FAQs on Horizon Europe

Contents

Introduction

In June-July 2018, the Council Research Working Party examined the Commission's proposal for Horizon Europe. The proposal was handled in 9 'packages' based on content. Commission representatives answered questions on these packages. This note provides a (non-exhaustive) overview of questions and answers raised by members of the Working Party and seeks to help clarify the Commission's proposal and assist the Research Working Party in its examination.

Package 1: Overall structure of Horizon Europe

How did the Commission arrive at the operational objectives in art. 2 of the Decision?

- The *general* objectives (Regulation art. 3) are Treaty-based.
- The four *specific* objectives (Regulation art. 3) are reflecting the Research and Innovation (R&I) challenges for Europe, identified in the impact assessment.
- The 16 *operational* objectives (Decision art. 2) reflect the programme activities that will contribute to the specific and general objectives.

The impact assessment of Horizon Europe identifies 4 groups of R&I challenges for Europe and their related drivers: in the legal proposal, these challenges are mirrored by the 4 specific objectives, while the drivers are mirrored by the operational objectives. While the specific objectives helped to shape the structure of the programme, the operational objectives are needed to operationalise it and lead to the different activities considered within the Programme. Hence, the operational objectives are fully part of the intervention logic of the Programme, which is presented at the end of the impact assessment.

The operational objectives in article 2 of the Decision (Specific Programme): is the order meaningful?

- The operational objectives complement the general and specific objectives.
- As follows from the intervention logic graph, the order reflects the centre of gravity of the different impact categories: the first group (a – f) focuses on scientific impact, the ones on the middle (g – l) on societal impact and the last ones (m – p) on economic impact.
- However, it should be kept in mind that Horizon Europe makes clear that each activity is capable of contributing to multiple objectives.

Why are training or international cooperation not mentioned as specific objectives (art. 3 Regulation) although they are objectives according to Article 180 TFEU?

Article 180 TFEU defines activities, not objectives (these activities are reflected in the operational objectives of Horizon Europe (see Article 2(2)e on training and mobility and Article 2(2)d on international cooperation)).

What will be the relation between Horizon Europe and defence research?

- The specific programme for defence research is anchored into the Framework Programme for legal reasons: Article 179-3 provides that all Union research activities should be decided on and implemented in accordance with Title XIX "Research and Technological Development and Space".

- However, defence research (under the European Defence Fund) will have separate rules for participation and separate comitology.

- Article 5-1 of the Horizon Europe Regulation provides that the specific defence programme concerns defence research only.

- This Specific Programme on defence research will be set up under the separate legal act on the European Defence Fund with total budget of EUR 13 billion out of which EUR 4.1 billion is foreseen for the defence research.

- Synergy between Horizon Europe and the European Defence Fund will benefit both civil and defence research. Unnecessary duplication will be excluded.

Why not define specific objectives per programme part?

- This approach would undermine the effort to show that different parts of the programme work together to deliver on excellent science or on societal challenges. An important selling point of the programme would be missed out, namely that with an investment in one area, multiple objectives are tackled.

- The Horizon Europe performance framework will help to track the progress of objectives under different programme parts at any moment in time. The impact of the programme as a whole is larger than the impact of individual parts.Appropriate mechanisms will be put in place by collecting solid and relevant data while minimising the reporting burden on beneficiaries, in particular through more automatized data collection systems.

The three pillars support which objective?

- The specific objectives are not pillar-based. This is a novelty in Horizon Europe compared to Horizon 2020. It underlines that the different parts of the programme contribute together to its goals.

- This is why Annex I to the Framework Programme proposal specifies that whilst pillars may have a centre of gravity regarding the specific objectives to which they will contribute, each pillar will contribute to all objectives.

What is the EU added value of funding single beneficiaries at EU level?

Stimulating excellent collaborative research and innovation is one of the main added values of the FP. But instruments that are (also) open to single beneficiaries (ERC, Marie Skłodowska Curie Actions, the SME Instrument in Horizon 2020 and the proposed EIC in Horizon Europe) have a strong EU added value by driving up excellence through pan-European competition.

What will Horizon Europe do to tackle low success rates?

- In Horizon 2020, only 1 in 4 high quality proposals could be funded (an additional €66 billion would have been needed to finance them all). If only 20-25% of high quality proposals can be funded, this undermines the impact of the Programme and means that it cannot exploit the R&I potential to the full (as well as entailing a waste of resources for applicants). Mitigating measures will be promoted such as better matching supply and demand through broad topics with budgets to match (for instance, allowing more flexibility to decrease in certain calls the budget size of projects and/or the funding rate) and more two-stage calls.

- The success rate of Horizon Europe will be further supported by enhancing synergies and complementarities with other EU programmes, for instance using financial instruments through the InvestEU programme and improving the Seal of Excellence approach, thus enabling excellent proposals which could not be funded by Horizon Europe to be supported from other sources.

What does the Commission expect from the redesigned pillar structure?

- The redesigned pillar structure will move away from a silo-based approach to an impact-based approach that cuts across disciplines to deliver better impact. It will reinforce the internal coherence of the programme parts towards achieving programme-level objectives by enabling stronger connections and interactions between the parts of Horizon Europe (i.e. between the different clusters, or enabling multidisciplinary collaboration within missions). The complementary rationales for intervention will enhance their interconnectivity, with open science and open innovation being common threads. It also makes the programme easier to understand and thus more user-friendly.

- By taking a more systemic approach the Commission will enhance the impact of the programme. The studies supporting the impact assessment argue that "compared to the continuation of Horizon 2020, the changes in the design of the Programme can potentially generate an additional GDP gain up to 0.04% in a low scenario, and up to 0.1% in a high scenario", until 2050. A proportion of this gain is attributed to inter-sectoral spillovers.

- The Commission has defined broad objectives in the legal proposal, taking as starting point the most pressing and long-term policy goals for Europe. But the Commission has not prescribed in detail the specific R&I activities to be funded in each part of the programme. In this way, Horizon Europe will be able to adapt to emerging policy priorities.

What will happen to FET Open, FET Proactive and FET Flagships?

Future and Emerging Technologies are an important part of Horizon 2020, and they will be integrated in Horizon Europe's actions. Current FET Flagships will continue, and new areas will be considered in the definition of missions. FET Open and Proactive will be integrated under the EIC Pathfinder. FET Proactive will also be covered by pillar II cluster 3 Digital and Industry.

What will happen to the SME Instrument?

The SME Instrument has proven very successful in supporting innovators, and will be enhanced by narrowing its scope to disruptive breakthrough innovation and by extending its support for even more impact, under the European Innovation Council (EIC). Main characteristics of the SME Instrument phase 1 are integrated as part of the Pathfinder. The EIC Accelerator will provide a combination of grants (phase 2) and financial instruments such as most importantly equity. The business acceleration services (which currently exist under SME Instrument phase 3) will be continued under the EIC.

What will happen to Access to Risk Finance?

Providing Access to Risk Finance is crucial for a successful innovation ecosystem, and the new InvestEU programme will continue to provide Europe's innovators with the resources they need to succeed, in synergy with Horizon Europe's EIC.

What is the target for climate spending?

The only quantitative target in Horizon Europe is the one for climate spending. The spending target for climate change (mitigation and adaptation) over the entire EU budget is set at 25%. Horizon Europe would contribute an important share of this – 35% of the funding would contribute to climate objectives (recital 5 of the Decision). While this percentage is the same as in Horizon 2020, in absolute terms this will be an increase.

Why is there no longer a target for SME participation?

- Under Horizon 2020, a target was set at 20% of the total combined budget for the Societal Challenges and LEIT. Participation by SMEs in fact surpassed this target. Given the overall relevance and focus of Horizon Europe for innovative SMEs and start-ups, a quantitative target for SMEs (or any other group of participants) is no longer needed. In any event, the participation of SMEs will be monitored closely.

- SMEs are the main target group for Pillar III Open Innovation. Through its two EIC instruments, the Pathfinder and the Accelerator, and through the EIT KICs, SMEs will benefit from mechanisms to enhance their innovation to market deployment and to scale-up.

What will Horizon Europe do on gender?

Gender equality remains a priority for the Commission. Horizon Europe will continue to foster equal opportunities and gender balance in research teams and to ensure gender balance in the evaluation of proposals and in advisory groups such as the EIC Board. The gender content of research will also continue to be a focal point of attention. More specifically, policy-related actions supporting gender equality in scientific careers will continue to be included in Horizon Europe under 'Strengthening the ERA'. The EIT also has in place specific actions aiming at empowering women entrepreneurs and nurturing women leaders.

What will Horizon Europe do on Social Sciences and Humanities (SSH)?

- SSH will continue to be relevant across Horizon Europe, as essential disciplines. As an example, for developing clean energy solutions, research into consumer behaviour, economics, and law will be needed.

- SSH will also be the centre of gravity in the intervention areas 'Democracy, Cultural Heritage' and 'Social and Economic Transformations' in Pillar II, cluster 2.

- The Lamy report and the Mazzucato report also pointed to how missions could fully integrate social sciences and humanities.

- SSH also has a central role to play with regard to social innovation, public sector innovation and to better involve civil society and the citizens.

- As in Horizon 2020, there will also be many opportunities for SSH researchers under the bottom-up parts of the programme, notably in the calls of the European Research Council and the Marie Skłodowska-Curie Actions.

Why call the pillars 1 and 3 Open science and Open innovation, while the whole Horizon Europe will be about open science and innovation?

- The names of these two pillars are motivated by the priorities Open Science, Open Innovation, and Open to the World set out by Commissioner Moedas.

- Whilst it is true that open science and open innovation are mainstreamed across the Programme, the centre of gravity is in the respective pillars.

How are personal data protected without interfering with Open Access and Open Data and the FAIR-principle?

- Open access can be restricted where there are privacy concerns. This is one of the grounds for requesting to opt-out from the open data obligation.

- However, open data and FAIR are different concepts. A data set can be Findable (through metadata) and not Accessible. Or Findable and Accessible, and only Reusable under certain conditions. Only fully Findable, Accessible, Interoperable and Reusable data (without any constraints) are truly 'open'.

- The General Data Protection regulation (GDPR) gives a prominent role to data controllers of personal data. The European Open Science Cloud (EOSC) governance structure will need to assess different technical solutions (e.g. anonymization or cyphering keys) to all data controllers to give or restrict access to personal data sets.

The impact assessment mentions the non-eligibility of open access fees in hybrid journals – why?

- In "FP7" (pilot Open Access) and in Horizon 2020 (obligatory Open Access), Open Access fees in hybrid journals (journals with both Open Access and paying articles) were eligible because hybrid journals were believed to support the transition towards full open access publishing models.

- It is not considered a sustainable business model to achieve full Open Access (hereafter: OA), contrary to publishing in OA journals. This is why Horizon Europe will make eligible the costs for Article Processing Charge (APC) incurred by purely open access venues.

- Hybrid journals are usually subscription-based journals in which some of the articles are also open access which occurs typically after payment of an APC. It is a business model that ensures immediate OA, but at a higher cost than publishing in an OA journal (a journal which is not subscription-based) or self-archiving (after an embargo period).

- OA fees in hybrid journals can be off-set from 'big deals' at national level or 'collective deals' at the level of a research institution (i.e. the hybrid journal will deduct these OA fees from the annual amount paid for the subscriptions). This is a refinement to the business model to try to make it sustainable. However, this doesn't affect the Commission which has no such deals with publishers. Hence, the reasons why some national research funders can continue to reimburse such OA fees do not apply in the case of the Commission.

The obligation for a data management plan: how will it be implemented?

- A novelty of Horizon Europe would be that the data management plan (DMP) should be part of the proposal. So, the DMP will be taken into account in the evaluation of proposals.

- The Commission considers that everyone should manage research data in a responsible manner and should be accountable for that.

- There would be a distinction between the obligation to make the data open (Open Research Data) and the obligation to manage the data according to the FAIR principles and to explain how you do that (in the DMP). The Commission accepts that one can opt out from the first obligation (for good reasons of course) but considers that everyone should manage research data in a responsible manner and should be accountable for that.

- For example, a set of data would not be made open because a patent is being filed. This does not prevent this data set from being findable (through its metadata). It would just not be accessible. Moreover, 2 years later, if and when the patent has been granted, this dataset should become accessible. All this has to be planned and recorded in advance, hence the obligation to produce and update a DMP.

Open access: how will Horizon Europe consider Creative Commons licenses for research publications?

- The Commission promotes the use of Creative Commons licences (the CC-BY which only requests from users to mention the authors). This is the case under Horizon 2020.

- It will be continued in Horizon Europe. Creative Commons or equivalent licences that impose minimal constraints on readers/users of the publications.

Will the requirement for open access to data from EU-funded research projects be a deterrent to industry?

While open access to research data will be the standard, Horizon Europe would be fortified with robust exceptions to this rule, where access to data needs to be protected and Intellectual Property Rights protected. The principle that research data has to be 'as open as possible, as closed as necessary' will be emphasised every time it is necessary.

Will the open access policy be a disadvantage to Europe vis-à-vis the world?

