

Horizon Europe

Bartosz Majewski
L&F NCP

National Contact Point for Research Programmes of the EU

Institute of Fundamental Technological Research Polish Academy of Sciences

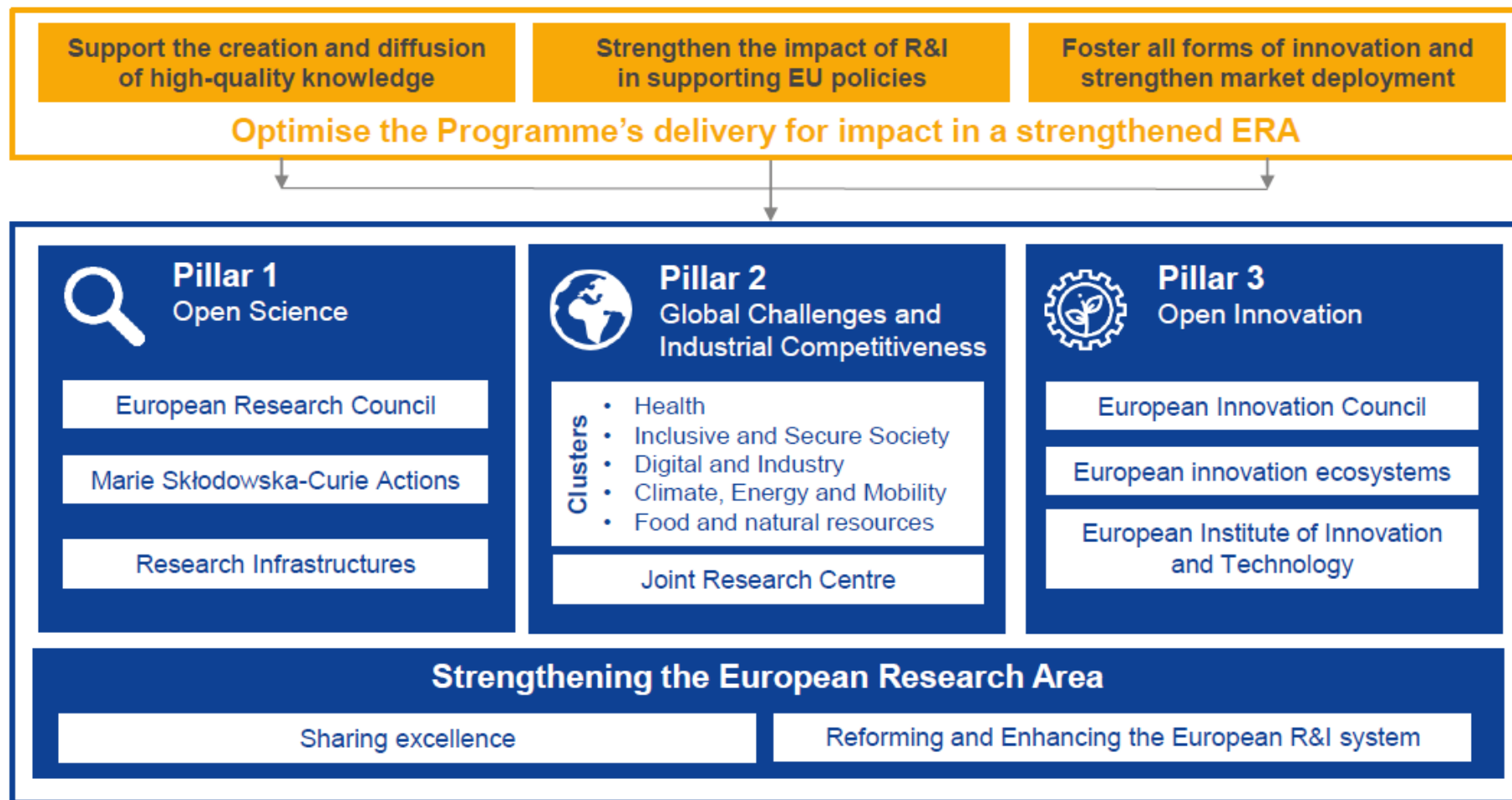
