Commission proposal for
Horizon Europe

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

#HorizonEU

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This presentation does not engage the European Commission.
Please refer to official documents.
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**
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:

Benefits for Europe

- Trans-national collaboration, exchange and networks
- Critical mass to address global challenges
- Competitive funding promoting excellence
- Visibility for leading research and innovation
- Transnational mobility
- Creating new market opportunities
- Strengthened European R&I landscape
- Attracting the best talents
Horizon Europe – What?
Horizon Europe: evolution not revolution

Specific objectives of the Programme

Support the creation and diffusion of high-quality knowledge
Strengthen the impact of R&I in supporting EU policies
Foster all forms of innovation and strengthen market deployment

Optimise the Programme’s delivery for impact in a strengthened ERA

Pillar 1
Open Science
- European Research Council
- Marie Skłodowska-Curie Actions
- Research Infrastructures

Pillar 2
Global Challenges and Industrial Competitiveness
- Clusters:
  - Health
  - Inclusive and Secure Society
  - Digital and Industry
  - Climate, Energy and Mobility
  - Food and natural resources
- Joint Research Centre

Pillar 3
Open Innovation
- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

Strengthening the European Research Area
- Sharing excellence
- Reforming and Enhancing the European R&I system
Budget: €100 billion* (2021-2027)

€ billion
In current prices

- Open Science
- Global Challenges & Ind. Competitiveness
- Open Innovation
- Strengthening ERA
- Euratom

* 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
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, proactive 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

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

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

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
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

Marie Skłodowska-Curie Actions
- Equipping researches with new knowledge and skills through mobility and training

Research Infrastructures
- Integrated and inter-connected world-class research infrastructures

€ 16.6 billion
€ 6.8 billion
€ 2.4 billion
Pillar 2
Global Challenges & Industrial Competitiveness: boosting key technologies and solutions underpinning EU policies & Sustainable Development Goals

<table>
<thead>
<tr>
<th>Clusters</th>
<th>Budget (€ billion)</th>
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<tbody>
<tr>
<td>Health</td>
<td>€ 7.7</td>
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<tr>
<td>Inclusive and Secure Society</td>
<td>€ 2.8</td>
</tr>
<tr>
<td>Digital and Industry</td>
<td>€ 15</td>
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<tr>
<td>Climate, Energy and Mobility</td>
<td>€ 15</td>
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<tr>
<td>Food and Natural Resources</td>
<td>€ 10</td>
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Joint Research Centre
supports European policies with independent scientific evidence & technical support throughout the policy cycle

€ 2.2
## Clusters in 'Global Challenges and Industrial Competitiveness'

<table>
<thead>
<tr>
<th>Clusters</th>
<th>Areas of intervention</th>
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<tbody>
<tr>
<td><strong>Health</strong></td>
<td>* Health throughout the life course</td>
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<td>* Non-communicable and rare diseases</td>
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<td>* Tools, technologies and digital solutions for health and care</td>
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<td>* Environmental and social health determinants</td>
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<td>* Infectious diseases</td>
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<td>* Health care systems</td>
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<td><strong>Inclusive and Secure Societies</strong></td>
<td>* Democracy</td>
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<td>* Social and economic transformations</td>
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<td>* Protection and Security</td>
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<td>* Cultural heritage</td>
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<td>* Disaster-resilient societies</td>
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<td>* Cybersecurity</td>
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<td><strong>Digital and Industry</strong></td>
<td>* Manufacturing technologies</td>
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<td>* Advanced materials</td>
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<td>* Next generation internet</td>
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<td>* Circular industries</td>
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<td>* Space</td>
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<td>* Key digital technologies</td>
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<td>* Artificial intelligence and robotics</td>
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<td>* Advanced computing and Big Data</td>
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<td>* Low carbon and clean industry</td>
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<td><strong>Climate, Energy and Mobility</strong></td>
<td>* Climate science and solutions</td>
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<td>* Energy systems and grids</td>
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<td>* Communities and cities</td>
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<td>* Industrial competitiveness in transport</td>
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<td>* Smart mobility</td>
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<td>* Energy supply</td>
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<td>* Buildings and industrial facilities in energy transition</td>
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<td></td>
<td>* Clean transport and mobility</td>
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<td>* Energy storage</td>
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<tr>
<td><strong>Food and Natural Resources</strong></td>
<td>* Environmental observation</td>
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<td>* Agriculture, forestry and rural areas</td>
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<td>* Food systems</td>
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<td>* Circular systems</td>
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<td></td>
<td>* Biodiversity and natural capital</td>
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<td>* Sea and oceans</td>
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<td>* Bio-based innovation systems</td>
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### Pillar 3