The Commission is not the only funder with such open access and open science policy requirements. Funders across the globe are aligned in mandating open access to publications and data and relevant open science policies. It is not expected that Europe will set itself into a comparative disadvantage in this way, vis-à-vis other countries across the world.

Cross-cutting issues (SME, gender, widening, RRI, international cooperation, SSH, climate change etc) disappear in Horizon Europe. Why?

- The interim evaluation of Horizon 2020 showed that from a content perspective, there was no added value in duplicating issues already tackled by other provisions in the list of cross-cutting issues.
- The Commission will continue to monitor these issues in the performance of the Programme, in line with art. 45-3. A list of performance indicators that will be monitored can be found in Annex 6 section 2 of the impact assessment (page 49).
- These key issues will remain central to the work of Horizon Europe. In the case of SME participation, this is now mainstreamed across the programme, so no separate target for SMEs is needed. In the case of climate spending, the proposal (recital 5) provides that 35% of the specific programme is expected to contribute to climate objectives.

Innovation and market deployment action: only in the EIC Accelerator?

No, this action is not limited to the EIC Accelerator, but can be deployed throughout Horizon Europe when relevant, for instance in missions or programme co-fund actions.

Training and mobility: is it specific to Marie Skłodowska-Curie actions? What is the added-value compared to a Coordination and Support Action?

- In Horizon Europe, training and mobility actions are not necessarily limited to Marie Skłodowska-Curie actions; it is proposed to keep the action open and flexible.
- In the area of missions, training and mobility actions could also be useful elements if missions were to be in need of specific new or interdisciplinary skills. In such a case, training actions under a mission could be organised through a Coordination and Support Action, or through collaboration with Marie Skłodowska-Curie actions.

Programme co-fund action: how will it be implemented?

The Programme co-fund action can provide co-funding to activities by e.g. organisations in the Member States and Associated Countries. These activities may support networking, training, market deployment, etc. (Annex II of the Regulation provides a list).

Why is the Joint Research Centre included in pillar II?

- The JRC is the Commission's in-house provider of scientific support and evidence for policymaking. Under Horizon Europe, the JRC's research will continue to support the EU's policy agenda. Serving all areas of EU policy, JRC provides the cross-sectoral support that policymakers need to tackle increasingly complex societal challenges. With its capacity to respond rapidly to policy needs, the JRC's activities are complementary with indirect actions aiming at supporting longer term policy objectives.

- A major part of the work of the Joint Research Centre (JRC) concerns global challenges. Its positioning in Pillar II Global Challenges and Industrial Competitiveness will allow the Commission to strengthen the planning of research tackling global challenges.

- The JRC is well-placed to provide information on trends and emerging scientific and/or innovation areas, proposing or validating topics for missions, preparing the work programmes and supporting the exploitation of selected policy-relevant projects.

What are the mechanisms to ensure synergies between the three pillars?

- The benefits of synergies between different programme parts will be reaped during the implementation phase. Examples of programme synergies:
  - Whilst fully respecting the bottom-up nature of pillar I, relevant Marie Skłodowska-Curie actions and ERC projects may be linked to missions.
  - The scale and scope of missions may also inspire new R&I proposals elsewhere in the programme.
  - Promising projects from pillar I or II may produce spin-offs and be scaled up with support under the EIC accelerator.
  - Activities supported under the EIT KICs may lead to actions under the EIC accelerator, or feed into ongoing missions. At the same time, KICs' innovation ecosystems offer EIC beneficiaries (i.e. companies) the ideal environment to liaise with other relevant actors of the knowledge triangle and, in general, to benefit from KICs services and support.

How will Horizon Europe involve industry?

- Industrial leadership will be prominent within the Global Challenges and Industrial Competitiveness pillar, making industry a core enabler in addressing these challenges.
- It will also be prominent in the programme as a whole, with a cluster dedicated to support innovative, sustainable and digital industries, including through Key Enabling Technologies for the future. By

bringing together activities on digital, key enabling, clean and space technologies, Horizon Europe will allow for a more systemic approach, and a faster and more profound digital and industrial transformation.

- The public-private collaboration with industry will continue as part of a more rational and more impact-focused approach to partnerships.

- Key Enabling Technologies are of the essence for industry and paramount in taking Excellent Science towards innovation and the markets. Horizon Europe will continue to support the Key Enabling Technologies in pillar II.

How does Horizon Europe avoid the risk of undermining the importance of collaborative research?

In ERC and EIC, there will be actions for mono-beneficiaries, but collaborative projects remain the default way of supporting R&I and will apply to the vast majority of EU project funding.

Package 2: Open Science (Pillar I)

In Marie Skłodowska-Curie actions, is there a stronger focus on inter-sector mobility and training?

- Marie Skłodowska-Curie actions will remain a research programme that focuses on training and mobility of the people behind research and innovation. There is already a strong focus on inter-sectoral mobility (between public and private sectors) in Horizon 2020.

- Marie Skłodowska-Curie action puts emphasis on the inter-sectoral exposure of their fellows, enabling them to acquire transferable skills to become highly trained persons, to have better career prospects, as well as benefit society and economy in all sectors.

- Already now, 60% of Marie Skłodowska-Curie doctoral trainees and over one third for postdoctoral fellows receive training in another sector, be it in an enterprise, in government, cultural entities or non-governmental actors.

How will Marie Skłodowska-Curie actions be linked to the European Education Area?

- The Marie Skłodowska-Curie actions will establish links with the European Education Area, and vice versa. For example, the Marie Skłodowska-Curie doctoral training networks can act as a building block for European Universities and will be stimulated to also host Erasmus students.

- Under the Strengthening the ERA part of Horizon Europe, explicit reference is made to 'complementing the Erasmus Programme support for European Universities'.

- The Horizon 2020 Work Programme for 2018-20 already welcomes teaching in the Marie Skłodowska-Curie actions and establishes clear conditions for it. This will be continued under Horizon Europe.

Will Marie Skłodowska-Curie actions target mobility to use research infrastructures?

The Marie Skłodowska-Curie actions are stimulating cross-border mobility but the access to research infrastructures is foreseen under the research infrastructures part.

How will research infrastructures contribute to Open Science?

- The research infrastructures contribute to the open science objectives of pillar I as they support scientific advance and innovation and enable open science.

- Research infrastructures are the main providers and users of data and are contributing to the European Open Science Cloud and the implementation of the FAIR principles.

Research infrastructure in Horizon Europe: is there a link to current Horizon 2020 calls?

- As different programmes, there is no direct correspondence between the activities implemented in the work programme of Horizon 2020 and the interventions areas proposed in Horizon Europe.
- The support to European Data Infrastructures (EDI) and the European Open Science Cloud (EOSC) is covered under the first intervention area (para 3.2.1), while the innovation actions are addressed in the second intervention area (para 3.2.2).

Why is there no specific funding measure for research infrastructure for global challenges?

- The research infrastructure part of Horizon Europe is under the Open Science pillar and as such should be open to all areas of science. The research infrastructure part of previous Framework programmes has always supported many thematic domains and scientific disciplines, some of them addressing the global challenges implemented in other parts of the programme.
- It was considered important to make an explicit reference to global challenges, so as to ensure complementarities with the actions in pillar II of Horizon Europe.

Why is there no specific funding measure for research infrastructure in the orientation towards innovation?

- Work programmes under Horizon Europe will be able to include specific innovation actions under the research infrastructure part of Horizon Europe. This would for example allow support for integrated networks of research infrastructures to develop and implement a common strategy or roadmap for technological development to improve their services in partnership with industry.

Will Horizon Europe fund access to networks of research infrastructure for basic research?

- The research infrastructure part of R&I programmes has always supported many thematic domains and scientific disciplines, including on basic research. The Integrating Activities provides support for the networking, transnational access and joint research activities of national and regional research infrastructure.
- Support to communities addressing basic research would however still be possible for transnational access through co-funding or for joint research development.

How could the early phase of operation of research infrastructure be funded?

- For research infrastructures, there is a transition period between the construction phase and the full operation phase. The host countries usually contribute more during the construction phase, while during the operation phase, the other member countries tend to contribute as a function of their use. The early phase operation includes this transition period, during which the conditions for sustainable

operation should be ensured: the key to managing this transition period smoothly is to plan and prepare for it from the start of the project, for instance based on a cost-benefit-assessment (as required for major European Regional Development Fund supported projects), build up as early as possible cooperation with potential users of the infrastructure, obtain early on concrete funding commitments for the running and maintenance of the infrastructure, and develop the management capacities for running the research infrastructure (as well as to keep this transition phase as short as possible).

- The individual support to the set-up of research infrastructures in Horizon 2020 has already piloted successfully the type of activities that could be covered.

How will research infrastructures be monitored?

- The monitoring of the supported research infrastructures focuses on their performance as indicated in the Competitiveness Council Conclusions of 29 May 2018, including issues of the long-term sustainability of research infrastructures and their relevance in an evolving and complex landscape.

- A pilot assessment by the Commission is planned in 2019 and will help define the scope of any future monitoring action from the Commission

What is the aim of decommissioning and merging of research infrastructures? Are the infrastructures of the Joint Research Centre included?

- The purpose of the action would be to prepare the ground and facilitate the decision process leading to the recomposition of the research infrastructure landscape that could entail mergers or decommissioning of research infrastructures, which indeed are under the responsibility of the Member States and Associated Countries.

- The research infrastructure managed by the Joint Research Centre (JRC) is not the target of this activity but rather more the pan-European research infrastructure such as the landmarks from the European Strategy Forum on Research Infrastructures (ESFRI) and the European Research Infrastructure Consortiums (ERIC).

What is the purpose of co-funding transnational access to research infrastructure?

- The purpose of developing a co-funded mechanism to support cross border access to research infrastructures is to ensure more sustainability. It would bring together national funders of research infrastructures that would launch calls supporting transnational access. This mechanism should only target well integrated broad communities of research infrastructures.

- Integrating Activities could take place for new communities of research infrastructures and for research infrastructures that provide services to the scientific communities addressing the global challenges.

Package 3: Global Challenges and industrial competitiveness (pillar II)

How will pillar II ensure a systemic approach for more impact?

- Pillar II in Horizon Europe addresses global challenges and industrial competitiveness in a more systemic and integrated way than Horizon 2020. The 13 thematic areas for which budgets were earmarked in Horizon 2020 (7 societal challenges and 6 KETs including Space, with a total of 69 activity lines) are replaced by 5 clusters (with a total of 39 intervention areas). These will support the programme-level objectives.

- The real innovation in the future is likely to emerge at the inter-section of disciplines and sectors. The clusters of Horizon Europe will fit with this.

Why are Societal Challenges replaced by Clusters?

In Horizon Europe, clusters address the full spectrum of global challenges through programmed collaborative R&I activities. Compared to Horizon 2020's societal challenges, the clusters break boundaries between disciplines, sectors and policy areas and will therefore lead to more cross-sectoral collaboration and impact.

Will industry continue to receive funding?

Yes. Strengthening Europe's technological bases and its competitiveness is a Treaty objective. The participation of industry in Horizon Europe is essential for achieving all its objectives, and the role of industry in tackling global challenges will become more visible in Horizon Europe. Industry will be eligible in the same way as under Horizon 2020 and will continue to play an important role in R&I partnerships.

Why has the industrial leadership pillar disappeared?

- Industrial leadership is prominent in the Global Challenges and Industrial Competitiveness pillar, making industry a core enabler in solving these challenges. It will also be prominent in the programme as whole, with a cluster dedicated to support innovative, sustainable and digital industries, including through Key Enabling Technologies for the future.

- By bringing together activities on digital, key enabling, clean and space technologies, Horizon Europe will have a more systemic approach, and a faster and more profound digital and industrial transformation.

- The full engagement of industry is at the core of the approach as a whole, from the individual entrepreneur and SMEs to large scale enterprises, and should not be limited to restricted parts of Pillar II. Industry's participation should be at least at the same level as under Horizon 2020.

How does the Commission foresee the exchange between clusters and avoid duplication of research?

- Exchange between clusters is vital. It will be of the essence to make results from projects widely available. Example: results from artificial intelligence in cluster 3 Digital and Industry may be taken

up and further developed in medical equipment in cluster 1 Health. So dissemination between researchers and innovators will be of the essence, and so will be open data and open publications.

- As for avoiding duplication, this will be an important goal in the development of the Work Programmes and the calls that will be based on these.

Will Horizon Europe pay enough attention to Key Enabling Technologies?

Horizon Europe will continue to support the Key Enabling Technologies (KETs). Following a report by the High Level Group chaired by Jurgen Ruttgers, the list has been extended now:

1. advanced manufacturing technologies
2. life sciences technologies
3. materials and nanotechnology
4. photonics and micro-and nano-electronics
5. artificial intelligence *(added)*
6. digital security and connectivity *(added)*

As the High-Level Group recommended, nanotechnology is merged in a broader technology with advanced materials; nanomaterials and nano-electronics are both mentioned. In cluster 3 Digital and Industry, intervention areas 3.2.2 (digital) and 3.2.3 (materials) will offer opportunities for nanotechnology. The KETs such as advanced manufacturing and materials are in cluster 3 Digital and Industry; life sciences technologies are close to their application areas in clusters 1 Health and 5 Food and natural resources.

