Commission proposal for
Horizon Europe

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

#HorizonEU

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Research and Innovation

Horizon Europe

European
Commission

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?

European Commission

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**

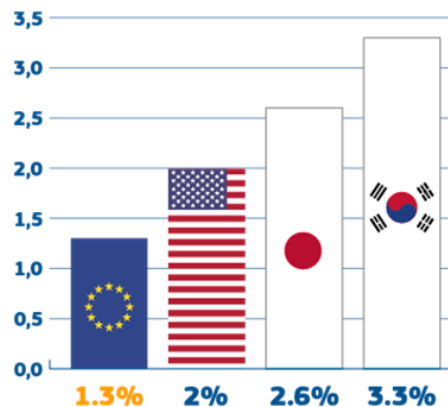- Boosting the Union's **competitiveness and growth**

European Commission

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
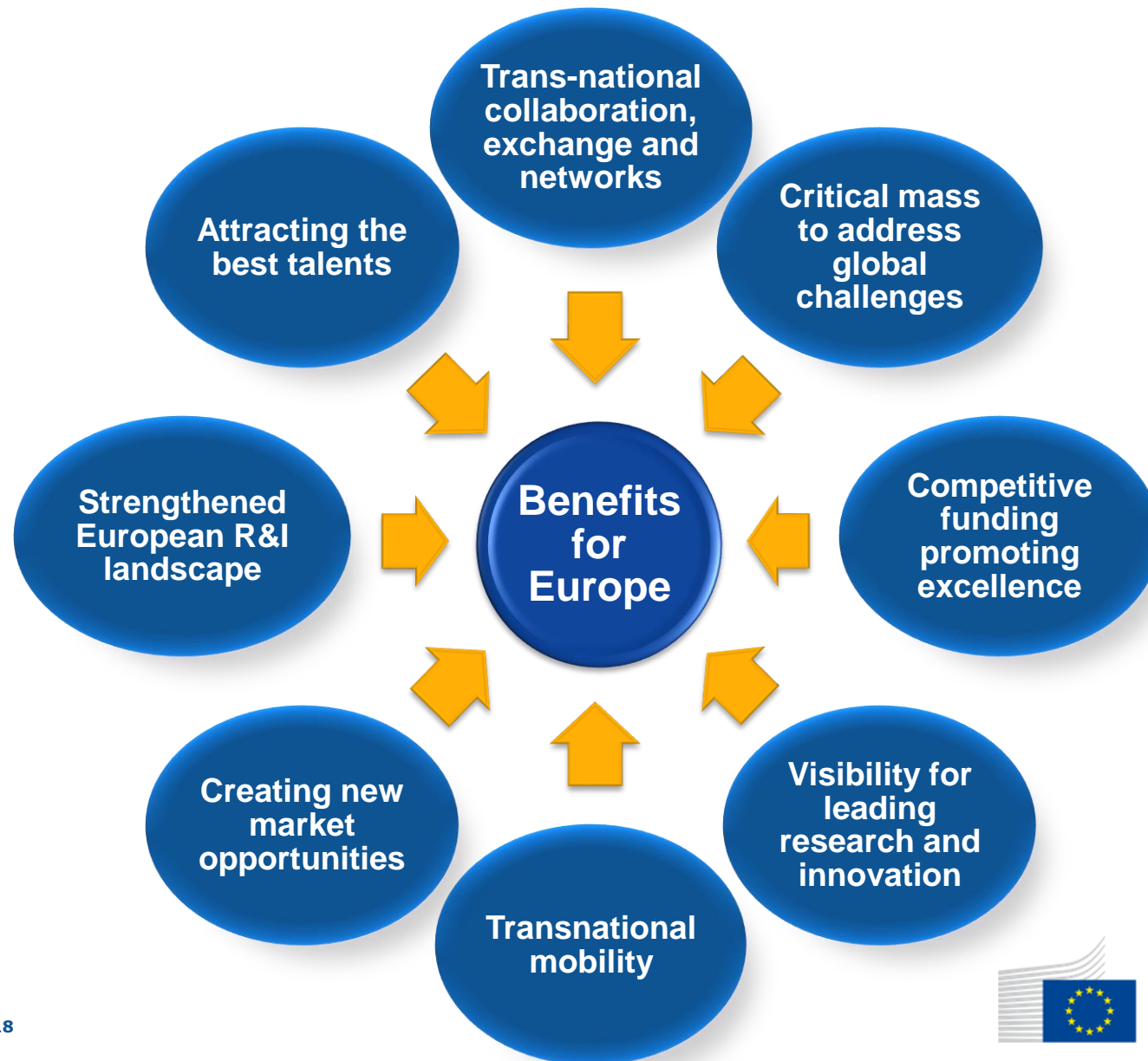
1.3%
EU business R&D investment

