Orientations
towards the first Strategic Plan implementing the research and innovation framework programme Horizon Europe

CO-DESIGN
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READING GUIDE

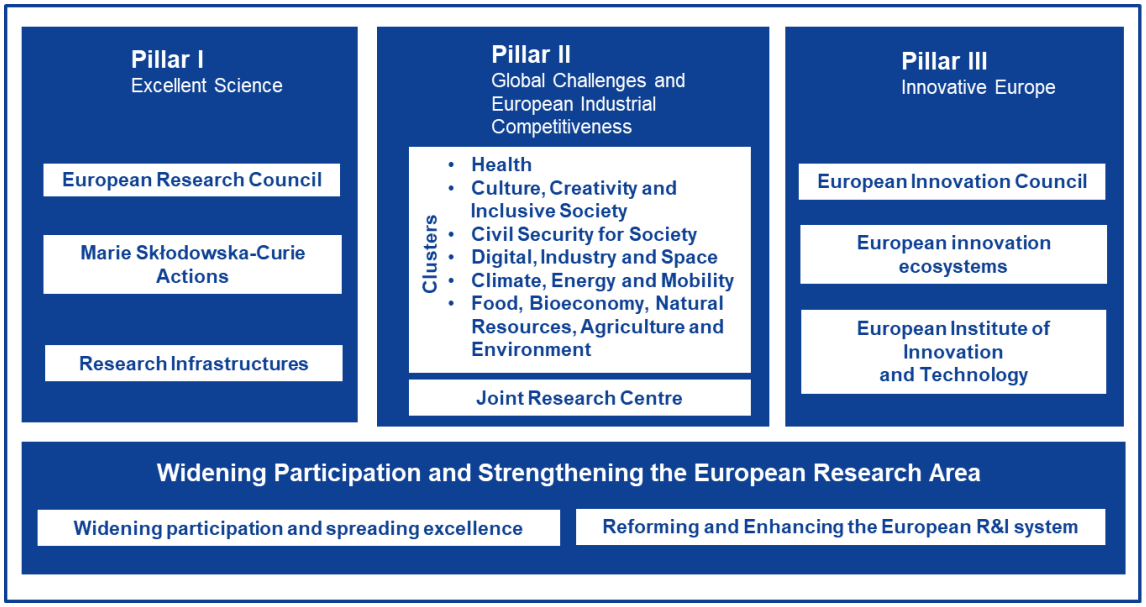
The purpose of this document is to inform and stimulate a co-design process that will prepare the **first Strategic Plan for Horizon Europe** – the European Union Framework Programme for Research and Innovation 2021 – 2027 (Horizon Europe).

Horizon Europe will be based on two legal acts: one laying down its structure, rules for participation and dissemination, the other containing the Specific Programme that sets out thematic clusters and the broad lines of action for future research and innovation activities.

In April 2019 the European Parliament and the Council reached a **political agreement** on the two legal acts. According to this agreement, Horizon Europe will be structured in three pillars, supported by activities aimed at widening participation and strengthening the European Research Area (see figure 1):

- Pillar I, **Excellent Science** will reinforce EU scientific leadership through the European Research Council (ERC), Marie Skłodowska-Curie Actions and Research Infrastructures.
- Pillar II, **Global Challenges and European Industrial Competitiveness** will take forward the societal challenges and enabling and industrial technologies to better address EU and global policy priorities and accelerate industrial transformation. Pillar II includes six broad thematic "clusters" of activities.
- Pillar III, **Innovative Europe**, focuses on stimulating, nurturing and deploying disruptive and market-creating innovations, and on enhancing European ecosystems conducive to innovation, including through the new European Innovation Council.

Preliminary Horizon Europe Structure



In line with the political agreement between the Council and the Parliament, the preparation of the Strategic Plan, referred to as the **strategic planning process,** will focus in particular on the pillar 'Global Challenges and European Industrial Competitiveness' and its six thematic clusters, while also including relevant activities in the other two pillars and the part 'Widening Participation and Strengthening the European Research Area'.

The first Horizon Europe Strategic Plan will facilitate the implementation of Horizon Europe by acting as a bridge between the Horizon Europe Specific Programme and the future, multi-annual work programmes that will contain the calls and topics to which interested parties can apply. The Strategic Plan will set out key **strategic orientations for the support to research and innovation**, including a description of targeted impacts, cross-cluster issues and intervention areas covered. It will also identify missions and European Partnerships. As such, the plan will not repeat the rationale of the Horizon Europe Specific Programme, nor the intervention logic that led to the component parts of the programme. Rather, taking the Specific Programme as a starting point, it will identify the major policy drivers, the strategic policy priorities, and the targeted impacts to be achieved, focussing on those elements within the Specific Programme that should be supported from 2021 to 2024. The projects supported in the first four years of Horizon Europe will normally be completed after 2025. As it takes time to transform new ideas to concrete actions, the planning process focuses on identifying the impacts targeted with European research and innovation from 2030 onwards.

The strategic planning process will also include close coordination and synergy with the planning of the Knowledge and Innovation Communities (KICs) of the European Institute of Innovation and Technology (EIT) and consider the balance of research and innovation activities, so to promote technological, non-technological and social innovation as appropriate in view of the targeted impact.

At a later stage, the strategic planning process will address **synergies** between Horizon Europe and other Union programmes thus becoming a point of reference for research and innovation in all related programmes across the EU budget and non-funding instruments. It will also provide the framework for linking the direct actions of the **Joint Research Centre** and other actions supported under Horizon Europe, including the use of results and data for support to policy. Further details on the **international cooperation** strategy and targeted impacts for international cooperation will also be added.

Content
The present document consists of General Orientations and six annexes corresponding to the six clusters of Pillar II, Global Challenges and European Industrial Competitiveness. Annex 7 describes mission areas and possible partnerships in further detail.

The **General Orientations** bring to the debate the possible impacts to be targeted with the future Strategic Plan. They also outline the challenges that the EU is currently facing and the drivers that are likely to exacerbate them. They refer to the key EU policy objectives and responses to these challenges and outline how to target research and innovation impacts for achieving these objectives. This part also briefly describes research and innovation policy priorities and specific issues that will be taken into account during the implementation of Horizon Europe, as well as shared objectives and coordination of relevant activities throughout Horizon Europe. Finally, it presents the novel instruments and approaches for maximising the targeted impacts: the missions and partnerships in Horizon Europe.

