Horizon 2020
Latest Developments
#HorizonEU

Vienna, 9 July 2019
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DG RTD, European Commission
Horizon 2020 – Where are we today?
Horizon 2020 in numbers:

State of play in May 2019:

- 24,491 Signed Grant agreements
- EUR 42.7 billion of EU Contribution
- 113,688 participations in total from 153 countries
- 23,299 SME participations
- EUR 7.07 billion of EU contribution to SMEs
- 4,832 ERC Principal Investigators
- 22,400 MSCA Hosting Organisations
- 13,130 Proposals awarded with Seal of Excellence
Horizon 2020 last phase (2018-2020)

**Open Innovation**
- EIC pilot (€ 2.7 billion)
- Open innovation test beds (€ 200 million)
- Ca. 30 topics of € 300 million budget in the Societal challenges pillar

**Open Science**
- Over € 2 billion to support for Open Science
- European Open Science Cloud and European Data Infrastructure (€ 600 million)
- New: Open Research Europe platform for Horizon 2020 and successor framework publications

**Open to the World**
- Over €1 billion investment for 30 international flagship initiatives: with Canada on personalised medicine; with African countries on food security and renewable energies; with the US, Japan, South Korea, Singapore and Australia on road transport automation; with India on water challenges ....
- Strong international component in the European Research Council (ERC) and Marie Skłodowska-Curie actions, e.g. ERC expected to fund 240 more non- EU/AC nationals as Principal Investigators
Horizon 2020: Western Balkans

• Some €13 billion available for Calls (back-loading of H2020)

• Specific Calls relevant for the Western Balkans:
  o Blue_Boost transnational Call for Expressions of Interest of Knowledge Providers
  o WIDESPREAD-05-2020 Twinning
    WIDESPREAD-06-2020 ERA Chairs and Twinning
  o Commission launches EIC Horizon Prize for Affordable High-Tech for Humanitarian Aid
  o Network of research infrastructure Industrial Liaison and Contact Officers (INFRAINNOV-02-2019)
  o TRANSFORMATIONS-04-2019-2020 Innovative approaches to urban and regional development through cultural tourism

• Launch of the first ESOF Call for proposals
  INCO Service Facility submitted several proposals
Associated countries: participations in Horizon 2020
Associated Enlargement countries: participations in Horizon 2020

Enlargement countries: Participation in signed projects of H2020

Note: Participations of beneficiaries, third-parties and partner-organisations.
Source: DG Research and Innovation - International Cooperation
Data: CORDA (IRC, EIT and art.185 not included); extraction date: 7/5/2019
DG Research and Innovation Reorganisation – R&Innovate
Our vision

A sustainable, fair and prosperous future for people and planet based on European values

- 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

...Europe can do better at transforming this into leadership in innovation and entrepreneurship

1.3% EU business R&D investment
Sibiu recommendations: Europe can shape its future through research and innovation

- Focusing research and innovation on the ecological, social and economic transitions and related societal challenges
- Leveraging Europe’s scientific strengths into leadership in breakthrough and disruptive innovation
- Setting ambitious goals for issues that affect us daily, such as skills development, the fight against cancer, harmful emissions, and the state of the oceans, including plastics
- Focusing on cutting-edge research and innovation projects spanning from research and innovation to deployment
Horizon Europe

The ambitious EU research and innovation framework programme (2021-2027)

to strengthen the EU's scientific and technological bases and the European Research Area (ERA)

to boost Europe's innovation capacity, competitiveness and jobs

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

The Commission proposes a budget of € 100 billion for Horizon Europe.
Added value through Horizon Europe:

- **Benefits for Europe**
  - 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

**Trans-national collaboration, exchange and networks**
Horizon Europe – Political Agreement
European Parliament and Council reached a common understanding on Horizon Europe on 19 March 2019

- Budget, synergies and third country association still pending, depending on the overall MFF negotiations

- Commission has started preparations for the implementation of Horizon Europe
Commission proposal for 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
- InvestEU

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
Horizon Europe: Preliminary structure

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

**Pillar 2**
Global Challenges and European Industrial Competitiveness
- Clusters
  - Health
  - Culture, Creativity and Inclusive Society
  - Civil Security for Society
  - Digital, Industry and Space
  - Climate, Energy and Mobility
  - Food, Bioeconomy, Natural Resources, Agriculture and Environment
- Joint Research Centre

**Pillar 3**
Innovative Europe
- European Innovation Council
- European innovation ecosystems
- European Institute of Innovation and Technology

Widening Participation and Strengthening the European Research Area
- Widening participation and spreading excellence
- Reforming and Enhancing the European R&I system
Commission proposal for budget: €100 billion* (2021-2027)

