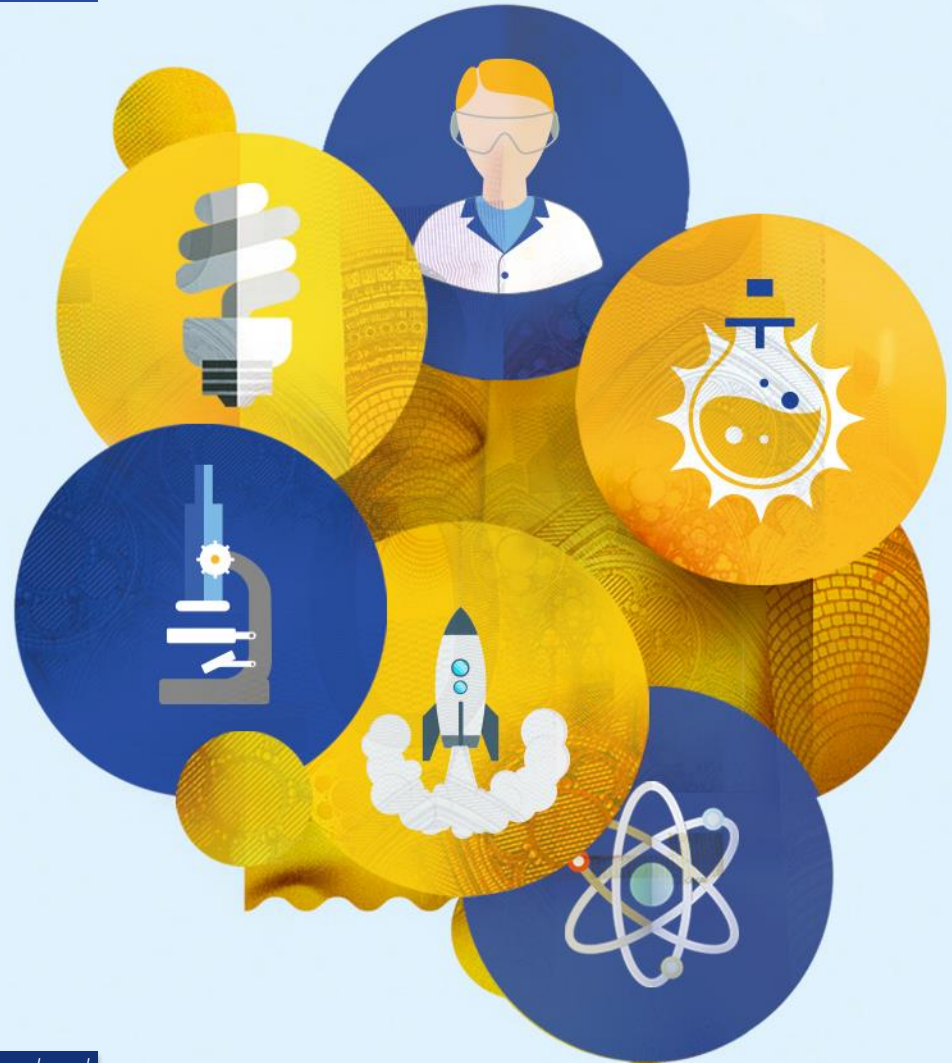# Framing Present Challenges in the EU agenda

