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PROPUESTA

De: Por la secretaria general de la Comisión Europea, D.^a Martine DEPREZ,
directora

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Asunto: Proposal for a COUNCIL REGULATION establishing the Joint
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Proposal for a

COUNCIL REGULATION

establishing the Joint Undertakings under Horizon Europe

{SEC(2021) 100 final} - {SWD(2021) 37 final} - {SWD(2021) 38 final}

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

- **Reasons for and objectives of the proposal**

Horizon Europe – the new EU Framework Programme for Research and Innovation (2021-2027) – aims to increase the EU’s research and innovation impact by combining European partnership co-investment with additional private and public sector funds in areas where the scope and scale of the research and innovation resources can help achieve the EU's Horizon Europe priorities notably, its Pillar II – Global challenges and European industrial competitiveness.

[Article 8(1)(c)] of the Horizon Europe Regulation stipulates that institutionalised European partnerships based on Article 185 and 187 TFEU “*shall be implemented only where other parts of the Horizon Europe programme, including other forms of European partnerships would not achieve the objectives or would not generate the necessary expected impacts, and if justified by a long-term perspective and high degree of integration*”.

In the Horizon Europe Regulation, the co-legislators have also identified eight priority areas for possible institutionalised European partnerships on the basis of Articles 185 or 187 TFEU. Based on this, a set of twelve initiatives were identified as candidates that were subject to a coordinated impact assessment¹.

This proposal covers nine institutionalised European partnerships based on Article 187 TFEU, establishing individual joint undertakings for their implementation. In addition, the European Commission also adopted a proposal for an institutionalised European Partnership for high performance computing, based on Article 187 TFEU [COM(2020) 569 final], and it plans to adopt a proposal for a European partnership on metrology, based on Article 185 TFEU [add reference]. Two initiatives – one on cooperative, connected and automated mobility and another one on innovative small and medium-sized enterprises - were also among the initial candidate institutionalised European partnerships. However, the impact assessment process concluded that another intervention form would be more appropriate.

- **Consistency with existing policy provisions in the policy area**

As part of the Multiannual Financial Framework (MFF) for 2021-2027, Horizon Europe will be more impact driven with a strong focus on delivering European added value. It will also be implemented more effectively and efficiently, notably by ensuring coherence, coordination and complementarity within Horizon Europe, as well as with other EU, local, regional, national and, where relevant, international initiatives and with their related funding sources.²

¹ Only 12 were subject to the coordinated impact assessment, as one high performance computing initiative was included in a 2017 impact assessment (SEC(2018) 47).

² EC (2018) A Modern Budget for a Union that Protects, Empowers and Defends. The Multiannual Financial Framework for 2021-2027. Communication from the Commission to the European Parliament, the

Horizon Europe aims to respond to the global challenges that the EU is facing, which call for “a radical new approach to developing and deploying new technologies and innovative solutions for citizens and the planet on a scale and at a speed never achieved before, and to adapting our policy and economic framework to turn global threats into new opportunities for our society and economy, citizens and businesses.” While Horizon Europe continues the efforts to strengthen the EU’s scientific and technological bases and foster competitiveness, it takes a more strategic and impact-based approach to EU research and innovation investment. Consequently, the **objectives of Horizon Europe** highlight the need “to deliver on the Union strategic priorities and contribute to the realisation of EU objectives and policies, contribute to tackling global challenges, including the Sustainable Development Goals by following the principles of the Agenda 2030 and the Paris Agreement.”³

European partnerships are key approaches in Horizon Europe. They complement the existing policy framework by addressing the global challenges and EU priorities that require critical mass and a long-term vision that is agreed and committed to by the respective sectors. The challenges of climate and environmental change, attaining European technological leadership and open strategic autonomy, and ensuring a sustainable and inclusive recovery require directing dispersed research and innovation efforts towards a shared vision on the required transformation process.

By teaming up with both the public and private sectors, European partnerships help speed up new solutions, particularly those that can decrease greenhouse gas emissions by 2030 in line with the European Green Deal targets, and help achieve the green and digital transitions. They enable systematic engagement with a variety of stakeholders and end users, including standardisation bodies and international partners to ensure that these solutions are taken up and can ultimately deliver on the ambitious goals. They also help to strengthen the European Research Area by aligning research and innovation agendas, improving skills, and increasing the absorption capacities of European businesses.

The nine institutionalised European partnerships based on Article 187 TFEU are fully in line with the Horizon Europe’s new impact-driven policy approach to European partnerships. They make up part of the portfolio of 49 candidate European partnerships, thereby ensuring a coherent landscape. As part of the strategic planning, it was decided that institutionalised European partnerships would be used for the objectives and impacts that could not be achieved by other forms of European partnerships and for those priorities with a long-term perspective and high degree of integration.

- **Consistency with other Union policies**

As part of the 2021-2027 MFF, Horizon Europe - the new EU Framework Programme for Research and Innovation will play a central role leading the social, economic, and environmental transitions needed to achieve EU policy priorities. Under Horizon Europe’s strategic planning process, the first strategic plan for 2021-2024 has been developed. The key strategic orientations for research and innovation support, co-designed with stakeholders, are fully in line with EU priorities. The actions under Horizon Europe’s Pillar II “Global

European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, COM(2018) 321 final.

³ Article 3, Common understanding on the proposal for a Horizon Europe Framework Programme.

Challenges and European Industrial Competitiveness” will therefore target selected high impact themes that can significantly contribute to delivering on the EU’s political priorities.

The European partnerships are firmly set within the context and structure of Horizon Europe, societal challenges that constitute Horizon Europe’s Pillar II research and innovation priorities. They will play an important role in achieving the Commission’s strategic objectives, namely, accelerating the transition towards a green, climate neutral, and digital Europe, while strengthening the resilience and competitiveness of European industry. The contribution of the nine institutionalised European partnerships covered by the proposal to EU priorities are as follows:

Circular Bio-based Europe: This partnership contributes significantly to the 2030 climate targets, paving the way for climate neutrality by 2050, and increase the sustainability and circularity of production and consumption systems, in line with the European Green Deal. It aims to develop and expand the sustainable sourcing and conversion of biomass into bio-based products by focusing on multiscale biorefinery processing, and, by applying circular economy approaches such as utilisation of biological waste from agriculture, industry and municipal sectors. It also aims to support the deployment of bio-based innovation at regional level with an active involvement of local actors and with a view to reviving rural, coastal and peripheral regions.

Clean Aviation: This partnership puts aviation en route to climate neutrality, by accelerating the development, integration, and validation of mainly disruptive research and innovation solutions so that they can be deployed as soon as possible. It also aims to develop the next generation of ultra-efficient low-carbon aircraft, with novel power sources, engines, and systems, which will emerge from the research and demonstration phase at a high technology readiness levels (TRL). Supporting aviation research and innovation improves competitiveness and employment in the aviation sector that will be especially important for the recovery. Some objectives to be achieved by 2030: demonstrate disruptive aircraft technological innovations able to decrease net emissions of greenhouse gasses by no less than 55% by 2030, compared to 1990 levels and on a pathway towards reaching climate neutrality by 2050.

Clean Hydrogen: This partnership will accelerate the development and deployment of European value chain for clean hydrogen technologies, contributing to a sustainable, decarbonised and fully integrated energy system and to the communication on "a hydrogen strategy for a climate-neutral Europe” (COM/2020/301). Focus is placed on producing, distributing and storing clean hydrogen and, supplying hard to decarbonise sectors such as heavy industries and heavy-duty transport applications. Some objectives by 2030: produce clean hydrogen at ~€1.5-3/kg, which will require reaching the 2030 targets in efficiency improvement and lowering CAPEX costs. In addition, this also assumes the availability of renewable electricity at favourable prices, as well as allowing penetration into mass markets, and reducing distribution costs to less than EUR 1/kg of hydrogen at scale.

Europe’s Rail: This partnership will speed up the development and deployment of innovative technologies (especially digital and automation) to achieve the radical transformation of the rail system and deliver on European Green Deal objectives, for example, shift a substantial part of the 75% of inland freight carried by road towards transport by rail and inland waterways. The partnership will develop solutions that are widely supported across the EU,

resulting in a market uptake of up to 75% by 2030, improving the competitiveness of rail and supporting the European technological leadership in rail.

Global Health EDCTP3: This partnership will deliver new solutions for reducing the burden of infectious diseases in sub-Saharan Africa, and strengthen research capacities to prepare and respond to re-emerging infectious diseases in sub-Saharan Africa and across the world. By 2030 it aims to have progressed to license at least two new health technologies tackling infectious diseases, and to have supported at least 100 research institutes in 30 countries to enable effective and rapid research response to develop health technologies against re-emerging epidemics.

Innovative Health Initiative: This initiative will help create an EU-wide health research and innovation ecosystem that facilitates the translation of scientific knowledge into tangible innovations. It will support the development of safe, effective, people-centred and cost-effective products and services that target key unmet public health needs and drive cross-sectoral health innovation for a globally competitive European health industry. It will cover prevention, diagnostics, treatment and disease management. Some of its 2030 targets would include launching at least 30 large scale cross-sectoral projects, focusing on health innovations as well as exhibiting the feasibility of integrating health care products or services. The initiative will contribute to reaching the objectives of Europe's Beating Cancer Plan⁴, the new Industrial Strategy for Europe⁵ and the Pharmaceutical Strategy for Europe⁶.

Key Digital Technologies: Key digital technologies encompass electronic components, their design, manufacture and integration in systems and the software that defines how they work. The overarching objective of this partnership is to support the digital transformation of all economic and societal sectors, make the transformation work for Europe and support the European Green Deal. By 2030 it aims that EU leadership in key digital technologies will strengthen industrial strongholds, having seized emerging opportunities to establish technological sovereignty and boost competitiveness.

Single European Sky ATM Research: The initiative aims to digitally transform air traffic management, to make European airspace the most efficient and environmentally friendly sky to fly in the world and to support the competitiveness and recovery of Europe's aviation sector following the COVID-19 crisis. Goals include: improving connectivity, air-ground integration and automation, increasing flexibility and scalability of airspace management and the safe integration of unmanned aircraft. By 2030 it aims to have delivered the solutions identified in the European Air Traffic Management Master Plan for Phase D at TRL 6.

Smart Networks and Services: This partnership will support technological sovereignty for smart networks and services in line with the new industrial strategy for Europe and the 5G cyber-security toolbox. It aims to help resolve societal challenges and to enable the digital and green transition. For the COVID-19 crisis, it will support technologies that respond to both the health crisis and the economic recovery. The partnership will enable European players to develop the technology capacities for 6G systems as a basis for future digital services towards 2030. It will help lead markets for 5G infrastructure and services to develop in Europe by coordinating 5G deployment with Connecting Europe Facility 2 Digital (CEF).

⁴ <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12154-Europe-s-Beating-Cancer-Plan>.

⁵ COM(2020) 102.

⁶ COM(2020) 761.

2. LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

- **Legal basis**

These proposals for institutionalised European partnerships are based on Article 187 TFEU according to which the EU may set up joint undertakings or any other structure necessary to efficiently carry out EU research, technological development and demonstration programmes.

- **Subsidiarity (for non-exclusive competence)**

Research is a shared competence between the EU and its member states according to the TFEU. Article 4 (3) specifies that in the areas of research, technological development and space the EU can carry out specific activities, including defining and implementing programmes, without affecting the member states' freedom to act in the same areas.

The proposed initiatives focus on areas where there is a demonstrable value added in acting at EU level due to the scale, speed and scope of the efforts needed for the EU to meet its long-term Treaty objectives and deliver on its strategic policy priorities and commitments. The proposed initiatives should also complement and reinforce national and sub-national activities in the same area.

As European partnerships are based on a common long-term Strategic Research and Innovation Agenda, they are well suited to address complex cross-border challenges. They are able to address a set of systemic, market and transformational failures, which is a pre-condition for accelerating the development and diffusion of innovations. They focus on:

- strengthening collaboration and knowledge exchange between key actors in the European research and innovation system, including cross-disciplinary and cross-sectoral collaboration and an improved integration of value chains and ecosystems;
- ensuring alignment and integration of European, national / regional and industrial research and innovation strategies, programmes and investments with the agreed directions;
- creating critical scales of investments on common priorities and increasing private investment in research and innovation;
- reducing risks and uncertainties for industry that are related to investing in research and innovation activities and new technologies / solutions by sharing risks and providing investment predictability.

Action at national level or by industry alone cannot achieve the scale, speed and scope of research and innovation support needed for the EU to meet its long-term Treaty objectives, deliver on its strategic policy priorities (including the climate and energy goals set out in the Paris Agreement, and the European Green Deal), and to contribute to tackling global challenges and meeting the Sustainable Development Goals (SDGs).

- **Proportionality**

The proportionality principle underpins the entire approach that led to this proposal. The political and legal context has changed since the current partnerships were established. There is now a greater focus on the need to rationalise key EU policy priorities and ensure they have a measurable impact. Given the new context, it is important to only opt for a European Partnership when there is a real and demonstrable added value. Each institutionalised European partnership must therefore prove its added value — notably that its objectives cannot be more effectively achieved through simpler means, including the default approach of traditional Horizon Europe calls or simpler partnership forms, such as “co-programmed partnerships”.

The proportionality of the candidate partnerships was assessed according to the following two-step logic:

- (1) Justification of the use of a partnership approach in a given area (including considerations on additionality, directionality and a link with strategic priorities) instead of other forms of intervention available under Horizon Europe;
- (2) If the partnership approach is deemed appropriate, proportionality considerations guided the assessment of which type of partnership (co-programmed, co-funded or institutionalised partnership) would be most effective in achieving the intended objectives.

- **Choice of instrument**

This proposal aims to establish nine joint undertakings based on Article 187 TFEU. For this kind of structure, Article 188(1) TFEU requires the adoption of a Council Regulation.

3. RESULTS OF EX-POST EVALUATIONS, STAKEHOLDER CONSULTATIONS AND IMPACT ASSESSMENTS

- **Ex-post evaluations/fitness checks of existing legislation**

Conclusions of past evaluations were thoroughly considered in developing Horizon Europe. These findings have also shaped the new impact-based approach for partnerships and have helped to operationalise the criteria for their selection, implementation, monitoring, and phasing out. As indicated in Annex 5 of Horizon Europe’s impact assessment, the areas for improvement were the following:

- The Horizon 2020 interim evaluation concluded that the overall partnership landscape had become overly complex and fragmented. While the overall number of research and innovation partnerships in Horizon 2020 is about 100, they represent on average about 25% of the available Horizon 2020 budget with public-private partnerships (PPP) accounting for about 17.5% of the Horizon 2020 budget. The interim evaluation identified the need to rationalise the overall European research and innovation partnership landscape, improve their partnerships’ openness and transparency and link them with future EU research and innovation strategic priorities and Horizon Europe missions.

- The Article 187 evaluation pointed out that PPP activities need to be aligned with EU, national and regional policies. It recommended a revision of the key performance indicators as well as the inclusion of a wider range of stakeholders in the governance structures or in submitted proposals. It also highlighted the need to improve and enforce communication particularly, to ensure effective dissemination of project results.

For individual initiatives, the thematic parts of each impact assessment accompanying this proposal explain how lessons from past evaluations, both positive and negative, have also been applied.

- **Stakeholder consultations**

This proposal and the accompanying impact assessments were subject to a wide stakeholder consultation, both during the preparation of the Horizon Europe proposal and later on for all European partnership candidates:

- Member states were consulted through the Horizon Europe Programme Committee’s ‘Shadow Strategic Configuration’;
- An open public consultation (OPC) for candidates for institutionalised partnerships based on Article 185 and 187 of the TFEU was held between 11 September and 6 November 2019 and generated over 1 600 replies;
- Targeted consultations were held to prepare the impact assessments for 12 candidate institutionalised partnerships. For each candidate, an external consultant interviewed a representative sample of stakeholders, asking their opinion on the need for and added value of EU action.

The findings of all stakeholder consultations have been integrated in the individual impact assessments accompanying the proposed partnerships and have helped determine the selection of the preferred mode of implementation.

- **Collection and use of expertise**

To prepare the impact assessment for this proposal, the Commission asked an external contractor to carry out a study on the candidate institutionalised partnerships and to develop a common methodology for assessing the effectiveness, efficiency, coherence and Union added value of the initiatives to ensure comparability. The external study is publicly available at the EU Bookshop and is referred to in the impact assessments for each initiative. The Commission used the evidence collected for the study, particularly on stakeholder opinions, ex-post evaluation results, identification of the problems to be addressed and expected impacts of the policy options, but also conducted its own analysis of this information in light of recent policy changes and additional evidence that became available following the conclusion of the study.

- **Impact assessment**

Once the candidate institutionalised European partnerships were identified, the impact assessment process was launched to identify the most suitable implementation arrangement for each initiative from the following policy options:

Option 0 – Baseline option – Traditional calls under the framework programme

Option 1 – Co-programmed European partnership

Option 2 – Co-funded European partnership

Option 3 – Institutionalised partnership

- Sub-option 3a institutionalised partnerships based on Art 185 TFEU
- Sub-option 3b institutionalised partnerships based on Art 187 TFEU.