**OPEN INNOVATION:** stimulating market-creating breakthroughs and ecosystems conducive to innovation

<table>
<thead>
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<th>European Innovation Council</th>
<th>European innovation ecosystems</th>
<th>European Institute of Innovation and Technology (EIT)</th>
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<tbody>
<tr>
<td>Support to innovations with breakthrough and market creating potential</td>
<td>Connecting with regional and national innovation actors</td>
<td>Bringing key actors (research, education and business) together around a common goal for nurturing innovation</td>
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€ 10.5 billion, incl. up to € 500 million for ecosystems

€ 3 billion
Strengthening the European Research Area: optimising strengths & potential for a more innovative Europe

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

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

€ 1.7 billion

€ 0.4 billion

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

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
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

1. Creating high-quality new knowledge
2. Strengthening human capital in R&I
3. Fostering diffusion of knowledge and Open Science
4. Addressing EU policy priorities through R&I
5. Delivering benefits & impact via R&I missions
6. Strengthening the uptake of innovation in society
7. Generating innovation-based growth
8. Creating more and better jobs
9. Leveraging investments in R&I
Next steps (orientative)

**Ongoing**
Parliament and Council negotiations on Union budget 2021-2027, including budget for Horizon Europe

**Ongoing**
Parliament and Council negotiations on the basis of the Commission proposal for Horizon Europe

**2019**
Strategic planning to prepare first work programmes under Horizon Europe, including co-design of missions and setting up of partnerships

**1 January 2021**
Envisaged start of Horizon Europe
Horizon Europe – Implementation strategy
From H2020 to Horizon Europe

Major steps in Simplification have been achieved in H2020:

➢ First full-electronic programme of the European Commission
  ➢ Participant Portal: Single entry point for beneficiaries
  ➢ Full electronic grant management process

➢ New organisational structures have led to harmonisation of programme implementation

➢ Substantial reduction of the *Time to Grant*

➢ Decrease of administrative burden for beneficiaries

  Greater focus on technical, scientific contents
From H2020 to Horizon Europe

➢ Stability for beneficiaries as a driving principle: “we will keep what proved to work well”

➢ Continuity for participants, major element of simplification while changes necessary in certain areas based on lessons learned, in particular:
  ➢ ECA’s Special audit on Simplification
  ➢ Feedback from beneficiaries

➢ New needs related to HE novelties (missions, EIC, synergies...)

v. 25 June 2018
Implementation Strategy for Horizon Europe

➢ Integral part of preparing Horizon Europe: 5 phases ensuring that policy objectives are supported by fit-for-purpose implementation modalities

➢ Continuous engagement with external stakeholders groups and MS experts, all R&I family and other Commission services

➢ Governed by the following principles:
  – Innovative approaches
  – Simplification & harmonisation
  – Synergies with other programmes
  – More efficient governance
  – Efficient reporting & demonstrating impact

➢ Timeline: Already on-going until end 2020
Implementation strategy phases

Phase 1: Preparation of input for legislative negotiations

- **Non-papers**
- **Negotiations**
- **Partial General Approach**

MGA internal preparation

Ongoing → End-November 2018
Where are we right now?

Phase 2: Review of needs for changes

- Cross-reliance on audits
- Seal of Excellence
- Implementation of Partnerships
- Needs for data collection
- Further Simplification
- Business processes harmonisation
- Extended use of simplified forms of costs
- Dissemination & Exploitation

Model Grant Agreement preparation

Consultation with external stakeholders/MS expert group after PGA

- October 2018
- May 2019
Implementation strategy phases

Phase 3: Drafting Implementation Strategy

- MGA (finalisation)
- Implementation Strategy (1st draft)
- Consultation with MS expert group
- Commission consultation

February 2019 - June 2019
Implementation strategy phases

Phase 4: Consultation, consolidation, finalisation

Implementation Strategy

Consultation with MS experts group

Commission consultation

June 2019

October 2019

Consultation: External stakeholders
Implementation strategy phases

Phase 5: Fine-tuning & Deployment

- EIC Pilot (IT systems & business processes adaptations)
- Commission consultation
- Developing: documents, guidance & support services
- IT systems & business processes for HE
- HE Work Programme 2021 - 2022

Timeline:
- October 2019
- December 2020
Involvement?

➢ Open discussion with representatives of the beneficiaries

➢ Engagement in the process:
  ➢ We share the objective of achieving a more open, accessible and simple Horizon Europe
  ➢ We need your feedback and input to progress
  ➢ This is not a one-time event between the Commission and beneficiaries: months to come will be busy and critical and, we count on your involvement

➢ How we can better communicate with you on the current and future programme
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https://www.facebook.com/cmoedas/

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
Thank you!

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