Cluster 1, '**Health**', aims to promote and protect human health and well-being, prevent diseases and decrease the burden of diseases and disabilities on people and communities, support the transformation of health care systems in their efforts towards fair access to innovative, sustainable and high quality health care for everyone, and foster an innovative, sustainable and globally competitive European health industry. Research and innovation actions under this cluster will be key to address the health-related challenges and drivers delivering new knowledge and capabilities, improving our understanding of health and diseases, developing innovative methodological and technological solutions to better manage health and diseases, and designing sustainable approaches for the digital transformation and delivery of integrated and person-centred health and care services supported by needs-driven innovation and reliable supply chains in Europe.

Cluster 2, '**Culture, Creativity and Inclusive Society**' aims to meet EU goals and priorities on enhancing democratic governance and citizens participation, and on the safeguarding and promotion of cultural heritage, and to respond to multifaceted social, economic, technological and cultural transformations. Activities will contribute to expanding civic engagement, boosting transparency, accountability, inclusiveness and legitimacy of governance, improving levels of trust and tackling political extremism. Activities within the Cluster will also promote better access and engagement with cultural heritage and improve its protection, enhancement and restoration. Research and innovation will support sustainable growth and job creation through contributing to a European industrial policy for the cultural and creative industries. At the same time, actions will help tackle social, economic and political inequalities, support human capital development and contribute to a comprehensive European strategy for inclusive growth. This also involves understanding and responding to the impacts of technological advancements and economic interconnectedness with a view to social resilience. Finally, the Cluster will support EU migration and mobility policies, both internal and external, while aiming to promote integration.

Cluster 3, '**Civil security for Society**', aims to contribute to protecting the EU and its citizens from the threats posed by crime and terrorism (including in the cyber environment) and from the impacts of natural and man-made disasters. As shown in Eurobarometer surveys, security is one of the main concerns of EU citizens and is therefore among the top priorities for the Commission. Modern security threats are evolving rapidly, and technological and societal changes are creating unprecedented complexity, but so also are

opportunities for addressing them more efficiently. In this regard, security research provides the resources to be able to adequately counter current threats, by enabling the availability of state of the art equipment and knowledge. Furthermore, by working to anticipate future threats, security research develops today the capabilities that will be needed in the future.

Cluster 4, '**Digital, Industry and Space**' will advance key enabling, digital and space technologies, underpinning the transformation of our economy and society, support the digitisation and transformation of European industry and contribute to securing global industrial leadership and autonomy in terms of technologies and resources. Furthermore, activities with the Cluster will contribute to growing a low-carbon, circular and clean industry respecting planetary boundaries and to fostering inclusiveness in the form of high-quality jobs and societal engagement in the use of technologies. Thereby it will contribute to addressing the challenges European industry is facing, such as its reliance on imported key technologies and raw materials, the scarcity of resources including energy, as well as skills mismatches and ethical considerations relating to technological progress.

Cluster 5, '**Climate, Energy and Mobility**', aims to fight climate change while improving the competitiveness of the energy and transport industries as well as the quality of the services that these sectors bring to society. This entails establishing a better understanding of the causes, evolution, risks, impacts and opportunities of climate change, as well as making energy and mobility systems more climate- and environment-friendly, smarter, safer, and more resilient, inclusive, competitive and efficient. Actions of this Cluster will contribute to the technological, economic and societal transformations required to achieve climate neutrality and to ensure a socially fair transition, as outlined in the Commission's long-term strategy (adopted in November 2018).

Cluster 6, '**Food, Bioeconomy, Natural Resources, Agriculture and Environment**' will advance knowledge, expand capacities and deliver innovative solutions to accelerate the transition towards the sustainable management of natural resources (such as biodiversity, water and soils). This will include measures for: climate adaptation and climate neutrality of sustainable primary production (agriculture, forestry, fisheries and aquaculture), value chains, food systems and bio-based industries; optimising ecosystem services including for climate mitigation; reversing biodiversity decline; and reducing environmental degradation and pollution. Activities will benefit people and society by promoting safe and healthy food as well as human well-being, including through a better understanding of consumer behaviour. Furthermore, activities will help to develop vibrant rural and coastal areas and to establish governance models for the transition towards sustainability. To this end, actions under this Cluster will lead and support the switch to a competitive, more circular and bio-based, climate-neutral, resilient and environmentally-friendly economy in compliance with the Paris Agreement on Climate Change and the United Nations Sustainable Development Goals.

A starting point for further debate and new ideas

This document is based on a comprehensive set of sources, has been the subject of extensive exchanges with Member States and takes into account underlying analysis. It is not the Strategic Plan or its draft, but a starting point for debate and new ideas during the co-design process, including the public consultation during the summer 2019. The co-design process will also include the debates during the European Research and Innovation Days in Brussels from 24 to 26 September 2019, as well as other possible initiatives. To register and participate in the European Research and Innovation Days go to the event website.

A dedicated implementation strategy is expected to be finalised at the end of 2019, timed in conjunction with the adoption of the Strategic Plan. The implementation strategy will cover, among other aspects, the organisation of calls, evaluation of proposals, grant agreements and project management. There will be a separate consultation later in the year on these practical issues which need to be put in place to help deliver the objectives of the new programme.

GENERAL ORIENTATIONS

1. Investing in research and innovation – shaping the future we want, together

With a proposed budget of 100 billion euro from 2021–2027, the Horizon Europe framework programme represents the largest collaborative multinational research and innovation investment in Europe and is open to participants worldwide. The European Union undertakes an investment of this magnitude because research and innovation is essential for finding new solutions to the challenges we are facing – and because the challenges are of such a magnitude that they cannot be addressed by one country alone. Research and innovation creates new opportunities, helps to tackle climate change, supports sustainable economic growth and the competitiveness of businesses and industries, and provides better public services for all Europeans. Research and innovation allows us to shape the future and the reality in which we want to live.

While European research and innovation is setting a world standard for excellence, the potential impact of investments in research and innovation is greatest when efforts have not only a rate, but also a direction. This view is reflected in one specific objective of Horizon Europe (art. 3, 2b), which is *to generate knowledge, strengthen the impact of research and innovation in developing, supporting and implementing Union policies and support the access to and uptake of innovative solutions in European industry, notably in SMEs, and society to address global challenges, including climate change and the Sustainable Development Goals*.

The future Strategic Plan for Horizon Europe will put forward the targeted impacts for European Union research and innovation activities and the priorities for the first four years of implementation. The intention is thus to direct Horizon Europe investments where it matters most, within the overall objectives described above, supporting the achievement of the Union's key policy goals, including the Sustainable Development Goals. Shaping the future we want, together.

The Sustainable Development Goals

2. The challenges we face and the forces that drive them

Our future is shaped by a multitude of factors that evolve and intersect in complex ways, as well as by the impact of today's decisions. Some may develop fairly rapidly and can lead to disruptions, while others develop more slowly. These **drivers** shape major social, economic, political, environmental and technological transformations of human activities, processes and perceptions. As these drivers develop in a relatively stable manner over time, we are able to anticipate with some degree of certainty possible challenges these forces will create to people, planet and prosperity if not appropriately addressed.