#HorizonEU

Harald Hartung
Head of Unit, Open and inclusive societies
30 January 2019

Research and
Innovation

1. Structure and Place of SSH in Horizon Europe

2. SSH Integration – latest findings and way forward

3. To Societal Impact in Horizon Europe

European Commission

1. Structure and Place of SSH in Horizon Europe

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

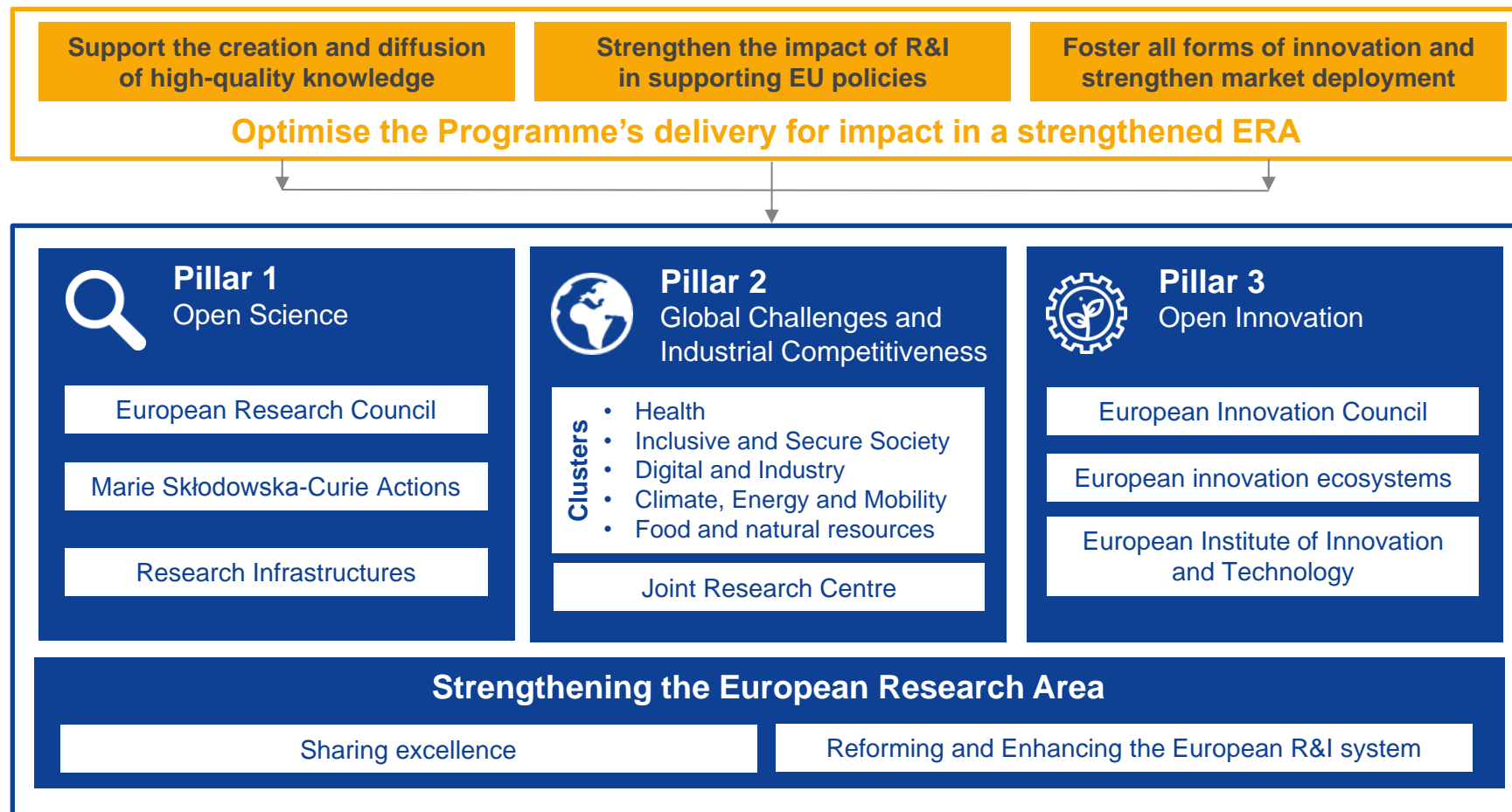**to boost Europe's innovation capacity, competitiveness and jobs**

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

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

European Commission

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

Pillar II – Evidence from the Impact Assessment

A systemic approach **along the lines of the SDGs** and the **Paris Climate Agreement**

- **Clusters** break classical boundaries between disciplines, sectors and policy areas

- **Interdisciplinarity** brings more collaboration and increased impact (Allmendinger, RISE policy brief, 2015)
  - It generates new knowledge with transformative power
  - Explores and exploits new types of problem-driven and user-oriented R&I
  - Accelerate value creation across different industries (e.g. synthetic biology, nanoscience, smart cities)

- Engaging **all actors** to **co-design** and **co-create** research and innovation

- **Better alignment**
  with actions in the rest of the world

Commission Proposal - Pillar 2
Global Challenges & Industrial Competitiveness:
boosting key technologies and solutions underpinning
EU policies & Sustainable Development Goals

Clusters implemented through usual calls, **missions & partnerships**	)
Health	
Inclusive and Secure Society	
Digital and Industry	
Climate, Energy and Mobility	
Food and Natural Resources	
Joint Research Centre supports European policies with independent scientific evidence & technical support throughout the policy cycle	

European Commission

Inclusive and Secure Society: fact & figures

- Freedom in the World Report 2018: democracy faces **most serious crisis** in decades. Decline in democratic standards a constant trend of last decade. Various European surveys show **declining levels of trust** to political institutions.