The comparative assessment of the merits of each option included an analysis of the relevance of the intervention, its proportionality and effectiveness in achieving the intended objectives. This resulted in a tailored approach being suggested for each candidate, ranging from administratively lighter forms of cooperation to institutionalised ones, depending on the intended policy objectives, specific challenges and desired outcome identified for each candidate.

The individual impact assessments were presented to the Regulatory Scrutiny Board in three separate hearings between March and June 2020. Two impact assessments received a positive opinion on their first reading, six received a positive opinion with reservations and four received a negative opinion and had to be resubmitted to the Board. The main criticisms for the cases that received a negative opinion concerned: the scope of the proposed initiative, the need to clarify the problems and objectives that the proposed initiative could effectively tackle under the next framework programme, the impact of discontinuing a pre-existing initiative (where applicable) and, in some instances, the difference between the preferred option and other alternatives.

The four impact assessments with a negative opinion on first reading were resubmitted. Three of them received a positive opinion with reservations and the fourth received a positive opinion.

- **Regulatory fitness and simplification**

The proposed initiatives respond to the need to simplify the approach to partnerships as put forward by the Horizon Europe proposal. This need was endorsed by the Parliament and the Council. As a result, it was agreed that Horizon Europe would support three types of partnership: co-funded, co-programmed and institutionalised (based on Article 187 or 185 TFEU and EIT KICs). This is in line with the spirit of the Regulatory Fitness and Performance Programme (REFIT).

The impact assessment accompanying this proposal looks at all initiatives separately, but also takes a cross-cutting approach, identifying ways to increase efficiency and coherence, and

therefore maximise each partnership's impact. It identifies common elements that will help all initiatives meet their objectives while reducing costs, for example by adapting the governance arrangements to ensure coherence with other initiatives. This approach is fully in line with the better regulation framework and simplification efforts.

The Single Basic Act contributes to the goal of rationalising the EU research and innovation funding landscape and to a strategic and impact-driven approach to European partnerships. The Horizon Europe Regulation includes several common requirements for setting up and implementing European partnerships. By adopting a modular approach, the Single Basic Act allows the common provisions for all joint undertakings to be translated coherently (in Part One) allowing sufficient flexibility to meet the specific needs of each of them (in Part Two).

- **Fundamental rights**

This Regulation respects fundamental rights as set out in the Charter of Fundamental Rights of the European Union.

Most of the proposed initiatives do not have a direct impact on fundamental rights. When they do, a specific assessment is included in section 6 of each impact assessment.

4. BUDGETARY IMPLICATIONS

The maximum Union financial contribution to the joint undertakings shall be EUR 9 600 million⁷, including EFTA contributions, paid from the appropriations in the general budget of the Union allocated to the Horizon Europe Specific Programme implementing the Horizon Europe Framework Programme. This contribution will be made from Pillar II 'Global Challenges and Industrial Competitiveness'. The funds made available by the Union to cover operational costs will be at least matched by contributions from members other than the Union.

The administrative costs of the joint undertakings shall not exceed EUR 501.174 million for the duration of the joint undertakings. These costs will be covered through financial contributions by the Union and the members other than the Union.

5. OTHER ELEMENTS

- **Implementation plans and monitoring, evaluation and reporting arrangements**

The partnerships will be monitored and evaluated in line with Articles 45 and 47 and Annex III of the Horizon Europe Regulation. The interim and ex-post evaluations will be supported by external contractors and fed into the overall Horizon Europe evaluations. In accordance with the criteria set for European partnerships, the evaluations will assess the most effective policy intervention mode for any future action, as well as the possible renewal of the partnership within the overall European partnerships landscape. In the absence of renewal,

⁷ Indicative amount in current prices.

appropriate measures will be developed to ensure the phasing-out of framework programme funding according to the conditions and timeline agreed with the partners of the partnership.

- **Detailed explanation of the specific provisions of the proposal**

The institutionalised European partnerships are designed to increase coherence and to maximise impact in an evolving research and innovation landscape. The proposed Council Regulation consists of three parts:

- Part One contains provisions common to all joint undertakings with the aim to streamline and harmonise the legal boundary conditions and provide a modular approach on which individual joint undertakings can base their operational architecture.
- Part Two contains provisions that are specific to individual joint undertakings that allow for the necessary flexibility to take into account operational and policy needs.
- Part Three contains final provisions applicable to all joint undertakings.
- Article 4: **objectives and principles** for joint undertakings are firmly set within the objectives and structure of Horizon Europe, and closely linked to the achievement of EU policy objectives. A set of common objectives has been identified based on the coordinated impact assessment.
- Article 5: **operational objectives and tasks** – these provisions reflect the requirements and implementation criteria for European partnerships, including the need to ensure a systemic approach in achieving the objectives, access to results, monitoring to track progress towards policy objectives, the promotion of inclusiveness towards stakeholders and the involvement of small and medium-sized enterprises.
- Article 7: sets out a common process for selecting new members, thereby ensuring transparency and openness across the initiative, in line with the Horizon Europe Regulation.
- Article 11: provides a framework to ensure **partners' contributions** throughout the initiative's lifetime and that the costs are shared between the EU and the partners other than the Union, which is a core condition of a partnership approach. This article stipulates that contributions and commitments must increase, in a qualitative and quantitative manner, in line with the Horizon Europe Regulation. It establishes a systemic approach to contributions from industry partners across all Article 187 TFEU initiatives that is accountable, supports the openness of initiatives and is coherent, transparent, and fair, while ensuring the attractiveness of the initiative for new members.
- **Phasing out:** provisions are closely linked to the achievement of specific objectives. Article 16(2)(y) requires the governing board to set out a realistic plan to continue the initiative outside the scope of an institutionalised partnership, by the end of 2022, in time to feed into the interim evaluation of Horizon Europe. This should ensure that dissemination activities continue after Union participation has ended and that links

with industrial and other policies are made in order to transition the initiative from research and innovation towards deployment.

- **Governance provisions:** harmonise the functioning of the different bodies across the joint undertakings. Each joint undertaking is supported by advisory groups in order to have scientific and expert advice, consult stakeholders, and involve member states (if they are not partners). However, there is flexibility for joint undertakings to use existing configurations for advisory function or establish one configuration that serves more than one of them.
- **Coherence and synergies** (Articles 5, 16, 18, 24): The Horizon Europe Regulation stipulates that “Coordination and/or joint activities with other relevant research and innovation initiatives to secure optimum level of interconnections and ensure effective synergies”. In line with this, Part One sets out how joint undertakings are expected to collaborate with other partnerships, and interact with the broader ecosystem, notably on their tasks and those of their governing board, the role of the states’ representatives group and reporting via the annual activity report. Part two lists some priority European partnerships with which individual joint undertakings are expected to establish a formal and regular collaboration.

Proposal for a

COUNCIL REGULATION

establishing the Joint Undertakings under Horizon Europe

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 187 and the first subparagraph of Article 188,

Having regard to the proposal from the European Commission,

Having regard to the opinion of the European Parliament⁸,

Having regard to the opinion of the European Economic and Social Committee⁹,

Whereas:

- (1) In order to achieve the greatest possible impact of Union funding and the most effective contribution to the Union's policy objectives, Regulation [XXXX] of the European Parliament and of the Council¹⁰ (the ‘Horizon Europe Regulation’) established the policy and legal framework for European partnerships with private and/or public sector partners. European partnerships are a key element of the policy approach of Horizon Europe. They are set up to deliver on Union priorities targeted by Horizon Europe and ensure clear impact for the EU and its people, which can be achieved more effectively in partnership, through a strategic vision that is shared and committed to by partners, rather than by the Union alone.
- (2) In particular, European partnerships in the “Global Challenges and European Industrial Competitiveness” pillar of Horizon Europe play an important role in achieving the strategic objectives such as accelerating the transitions towards sustainable development goals and a green and digital Europe and should contribute to recovery from the unprecedented COVID-related crisis. European partnerships address complex cross-border challenges that require an integrated approach. They make it possible to address the transformational, systemic and market failures described in the impact assessments accompanying this Regulation by bringing together a broad range of players across the value chains and ecosystems to work towards a common vision and translating it into concrete roadmaps and coordinated implementation of activities. Furthermore, they allow concentrating efforts and resources on common priorities to solve the complex challenges.

⁸ OJ ... [EP opinion]

⁹ OJ ... [ESC opinion]

¹⁰ OJ [...].

- (3) To deliver on priorities and impact, European partnerships should be developed through a broad involvement of relevant stakeholders across Europe including 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. They should also be one of the measures to strengthen cooperation between private and/or public sector partners at the international level including by joining up research and innovation programmes and cross-border investment in research and innovation bringing mutual benefits to people and businesses while ensuring that the Union can uphold its interests in strategic areas.
- (4) The interim evaluation of Horizon 2020 revealed that a considerable repertoire of partnership instruments and initiatives have been introduced over time, with seven forms of implementation and close to 120 partnership initiatives running under Horizon 2020. In addition to the complexity generated by the proliferation of instruments and initiatives, it has been assessed that their ability to contribute to related policies at Union and national level as a whole is not sufficient despite the fact that they deliver several positive impacts in progressing towards their objectives, for example by setting long-term agendas, structuring research and innovation cooperation between otherwise dispersed actors, and leveraging additional investments. The impact assessment of Horizon Europe identifies therefore the need to address and to rationalise the Union research and innovation funding landscape, in particular with respect to partnerships, as well as to re-orient partnerships towards more impact and delivery on Union priorities.
- (5) To address such concerns and to achieve the higher ambition for European investments, Horizon Europe should put forward a major simplification and reform for the Commission’s policy on research and innovation partnerships. In order to reflect its systemic nature aimed at contributing to Union-wide ‘transformations’ towards the sustainability objectives, Horizon Europe should make a more effective use of these partnerships with a more strategic, coherent and impact-driven approach.
- (6) Regulation (EU) 2020/852¹¹ establishes the general framework for determining whether an economic activity qualifies as environmentally sustainable for the purposes of defining sustainable investments. It creates a common reference that investors, banks, industry and researchers can use when investing in projects and economic activities that have a substantial positive impact on climate and environment and no significant harm on any of them. It is the reference for green investments in the Union.
- (7) Where relevant, partnerships should consider Technical Screening Criteria as of Art. 3 and the “Do No Significant Harm” principle as of Art. 17 of the Regulation (EU) 2020/852 as an instrument to improve their projects readiness and access to green financing that will be crucial for market uptake and wider deployment of the innovative technologies and solutions they will deliver. Scientific evidence is at the core of the Technical Screening Criteria. Research and innovation, pursued by Partnerships, should play an important role to help economic operators reach or go

¹¹Regulation (EU) 2020/852 of the European Parliament and the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (OJ L 198, 22.6.2020, p. 13).

beyond the standards and thresholds set up in the Regulation and to keep the Technical Screening Criteria up-to-date and consistent with the European Green Deal objectives.

- (8) On the basis of the Horizon Europe Regulation, it should be possible for the European partnerships to be set up using three different forms namely, “co-funded”, “co-programmed” and “institutionalised”. The setting-up of institutionalised partnerships should involve new Union legislation and the establishment of dedicated implementing structures pursuant to Article 185 or Article 187 of the Treaty on the Functioning of the European Union (TFEU).
- (9) The Horizon Europe Regulation defines eight priority areas, in which institutionalised partnerships could be proposed. Across those priority areas, several initiatives for institutionalised partnerships are put forward and nine of them are covered by this Regulation.
- (10) The research and innovation activities undertaken by the joint undertakings should be funded from Horizon Europe. To achieve maximum impact, the joint undertakings should develop close synergies with other Union programmes and funding instruments, particularly with those supporting the deployment of innovative solutions, education and regional development, in order to increase economic and social cohesion and reduce imbalances.
- (11) The new policy approach for European Partnerships, and in particular institutionalised European partnerships, calls for a novel way of establishing the legal framework under which they would operate. While the setting up of joint undertakings on the basis of Article 187 TFEU for the purpose of Horizon 2020 has proven to be effective as far as the implementation is concerned, it is necessary to step it up. Therefore, this Regulation aims at increasing the coherence, efficiency, effectiveness and impact-orientation of implementation through translating the Horizon Europe provisions, and the experience gained from programme implementation under Horizon 2020 into common provisions across the joint undertakings in a harmonised way. It aims at facilitating the creation of collaboration and synergies between European partnerships, thereby making full use of their interconnections at the organisational level. Joint undertakings should seek opportunities to involve representatives of other European partnerships in discussions during the drafting of their work programmes, identify the areas in which complementary or joint activities would address the challenges more effectively and efficiently, avoid overlaps, align timing of their activities and ensure access to results and other relevant means of knowledge exchange.
- (12) Following the identification of synergies between them, joint undertakings should aim to determine budget shares which should be used for complementary or joint activities between joint undertakings. Moreover, this Regulation aims at achieving improved efficiencies and harmonisation of the rules through intensified operational collaboration and by exploring economies of scale, including the establishment of a common back office, which should provide horizontal support functions to the joint undertakings. The common back office should make it easier to achieve greater impact and harmonisation on common points while retaining a certain degree of flexibility to meet the specific needs of each joint undertaking. The structure should be established using service level agreements to be concluded jointly by the joint undertakings. The common back office functions should cover coordination and administrative support functions in areas where its screening has proved efficient and cost-effective and

should take into account the compliance with the requirement of accountability of each individual authorising officer. The legal setup should be designed to best serve the common needs of the joint undertakings, to ensure their close collaboration and to explore all possible synergies among the European partnerships and, as a consequence, between the various parts of the Horizon Europe programme as well as between the other programmes managed by the joint undertakings.

- (13) The impact assessments regarding each joint undertaking established by this Regulation, have provided evidence that justifies the implementation of partnerships in accordance with the Horizon Europe Regulation only where other parts of the Horizon Europe programme, including other forms of European partnership would not achieve the objectives or would not generate the necessary expected impacts, whereby such implementation is justified by a long-term perspective and high degree of integration.
- (14) Horizon Europe introduces a more strategic, coherent and impact-driven approach to European partnerships, building on the lessons learned from the Horizon 2020 interim evaluation. In line with the new ambition, this Regulation aims at a more effective use of institutionalised European partnerships notably by focusing on clear objectives, outcomes and impact that can be achieved by 2030, and by ensuring a clear contribution to the related Union policy priorities and policies. Close collaboration and synergies with other relevant initiatives at Union, national and regional level, in particular with other European partnerships, are key in achieving greater impact and ensuring take up of results. In assessing the overall impact, broader investments beyond the contributions from partners and triggered by the joint undertakings that contribute to achieving their objectives should be taken into account.
- (15) This Regulation is based on the principles and criteria set out in the Horizon Europe Regulation, including openness and transparency, a strong leverage effect and long-term commitments of all the involved parties. One of the objectives of this Regulation is to ensure the openness of the initiatives to a broad range of entities, including newcomers. The partnerships should be open to any entity that is willing and capable to work towards the common goal, and promote broad and active participation of stakeholders in their activities, membership and governance, and to ensure that the results would be for the benefit of all Europeans, notably through a broad dissemination of results and pre-deployment activities across the Union.
- (16) For actions related to Union strategic assets, interests, autonomy or security, the measures set out in [Article 16] of the Horizon Europe Regulation, should be applicable to work programmes of joint undertakings.
- (17) [Annex III] of the Horizon Europe Regulation requires that the financial and/or in-kind contributions from partners other than the Union will at least be equal to 50% and may reach up to 75% of the aggregated European Partnership budgetary commitments. Consequently, this Regulation should set out the required contribution from the members of joint undertakings at the same level or higher than the Union contribution. The Union should be in a position to reduce its contribution if members other than the Union fail to fulfil their commitments.
- (18) In line with the ambitions set out in the Horizon Europe Regulation, one of the preconditions of setting up institutionalised partnerships is ensuring partner's contributions throughout the lifetime of the initiatives. In this context, private partners

should deliver a significant part of their contributions in the form of in-kind contributions to operational costs of the joint undertaking. Joint undertakings should be able to seek measures to facilitate these contributions through their work programmes, notably by reducing funding rates. These measures should be based on the specific needs of a joint undertaking and the underlying activities. In justified cases, it should be possible to introduce additional conditions that require the participation of a member of the joint undertaking or their constituent or affiliated entities, targeting activities where the industrial partners of the joint undertaking can play a key role, such as large-scale demonstrations and flagship projects, and contribute more via lower funding rates. The level of participation of members should be monitored by the executive director in order to empower the governing board to take appropriate actions, ensuring a balance between commitment from partners and openness. In duly justified cases, the capital expenditure for, e.g., large scale demonstrators or flagship projects, may be considered as an eligible cost in line with the applicable legal framework.