…Europe fails to transform leadership in science into leadership in innovation and entrepreneurship

1.3%   2%   2.6%   3.3%

European Commission

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**

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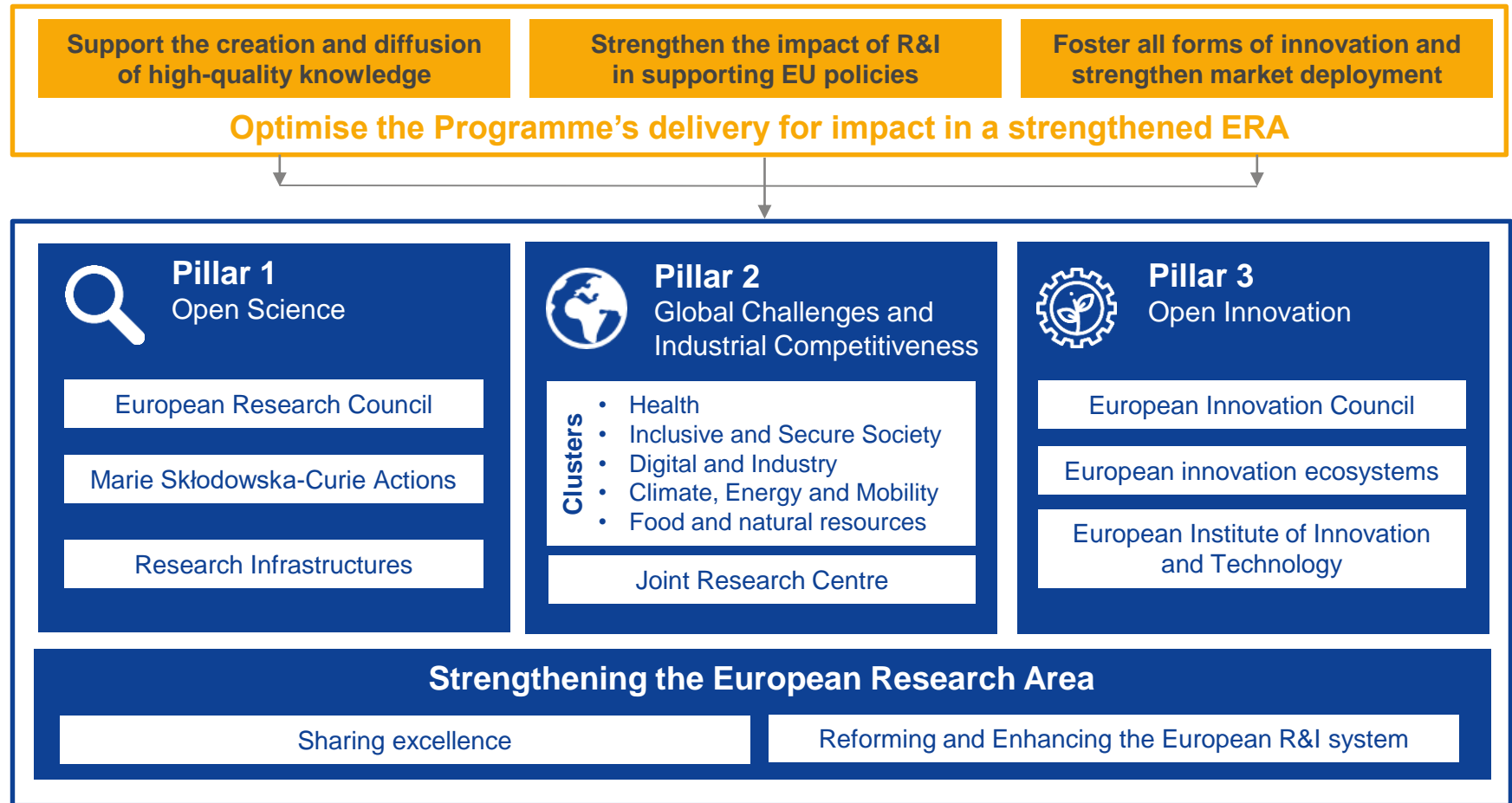# Added value through Horizon Europe:

v. 25 June 2018

European Commission

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

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Budget: €100 billion* (2021-2027)

€ billion
In current prices

- **Open Science** — €25.8
- **Global Challenges & Ind. Competitiveness** — €52.7
- **Open Innovation** — €13.5
- **Strengthening ERA** — €2.1
- **Euratom** — €2.4
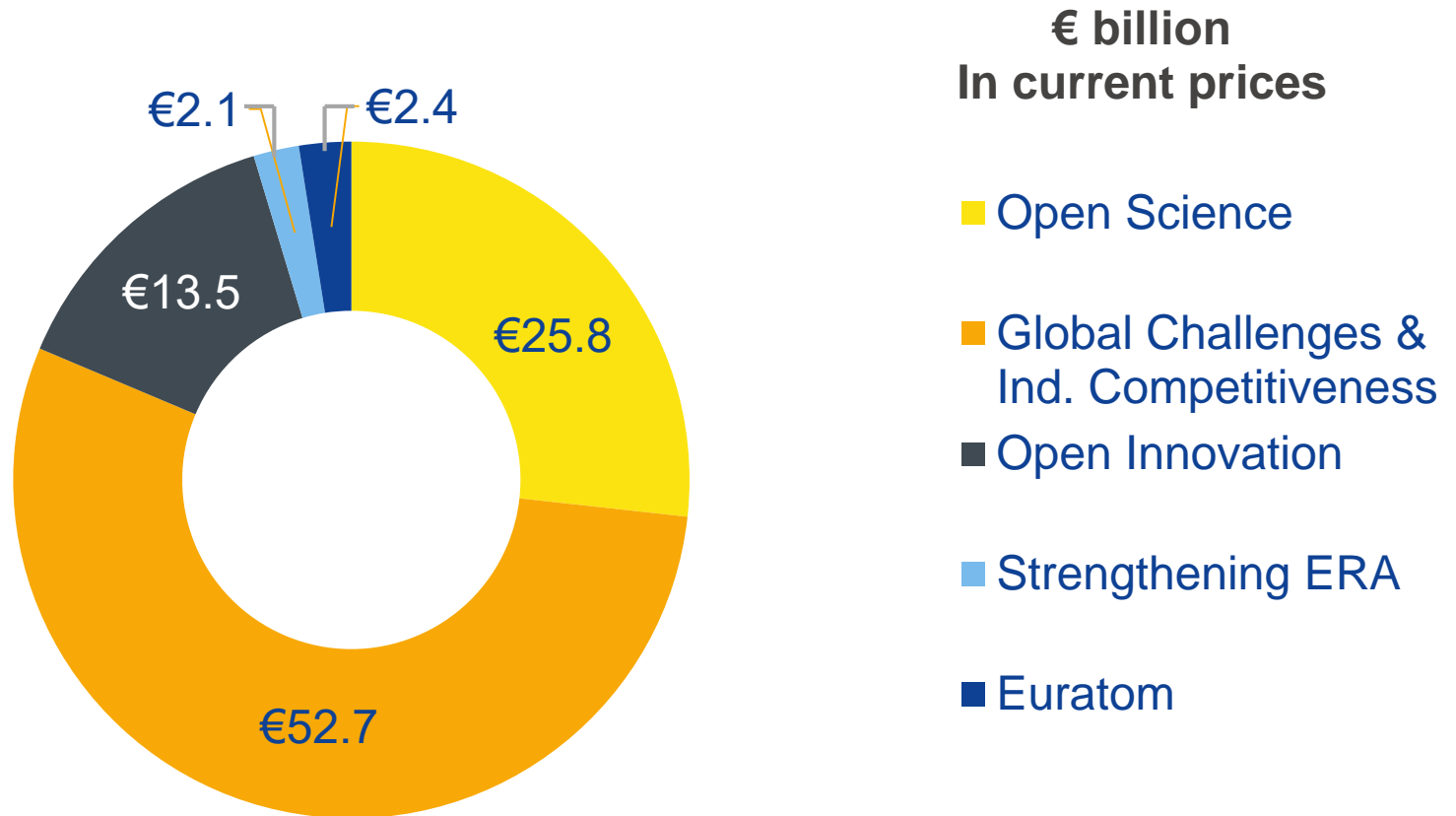
* This envelope includes EUR 3.5 billion allocated under the InvestEU Fund.