One of the best examples of such a driver is **demographic change.** As we live longer and populations, especially in Africa and Asia, will continue to grow, the global population is expected to reach approximately 8.6 billion in 2030 and 9.8 billion in 2050, while also growing older as a whole. These developments can have a wide range of implications on for example planetary resources, climate change, migration, health care and public spending.

As the populations of the eastern and southern parts of the world continue to expand, the centre of gravity in the world economy and global politics will continue to shift in the same direction. In Asia, a growing middle class with rising purchasing power will represent new market opportunities for European businesses but will also add to planetary strain. Africa will contribute the most to a rising population until 2050 and is a continent of opportunities where decentralised, digitally enabled solutions are flourishing. As **new powerhouses in the global economy** take their place on the international scene, established roles are brought into question and in some cases, the multilateral and rules-based world order can no longer be taken for granted. This creates an increasingly complex and volatile security environment for Europe, while also challenging the businesses and industries operating internationally.

Another important driver is increased mobility: across borders, and in particular within borders, towards cities. Most Europeans already live in cities today but more than two thirds of the global population will be living in cities by 2030. While uncontrolled **urbanisation** can lead to a number of challenges related to for instance poor infrastructure, abandoned rural areas and territories, inequalities and lower quality of life, urbanisation also represents opportunities as cities can be centres of innovations and can give people better access to basic goods and resources such as electricity and education.

Finally, **scientific and technological developments**, not the least within digitisation, will continue to transform our society. The process of innovation has been shortened significantly while the amount of disruptive and market-creating innovation has increased, also due to new innovative companies and methods of innovation. These developments provide endless new opportunities and will enable us to better address global challenges across the board. However, each new opportunity can also challenge established business models and social structures, possibly affecting almost every aspect of life.

These drivers will shape a range of overarching **challenges** which Europe will have to face now and in the future.

Climate change and environmental collapse: humanity is overstepping planetary boundaries and the outcome runs the risk of being irreversible

The rapidly growing global population combined with unsustainable production and consumption patterns, is putting our **planet under pressure**. As human activities touch or overstep planetary boundaries we are depleting natural resources such as soil, water and air, threatening biodiversity and ecosystems and jeopardising our ability to meet the needs of future generations. Our consumption of energy is a particular concern, as the development and use of sustainable energy sources and systems are struggling to keep up with a rising global demand. The impact of climate change, already evident in extreme weather events such as droughts and wildfires across Europe, will continue to increase across the globe unless global warming is limited to 1.5 ºC. The United Nations Intergovernmental Panel on Climate Change has assessed that while the limitation of global warming is possible, doing so will require unprecedented changes in our ways of life, towards sustainable societies and economies.

Future prosperity and sustainable growth: increased global and un-ruled competition is a test of our competitiveness and sovereignty

While climate change and the transition towards sustainable development will affect many aspects of today's European society and industry, especially in coal- and carbon-intensive regions and sectors, Europe has a good starting point for transforming challenges into new business opportunities and disseminating solutions around the world. Europe is, perhaps more than any other region, focused on furthering competitiveness in a sustainable manner, supporting new and innovative approaches in companies big and small, and European firms already represent five of the ten biggest clean-tech companies in the world. In other sectors, European businesses struggle to stay competitive or scale up – for instance, there is no European company among the largest 15 companies in the digital sector. As technological developments become more and more important **for ensuring prosperity and sustainable growth**, Europe cannot risk being solely dependent on foreign nations to develop the digital and other technological innovations needed to address the challenges of tomorrow.

European security and the well-being of our citizens: an increasingly multipolar world and the rise of global and internal insecurity puts our social contract, societal values and welfare model and the future of work under pressure

Finally, these and other developments are creating an increasingly uncertain, complex and ambiguous world, which is leading many citizens to experience justified insecurity about the changes to come. For instance, for the citizen, technological developments, particularly within robotics and digitalisation, will most likely require the acquisition of new skills and can raise legitimate concerns about the impact on employability, the quality of jobs in the future, and the wider implications for society. Increased urbanisation can lead to a perception of unequal opportunities between rural and urban regions and demographic changes can increase pressure on public spending, for example with people suffering increasingly from age-related diseases and disabilities increasing the demand for health and care services. And while the European values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights are the foundations of an open, fair, cohesive and inclusive society, there are citizens that are loosing trust in these values and putting into question the functioning of established institutions in the European Union and its Member

States. Making sure we are putting **people at the center,** focusing on citizens' needs and concerns while managing the transitions we are facing, is a central challenge in this regard.

These daunting challenges call for a radical new approach for developing and deploying new technologies and innovative solutions for citizens and the planet on a scale and at a speed never achieved before, and for adapting our policy and economic framework to turn global threats into new opportunities for our society, businesses and economy.

This requires stepping up and strategically planning research and innovation investments and supportive measures.

Sources

The description of drivers and challenges in this section is based on extensive analysis and foresight, including in: Beyond the Horizon: foresight in support of future EU research and innovation policy; Reflection paper: Towards a Sustainable Europe by 2030; Global Trends to 2030: Challenges and choices for Europe; Europe in May 2019: Preparing for a more united, stronger and more democratic Union in an increasingly uncertain world; The European Union: A people-centred agenda; OECD Science, Technology and Innovation Outlook 2016

3. The future we want - targeting the impact of Horizon Europe

Investing in research and innovation through Horizon Europe will help steer the transitions in Europe towards a sustainable, fair and prosperous future, a cleaner and healthier planet and the well-being of European citizens. It will impact on the direction and speed of these transitions, and on the rate at which business will develop, scale-up and commercialise innovative solutions. It is expected to play a vital role, in combination with other interventions, for creating new solutions and fostering innovation, both incremental and disruptive. At its simplest, Horizon Europe, and in particular its second Pillar, will help create a future where European citizens are healthier and more prosperous and live in a fair and inclusive society that achieves environmental sustainability and respects planetary boundaries.

Therefore, in order to maximize the impact of Horizon Europe investments, it is necessary to strategically prioritise and direct a substantial part of the funds towards the areas where we believe they will matter the most, supporting the achievement of the Union's key policy goals.

Future policy priorities

The European Commission contribution to the Sibiu Summit on 9 May 2019 makes five recommendations for the EU's next strategic agenda 2019-2024, highlighting how Europe can shape its future in an increasingly multipolar and uncertain world. The document emphasises the need to focus research and innovation on the ecological, social and economic transitions and related societal challenges. In addition, it underlines that Europe also needs to leverage its scientific strengths into leadership in breakthrough and disruptive innovation. The Strategic Agenda for 2019 – 2024, adopted by the European Council on 20 June 2019, targets similar overarching objectives.