KETS are highlighted as follows:

- KETs are highlighted in recital 12 of the Regulation;
- They are a guiding principle in Pillar II as a whole;
- Cluster 3 supports KETs in the same way as the LEIT part in Horizon 2020;

KETs are paramount in taking excellent science to the market, and to ensure the success of innovations "made in Europe". The KETs will be crucial to increase the impact of the European Innovation Council and will help achieving the goals for Global Challenges. They could also contribute to the R&I missions.

Why does pillar II not include an area of intervention to fund the bottom up research of KETs?

- The KETs are not in a single intervention area but involved in all areas. Attention for low Technology Readiness Levels will be kept to keep the pipeline filled. Cluster 3 includes explicit support for more bottom-up activities, similar in principle to the FET-Proactive in Horizon 2020 ('Specific future and emerging technologies may also be pursued as appropriate' and 'Analysis of future and emerging trends in advanced materials and other key enabling technologies').

- For instance, in pillar III Innovation, the Pathfinder will support 'the earliest stages of scientific and technological research' (p. 62 Specific Programme Annex I) that may lead to breakthrough innovations in the future.

How will biotechnology as a major key enabling technology be addressed?

Biotechnology is mentioned in pillar II cluster 5 in 'Bio-based Innovation Systems'. Bio-manufacturing is in cluster 3 as part of 'Manufacturing Technologies'. Biotechnology will also play a key role in Cluster 1 Health.

Cluster 1 Health

Why is there no intervention area focusing on data-driven health and care?

Health research is a data-rich and data-driven area. Digitisation will be a cross cutting issue in this cluster. Novel digital solutions developed under other parts of the programme are integrated into research funded under the health cluster.

How will this cluster serve unmet public health needs and result in major outcomes for public health?

- *"Unmet public health needs"* means different things to different persons. Health care is a responsibility of the Member States. But Horizon Europe can for example look at health promotion and prediction, prevention of disease, and systemic issues such as health care systems.
- The efforts of Horizon Europe will also rely on the willingness of Member States to take up and implement outcomes so that innovations reach patients.

Which lines of activities in Horizon 2020 are continued or discontinued?

- The lines of activities in this cluster 1 Health are to a large extent a continuation of the lines of activities of Horizon 2020's Societal Challenge 1 Health, Demographic Change and Well-Being.
- In addition, the development of medical devices, which was supported in Horizon 2020 under its pillar Leadership in Enabling and Industrial Technologies (LEIT), will be taken up in this cluster and continued.

Cluster 2 Inclusive and secure society

How will the social sciences and humanities have a balanced weight?

- The Commission attaches great importance to Social Sciences and Humanities (SSH) integration to ensure that social, economic, human and cultural aspects are duly taken into account by research proposals.
- SSH should be fully integrated in Horizon Europe, in particular in all clusters of pillar II. This will be of particular importance, for example, in fields like artificial intelligence, health care or transport (to

name a few) where innovations will impact labour markets, education systems and skills needs, social and ecological sustainability and affect social well-being.

- Social sciences and humanities would also be a natural fit for the kind of areas likely to be suitable for missions.

- In addition, as in Horizon 2020, there will be ample opportunities for SSH researchers under the bottom-up parts of the programme, notably in the calls of the European Research Council and Marie Skłodowska-Curie Actions.

Cluster 3 Digital and Industry

Why are raw materials here?

The proposal is to put raw materials in cluster 3 Digital and Industry because:

- The industrial character of many stages of the raw materials value chain, such as exploration, extraction, processing, recycling or substitution is strong. This also results for the interim evaluation of Horizon 2020: more than half of the participants in projects on raw materials are private companies, including end-users.

- This integrated value-chain approach will bring together all is needed for the low carbon and circular economy such as the sustainable supply of raw materials, with e.g. the improved resource-efficiency in industry, industrial symbiosis, the decarbonisation of energy-intensive industries (like steel).

- Other aspects such as eco-innovation or consumer behaviour will be better placed under cluster 5, following a similar approach to Horizon 2020-Societal Challenge 5.

How to support the development of digital technologies at low to medium TRLs?

This is part of the intervention area Key Digital technologies with 'broad lines' on nano-electronics, photonics, emerging technologies.

How to incorporate societal and behavioural shifts and new business models?

These issues will be integral to developments in this cluster. For example, under advanced manufacturing, there is support for 'skills and workspaces fully adapted to the new technologies, in line with European social values'.

Cluster 3 comprises almost the entire current Industrial Leadership pillar in Horizon 2020. Is that manageable?

Both the Commission and the Programme Committee will need to span that wide range. It is important for the main issues addressed in this Cluster to be tackled not in isolation but in an integrated and strategic manner, reflecting also the ever increasing convergence of digital and physical aspects.

What are the relations with the Digital Europe Programme?

- The key difference is that Horizon Europe will develop technologies through research and innovation activities, while the Digital Europe Programme (DEP) will help deploy them.

- Horizon Europe will support research, prototyping, demonstration and pre-commercial deployment in the area of digital as well as industrial technologies. Pillar II also covers the application of digital and key enabling technologies in sectors such as manufacturing, health, transport or energy.

- The DEP will focus on large-scale digital capacity and infrastructure building. These capacities and infrastructures will support the wide uptake and deployment across Europe of digital solutions. This will mainly be implemented through investments with Member States, notably through joint public procurement. These digital capacities are shared across Europe and in EU-wide actions that support interoperability and standardisation as part of developing a Digital Single Market.

- Synergies between the two programmes will be exploited: for example, novel digital technologies developed by Horizon Europe could be taken up and deployed by the DEP; and by the same token, capacities and infrastructures under the DEP will be made available to the R&I community. Operating procedures (e.g. common processes, IT tools, etc.) will be aligned to the extent possible. Furthermore, Horizon Europe's initiatives for the development of skills and competencies curricula, including those delivered at the co-location centres of the European Institute of Innovation and Technology's KIC-Digital, will be complemented by the Digital Europe-supported capacity-building initiatives in advanced digital skills.

What are the relations with the European Space Programme?

Horizon Europe will continue supporting space, building on previous framework programmes. Space relies on advanced technologies and systems which need continuous research and development.

Horizon Europe will support the research and innovation needs of the new combined space programme and its components:

- Galileo and EGNOS (European Geostationary Navigation Overlay Service) for positioning, navigation and timing,

- Copernicus for earth observation,

- Govsatcom (satellite communications between governments for defence, security, humanitarian aid, emergency response or diplomatic communications) and

- SSA (Space Situational Awareness, like tracing dangerous asteroids and debris).

It will underpin the competitiveness of the sector, including access to space and end-to-end space systems. Technologies developed under Horizon Europe can be used for the Space Programme. The Space programme will focus on the deployment and operations of its upstream components including relying on technologies and solutions developed through Horizon Europe.

The Space Programme will also feed back into Horizon Europe. Topics for R&I can be reusability, in-orbit manufacturing and assembly or critical space technologies. Space data and services made available by

the European Space Programme can be used to develop solutions for e.g. sustainable agriculture, natural resources, climate monitoring, smart cities, automated vehicles, security and disaster management. Researchers can use Copernicus data for e.g. climate research.

Intervention area Space: what is the role of STEPP?

- The Consultation platform facilitated by STEPP (Space Technology European Partnership Platform) as proposed by the Parliament is intended to support the Commission to propose a strategic research and innovation agenda (SRIA) for space technologies.

- The Consultation platform brings together all space sector actors from research organisations to academia, associations, industry, space agencies. It will promote synergies with existing European roadmaps on space technology and other areas of Horizon Europe.

Cluster 4 Climate, Energy and Mobility

Will shale gas and fossil-fuel-based power plants continue to be supported?

- Decarbonising the energy system is essential to meet the climate objectives. Support for R&I in relation to fossil fuels will only be done if it is needed to meet the climate objectives.
  Decarbonising the use of fossil fuels will be essential to meet these objectives. Horizon Europe will therefore for example support CO2 capture, utilisation and storage from fossil-fuel power generation and carbon-intensive industries.

Why is there no intervention area on renewable energy if the EU's ambition is to be a global leader in renewables?

- It is indeed the goal of the EU to be world-leader in renewable energy. This ambition certainly includes a strong R&I component. Renewable energy is the main focus of the intervention area on 'Energy supply' but it includes also other energy supply-side technologies than renewables.

Will first generation biofuels be supported?

- No, first generation biofuels would not be funded. First generation, or "conventional" biofuels technologies (e.g. ethanol, fatty acid methyl ester (FAME) and hydro treated vegetable oil (HVO) based on sugar, starch or vegetable oils from food crop feedstocks) are well established. These fuels are the biofuels used today in EU, the share of which reached about 5% in transport in 2016.

- The ILUC (Biofuels and Indirect Land Use Change) Directive caps first generation biofuels to 7% up to 2020. According to the political agreement achieved on the recast of the Renewable Energy on 13 June, the contribution of first generation biofuels will be frozen as of 2021 at their share in transport energy consumption in 2020 + 1 percentage point (with a maximum cap of 7% and the possibility, for Member States below 1%, to increase conventional biofuels up to 2%).

Why spend money on adaptation? Is this money not better used for mitigation?

It has been reconfirmed by the Paris Agreement that investment into both mitigation and adaptation is needed. Whatever the success of mitigation policy, global warming cannot be reversed, so adaptation remains needed as well.

Will areas supported under Horizon 2020 be discontinued under Horizon Europe?

Not necessarily; nothing is excluded a priori, while taking into account the evolutionary nature of Horizon Europe.

Is 'low-carbon society' mentioned?

- Low-carbon society is set as a high priority for Horizon Europe, as mentioned in the first sentence of the second para of the rationale section of Cluster 4: "To meet the objectives of the Paris Agreement the EU will need to transition to low-carbon, resource-efficient and resilient economies and societies". In fact, low-carbon society underpins the overall approach of this cluster and all its intervention areas will contribute to it.

- Low-carbon society is mentioned also in the last sentence of the introduction to area 4.2.1. Climate Science and Solutions: "On this basis, science-based solutions for a cost-effective transition to a low-carbon, climate-resilient and resource-efficient society will be developed."

- All clusters will contribute to a low-carbon society, hence the commitment to ensure that 35% of Horizon Europe is used to support R&I for climate action.

How will the Commission improve coordination on climate, energy and mobility?

- To make the systemic approach work in practice, it is very important to work with Member States, the European Parliament and stakeholders. A broader, comprehensive and holistic approach will facilitate synergies among sectors, along the full innovation cycle. It needs to seek common solutions to common challenges for climate, energy and mobility. One cannot imagine mobility that works without energy, nor of energy that is neutral to the climate. The Commission proposes to bring these areas together in this cluster.

How is climate change addressed?

- Climate change research is a major component of Horizon Europe and cuts across many themes and actions that go even beyond the current Cluster 4 (e.g. Clean transport and mobility, Communities and cities, Energy supply, etc.). Concerning Cluster 4, the integration of climate, energy and mobility will allow us to address in a systemic and more integrated manner climate research (compared to Horizon 2020) by targeting more holistically a wide spectrum of issues ranging from better understanding of the complex climate-earth system, climate projections and predictions, assessment of risks, vulnerabilities and adaptation options, cost-effective decarbonisation pathways, to necessary innovations (technological and non-technological) in the energy and mobility sectors. This approach

allows to better support the Paris Agreement implementation, for which both science and technological development and innovation are crucial.

- Climate spending in Horizon Europe, and the 35% target, applies to Horizon Europe as a whole. The contribution from different parts can and will be different, but together they should add up to 35%. The climate action spending in cluster 4 can be expected to be well above 35%.

How will more sector specific research be organized?

- While there will be a strong emphasis on cross-thematic and cross-disciplinary approaches in Horizon Europe, sector-specific research will also have its place. The challenge will be to find the right balance between more traditional sector-specific actions and cross-thematic actions that transcend traditional research areas. The thematic fine-tuning and priority setting will take place during the implementation.

- The activities foreseen in cluster 4 are not limited to decarbonisation issues only, but allow room for other important sector specific issues, such as (e.g. in transport) connected and automated transport, safe, smart, integrated and seamless mobility, infrastructure, and of course the competitiveness of the EU transport industry.

Package 4: Missions

What are R&I missions and why are they needed in Horizon Europe?

- R&I missions in Horizon Europe will set directions to achieve objectives with societal relevance. They will improve cross-sectoral and cross-disciplinary cooperation to increase societal impact. Citizens and end-users will be involved in their co-design. Missions would be simulating the market uptake of innovative solutions, and leveraging business investment.

- A mission would consist of a portfolio of actions intended to achieve a measurable goal within a set timeframe, with impact for science and technology, society and citizens. The intention is to have a limited set of highly visible missions in dedicated calls in the work programmes, after co-design with Member States, stakeholders and citizens.

How will they be defined?

- The missions themselves will be decided during the preparation and implementation of Horizon Europe. They will be selected according to six selection criteria (such as being bold, clear, involving bottom-up solutions etc. (see art. 7 of FP regulation), and co-designed with Member States, as well as involving stakeholders and citizens.