European Commission

Horizon Europe – What's new?

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**

European Commission

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)

European Commission

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)

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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.)

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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

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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

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Horizon Europe – In detail

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

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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*

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Clusters in 'Global Challenges and Industrial Competitiveness'

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

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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

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

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

€ 3 billion

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

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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

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Synergies with other Union programmes

Horizon Europe

Other Union Programmes, including

Common Agricultural Policy

Erasmus

LIFE

ERDF

Connecting Europe Facility

Innovation Fund

External Instrument

Internal Security Fund

Maritime & Fisheries Fund

ESF+

Digital Europe

Single Market Programme

InvestEU

Space 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

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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

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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

Scientific Impact

4. Addressing EU policy priorities through R&I
5. Delivering benefits & impact via R&I missions
6. Strengthening the uptake of innovation in society

Societal Impact

7. Generating innovation-based growth
8. Creating more and better jobs
9. Leveraging investments in R&I

Economic Impact

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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

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Horizon Europe – Implementation strategy

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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
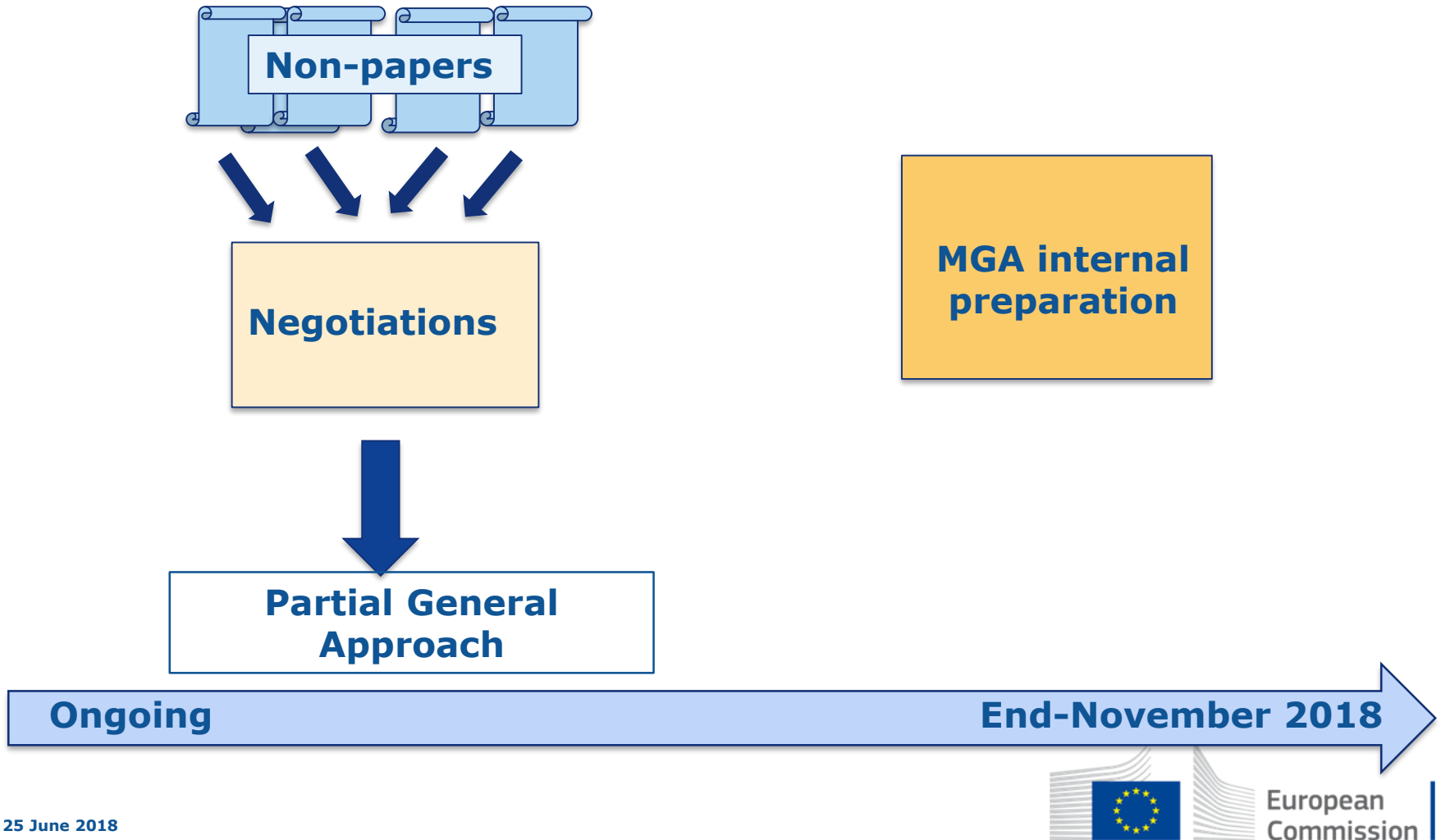
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From H2020 to Horizon Europe

➢ 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…)