The future policy priorities for the Union are:

1) A Protective Europe, concerning security and defence policy (European Council: protecting citizens and freedoms);
2) A Competitive Europe, which focusses on research and innovation, new technologies, digital capacities and industrial policy (European Council: developing a strong and vibrant economic base);
3) A Fair Europe, which centres on social inclusion, health, rule of law and fundamental rights (European Council: building a climate-neutral, green, fair and social Europe);
4) A Sustainable Europe, regarding sustainable development, climate change, circular economy and energy (European Council: building a climate-neutral, green, fair and social Europe);
5) An Influential Europe, dealing with international cooperation, promoting European values and standards (European Council: promoting European interests and values on the global stage).

Together with the Sustainable Development Goals, these priority areas can be seen as shaping future EU policy responses to face the challenges and support the transitions affecting Europe. European research and innovation can act as an enabler and a driver for each of these priorities – though not in equal measures across all priority areas, and in a variety of complex and interchanging manners that goes beyond what can comprehensively be described in the

following text. Europe is investing in and acting upon challenges in all these areas, also through Smart Specialisation Strategies established under Cohesion Policy, and we will build on these strong foundations. For example, activities carried out within the FET Flagships on Graphene, the Human Brain Project and Quantum Technology, which are supported under Horizon 2020, will continue to be supported under Horizon Europe through calls for proposals included in the work programmes.

Within each of the future policy priorities identified, a more strategic and targeted approach to European research and innovation investment is needed to maximise the impact of Horizon Europe on the future we want.

1) Protective Europe

Policy objectives: While the establishment of the European Union in itself has brought unprecedented peace and prosperity, there is a continued need to address terrorism and security issues, which are among the top concerns for European citizens, and to enhance internal security within and across the European Union and along its external borders. The overarching ambition of secure societies is also reflected in Sustainable Development Goal 16 – Peace, Justice and Strong Institutions.

There are a number of EU policy responses to current security challenges. As regards disasters, these include the Union Civil Protection Mechanism, the EU Adaptation Strategy and the Sendai Framework for Disaster Risk Reduction (2015-2030). In the framework of the European Agenda on Security and as part of the development of a Security Union, the EU has adopted policies and instruments on integrated border management, on protection of public spaces, on security (including cybersecurity) of infrastructure and on fighting crime, including cybercrime and terrorism. An EU Maritime Security Action Plan addresses relevant challenges. Policies have also been put in place to ensure cybersecurity, such as the Directive on security of network and information systems (NIS Directive) and the EU Cybersecurity Act, and online privacy.

Research and innovation activities can support these policies in various ways. ***Investments in research and innovation*** in particular within **civil security for society** (Cluster 3) will contribute to creating '*a resilient and more stable Europe that protects',* especially with the following impacts:

- **Improved disaster risk management and societal resilience** through better understanding of natural and man-made disasters and by the development of novel concepts and technologies to counter these risks;

- **Improved management of EU external borders** (air, land and sea) by the development of tools and concepts towards an Integrated Border Management, including better knowledge of societal factors with regards to border security;

- **Better protection of public spaces** through novel methods to detect weapons, explosives and other dangerous items and by quicker response to threats without changing the open character of public spaces in the EU;

- **Improved security and resilience of infrastructure and vital societal functions** enabled by improved risk assessments and more efficient response to disruptions with a view of quickly restoring performance levels;

- **Improved maritime security** based on the EU Maritime Security Research Agenda to counter threats such as trafficking, piracy as well as cyber and hybrid threats;

- **More effective fight against crime and terrorism** through better understanding of societal factors leading to radicalisation and crime and by developing state of the art capabilities for Law Enforcement Agencies in the EU, notably against cybercrime;

- **Increased cybersecurity** based on more effective use of digital technologies, strong orientation on privacy and fundamental rights and a robust digital infrastructure to counter cyber-attacks.

2) Competitive Europe

Policy objectives: Research and innovation plays a central role in enhancing competitiveness throughout Europe and Europe has the potential to become a world leader in the ongoing and foreseeable sustainable and digital transitions. However, there is a need to prepare our technological and industrial future in a more strategic way, including incentivising and steering innovation and facilitating the uptake of new technologies and innovative solutions. New developments within mobility and transport, including automated and connected mobility, will also require new solutions, still to be developed and implemented. Furthermore, the need to promote inclusive and sustainable economic growth and industrialisation and to foster innovation is reflected in Sustainable Development Goals 8 - Decent Work and Economic Growth, and 9 - Industry, Innovation and Infrastructure.

The renewed EU Industrial Policy Strategy shows how the EU must tackle missing segments in key strategic value chains if its industry is to stay competitive and become sustainable at the same time. This requires a stepping up of the level and quality of the EU research and innovation effort with focus on the key parts of strategic technology supply chains: from secure and sustainable supply of raw materials, maximising the value of its resources and materials, to batteries, low-carbon industry, critical components for space and smart connectivity platforms. At the same time, breakthrough technologies and solutions are necessary to bring about a deep decarbonisation of EU industries by 2050 and foster a circular economy. Future factories will be carbon-neutral, resource efficient and fully integrated in the circular economy. The zero-carbon and circularity ambitions should reinforce one another.

New and emerging technologies are a key focus area for current EU investments in research and innovation. Further ***investments in research and innovation*** in particular regarding **digital, industry and space** (Cluster 4) will contribute to the following impacts:

- **More appealing and creative jobs in Europe**, by way of an industrial and digital transformation;

- **Increased autonomy in critical raw materials** through substitution, efficiency and recycling and primary production;

- **Increased industrial leadership in key enabling and digital technologies and uptake of new technologies** through technology infrastructures and autonomy in strategic value chains;

- **Climate-neutral, circular and clean EU industries** by, for instance, creating plants in several regions with zero emissions and zero waste in the fight against climate change and the protection of the environment by helping to develop the necessary breakthrough technologies and solutions;

- **Increased inclusiveness** by making a two-way engagement in the development of technologies a reality, and by helping foster the skills agenda in, for instance, the digital area or advanced manufacturing area.

Investment in research and innovation regarding **health** (Cluster 1) will support an innovative, sustainable and globally competitive health-related industry, while investments in research and innovation for **mobility and transport** (Cluster 5) will contribute to developing low-carbon and competitive transport solutions across all modes.