- Cultural Heritage creates **12 million jobs**; promotes European values and helps develop a European Identity.

- Automation impact: **14% of jobs** in 32 OECD countries are highly automatable, equivalent to 66 million jobs (OECD 2018. Also Mckinsey 2017).

- Need to reduce **rising inequalities** (European Pillar of Social Rights).

- Largest number of arrivals of **refugees and migrants** since end of Second World War. Respond to challenges, promote integration, enhance governance.

European Commission

CLUSTER 2: Inclusive and Secure Society

- Strengthen **European democratic values** and address issues of **trust**.

- Safeguard and promote our **cultural heritage**.

- Take advantage of socio-economic transformations and promote **inclusive growth** while responding to globalization, and technological advancements.

- Prepare for and respond to **human-made and natural disasters**, e.g. climate-related extreme weather events, terrorism, earthquakes

- Respond to changing **security threats**, both physical and digital, and support EU border management

European Commission

Three Intervention areas especially relevant for the SSH in Cluster 2:

- ### Democracy
Support the transparency, responsiveness, accountability effectiveness and legitimacy of <u>democratic governance</u> in full respect of fundamental rights and of the rule of law

- ### Cultural Heritage
Heritage studies and sciences, with cutting edge technologies including digital ones. <u>Access to and sharing of cultural heritage</u>, with innovative patterns and uses and participatory management models.

- ### Social and economic transformations
Knowledge base for <u>advice on investments and policies especially education and training, for high value added skills</u>, productivity, social mobility, growth, social innovation and job creation. The role of education and training to tackle Inequalities.

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Integration of SSH throughout the programme:

- Specific focus area on challenges for our societies in Cluster II of Horizon Europe on Inclusive and Secure Societites

- Inside and across Clusters, including Missions (social, economic, cultural, human aspects are essential for both impact and relevance)

- Continued monitoring while broadening the scope (the ambition is to cover practically the whole of Horizon Europe)

- Evaluation procedures (composition of panels, briefing and guidance documents)

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2. SSH Integration – latest findings and way forward

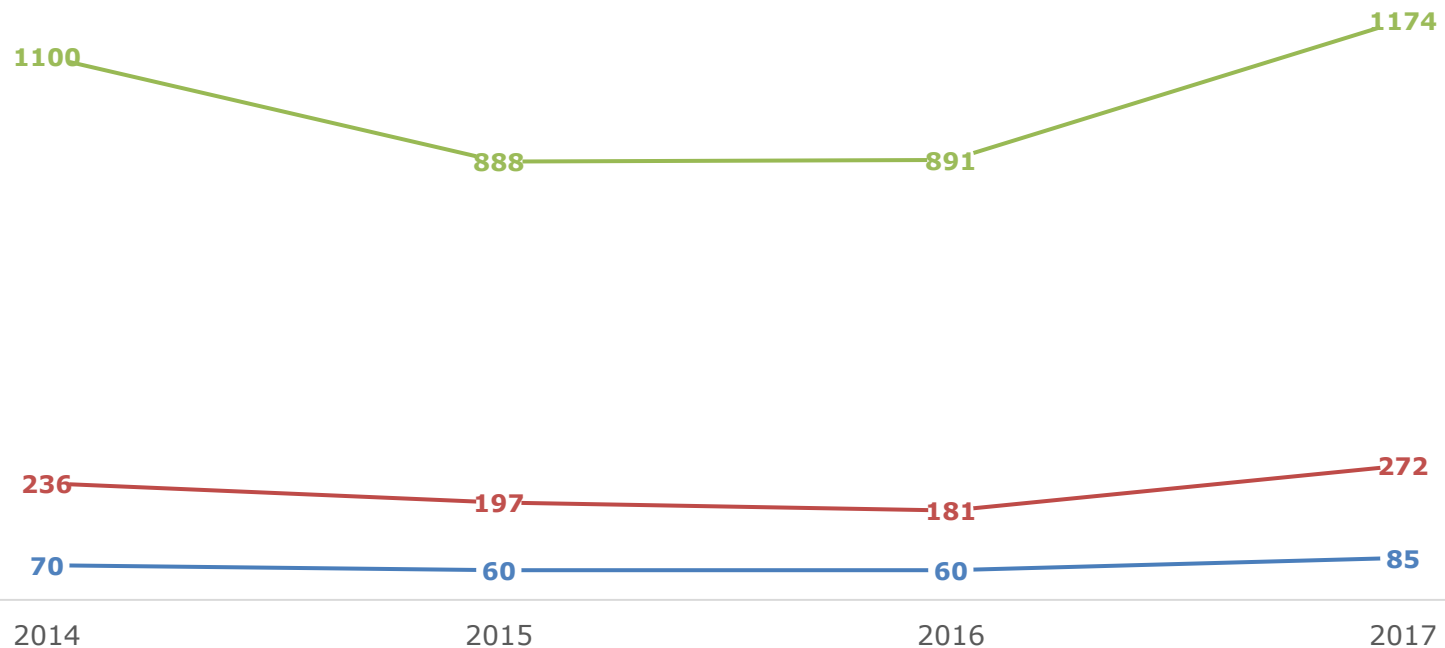# Social Sciences & Humanities monitoring report Principles