- (19) In line with the principle of fair sharing of contributions among the members of joint undertakings, financial contributions to the administrative costs of the joint undertakings should be divided equally between the Union and the members other than the Union. Deviations from that principle should only be considered in exceptional and duly justified cases such as where the size or the membership structure of a member of the joint undertaking other than the Union would result in contributions per constituent or affiliated entity, in particular small and medium-sized enterprises (SMEs), of such a high level that they would seriously jeopardise the incentive to become or remain a constituent or affiliated entity of the member of the joint undertaking. In such cases, the minimum percentage of annual financial contribution to the administrative costs of the joint undertaking from members other than the Union should be 20% of the total annual administrative costs and the contributions from SMEs should be significantly lower than those from larger constituent or affiliated entities. Once a critical mass of membership that allows for a contribution higher than 20% of the total annual administrative costs is reached, annual contributions per constituent or affiliated entity should be maintained or increased with the aim to gradually increase the share of the members other than Union in the overall contribution to the annual administrative costs of the joint undertaking. The members of the joint undertaking other than the Union should endeavour to increase the number of constituent or affiliated entities in order to maximise the contribution to 50% of the administrative costs of the joint undertaking over its lifetime.
- (20) The Horizon Europe Regulation requires the partners to show their long term commitment, including a minimum share of public and/or private investments. Consequently, it is necessary for the Union to identify in this Regulation founding members established in member states, countries associated to the Horizon Europe Programme or international organisations. However, where necessary, it should be possible to expand the membership base of joint undertakings after they are established with associated members selected following open and transparent procedures, taking into account in particular the new technological developments or the association of additional countries to the Horizon Europe Programme. Legal entities interested in supporting the joint undertakings' objectives in their specific areas of research, without becoming a member, should also be offered the possibility to become contributing partners of these joint undertakings.

- (21) The establishment of a joint undertaking ensures a mutually beneficial public-private partnership for the members involved, including by promoting certainty on major budget allocations for the relevant industries over a period of seven years. Becoming a founding member or associated member, or one of their constituent or affiliated entities, allows gaining influence, either directly or through the industry representatives, in the governing board of the joint undertaking. The governing board is the decision-making body of the joint undertaking that decides on the long-term strategic orientation of the partnership, as well as its annual priorities. Founding members and associated members and if applicable representing their constituent entities, should therefore be able to contribute to the joint undertaking's agenda and priority setting through the adoption and possible amendment of the Strategic Research and Innovation Agenda, as well as the adoption of the annual work programme, including the content of the calls for proposals, the applicable funding rate per call topic, and the related rules for submission, evaluation, selection, award and review procedures.
- (22) It is appropriate that the members other than the Union commit to the implementation of this Regulation by means of a letter of commitment. Those letters of commitment should be legally valid throughout the lifetime of the initiative and closely monitored by the joint undertaking and the Commission. Joint undertakings should create a legal and organisational environment that enables members to deliver on their commitments while ensuring continuous openness of the initiative and transparency during their implementation, notably for priority setting and for participation in calls for proposals.
- (23) Further simplification is a cornerstone of the Horizon Europe Framework Programme. In that context, there should be a simplified reporting mechanism for partners, who are no longer required to report on non-eligible costs. In-kind contributions to operational activities should be accounted solely on the basis of eligible costs. That allows for the automated calculation of in-kind contributions to operational activities via the Horizon Europe IT tools, lowers the administrative burden for partners and makes the reporting mechanism for contributions more effective. In-kind contributions to operational activities should be closely monitored by the joint undertakings and regular reports should be prepared by the executive director of the governing board in order to establish whether the progress towards reaching the in-kind contributions targets is satisfactory enough. The governing board should assess both the efforts made and the results achieved by the members contributing to operational activities, as well as other factors, such as the level of participation of SMEs and attractiveness of the initiative to newcomers. When necessary, it should take appropriate remedial and corrective measures taking into account the principles of openness and transparency.
- (24) The joint undertakings should provide a systematic opportunity and incentive for members other than the Union to combine their research and innovation activities with those of the joint undertaking. Additional activities should not receive financial support from the joint undertaking. However, they can be accounted as members' in-kind contributions when contributing to the objectives of the joint undertaking and directly linked to its activities. That link can be established through the uptake of results from indirect actions funded by the joint undertaking or its preceding initiatives, or by demonstrating a significant Union added-value. This Regulation should lay down more specific provisions concerning the scope of additional activities for each joint undertaking, to the extent that it is necessary to achieve the desired directionality and impact. It should be further decided by joint undertakings'

governing boards whether, for valuing the contributions, the use of simplifying methods such as lump-sums or unit costs is necessary to achieve simplification, cost effectiveness and appropriate level of protection of confidential commercial data.

- (25) The governance of joint undertakings should ensure that their decision-making processes are fit to keep pace with fast-changing socio-economic and technological environment and global challenges. Joint undertakings should benefit from the expertise, advice and support from all relevant stakeholders, in order to effectively implement their tasks and ensure synergies at Union and national level. Therefore, joint undertakings should be empowered to set up advisory bodies with a view to providing them with expert advice and carrying out any other task of an advisory nature that is necessary for the achievement of the joint undertakings' objectives. In setting up the advisory bodies, joint undertakings should ensure a balanced representation of experts within the scope of the activities of the joint undertaking, including with respect to gender balance. The advice provided by these bodies should bring in scientific perspectives as well as those of national and regional authorities and of other stakeholders of joint undertakings.
- (26) Joint undertakings should be able to set up an advisory body with a scientific advisory function. That body or its members should be in a position to provide independent scientific advice and support to the respective joint undertaking. The scientific advice should concern, in particular, annual work plans, additional activities as well as any other aspect of the joint undertakings' tasks, as necessary.
- (27) Joint undertakings should ensure that member states are sufficiently informed of the joint undertakings' activities, can provide timely information on activities undertaken in the member states and have the opportunity to contribute to the preparatory and decision-making processes. Such dialogue with member states is particularly important in the context of synergies and the need to ensure the alignment of efforts and activities at national, regional, Union and European level to create more impact. Joint undertakings without the direct or indirect participation of member states as partners should establish a State Representatives Group with the aim of aligning the joint undertakings' activities with the policies and actions taken at national and regional level.
- (28) With the view to ensuring that joint undertakings are aware of the positions and views of stakeholders from the entire value chain in their respective fields, joint undertakings should be able to set up their respective advisory stakeholders groups, to be consulted on horizontal issues or specific questions, as per the needs of each joint undertaking. Such groups should be open to all public and private stakeholders, including organised interest groups, and international interest groups from member states, associated countries as well as from other countries, active in the field of the joint undertaking.
- (29) The joint undertakings should operate in an open and transparent way, providing all relevant information in a timely manner to their appropriate bodies as well as promoting their activities, including information and dissemination activities, to the wider public.
- (30) The joint undertakings should be implemented using a structure and rules that enhance efficiency and ensure simplification. To that effect, the joint undertakings should

adopt financial rules specific to its needs in accordance with Article 71 of Regulation (EU, Euratom) No 2018/1046 of the European Parliament and of the Council¹².

- (31) The implementation of the joint undertakings should be based on the criteria set out for institutionalised partnerships in the Horizon Europe Regulation. It should be supported by the use of electronic means managed by the Commission. Information related to indirect actions funded by the joint undertakings, including results, is essential for the purposes of developing, implementing, monitoring and evaluating Union policies or programmes. Therefore, joint undertakings should ensure that Union institutions and Union bodies, offices or agencies have access to all information related to the indirect actions they fund, including results of beneficiaries participating in indirect actions. Such access rights should be limited to non-commercial and non-competitive use and should comply with applicable confidentiality rules. Staff of the Union institutions and Union bodies, offices or agencies should be granted access to this information subject to adequate IT security and information security standards and in accordance with the principles of necessity and proportionality.
- (32) Participation in indirect actions funded by the joint undertakings under Horizon Europe should comply with the rules set out in the Horizon Europe Regulation. The joint undertakings should ensure consistent application of those rules based on relevant measures adopted by the Commission. The joint undertakings should use the corporate model grant agreement prepared by the Commission. In relation to the period to object to transfers of ownership of results referred to in [Article 36(4)] of the Horizon Europe Regulation, the duration of innovation cycles in the areas covered by the respective joint undertakings should be taken into account.
- (33) One of the main purposes of joint undertakings is to foster the Union's economic capacities and in particular its scientific and technological sovereignty. Moreover, the post pandemic recovery highlights the need to invest in key technologies such as 5G, AI, cloud, cybersecurity and green tech and the valorisation of these technologies in the Union. Results generated by all participants will play an important role in this respect and all participants will benefit from the Union funding through the results generated in the project and access rights thereto, even those participants not having received Union funding. Therefore, to protect the Union interests, the right for joint undertakings to object to transfers of ownership of results or to grants of an exclusive licence regarding results should also apply to participants not having received Union funding. In exercising this right to object the joint undertaking should strike a fair balance between the Union interests and protection of fundamental rights on the results of the participants without funding in accordance with the principle of proportionality, taking into account that these participants did not receive any Union funding for the action from which the results were generated.
- (34) The Union financial contribution should be managed in accordance with the principle of sound financial management and with the rules on indirect management set out in Regulation (EU, Euratom) No 2018/1046.

¹²Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012 (OJ L 193, 30.7.2018, p. 1).

- (35) For the purpose of simplification, the administrative burden should be reduced for all parties. Double audits and disproportionate amounts of documentation and reporting should be avoided. Audits of recipients of Union funds under this Regulation should be carried out in compliance with the Horizon Europe Regulation and other relevant Union funding programmes.
- (36) The financial interests of the Union and of the other members of the joint undertakings should be protected through proportionate measures throughout the expenditure cycle, including the prevention, detection and investigation of irregularities, the recovery of funds lost, wrongly paid or incorrectly used and, where appropriate, administrative and financial penalties in accordance with Regulation (EU, Euratom) No 2018/1046. In view of the specific nature of the actions implemented by some of the joint undertakings requiring them to be phased out over several years, it should be possible to split multiannual budgetary commitments by the Commission and the relevant joint undertaking into annual instalments. In this respect, budgetary commitments of the joint undertakings referred to in points (b), (d) and (h) of Article 3(1) may be divided into annual instalments. Until 31 December 2024, the cumulative amount of those budgetary commitments shall not exceed 50 percent of the maximum Union contribution set out in Article 10 and Article 145. From 1 January 2025, at least 20 percent of the cumulative budget of the residual years shall not be covered by annual instalments.
- (37) In view of the specific nature and the current status of the joint undertakings, they should continue to be subject to a separate discharge. The auditing of accounts and of the legality and regularity of the underlying transactions should be undertaken by the Court of Auditors.
- (38) In accordance with [Article 8(2)(c)] of the Horizon Europe Regulation, joint undertakings should have a clear life cycle approach. In order to adequately protect the financial interests of the Union, joint undertakings should be set up for a period ending 31 December 2031 to allow them to exercise their responsibilities with regard to grant implementation until the last indirect actions launched have been completed.
- (39) In the context of the European Commission’s priority of “A European Green Deal”¹³ supported by the revised Union Bioeconomy Strategy¹⁴, the EU Biodiversity Strategy¹⁵, the Clean Planet for All Communication¹⁶, the Circular Economy Action Plan¹⁷ and the new Farm to Fork communication¹⁸, the European bio-based sector, including SMEs, regions and primary producers should become climate neutral, more circular and more sustainable while remaining competitive on the global scale. A strong, resource efficient and competitive bio-based innovation ecosystem can decrease dependency on and accelerate the substitution of non-renewable fossil raw materials and mineral resources. It can develop renewable bio-based products, materials, processes and nutrients from waste and biomass through sustainability and circularity-driven innovation. Such ecosystem can also create value from local feedstock – including waste, residues and side-streams – to deliver jobs, economic

¹³ https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

¹⁴ COM(2018)673 final

¹⁵ COM/2020/380 final

¹⁶ <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018DC0773&from=EN>

¹⁷ COM(2020)98 final

¹⁸ COM(2020)381 final

growth and development throughout the Union not only in urban areas but also in rural and coastal territories where biomass is produced and that are often peripheral regions that rarely benefit from industrial development.

- (40) The Bio-Based Industry Joint Undertaking established under Horizon 2020 has focused on sustainable resource use, especially in resource-intensive and high-impact sectors, such as agriculture, textiles manufacturing and construction, in particular also aiming at local operators, manufacturers, plants and factories. Its interim evaluation published in October 2017 included a strong set of 34 recommendations that are reflected in the design of the Circular Bio-based Europe Joint Undertaking established by this Regulation. The Circular Bio-based Europe Joint Undertaking is not a direct continuation of the Bio-Based Industry Joint Undertaking but rather a programme that builds on the achievements of the predecessor and addresses its shortcomings. In line with the recommendations, the Circular Bio-based Europe Joint Undertaking should involve a wider range of stakeholders including the primary sector (agriculture, aquaculture, fisheries and forestry) as well as providers of waste, residues and side streams, regional authorities and investors to prevent market failures and unsustainable bio-based processes. To deliver on its objectives, it should only fund projects that are respecting principles of circularity, sustainability and planetary boundaries.
- (41) The Circular Bio-based Europe Joint Undertaking should establish Deployment Groups that should serve as advisory bodies and should actively participate in the strategic discussions that are setting the agenda for the partnership. It is crucial to include those advisory bodies in the governance structure to ensure wider participation and higher private investment in the circular bio-based sector. The Deployment Groups should in particular provide support to the strategic Governing Board meetings where industrial leaders and the stakeholders' representatives together with high-level Commission representatives join the permanent Governing Board to discuss and set the strategic direction of the partnership.
- (42) The main objective of the Clean Aviation Joint Undertaking should be to contribute to reducing the ecological footprint of aviation by accelerating the development of climate neutral aviation technologies for their earliest possible deployment, therefore significantly contributing to the ambitious environment impact mitigation goals of the European Green Deal, that is to say a 55% emissions reduction by 2030 compared to 1990 levels, and climate neutrality by 2050. This objective can only be achieved through accelerating and optimising the research and innovation processes in aeronautics and by improving the global competitiveness of the Union aviation industry. The Clean Aviation Joint Undertaking should also ensure that cleaner aviation remains safe, secure and efficient for the transportation of passengers and goods by air.
- (43) The Clean Aviation Joint Undertaking builds on the experience gained from the Clean Sky and Clean Sky 2 Joint Undertakings. The new partnership should be more ambitious by focusing on developing breakthrough demonstrators. In line with the findings of the interim evaluation of the Clean Sky 2 Joint Undertaking, a new initiative should ensure that every demonstrator has a 'business case' basis in order for the technologies developed to really serve the "earliest possible deployment" which is a key priority. Therefore, the new initiative should focus on increasing the visibility of its individual exploitation objectives and strengthening the monitoring, management

and reporting capabilities of the joint undertaking to reflect the complexity of the research and innovation effort required for the partnership to reach its objectives.

- (44) The Clean Aviation Joint Undertaking should build on a diverse membership base, bringing together a broad spectrum of stakeholders and ideas. In view of identifying the most promising approaches and entities capable of pursuing them, the Commission launched a call for expression of ideas and potential members¹⁹. The Governing Board should be allowed to select associated members based on the results of that call in order to provide for a swift expansion of the group of members.
- (45) In order to maximise and accelerate the impact of the research and innovation activities undertaken by the Clean Aviation and Single European Sky ATM Research 3 Joint Undertakings on effective emission reduction and the digitalisation of the aviation industry, they should seek close collaboration with the European Union Aviation Safety Agency (EASA) in the work of the partnership, ensuring an early exchange of knowledge on new technologies developed. That will be crucial to accelerate market uptake, by facilitating the certification process of resulting products and services as required by Regulation (EU) 2018/1189²⁰.
- (46) In order to maximise synergies between programmes at Union, national and regional level, the members of the States' Representatives Group of the Clean Aviation Joint Undertaking should explore possibilities to provide financial support at national level to excellent proposals that were not selected for funding by the Clean Aviation Joint Undertaking due to oversubscription.
- (47) Europe faces the challenge of having to play a leading role in internalising the societal costs of greenhouse gas emissions in the air transport business model while continuing to ensure a 'level playing field' for European products in the global market. Therefore, the Clean Aviation Joint Undertaking should support the European representatives in international standardisation and international legislative efforts.
- (48) Interest in Hydrogen has evolved dramatically in the last five years with all member states having signed and ratified the Conference of the Parties (COP21) Paris Agreement. At the end of 2019, the Commission presented the European Green Deal, which aims to transform the Union into a fair and prosperous society, with a modern, resource-efficient and competitive economy, where there are no net emissions of greenhouse gases in 2050. Priority areas include clean hydrogen, fuel cells, other alternative fuels and energy storage. Hydrogen is prominent in the July 2020 "Communications on a hydrogen strategy for a climate-neutral Europe and an EU Strategy for Energy System Integration" as well as for the launch of the European Clean Hydrogen Alliance that brings all stakeholders together to identify technology needs, investment opportunities and regulatory barriers to build a clean hydrogen ecosystem in the Union.
- (49) Dedicated research and innovation activities related to hydrogen applications have been supported since 2008, mainly through the Fuel Cell and Hydrogen Joint Undertakings (FCH Joint Undertaking and FCH 2 Joint Undertaking) under FP7 and Horizon 2020 as well as by traditional collaborative projects, covering all stages/fields

¹⁹ https://ec.europa.eu/info/news/new-call-ideas-clean-aviation-partnerships-2020-aug-26_en

²⁰ OJ L 212, 22.8.2018, p. 1.

of the hydrogen value chain. The Clean Hydrogen Joint Undertaking should strengthen and integrate Union scientific capacity to accelerate the development and improvement of advanced clean hydrogen applications ready for market, across energy, transport, building and industrial end-uses. This will only be possible if combined with strengthening competitiveness of the Union clean hydrogen value chain, and notably SMEs.