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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
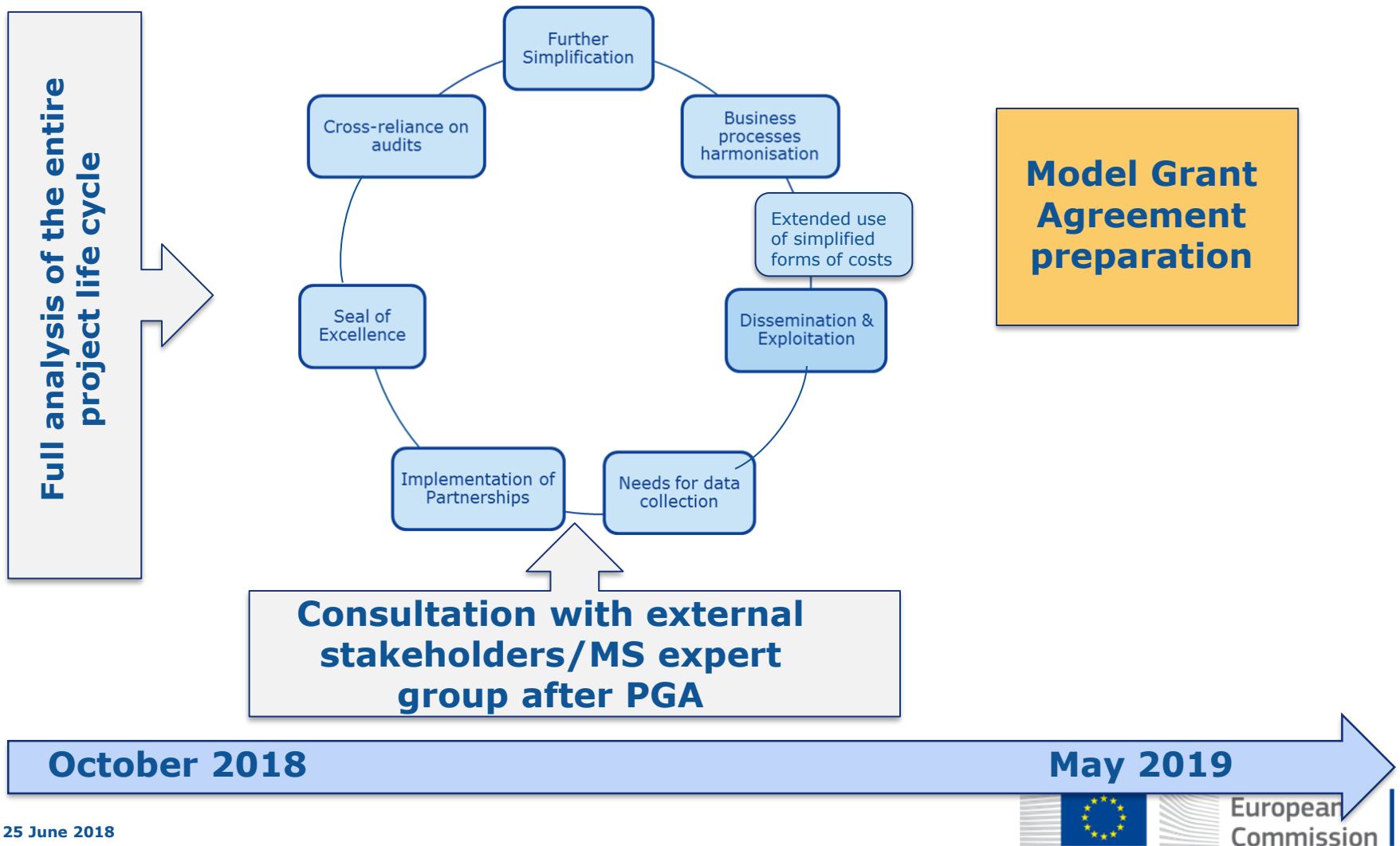
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Implementation strategy phases