- *Monitoring SSH integration is an obligation under the FP*

- *Two-fold approach to SSH in Horizon 2020 (streamlining of cross-cutting issue and focus in SC6 'Inclusive, innovative and reflective societies'*

- *Quantitative and qualitative assessment of SSH integration*

- *This report describes the integration of SSH in the SSH flagged topics and projects of the year 2017*

Overview of SSH integration in other programme parts

- *European Research Council (ERC): 23% of the overall grant financing went to SSH related projects*

- *Maria Skłodowska-Curie Actions (MSCA):15% of the total budget allocation was for SSH*

- *Research infrastructures (RI): the SSH related share stood at c. 6.7 % of the general RI expenditure*

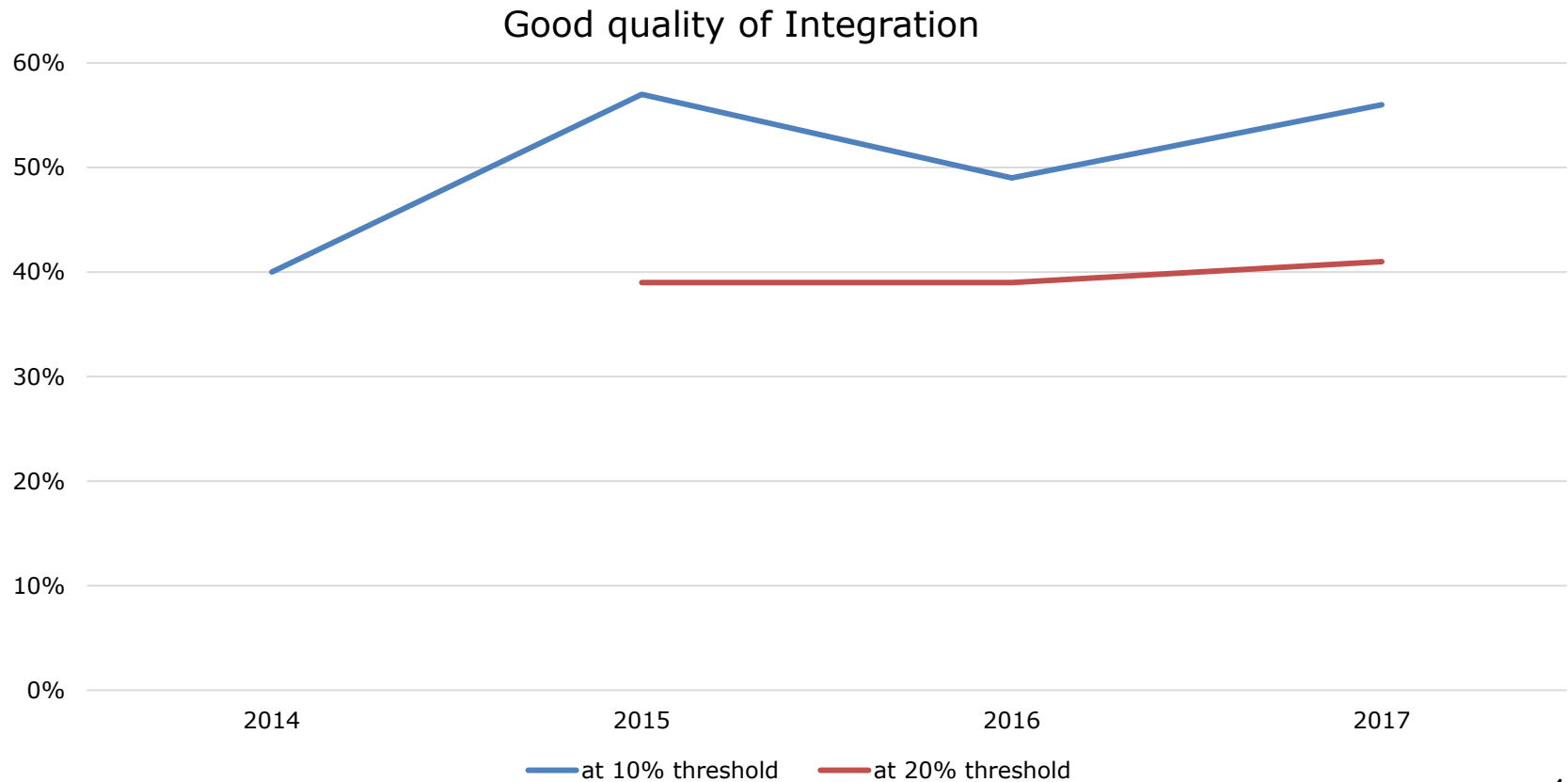- *Future Emerging Technologies (FET): c. 49.5% of total budget was allocated to SSH relevant topics*