- (50) To achieve the scientific objectives of the Clean Hydrogen Joint Undertaking, all sectors concerned by the hydrogen economy should be given the possibility to get involved in preparing and implementing its Strategic Research and Innovation Agenda. The public sector should also be involved, especially regional and national authorities, the latter being responsible for setting up climate policies and measures related to market mechanisms, to fill in the gaps between ready-to-market technology development and large-scale uptake.
- (51) Since hydrogen can be deployed as a fuel, energy carrier and for storing energy it is essential that the clean hydrogen partnership establishes structured collaboration with many other Horizon Europe partnerships, notably for end-use. The clean hydrogen partnership should interact in particular with the zero emission road and waterborne transport, Europe's railway, clean aviation, processes for the planet and clean steel partnerships. For that purpose, a structure should be set up reporting to the Governing Board in order to ensure the co-operation and synergies between these partnerships in the domain of hydrogen. The clean hydrogen initiative would be the only partnership focused on addressing hydrogen production technologies. Collaboration with end-use partnerships should in particular focus on demonstrating the technology and co-defining specifications.
- (52) Railways contribute to the Single European Transport Area (SETA) and represent a fundamental element of the Union long term sustainable development strategy policy. In terms of economic size, the direct gross value added of the European rail sector is € 69 billion and the indirect value amounted at € 80 billion. 1.3 million persons were directly employed in the rail sector and more than one million indirectly²¹.
- (53) The European Green Deal aims to transform the Union into a fair and prosperous society, with a modern, resource-efficient and competitive economy where there are no net emissions of greenhouse gases by 2050 and where economic growth is decoupled from resource use. Priority areas include accelerating the shift to sustainable and smart mobility.
- (54) The Commission Communication on a New Industrial Strategy for Europe²² (March 2020) underlines that sustainable and smart mobility industries, such as the rail industry, have both the responsibility and the potential to drive the digital and green transition, support Europe's industrial competitiveness and improve connectivity. Therefore road, rail, aviation, and waterborne transport should all contribute to a 90% reduction in transport emissions by 2050. As a matter of priority, a substantial part of the 75% of inland freight carried today by road should shift onto rail and inland waterways.

²¹ <http://cer.be/topics/economic-footprint> (2019).

²² <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1593086905382&uri=CELEX:52020DC0102>

- (55) The Shift2Rail Joint Undertaking was established in 2014 to manage the research, development and validation activities of the Shift2Rail initiative by combining public and private sector funding provided by its members and by drawing on internal and external technical resources. It established new forms of collaboration, consistent with competition rules, between stakeholders from the entire rail value chain and from outside the traditional rail sector, and brought in the experience and expertise of the European Union Agency for Railways on issues relating to interoperability and safety.
- (56) The objective of Europe's Rail Joint Undertaking should be to deliver a high capacity integrated European railway network by eliminating barriers to interoperability and providing solutions for full integration, covering traffic management, vehicles, infrastructure and services. This should exploit the huge potential for digitalisation and automation to reduce rail's costs, increase capacity, and enhance its flexibility and reliability, and should be based upon a solid Reference Functional System Architecture shared by the sector, in coordination with the European Union Agency for Railways.
- (57) The Europe's Rail Joint Undertaking should define in its Master Plan its priority research and innovation activities, and overall system architecture and harmonised operational approach, including large-scale demonstration activities, required to accelerate the penetration of integrated, interoperable and standardised technological innovations necessary to support the Single European Railway Area.
- (58) Rail is a complex system, with very close interactions between infrastructure managers, rail undertakings (train operators) and their respective equipment (infrastructure and rolling stock). It is impossible to deliver innovation without common specifications and strategy across the rail system. Therefore, the System Pillar of the Europe's Rail Joint Undertaking should enable the sector to converge on a single operational concept and system architecture, including the definition of the services, functional blocks, and interfaces, which form the basis of rail system operations. It should provide the overall framework to ensure that research targets customer requirements and operational needs that are commonly agreed and shared customer requirements and operational needs. The governance model and the decision making process of the Europe's Rail Joint Undertaking should reflect the Commission's leading role in unifying and integrating Europe's railway system, especially in rapidly and effectively delivering the single operational concept and system architecture, while involving the private partners in advisory and technical support roles.
- (59) To ensure that the results of low Technology Readiness Levels (TRL) research are effectively used at higher TRLs, and in particular by the Europe's Rail Joint Undertaking, the Europe's Rail Joint Undertaking's programme office should implement such activities.
- (60) Where necessary, in order to ensure swift transition and expansion of membership, the Governing Board of the Europe's Rail Joint Undertaking should be allowed to select associated members on the basis of the results of a call for expression of interest launched by the Commission.
- (61) In the context of the Commission's priorities of the United Nations Sustainable Development Goals, in particular SDG 3, and the Communication Towards a

Comprehensive Strategy with Africa²³, the Union is committed to contribute to ensure healthy lives and promote well-being for all, to build an even stronger partnership between our two continents and to support the development of research and innovation capacities within Africa. The Global Health EDCTP3 Joint Undertaking should address the lack of appropriate diagnostics, treatments and vaccines, among other so-called health technologies, to address infectious diseases, such as HIV, malaria and tuberculosis, but also other poverty related and neglected infectious diseases, that are prevalent in Africa, especially in sub-Saharan Africa. The COVID19 pandemic has revealed that with the increased connectivity of different regions in the world, through world trade and tourism, infectious diseases can rapidly spread all over the world. Developing health technologies is therefore crucial to limit the spread of infectious diseases, as well as to fight them once they have spread, to protect the health of the citizens in the countries concerned and in the Union. In order to achieve a stronger global health leadership than the current EDCTP2 initiative, the scope of the partnership should be extended to cover response to emerging infectious diseases threats, the increasing problems of antimicrobial resistance and non-communicable diseases co-morbidities.

- (62) Tackling infectious diseases affecting sub-Saharan Africa with modern technology tools requires the involvement of a large set of actors and long-term commitments. The Global Health EDCTP3 Joint Undertaking should broker productive and sustainable North–South and South–South networking and cooperation, building relationships with multiple private and public sector organisations to strengthen project and institutional collaborations. The programme should also help to establish new North–South and South-South collaborations to conduct multi-country, multi-site studies in sub-Saharan Africa. In addition, a regular international conference, the EDCTP Forum, should provide a platform for scientists and relevant networks from Europe, Africa, and elsewhere to share findings and ideas, and to establish collaborative links.
- (63) The Global Health EDCTP3 Joint Undertaking should build on the experience gained during the EDCTP and EDCTP2 programmes, achieving results by harnessing investments of the Union, the member states, associated countries and African countries which could not have been achieved by individual countries or by the Union research framework programme alone. The EDCTP Association, representing the states participating in the programme, should contribute financially and with additional activities, to the EDCTP3 Programme and its implementation. It should provide meaningful participation and involvement of the sub-Saharan countries in the decision-making process, which is essential for tackling the burden of diseases in sub-Saharan countries. The initiative should include other international research funders, such as philanthropies, the pharmaceutical industry and other third countries, that should contribute to the partnership as contributing partners on an ad hoc basis. Furthermore, to increase the impact of the programme, the Global Health EDCTP3 Joint Undertaking should have, for specific calls, the possibility to identify legal entities that could participate in indirect actions. It should be possible to provide in the work programme that such legal entities would not be eligible for funding by the joint undertaking.

²³ Joint Communication to the European Parliament and the Council: Towards a comprehensive Strategy with Africa, Brussels, 9.3.2020, JOIN(2020) 4 final.

- (64) It is essential that the research activities funded by Global Health EDCTP3 Joint Undertaking or otherwise covered by its work programme, are in full compliance with the Charter of Fundamental Rights of the European Union, the European Convention on Human Rights and its Supplementary Protocols, ethical principles included in the World Medical Association’s Declaration of Helsinki of 2008, the standards of good clinical practice adopted by the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use, relevant Union legislation and local ethics requirements of the countries where the research activities are to be conducted. Furthermore, the Global Health EDCTP3 Joint Undertaking should require that the innovations and interventions developed based on results of the indirect actions supported by the programme be affordable and accessible for vulnerable populations.
- (65) For the Global Health EDCTP3 Joint Undertaking to succeed and incentivise participation in the partnership, the joint undertaking funding should be restricted to legal entities eligible for funding under the Horizon Europe programme and established in constituent states of the European and Developing Countries Clinical Trials Partnership (EDCTP) Association. The entities established in other Union member states, associated countries and sub-Saharan African countries should still be able to participate in the calls without receiving funding. Additionally it should also be possible for entities established in other countries than members of the EDCTP3 Association to be eligible for funding in specific call topics or in case of a call addressing a public health emergency, where it is provided for in the work programme. The Global Health EDCTP3 Joint Undertaking should take all appropriate measures, including contractual, to protect the financial interests of the Union. The conclusion of science and technology agreements with third countries should be sought. Before their conclusion, where entities established in a third country without such an agreement participate with funding in an indirect action, alternative measures to safeguard Union interests should be applied by the EDCTP3 JU: the financial coordinator of the action should be established in a Member State or associated country and the amount of pre-financing as well as liability provisions of the grant agreement should be adapted to adequately take the financial risks into account.
- (66) In the context of the European Commission’s priorities of “An economy that works for people” and “A Europe fit for the digital age”, the European industry, including SMEs, should become greener, more circular and more digital while remaining competitive on the global scale. The Commission has emphasized the role of medical devices and digital technologies addressing emerging challenges and the use of e-health services to provide high-quality health care, along with a call for ensuring the supply of affordable medicines to meet the Union’s needs, whilst supporting an innovative and world-leading European pharmaceutical industry. The Innovative Health Initiative Joint Undertaking aims to contribute towards strengthening the competitiveness of the Union’s health industry, a cornerstone of the Union’s knowledge-based economy, to an increased economic activity in the development of health technologies, notably of integrated health solutions, and thus serve as a tool for increasing technological sovereignty and fostering the digital transformation of our societies. Such political priorities can be achieved by bringing together the crucial players: the academia, companies of various sizes and end-users of health innovations, under the umbrella of a public-private partnership in health research and innovation. The Innovative Health

Initiative Joint Undertaking should help reach the objectives of the ‘Europe’s Beating Cancer Plan’²⁴ and the ‘European One Health Action Plan against Antimicrobial Resistance’²⁵. The Innovative Health Initiative Joint Undertaking should be aligned with the new Industrial Strategy for Europe²⁶, the Pharmaceutical Strategy for Europe²⁷ and the SME strategy for a sustainable and digital Europe²⁸.

- (67) The Innovative Health Initiative Joint Undertaking builds on the experience gained from the Innovative Medicine Initiative 2 Joint Undertaking (IMI2 Joint Undertaking) including the work done by this initiative to combat the COVID-19 pandemic. In line with the recommendations of the interim evaluation of IMI2 Joint Undertaking²⁹, a successor initiative needs to “enable the active engagement of other industry sectors with the pharmaceutical industry to capitalise on their expertise in the development of new health care interventions”. Therefore, the industry sectors need to cover the biopharmaceutical, biotechnology and medical technology sectors, including companies active in the digital area. The scope of the initiative should cover prevention, diagnosis, treatment and disease management and must be established taking due account of the high burden for patients and/or society due to the severity of the disease and/or the number of people affected, as well as the high economic impact of the disease for patients and for health care systems. The funded actions must respond to the Union public health needs, supporting the development of future health innovations that are safe, people-centred, effective, cost-effective and affordable for patients and for health care systems.
- (68) To ensure the best opportunity for generating new scientific ideas and successful research and innovation activities, the key actors in Innovative Health Initiative Joint Undertaking should be researchers from various types of entities, public and private. At the same time, end-users such as Union citizens, health care professionals and health care providers should provide input into the strategic design and activities of the initiative, ensuring that it addresses their needs. Furthermore, Union-wide and national regulatory authorities, health technology assessment bodies and health care payers should also provide early input to the partnership’s activities, while ensuring the absence of any conflicts of interest, in order to increase the likelihood that the results of funded actions meet the requirements necessary for uptake and thus reaching the expected impacts. All that input should help better target research efforts towards areas of unmet need.
- (69) Current health challenges and threats are global. Therefore, the initiative should be open to participation by international academic, industrial and regulatory actors, in order to benefit from wider access to data and expertise, to respond to emerging health threats and to achieve the necessary societal impact, notably improved health outcomes for Union citizens. At the same time, most of the partnership’s activities should be conducted in the Union member states and in Horizon Europe associated countries.

²⁴ <https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12154-Europe-s-Beating-Cancer-Plan>

²⁵ https://ec.europa.eu/health/sites/health/files/antimicrobial_resistance/docs/amr_2017_action-plan.pdf

²⁶ COM(2020) 102.

²⁷ COM(2020) 761.

²⁸ COM(2020) 103.

²⁹ The Interim Evaluation of the Innovative Medicines Initiative 2 Joint Undertaking (2014-2016) operating under Horizon 2020 (ISBN 978-92-79-69299-4).

- (70) The partnership's objectives should focus on the pre-competitive area, thereby creating a safe space for efficient collaboration between companies active in different health technologies. To reflect the integrative nature of the initiative, help break the silos between health industry sectors and strengthen the industry-academia collaborations, the majority of the projects funded by the initiative should be cross-sectoral.
- (71) The term Key Digital Technologies refers to electronic components and systems that underpin all major economic sectors. The Commission highlighted the need to master those technologies in Europe, notably in the context of delivering on European policy priorities such as digital technology autonomy³⁰. The importance of the area and the challenges faced by the stakeholders in the Union require urgent action in order to leave no weak link in Europe's innovation and value chains. A mechanism at Union level should therefore be set up to combine and focus the provision of support to research and innovation in electronic components and systems by member states, the Union and the private sector.
- (72) The Key Digital Technologies Joint Undertaking should address clearly defined topics that would enable European industries at large to design, manufacture and use the most innovative technologies in electronic components and systems. Structured and coordinated financial support at European level is necessary to help research teams and European industries maintain their current strengths at the leading edge in a highly competitive international context and close the gap in technologies that are critical for a digital transformation in Europe that reflects core Union values including privacy and trust, security and safety. Collaboration among stakeholders of the ecosystem, representing all segments of the value chains, is essential for the development of new technologies and the fast market uptake of innovation. Openness and flexibility to integrate relevant stakeholders, including in particular SMEs, in emerging or adjacent areas of technology, or in both, is also vital.
- (73) The Key Digital Technologies Joint Undertaking should combine the financial and technical means that are essential to master the escalating pace of innovation in this area, to generate important spill-overs for society, and to share risk-taking by aligning strategies and investments towards a common European interest. Therefore, the members of the Key Digital Technologies Joint Undertaking should be the Union, member states and associated countries to Horizon Europe on a voluntary basis, and associations as private members representing their constituent companies [and other legal entities active in the field of electronics components and systems in Europe] Participation of member states will furthermore facilitate a coherent alignment with national programmes and strategies, reducing overlap and fragmentation of efforts while ensuring synergies across stakeholders and activities.
- (74) In accordance with [Article 8(1)(c)] of the Horizon Europe Regulation, participating states should entrust the Key Digital Technologies Joint Undertaking with the implementation of their contribution to their national participants in indirect actions. The beneficiaries should sign a single grant agreement with the joint undertaking following the Horizon Europe rules, including the respective framework for intellectual property rights, depending on the Union programme supporting the

³⁰ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Shaping Europe's digital future (COM(2020) 67 final).

corresponding grant activity. The Key Digital Technologies Joint Undertaking should process the cost claims and execute the payments to the beneficiaries.

- (75) In implementing the contributions of the participating states to their national participants in indirect actions, the Key Digital Technologies Joint Undertaking should take into account that the participating states have to abide by strict national budgetary rules. In that respect, participating states and the joint undertaking should conclude legally binding agreements committing participating states to the payment of the full amount of their contribution to indirect actions throughout the lifetime of the initiative. Such agreements should be concluded in the context of the annual budgetary procedure and programming of the joint undertaking. The Governing Board should adopt the annual work programme taking due account of those agreements. Only after that and in line with the joint undertaking's financial rules, the authorising officer should make the budgetary and legal commitments for those indirect actions.
- (76) As a continuation of the practice established in the ECSEL Joint Undertaking, a derogation from [Article 30] of the Horizon Europe Regulation is necessary in order to allow different reimbursement rates depending on the type of participant, namely SMEs and non-profit legal entities, and the type of action, to be applied invariably across beneficiaries from all participating states. That should ensure the right balance of stakeholders' participation in the actions funded by the Key Digital Technologies Joint Undertaking and foster a higher involvement of SMEs as recommended in the ECSEL Joint Undertaking interim evaluation.
- (77) The Union's Single European Sky legal framework³¹ seeks to reform the European air traffic management (ATM) system through institutional, operational, technological and regulatory actions with the aim of improving its performance in terms of capacity, safety, efficiency and environmental impact.
- (78) The Single European Sky Air Traffic Management (ATM) Research and Development project (the 'SESAR project')³² aims to modernise ATM and to bundle technological and operational innovation in support of the Single European Sky. It aims at providing the technological solutions for a highly performing ATM by 2035 to enable an uncongested, even safer and more environmentally friendly functioning of the air transport sector. The SESAR project comprises three interrelated, continuous and evolving collaborative processes that define, develop and deploy innovative technological systems and operational procedures underlying the digital European sky defined in the European ATM Master Plan³³.
- (79) The "European ATM Master Plan" is the planning tool for ATM modernisation across Europe, connecting ATM research and innovation activities with deployment activities scenarios to achieve the Single European Sky performance objectives.