- The missions will be cross-cutting in nature and this should be reflected in the input at all levels. Missions could also help create synergies with other EU programmes and with funding at national, regional or local level, or sponsorship by foundations.

Which missions are included in Horizon Europe?

None yet. The proposal for Horizon Europe just includes six criteria for the selection of future missions and key elements for their co-design. It would be premature to specify them inside a rigid legal text for the years up to 2027 and this would not leave the room for co-design. The report by Prof. Mazzucato provided first ideas on a set of criteria and on guiding principles for future missions. The accompanying public call for feedback provided valuable indications on which areas offer the greatest value. Examples put forward included Forgetting Alzheimer's or Plastic-free oceans.

How will the budget, number and duration of missions be decided?

There will not be a separate budget line for missions. Missions are expected to be cross-cutting in nature, and will normally receive their budget from more than one cluster in Horizon Europe. The first missions will be introduced in the first Work Programme 2021-2022. Based on the experience, the number and scale of missions could be increased thereafter. While the duration of EU support to missions should not exceed 10 years and will be subject to regular review (through the work programme cycle), the timeframe for their expected impact could be longer.

What are mission boards?

For co-designing the missions and steering their execution, the Commission would be able to set up mission boards. They would advise on a specific mission: the content of the work programme, the selection of experts evaluators, the framework conditions. A mission board would consist of around 15 people, including end-users, and Commission services (to ensure links to EU policies). Members will be appointed by the Commission, following an open call for expression of interests.

Will missions be closed shops: just for a small group?

No. Missions will use calls for proposals that will be open to all groups with relevant competences.

Any room for basic research?

It is quite possible that to achieve the target of a mission, some basic research will be needed to fill a knowledge gap.

What will be the role of mission managers?

The position of mission manager, possibly one for each mission, could be a means to secure dedicated expertise. They would be able to be brought in from outside the Commission or the agencies. Such an individual would have specialist skills for the management of large portfolios of projects combined with knowledge of the area. The decision on whether to create such positions would be on the basis of the implementation requirements as determined by the Commission and agencies. The advice provided by the Mission Board and the nature of the portfolio will be important factors. A mission manager would operate under the responsibility of the Commission.

Will the same agency implement all missions?

Not necessarily. Missions will be treated in the same way as calls, so that the cluster under pillar II where the mission has its centre of gravity will determine which agency will be responsible for the implementation of the mission.

What is the timeframe for the expected impact of missions?

A mission could last for some years, with payments for projects extending until ten years from the start. The impacts of missions may become clear during that period, but that may also take longer. Annex V to the proposed Regulation shows the foreseen 'impact pathway indicators' that will be collected, ranging from the short term (concrete outputs like new products) to the longer term (realising the mission target, e.g. a plastic-free ocean). The longer term could be beyond the ten years.

Which FET Flagships can be continued or set up as missions?

- The explanatory memoranda of the Horizon Europe Specific Programme mentions that Future and Emerging Technologies (FET) Flagships supported under Horizon 2020 would continue to be supported under Horizon Europe as missions geared towards future and emerging technologies.

- FET-Flagship initiatives supported under Horizon 2020 and pursued in Horizon Europe: the Human Brain Project (HBP) and Graphene (both launched in 2013 under FP7); Quantum Technology (announced in 2016 and launched in 2018) and possibly the Future Batteries Technologies (announced in 2018 and to be launched in 2020).

- Work is starting to ensure that the implementation modalities of the missions and the Flagship activities fit well under Horizon Europe.

Will the human factor be included in missions?

The intention is for missions to have a public resonance and this suggests missions where the human factor will be an important aspect to take into account. Any mission in e.g. health will take into account human factors such as lifestyle. Any mission for e.g. clean environment will take into account how people behave. They will be taken on board in the definition of a mission and the work programme.

How will the Commission pursue synergies between the projects in a mission and other relevant projects in the clusters?

This will be worked out during the definition of a mission. The Commission, Member States and the R&I community have experience with coordination actions that bring projects together, presenting results to each other and coordinating e.g. parallel routes towards the target. Open science and active dissemination will be of the essence. One of the functions of a mission board would be to help to spot these links between projects and with other clusters.

How do the missions relate to partnerships?

- Missions are implemented through dedicated calls for proposals, as non-prescriptive as possible and allowing for a variety of toolbox instruments, including the involvement of already established European Partnerships, or if necessary, the establishment of a dedicated European Partnership.

- Based on the type of action(s) in each mission, the different types of partnerships in Horizon Europe can be used to achieve set objectives whenever they are best suited to do so.

- Missions will not be instruments embedded in certain types of partnerships; partnerships will rather contribute to achieving missions' objectives.

Package 5: Partnerships

Why a new approach to European Partnerships?

- The overall partnership landscape has become complex and fragmented, illustrating the lack of a systemic and coordinated R&I approach at EU level. The interim evaluation of Horizon 2020 identifies the need to rationalise the overall European R&I partnership landscape, improve their openness and transparency, and link them with future EU R&I missions and strategic priorities.

- This new approach to partnerships is expected to lead to a smaller number of more coherent R&I partnerships, partnerships which are able to provide a real added value and to enhance the impact of EU R&I funding, by leveraging additional investments on EU priorities, by providing 'directionality' to these investments, and by reaching out to a broader set of stakeholders; as well as by establishing closer links with EU and national policies.

What is the new partnership approach in Horizon Europe?

- Based on common criteria for all European Partnerships in R&I, it is proposed that the partnership approach will be limited to three different modes:
  - "Co-programming", based on Memoranda of Understanding or contractual arrangements, to encourage public and private stakeholders to co-design and coordinate their R&I priorities together with the Commission;
  - "Co-funding", based on the commitment of partners for financial and in-kind contributions and integration of their relevant activities using a Programme co-fund action. Co-funding will only be used if this is in line with agreed EU strategic priorities, including EU R&I missions, with any partner ready to co-invest (e.g. public sector, industry, foundations).
  - "Institutionalised" initiatives (based on art. 185 or 187 TFEU, or EIT regulation for KICs), to commit in the long term for shared investments in research and innovation with public and private stakeholders in key strategic areas with international visibility and impact.

What is the difference between a co-funded and a co-programmed European Partnership?

- A co-programmed European Partnership would be characterized by an agreement between EU and partners, where part of the programme of activities is implemented by the partners under their responsibility, and part of it via traditional calls under Horizon Europe.

- In contrast, in a co-funded European Partnership the partners implement activities in one single programme according to commonly agreed rules, with a financial contribution from the Union.

What about existing partnerships (existing art. 185 & 187 TFEU initiatives)?

- The Horizon Europe proposal itself does not renew existing partnerships or establish new ones. It will provide the framework for the new partnership approach, including common establishment/exit criteria.

- By the end of 2018, the Horizon Europe strategic programming process will identify areas for future partnerships. Based on this, individual decisions on the renewal of existing partnerships/establishment of new ones can be taken and the preparatory work for impact assessments can start.

How will European Partnerships be identified / selected?

- European Partnerships have to comply with the principles described in Article 8 of the Horizon Europe proposal.
- Annex III of the Horizon Europe proposal defines the criteria that will be applied to identify and select European Partnerships along the principles of art. 8.2. (b).

To which parts of Horizon Europe are European Partnerships relevant?

- European Partnerships are relevant in principle for all pillars of Horizon Europe.
- European Partnerships are expected to be particularly relevant for the 'Global Challenges and Industrial Competitiveness' pillar.

Are European Partnerships relevant to other Union Programmes?

- European Partnerships might be relevant for reaching the objectives of other Union Programmes and contribute to their implementation as one element to achieve the overall objective to strengthen synergies between Union programmes.
- In the case of the Digital Europe Programme (DEP), the legal proposal foresees parts of its implementation via European Partnerships, based on Horizon Europe provisions.

How will European Partnerships be able to work in synergy with other Union programmes, especially European Structural and Investment Funds?

- Synergies between the different Union programmes is a key policy objective of the Commission;
- Annex IV of the Horizon Europe proposal specifies the synergies between the different EU programmes and Horizon Europe;
- Synergies with the European Regional Development Fund (ERDF) will focus on arrangements for combined funding, the use of research and innovation infrastructures that were ERDF supported, and the take up of results and rolling out of novel technologies and innovative solutions from Horizon Europe through the ERDF;
- European Partnerships with relevance to policy objectives of other Union programmes can be designed in a way that ensure coherence and complementarity with actions supported by these Union programmes.

Why does the proposal define criteria not only for the selection, but also for implementation, monitoring, evaluation and phasing out?

- The Council Conclusion of December 2017 (15320/17) called for an objective-driven and life-cycle based set-up and implementation of European Partnerships.

- Consequently, the criteria in the Horizon Europe proposal cover the main life cycle phases of European Partnerships, namely selection, implementation, monitoring, evaluation and phasing out.

Who will implement the framework criteria and process for partnerships?

- All selection decisions on European partnerships will be based on an overall criteria framework set out in Annex III of the Horizon Europe proposal.

- The decisions will be made within the comitology procedures applied for the implementation of the Framework Programme.

- The set-up and implementation of the 'strategic coordinating process' that has been called for by the Council in December 2017 is currently under development.

How does Horizon Europe support partnerships between Member States on their priorities?

- European Partnerships under Horizon Europe will be set up and implemented to achieve EU policy objectives.

- The support to other forms of partnerships that do not correspond to EU policy objectives is not foreseen in the Horizon Europe proposal.

Why are civil society organisations such as foundations included in the definition of partners?

In order to achieve maximum impact and added value from European Partnerships, all relevant stakeholders, including civil society organisations such as foundations, should be able to actively participate in the programming and implementation of European Partnerships.

Why is there no more distinction between PPPs and P2Ps?

- European Partnerships will cover both Public-Private Partnerships and Public to Public partnerships.

- The revised policy approach of Horizon Europe, from an instrument-based paradigm to an objective-driven one, makes the current distinction no longer useful.

How would a co-programmed European Partnership work in practice?

- A co-programmed European Partnership would work in practice in a similar manner to the current contractual Public-Private Partnerships (cPPPs), and provide for the involvement of wider societal actors as well as private sector partners.

- Co-programmed European Partnerships are set up on the basis of memoranda of understanding and/or contractual arrangements between the Commission and the other partners, specifying the

objectives of the partnership, related commitments for financial and/or in-kind contributions of the partners, key performance and impact indicators, and outputs to be delivered.

- They include the identification of complementary research and innovation activities that are implemented by the partners other than the Union and those that are implemented by Horizon Europe directly.

- The implementation under Horizon Europe would be done via open calls for proposals, while the other partners implement their own activities independently.

How would a co-funded European Partnership work in practice?

- A co-funded European Partnership would work in practice in a similar manner to the currently running European Programme Co-fund initiative.

- A co-funded European Partnership is implemented by a Grant Agreement between the partners and the Commission, using a programme co-fund action.

- A programme co-fund action is defined as an action to provide co-funding to a programme of activities established and/or implemented by entities managing and/or funding research and innovation programmes, other than Union funding bodies. Such a programme of activities may support networking and coordination, research, innovation, pilot actions, and innovation and market deployment actions, training and mobility actions, awareness raising and communication, dissemination and exploitation, or a combination of these, directly implemented by those entities or by third parties to whom they may provide any relevant financial support such as grants, prizes, procurement, as well as Horizon Europe blended finance.

- A co-funded European Partnership would be based on a joint programme agreed by partners. It is based on the commitment of partners to financial and in-kind contributions and a financial contribution by Horizon Europe.

- In practice, a co-funded European Partnership would achieve the integration of all activities into a single programme on a specific area implemented under the responsibility of the partners.

How would an institutionalised (art. 185) European Partnership work in practice?

- An institutionalised European Partnership based on Article 185 TFEU works through a high level of both political and financial commitment towards a multi-annual research programme jointly implemented by EU Member States, with a financial contribution by the Union.

- The Union participates in an institutionalised partnership based on Article 185 TFEU on the basis of a decision of the Parliament and the Council adopted in ordinary legislative procedure.

- An example of such a Partnership under Horizon 2020 is the European Metrology Programme for Innovation and Research (EMPIR) - new measurement solutions for industrial competitiveness and societal challenges.

How would an institutionalised (art. 187) European Partnership work in practice?

- An institutionalised European Partnership based on Article 187 TFEU works on the basis of a multi-annual research agenda jointly established by the EU and private sector partners. A Joint Undertaking (JU) is established in order to support the partnership and implement its research agenda.

- An institutionalised partnership based on Article 187 TFEU is established by decision of Council.

- An example is the Innovative Medicines Initiative 2 Joint Undertaking (IMI2 JU) which is a partnership between the European Union and the European pharmaceutical industry. IMI2 JU facilitates open collaboration in research to advance the development of, and accelerate patient access to, personalised medicines for the health and wellbeing of all, especially in areas of unmet medical need.

Is there a possibility to have a Coordination and Support Action to support partnerships contributing to the realisation of ERA, e.g. alignment of national programmes?