I.1.The quantitative integration of SSH is clearly on the rise

BUDGET FOR SSH FLAGGED TOPICS, IN MILLION EURO 2014-17

	2014	2015	2016	2017
Total budget for SSH flagged topics	1100	888	891	1174
budget allocated to SSH-partners in SSH flagged topics	236	197	181	272
SC6 contribution	70	60	60	85

─ ─ SC6 contribution   ─ ─ budget allocated to SSH-partners in SSH flagged topics   ─ ─ Total budget for SSH flagged topics

II.1. The quality of SSH integration is improving gradually

Good quality of Integration

Legend: at 10% threshold — at 20% threshold

Conclusions

Obligation to
- integrate SSH expertise in relevant scientific projects
- monitor the quality of their integration in Horizon 2020

Has led to
➢ major step forward in cross- sectoral co-operation in European research of which SSH integration is a precursor.
➢ a rather stable level of quantitative and qualitative SSH integration
➢ probably reached its limits in the quantity and quality of SSH integration under the current rules.

=>**The way in which SSH should be integrated will have to be redefined for the Horizon Europe Programme**
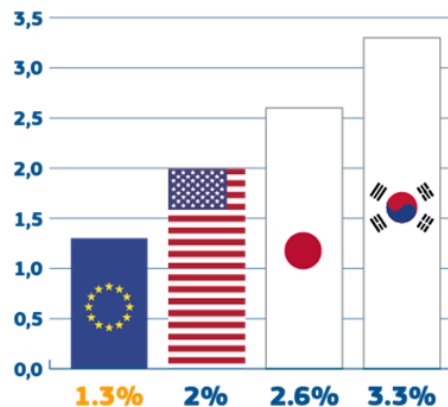
Way forward for Horizon Europe

- *Flagging in a realistic way*

- *Follow a holistic approach covering the entire cycle (from co-design to selection and implementation of project)*

- *Integrate SSH expertise in a more binding way*
  - ➤ Drafting calls/topics
  - ➤ Concept & consortia projects
  - ➤ Evaluation & selection of project
  - ➤ Evaluators with SSH expertise

3. Societal Impact in Horizon Europe

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

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EVOLUTION FOR HORIZON EUROPE

Horizon 2020 system	Evolution for Horizon Europe

▪ 3 headline indicators **not directly attributable** to the programme
 	
 ▪ **55 Horizon 2020 Key performance and Cross-Cutting issues** indicators:
 	
 • 27 are related to **management and implementation data** (e.g. funding, participation)
 	
 • 28 are related to **outputs, results or impacts**, out of which:
 	
   • none is related to the whole programme (covering only programme parts)
 	
   • 9 relate to publications
 	
   • 7 relate to intellectual property rights and innovations
 	
   • 4 relate to leveraged funding
 	
   • 4 relate to researchers' mobility and access to infrastructures
	▪ All Horizon 2020 indicators related to outputs, results and impacts are maintained but **streamlined and further specified** to cover the whole Programme
	
	 ▪ Management and implementation data are still collected and made available in close-to-real time through **online Dashboard** but are not part of "performance indicators"
	
	 ▪ Key indicators are set at **Programme level** according to the Programme objectives and are attributable to the Programme
	
	 ▪ Key indicators are classified according to **9 key impact pathways**, for tracking impact through short, medium and long term indicators – for more accurate reporting over time
	
	 ▪ Higher reliance on external data sources, qualitative data and automated data tracking to **minimise burden on beneficiaries**
	