³¹ Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European Sky (OJ L 96, 31.3.2004, p.1).

³² Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system (SESAR) OJ L 64, 2.3.2007, p. 1.

³³ Council Decision 2009/320/EC endorsing the European Air Traffic Management Master Plan of the Single European Sky ATM Research (OJ L 95, 9.4.2009, p.41).

- (80) The SESAR Joint Undertaking was first established in 2007³⁴ with the objective of managing the definition and development phases of the SESAR project, by combining public and private sector funding provided by its members and by drawing on internal and external technical resources, as well as to execute and update, when necessary, the European ATM Master Plan. It established a new and efficient form of collaboration between stakeholders in a sector where progress is only possible when all stakeholders implement new solutions in a synchronised manner. Given the successful establishment of the SESAR brand name, the new Single European Sky ATM Research 3 Joint Undertaking should continue to make use of it.
- (81) The Single European Sky ATM Research 3 Joint Undertaking should build on the experience of the SESAR Joint Undertaking and continue its coordination role for ATM research in the Union. The main objectives of the Single European Sky ATM Research 3 Joint Undertaking should be to strengthen and further integrate the research and innovation capacity in Europe, helping to accelerate the digitalisation of the sector and rendering it more resilient and scalable to fluctuations in traffic. It should strengthen, through innovation, the competitiveness of manned and unmanned air transport and ATM services, to support economic recovery and growth. It should develop and accelerate the market uptake of innovative solutions to establish the Single European Sky airspace as the most efficient and environmentally friendly sky to fly in the world.
- (82) The new Single European Sky ATM Research 3 Joint Undertaking should be able to develop and validate technical input assisting the Commission with regulatory activities in ATM, e.g. preparing all the technical documentation for the common projects established under the Single European Sky Regulation³⁵, conducting technical studies or supporting standardisation activities. It should also ensure the stewardship of the European ATM Master Plan endorsed by Council Decision 2009/320/EC, including its monitoring, reporting and updating. In addition, the Commission should have votes in proportion to the Union contribution to the budget, and at least 25% of votes. This setup ensures that the Commission retains a strong ability to steer, from a policy perspective, the work carried out by the Joint Undertaking in relation to these tasks through the strengthened supervision mechanisms established for such bodies.
- (83) Participation in the Single European Sky ATM Research 3 Joint Undertaking should be open to the widest possible range and representation of stakeholders from all member states and countries associated to Horizon Europe, including SMEs, through different forms of participation. In particular, participation should ensure a proper balance between equipment manufacturers for both manned and unmanned aviation, airspace users, air navigation service providers, airports, military and professional staff associations, and offer opportunities to SMEs, academia and research organisations. In view of identifying the most promising approaches and entities capable of pursuing them, the Commission launched a call for expression of interest for potential members. The Governing Board should be allowed to select associated members on the basis of

³⁴ Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system (SESAR), OJ L 64, 2.3.2007, p. 1.

³⁵ COM(2020) 579, amended proposal for a Regulation of the European Parliament and of the Council on the implementation of the Single European Sky (recast).

the results of that call in order to provide for a swift expansion of the group of members.

- (84) Route charges are entirely borne by airspace users, who contribute indirectly to the research and development efforts financed by major ATM stakeholders like air navigation service providers or the manufacturing industry building and equipping the aircraft used by the airspace users. Therefore, airspace users should be given appropriate representation within the Single European Sky ATM Research 3 Joint Undertaking's Governing Board.
- (85) To ensure that the results of ATM exploratory (low Technology Readiness Levels) research are effectively used at higher Technology Readiness Levels, and in particular by the Single European Sky ATM Research 3 Joint Undertaking, the joint undertaking's programme office should manage such activities.
- (86) The EUROCONTROL Agency possesses an appropriate infrastructure and the necessary administrative, IT, communications and logistics support services. The Single European Sky ATM Research 3 Joint Undertaking should benefit from such infrastructure and services from EUROCONTROL. In this context, there are few potential synergies that could be gained from pooling administrative resources with other Joint Undertakings through a common back office. For this reason, the Single European Sky ATM Research 3 Joint Undertaking should opt out from the common back office functions established by this Regulation.
- (87) With the purpose of creating a broad stakeholder base for ensuring the Smart Networks and Services partnership's objectives, the 5G Infrastructure Association³⁶ has been established building on the 5G Infrastructure Association. While the new industry association, in the first years following its establishment, is expected to only have a limited number of constituent and affiliated entities, it has the objective to include new members from stakeholder constituencies active in the Smart Network and Services value chain. Considering its expected modest size and the impact on its small and medium enterprises constituent entities, it is not sustainable for the association to contribute to 50% of the administrative costs of the Smart Networks and Services Joint Undertaking over its lifetime, in particular in the first years following its establishment. Additionally, the crisis brought about by the COVID-19 pandemic and its impacts on the economy has posed challenges on the European economic actors including in the field of ICT. Therefore it should be ensured that the private partners of the joint undertaking are able to fulfil their commitments, while the conditions remain attractive and incentivise new partners to join the association. The minimum percentage of annual financial contribution to the administrative costs from members other than the Union should therefore be 20% of the total annual administrative costs. In particular, it should be possible that small and medium sized enterprises constituent entities contribute less than bigger enterprises. The members of the joint undertaking other than the Union should endeavour to increase the number of constituent or affiliated entities in order to maximise their contribution of 50% of the administrative costs of the joint undertaking over its lifetime.

³⁶ The 5G Infrastructure Association (5GIA) plans to modify its name before the launch of the SNS JU, to better reflect the SNS JU new stakeholders communities and extended scope, in comparison with the Horizon 2020 5G PPP.

- (88) In the context of the European Commission’s priorities for 2019-2024 “A Europe fit for the digital age”, “An economy that works for people” and the policy objectives set out in the context of its Communications on “Shaping Europe’s digital future”, Europe needs to develop the critical digital infrastructures based on 5G networks and build its technological capacities towards 6G with a time horizon 2030. In this context the Commission has emphasized the strategic importance of a European Partnership for Smart Networks and Services to provide secure connectivity-based services to consumers and businesses. Those priorities can be achieved by bringing together the key players, that is to say industry, academia and public authorities, under the umbrella of a European partnership that builds on the achievements of the 5G PPP initiative, which successfully developed 5G technology and standards.
- (89) The Smart Networks and Services Joint Undertaking is designed to address policy issues in the field of digital infrastructure and to extend the technology scope of research and innovation for 6G networks. It should, with close involvement of member states, strengthen the response to Union policy and social needs regarding network energy efficiency, cybersecurity, technological sovereignty, privacy and ethics and will extend the research and innovation scope from networks to cloud based service provisioning as well as components and devices enabling services for citizens and a broad range of economic sectors such as health care, transport, manufacturing and media.
- (90) The public policy objectives related to Smart Networks and Services cannot be addressed solely by the industry and the Commission. Addressing them from a holistic and coordinated perspective notably requires the strategic involvement of member states as part of the governance structure. Therefore, the Governing Board should take utmost account of the opinions of the States’ Representatives Group, in particular as regards strategic guidance concerning work programmes and funding decisions.
- (91) Advanced 5G infrastructures will be the basis for developing the ecosystems for the digital and green transitions and, in the next step, for Europe’s position to adopt 6G technology. The Connecting Europe Facility (CEF) 2 Digital programme as well as the Digital Europe Programme and InvestEU offer opportunities for the development of 5G and later 6G-based digital ecosystems. Taking into account the broad set of public and private stakeholders involved in such deployment projects, it is essential to coordinate the setting up of a strategic agenda, the contribution to the programming, as well as stakeholder information and engagement related to such programmes. As a strategic basis for those tasks, the Smart Networks and Services Joint Undertaking should coordinate the development of Strategic Deployment Agendas for the relevant areas of deployment, such as 5G systems along roads and along railways. Those agendas should inter alia set out deployment roadmaps, the main options for cooperation models and other strategic issues.
- (92) [Article 16(3)] of the Horizon Europe Regulation provides that, where appropriate, the Commission or funding body has to carry out a security scrutiny for proposals raising security issues.
- (93) Pursuant to the Council Conclusions of 3 December 2019 and the Recommendation of 26 March 2019 on Cybersecurity of 5G networks for coordinated action at Union level, the member states’ Cooperation Group on Network and Information Security published the EU toolbox of risk mitigating measures concerning cyber-security of 5G

networks of January 2020 (the toolbox). That toolbox includes a set of strategic and technical measures as well as supporting actions in order to mitigate the main cybersecurity risks of 5G networks, that have been identified in the Union coordinated risk assessment report, and to provide guidance for the selection of measures that should be prioritised in mitigation plans at national and at Union level. The Commission Communication of 29 January 2020 on Implementing the EU toolbox³⁷ endorses all measures and guidance set out in the toolbox and emphasizes the need for restrictions, including necessary exclusions, concerning suppliers considered to be high risk based on the factors specified in the EU coordinated risk assessment as well as measures to avoid dependency on these suppliers. It also identifies a set of specific actions for the Commission, in particular to ensure that participation in EU funding programmes in relevant technology domains will be conditional on compliance with security requirements, by making full use of and further implementing security conditions. Therefore, the implementation of this Regulation should introduce appropriate provisions to reflect the security measures through actions funded by the SNS Joint Undertaking and, on the basis of its recommendations, by other funding bodies implementing other Union programmes in the area of smart networks and services.

- (94) The joint undertakings under Horizon 2020 were set up for a period up to 31 December 2024. The joint undertakings should provide continued support to the respective research programmes by implementing the remaining actions initiated or continued under Regulations (EU) No 560/2014, (EU) No 558/2014, (EU) No 559/2014, (EU) No 557/2014, (EU) No 561/2014, (EU) No 642/2014 and Regulation (EC) No 219/2007 in accordance with those Regulations until their winding-up. In the interest of legal certainty and clarity those Regulations should therefore be repealed.
- (95) The Union should act only where there is a demonstrable advantage that action at Union level is more effective than action taken at national, regional or local level. The initiatives focus on areas where there is a demonstrable value added in acting at the Union level due to the scale, speed and scope of the efforts needed for the Union to meet its long-term Treaty objectives and deliver on its strategic policy priorities and commitments. In addition, the proposed initiatives should be seen as complementary to and should reinforce national and sub-national activities in the same area.
- (96) Since the objectives of this Regulation cannot be sufficiently achieved by the member states, but can rather, by reason of avoiding unnecessary duplication, retaining critical mass and ensuring that public financing is used in an optimal way, be better achieved at the Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union (TEU). In accordance with the principle of proportionality as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve those objectives.

HAS ADOPTED THIS REGULATION:

³⁷ COM(2020)50 of 29 January 2020.

PART ONE

COMMON PROVISIONS

TITLE I

GENERAL PROVISIONS

Article 1

Subject matter

This Regulation sets up nine joint undertakings within the meaning of Article 187 of the Treaty on the Functioning of the European Union for the implementation of institutionalised European partnerships defined in [Article 2(3)] and referred to in point [(c)] of [Article 8(1)] of the Horizon Europe Regulation. It determines their objectives and tasks, membership, organisation and other operating rules.

Article 2

Definitions

For the purposes of this Regulation, the following definitions apply:

1. 'member other than the Union' means any participating state, private member or international organisation that is a member of a joint undertaking;
2. 'founding member' means any legal entity established in a member state, a country associated to the Horizon Europe Programme, or an international organisation that is identified as a member of a joint undertaking in this Regulation or in one of its Annexes;
3. 'associated member' means any legal entity established in a member state, a country associated to the Horizon Europe Programme or international organisation that accedes to a joint undertaking by signing a letter of commitment in accordance with Article 7(4) and subject to an approval in accordance with that article;
4. 'participating state' means any member state or country associated to the Horizon Europe Programme upon notification to participate in the activities of the Key Digital Technologies Joint Undertaking by means of a letter of commitment;
5. 'private member' means any member of a joint undertaking other than the Union, participating states or international organisations;
6. 'constituent entities' means the entities that constitute a private member of a joint undertaking, according to that member's statutes;
7. 'contributing partner' means any country, international organisation or legal entity other than a member, or a constituent entity of a member or an affiliated entity of either, that supports the objectives of a joint undertaking in its specific area of research and whose application has been approved in accordance with Article 9(3);

8. 'in-kind contributions to operational activities' means contributions by private members, their constituent entities, the affiliated entities of either, by international organisations and by contributing partners, consisting of the eligible costs incurred by them in implementing indirect actions less the contribution of that joint undertaking, the participating states of that joint undertaking and any other Union contribution to those costs;
9. 'additional activity' means an activity outside the main part of the work programme that does not receive financial support from the joint undertaking but contributes to its objectives and is directly linked to the uptake of results from projects under that joint undertaking or its preceding initiatives or has a significant Union added-value;
10. 'in-kind contributions to additional activities' means contributions by the private members, their constituent entities or the affiliated entities of either, consisting of the costs incurred by them in implementing additional activities less any contribution to those costs from the Union and from the participating states of that joint undertaking;
11. 'preceding initiative' means any partnership in one of the areas covered by a joint undertaking that received financial support from one of the previous framework programmes for research;
12. 'Strategic Research and Innovation Agenda' means the document covering the duration of Horizon Europe that identifies the key priorities and the essential technologies and innovations required to achieve the objectives of a joint undertaking;
13. 'work programme' means the document referred to in [point (20)] of [Article 2] of the Horizon Europe Regulation.
14. 'conflict of interest' means a situation involving a financial actor or other person as referred to in Article 61 of Regulation (EU, Euratom) No 2018/1046.

Article 3
Establishment

1. The following joint undertakings are set up as Union bodies for a period ending on 31 December 2031:
 - (a) the Circular Bio-based Europe Joint Undertaking;
 - (b) the Clean Aviation Joint Undertaking;
 - (c) the Clean Hydrogen Joint Undertaking;
 - (d) the Europe's Rail Joint Undertaking;
 - (e) the Global Health EDCTP3 Joint Undertaking;
 - (f) the Innovative Health Initiative Joint Undertaking;
 - (g) the Key Digital Technologies Joint Undertaking;

- (h) the Single European Sky ATM Research 3 Joint Undertaking;
 - (i) the Smart Networks and Services Joint Undertaking.
2. The Union bodies referred to in paragraph 1 shall be collectively referred to as ‘the joint undertakings’.
 3. In order to take into account the duration of Horizon Europe, calls for proposals under the joint undertakings shall be launched at the latest by 31 December 2027. In duly justified cases, calls for proposals may be launched by 31 December 2028, at the latest.
 4. The joint undertakings shall have legal personality. In each of the member states, they shall enjoy the most extensive legal capacity accorded to legal persons under the laws of those member states. They may, in particular, acquire or dispose of movable and immovable property and may be a party to legal proceedings.
 5. The seat of the joint undertakings shall be in Brussels, Belgium.
 6. Unless specified otherwise, the provisions set out in Part One and Part Three shall apply to all joint undertakings. The provisions set out in Part Two shall apply to individual joint undertakings, as appropriate.
 7. For the purposes of Parts One and Three of this Regulation and unless specified otherwise, a reference to an individual joint undertaking or body shall denote a reference to each joint undertaking or each equivalent body of the individual joint undertakings and its competences in relation to other bodies of the same joint undertaking.