- Based on the Council Conclusions of 1 December 2017, it was agreed that Horizon Europe should continue to support European R&I partnerships on agreed EU policy objectives;

- Consequently, the revised policy approach for partnerships is presented in Article 8 of the Horizon Europe proposal, focusing on support for achieving EU policy objectives;

- Coordination and Support Actions (CSA) are part of the portfolio of instruments used for the implementation of Horizon Europe. There are no specific provisions foreseen that limit the use of Coordination and Support Actions, so that it is not excluded that Coordination and Support Actions might be used under Horizon Europe to support the partnerships as long as they are necessary for achieving the objectives of Horizon Europe.

Regulation art. 8-1 c : what is 'central management of all financial contributions'?

- The requirement for central management of financial contributions is limited to institutionalised partnerships.

- Financial contributions should be centrally managed by the partnership to ensure the efficiency of programme implementation, including monitoring of the activities and reduced risk of additional administrative burden (such as multiple reporting) for the final recipients.

- Central management of financial contributions is not necessarily implemented with a 'real common pot' – there are examples available where national financial contributions can only fund national beneficiaries despite a central management.

- It is up to each institutionalised European Partnership to design the most appropriate way to implement central financial management, as long as the approach taken is in line with the legal framework and practically feasible without creating undue administrative burden.

- For potential European Partnerships where a model with central management of financial contributions is not feasible, other forms of implementation are available such as co-programmed or co-funded European Partnerships.

Why is it requested that at least 50% of Member States participate in an art. 185 initiative?

Article 185 initiatives are institutionalised initiatives that require significant participation to ensure relevance, critical mass, scale and scope. Smaller configurations can be implemented through other forms of European Partnerships.

Do the rules for participation from Horizon Europe apply to partnerships?

- Rules for participation in Horizon Europe would apply in one way or another to all three types of European Partnerships.

- For co-programmed European Partnerships the rules for participation apply for the parts implemented under Horizon Europe. The parts implemented independently under the responsibility of the partners follow their normal rules.

- For co-funded European Partnerships the rules for participation from Horizon Europe apply to all direct beneficiaries. However, where actions are implemented via financial support to third parties, commonly agreed rules by the partners other than the EU such as specific national rules for participation may apply.

- In the case of Institutionalised European Partnerships, Horizon Europe rules for participation apply. In exceptional cases and where justified by operational needs, Horizon Europe rules for participation can be adapted via derogation in the basic act.

How and when do partners need to make commitments?

- In the case of co-programmed European Partnerships, financial or in-kind commitments may be part of the Contractual Agreement or the Memorandum of Understanding.

- In the case of co-funded European Partnerships, financial or in-kind commitments need to be included in the proposal of the partnership.

- In the case of institutionalised European Partnerships (Article 185 and 187), the commitments from partners have to be made before the Commission adopts its legislative proposal for the partnership.

Why do all institutionalised partnerships require financial contributions?

- Institutionalised European Partnerships should consist of partners that are highly committed – and financial contributions are generally considered as being a key indicator for high-level commitment.

- The central management of all financial contributions will also help to reduce the administrative burden for beneficiaries and ensure the efficiency of the programme implementation.

What share of financial contributions is expected?

- Financial contributions are compulsory only for institutionalised partnerships.
- The share of each contribution would be defined individually for each partnership.

What is meant by flexible implementation?

- Flexibility refers to the possibility to adjust to changing policy or market needs, or scientific advances and to the establishment of a flexible and effective portfolio of joint activities to achieve the individual policy objectives;
- Consequently, European Partnerships would be flexible in the implementation of joint activities by going beyond joint calls for research and innovation activities, including those related to market, regulatory or policy uptake.

Why should the activities of Partnerships go beyond joint calls for proposals?

- The Horizon 2020 interim evaluation and the underlying evidence highlighted that the management and implementation of joint calls for proposals is a necessary but not sufficient condition for achieving also broader policy objectives and successful partnerships.
- The revised policy approach for European Partnerships under Horizon Europe would thus ensure that impacts and added value of partnerships will be increased by broadening the scope of joint actions, including those related to market, regulatory or policy uptake.

Why does the proposal suggest that European Partnerships are time limited and include conditions for phasing out?

- European Partnerships are designed to reach specific and well-defined and time-bound objectives.
- The European Partnerships landscape should be able to evolve in line with the changing priorities of the EU and the other partners.
- The phasing-out is mainly an issue for the EU financial contribution to European Partnerships. Successful European Partnerships may of course continue with their activities even after the phasing-out of Horizon Europe funding.
- The Union funding must be always aimed to maximise the innovation potential and growth of the EU economy and do so with as much efficiency and impact as possible. This requires a constant evaluation and re-adjustment of the partnerships.

Why is the definition of programme co-fund so broad in terms of activities?

- The programme co-fund action is defined broadly in term of activities to ensure the flexibility needed while setting up and implementing co-funded European Partnerships in diverse thematic areas.
- However, it should be noted that the programme co-fund action will not only be the implementation instrument for co-funded European Partnerships, but that a broader use is foreseen e.g. for Marie Skłodowska Curie Actions or under the 'open innovation' pillar.

Why is the usual reimbursement rate for programme co-fund 30%, and only higher in exceptional and justified cases?

- The EU investment in European partnerships should be as cost-effective as possible and result in an appropriate leverage effect.

- Past experience has shown that a 30% co-funding rate is in most cases sufficient to incentivise additional investments by partners.

Who is eligible to participate as partner in European Partnerships?

- A broad range of stakeholders is eligible as partner in European Partnerships: industry, research organisations, bodies with a public service mission at local, regional, national or international level, and civil society organisations such as foundations that support and/or carry out research and innovation.

- Article 185 initiatives can only be initiated by national governments of Member States agreeing on a joint research programme, with participation in the programme being limited to the participating states and the Union. During the implementation of the initiatives the same rules for participation and funding as under Horizon Europe apply to indirect actions, unless derogations have been introduced in the basic act due to specific needs.

- Article 187 initiatives are implemented via a dedicated legal structure, the Joint Undertaking, where so far, the EU and private sector organisations are partners in the governance except for ECSEL JU, where also Member States join the governance. During the implementation of the initiatives the same rules for participation and funding as under Horizon Europe apply to the applicants to calls, unless specific needs have introduced limitations in the basic act or the call for proposals.

- For co-programmed European Partnerships there would be no specific restrictions, as the type of potential partners is specific to each individual partnership.

- For co-funded European Partnerships, partners other than the Union would have to fulfil the Horizon Europe eligibility conditions.

How is openness ensured – at programme and project level?

- At programme level openness would be ensured through application of the respective selection criteria (Article 8, 2 (b) and Annex III, 1(c)).

- At project level openness would be ensured through eligibility rules in line with the Horizon Europe rules and transparent implementation and monitoring.

- Stakeholders have the possibility of participating in different ways, as members (in this case a long-term commitment and financial contribution is expected) or as beneficiaries participating in open calls.

- The new generation of European Partnerships would ensure by its design and by using selection criteria such as transparency and openness a high degree of inclusiveness towards low R&I intensive

Member States/Associated Countries. Partnerships have the potential to play an important role for 'sharing excellence' and hence to contribute to a better openness of the R&I ecosystems.

What is the difference between a co-funded European Partnership and the programme co-fund instrument under Horizon 2020?

- The programme co-fund actions under Horizon 2020 entail the two Horizon 2020 instruments ERA-NET Cofund and EJP Cofund. They are targeting mainly research funders in the case of ERA-NETs, and governmental research organisations, in the case of EJP Cofund.

- Programme Co-fund actions under Horizon Europe would integrate the existing co-fund actions of Horizon 2020 into a single, flexible co-fund instrument that allows supporting an even broader variety of different programmes of activities to be implemented, with co-funding from the Union.

Will existing partnerships receive funding from Horizon Europe?

- A coherent framework of criteria for all European Partnership Initiatives would be applied under Horizon Europe to all new and existing partnerships that meet the requirements for renewal set out in the Horizon Europe proposal.

- The strategic planning process under Horizon Europe would identify priorities for implementation, including areas for missions and partnerships.

- Only in cases where the area of an existing partnership is identified in the R&I strategic plan, where the selection criteria of Annex III are met, where it adheres to the principles defined in Article 8 of the proposal and where it includes conditions for the phasing-out of Programme funding, might it qualify as a European Partnership under Horizon Europe.

What will happen to the existing partnerships?

- Existing partnerships established under Horizon 2020 will continue to receive funding as long as foreseen by their respective contractual obligations or basic acts respectively.

- Existing partnerships will only be renewed in cases where they meet the requirements set out in the Horizon Europe proposal.

The European Economic Recovery Plan (EERP) has been completed – so, why continue the cPPPs under Horizon Europe?

- The original rationale for setting up the contractual Public-Private Partnerships was to encourage increased investment in key industrial sectors (the EERP). This rationale is still valid.

- As the mid-term review of the cPPPs under Horizon 2020 highlights, the cPPP instrument has proved effective in facilitating implementation of strategies to increase the competitiveness impact of European R&I funding. It offers a more active role to industry in Work Programme development while at the same time respecting fully the Rules for Participation and comitology.

- The positive impacts achieved to date justify continuing with this instrument where the partnerships proposed fulfil the selection criteria set out in Article 8, 2 (b) and Annex III, 1(c) of the Horizon Europe proposal.

Will the brand European Partnerships also apply to renewed partnerships that currently use a different brand?

Yes, the brand of "European Partnerships" will apply to all partnerships under Horizon Europe.

How do partnerships relate to/ position vis-à-vis the missions?

- A mission will consist of 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.

- Missions are implemented through dedicated calls for proposals, as non-prescriptive as possible and allowing for a variety of toolbox instruments, including the involvement of already established European Partnerships, or if necessary, the establishment of a dedicated European Partnership.

How do the EIT/KICs fit in the revised policy approach?

- In the Horizon Europe proposal, EIT Knowledge and Innovation Communities (KICs) are included as Institutionalised European Partnerships.

- Proposals for future EIT-KICs will be indicated in the EIT Strategic Innovation Agenda (SIA), and will take into account the outcomes of the strategic planning process.

Is the size of partnerships relevant for consideration?

- The Horizon 2020 interim evaluation and the corresponding reports, including the SWDs on Article 185 initiatives, JUs and the EIT/KICs, do not come to conclusions concerning the optimal size of R&I projects and/or R&I partnerships.

- The criteria for future European partnerships do not include a criterion concerning the size of the partnerships, in terms of budget or participants.

How to monitor in-kind commitments and contributions to partnerships?

- In the case of institutionalised European Partnerships (Article 187), the commitments from partners have to be made before the Commission adopts its legislative proposal for the partnership.

- The Commission will closely follow and monitor (and when necessary take corrective action) the actually provided in-kind contributions using the criteria for monitoring set up in Annex III (3) (a), (b) of the Horizon Europe proposal. This monitoring system will be set up from the initial phase of each initiative and it will include "Dedicated reporting on quantitative and qualitative leverage effects, including on financial and in-kind contributions" (see Annex III (3) (b)).

Art. 185 Partnerships: does the Commission foresee participation of e.g. non EU countries and private foundations and charities?

- Article 185 of the Treaty on the Functioning of the European Union states that "In implementing the multiannual framework programme, the Union may make provision, in agreement with the Member States concerned, for participation in research and development programmes undertaken by several Member States, including participation in the structures created for the execution of those programmes." In this respect the initiative for an Article 185 is expected to come from "several Member States".

- For a specific Article 185 initiative, the basic act establishing it can extend the list of Participating States to the programme to associated and/or third countries.

- In current Article 185 initiatives, Member States, Associated Countries and / or third countries have the status of Participating States to the programme thus having their contribution count as matching the Union financial contribution.

- The Commission would very much welcome future Article 185 initiatives to extend the participants further to foundations and charities. This would be a decision for the co-legislators.

Package 7: Open Innovation (Pillar III)

EIC main features

Why create the EIC and focus Horizon Europe innovation activities on breakthrough, disruptive and market creating innovation?

- The rationale for a new approach on innovation was set out in the European Commission's contribution to the informal Leaders' discussion on innovation in May 2018.[2] Recent decades have seen the emergence of major and global new markets (entertainment, media, health care, lodging and retail) based on breakthrough innovations in ICT, biotech, internet and the platform economy. These market-creating innovations, which have affected the EU economy as the rest of the World, are deployed by fast-growing and often newly-created companies.

- Yet only a few of these companies originate in Europe, and the Union is confronted with a new global wave of breakthrough innovation. Based on more 'deep-tech' technologies such as block-chain, artificial intelligence, genomics and robotics, and other technologies, this wave will deeply impact additional sectors such as manufacturing, financial services, transport and energy. It has the potential to open up new markets worldwide, and also help tackle societal problem such as climate change.

- The Union must strive to ride this coming wave and have its share of benefits, to ensure economic growth but also the well-being of Europeans. This means filling the financing gap that holds back European innovation. Breakthrough innovation means higher risks for European investors, already more risk-averse than those in the US and Asia.