	 ▪ Possibility for programme part or action specific indicators (but not in the legal base)

Impact

LEARNING FROM HORIZON 2020 INTERIM EVALUATION

➢ **Specificity of research and innovation (R&I) investments:**

- risky endeavor involving multiple trials and errors
- spreading widely and unexpectedly into multiple domains & applications
- providing invaluable solutions often in the very long term

➢ Need to be able to **tell the difference EU funding is making at any moment in time: tell the story** of the programme as a whole, according to its set of objectives

➢ Need **realistic** indicators to track progress in **short, medium** and **long term**

➢ Need **minimised burden** on participants, also after project ends

➢ **Need distinction** between management indicators & performance indicators

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TRACKING IMPACT IN HORIZON EUROPE

THREE TYPES OF IMPACT BASED ON OBJECTIVES

Scientific impact
Create and diffuse high-quality new knowledge, skills, technologies and solutions to global challenges

Societal impact
Strengthen the impact of research and innovation in developing, supporting and implementing EU policies, and support the uptake of innovative solutions in industry and society to address global challenges

Economic impact
Foster all forms of innovation, including breakthrough innovation, and strengthening market deployment of innovative solutions

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Different impacts

Societal impact
- Quality of life
- Health
- Enviroment
- Public services
- Policy
- Creative activity
- Public engagement
- Understanding
- Education

Economic impact
- Innovations
- Competitiveness
- Growth
- Jobs
- Budget savings

Academic impact
- Theory
- Method
- Knowledge
- Technology development
- Researcher training
- Teaching and training
- Application

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CLASSIFICATION OF IMPACTS FOR THE INTERIM EVALUATION HORIZON 2020

**Contribution to expected impacts
from projects' outputs + up to 10 to 20 years**

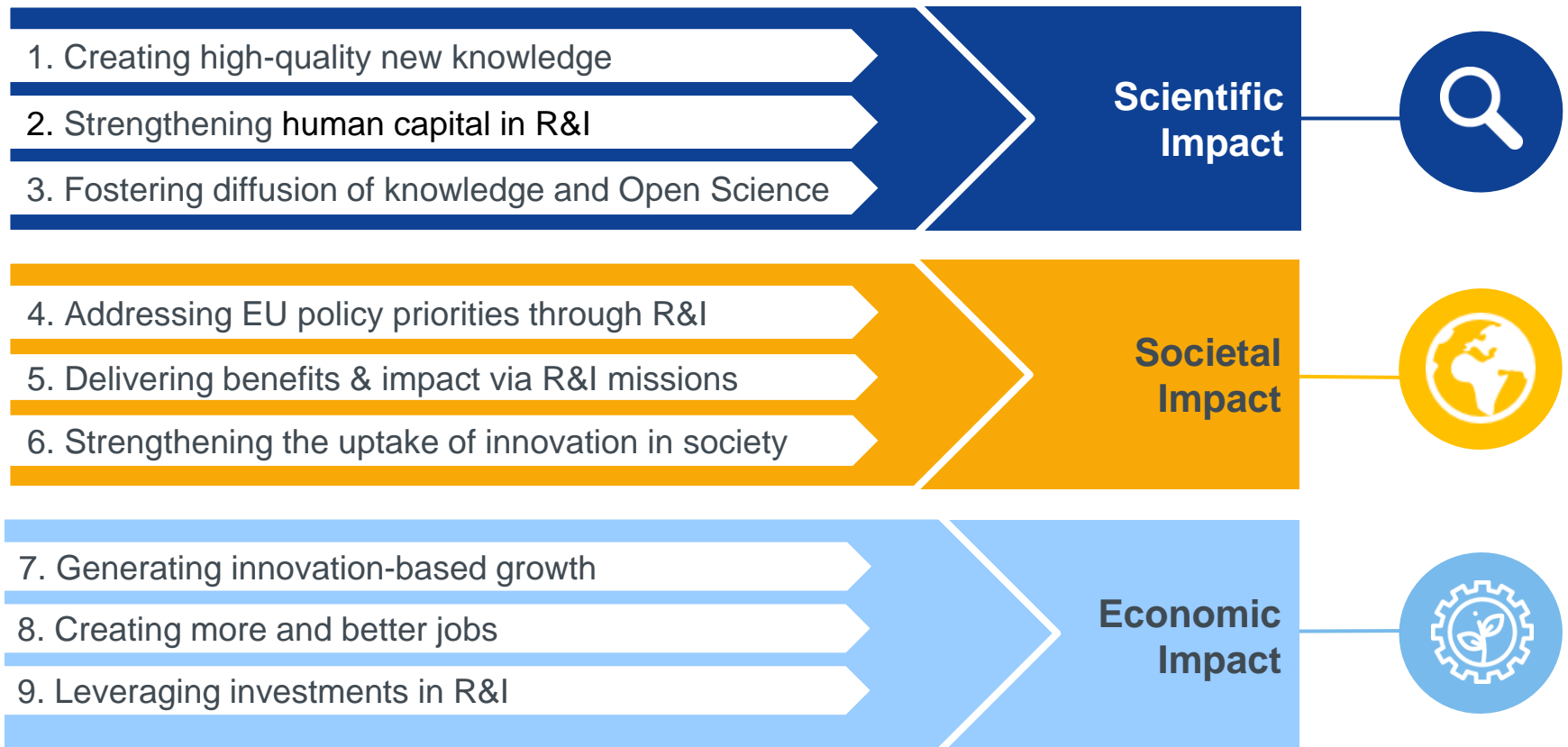| *Scientific impacts*	*Innovation/economic impacts*	*Societal impacts*
EU world-class excellence in science	Better innovation capability of EU firms	Better contribution of R&I to tackling societal challenges
Better cross-border & cross-sector coordination & integration of R&I efforts	EU technological leadership & strengthened competitive position of European industry (incl. SMEs, start-ups)	Stronger global role of the EU, steering the international agenda to tackle global societal challenges
Emergence of new technologies or field of science in the EU	Diffusion of innovation in the economy (incl. in SMEs) generating jobs, growth and investments	Better societal acceptance of science and innovative solutions