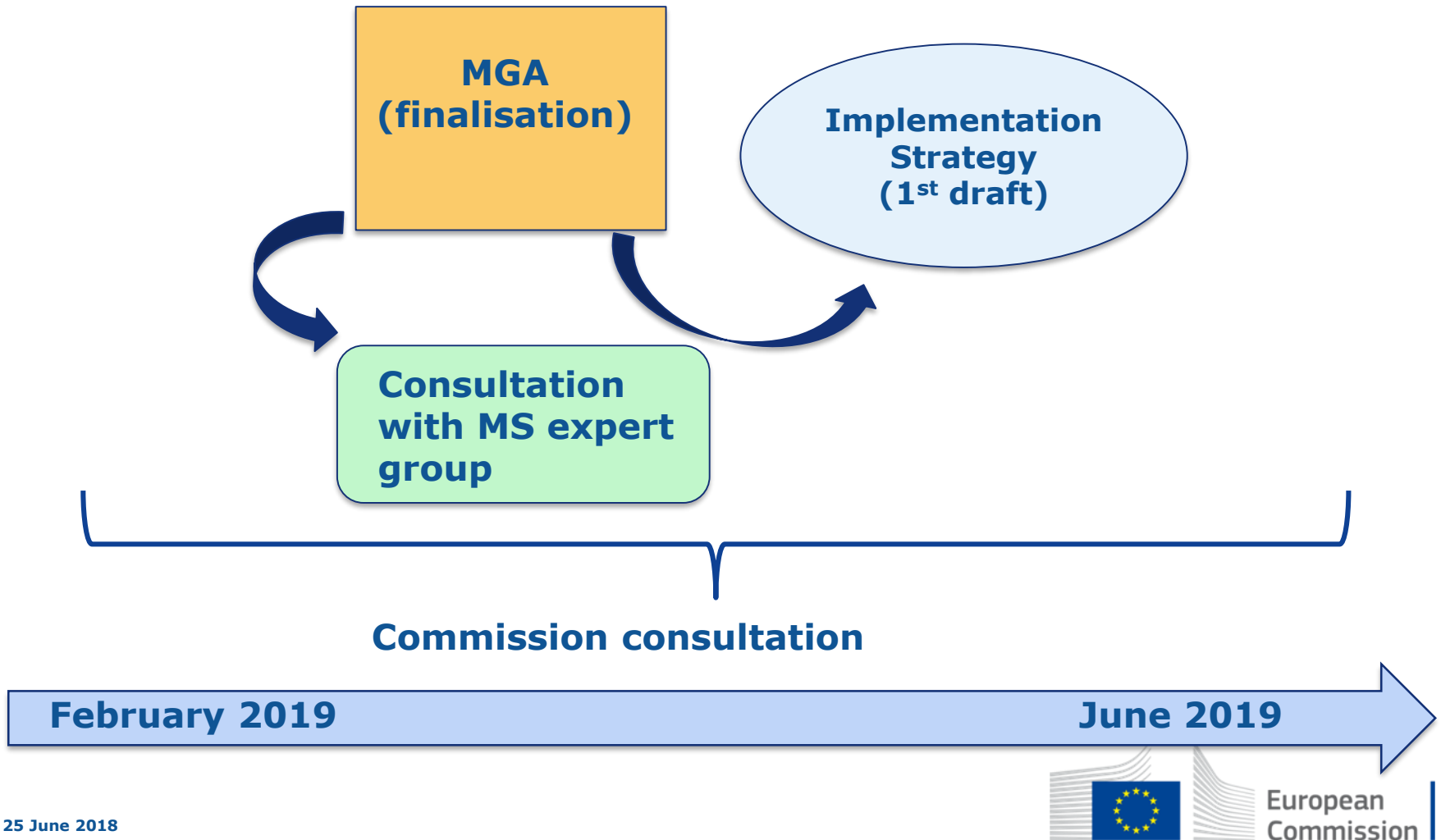## Phase 1: Preparation of input for legislative negotiations

Where are we right now?

Phase 2: Review of needs for changes

Full analysis of the entire project life cycle

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

Model Grant Agreement preparation

Consultation with external stakeholders/MS expert group after PGA

October 2018

May 2019

European Commission

v. 25 June 2018

Implementation strategy phases

Phase 3: Drafting Implementation Strategy

MGA
(finalisation)

Implementation Strategy
(1st draft)