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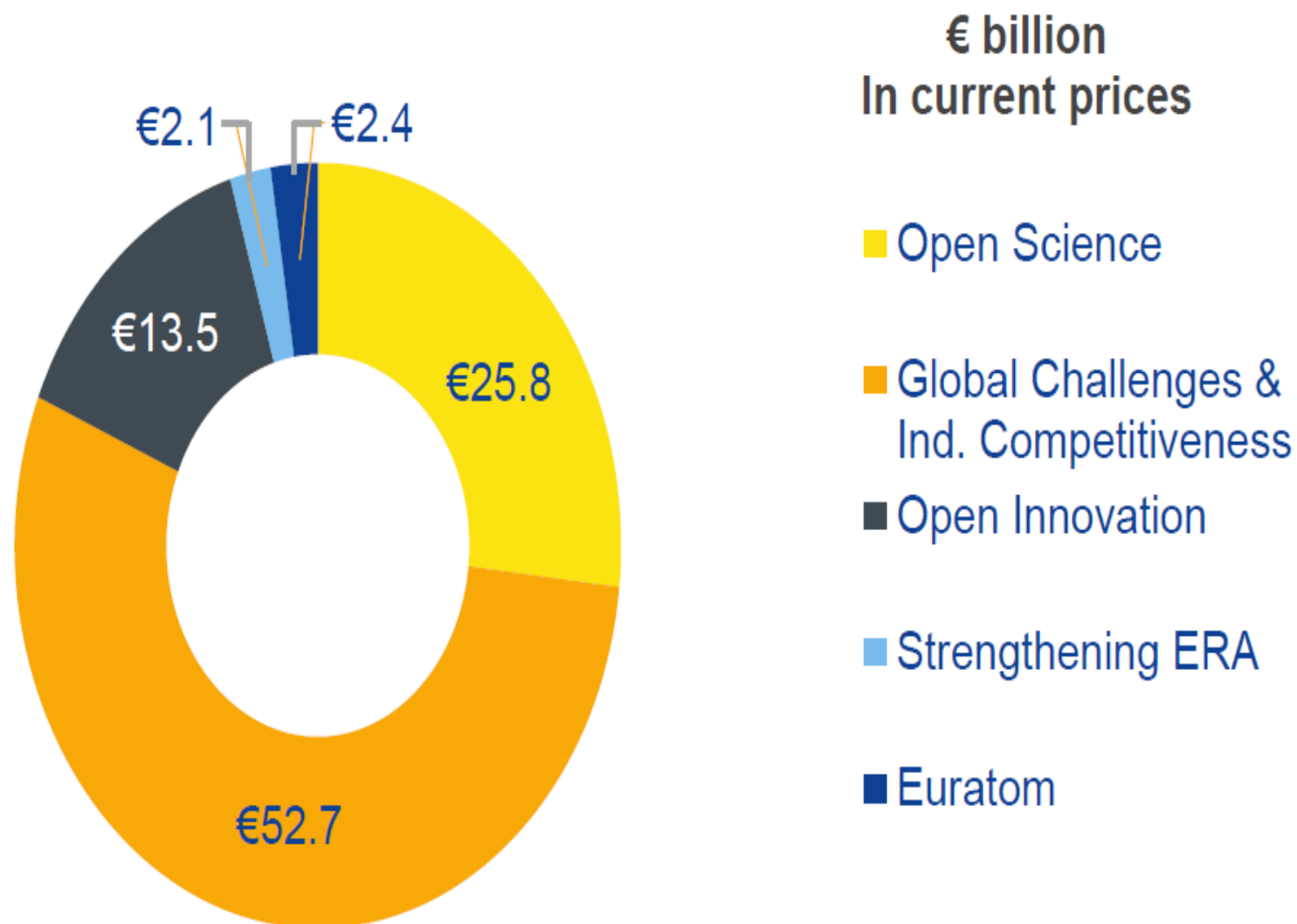
This presentation is based on Peter Hartwig's (European Commission) presentation which took place on EARMA conference in Bologna.