- It is for these combined reasons – the urgency and the financing needs – that the Commission proposes to focus the EIC on this new wave of breakthrough innovations. The Commission considers that EIC would offer a high Union added value by offering the intensity of resources needed to properly bring such innovation down to market, and the necessity to reach out to all potential innovators across Europe. The June 2018 European Council conclusions supported the proposal to set up the European Innovation Council.

Will the Pathfinder and the Accelerator be bottom-up only?

- As breakthrough innovation is not confined to single sectors and technologies and stems also from serendipity research and developments, the Pathfinder will provide for a continuous bottom-up call for proposals with regular cut-off dates, as under Horizon 2020 FET-Open, as a means to stimulate and identify new trends or ideas, in the same way as a call of expression of interest.

- Following actions under Horizon 2020, FET-Proactive, although within a single instrument and budget, Pathfinder's projects will also be selected on the basis of top-down calls, translating a given

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[2] A renewed European Agenda for Research and Innovation - Europe's chance to shape its future (COM(2018)306 final)

technological vision or targeting specific objectives, with the aim of developing portfolios of related projects.

- The Accelerator will be essentially bottom-up and react to any potential market creating innovation in need of support, although ad hoc top-down calls may be envisaged on the basis of an Union policy priority or with financing from other parts of Horizon Europe.

The Pathfinder integrates FET-Open and FET-Proactive into a single instrument. What is the advantage of such a transformation? Will this not prevent to carry out research on an idea if not backed by any potential market vision?

- The Pathfinder of the EIC will be the EU instrument to develop breakthrough and disruptive innovation from TRL 1 to 5/6. It will take inspiration from our main competitor agencies, such as ARPA-E and DARPA, which are powered by disruptive long-term technological visions and hand-on management by high-level programme managers. It will enjoy autonomy in advising the Commission on objectives and on selection and funding decisions.

- Similarly, under the Pathfinder, disruptive ideas would be developed through the funding of various interrelated projects and activities of a multidisciplinary nature, constituting portfolios of projects developing a vision or targeting specific objectives. The overall aim will be to nurture potential market-creating innovations.

- The regrouping of FET-Open and FET-Proactive into a single instrument is a necessity to avoid TRL-based silos. It will allow the constitution of portfolios covering the whole initial innovation chain, from TRL 1 to 5/6. Projects will be given the possibility to further develop to higher TRL, or benefit from inputs by other projects with a higher TRL, without the obligation to undergo another call for proposals.

- In this context, it will not be an obligation for any individual applicant to develop an idea with a view of going to market. It will be for the Programme Manager to develop and share with beneficiaries an overarching vision, and to develop initial ideas and projects into portfolios of actions that nurture market opportunities.

Why suppress the SME instrument and replace it by the Accelerator? It has proven its efficiency and is supported throughout Europe by all stakeholders, from SMEs to Innovation agencies.

- The Accelerator of the EIC does not suppress the SME Instrument. It builds on it, improves and enhances it, and focuses it to achieve EU added value.

- The Accelerator builds on the SME instrument by being innovator-centric: an Accelerator project remains driven by an innovator or an SME, although it may also be open to small mid-caps looking for scale-up (on a co-investment basis). It improves and enhances SME phase 2: in addition to the grant of 70% of the direct eligible costs for innovation activities down to TRL 8, the Accelerator also provides part of the SME phase 3 funding to cover other expenditures, including those necessary for

initial market deployment (TRL 9) and/or the scaling-up, in the form of equity or a full guarantee, whichever chosen by the beneficiary. Moreover:

- Support would be allocated on a first arrived first served basis, hence reducing time to feed-back to a maximum of 3 to 4 months from submission;

- The grant may also cover TRL 5 (ex-SME phase 1) if a business plan needs to be developed or refined;

- Grant support would not anymore be capped at 2,5 million euros like it is the case under the SME instrument phase 2: the EIC would award what is necessary to develop the full potential of a market creating innovation

- Finally, an Accelerator's beneficiary will be allowed to pivot/re-orient its activities where necessary.

- The Accelerator also refocuses the overall SME instrument:

- The SME Phase 1 support would no longer exist as a stand-alone EU instrument, although support for assessing business opportunities and developing business plans could be granted in the context of Pathfinder transition activities within portfolio of projects, or as part of an Accelerator project. The Commission considers that, as innovation is a common endeavour of Member States and the Union, Member States or their regions and other local actors close to innovators, including private ones (incubators), should also provide support for business assessment and business plan development, through cash and/or in-kind support. The Commission proposes to co-fund programmes providing for such support, to complement the EIC's activities.

- Support would be awarded to potential market creating innovation and scale-up of companies that are confronted to a financing gap due to the high-risk adversity of markets, with the goal to de-risk such operations down to a level where co- and/or alternate investors would be confident enough to invest;

- Priority would be given to deep-tech and long innovations cycle over low-tech and short cycles ones, that will rather be supported through reimbursable advances (0% interest reimbursable grants for TRL 5 to 8 only).

Why will the Accelerator provide "direct blended finance", that is a mix of grant and private finance (equity or guarantee)?

- Like the SME instrument Phase 2, the Accelerator could provide a grant up to 70% of the budget for innovation activities (TRL 5/6 to 8). Yet, to reach the market and support potential scale-up, other expenditures are to be incurred, such as the remaining 30% of TRL 5 to 8 budget and any cost in relation to market deployment activities (TRL 9) and/or scale-up.

- These other expenditures would not be able to be covered by the grant due to competition policy principles: they are deemed to be covered by beneficiaries from their own resources and/or by

private investors. For deep-tech activities, risk adversity of private investors may make it impossible to secure these additional funding when needed, in particular for start-ups. Private finance such as equity or a guarantee is hence a means for the Union to deliver an enhanced and deeper support than the usual grant.

- These considerations are subject to broader considerations on the use of blended finance for the EU budget as a whole.

How can we encourage greater participation of EU13 in the EIC than is currently the case in the SME Instrument?

- By offering also private finance, hence deeper support limiting the necessity for innovators to find ex-ante their own co-financing, the Accelerator should prove more user friendly than Horizon 2020 to innovators from countries where the innovation landscape is more fragile.

- Complementarily, the Commission proposes also to launch activities aiming at enhancing the European eco-systems of innovations, by supporting national and local actors, including private incubators. Through programme co-fund and an adjusted State Aid regime, Horizon Europe will offer opportunities to EU 13 innovation actors to gear up and deliver better support to their innovators.

What is the difference between the EIC's Accelerator and the future InvestEU ? Will there be any synergies between the two ?

- If both initiatives deliver financial instruments, they differ on various aspects:
  - The Accelerator is focussed on breakthrough and market creating innovation, whilst the Research and innovation and the SME windows of InvestEU will cater for innovation under any forms;
  - Under the Accelerator, the Commission directly selects and support beneficiaries, whilst support under InvestEU is decided and delivered by financial intermediaries (banks, investment funds, etc.) guaranteed by the Union.
  - One variable is that the Accelerator will usually provide blended finance with a grant component, and this is not necessarily the case with InvestEU;
  - Finally, the Accelerator aim at a level of risk, due to the type of innovation and targeted beneficiaries that is higher than InvestEU.

- The EIC and InvestEU will however develop synergies, for example by steering its Research and Innovation and SME windows to properly complement EIC's activities, or by giving InvestEU financial intermediaries to co-invest in Accelerators projects.

Why hire programme managers for the EIC ?

- The suggested approach is that the EIC, and in particular the Pathfinder, should rely on the skills and capacities of a limited number of programme managers hired on a temporary basis (3 to 5 years).

- The thinking is that the EIC should be based on management/administrative features that have demonstrated their efficiency for delivering on breakthrough innovation in other contexts, in particular our main competitors[3].

- Experience in US agencies such as ARPA-E (energy) and DARPA[4] shows that they owe their success in radical innovation to a key element: they are driven by their programme managers/directors, who bring a vision of what they want to change in the world, looking to boost the magnitude of impact with agencies' funding.

- These programme managers are hired on a short-term basis (typically 3-4 years) to find and foster new innovative ideas based on technology visions that each one of them is expected to develop. However, if they develop overarching visions, they do not bring these to life themselves. Instead, they identify for funding multiple teams at universities, companies, and public labs who take ownership of these visions.

- Drawing on these programme managers, the defining feature of these agencies is « active management ». This hands-on approach means that in addition of identifying research teams and projects, programme managers can be involved in developing budgets and the timelines and milestones these projects must meet to receive continued funding. An important component of the US agencies management toolkit is the use of techno-economic analysis, which helps project innovators identify and anticipate commercialisation challenges such as market shifts or manufacturing bottlenecks that could derail their work. Identifying these challenges early in a technology's development would help to avoid the risk that delays or cost overruns that cause a project to fail. This also means that when projects are underperforming and need to be terminated, these decisions can be made with confidence by programme managers, ensuring responsible stewardship of public funding. A culture of self-evaluation benefits these agencies' management structure as they continually refine internal processes.

What will be the tasks entrusted to EIC's programme managers ?

- If it is agreed to follow the approach of programme managers, some of the broad tasks they might take on could include assisting the Commission and its responsible authorising officers on these lines:
  - Helping to define the strategic orientations of the Pathfinder, drawing on bottom-up calls to identify new ideas and trends to be further developed.

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[4] US agencies supporting early stage breakthrough RDI have demonstrated their efficiency. DARPA, established in 1958, has revolutionized technology, leading to the creation of the Internet, GPS, cloud computing and stealth technology. ARPA-E, established on 2009, has already demonstrated a great deal of early success. With 330 projects completed, ARPA-E project teams have been published 1,328 times; reported 1,493 subject inventions; been issued 208 patents; created 56 new companies; and attracted more than 1.8 billon $ in follow-on funding from private sector for 74 projects.

- Within Pathfinder's themes identified by the EIC work programme, developing with the concerned community of researchers and innovators a common technological outlook, and preparing related top-down calls for proposals to implement it.
- Based on initial "go/no go" filtering by independent experts, proposing to the Commission the most suitable Pathfinder projects to deliver on Union policy and EIC objectives.
- Managing each Pathfinder's portfolio with the aim of nurturing potential spin-offs and market creating innovation. This could include looking at complementary calls for proposals to reinforce a portfolio, or proposing the award of small grants to foster its internal coordination or assess emerging business opportunities.
- With regard to the Accelerator, engaging with independent experts to ensure the selection of the best proposals.
- Overall, monitoring the implementation of all Pathfinder and Accelerator projects, with the assistance of external reviewers, and advising on the re-orientation or termination of projects.

- These kind of tasks would suggest a need to recruit people with a combination of expertise and skills to show the necessary expertise and skills to carry out the analysis and programme management involved.

Enhancing the European innovation ecosystems

If the EIC is focussed on breakthrough and market creating innovation, who will then support incremental innovation ? The Member States ?

- The EIC would not substitute Member States' programmes and activities in favour of innovation. Innovation is a common responsibility for the Union and its Members.
- Therefore, the EIC and its focus on breakthrough and market-creating innovation should complement and link with national but also local innovation initiatives, in order to enhance the overall European innovation landscape.
- However, the Open Innovation pillar would include other instruments which aim at supporting *inter alia* incremental innovation. Such is the case of the activities funded under the EIT, and also under the strand "European Innovation Ecosystems" where the Union will co-fund joint programmes of transnational or national initiatives. Such initiatives could cover incremental innovation by individual SMEs and other kinds of support such as the current SME Phase 1, or the development of entrepreneurship and other soft skills.

What could be the role national and local actors of innovation ?

- The Commission considers that it is a common European endeavour for the Union and its Members to support innovation all across Europe, whatever its type, including through complementary EU

and national policies and resources whenever possible, as put forward in the Commission Communication on the renewed European Agenda for Research and Innovation from May 2018.

- To complement an EIC focussed on breakthrough and market creating innovation, the Innovation Pillar of Horizon Europe would provide for activities to enhance European innovation ecosystems. The aim is to improve the environment within which innovation can flourish at all levels. This would help to develop national and transnational support mechanisms complementary to the EIC, and channel whenever possible such support close to innovators via local innovation actors, public but also private.

- These activities would aim to establish close links between the EIC and Member States' broader innovation policies, including those deployed at local level. They could include:

  - an EIC Forum of Member States and associated countries' authorities in charge of national innovation policies, to discuss coordination and innovation related matters of common interest;

  - co-financing of joint Member States' programmes of transnational and national actions, to foster innovation and bring support close to innovators, whether by financing RDI projects or developing soft skills and expertise, whilst avoiding overlaps;

  - more networking, including with universities and private actors of innovation such as private incubators;

  - sharing of data on innovation, but also resources and expertise (e.g. a common data base of experts, coach, mentors), including with universities.

If enhancing the European ecosystems of innovation is so important for the overall European strategy for innovation, why is so little budget awarded out of Horizon Europe (500 million Euros) ?

- Financing decisions need to take account of competing priorities both inside Research and Innovation spending, and for the EU budget as a whole.

- It should also be underlined that EU innovation funding needs to complement Member States' own investment, and can also draw on other EU programmes such as the structural funds for research and innovation policies and programmes.

Evaluation process

How will projects be evaluated under the Pathfinder?