3) Fair Europe

Policy objectives: The promotion of social cohesion and inclusiveness and the health and well-being of its people are central aims of the European Union's policies and programmes. With the European Pillar of Social Rights, the EU set the direction towards a fairer, inclusive and more social Europe for all European citizens based on a European social model that is fit for the challenges of the 21st century. To continue delivering on this agenda and to safeguard shared values and mutual trust, it is important to support Member States in addressing social challenges and inequalities, for example related to health or education, within and across their territories and regions. Further efforts should also be devoted to making high-quality health care both available and affordable for citizens as well as to rendering health care systems more accessible and sustainable, including through the digital transformation of health and care.

These aims are also reflected in Sustainable Development Goals: 1 – No Poverty; 3 – Good Health and Well-being; 4 – Quality Education; 5 – Gender Equality; 6 – Clean Water and Sanitation, 8 – Decent Work and Economic Growth; 10 – Reduced Inequalities; 11 – Sustainable Cities and Communities, and 16 – Peace, Justice and Strong Institutions.

Investments in research and innovation, in particular within **health** (Cluster 1) will target and contribute to the following impacts:

- **Healthy citizens in a rapidly changing society**: citizens stay healthier throughout the life course due to improved health promotion and disease prevention, and supported by healthier behaviours and lifestyles;

- **Healthy and health-promoting living and working environments**: policy-makers and industry take better account of the environmental factors for health and well-being and promote/support healthy and health-promoting living and working environments;

- **Effective health services to tackle diseases and reduce the burden of diseases**: patients can rely on effective health services to tackle their diseases, as well as to reduce the burden of diseases on them, their families and communities;

- **Improved access to innovative, sustainable and high-quality health care**: health systems are able to provide timely access to affordable health care services of high-quality to everybody while being environmentally and fiscally sustainable;

- **Unlocking the full potential of new tools, technologies and digital solutions for a healthy society**: new tools, technologies and digital solutions provide significant gains in health outcomes, address unmet medical needs and inform regulatory standards and requirements;

- **A sustainable and globally competitive health-related industry in the EU**: health industries, including SMEs, increase their productivity and sustainability in developing health innovation due to the potential of data-enabled research and development, the related convergence of pharmaceutical, digital and medical technologies, and the prospect of the digital transformation of health and care supported by data-driven manufacturing of tailor-made products and the delivery of personalised services;

Investments in research and innovation, in particular concerning **culture, creativity and inclusive society** (Cluster 2) will target and contribute to the following impacts:

- **Enhanced democracy and governance** through bolstering the accountability, legitimacy, transparency and effectiveness of democratic systems and the protection of the rule of law;

- **Better approaches to tackling political extremism and polarisation** by strengthening democratic participation and active citizenship, fostering awareness and exercise of democratic rights, and understanding the role of media in fostering or inhibiting political dialogue;

- **Reversing socio-economic and gender inequalities** via strategies of inclusion, non-discrimination, social protection and social investment;

- **Improved understanding of societal – including political, ethical and economic - effects of technological advancements and the impact of drivers of change** on jobs, skills, productivity, income, welfare and inequalities;

- **A novel growth model** respectful of inclusiveness and upward socio-economic convergence and resilient to economic, social, and financial shocks;

- **Increased use of evidence-based strategies in the management of mobility and migration and the integration of migrants in European society**;

- **Better valorisation of European cultural heritage** by promoting the value, protection, access to and sustainable use of European cultural heritage and its contribution to the cultural and creative sectors.

Investments in research and innovation concerning **digital, industry and space** (Cluster 4) will also aim to contribute to creating more appealing and creative jobs in Europe and increased inclusiveness in the development of technologies and the acquisition of skills to put the new technologies, for instance the digital area or the area of advanced manufacturing, to use.

4) Sustainable Europe

Policy objectives: Significant changes are needed to modernise our economy towards sustainable consumption and production patterns, reinforce efforts to fight climate change and reverse environmental degradation, promote biodiversity and support the transition to a circular economy, respecting planetary boundaries. This includes promoting a cleaner and more reliable energy supply to households and businesses.
These objectives also are reflected in especially Sustainable Development Goals 2 - Zero Hunger, 6 - Clean Water, 7 - Affordable and Clean Energy, 11 - Sustainable Cities and Communities, 12 -Responsible Consumption and Production, 13 - Climate Action, 14 - Life below Water and 15 - Life on Land.

In the areas of climate change and planetary boundaries, the EU is at the forefront of implementing the Paris Agreement. EU has already put in place the legislation required to reach the Nationally Determined Contribution for 2030, and the Commission has adopted a vision for achieving a climate neutral economy by 2050. The long-term strategy outlines a vision of the technological, economic and societal transformations required to achieve climate neutrality and to ensure a socially fair transition that does not leave any EU citizens or regions behind. It recognises that a forward-looking research and innovation strategy should be guided by zero-carbon solutions that have the potential to be deployed by 2050 and that climate action is at the heart of Horizon Europe, with the intention of devoting 35% of the budget to climate objectives. In January 2019, the Commission adopted the reflection paper 'Towards a Sustainable Europe by 2030', with the intention of launching a forward-looking debate among citizens, Member States and other stakeholders on how to best progress with the Sustainable Development Goals.

Investments in research and innovation in particular concerning **climate, energy and mobility** (Cluster 5) will contribute to transforming the EU to a climate-neutral and resilient society, and target impacts especially in the following fields:

- **Advanced climate science and solutions**;
- **Novel competitive cross-sectoral solutions for decarbonisation** such as batteries, hydrogen, sustainable infrastructure enabling low carbon solutions and other break-through technologies;
- **A novel energy system** centred on renewables and ensuring cost-efficient, greenhouse gas neutrality;
- **New demand side solutions to decarbonise the energy and transport systems**;
- **Reduction of greenhouse gas emissions**

- **Increased adaptation of production systems** within rural and urban areas to climate change;

- **Reinforced bio-economy** to supply sustainable biomaterials and bio-energy whilst staying within ecological boundaries (in collaboration with Cluster 6)

Investments in research and innovation concerning in particular **food, bio-economy, natural resources, agriculture and environment** (Cluster 6) will advance knowledge, build capacities as well as develop and demonstrate innovative solutions that will accelerate the transition to a sustainable management and use of natural resources from land and sea, ensuring ecosystem integrity as well as sustainable development and human well-being, including food and nutrition security, in the EU and globally. The following impacts will especially be targeted:

- **Reduction of greenhouse gas emissions** and successful adaptation of production systems as well as rural, coastal, peri-urban and urban areas to climate change

- **More sustainable management of natural resources, prevention and removal of pollution**;

- **Halt of decline, and restoration, of biodiversity and ecosystems services**;

- **Establishment of new primary production and food systems** based on sustainability, inclusiveness, safety and health; securing food and nutrition security;

- **Better knowledge of the behavioural, socio-economic and demographic change to drive sustainability**; balanced development of vibrant rural, costal and urban areas;

- **Establishment of new governance models enabling sustainability**;

- **A built environment better fit for EU citizens** and more compliant with the demands regarding circularity, renovation, sustainability, energy efficiency and connectivity.