Source: Interim Evaluation of Horizon 2020

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3

3. TRACKING IMPACT IN HORIZON EUROPE

9 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

European Commission
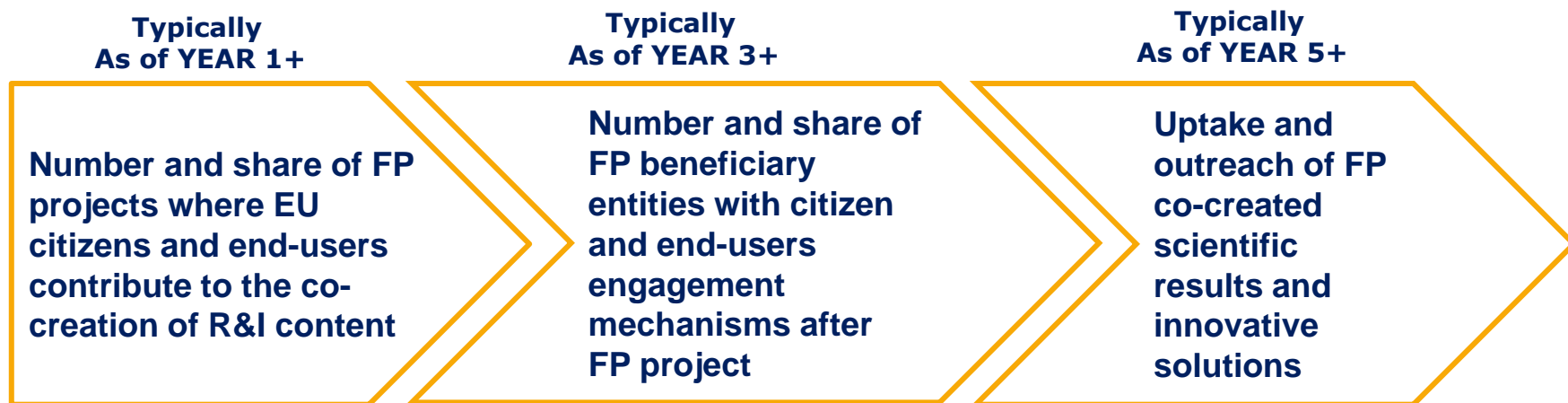
Pathway 6. Strengthening the uptake of innovation in society

STORY LINE: The FP strengthens the uptake of innovation in society, as shown by the engagement of citizen in the projects and beyond the projects by improved uptake of scientific results and innovative solutions

- ## Indicator (short, medium, long-term)

Typically As of YEAR 1+

Number and share of FP projects where EU citizens and end-users contribute to the co-creation of R&I content

Typically As of YEAR 3+

Number and share of FP beneficiary entities with citizen and end-users engagement mechanisms after FP project

Typically As of YEAR 5+

Uptake and outreach of FP co-created scientific results and innovative solutions

Data needs: Collection of data at proposal stage on the roles of partners (incl. citizen) in the projects, structured survey of beneficiary entities and tracking of uptake and outreach through patents and trademarks and media analysis.

