

Horizon 2020 Latest Developments

#HorizonEU

Vienna, 9 July 2019

Bernhard Fabianek, Horizon Europe Association
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

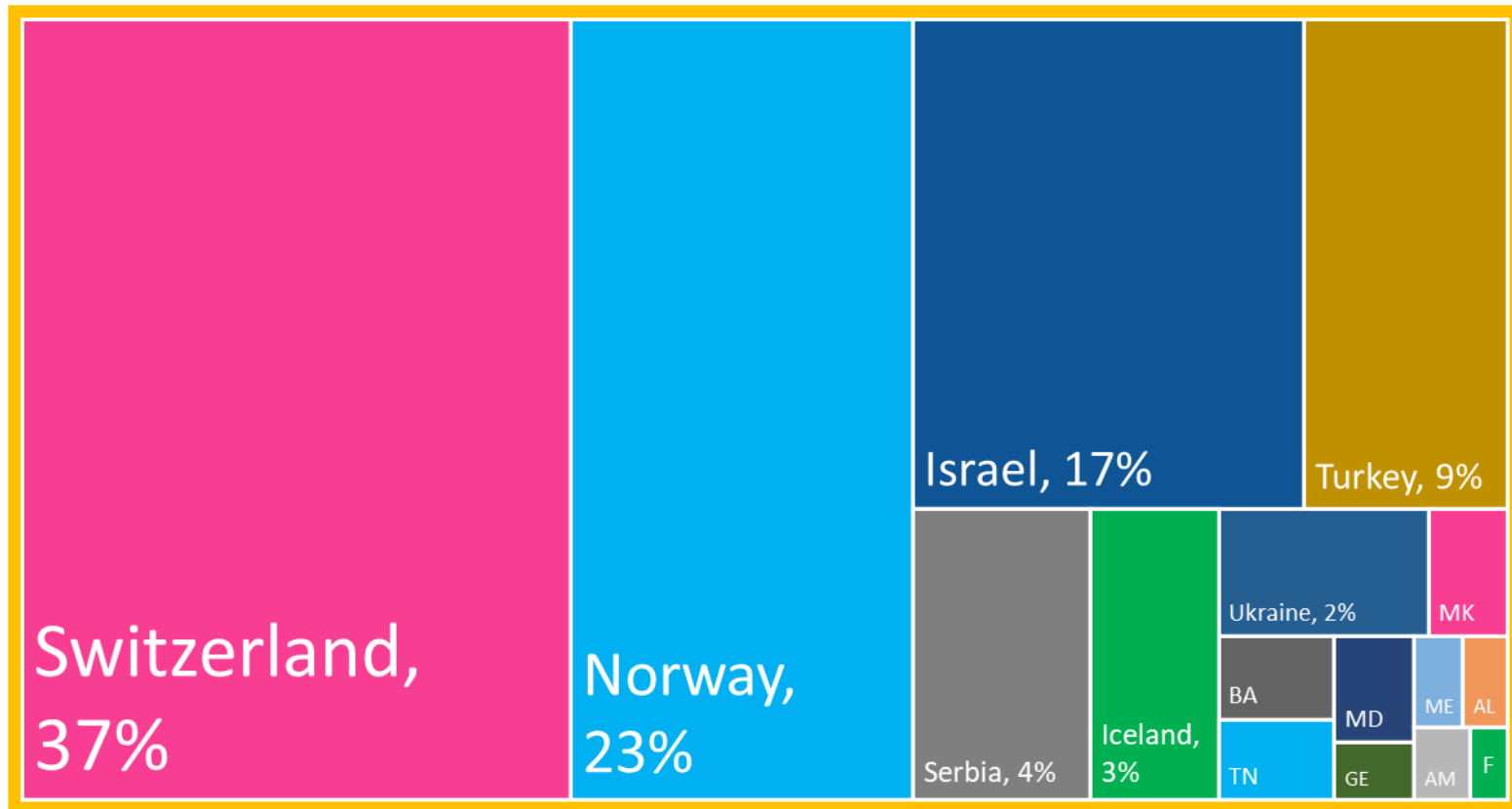
Open to the World

- ✓ **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

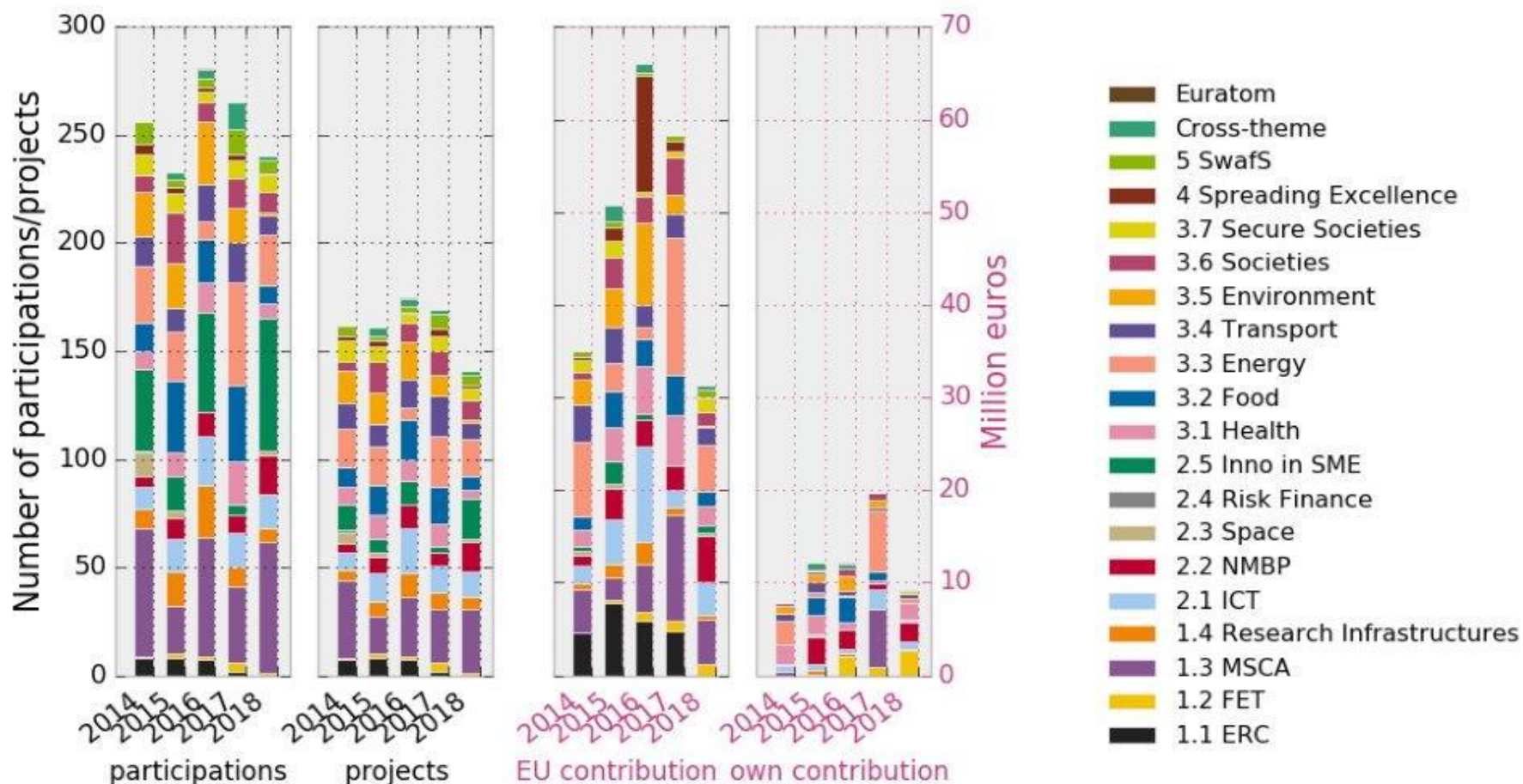
- Some €13 billion available for Calls (back-loading of H2020)
- Specific Calls relevant for the Western Balkans:
 - Blue_Boost transnational Call for Expressions of Interest of Knowledge Providers
 - WIDESPREAD-04-2019 ERA Chairs
 - Commission launches EIC Horizon Prize for Affordable High-Tech for Humanitarian Aid
 - Network of research infrastructure Industrial Liaison and Contact Officers (INFRAINNOV-02-2019)
- Launch of the first proESOF 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 (JRC, EIT and art.185 not included); extraction date: 7/5/2019

DG Research and Innovation Reorganisation – R&Innovate

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P. AMOR

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HR BC - A. DACUNTO

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DHoU - A. NEVE DE MERVEGIES

COMMUNICATION & UNIT CITIZENS
02
HoU - M. WILKOO
DHoU - S. PARKER

ASSISTANT P. MOMOLI ASSISTANT -

EUROPEAN INNOVATION COUNCIL¹
TASK FORCE
J-D. MALO

+EIC OUTREACH+
Adviser - N. SABATIER

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HoU - J-D. MALO (act)

INNOVATION ECOSYSTEMS
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DHoU - I. LASO BALLESTEROS