Investments in research and innovation concerning **digital, industry and space** (Cluster 4) will also contribute in particular to breakthroughs in low-carbon, clean and circular industries.

5) Influential Europe

Policy objectives*:* In an increasingly fractured and multipolar world, the EU will need to strengthen its position in order to guarantee its prosperity and competitive position. Through EU **international cooperation** in research and innovation, the EU can shape new technologies and solutions to global challenges, set world standards and disseminate its values.

Innovation value chains and knowledge production are increasingly global and previously emerging economies have become major players in the research and innovation area. The EU is well placed to tap into this new wealth of research excellence and resources across the world. It has a long history of international cooperation within research and innovation, lies at the centre of most international collaborative networks and offers a general openness to international participation. The EU needs to build upon and further intensify this to fully benefit from the new global opportunities. Activities should promote and integrate international cooperation based on mutual benefits, EU interests, international commitments and, where appropriate, reciprocity, with each area developing its strategy for engaging internationally, in coherence with the overall EU strategy for international cooperation in research and innovation.

The Sustainable Development Goals are increasingly providing a reference point to prioritising and reshaping research and innovation policy agendas, and international programmatic coordination through multilateral initiatives is used more and more as a means for global cooperation in areas such as climate change, biodiversity, clean energy, sustainable cities, infectious diseases, seas and oceans, sustainable agriculture, and food and nutrition security. The expanding scope and interconnectivity of these challenges require the EU to strengthen its role in multilateral and bilateral setups while also asserting EU values and interests more pro-actively, including in strategic alliances and networks such as global environmental conventions on climate, desertification and biodiversity, the Belmont Forum, the Group on Earth Observations, the Mission Innovation initiative, the International Bioeconomy Forum and a range of Global Health initiatives.

Increased attention is being paid to achieving sovereignty in strategic technology areas and critical infrastructures. Though no jurisdiction is fully autonomous in terms of design, development and production of enabling technology, in a world of globe-spanning value chains the EU should now do more to strengthen alliances with key actors in a strategic and principled way so as to ensure its competitive position.

International cooperation in research and innovation is indispensable for effectively tackling global challenges and for implementing global commitments. Collaborating with the world's top researchers, innovators and knowledge-intensive companies should strengthen the EU’s research and innovation excellence and attractiveness, increase the quality of research and innovation results, and reinforce the economic and industrial competitiveness of the Union. Increasing international engagement should also lead to an enhanced EU role in setting research and innovation policy agendas and shaping global research and innovation systems and innovative solutions to global challenges.

Engaging internationally should allow for a better assessment of challenges in their global, regional or local context, produce more targeted results, expand and diversify the global flow of knowledge and increase innovation capacity, contributing also to more efficient EU responses in key areas of political dialogue. The growing role of science diplomacy as a key element of EU external action should also foster mutual understanding, stability and progress.

4. Supporting research and innovation policy priorities, specific issues and coordination of relevant activities through Horizon Europe

The impact and added value of European research and innovation investments will also depend on our capacity to leverage a number of cross-cutting factors when implementing Horizon Europe, ranging from core EU values to legal and operational provisions:

- Inclusion of gender perspectives will enable better quality and higher societal relevance of research and innovation activities;
- Interdisciplinarity and inclusion of Social Sciences and Humanities (SSH) is a prerequisite for addressing a number of societal challenges, which are cross-cutting by nature;
- The mainstreaming of open science across activities will enhance transparency and enable dissemination of results;
- Dissemination and exploitation will also be supported through targeted support actions to reach relevant stakeholders;
- Key Enabling Technologies will be supported to enhance Europe's competitiveness in strategic value chains;

Similarly, the overall impact of Horizon Europe will be increased by ensuring awareness of shared objectives and coordination of relevant activities across the different parts and instruments of the programme including via:

- support to frontier research which enables new discoveries and high risk projects;
- build up research capacity both in terms of human- and technical means, across the European Research Area (ERA);
- support for the conversion of research into innovation and for new businesses opportunities, and an innovative Europe based on strong interconnected innovation ecosystems composed of innovators, startups, businesses, universities and foundations that work together to deliver disruptive and market-creating innovations.

Cross-cutting research and innovation policy priorities and specific issues

Gender equality is a core policy objective for all European Union activities and a crucial factor in the achievement of sustainable development and inclusive economic growth. Activities will aim at eliminating gender inequalities throughout research and innovation systems and the gender dimension will be adequately integrated in research and innovation content across the whole programme. The latter is particularly relevant for global challenges, including in areas such as health care, artificial intelligence and robotics in which there is a growing worldwide recognition that gender differences, in terms of needs, behaviours and attitudes, play an important role in research design/content, and hence determine the societal relevance and quality of research outcomes.

The challenges we are facing today are of such a nature that few can be addressed through one scientific discipline alone. **Social sciences and humanities** (SSH) are key in understanding how human behaviour shapes not only global challenges, but also the effectiveness of the solutions we propose to meet them. For instance, SSH can contribute to our understanding of how best to engage citizens in addressing pressing concerns such as

climate change and how to exploit new technologies in a way that is focused on citizens' needs and concerns.

In addressing and understanding citizens' expectations and concerns, SSH contributes to strengthening society's ability to embrace and drive change, whether economic, social or cultural, and can thus contribute substantially to achieving many targeted impacts across the programme. Furthermore, SSH helps to better understand the socio-economic impact of research policy itself and enhance its societal impact in the future.

Open science practices will be mainstreamed as the new *modus operandi* for EU research and innovation. Particular focus will be placed on open access to scientific publications and research data, management of research data along the FAIR principles, development and consolidation of the European Open Science Cloud (EOSC) to provide a trusted and open common interoperable framework for federating infrastructures, platforms and associated services for data-driven research for all researchers and innovators, and responsibility and openness of science towards society and vice versa. Open access to research data will be the general rule, ensuring the possibility of exceptions following the principle 'as open as possible, as closed as necessary'. Open science will increase the quality of science and productivity of research and will accelerate the pace and uptake of innovation to deliver on societal, economic and technological challenges. It also promises to give Europe a global lead in research data management. Engaging and involving citizens, civil society organisations and end-users in co-design and co-creation processes and promoting responsible research and innovation will improve trust between science and society, and the uptake of scientific evidence-based public policies and innovative solutions.

Overall attention will be paid to and specific actions will be launched for promoting **ethics and research integrity** and continue developing a coherent framework of adherence to the highest ethics standards and the principles embedded in the European Code of Conduct for Research Integrity.