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Research and innovation
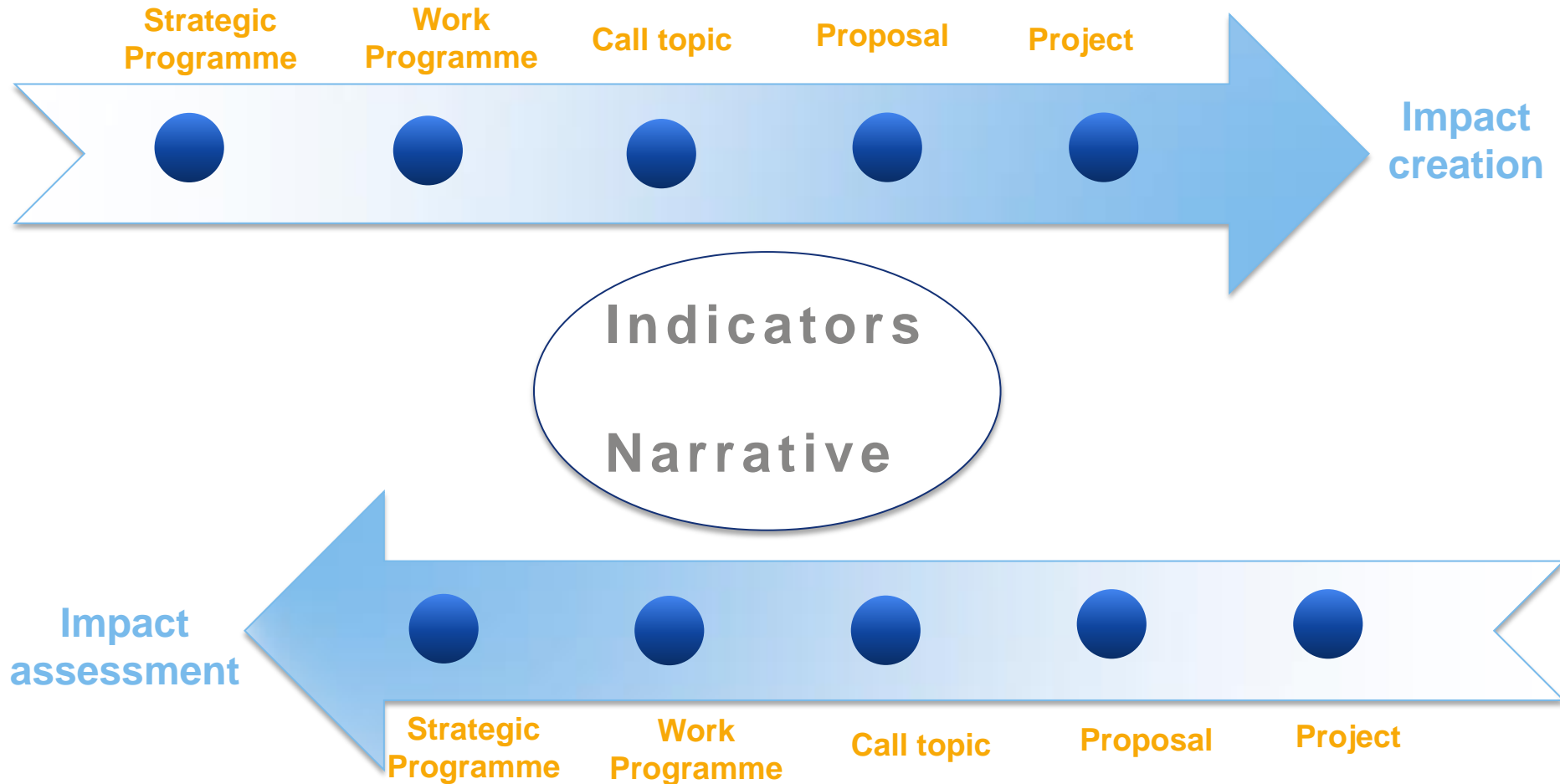
Horizon Europe

Impact pathways will be time-sensitive:

=> *short (typically as of one year, when the first projects are completed),*

=> *medium (typically as of three years, and for the interim evaluation) and*

=> *long term (typically as of five years, and for the ex-post evaluation).*

They will contain both qualitative and quantitative information

Holistic
approach to impact

Thank you!

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

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