FINANCIAL INSTRUMENTS
HoU - S. OJAKI

REA A5 - FET-OPEN
EIC PATHFINDER
HoU - T. HALLANTE
DHoU - M. LANGE

EASME A2- H2020 SME
EIC ACCELERATOR
HoU - C. SCHWALZ
DHoU - E. AMBROZIEWICZ

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A.4 MISSIONS & PARTNERSHIPS HoU - R. TOMELLINI (act)	B.4 COMMON IT SERVICE HoU - A. LONCKE DHoU - D. DVORSEK	C.4 HEALTHY OCEANS & SEAS HoU - S. GRUBER DHoU - J. SUOMINEN	D.4 EURATOM RESEARCH INDUSTRIES HoU - E. RIGHI STEELE DHoU - D. ROSETTI DHoU - A. VALDALBERO
A.5 HORIZON BUDGET & IFF SYNERGIES HoU - P. WEBB	B.5 EXECUTIVE AGENCIES & FUNDING BODIES HoU - M. ZANCHI	+FUTURE AIR TRANSPORT+ Adviser - ...	
+INTEGRATION OF HORIZON PROGRAMMING & POLICY-MARKING+ Adviser - B. HAWDON		ECOLOGICAL AND SOCIAL TRANSITIONS HoU - A. KENTARCHOS (act) DHoU - A. KENTARCHOS	
Head of unit functions seconded to EXECUTIVE AGENCIES under:			
B.6 COMMON DATA AND KNOWLEDGE MANAGEMENT SERVICE HoU - S. WONG DHoU - ...			

+SUSTAINABLE DEVELOPMENT GOALS+
Adviser - T. ARNOLD

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JEAN-ERIC PROJET

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E.4 FAIR SOCIETIES & CULTURAL HERITAGE HoU - H. HARTUNG DHoU - M. KAYAMANIDOU	F.4 MATERIALS FOR TOMORROW HoU - B. VERACHTERT DHoU - S. BOWADT	G.4 OPEN SCIENCE HoU - K. GLINOS DHoU - A. BJORNSSON	H.4 FINANCIAL MANAGEMENT & PROGRAM SUPPORT III [†] HoU - J. VAN OOST DHoU - V. MORELLI	I.4 FINANCIAL MANAGEMENT & PROGRAM SUPPORT III [†] HoU - J. VAN OOST DHoU - V. MORELLI
E.5 DEMOCRACY & EUROPEAN VALUES HoU - H. HARTUNG (act)	F.5 INDUSTRY 5.0 HoU - J. COTTA	+OPEN ACCESS ENVOY+ Adviser - ...		
+SCIENTIFIC CULTURE+ Adviser - G. NAGY		+TECHNOLOGY SOVEREIGNTY+ Adviser - ...		
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+MISSION INNOVATION+ Adviser - ...		Head of unit functions seconded to EXECUTIVE AGENCIES under:		
UNIT 05 HORIZON EUROPE ASSOCIATION HoU - A. CARIGNANI DHoU - N. NOVOLI (act) DHoU - ...				
+CITIZENS+ Adviser - A. ARANA ANTELO				

¹ The EIC TF will consist of three DG RTD units and an adviser. It will have specific relationships with 2 units established in Executive Agencies (EA), respectively REA A5 and EASME A2. All together the 5 units constitute the extended EIC TF that is governed by a Steering Committee respectively chaired and co-chaired by the DGs of DG CNECT and DG RTD.
[†] Unit IS in charge of Directorates A, B, G, H, TF EIC & Units 02, 03, 05 and experts management.
[‡] Unit I4 in charge of Directorates E and D (without BFC5).
[§] Unit I5 in charge of Directorates C, F and BFC5 activity.

Horizon Europe - Investing to shape our Future

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**

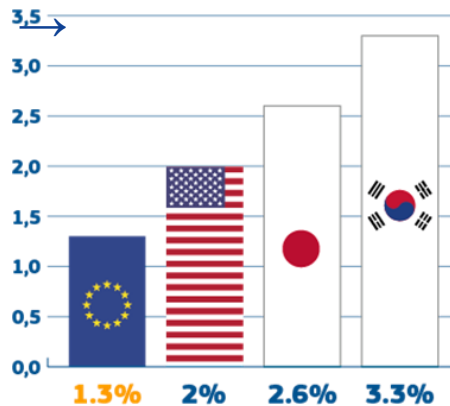


Credits: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

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



1.3%
EU business
R&D
investment

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

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)