Activities to **disseminate and exploit results** from research and innovation will be an important and integral part of Horizon Europe, promoting public outreach. Enhanced dissemination and exploitation are strategic matters for the success of Horizon Europe and for the achievement of impact on society at large and synergies with other programmes. In addition to the initiatives towards open science mentioned above, Horizon Europe will support actions such as clustering and packaging results and/or data for target audiences and networks.

The availability of top-quality human resources and the **effective circulation of knowledge between research, industry and higher education** is a pre-requisite for maximizing the impact of European research and innovation investments. Integrating research and innovation activities with education and training, and supporting activities for knowledge exchange and transfer across sectors, for instance via Marie Skłodowska-Curie Actions and Knowledge and Innovation Communities (KICs), is a powerful means to ensure research and innovation activities are informed by and directed towards citizens' and society's needs and the results are widely disseminated.

In many instances, new discoveries within basic research create the foundations for research and innovation impacts and lead to a wide range of innovations applicable to our everyday lives. **Key Enabling Technologies** (KETs), for instance biotechnologies and advanced materials, are crucial for Europe's competitiveness in strategic value chains. Developing and mastering KETs can contribute towards giving EU industries the competitive edge they need for industrial leadership in global markets and promise breakthroughs to solving global challenges and achieving a circular, resource efficient and climate-neutral EU economy. Hence, in addition to the Cluster "Digital, Industry and Space", which will help develop these technologies often as "general purpose technologies", the other clusters will also develop and apply key enabling and emerging technologies as part of a common strategy to promote the EU's industrial and social leadership. Moreover, Pillar I of Horizon Europe, Excellent Science, will contribute scientific breakthroughs and the research infrastructures needed to develop key enabling technologies at their earlier phases, while Pillar III, Innovative Europe, will support breakthrough innovations based on KETs.

Shared objectives and coordination of relevant activities throughout Horizon Europe

While Pillar II, Global Challenges and European Industrial Competitiveness, is the main focus of the strategic planning process, actions within other parts of Horizon Europe will play an important role in reaching the impacts targeted via Pillar II or supporting and complementing its activities – just as activities based in Pillar II will support activities in other Pillars.

Relevant activities in Pillar I – Excellent Science

The European Research Council (ERC) will continue to pursue ground breaking, high-gain/high-risk research and to advance the frontiers of knowledge through competitive funding and support to investigator-driven frontier research across all fields, on the basis of scientific excellence. ERC-funded research can thus open the way to new and often unexpected scientific and technological results, which can also drive innovation and business inventiveness and contribute to tackling global and societal challenges.

The Marie Skłodowska-Curie Actions (MSCA) will continue to support and train the people behind research and innovation, delivering highly skilled talent to society and the economy, not only creating impact on individual researchers' careers, but also on organisations, notably universities, by strengthening excellent doctoral programmes, researcher training and career development systems across the ERA in a fully bottom-up and competition-for-excellence-based manner. In particular, the MSCA will continue to contribute significantly to excellent research, boosting jobs, growth and investment, by equipping researchers with new knowledge, skills and international, interdisciplinary and inter-sectoral experience to solve current and future societal challenges, and fill the top positions of tomorrow.

Research Infrastructures will continue to extend the frontiers of knowledge by providing state of the art services to research and innovation communities, thus contributing to the objectives of the clusters and missions supported in Horizon Europe. Supporting research infrastructures at the EU level reduces fragmentation in the landscape of national and

regional infrastructures and strengthens the European Research Area as well as avoiding duplication of efforts and maximising impact. As these research infrastructures will be connected to the European Open Science Cloud (EOSC), the researchers involved will have access to most of the data generated and collected by research infrastructures as well as to high performance computing (HPC) and exascale resources deployed under the European Data Infrastructure (EDI).

Relevant activities in Pillar III – Innovative Europe

A balanced approach between research and innovation as well as, within innovation, technological, non-technological and social innovation is a central part of Horizon Europe. **The balance between research and innovation** is thus reflected in the design of Horizon Europe as a whole, which spans the whole range of Technology Readiness Levels from curiosity-driven research to commercially-driven innovation and support to market deployment.

However, as evidenced by the 2018 edition of the European Innovation Scoreboard, Europe is stronger in science than in innovation. In particular, it is significantly lagging behind global competitors in terms of its capacity to turn scientific excellence into innovation. To become a global innovation leader, Europe needs to implement a range of measures to accelerate innovation along the full value chain and support a new generation of innovative lean start-ups capable of scaling-up and becoming "unicorns" (a privately held startup company valued at over $1 billion) and tech giants.

This imperative has driven the design of Pillar III of Horizon Europe. The core feature is the **European Innovation Council** (EIC) that will enhance Europe's capabilities at the forefront of the next wave of disruptive, market-creating innovation. It will be the one-stop shop for enabling innovators to bring the most promising ideas to real world application, and will support the scaling-up of innovative start-ups and companies. The EIC will thus play an important role in ensuring that excellent research, including within future and emerging technologies and other Pillars of Horizon Europe, is transformed into practical solutions that address the challenges we are facing.

In particular, the EIC's Pathfinder will actively support the development of breakthrough technologies, which are key to disruptive innovations. The EIC's Pathfinder transition activities and the EIC's business acceleration services will nurture radical thinking around such breakthrough technologies so as to stimulate disruptive innovations and support innovators in developing these up to business readiness. Finally, the EIC's Accelerator will actively bridge the "valley of death" and bring any market creating innovation, including social innovation, closer to market operators and investors and support the scaling-up of companies. The implementation of Pillar II will benefit from the possibilities offered by this instrument, open to any business-ready European innovation whatever its origin.

However, this will prove insufficient if not echoed throughout Europe. **European Innovation Ecosystems** - public and private, national and local - will need to be interconnected, including with the EIC, to ensure that resources, notably talent and first customers, are accessible to innovative start-ups and all forms of innovation, to allow them to

continue growing in Europe while taking advantage of international markets to become global leaders in the sustainable transitions supported through Pillar II.

Thanks to their societal challenge-driven approach and their portfolio of activities, ranging from entrepreneurial education and training to innovation projects, business creation activities and support services for startups, scaleups and SMEs, the **EIT Knowledge and Innovation Communities (KICs)** are well equipped to develop synergies and complementarities with the activities of Pillar II. In particular, EIT KICs can mobilize a wide range of stakeholders (e.g. companies, universities and research centres, cities and regions, and financial partners) within their ecosystem to participate in the activities. This will help pilot initiatives as necessary, improve the market exploitation and commercialization of results funded by the clusters, facilitate conversion into new businesses activities and promote the uptake of entrepreneurial skills among researchers and innovators

Other Union programmes such as **InvestEU** will also be taken into account when designing and planning activities, to ensure that whenever needed any relevant result is nurtured into innovation and effectively deployed and exploited.