€ billion
In current prices

- Excellent Science
- Global Challenges & European Ind. Comp.
- Innovative Europe
- Widening Part. & ERA
- Euratom

* This envelope includes EUR 3.5 billion allocated under the InvestEU Fund.
Horizon Europe – Central Elements
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
- Encourage participation

Key Novelties in Horizon Europe

- European Innovation Council
- R&I Missions
- Extended association possibilities
- Open science policy
- New approach to Partnerships
- Spreading Excellence
Support to innovations with breakthrough and disruptive nature and scale up potential that are too risky for private investors (70% of the budget earmarked for SMEs)

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

European Innovation Council – a one-stop-shop

Two complementary instruments bridging the gap from idea to investable project

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

**Accelerator:** grants only & 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 across disciplines intended to achieve a bold and inspirational and measurable goal within a set timeframe, with impact for society and policy making as well as relevance for a significant part of the European population and wide range of European citizens.

Horizon Europe defines mission characteristics and elements of governance, and 5 missions areas.
Specific missions will be programmed within the Global Challenges and European Industrial Competitiveness pillar (drawing on inputs from other pillars)
Adaptation to climate change, including societal transformation

Mission areas

Healthy oceans, seas, coastal and inland waters

Climate-neutral and smart cities

Soil health and food

Cancer
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 and implemented by partners; commitment of partners for financial and in-kind contributions

**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
Areas for possible Institutionalised European partnerships (based on Article 185/7 TFEU)

- Health innovations
- Key digital and enabling technologies
- Metrology
- EU air traffic, aviation and rail
- Sustainable bio-based solutions
- Hydrogen and sustainable energy storage
- Clean, connected mobility
- Innovative SMEs
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 shall ensure that they or the authors retain sufficient intellectual property rights to comply with open access requirements

**Open Access to research data ensured:** in line with the principle "as open as possible, as closed as necessary"; Mandatory Data Management Plan for FAIR (Findable, Accessible, Interoperable, Re-usable) and Open Research Data

- Support to researcher skills and reward systems for open science
- Use of European Open Science Cloud
Widening participation/spreading excellence

15 Member States and 9 outermost regions eligible for coordinators
At least 3.3% budget

Recognition of participation

EXCELLENCE
Foster participation
Facilitate collaborative links
Contribute to reducing R&I divide

Match-making

Teaming  Twinning  ERA-Chairs  COST

National Contact Point (NCP) Support
Pre-proposal checks

Hop-on

Excellence initiatives
Brain circulation
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 & global challenges through R&I
5. Delivering benefits & impact via R&I missions
6. Strengthening the uptake of R&I in society
7. Generating innovation-based growth
8. Creating more and better jobs
9. Leveraging investments in R&I
Strategic Plan for implementing Horizon Europe

The Strategic Plan (new implementing act by the Commission) will prepare the content in the work programmes and calls for proposals for the first four years

- Strategic orientation for R&I support, expected impacts
- Partnerships and missions
- Areas for international cooperation
- Issues such as:
  - Balance between research and innovation
  - Social Sciences and Humanities
  - Key Enabling Technologies and strategic value chains
  - Gender
  - Ethics and integrity
  - Dissemination and exploitation
Strategic plan gives direction to the work programme

Horizon Europe legislative package → Strategic Plan 2021-2024 → Work programme 2021-2022 → Calls for proposals

Main Features
Early involvement and extensive exchanges with Member States
Extensive exchanges with the European Parliament
Consultations with stakeholders and public at large

Connect, engage, co-create
Implementation Strategy to shift the focus from administration to content

- Enhancing synergies with other EU programmes
- Simplifying the model grant agreements and guidance to be beneficiaries
- Funding and tenders portal – one-stop-shop for easy access to EU funding and project implementation

Early consultation with stakeholders/programme ready to start in 2021
Steps towards the first Horizon Europe work programme

- **Summer 2019**: Early involvement and exchanges with Member States, **consultation with stakeholders** and the public at large. Establishment of Mission Boards.


- **2020**: Drafting of first Horizon Europe Work Programme on the basis of the Strategic Plan.

- **2021**: Start of Horizon Europe.
EUROPEAN RESEARCH & INNOVATION DAYS

24-26 SEPTEMBER 2019
KANAL CENTRE POMPIDOU
Brussels, BELGIUM

#RiDaysEU @EUScienceInnov
Research and innovation days, 24 – 26 September 2019

- Bringing together policy-makers, researchers, innovators, civil society representatives and other interested stakeholders

  - Three days to debate, solve and innovate – to help shape the future of research and innovation policy

Three key elements of Horizon Europe to be discussed in particular:

- The Strategic Plan,
- Missions
- Institutional partnerships
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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