TITLE II

FUNCTIONING OF THE JOINT UNDERTAKINGS

CHAPTER 1

Objectives and tasks

Article 4

Objectives and principles

1. The joint undertakings referred to in Article 3 shall contribute to the general objectives of the Horizon Europe Regulation as set out in [Article 3] thereof.
2. The joint undertakings shall, through the involvement and commitment of partners in designing and implementing a programme of research and innovation activities, deliver on the following general objectives:

- (a) strengthening and integrating the Union's scientific and technological capacities to support the creation and diffusion of high-quality new knowledge notably with a view to deliver on global challenges, securing Union competitiveness, sustainability and contributing to the a reinforced European Research Area;
 - (b) securing sustainability-driven global leadership of Union value chains and Union open strategic autonomy in key technologies and industries in line with the industrial strategy for Europe;
 - (c) develop and accelerate the uptake of innovative solutions throughout the Union addressing climate, environmental, health and other global societal challenges contributing to Union strategic priorities, in particular to reach the United Nations Sustainable Development Goals and achieve climate neutrality in the Union by 2050.
3. The joint undertakings shall deliver on the following specific objectives:
- (a) enhance the critical mass and scientific capabilities in cross-sectoral and interdisciplinary research and innovation across the Union;
 - (b) accelerate the social, ecological and economic transitions in areas and sectors of strategic importance for Union priorities, in particular to reduce greenhouse gas emissions by 2030 in accordance with the targets set in line with the European Green Deal;
 - (c) enhance the innovation capabilities and performance of existing and new European research and innovation value chains, including in small and medium-sized enterprises (SME);
 - (d) accelerate the deployment, uptake and diffusion of innovative solutions in reinforced European research and innovation ecosystems, including through wide and early engagement and co-creation with end-users, citizen and regulatory and standardisation bodies;
 - (e) deliver environmental and productivity improvements in new products and services thanks to a harnessing of Union capabilities and resources.
4. The joint undertakings shall also have the additional objectives set out in Part Two.
5. In the implementation of the Horizon Europe Regulation, the joint undertakings shall respect the principles set out in [Article 6(a)] of that Regulation.
6. The joint undertakings shall adhere to the conditions and criteria for European partnerships set out in [Article 8] and [Annex III] of the Horizon Europe Regulation.

Article 5
Operational objectives and tasks

1. The joint undertakings shall adhere to the following operational objectives in accordance with the criteria set out in [Annex III] of the Horizon Europe Regulation,

and contribute to the operational objectives of Horizon Europe set out in the Specific Programme implementing Horizon Europe, established by Council Decision XXX/XXXX/EU³⁸:

- (a) reinforce and spread excellence, including by fostering wider participation throughout the Union;
- (b) stimulate research and innovation activities in SMEs and contribute to the creation and scaling-up of innovative companies, in particular start-ups, SMEs, and in exceptional cases small mid-caps;
- (c) reinforce the link between research, innovation, and where appropriate, education and other policies, including complementarities with national and regional and Union research and innovation policies and activities;
- (d) increase collaboration links in European research and innovation and across sectors and disciplines, including social sciences and humanities;
- (e) strengthen international cooperation;
- (f) increase public awareness, acceptance, demand and uptake of new solutions by involving citizens and end-users in co-design and co-creation processes;
- (g) encourage exploitation of research and innovation results and actively disseminate and exploit results, in particular for leveraging private investments and policy development;
- (h) accelerate industrial transformation, including through improved skills for innovation;
- (i) support the evidence-based implementation of related Union policies, as well as regulatory, standardisation and sustainable investment activities at European and global levels.

2. The joint undertakings shall carry out the following tasks by adopting a systemic approach in achieving the objectives:

- (a) provide financial support, mainly in the form of grants, to research and innovation indirect actions, selected following open and competitive calls, unless otherwise specified in their work programme;
- (b) develop close cooperation and ensure coordination with other European partnerships, including by dedicating, where appropriate, a part of the joint undertaking's budget to joint calls;
- (c) seek synergies with and, where appropriate, possibilities for further funding from relevant activities and programmes at Union, national, and regional level, in particular with those supporting the deployment of innovative solutions, education and regional development, such as Cohesion policy funds in line with smart specialisation strategies;

³⁸ Please insert full title + OJ reference

- (d) ensure their operations contribute towards the strategic multiannual planning, reporting, monitoring and evaluation and other requirements of Horizon Europe set out in [Articles 45 and 47] of the Horizon Europe Regulation, such as, the implementation of the common policy feedback framework;
- (e) promote the involvement of SMEs in their activities and take measures ensuring information to SMEs, in line with the objectives of Horizon Europe;
- (f) mobilise the public and private sector resources needed to achieve the objectives set out in this Regulation;
- (g) monitor progress towards the achievement of the objectives set out in this Regulation as well as according to those set out in [Article 45] and [Annex V] of the Horizon Europe Regulation;
- (h) define and implement their work programme;
- (i) liaise with the most extensive range of stakeholders including, but not limited to, decentralised agencies, research organisations and universities, end users and public authorities, in particular for the purpose of defining the priorities and activities of each initiative as well as to ensure inclusiveness;
- (j) engage in information, communication, publicity and dissemination and exploitation activities by applying *mutatis mutandis* [Article 46] of the Horizon Europe Regulation, including making the detailed information on results from funded research and innovation activities available and accessible in a common Horizon Europe e-database;
- (k) provide the Commission with the necessary technical, scientific and administrative support to carry out its tasks for the purposes of ensuring the proper functioning and development in the Union of the specific areas addressed by the joint undertaking;
- (l) contribute to developing a more effective science-policy interface, to fostering open science by ensuring better exploitation of results and to addressing policy needs, as well as to promoting faster dissemination and uptake of results;
- (m) identify and report – in line with the common policy feedback framework and with strategies and actions to support the European Green Deal objectives – the relevant knowledge acquired from the management of research and innovation projects and their results to the Commission to serve as input for monitoring, evaluating, and rectifying (if necessary) existing policy measures or shaping new policy initiatives and decisions;
- (n) support the Commission in the development and implementation of a robust science-based Technical Screening criteria pursuant to Article 3 of the Regulation (EU) 2020/852 on sustainable investments, by monitoring, and assessing its implementation within the economic sector they operate, in order to provide ‘ad hoc’ feedback to policy making, when needed;

- (o) consider the ‘Do No Significant Harm Principle’ pursuant to Article 17 of Regulation (EU) 2020/852 and take into account the provisions of that Regulation to improve access to sustainable finance, where relevant;
 - (p) perform any other task necessary to achieve the objectives set out in this Regulation.
3. In addition to the tasks set out in this Article and in Part Two, the joint undertakings may be entrusted with the implementation of additional tasks requiring cumulative, complementary or combined funding between Union programmes.

CHAPTER 2

Members, contributing partners and contributions

Article 6 *Members*

1. The members of the joint undertakings referred to in Article 3 shall be:
- (a) the Union, represented by the Commission;
 - (b) Participating States;
 - (c) Founding Members;
 - (d) Associated Members.
2. Membership to a joint undertaking may not be transferred to a third party without the prior agreement of the governing board referred to in Chapter 3, Section 1 of this Title.

Article 7 *Selection of associated members*

1. Joint undertakings may launch an open call for expression of interest in view of selecting associated members. The call for expression of interest shall set out the key capacities needed in order to achieve the objectives of the joint undertaking. All calls shall be published on the joint undertaking’s website and communicated through all appropriate channels, including, where applicable, the states’ representatives group, in order to ensure the widest possible participation in the interest of achieving the objectives of the joint undertaking.
2. The executive director shall assess the applications for membership with the assistance of independent experts and, where appropriate, of relevant bodies of the joint undertaking, on the basis of documented knowledge, experience and potential added value of the applicant in achieving the objectives of the joint undertaking, the applicant’s financial soundness and long-term commitment for financial and in-kind

contributions to the joint undertaking, and taking into account potential conflicts of interest.

3. The governing board shall assess and where appropriate approve applications for membership.
4. A letter of commitment shall be signed between the selected associated members and the executive director, acting as representative of the joint undertaking, which shall detail the scope of the membership in terms of content, activities and duration, the associated members' contribution to the joint undertaking, including an indication of the envisaged additional activities referred to in point (b) of Article 11(1), as well as provisions relating to the associated member's representation and voting rights within the governing board.

Article 8

Changes to or termination of membership

1. Any member of a joint undertaking may terminate its membership to that joint undertaking. The termination shall become effective and irrevocable six months after notification to the executive director of the joint undertaking, who shall inform the other members. As from the date of termination, the member shall be discharged from any obligations other than those approved or incurred by the joint undertaking prior to terminating the membership, unless mutually agreed otherwise.
2. Each member shall inform the joint undertaking of any merger or acquisition between members likely to affect the joint undertaking or any takeover of a member by an entity that is not a member of the joint undertaking.
3. The governing board shall decide whether to terminate the membership of any member referred to in paragraph 2, with a view to ensure business continuity and to protect the Union's or the joint undertaking's interest. The termination shall become effective and irrevocable no later than six months from the decision of the governing board or on the date specified in that decision, whichever is earlier. The member or members concerned shall not participate in the vote of the governing board.
4. Each private member shall inform the joint undertaking of any other significant changes in its ownership, control or composition. Where the Commission considers that the change is likely to affect the Union's or the joint undertaking's interest on grounds of security or public order, it may propose to the governing board to terminate the membership of the concerned private member. The governing board shall decide on a termination of the membership of the member concerned. The private member concerned shall not participate in the vote of the governing board.
5. The termination shall become effective and irrevocable not later than six months from the decision of the governing board or on the date specified in that decision, whichever is earlier.
6. The governing board may terminate the membership of any member that fails to fulfil its obligations pursuant to this Regulation. The procedure set out in Article 26(6) applies *mutatis mutandis*.

7. Where there is a change to membership or termination, the joint undertaking shall immediately publish on its website an updated list of its members, together with the date when such change shall take effect.
8. Where appropriate and subject to Article 15(2), the governing board shall decide on a redistribution of the voting rights in the governing board.

Article 9
Contributing partners

1. Any candidate contributing partner as defined in Article 2(7) shall submit a letter of endorsement to the governing board. The letter of endorsement shall specify the scope of the partnership in terms of subject matter, activities and duration and detail the applicant's contribution to the joint undertaking.
2. The governing board shall assess the letter of endorsement and shall approve or reject the application.
3. Where the application is approved, the Union may recognise the contributing partner's contribution to the joint undertaking by releasing additional financial contributions up to the maximum amounts specified in Articles 100(b) and 116(b).
4. Contributing partners shall not have voting rights in the governing board of a joint undertaking.

Article 10
Union financial contribution

1. The Union financial contribution to the joint undertakings, including EFTA appropriations, shall cover administrative and operational costs up to the maximum amounts specified in Part Two. The Union contribution specified in Part Two may be increased with contributions from third countries if the latter are available.
2. The Union contribution shall be paid from the appropriations in the general budget of the Union allocated to the Specific Programme implementing Horizon Europe, established by Council Decision XXX/XXXX/EU, in accordance with point (iv) of Article 62(1)(c) and Article 154 of Regulation (EU, Euratom) 2018/1046 in case of bodies referred to in Article 71 of that Regulation.
3. Additional Union funds complementing the contribution referred to in paragraph 2 may be entrusted to the joint undertakings in accordance with point (iv) of Article 62(1)(c) and Article 154 of Regulation (EU, Euratom) 2018/1046.
4. For contributions corresponding to additional tasks entrusted to a Joint Undertaking in accordance with Article 5(3) or paragraph 3 of this Article, the requirements of Article 155 of Regulation (EU, Euratom) 2018/1046 are applicable.
5. Additional contributions from Union programmes corresponding to additional tasks entrusted to a joint undertaking pursuant to paragraph 3 of this Article or Article 5(3)

shall not be accounted for in the calculation of the Union maximum financial contribution specified in Part Two.

Article 11

Contributions from members other than the Union and contributing partners

1. The contributions of private members shall consist of:
 - (a) in-kind contributions to operational activities;
 - (b) in-kind contributions to additional activities, approved by the governing board in accordance with point (1) of Article 16(2);
 - (c) financial contributions.
2. Unless specified otherwise in Part Two, the private members shall report by 31 March each year to their respective governing board on the value of the contributions referred to in point (b) of paragraph 1 made in each of the previous financial years. For the purpose of valuing these contributions, the costs shall be determined in accordance with the usual cost accounting practices of the entities concerned, to the applicable accounting standards of the country where the entity is established, and to the applicable International Accounting Standards and International Financial Reporting Standards. The costs shall be certified by an independent external auditor appointed by the entity concerned. The valuation method may be verified by the joint undertaking concerned should there be any uncertainty arising from the certification. In duly specified cases, the governing board may authorise the use of lump-sums or unit costs for valuing the contributions.
3. For the purposes of this Regulation, the costs incurred in additional activities shall not be audited by the joint undertaking concerned or any Union body.
4. The contributions from participating states shall consist of financial contributions.
5. The contributions from international organisations shall consist of financial contributions and in kind contributions to operational activities.
6. The contributions from contributing partners shall correspond to the amounts they have committed in the letter of endorsement when becoming a contributing partner and shall consist of:
 - (a) financial contributions;
 - (b) in-kind contributions to operational activities.
7. The Commission may terminate, proportionally reduce or suspend the Union financial contribution to a joint undertaking or trigger the winding up procedure referred to in Article 43 in any of the following cases:
 - (a) where the joint undertaking concerned fails to meet the conditions for the entrustment of the Union contribution, or

- (b) where the members other than the Union or their constituent or affiliated entities fail to contribute, contribute only partially, do not respect the time limits set out in paragraph 2 with regard to the contribution referred to in paragraphs 1, 4 and 5 of this Article, or
 - (c) as a result of the evaluations referred to in Article 171(2).
- 8. The Commission's decision to terminate, proportionally reduce or suspend the Union financial contribution shall not hinder the reimbursement of eligible costs already incurred by the members other than the Union before the decision is notified to the joint undertaking.
- 9. Following the procedure set out in Article 26(6), any member of the joint undertaking other than the Union that fails to meet their commitments concerning the contributions referred to in this Regulation shall be disqualified from voting in the governing board until their obligations have been met. Where any such member fails to meet their obligations upon expiry of an additional six-month period, their membership shall be revoked, unless the governing board decides otherwise in duly justified cases. The entity concerned shall not participate in the vote of the governing board.

CHAPTER 3

Organisation of the joint undertakings

Article 12

Synergies and efficiencies in common back office functions

- 1. Joint undertakings shall, within one year following the adoption of this Regulation, conclude service level agreements on common back office functions, unless specified otherwise in Part Two and subject to the need to guarantee an equivalent level of protection of the Union's financial interest when entrusting budgetary implementation tasks to joint undertakings. Such functions shall include the following areas, subject to confirmation of viability and following screening of resources:
 - (a) human resource support;
 - (b) legal support;
 - (c) information and communication technologies;
 - (d) accounting (excluding treasury);
 - (e) communication;
 - (f) logistics, events and meeting room management;
 - (g) support for each joint undertaking's audit and anti-fraud strategy.

2. The common back office functions referred to in paragraph 1 shall be provided by one or more selected joint undertakings to all others. Interrelated functions shall be kept within the same joint undertaking in order to ensure a coherent organisational structure.
3. The service level agreements referred to in paragraph 1 shall enable the transfer of appropriations or the recovery of costs for the provision of the common services between the joint undertakings.
4. Without prejudice to the reassignment to other tasks within the joint undertaking, or to other administrative arrangements, which do not impact contracts of employment, staff assigned to the functions transferred to the common back office, hosted by another joint undertaking, may be transferred to that joint undertaking. Where a member of the staff concerned expresses his or her refusal in writing, the contract of that member of staff, may be terminated by the joint undertaking under the conditions referred to in Article 47 of the CEOS.
5. Staff referred to in paragraph 4, who is transferred to the joint undertaking hosting the common back office, shall keep the same type of contract and function group and grade, and shall be deemed to have served their entire service in that joint undertaking.

Article 13
Bodies of the joint undertakings

1. Each joint undertaking shall have a governing board and an executive director.
2. A joint undertaking may also have a scientific advisory body, a states' representatives group and a stakeholders group and such other body in accordance with the provisions in Part Two.
3. When carrying out its tasks, each body of the joint undertakings shall only pursue the objectives set out in this Regulation and shall only act within the scope of the activities of the joint undertaking for the purpose of which it was established.
4. Without prejudice to paragraph 3, bodies of two or more joint undertakings may decide to establish a structured cooperation, including through regular meetings or joint committees.

SECTION 1
GOVERNING BOARD

Article 14
Composition of the governing board

1. The governing board shall be composed of at least two representatives of the Commission on behalf of the Union and of the number of representatives from each

of the members of the joint undertaking other than the Union as set out in Part Two in relation to each joint undertaking.

2. Where, in accordance with Article 6(1)(b), the members of the joint undertaking include participating states, one representative of each participating state shall be appointed to the governing board.

Article 15
Functioning of the governing board

1. The representatives of the members in the governing board shall make every effort to adopt decisions by consensus. Failing consensus a vote shall be held. A decision shall be deemed adopted by a majority of at least 75% of the votes including the votes of representatives who are absent.

Adoption of decisions by the governing board may also be subject to any relevant specific rules set out in Part Two.

2. The Union shall hold 50% of the voting rights, unless specified otherwise in Part Two. The voting rights of the Union shall be indivisible.

The voting rights of the members other than the Union shall be subject to the specific rules set out in Part Two.

3. The chairperson of the governing board shall be appointed on a rotating annual basis by the Union and by the other representatives, in turn, unless otherwise provided in Part Two.

4. The governing board shall hold ordinary meetings at least twice a year. Extraordinary meetings may be convened at the request of the chairperson, of the executive director, of the Commission or of a majority of the representatives of the members other than the Union or of the participating states. The meetings of the governing board shall be convened by the chairperson and shall take place at the seat of the joint undertaking concerned, unless exceptionally decided otherwise by the governing board in duly justified cases.

5. The executive director shall attend the meetings and shall have the right to take part in the deliberations but shall have no voting rights.