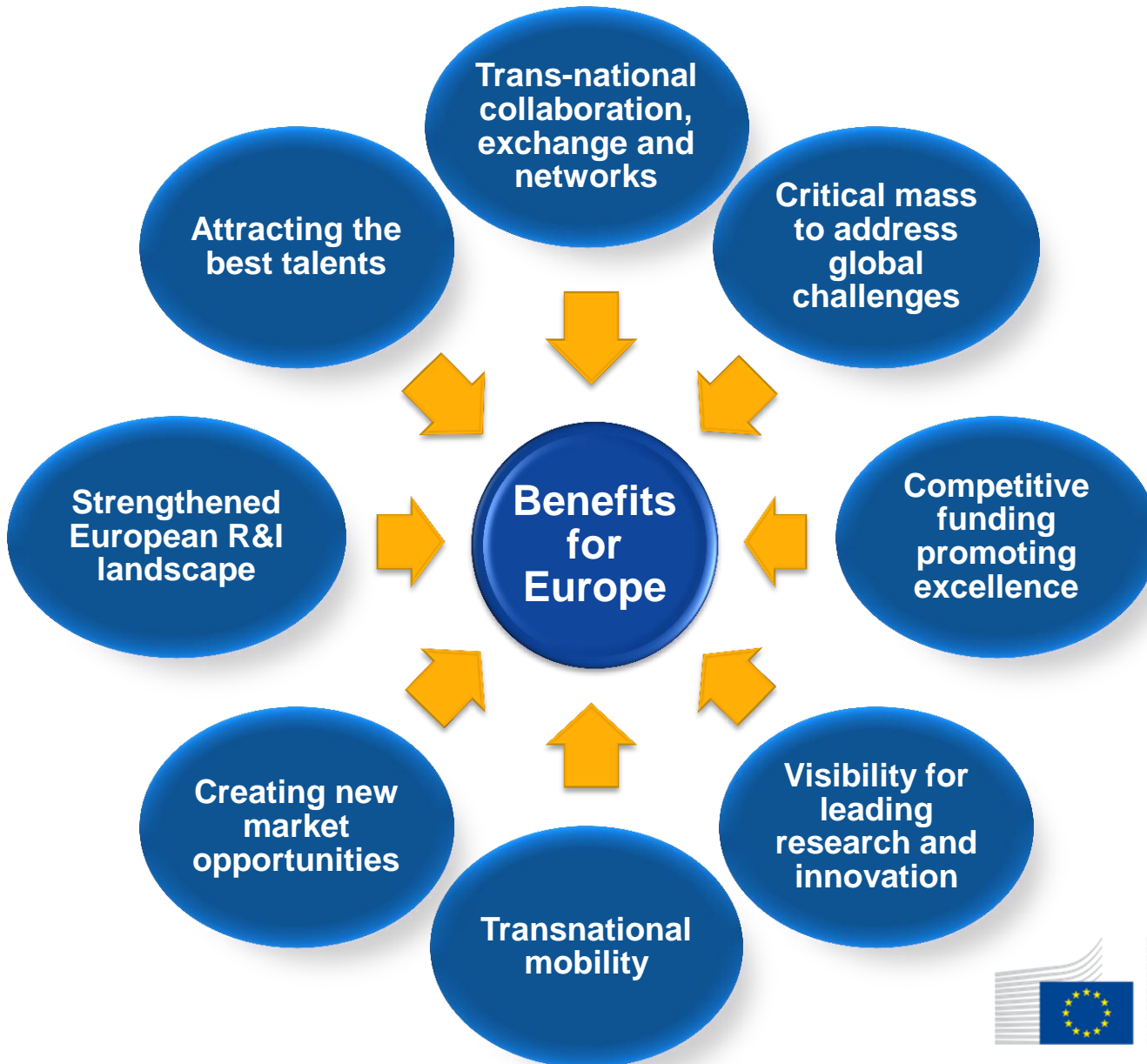
to boost Europe's innovation capacity, competitiveness and jobs



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:



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



Enhanced synergies

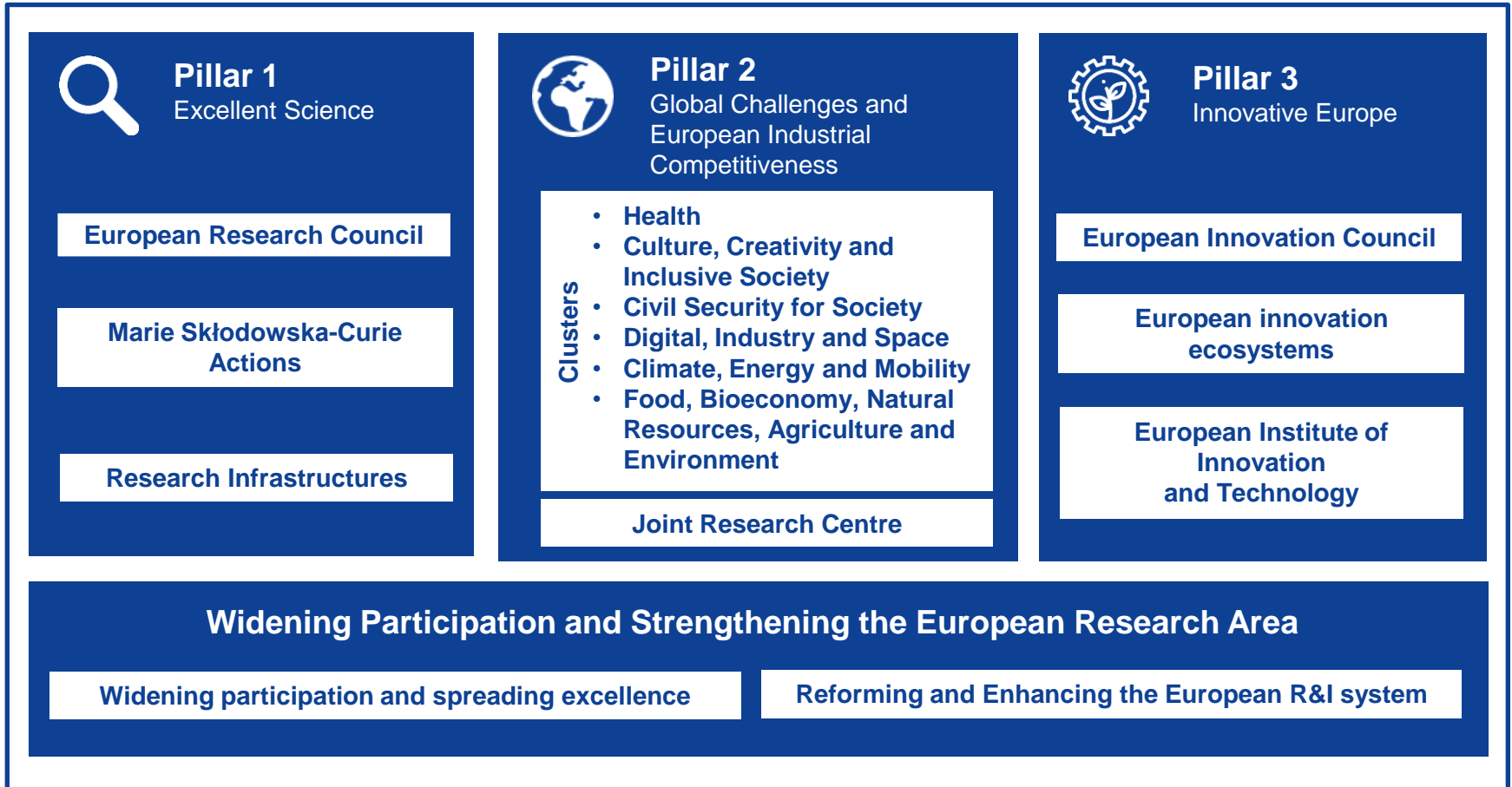
Compatibility

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

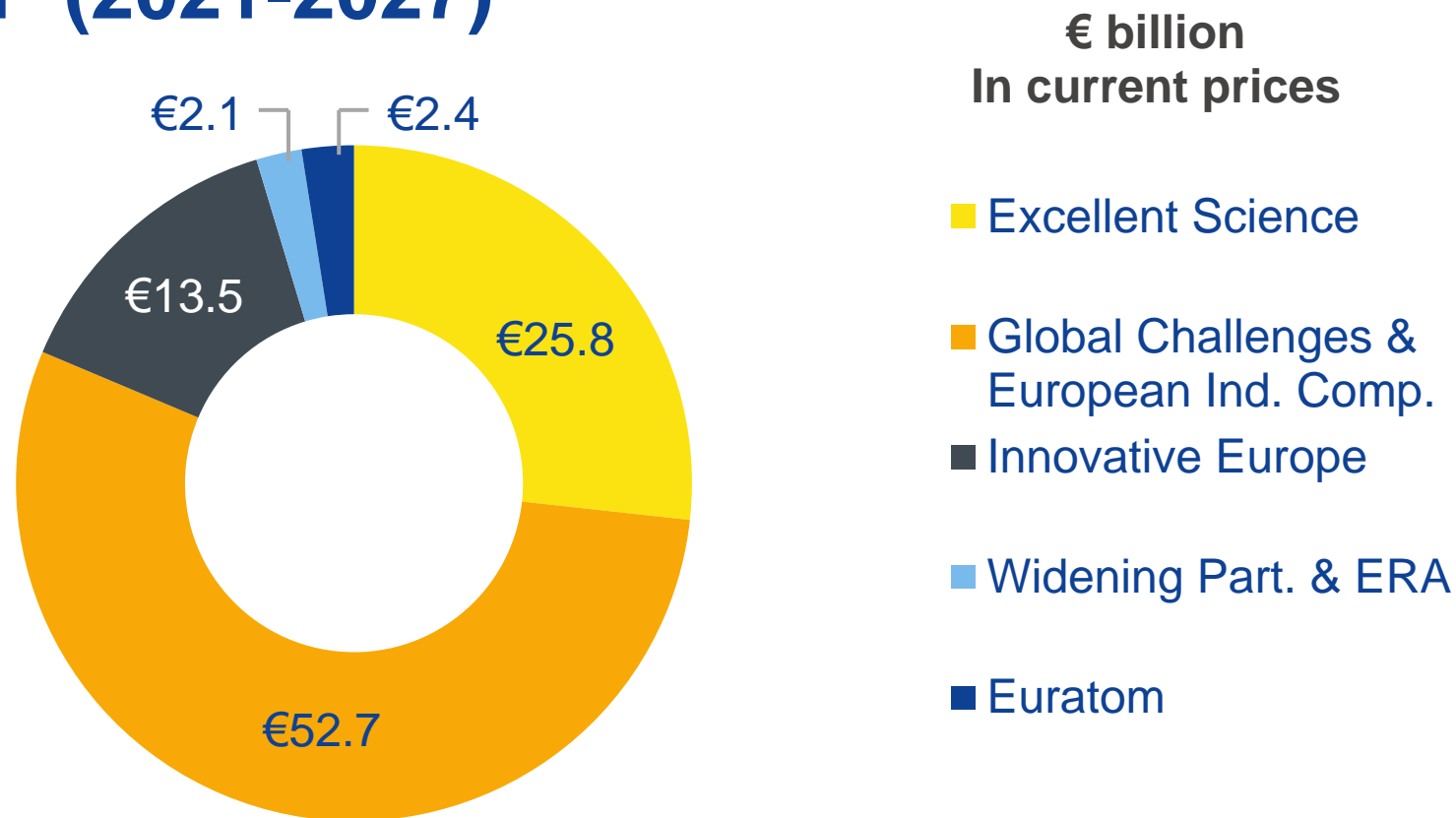
Coherence and complementarity

Alignment of strategic priorities in support of a common vision

Horizon Europe: Preliminary structure



Commission proposal for budget: €100 billion* (2021-2027)



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

Horizon Europe – Central Elements

Lessons Learned

from Horizon 2020 Interim Evaluation

Key Novelties

in Horizon Europe



Support breakthrough innovation



European Innovation Council



Create more impact through mission-orientation and citizens' involvement



R&I Missions



Strengthen international cooperation



Extended association possibilities