- In general, and in particular for top-down calls aiming at building or developing portfolios of projects in relation with topics identified in the Work programme of the EIC, calls will be competitive: out of proposals having passed applicable thresholds following evaluation by independent experts ("go" proposals), programme managers will propose to the Commission those

proposals to select, taking into consideration the consistency of the related portfolio of projects, the contribution of each project to its objectives, their potential impact and the available budget.

How will the "First come/first served" work in practice for bottom-up calls, in particular for the Accelerator? And how to ensure that the best proposals are selected?

- Accelerator proposals would be evaluated at regular cut-off dates in their order of submission, and based on 3 award criteria – the third being specific to the Accelerator: (1) excellence, assessed by scientific experts, (2) impact and (3) EU-added-value/level of risk, assessed by investor-based panels.

- Proposals meeting the first 2 criteria and failing on the 3rd could be awarded a Seal of Excellence. If funded by a Member State, including a region or a municipality, that proposal could be offered access to the EIC business accelerator services, as for any EIC funded project.

- Comparing proposals from different areas under a bottom-up call, beyond their individual merits, is always a delicate exercise, especially for breakthrough innovation. In this context, above a high threshold (4 or 4.5/5), scoring differences of a tenth of a point do not always reflect qualitative differences.

- It would nevertheless be important to ensure a robust and credible evaluation "first arrived first served" process for the EIC's Accelerator, through specific evaluation methodologies designed with experts in the field of investments, and their involvement in the evaluation process. This could also involve the development of data mining and processing IT tools to assists applicants to draft and submit better proposals, and process comparative data for evaluators to assist them in their task (e.g. comparison with on-going projects, existing patent, assessment of various types of readiness levels, etc.).

How to measure the level of risk of the action and the need for a European Union support under the Accelerator?

- The EIC board would advise the Commission on the criteria for the assessment of the risk profile of the proposals, and the type of information to collect from applicants and other sources for that purpose. The EIB group would also contribute to the development of evaluation methodologies, based on usual banking and market processes.

- There could also be the use of "investors' panels", using the expertise of market operators and other professionals in a position to better identify existing market and financing gaps and provide the Commission with reliable opinions. Finally, with a Specific Purpose Vehicle implementing and managing the "private finance" component of the Direct blended finance, this would bring another assessment.

Under the Accelerator, how to differentiate commercial assessment from financial assessment, when evaluating the risk level of the action and the added-value of a Union support?

- Commercial assessment would normally relate to the relevance of the project with regard to the existing market and its ability to be disruptive and to create new jobs, hence an impact to be looked at under the impact criterion.

- Regarding the financial assessment, issues would rather be an absence of private or public support justifying the need of a European financing, the financial soundness of the project and the capacity of the innovator to deliver. Under the Accelerator, such elements would fit into the evaluation of the third criterion on the EU added value.

How to integrate the fast-track access to criteria 3 of the Accelerator without issues of redress?

- A possible fast track approach could be to allow direct submission for evaluation under the criterion of "the level risk of the action and the need for Union support" of proposals deemed to already fulfil the first two criteria "excellence" and "impact". This fast-track process could be subject to two cumulative conditions:

  - first, that the proposal for an innovation and market deployment action stems from any other research and development action or innovation action funded by Horizon 2020 or Horizon Europe, or from a national programme similar to the EIC's Pathfinder and acknowledged as such by the Commission;
  - second, subject to conditions and processes to be detailed in the Work Programme, that a project review by independent experts would have already assessed the excellence and the impact of the emerging market creating innovation.

Who decides a proposal is "go" or "no go" ?

- Under the EIC approach, independent experts would recommend whether a proposal is "go" or "no go", that is if it passes or not evaluation thresholds.

- In the case of a Pathfinder's competitive call, programme managers could also recommend an order of priority for "go" proposals, taking into consideration the consistency of the related portfolio of projects, the contribution of each projects to its objectives and the available budget. Scoring by independent experts could also be taken into account but on a subsidiary basis, as differences between scores for above-threshold proposals are quite thin and not always significant. Other proposals will be rejected with all appropriate explanations as to why they were not retained.

- In the case of a first arrived first served call, in particular under the Accelerator, there would be no ranking process as there is no overarching objective other than supporting innovators along the innovation chain. The Commission would select a proposal based on its sole individual qualities and

merits, as assessed by independent experts. Programme managers could still recommend the Commission to reject a "go" proposal for duly justified reasons, transparent to the applicant.

Will the Technology Readiness Level (TRL) be taken into account as a criterion for evaluation?

- Not as such. The Technology Readiness Level could be taken into account to determine if a proposal is eligible for the Pathfinder for Advanced Research (from TRL 1 to TRL 5/6) or for the Accelerator (from TRL 5/6 to 9 included).

- But TRL could also help to measure the level of risk, hence the added-value of EU support in the case of the Accelerator: the higher the TRL, the more an innovation is advanced on the path to the market, and the risk might be smaller. However, TRLs and risks are not linearly correlated, in particular in deep-tech areas, hence calling for a case by case scrutiny.

Which type of report, consensus or not, will be provided to the applicants?

- The Interim Evaluation of Horizon 2020[5] highlighted the need to produce a more detailed evaluation report. Under the EIC's Accelerator, due to its nature and its processes, applicants will receive a motivated report detailing the reasoning that led the Commission to select or not their proposal. This detailed report would help participants either to further strengthen their project if so requested to be funded or to develop a better proposal for a new submission.

What will be the time to inform?

- Timelines should be reasonable. Under the Accelerator, time to inform could be for example up to 1 month after the cut-off date, and similar for the Pathfinder's top-down calls (as for other grant-based activities of Horizon Europe).

EIC's Direct Blended Finance

The Commission will introduce a novel finance for innovators called blended finance under the European Innovation Council scheme. A lot of questions relate to this. Could the Commission elaborate this more?

- In the first instance, it should be clear that some issues of blended finance are horizontal issues across EU funding: blending funding under the EIC would be subject to this.

- (1) In the case of the EIC's Accelerator, the rationale would be as a means for the Union to deliver an enhanced and deeper support than the usual grant.

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[5] European Commission DG for Research and Innovation, Interim Evaluation of Horizon 2020, 2017, European Union, p.82-84

- As currently the case under the SME instrument Phase 2, the Accelerator would provide grant up to 70% of the budget for innovation activities (TRL 5 to 8). Yet, to reach market and/or support potential scale-ups, other expenditures would be incurred, such as the remaining 30% of TRL 5 to 8 budget and any cost in relation to market deployment activities (TRL 9) and scale-up. These other expenditures could not be covered by a grant due to competition policy and the necessity to avoid distortion of competition: they would be deemed to be covered by beneficiaries' own resources and/or private investors.

- However, for high risk breakthrough and deep-tech activities, the risk aversion of private investors may make it often hard if not impossible for innovators to secure these additional funding in due time, especially young and women entrepreneurs. This financing gap is the so-called "valley of death" of European innovation that intermediation-based mechanisms such as InvestEU cannot fully cover. By providing for high-risk projects a direct "private finance" component in addition to its grant, the Union would better support these innovator in their pathway to market.

- (2) For Direct blended finance awarded in the context of a Programme co-fund action providing for the establishment of joint financial instruments, the purpose would be to enhance financing capacities of national and local actors of innovation, in an agile and fit-for-purpose or tailor-made manner.

What is meant by blended finance exactly? Does it include components of guarantee/loan/equity finance?

- Direct blended finance is a combination of grant plus equity or a 100% guarantee of external financing (bank loan or investors).

- In the case of the EIC, for low-tech actions by opposition to deep-tech ones, direct blended finance could also take the form of a reimbursable advance, which is a grant the beneficiary will either reimburse at 0% interest rate at an agreed date, or transform into equity.

What are the sources of this blended finance (from the EIC budget, or private sources or from EIB-group)?

Direct blended finance under Horizon Europe would be funded out of the Horizon Europe budget, from the EIC's budget in the case of EIC's Accelerator, from the corresponding budget line for any programme co-fund action involving direct blended finance.

Who would be the beneficiaries of blended finance?

Under the EIC's Accelerator, beneficiaries would be start-ups and SMEs, and mid-caps for scaling up-purposes. Under a programme co-fund action, no such restriction will apply: eligibility shall established by the joint programme according to its objectives.

For what purpose it should be used?

Direct blended finance would cover a new type of action named "Innovation and market deployment actions", which will encompass initial market deployment under TRL 9 in addition to usual TRL 5/6 to 8 activities (innovation action). The grant component will be limitatively calculated in relation to these innovation activities (70% of direct eligible costs from TRL 5 to TRL 8), the "private finance" component covering other expenditures including under TRL 9.

Who will make decisions on beneficiaries?

- Regarding the EIC's Accelerator, the Commission would select beneficiaries. Yet, whilst a selected project would start based on the grant component, the effective implementation of the "private finance" component would be made conditional to the outcome of a due diligence based complementary evaluation (for example performed by a Specific Purpose Vehicle (SPV)).

- With regard to direct blended finance awarded on the context of a programme co-fund, it is the entity managing the joint programme that will select beneficiaries, subject to eligibility conditions agreed in the contract with the Union.

What is meant by the dedicated fund in the context of EIC? What is the link between dedicated fund and Invest EU fund?

Whilst the Commission would directly manage the project and the grant component of the blended finance, one approach is that a Specific Purpose Vehicle (the fund) would implement and manage the private finance, report on implementation to the Commission and participate to the regular monitoring/review of actions based on agreed milestones.

Equity support is dilutive and will not be interesting for start-uppers and other SMEs, which only want grants.

- The Accelerator would provide a grant up to 70% of direct eligible costs for TRL 5 to 8 activities. But the Accelerator support would also integrate a private finance component to cover expenditures that cannot be covered by the grant due to competition policy constraints, such as the part of TRL 5 to 8 not covered by the grant component (30%) and any market deployment activities (TRL 9) and scale-up. Private financing would therefore be a means to deliver an enhanced and deeper support than the usual grant, where private investors do not, due to risk adversity, particularly in deep-tech areas.

- Private finance would usually take the form that suits better the awardee: it could be equity, but also a 100% guarantee for a bank loan or other types of external investments, as SMEs are not all the same and do not present the same characteristics or have the same needs. It is for example clear that even with a full Union guarantee, a bank will not provide a loan to a company that has no own resources: equity is hence a must for a start-up, that is still not a company at that stage. On the other hand, a well-established family owned medium SME will be rather interested by a guarantee for a bank loan

or other investment. It would be up to the beneficiary to indicate its preferred form of support in the proposal, although the EU would have the final say.

- In the case where equity will be provided, except in the specific cases where strategic interests of the Union would be at stake (e.g. cyber security), such support would be limited to a maximum of 25% of the shares, a level that limits the role of the Union. The intention of the Union is indeed to deliver financial support, not to take any sort of control of the company. Owners and other investors, if any, would retain their full power of decisions, and would be given the priority to buy back the EU share at its initial price plus an interest rate reflecting annual inflation.

Is it the intention of the Commission to make profit out of equity?

- No. Providing equity aims at bridging the gap in order to support an innovator more completely, as some expenditures of the innovation chain may not be covered by grants and as high-risk breakthrough innovation is confronted with risk adversity. Such activities include the 30% share of TRL 5/6 to 8 deemed to be covered by the innovator's own resources or alternate investors, but also part of TRL 9 to provide for initial market deployment.

- What the Commission proposes would be for the Union to be kind of a "reluctant investor": it should provide equity where and when the market does not dare to go, in order to bring the project closer to an acceptable level of risk for investors, seek to leverage alternate funding from the onset of the implementation of the project, and exit the company whenever the innovator or any alternate investor is willing to buy Union's shares.

- It is true that some of these operations may indeed generate revenues during the project's lifetime, and deliver a profit together with repayment at exit time. Such amounts would be reinvested into new Accelerator projects.

How does the Commission intend to ensure that innovative financing solutions can be implemented in all Member States for innovation activities close to the market in Horizon Europe ?

- EIC's Accelerator would be open to all European Innovators.

- Additionally, in the context of the Innovation Pillar, the Commission would implement activities in support of the European eco-systems of innovation that will entail the co-financing of joint programmes, including with direct blended finance to develop transnational financial instruments.

- Finally, the Research and Innovation window and the SME window of InvestEU would be implemented in close synergy with the objectives of Horizon Europe.

How does the Commission intend to ensure that support close to the market activities does not unduly distort competition between innovators?

In addition to calls open to all European innovators, the "private finance" component under the Direct blended finance would be awarded at market conditions, pari-passu (sharing risks and benefits), whether under the EIC or under a co-funded programme.

EIT

What is the difference between EIT and EIC?

- The focus of EIC is to support breakthrough market-creating innovation by easily accessing risk finance to scale-up fast. The focus of EIT is the integration of the knowledge triangle of higher education, research and innovation to address global challenges set in Horizon Europe. The EIT supports the start-up and scale-ups of companies in thematic areas, whereas the EIC has a mainly bottom-up approach. For instance, the EIC accelerator can help the KICs'-backed start-ups with the highest growth potential to rapidly scale-up. At the same time, KICs' innovation ecosystems offer EIC beneficiaries (i.e. companies) the ideal environment to liaise with other relevant actors of the knowledge triangle (research organisations, universities, companies, innovators, representatives of local governments, investors, etc.) and, in general, to benefit from KICs services and support.