6. The chairpersons of the other bodies of the joint undertaking concerned shall have the right to attend meetings of the governing board as observers whenever issues falling within the scope of their tasks are discussed. They may take part in deliberations but shall have no voting rights.

7. Other persons, in particular representatives of other European partnerships, executive or regulatory agencies, regional authorities within the Union and European technology platforms may also be invited to attend by the chairperson as observers on a case-by-case basis subject to the rules on confidentiality and conflict of interest.

8. The quorum of the governing board shall be constituted by the Commission, the private members and, if applicable, at least three participating states' lead delegates.

9. The representatives of the members shall not be personally liable for actions they have taken in their capacity as representatives on the governing board.
10. The governing board shall adopt its own rules of procedure.
11. The representatives of the members shall be bound by the provisions of a code of conduct. The code of conduct shall establish the obligations of such members to safeguard the integrity and reputation of the joint undertaking concerned and of the Union.

Article 16
Tasks of the governing board

1. The governing board of each joint undertaking shall have overall responsibility for the strategic orientation and the operations of that joint undertaking and shall supervise the implementation of its activities.

The Commission, in its role in the governing board, shall seek to ensure coordination between the activities of the joint undertakings and the relevant activities of Union funding programmes with a view to promoting synergies and complementarities when identifying priorities covered by collaborative research.

2. The governing board shall carry out the following tasks:
 - (a) ensure close and timely monitoring of the progress of the joint undertaking's research and innovation programme and individual actions in relation to the priorities of the Commission and the Strategic Research and Innovation Agenda and take corrective measures where needed to ensure that the joint undertaking meets its objectives;
 - (b) assess, accept or reject applications for membership in accordance with Article 7;
 - (c) assess, accept or reject applications of prospective contributing partners in accordance with Article 9;
 - (d) decide on the termination of the membership in the joint undertaking with regard to any member that does not fulfil its obligations pursuant to this Regulation or in accordance with paragraphs (2) and (3) of Article 8;
 - (e) adopt the financial rules of the joint undertaking in accordance with Article 25;
 - (f) adopt the annual budget and the staff establishment plan including the number of permanent and temporary posts by function group and by grade as well as the number of contract staff and seconded national experts expressed in full-time equivalents;
 - (g) decide on the distribution of administrative costs among the members other than the Union, where these members fail to reach an agreement in accordance with Article 26(2);

- (h) exercise in accordance with paragraph 4 and with regard to the staff of the joint undertaking, the powers conferred by the Staff Regulations of Officials of the European Union (the ‘Staff Regulations’) on the Appointing Authority and by the Conditions of Employment of Other Servants of the European Union (the ‘CEOS’) on the Authority Empowered to Conclude a Contract of Employment ("the appointing authority powers");
- (i) appoint, dismiss, extend the term of office, provide guidance and monitor the performance of the executive director;
- (j) adopt the Strategic Research and Innovation Agenda at the beginning of the initiative and amend it throughout the duration of Horizon Europe, where necessary. The Strategic Research and Innovation Agenda shall identify the partnership’s targeted impact, foreseen portfolio of activities, measurable expected outcomes, resources, deliverables, and milestones within a defined timeframe. It shall also identify the other European partnerships with which the joint undertaking shall establish a formal and regular collaboration and the possibilities for synergies between the joint undertaking’s actions and national or regional initiatives and policies based on information received by the participating states or the states’ representatives group as well as synergies with other Union programmes;
- (k) adopt the work programme and corresponding expenditure estimates as proposed by the executive director to implement the Strategic Research and Innovation Agenda, including the administrative activities, the content of the calls for proposals, the research areas subject to joint calls and cooperation with other partnerships, the applicable funding rate per call topic, as well as the related rules for submission, evaluation, selection, award and review procedures, with particular attention to the feedback to policy requirements;
- (l) approve the annual additional activities plan, set out in an annex to the main part of the work programme, on the basis of a proposal from the members other than the Union and after having consulted the scientific advisory body or such body as set out in Part Two;
- (m) provide strategic orientation as regards the collaboration with other European partnerships in accordance with the Strategic Research and Innovation Agenda;
- (n) assess the consolidated annual activity report, including the corresponding expenditure and the budget dedicated to joint calls with other European partnerships;
- (o) deliver an opinion on the joint undertaking’s final accounts;
- (p) make arrangements, as appropriate, for the establishment of an internal audit capability of the joint undertaking;
- (q) approve the organisational structure of the programme office upon recommendation of the executive director;
- (r) approve the joint undertaking’s communication policy upon recommendation by the executive director;

- (s) approve the list of actions selected for funding;
 - (t) adopt implementing rules for giving effect to the Staff Regulations and the Conditions of Employment of Other Servants in accordance with Article 110(2) of the Staff Regulations;
 - (u) adopt rules on the secondment of national experts to the joint undertakings or the use of trainees;
 - (v) set up, as required, advisory or working groups, including in collaboration with other joint undertakings, in addition to the bodies of the joint undertaking referred to in Article 13, for a determined period of time and to fulfil a specific purpose;
 - (w) submit to the Commission, where appropriate, any request to amend this Regulation proposed by a member of the joint undertaking;
 - (x) request scientific advice or analysis on specific issues to the joint undertaking's scientific advisory body or its members, including as regards developments in adjacent sectors;
 - (y) adopt by the end of 2022 a plan for the phasing-out of the joint undertaking from Horizon Europe funding upon recommendation of the executive director;
 - (z) ensure the performance of any task that is not specifically assigned to a particular body of a joint undertaking, subject to the possibility that the governing board may assign such task to another body of the joint undertaking concerned.
3. The governing board of a joint undertaking may also be subject to specific rules set out in Part Two.
 4. The governing board shall adopt, in accordance with Article 110(2) of the Staff Regulations, a decision based on Article 2(1) of those Staff Regulations and on Article 6 of the CEOS, delegating relevant appointing authority powers to the executive director and defining the conditions under which that delegation of powers can be suspended. The executive director shall be authorised to sub-delegate those powers.

SECTION 2

EXECUTIVE DIRECTOR

Article 17

Appointment, dismissal and extension of the term of office of the executive director

1. The executive director shall be appointed by the governing board on the basis of merit and skills, from the list of candidates proposed by the Commission, following

an open and transparent selection procedure which shall respect the principle of gender balance.

2. The Commission shall propose a list of candidates for executive director after consultation with the members other than the Union of the joint undertaking. For the purpose of such consultation the members other than the Union of the joint undertaking shall appoint by common accord their representatives as well as an observer on behalf of the governing board.
3. The executive director shall be a member of staff and shall be engaged as a temporary agent of the joint undertaking under Article 2(a) of the CEOS.

For the purpose of concluding the contract of the executive director, the joint undertaking shall be represented by the chairperson of the governing board.

4. The term of office of the executive director shall be four years. By the end of that period, the Commission after consulting the members other than the Union shall carry out an assessment of the performance of the executive director and the future tasks and challenges of the joint undertaking.
5. The governing board of the joint undertaking, acting on a proposal from the Commission which takes into account the assessment referred to in paragraph 4, may extend the term of office of the executive director once, for a period of not more than three years.
6. An executive director whose term of office has been extended may not participate in another selection procedure for the same post.
7. An executive director may be dismissed only upon a decision of the governing board acting on a proposal from the Commission, after consulting, as appropriate, the members other than the Union of the joint undertaking.

Article 18
Tasks of the executive director

1. The executive director shall be the chief executive responsible for the day-to-day management of the joint undertaking in accordance with the decisions of the governing board. He or she shall provide the governing board with all information necessary for the performance of its functions. Without prejudice to the respective competencies of the Union institutions and the governing board, the executive director shall neither seek nor take instructions from any government or from any other body.
2. The executive director shall be the legal representative of the joint undertaking. He or she shall be accountable to the governing board of the joint undertaking.
3. The executive director shall implement the budget of the joint undertaking.
4. The executive director shall carry out the following tasks for the joint undertaking:
 - (a) ensure sustainable and efficient management of the joint undertaking;

- (b) prepare and submit for adoption to the governing board the draft annual budget and the staff establishment plan;
- (c) prepare and submit for adoption to the governing board the work programme and the corresponding expenditure estimates for the joint undertaking, to implement the Strategic Research and Innovation Agenda;
- (d) submit for opinion to the governing board the annual accounts for the joint undertaking;
- (e) prepare and submit for assessment and approval to the governing board the consolidated annual activity report;
- (f) monitor the contributions referred to in point (a) of Article 11(1), report to the governing board regularly on the progress in achieving the targets and propose remedial or corrective measures, where necessary;
- (g) establish a formal and regular collaboration with the European partnerships identified in the Strategic Research and Innovation Agenda and in accordance with the strategic orientation provided by the governing board;
- (h) represent the joint undertaking in meetings within the scope of the Horizon Europe governance;
- (i) submit for approval to the governing board the list of actions to be selected for funding by the joint undertaking;
- (j) assess applications for associated members to the joint undertaking following an open call for expression of interest and submit proposals for associated members to the governing board;
- (k) inform regularly the other bodies of the joint undertaking on all matters relevant to their role;
- (l) sign individual grant agreements and decisions in his or her remit on behalf of the joint undertaking;
- (m) sign procurement contracts on behalf of the joint undertaking;
- (n) implement the communications policy of the joint undertaking;
- (o) organise, direct and supervise the operations and the staff of the joint undertaking within the limits of the delegations by the governing board;
- (p) establish and ensure the functioning of an effective and efficient internal control system and report any significant change to it to the governing board;
- (q) protect the financial interests of the Union by applying preventive measures against fraud, corruption and any other illegal activities by means of effective checks and, if irregularities are detected, by recovering amounts that were wrongly paid and, where appropriate, imposing effective, proportionate and dissuasive administrative and financial penalties;

- (r) ensure the carrying out of risk assessments and risk management for the joint undertaking;
 - (s) take any other measures necessary for assessing the progress of the joint undertaking towards achieving its objectives;
 - (t) prepare and submit for adoption to the governing board a plan for the phasing out of the joint undertaking from Horizon Europe funding;
 - (u) perform any other tasks entrusted or delegated to him or her by the governing board or as may be required by this Regulation;
 - (v) have the power to delegate his or her powers to other staff members subject to rules to be adopted in accordance with the last paragraph of Article 16(4).
5. The executive director may also be subject to any specific rules set out in Part Two.
6. The executive director shall set up a programme office for the execution under his or her responsibility, of all support tasks of the joint undertaking deriving from this Regulation. The programme office shall be composed of the staff of the joint undertaking and shall in particular carry out the following tasks:
- (a) provide support in establishing and managing an appropriate accounting system in accordance with the financial rules for the joint undertaking;
 - (b) manage the implementation of the work programme of the joint undertaking throughout the implementation cycle;
 - (c) provide to the members and the bodies of the joint undertaking all relevant information and support necessary for them to perform their duties;
 - (d) act as the secretariat of the bodies of the joint undertaking and provide support to advisory groups set up by the governing board.

SECTION 3

ADVISORY BODIES

Article 19

Scientific advice

1. Joint undertakings shall seek independent scientific advice by means of:
- (a) a scientific advisory body, or its members, to be set up by the joint undertaking in accordance with the relevant provisions set out in Part Two, and subject to the provisions in this Article; and/or
 - (b) *ad hoc* requests for expertise external by the governing board to the joint undertaking on specific questions.

In exceptional cases and where duly justified, part of the scientific advice function may be carried out by the members of the joint undertaking other than the Union, provided that there is no conflict of interest.

2. There shall be a balanced representation of experts among the members of the scientific advisory body, within the scope of the activities of the joint undertaking, including with respect to gender balance. Collectively, the members of the scientific advisory body shall have the necessary competences and expertise covering the technical domain in order to make science-based recommendations to the joint undertaking, taking into account the socio-economic impact of such recommendations and the objectives of the joint undertaking.
3. The members of the scientific advisory body, as well as invited observers, shall be subject to the obligation of professional secrecy which, by virtue of the Treaties and the rules implementing them, applies to all members of the institutions and their staff, as well as to the Commission's rules on security regarding the protection of sensitive non-classified and Union classified information, laid down in Commission Decisions (EU, Euratom) 2015/443³⁹ and 2015/444⁴⁰ respectively.
4. The governing board shall establish the specific criteria and selection process for the composition of the scientific advisory body of the joint undertaking and shall appoint its members. Where relevant, the governing board shall take into consideration the potential candidates proposed by the states' representatives group.
5. The scientific advisory body shall elect its chair from among its members.
6. The scientific advisory body shall meet at least twice a year and meetings shall be convened by the chairperson. The chairperson may invite other persons to attend its meetings as observers. The scientific advisory body shall adopt its own rules of procedure.
7. The scientific advisory body shall carry out the following tasks:
 - (a) advise on the scientific priorities to be addressed in the work programmes, in line with the Strategic Research and Innovation Agenda and the Horizon Europe strategic planning;
 - (b) advise on the scientific achievements to be described in the annual activity report;
 - (c) suggest, in view of the progress of the Strategic Research and Innovation Agenda and individual actions, corrective measures or re-orientations to the governing board, where necessary
 - (d) provide independent advice and scientific analysis on specific issues as requested by the governing board, in particular as regards developments in adjacent sectors;

³⁹ Commission Decision (EU, Euratom) 2015/443 of 13 March 2015 on Security in the Commission (OJ L 72, 17.3.2015, p. 41).

⁴⁰ Commission Decision (EU, Euratom) 2015/444 of 13 March 2015 on the security rules for protecting EU classified information (OJ L 72, 17.3.2015, p. 53).

- (e) where specified in Part Two, evaluate the results from technology and innovation actions that are funded by the joint undertaking and report to the governing board;
 - (f) where specified in Part Two, participate in sector integration committees specifically set up between European partnerships under Horizon Europe to enable synergies;
 - (g) carry out any other task, as specified in Part Two.
8. After each meeting of the scientific advisory body, its chairperson shall submit to the governing board a report outlining the body's and its members' opinions on the matters discussed during the meeting.
 9. The scientific advisory body may, of its own initiative, advise the governing board to consult it on specific points not covered by the tasks set out in paragraph 7.

Article 20
States' Representatives Group

1. Except in cases where member states and associated countries participate in a joint undertaking as members or constituent entities of members, joint undertakings shall establish a states' representatives group as specified in Part Two subject to the provisions in this Article.
2. The states' representatives group shall consist of one representative and one alternate from each member state and of each associated country. The states' representatives group shall elect a chairperson from among its members.
3. The states' representatives group shall meet at least twice a year. The meetings shall be convened by the chairperson. The chairperson of the governing board and the executive director or their representatives shall attend the meetings as observers.
4. The meetings of the states' representatives group may be regulated by any relevant specific provisions set out in Part Two.
5. The chairperson of the states' representatives group may invite other persons to attend its meetings as observers, in particular representatives of relevant federal or regional authorities within the Union, representatives of SME associations and representatives of other bodies of the joint undertaking.
6. The agenda of the State Representatives Group's meetings shall be circulated sufficiently in advance to ensure appropriate representation by each member state and associated country. The agenda shall also be circulated for information to the governing board.
7. The states' representatives group shall be consulted and, in particular, it shall review information and provide opinions on the following matters:

- (a) programme progress of the joint undertaking and achievement of its targets as part of Horizon Europe, including the information on calls for proposals and the proposals evaluation process;
 - (b) updating of strategic orientation in line with the Horizon Europe strategic planning and with other Union and member states funding instruments;
 - (c) links to Horizon Europe and other Union, national and, where relevant, regional initiatives, including cohesion policy funds in line with smart specialisation strategies;
 - (d) work programmes;
 - (e) involvement of SMEs.
8. Where applicable, the states' representatives group shall also regularly report to the governing board, and act as an interface with the joint undertaking on the following matters:
- (a) the status of relevant national or regional research and innovation programmes and identification of potential areas of cooperation, including concrete actions taken or envisaged for the deployment of relevant technologies and innovative solutions;
 - (b) specific measures taken at national level or regional level with regard to dissemination events, dedicated technical workshops and communication activities;
 - (c) specific measures at national or regional level with regard to deployment activities in relation to each respective initiative;
 - (d) national or regional policies and initiatives with the view to ensuring complementarities with regard to the joint undertaking's Strategic Research and Innovation Agenda and annual work programmes.
9. The states' representatives group shall submit, at the end of each calendar year, a report describing the national or regional policies in the scope of the joint undertaking and identifying specific ways of cooperation with the actions funded by the joint undertaking.
10. The states' representatives group may issue, on its own initiative, recommendations or proposals to the governing board on technical, managerial and financial matters as well as on work programmes and other documents, in particular when those matters affect national or regional interests.
- The governing boards shall inform without undue delay the states' representatives group of the follow up it has given to such recommendations or proposals, or it shall give reasons if they are not followed up.
11. The states' representatives group shall receive information on a regular basis, among others on the participation in indirect actions funded by the joint undertaking, on the outcome of each call for proposals and project implementation, on synergies with

other relevant Union programmes and on the execution of the budget of the joint undertaking.

12. The states' representatives group shall adopt its own rules of procedure.
13. One or more joint undertakings may establish a joint State Representatives Group in accordance with the relevant provisions set out in Part Two.