Reinforce openness



Open science policy



Rationalise the funding landscape



New approach to Partnerships



Encourage participation



Spreading Excellence



European Innovation Council

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**)

**European
Innovation Council
– a one-stop-shop**

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 only & 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 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



Cancer

Mission areas

Healthy oceans, seas, coastal and inland waters



Climate-neutral and smart cities



Soil health and food





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

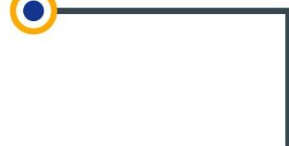
Co-funded

Based on a joint programme agreed and implemented by partners; commitment of partners for financial and in-kind contributions

Institutionalised

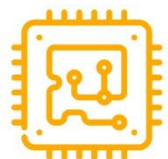
Based on long-term dimension and need for high integration; partnerships based on Articles 185 / 187 of TFEU and the EIT-Regulation supported by Horizon Europe

Health innovations



Sustainable bio-based solutions

Key digital and enabling technologies



Hydrogen and sustainable energy storage

Metrology



Clean, connected mobility

EU air traffic, aviation and rail



Innovative SMEs

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



European Commission



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

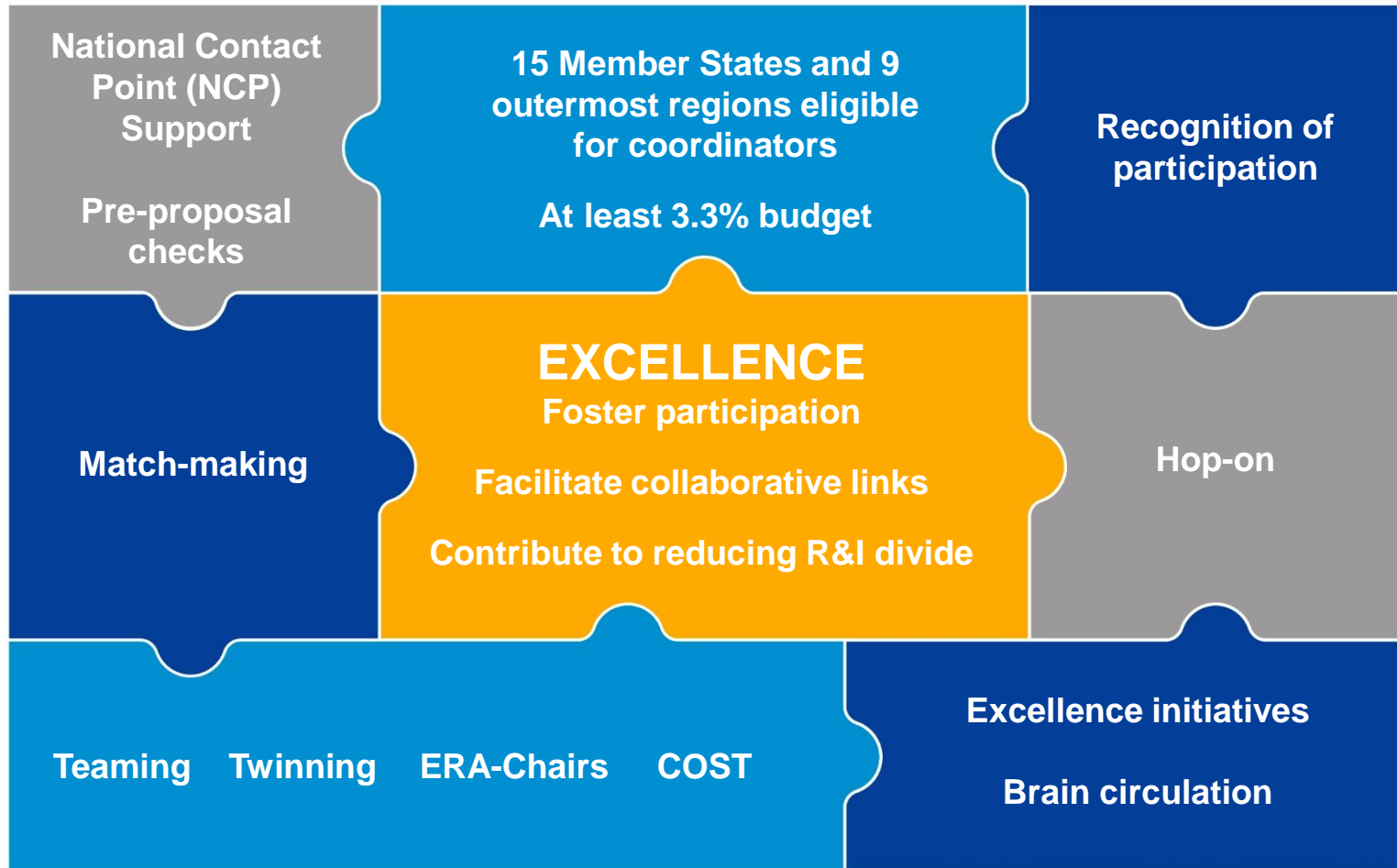
Mandatory Open Access to publications: beneficiaries shall ensure that they or the authors retain sufficient intellectual property rights to comply with open access requirements

