association*

## Pillar 3

# OPEN INNOVATION:

stimulating market-creating breakthroughs and ecosystems conducive to innovation

### European Innovation Council

- Support to innovations with breakthrough and market creating potential

**€ 10.5 billion, incl. up to € 500 million for ecosystems**

### European innovation ecosystems

- Connecting with regional and national innovation actors

### European Institute of Innovation and Technology (EIT)

- Bringing key actors (research, education and business) together around a common goal for nurturing innovation

**€ 3 billion**



“

**Horizon 2020**  
**has been an exceptional help**  
**in consolidating my career**  
**in my home country**  
*(versus in the USA)*

”

*Researcher from Hungary*



European  
Commission

# Strengthening the European Research Area:

optimising strengths & potential for a more innovative Europe

## Sharing Excellence

- Teaming  
(institution building)
- Twinning  
(institutional networking)
- ERA Chairs
- COST

**€ 1.7 billion**

## Reforming and enhancing the European R&I system

- Scientific evidence & foresight
- Open Science
- Policy Support Facility
- Attractive researcher careers
- Citizen science, Responsible Research & Innovation
- Gender equality

**€ 0.4 billion**

**Budget doubled**

# Euratom research and training programme (2021-2025)

- **Objective**

Research and training activities to reduce nuclear safety and security risks, development of safe nuclear technologies and optimal radiation protection.

- **Key novelties**

- Increased focus on non-power applications of radiation (medical, industrial, space)
- Opening mobility opportunities for nuclear researchers through inclusion in Marie Skłodowska-Curie Actions
- Simplification: Specific objectives from currently 14 to 4, covering both direct actions (implemented by JRC) and indirect actions

- **Budget:** € 2.4 billion (2021-2027)

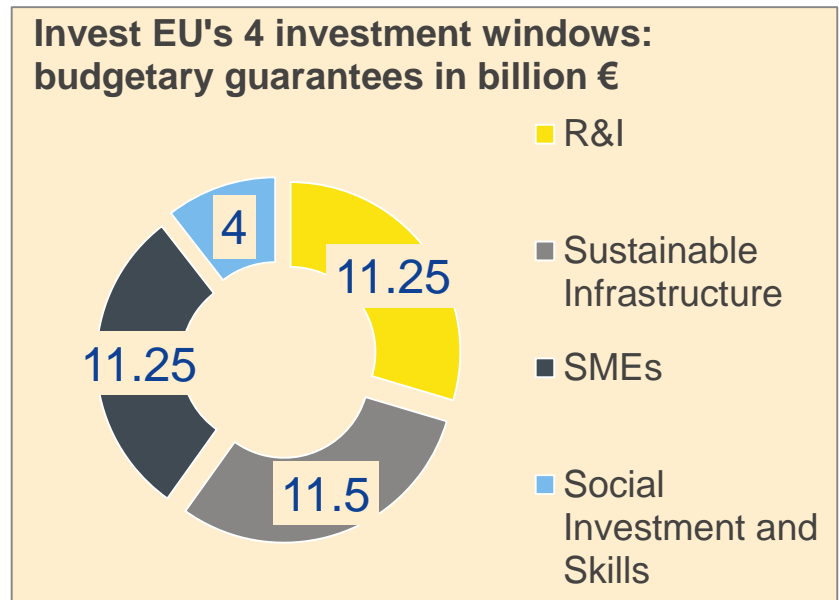
# InvestEU for Research and Innovation (R&I)

**Stimulates more investment in research and innovation**, notably by the private sector; leverages and complements national/regional initiatives

**No market distortion:** intervention only to address financing gaps in the R&I delivery chain (notably due to high risk)

**Support through:**

- **InvestEU Fund**
- **InvestEU Assistance**
- **InvestEU Portal**



➡ leverages an estimated **€ 200 bn** of investments into R&I; **market-based finance** for the exploitation and scale-up of European R&I

**“ Horizon 2020 provides  
an excellent medium for  
developing technological breakthroughs  
and helps SMEs to achieve  
their commercial goals  
(innovative products, creation  
of highly skilled  
work, profitability) ”**

*Small and medium sized company,  
United Kingdom*



**“ Horizon 2020 is a great opportunity to strengthen collaboration and active partnerships between industry, academia and the supply chain and a key driver to maintain industrial leadership ”**

*Company from The Netherlands*

# Horizon Europe – How?

# Simple and fit for purpose rules

- Further alignment to the Financial Regulation
- Increased use of **simplified forms of grants** where appropriate (building on the H2020 lump sum pilot experience)
- Broader acceptance of **usual cost accounting practices**
- Enhanced **cross-reliance on audits** benefiting beneficiaries taking part in several Union programmes

**while ensuring continuity and consistency for beneficiaries by maintaining**

- Attractive H2020 funding model, including up to 100% funding rate
- Single set of rules principle

# Synergies with other Union programmes

## Horizon Europe



### Other Union Programmes, including

Common Agricultural Policy  
ERDF  
External Instrument  
Maritime & Fisheries Fund  
InvestEU  
LIFE  
Connecting Europe Facility  
ESF+  
Digital Europe  
Space Programme  
Erasmus  
Innovation Fund  
Internal Security Fund  
Single Market Programme