Horizon Europe: evolution not revolution

Specific objectives of the Programme



Budget: €100 billion* (2021-2027)



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

Pillar 2

Global Challenges & Industrial Competitiveness:

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

Clusters implemented through usual calls, missions & partnerships	Budget (€ billion)
Health	€ 7.7
Inclusive and Secure Society	€ 2.8
Digital and Industry	€ 15
Climate, Energy and Mobility	€ 15
Food and Natural Resources	€ 10
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'

Clusters	Areas of intervention	
Health	<ul style="list-style-type: none"> * Health throughout the life course * Non-communicable and rare diseases * Tools, technologies and digital solutions for health and care 	<ul style="list-style-type: none"> * Environmental and social health determinants * Infectious diseases * Health care systems
Inclusive and Secure Societies	<ul style="list-style-type: none"> * Democracy * Social and economic transformations * Protection and Security 	<ul style="list-style-type: none"> * Cultural heritage * Disaster-resilient societies * Cybersecurity
Digital and Industry	<ul style="list-style-type: none"> * Manufacturing technologies * Advanced materials * Next generation internet * Circular industries * Space 	<ul style="list-style-type: none"> * Key digital technologies * Artificial intelligence and robotics * Advanced computing and Big Data * Low carbon and clean industry
Climate, Energy and Mobility	<ul style="list-style-type: none"> * Climate science and solutions * Energy systems and grids * Communities and cities * Industrial competitiveness in transport * Smart mobility 	<ul style="list-style-type: none"> * Energy supply * Buildings and industrial facilities in energy transition * Clean transport and mobility * Energy storage
Food and Natural Resources	<ul style="list-style-type: none"> * Environmental observation * Agriculture, forestry and rural areas * Food systems * Circular systems 	<ul style="list-style-type: none"> * Biodiversity and natural capital * Sea and oceans * Bio-based innovation systems

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

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



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)

Missions

- Adaptation to climate change including societal transformation;
- Cancer;
- Healthy oceans, seas, coastal and inland waters;
- Climate-neutral and smart cities;
- Soil health and food.



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

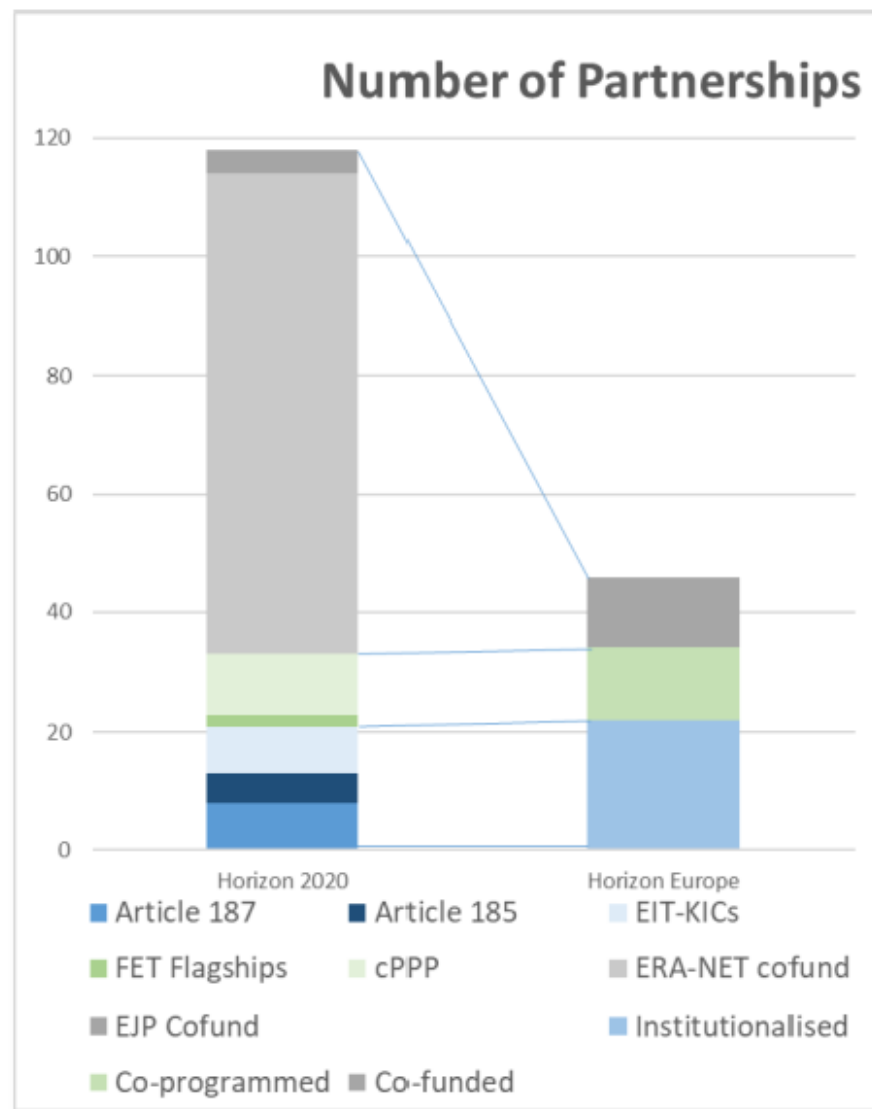
Emerging Partnership portfolio Horizon Europe

Rationalisation and reform achieved so far:

- Reduction from >120 (of all types) to currently 45;
- 6 new topics;
- 28 reformed continuations;
- 11 mergers and reforms;
- 35 partnerships candidates in Pillar II;
- 11 partnership candidates outside pillar II (9 EIT-KICs, SMEs, Open Science Cloud).