Consultation with MS expert group

Commission consultation

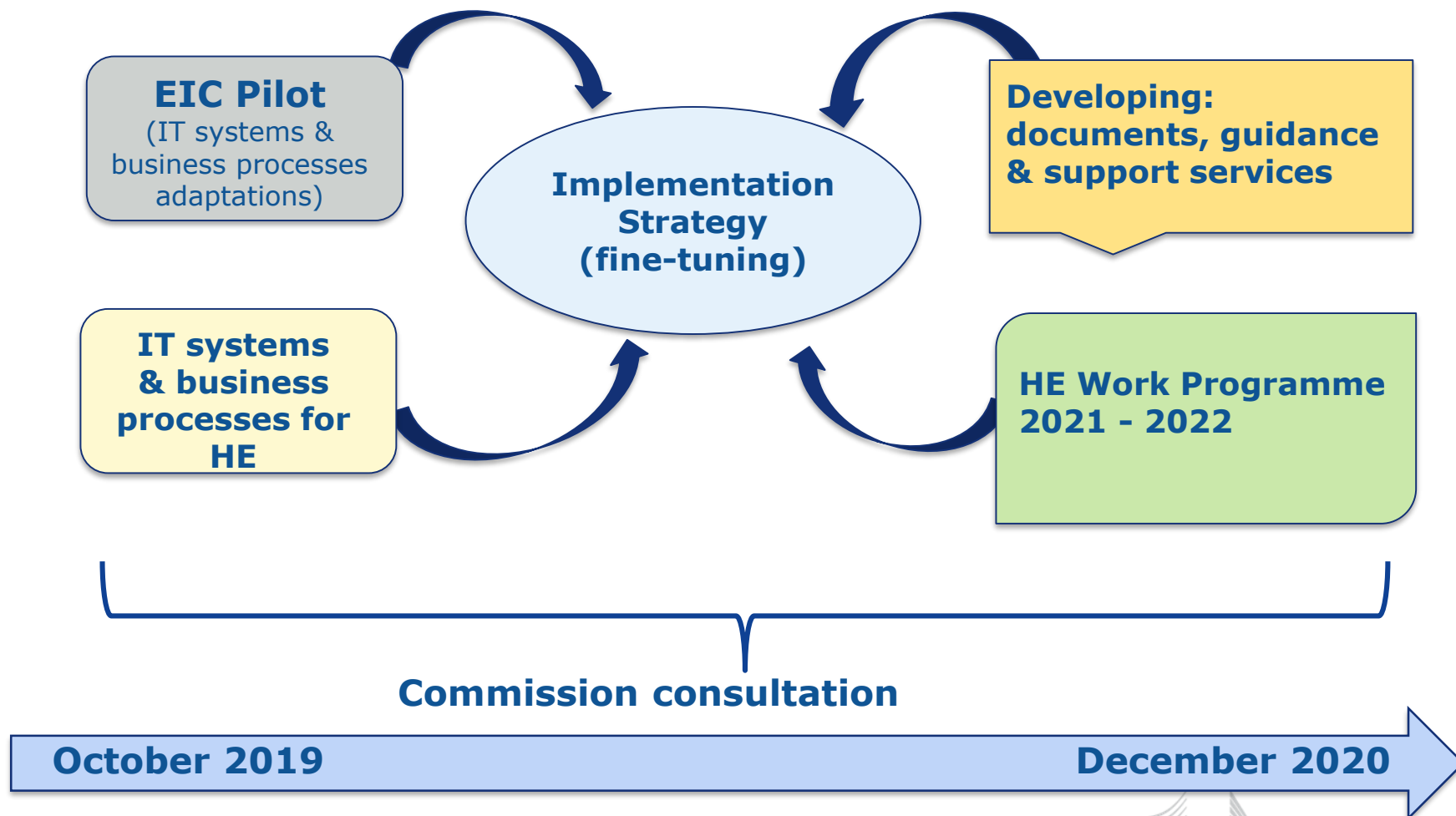February 2019   June 2019

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Implementation strategy phases

Phase 4: Consultation, consolidation, finalisation

Implementation strategy phases

Phase 5: Fine-tuning & Deployment

EIC Pilot
(IT systems &
business processes
adaptations)

Implementation
Strategy
(fine-tuning)

Developing:
documents, guidance
& support services

IT systems
& business
processes for
HE

HE Work Programme
2021 - 2022

Commission consultation

October 2019   **December 2020**

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Commission

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**

European Commission

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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

European Commission

Thank you!

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