- The EIC would combine all EU support to breakthrough market-creating innovation in one place, thus creating a one stop shop. The EIT will be better aligned with Horizon Europe strategic priorities and the revised European R&I partnership approach.

- The EIT will offer further complementarities with its strengthened focus on entrepreneurial education, targeted actions on capacity development for more entrepreneurial and innovative higher education institutions, skills identification and reinforcement, and collaborations between industry and academia in areas related to global challenges. Thus the EIT and EIC are complementary and are both part of the Open Innovation pillar.

What is changing in the role of the EIT in Horizon Europe?

- The EIT will be better aligned with Horizon Europe's strategic planning and its priorities, and well integrated in the rationalised approach to European partnership. The EIT will ensure complementarity with other instruments in Horizon Europe through its distinctive focus on the integration of the knowledge triangle of higher education, research and innovation, and further developing innovation ecosystems across Europe, to address global challenges set in Horizon Europe.

- In Horizon Europe, the EIT will expand its education related activities through dedicated actions beyond the KICs with the objective of improving the human capital base for innovation through developing talents, fostering entrepreneurial and innovation skills and supporting the entrepreneurial transformation of higher education institutions across the EU.

Package 8: International Cooperation

What are the options for the definition of a partial scope of association agreements?

- Any exclusion in scope is a matter of negotiations and will be defined in the association agreement. For ENP (European Neighbourhood Policy) countries and 'other third countries' (under art.12.1(d)), parts of Horizon Europe may be excluded from an association agreement, giving consideration e.g. to the degree to which impacts of programme support to innovation in the associated country have positive spill-over effects on the EU economy.

- For reasons of transparency, simplification of negotiations and programme implementation, as well as to avoid cherry-picking, there should be a very limited number of options for the partial scope to be proposed by the Commission.

What would be the payment model in association agreements?

- For all associated countries except EEA countries, the automatic correction of any significant imbalance between financial contributions and returns refers to the quantitative calculation between amounts paid (by the country) and amounts expected to be received (by entities established in the country) based on signed contracts under Horizon Europe.

- The correction, through a mechanism to be defined in the association agreement, will take place automatically and not involve a renegotiation of the association agreement. To the yearly contribution shall be added an amount to cover programme management, execution and operation cost. In case of large fluctuations in performance year by year the correction may be amortised over several years.

Would there be any clause on mobility of researchers in association agreements?

- There could for example be a best effort clause in all Horizon Europe association agreements relating to the free movement and residence of researchers participating in projects, and the facilitation of movement of goods and services used in projects to ensure that collaboration takes place unhampered. It would build on a similar clause in the majority of the Horizon 2020 association agreements.

The cost-benefits of an association to Horizon Europe should be attractive to both the EU and its partner country. How to ensure this?

- For the EU, association of third countries to the programme is an important means to make cooperation and funding of joint projects with our international partners as smooth as possible in order to enable the EU to access excellence and research resources, pursue global challenges and help EU companies integrate in international value chains. In financial terms, there will be a balance between contributions and returns.

- For the international partner country, the benefits are both at the level of entities from the country and the country itself:

a) In general, the intention would be that entities from an associated country would be able to participate in programme actions under the same conditions as entities from Member States, and they would be automatically eligible for funding and would benefit from services such as those of NCP networks. This results in a significant facilitation of their participation compared to a scenario where their country would not be associated.

b) Associated countries would enjoy the right to participate as observers (no voting rights) in programme committees, where they benefit from and contribute to discussions and consultations on priority topics for calls for proposals. They would also be able to join Article 185 and 187 initiatives and take part in the JRC Board of Governors.

What is meant by the rights of the Union to ensure sound financial management?

- To guarantee sound financial management means (as already stipulated in the existing Horizon 2020 association agreements) that the Commission, OLAF and the European Court of Auditors can do their controls and audits on the territory of the associated country, and that the Commission decisions on recovery are enforceable in that country.

- The EU Court of Justice has jurisdiction to review the legality of decisions by the Commission and can suspend their enforcement. The courts of the associated country, on the other hand, have jurisdiction over complaints regarding enforcement being carried out in an irregular manner.

Why does art. 12 not include EFTA members that are not EEA members and 'countries previously associated', as in Horizon 2020?

- The Commission proposal is that a third country may be associated to the programme if this is in accordance with an overarching framework agreement concerning participation in programmes which is already in place with the country (e.g. in the case of EEA) or if a specific multi-programme agreement is concluded covering the participation to Union (and Community) programmes (the case of e.g. Switzerland).

Will association agreements be ready before the first Horizon Europe contracts are to be signed?

- Exploratory talks with potential associated countries should only begin when the provisions on association are stable at the interinstitutional level. It would be possible to request Council authorisation for opening negotiations only when the negotiations on Horizon Europe have ended (and provided that exploratory talks are sufficiently advanced).

- Formal negotiations could start once the authorisation is adopted, and the length of negotiations will depend inter alia on the state of bilateral relations with the country concerned. The time needed from the end of negotiations to signature and conclusion of an association agreement can be estimated around 9-12 months, given the need for Council decision on signature and conclusion and consent by the European Parliament on conclusion. The ultimate 'cut-off point' for an associated country to be

able to reap benefits as of 2021 is signature date of first Grant Agreements (expected 3Q 2021), by when the agreement would need to be in force or at least provisionally applicable.

- For Enlargement countries and ENP countries with a protocol on general principles of participation in EU Programmes, the Commission is already authorised to negotiate and conclude association agreements on the basis of a Commission decision, while keeping the Council and Parliament fully informed, where only a programme-specific agreement is required. Therefore, these agreements could be concluded earlier, i.e. soon after the adoption of Horizon Europe, enabling association from the beginning of 2021.

- For EEA countries, the process should be similarly fast as it only requires a technical amendment to Protocol 31 of the EEA Agreement (adopted following a Council decision establishing EU position in support of this amendment).

How will EU competitiveness be safeguarded when opening the programme to the world?

Opening up and choosing with whom to cooperate will be done in a strategic way to pursue the EU's interests.

- First, the proposed programme rules allow for calls for proposals to set additional eligibility criteria for participation and additional exploitation obligations. Horizon Europe Regulation art.18-5 allows limiting participation for actions related to Union strategic assets, interests, autonomy or security. Art.35-1 and 35-6 require beneficiaries having received Union funding to use their best effort to exploit their results, in particular in the Union, and require explanation of how exploitation primarily in non-associated third countries is still in the Union interest.

- Second, project proposals would be put together at the initiative of EU-centred consortia in response to calls for proposals reflecting EU priorities. There would be a 'built-in safeguard' that issues such as IPR arrangements between partners already support the competitiveness interests of the EU companies in the consortium. In general, cooperating with international partners allows researchers and innovators in the EU to access the excellence, value chains and markets outside Europe needed in many cases to boost the competitiveness of our companies.

What about concerns by some third countries about the rules for participation and the model grant agreement?

- Participation in a multi-lateral EU programme that enables multipartner projects is inevitably more complex than bilateral research cooperation where each partner entity is financed by its own country resources. But it is precisely this multilateralism which brings the added value of cooperating at EU level and which attracts so many of the best researchers from Europe and around the world.

- The Model Grant Agreement provides a proven legal framework for the cooperation, with legal certainty that most partners appreciate.

- Sufficient flexibility is however through different types of participation in projects that can fit most, if not all, constraints of third country participants.

How will Horizon Europe support science diplomacy?

- International cooperation in research and innovation can provide a common basis for engagement, for building trust and bridges for dialogue between parties, for forming evidence and providing scientific advice, and for sharing knowledge and facilities with a common governance that can be a blueprint for governance of broader issues. In Horizon Europe it would be possible to have international cooperation initiatives that also have science diplomacy angles, such as PRIMA (Partnership for Research and Innovation in the Mediterranean Area) which federates countries on both sides of the Mediterranean to address key challenges (sustainable management of water and agro-food systems) that affect the local socio-economic conditions and may lead to political instability and migration. Another example is the FP's contribution to Arctic research where science cooperation is used to catalyse a common understanding, enable joint solutions and foster peaceful cooperation.

Package 9: Strengthening the European Research Area

Why is the Strengthening ERA part not a pillar?

This part would underpin the entire programme, by improving the framework conditions for R&I, ensures a coherent approach for policy-related actions in the ERA and puts the issue of "sharing excellence" in a broader context, promoting a mutual benefit for all countries of Europe.

Is the European Research Area expected to contribute to sustainable development?

Strengthening ERA should be seen as the foundation of the three pillars, including the challenges on sustainable development in pillar II and sustainable development in general. The ERA should be seen as the backbone of a well-performing science and innovation system in Europe, so ERA directly or indirectly also contributes to all measures in pillars I, II and III.

What is meant by a revitalised ERA?

The Commission would strengthen the alignment of EU policies with Member States policies to increase the impact of joint efforts within the various ERA priorities.

Will the ERA priorities remain the same?

They would cover the same policy domains, however the original definition dates from 2012 and may be adjusted to the requirements of today, like the modern universities.

What about support to European universities (in synergy with Erasmus)?

- The Commission proposes to support the uptake of open science practices and entrepreneurship through incentives and reward mechanisms. In that context, and on the basis of recent work conducted under the Open Science Policy Platform, the concept of an incentive is developed which would give access to Horizon Europe funding in order to implement activities that foster Open Science and entrepreneurship.

- Complementarities between Horizon Europe and the Erasmus programmes are explicitly foreseen in the Horizon Europe proposal. Complementary to the Erasmus programme, Horizon Europe funding will be made available to the European Universities initiative, where relevant, to finance its research dimension.

What will be the eligibility indicator?

The eligibility indicator for sharing excellence actions would apply to Member States and Associated Countries. It is set in the legal act and will be calculated at the start of Horizon Europe in 2020. It will include: economic performance measured by GDP, innovation by patents and research performance by top-10% highly cited publications.

Why are outermost regions eligible in the sharing excellence part?

Article 349 TFEU advocates for special conditions for outermost regions as they face specific constraints to their economic and social development as, for example, remoteness, insularity, small size and dependence on a limited number of local industries. COM (2017)623 on "The Outermost Regions of the European Union: Towards a new approach" proposes a series of measures to favour R&I in the regions, including to give particular attention to their assets and specific needs when drawing up the future EU Research and Innovation Framework Programmes.

Will there be any evolution in Twinning, Teaming and ERA-chairs compared to Horizon 2020?

The main evolution will be the inclusion of research cost and tighter conditions on the co-financing for Teaming. The consideration of research costs would be implemented in a customized manner due to the particular nature of the instrument. E.g. for Teaming the budget share for equipment (not major infrastructure) and consumables could be increased from 1 to 10% in order to facilitate scientific preparatory work in the start-up phase. For Twinning action research work could be either financed by using Research and Innovation Actions instead of Coordination and Support Actions or attaching a restricted call for small Research and Innovation Actions for successful Twinning applicants. For ERA Chair more flexibility for small equipment and consumables and restricted calls for small research projects could be considered.

Why is COST included in the Sharing Excellence part of Horizon Europe?

The integration of COST under Sharing Excellence acknowledges the great merits of COST for the integration of researchers from less performing countries already under Horizon 2020 and before. COST has an important role as a pre-portal to the EU FPs and as a low entry mechanism into EU research initiatives. Nevertheless, the principles of excellence and bottom up remain untouched.

Will there be multiannual funding for COST?

This is a technical matter of budget planning.

What is meant by "aftercare" activities in the Policy Support Facility (PSF)?

After a Policy Support Facility project is ended, some follow-up takes place. The concrete follow-up activities can be diverse, e.g. for Mutual Learning Exercise it could be a workshop one year after the end of the project to discuss implementations of the recommendations. It still to be explored what are the most effective ways to support the implementation of the PSF recommendations in various types of situations.

How will PSF work with the Structural Support Reform Service and Reform Delivery tool?

The Structural Reform Service can provide technical assistance for implementing the recommendations resulting from PSF projects. The synergies with the Reform Delivery Tool could include support to

recommendations resulting from a PSF project endorsed by the Commission in the context of the European Semester; or using the PSF to provide guidance on how to implement reforms agreed between a Member State and the Commission in the context of the Reform Delivery Tool.

What are the links between PSF and the European Semester?

- The Semester can feed the PSF, as the challenges identified and recommendations issued in the context of the Semester (Country Specific Recommendations) can be the base of PSF projects (PSF projects about how to address these challenges, implement those recommendations);

- The PSF projects can feed the Semester, as their analyses are used by RTD country desks, who monitor the implementation of the PSF recommendations in the context of the Semester.

What support is envisaged for the dissemination and exploitation of results?

The Commission has been providing dedicated/tailor-made support to FP7 and Horizon 2020 beneficiaries via external contractors that help build dissemination and exploitation capacity (Common Dissemination Booster 2017-2019 and the Common Exploitation Booster 2016-2018). Similar activities could be continued in Horizon Europe.