## Enhanced synergies

### Compatibility

Harmonisation of funding rules;  
flexible co-funding schemes;  
pooling resources at EU level

### Coherence and complementarity

Alignment of strategic priorities in  
support of a common vision



European  
Commission

# **Strategic planning** to define multiannual work programmes and calls for proposals

- Transparency and stakeholder involvement
- Prioritisation and flexibility to align to political priorities
- Internal programme coherence & synergies with other programmes

## **Multiannual Strategic R&I Plan**

**\* Multiannual orientations and priorities in one document**

**\* Areas for partnerships and missions**

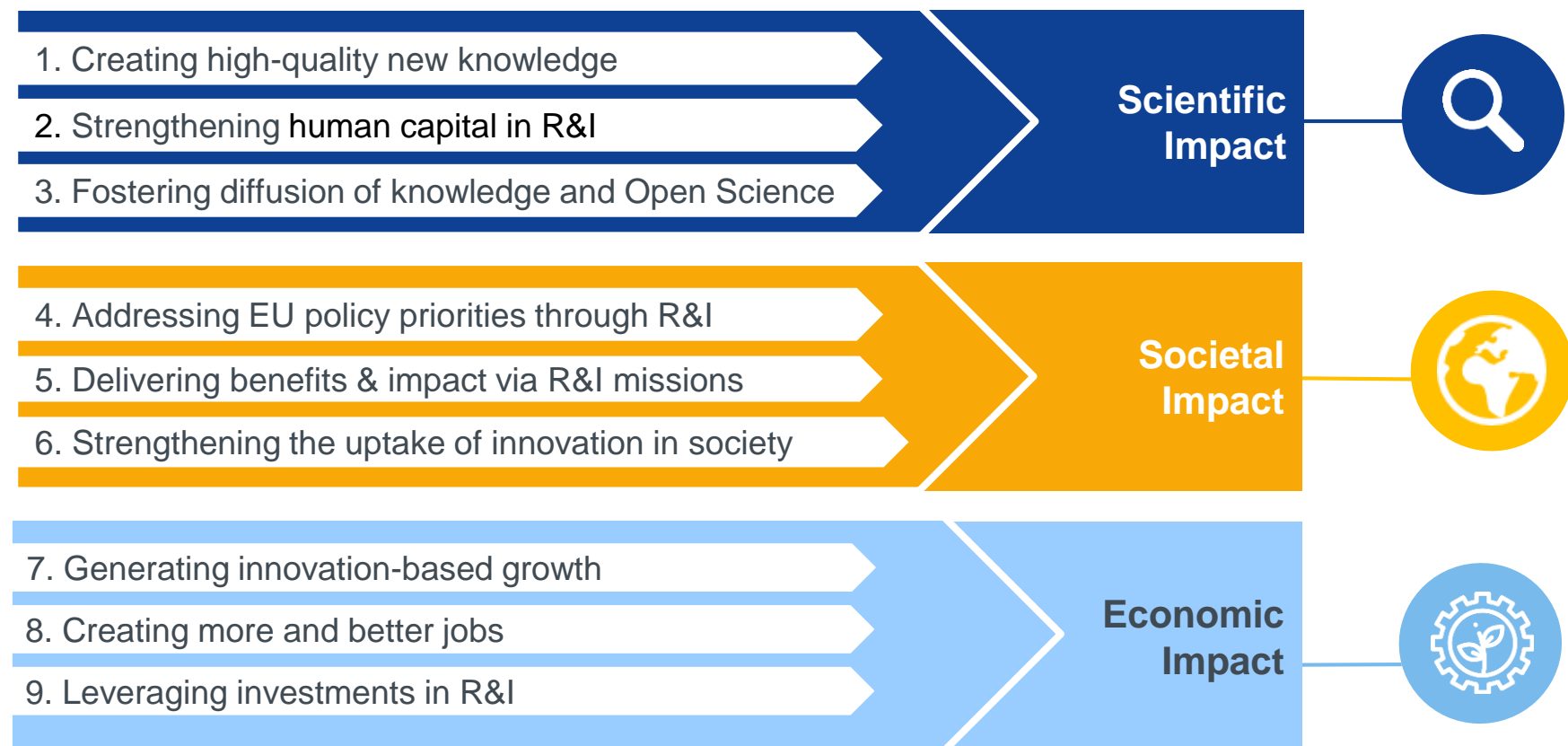
Strategic discussions with Member States and European Parliament

Consultation with stakeholders

**Work Programmes**



# Key impact pathways to track progress



# Next steps



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**Horizon Europe dedicated website**

<http://ec.europa.eu/horizon-europe>

**European Innovation Council**

<http://ec.europa.eu/research/eic>

**EU budget for the future**

[http://ec.europa.eu/budget/mff/index\\_en.cfm](http://ec.europa.eu/budget/mff/index_en.cfm)





# Thank you!

#HorizonEU

<http://ec.europa.eu/horizon-europe>