Relevant activities in the part Widening Participation and Strengthening the European Research Area

The excellent and responsible research, cross-border collaboration and ground-breaking innovation supported by Horizon Europe will, in different ways, strengthen and reinforce research and innovation systems across all Member States and Associated Countries.

Measures supported under the part **Widening participation and spreading excellence** will over time underpin and amplify the impact of Horizon Europe by helping countries that are lagging behind, including the EU outermost regions, to contribute to actions under other parts of Horizon Europe.

This could be achieved by a wide range of activities including enhancing research and innovation capacity, spurring national reforms, facilitating brain circulation, launching measures for promoting excellence, creating new collaborative networks across the EU and supporting the opening of established networks to applicants from widening countries.

Impacts will range from creating new or upgrading existing centres of excellence (Teaming) and significantly improving the research and innovation capacity of universities and research organisations (Twinning) to attracting and maintaining high quality human resources in research organisations ('ERA Chair holder') and ensuring scientific networking, capacity building and career development support to researchers at all career stages (COST actions).

The part on **Strengthening the European Research Area** will support a new phase in the development of the European Research Area and synergies with the European Higher Education Area, which may include a stronger focus on supporting the challenges identified in Pillar II, including missions and partnerships, to ensure that the strategic investments made there deliver maximum impact.

Opening the European Research Area to future challenges requires developing synergies with the European Higher Education Area in a complex landscape of universities and research

organisations with a view to underpinning open science, innovative entrepreneurial practices, life-long-learning and upskilling talent and breaking down disciplinary and inter-sectoral research barriers to match emerging business and societal needs.

Impacts will include better alignment of national reforms and increased programme level collaboration across Member States and Associated Countries, and will help increase the impact of both national and European investments in research and innovation. This will also support other research and innovation priorities including Open Science, citizens' science, gender equality and other forms of diversity, improving international cooperation, ethics and integrity, and scientific input to other EU policies.

In addition, the evidence base for policymaking across all these domains will be further developed, including through economic analysis of research and innovation policies and performance, design of research and innovation strategies, work to refine indicators and to develop new ones in cooperation with when needed with international organisations and foresight.

5. New approaches and instruments for maximising impact – missions and partnerships

Horizon Europe uses a variety of targeted instruments and approaches to more efficiently direct research and innovation investments and maximise the impact of investing public funds towards achieving global challenges and European policy objectives. Among the tools to implement the programme are missions and partnerships, missions being a completely new approach, while the approach to partnerships has gone through a major reform based on the experience of Horizon 2020.

The common aim is to tackle global challenges, in particular in line with the Sustainable Development Goals, in a coordinated way through creating scale and critical mass, integrating demand-side policies and engaging with end-users.

Partnerships will allow to combine and coordinate a broad range of (mainly existing) research and innovation activities to address common priorities jointly with Member States, the private sector, foundations and other stakeholders. Missions will spark and steer (mainly new) research and innovation activities to achieve targeted, ambitious and measurable goals which speak to citizens, engaging with and leveraging policies and actors well beyond research and innovation.

The details and subjects to be covered by future European Partnerships and Missions are being developed through specific processes, closely involving Member States and stakeholders more broadly, and as part of strategic planning. More information regarding missions and partnerships can be found in Annex 7.

Missions

One of the main novelties of Horizon Europe is the introduction of missions: high-ambition, high-profile initiatives which will put forward concrete solutions to challenges facing European citizens and society. Missions are intended to achieve a measurable goal within a set timeframe, with impact for science and technology and/or society and citizens that could not be achieved through individual actions. They are currently in the process of being defined and should stem from the following mission areas, which have been defined in the Horizon Europe agreement by Council and Parliament in April 2019:

- Adaptation to Climate Change, including Societal Transformation
- Cancer
- Healthy Oceans, Seas, Coastal and Inland Waters
- Climate-neutral and Smart Cities
- Soil Health and Food

Partnerships

The identification of the partnerships will be influenced by the outcome of the impact assessments and the strategic coordination process, as per the Horizon Europe legislative package.

Horizon Europe will support European Partnerships to deliver on global challenges and industrial modernisation through concerted research and innovation efforts with the Member States, the private sector, foundations and other stakeholders.

Partnerships provide mechanisms to consistently aggregate research and innovation efforts into more effective responses to the policy needs of the Union, developing close synergies with national and regional programmes, bringing together a broad range of actors to work towards a common goal, and turning research and innovation into socio-economic results. As such, they are powerful instruments to address global challenges by translating common priorities into concrete roadmaps and coordinated activities.

European Partnerships will be established for addressing European or global challenges only in cases where they will achieve objectives of Horizon Europe more effectively than the Union alone and when compared to other forms of support of the framework programme. They should adhere to the principles of Union added value, transparency, openness, impact within and for Europe, a strong leverage effect at a sufficient scale, long-term commitments of all the involved parties, flexibility in implementation, coherence, coordination and complementarity with Union, local, regional, national and, where relevant, with international initiatives or other partnerships and missions. Lastly, they should have a clear life-cycle approach, be time limited and include conditions for phasing out the Programme funding.

The European Partnerships may take any of the following forms:

Co-programmed European Partnerships: Participation in partnerships set up on the basis of memoranda of understanding and/or contractual arrangements between the Commission and private and/or public partners (such as industry, universities, research organisations, bodies with a public service mission at local, regional, national or international level, or civil society organisations including foundations and NGOs), specifying the objectives of the partnership, related commitments from all involved sides for financial and/or in-kind contributions of the partners, key performance and impact indicators, outputs to be delivered and reporting modalities. They include the identification of complementary research and innovation activities that are implemented by the partners and by the Programme;

Co-funded European Partnerships: Participation in and financial contribution to a programme of research and innovation activities, specifying the objectives, key performance and impact indicators, and outputs to be delivered, based on the commitment of the partners for financial and/or in-kind contributions and integration of their relevant activities using a Programme co-fund action;

Institutionalised European Partnerships: Participation in and financial contribution to research and innovation programmes undertaken by several Member States in accordance with Article 185 TFEU, or by bodies established pursuant to Article 187 TFEU, such as Joint

Undertakings, or by the EIT Knowledge and Innovation Communities in compliance with the EIT Regulation. Such partnerships shall be implemented only where other parts of the Horizon Europe programme, including other forms of European Partnerships would not achieve the objectives or would not generate the necessary expected impacts, and if justified by a long-term perspective and high degree of integration.

The Commission is proposing to explore the possibility of European Partnerships, as described in Annex 7. The list of candidates is already the result of extensive reform and rationalisation of the partnership landscape, yet it is open to co-design with the stakeholders through this co-design exercise.