EU contributions/budgets:

- To be decided at a later stage following the overall MFF and Horizon Europe budgetary envelopes;
- To be determined once there are agreed objectives, and clear commitments from partners.



Health

Rationalisation and reform:

Overall number reduced from 13 to 7, of which

- 4 are reformed continuations of current partnership topics;
- 3 partnerships that would build on existing actions or merge existing partnerships;
- No discontinuation, but merging.

CF: Co-funded

CP: Co-programmed

Current candidates	Type
▪ EU-Africa Global Health Partnership	A185/7, CP, CF
▪ Innovative Health Initiative	A187, CP
▪ European partnership for chemicals risk assessment	CF
▪ Pre-clinical / clinical health research	CF
▪ Large-scale innovation and transformation of health systems in a digital and ageing society	CF
▪ Personalised Medicine	CF
▪ Rare Diseases	CF
In addition: EIT Health	KIC



Digital, Industry and Space

Rationalisation and reform:

- 7 reformed continuations of current partnership topics;
- 2 completely new partnership topics;
- 1 merger,
- Discontinued: 9 ERA-NETs, Partnerships with research funders (Member States).

CF: Co-funded

CP: Co-programmed

Current candidates	Type
▪ High Performance Computing	A187, CP
▪ Key Digital Technologies	A187, CP
▪ Smart Networks and Services	A187, CP
▪ AI, data and robotics	CP
▪ Photonics Europe	CP
▪ Clean Steel - Low Carbon Steelmaking	CP
▪ European Metrology	A185, CF
▪ Made in Europe	CP
▪ Carbon Neutral and Circular Industry	CP
▪ Global competitive space systems	CP
In addition: EIT Digital EIT Manufacturing EIT Raw Materials	KIC

Climate, energy and mobility

Rationalisation and reform:

- Overall 6 reformed continuations of current partnership topics;
- 2 completely new partnership topics;
- Partnerships with Member States could be merged into 1 (national funding agencies);
- Discontinued: support to small number of JPIs / ERA-NETs.

CF: Co-funded

CP: Co-programmed

Current candidates	Type
▪ Transforming Europe's rail system	A187, CP
▪ Integrated Air Traffic Management	A187, CP
▪ Clean Aviation	A187, CP
▪ Clean Hydrogen	A187, CP
▪ Built environment and construction	CP
▪ Towards zero-emission road transport	CP
▪ Mobility and Safety for Automated Road Transport	A187, CP
▪ Batteries: Towards a competitive European industrial battery value chain	CP
▪ Clean Energy Transition	CF
In addition: EIT InnoEnergy EIT Climate EIT Urban Mobility	KIC

Food, Bioeconomy, Natural Resources, Agriculture and Environment

Rationalisation and reform:

Overall number reduced from 24 to 8, of which

- 2 are reformed continuations;
- 5 build on existing actions or merge existing partnerships;
- 1 completely new partnership topics;
- Discontinuation: possibly some partnerships with Member States.

CF: Co-funded

CP: Co-programmed

Current candidates	Type
▪ Accelerating farming systems transition: agro-ecology living labs and research infrastructures	CF
▪ Animal health: Fighting infectious diseases	CP, CF
▪ Environmental Observations for a sustainable EU agriculture	CF
▪ Rescuing biodiversity to safeguard life on Earth	CF
▪ A climate neutral, sustainable and productive Blue Economy	CP, CF
▪ Safe and Sustainable Food System for People, Planet & Climate	CP, CF
▪ Circular bio-based Europe: sustainable innovation for new local value from waste and biomass	A187, CP
▪ Water4All: Water security for the planet	CP, CF
In addition: EIT Food	KIC

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

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...)

Have your say on future objectives of Horizon Europe!

https://ec.europa.eu/info/news/have-your-say-future-objectives-eu-funded-research-and-innovation-2019-jun-28_en

Orientations text:

https://ec.europa.eu/research/pdf/horizon-europe/ec_rtd_orientations-towards-the-strategic-planning.pdf

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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

CONTACT

NATIONAL CONTACT POINT FOR RESEARCH
PROGRAMMES OF THE EU

Institute of Fundamental Technological Research
Polish Academy of Sciences



Bartosz Majewski

Bartosz.majewski@kpk.gov.pl