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

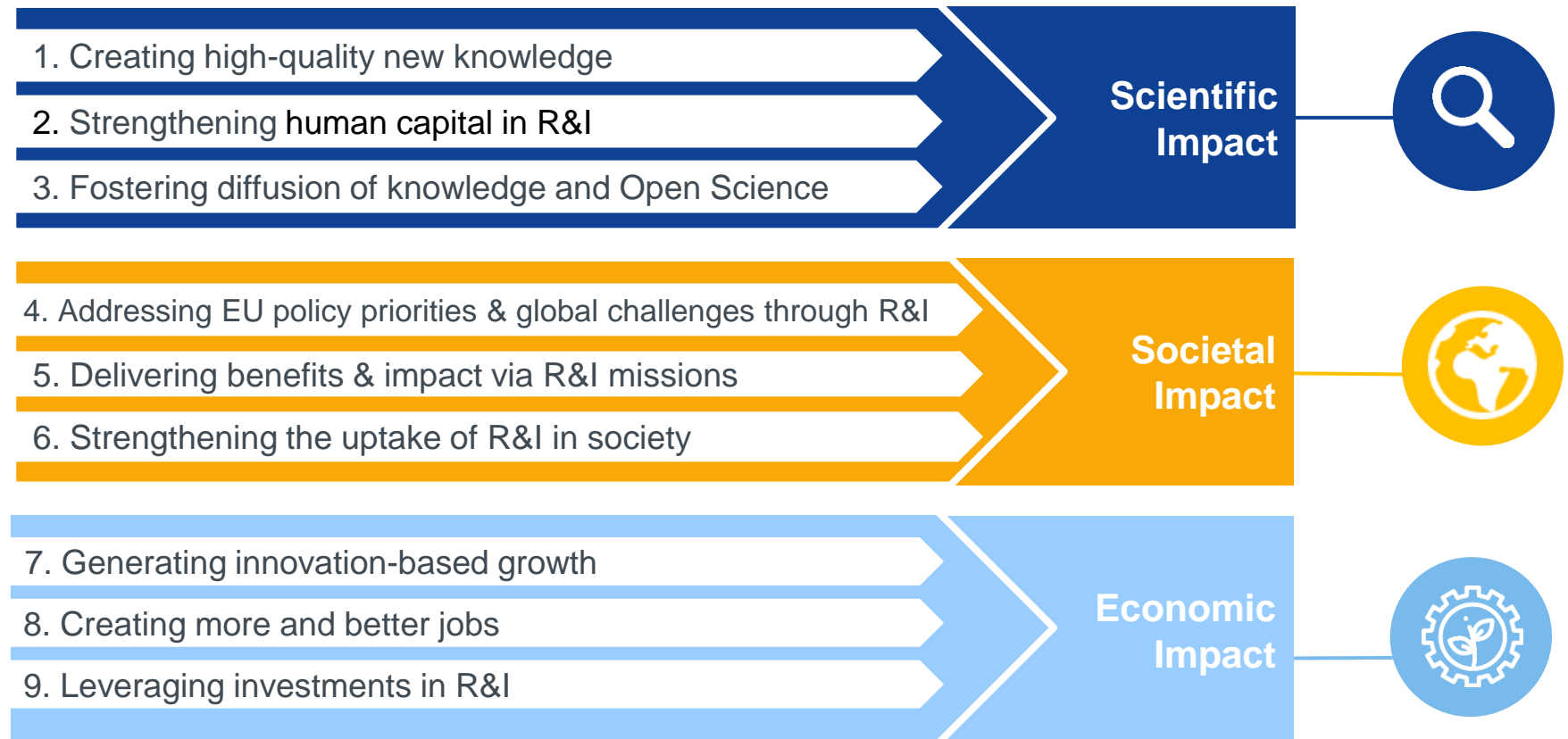


Widening participation/spreading excellence



Horizon Europe – Impact, Flexibility, Co-design

Key impact pathways to track progress



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



Main Features

Early involvement and extensive exchanges with Member States

Extensive exchanges with the European Parliament

Consultations with stakeholders and public at large

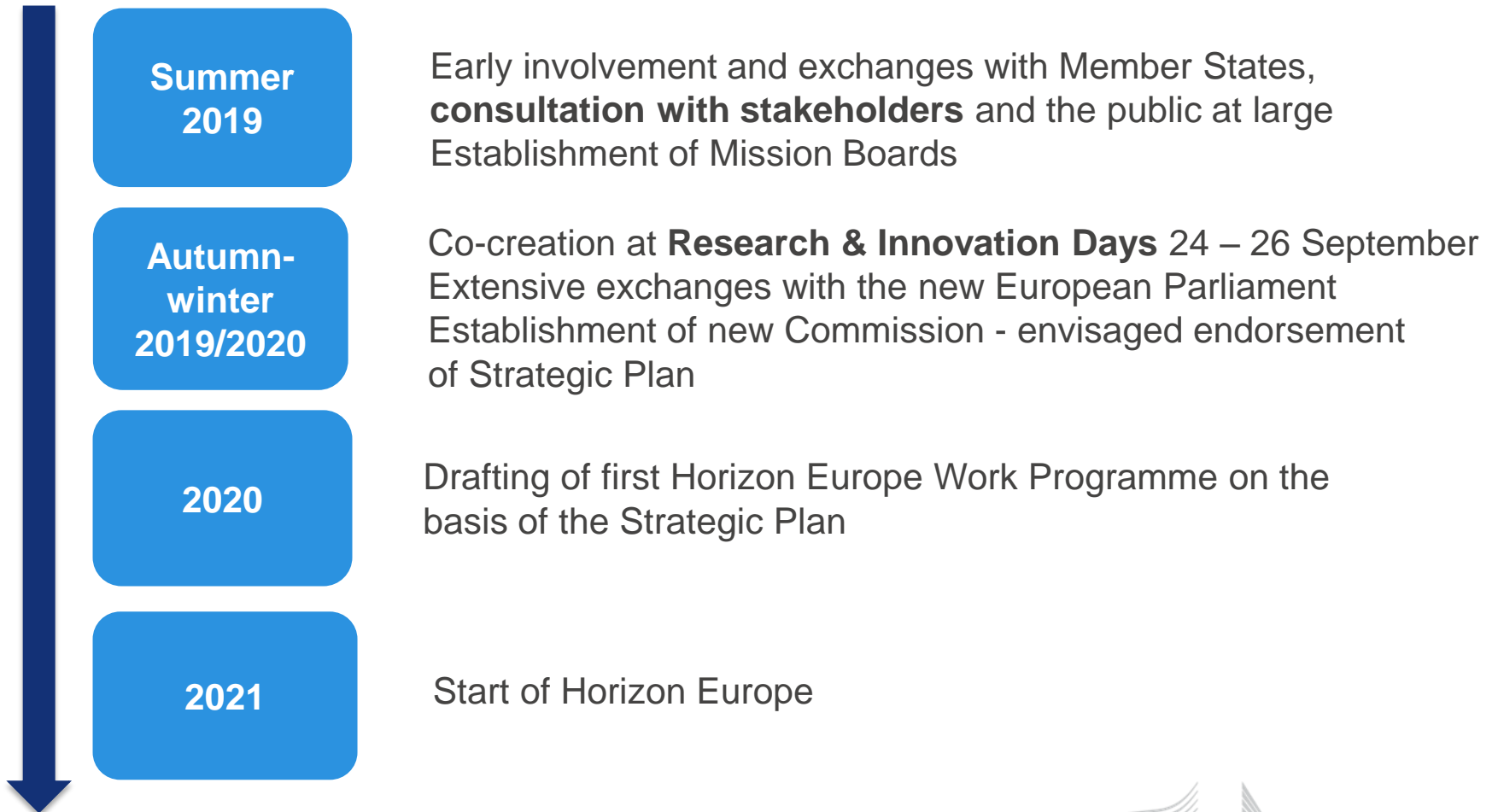
Connect, engage, co-create

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



EUROPEAN RESEARCH & INNOVATION DAYS

24 → 26
SEPTEMBER

20
19

KANAL ♡ CENTRE POMPIDOU
Brussels, BELGIUM

#RiDaysEU
@EUScienceInnov

© European Union, 2019

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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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!

#HorizonEU

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