Article 21
Stakeholders Group

1. Joint undertakings may establish a stakeholders group in accordance with the relevant provisions in Part Two and subject to provisions of this Article.
2. The stakeholders group shall be open to all public and private stakeholders, including organised groups, active in the field of the joint undertaking, international interest groups from member states, associated countries as well as from other countries.
3. The stakeholders group shall be regularly informed of the activities of the joint undertaking and shall be invited to provide comments on the joint undertaking's planned initiatives.
4. The meetings of the stakeholders group shall be convened by the executive director.
5. The executive director may advise the governing board to consult the stakeholders group on specific questions. Where such consultation takes place, a report shall be submitted to the governing board after the relevant discussion in the stakeholders group.

CHAPTER 4
Financial and operational provisions

SECTION 1
GENERAL PROVISIONS

Article 22
Rules applicable to the activities funded by the joint undertakings

1. The Horizon Europe Regulation shall apply to the actions funded by the joint undertakings under Horizon Europe. In accordance with that Regulation, each joint undertaking shall be considered as a funding body and shall provide financial support to indirect actions pursuant to [Article 5] of that Regulation.

2. Actions funded by the joint undertakings under Horizon Europe may also be subject to any specific provisions set out in Part Two.
3. By way of derogation from [Article 36.4(a)] of the Horizon Europe Regulation, the right to object shall also apply to participants generating the results that have not received funding from a joint undertaking.

Article 23
Operational and financial planning

1. The executive director shall submit for adoption to the governing board a draft work programme.
2. The work programme shall be adopted by the end of the year prior to its implementation. The work programme shall be published on the website of the joint undertaking, and, to support the coordination with the overall strategy of Horizon Europe, be shared with the relevant clusters' programme committee for information.
3. The executive director shall prepare a draft annual budget for the following year and submit it to the governing board for adoption.
4. The annual budget for a particular year shall be adopted by the governing board by the end of the year prior to its implementation.
5. The annual budget shall be adapted in order to take into account the amount of the Union financial contribution as set out in the Union budget.

Article 24
Operational and financial reporting

1. The executive director shall provide the governing board with a consolidated annual activity report on the performance of his or her duties in accordance with the financial rules of the joint undertaking.
2. The consolidated annual activity report shall include, among others, information on the following matters:
 - (a) research, innovation and other actions carried out and the corresponding expenditure;
 - (b) the proposals submitted, including a breakdown by participant type, including SMEs, and by country;
 - (c) the indirect actions selected for funding, including a breakdown by participant type, including SMEs, and by country and indicating the contribution of the respective joint undertaking to the individual participants and actions;
 - (d) the additional activities undertaken by the members other than the Union;

- (e) the collaboration with other European partnerships, including joint calls, and synergies between the joint undertaking's actions and national or regional initiatives and policies.
- 3. The accounting officer of the joint undertaking shall send the provisional accounts to the Commission's accounting officer and the Court of Auditors in accordance with the financial rules of the joint undertaking.
- 4. The executive director shall send the report on the budgetary and financial management to the European Parliament, the Council and the Court of Auditors in accordance with the financial rules of the joint undertaking.
- 5. The discharge procedure shall be carried out in accordance with the financial rules of the joint undertaking.

SECTION 2

FINANCIAL PROVISIONS

Article 25 *Financial Rules*

- 1. The joint undertakings shall adopt their financial rules in accordance with Article 71 of Regulation (EU, Euratom) 2018/1046.
- 2. The financial rules shall be published on the website of the respective joint undertaking.

Article 26 *Sources of financing*

- 1. Each joint undertaking shall be jointly funded by the Union, the members other than the Union and the contributing partners through financial contributions and in-kind contributions to operational activities.
- 2. The members other than the Union shall agree on how to share their collective contribution among them in accordance with the financial rules of the joint undertaking.
- 3. The operational costs of a joint undertaking shall be covered by means of the:
 - (a) financial contribution by the Union;
 - (b) financial contributions by the private members, their constituent or affiliated entities, by contributing partners or by an international organisation that is a member of a joint undertaking;
 - (c) financial contributions by the participating states;

- (d) in-kind contributions defined in Article 2(8);
4. The resources of a joint undertaking entered to its budget shall be composed of the following contributions:
- (a) members' financial contributions to the joint undertaking for the administrative costs, divided equally on an annual basis between the Union and the members other than the Union, unless specified otherwise due to the specific membership nature of a joint undertaking;
 - (b) members' or contributing partners' financial contributions to the joint undertaking for the operational costs;
 - (c) any revenue generated by the joint undertaking;
 - (d) any other financial contributions, resources and revenues.

Any interest yielded by the contributions referred to in paragraph 4 shall be considered to be its revenue.

5. Any unused part of the contribution for administrative costs may be made available to cover the operational costs of the joint undertaking concerned.
6. Should the members other than the Union of the joint undertaking be in default of their commitment concerning their contribution, the executive director shall inform them in writing and shall set a reasonable period within which such default should be remedied. Where, on the expiry of that period, the member other than the Union concerned is still in default, the executive director shall inform the Commission in view of potential measures and the member concerned that it is disqualified from voting in the governing board in line with Article 11(9).
7. The resources of the joint undertaking and its activities shall be used for the fulfilment of its objectives and tasks set out in Articles 4, 5, 44, 45, 55, 56, 71, 72, 83, 84, 97, 98, 113, 114, 124, 125, 142, 143, 159 and 160.
8. The joint undertaking shall own all assets generated by it or transferred to it for the fulfilment of its objectives and tasks set out in Articles 4, 5, 44, 45, 55, 56, 71, 72, 83, 84, 97, 98, 113, 114, 124, 125, 142, 143, 159 and 160.
9. Except where the joint undertaking is wound up, any excess revenue over expenditure shall not be paid to the members of that joint undertaking, unless decided otherwise by the governing board.

Article 27
Financial commitments

1. The financial commitments of a joint undertaking shall not exceed the amount of financial resources available or committed to its budget by its members and contributing partners.

2. Budgetary commitments of the joint undertakings referred to in points (b), (d) and (h) of Article 3(1) may be divided into annual instalments. Until 31 December 2024, the cumulative amount of those budgetary commitments in instalments shall not exceed 50 percent of the maximum Union contribution set out in Article 10. From January 2025, at least 20 percent of the cumulative budget of the residual years shall not be covered by annual instalments.

Article 28

Protection of the financial interests of the members

1. The joint undertaking shall grant Commission staff and other persons authorised by the respective joint undertaking or the Commission, as well as the Court of Auditors, access to its sites and premises and to all the information, including information in electronic format, needed in order to conduct their audits.
2. The European Anti-Fraud Office (OLAF) may carry out investigations, including on-the-spot checks and inspections, in accordance with the provisions and procedures laid down in Council Regulation (Euratom, EC) No 2185/96⁴¹ and Regulation (EC, Euratom) No 883/2013 of the European Parliament and of the Council⁴² and with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with an agreement, a decision or a contract funded under this Regulation.
3. The European Public Prosecutor's Office (EPPO) may carry out investigations in accordance with the provisions and procedures laid down in Council Regulation (EU) 2017/1939⁴³, with a view to investigating criminal offences affecting the financial interests of the Union as set out in Article 4 of that Regulation.
4. Notwithstanding paragraphs 1 to 3, agreements, decisions and contracts resulting from the implementation of this Regulation shall contain provisions expressly empowering the Commission, the respective joint undertaking, the Court of Auditors, the EPPO and OLAF to conduct such audits, on-the spot checks and investigations in accordance with their respective competences.
5. Each joint undertaking shall ensure that the financial interests of its members are adequately protected by carrying out or commissioning appropriate internal and external controls.
6. Each joint undertaking shall accede to the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council and the Commission concerning internal investigations by the European Anti-Fraud Office (OLAF)⁴⁴. Each joint

⁴¹ Council Regulation (Euratom, EC) No 2185/96 of 11 November 1996 concerning on-the-spot checks and inspections carried out by the Commission in order to protect the European Communities' financial interests against fraud and other irregularities (OJ L 292, 15.11.1996, p. 2).

⁴² Regulation (EU, Euratom) No 883/2013 of the European Parliament and of the Council of 11 September 2013 concerning investigations conducted by the European Anti-Fraud Office (OLAF) and repealing Regulation (EC) No 1073/1999 of the European Parliament and of the Council and Council Regulation (Euratom) No 1074/1999 (OJ L 248, 18.9.2013, p. 1).

⁴³ OJ L 283, 31.10.2017, p. 1.

⁴⁴ OJ L 136, 31.5.1999, p. 15.

undertaking shall adopt the necessary measures needed to facilitate internal investigations conducted by OLAF.

Article 29
Ex-post audits

Audits of expenditure on indirect actions shall be carried out in accordance with [Article 48] of the Horizon Europe Regulation as part of the Horizon Europe indirect actions, in particular in line with the audit strategy referred to in [Article 48(2)] that Regulation.

Article 30
Internal audit

1. The Commission's internal auditor shall exercise the same powers over the joint undertakings as those exercised in respect of the Commission.
2. The governing board may establish an internal audit capability in accordance with the financial rules of the joint undertaking concerned.

SECTION 3
OPERATIONAL PROVISIONS

Article 31
Confidentiality

Without prejudice to Articles 32 and 34, each joint undertaking shall ensure the protection of confidential information the disclosure of which beyond Union institutions and other Union bodies, offices or agencies could damage the interests of its members or of participants in the activities of the respective joint undertaking. Such confidential information includes but is not limited to personal, commercial, sensitive non-classified and classified information.

Article 32
Transparency

Regulation (EC) No 1049/2001 of the European Parliament and of the Council⁴⁵ shall apply to documents held by a joint undertaking.

⁴⁵ Regulation (EC) No 1049/2001 of the European Parliament and of the Council of 30 May 2001 regarding public access to European Parliament, Council and Commission documents (OJ L 145, 31.5.2001, p. 43.).

Article 33
Processing of personal data

Where the implementation of this Regulation requires the processing of personal data, this shall be processed in accordance with Regulation (EU) 2018/1725 of the European Parliament and of the Council⁴⁶.

Article 34
Access to results and information on proposals

1. The joint undertaking shall provide the Union institutions and Union bodies, offices or agencies access to all information related to the indirect actions it funds. Such information shall include results of beneficiaries participating in indirect actions of the joint undertaking or any other information deemed necessary for developing, implementing, monitoring and evaluating Union policies or programmes. Such access rights are limited to non-commercial and non-competitive use and shall comply with applicable confidentiality rules.
2. For the purposes of developing, implementing, monitoring and evaluating Union policies or programmes, the joint undertaking shall provide the Commission with the information included in submitted proposals.

CHAPTER 5 **Staff and liability**

SECTION 1 **STAFF, PRIVILEGES AND IMMUNITIES**

Article 35
Staff

1. The Staff Regulations of Officials and the CEOS laid down by Council Regulation (EEC, Euratom, ECSC) No 259/68 and the rules adopted jointly by the institutions of the Union for the purpose of applying the Staff Regulations and the CEOS shall apply to the staff of the joint undertakings.
2. The staff resources shall be determined in the staff establishment plan of each joint undertaking indicating the number of temporary posts by function group and by grade and the number of contract staff expressed in full-time equivalents, in line with its annual budget.

⁴⁶ Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC (OJ L 295, 21.11.2018, p. 39).

3. The staff of the joint undertaking shall consist of temporary staff and contract staff.
4. All costs related to staff shall be borne by the joint undertaking.

Article 36
Seconded national experts and trainees

1. A joint undertaking may make use of seconded national experts and trainees not employed directly by it. The number of seconded national experts expressed in full-time equivalents shall be added to the information on staff resources as referred to in Article 35(2) in accordance with the annual budget of the joint undertaking concerned.
2. The governing board of the joint undertaking concerned shall adopt a decision laying down rules on the secondment of national experts to the respective joint undertaking and on the employment of trainees.

Article 37
Privileges and Immunities

Protocol No. 7 on the privileges and immunities of the European Union, annexed to the Treaty on European Union and the Treaty on the Functioning of the European Union, shall apply to the joint undertakings and their staff.

SECTION 2
LIABILITY

Article 38
Liability of the joint undertakings

1. The contractual liability of a joint undertaking shall be governed by the relevant contractual provisions and by the law applicable to the agreement, decision or contract in question.
2. Where liability is of a non-contractual nature, a joint undertaking shall, in accordance with the general principles common to the laws of the member states, make good any damage caused by its staff in the performance of their duties.
3. Any payment by a joint undertaking in respect of the liability referred to in paragraphs 1 and 2 and the costs and expenses incurred in connection therewith shall be considered as expenditure of the joint undertaking and shall be covered by its resources.
4. Joint undertakings shall be solely responsible for meeting their obligations.

Article 39
Liability of members and insurance

1. The financial liability of the members of a joint undertaking for its debts shall be limited to their financial contributions made to the joint undertaking.
2. The joint undertakings shall take out and maintain appropriate insurance.

Article 40
Conflict of interest

1. The joint undertaking, its bodies and staff shall avoid any conflict of interest in the implementation of their activities.
2. The governing board shall adopt rules for the prevention, avoidance and management of conflicts of interest in respect of the staff of the joint undertaking, the members and other persons serving the governing board and in the other bodies or groups of the joint undertaking, in accordance with the financial rules of the joint undertaking and with the Staff Regulations in respect of staff.

CHAPTER 6

Dispute resolution

Article 41
Jurisdiction of the Court of Justice and applicable law

1. The Court of Justice of the European Union shall have jurisdiction:
 - (a) pursuant to any arbitration clause contained in agreements or contracts concluded by a joint undertaking, or in its decisions;
 - (b) in disputes relating to compensation for damage caused by the staff of the joint undertaking in the performance of their duties;
 - (c) in any dispute between the joint undertaking and its staff within the limits and under the conditions laid down in the Staff Regulations and the CEOS.
2. Regarding any matter not covered by this Regulation or by other Union legal acts, the law of the state where the seat of the joint undertaking is located shall apply.

Article 42
Complaints to the Ombudsman

Decisions taken by a joint undertaking in the implementation of this Regulation may form the subject of a complaint to the Ombudsman in accordance with Article 238 of the Treaty.

CHAPTER 7

Winding up

Article 43

Winding up

1. Joint undertakings shall be wound up at the end of the period laid down in Article 3.
2. In addition to paragraph 1, the winding up procedure of a joint undertaking shall be automatically triggered where the Union or all members other than the Union withdraw from the joint undertaking.
3. For the purpose of conducting the winding up proceedings of a joint undertaking, the governing board shall appoint one or more liquidators, who shall comply with the decisions of the governing board.
4. During the winding up procedure, the assets of the joint undertaking shall be used to cover its liabilities and the expenditure relating to its winding up. Any surplus shall be distributed among the members of the joint undertaking at the time of the winding up in proportion to their financial contribution to the joint undertaking. Any such surplus distributed to the Union shall be returned to the general budget of the Union.
5. An ad hoc procedure shall be set up to ensure the appropriate management of any agreement concluded or decision adopted by the joint undertaking being wound up as well as any procurement contract the duration of which extends beyond the duration of the joint undertaking.

PART TWO
SPECIFIC PROVISIONS OF INDIVIDUAL JOINT
UNDERTAKINGS

TITLE I

CIRCULAR BIO-BASED EUROPE JOINT UNDERTAKING

Article 44

Additional objectives of the Circular Bio-based Europe Joint Undertaking

1. In addition to the objectives set out in Articles 4 and 5, the Circular Bio-based Europe Joint Undertaking shall also have the following general objectives:
 - (a) accelerate the innovation process and development of bio-based innovative solutions;
 - (b) accelerate market deployment of the existing mature and innovative bio-based solutions;
 - (c) ensure a high level of environmental performance of bio-based industrial systems.
2. The Circular Bio-based Europe Joint Undertaking shall also have the following specific objectives:
 - (a) increase the intensity of cross-disciplinary research and innovation activities to reap the benefits of the advancement in life sciences and in other scientific disciplines for the development and demonstration of sustainable bio-based solutions;
 - (b) increase and integrate the research and innovation capacity of stakeholders across the Union to exploit the local bioeconomy potential;
 - (c) increase the research and innovation capacity for addressing environmental challenges and development of more sustainable bio-based innovations;
 - (d) reinforce the integration of bio-based research and innovation processes in Union industrial value chains;
 - (e) reduce the risk for research and innovation investment in bio-based companies and projects;
 - (f) ensure that environmental considerations are taken into account in the development and implementation of research and innovation bio-based projects.

Article 45
Additional tasks of the Circular Bio-Based Europe Joint Undertaking

In addition to the tasks set out in Article 5, the Circular Bio-based Europe Joint Undertaking shall also carry out the following tasks:

- (a) ensure that the objectives of the Circular Bio-Based Europe Joint Undertaking are reached through the programming of research and innovation activities of the public and private partners;
- (b) mobilise public and private funding for research and innovation activities of the Circular Bio-Based Europe Joint Undertaking;
- (c) support high impact multidisciplinary research and innovation projects that enhance the industrial innovation in bio-based industry to deliver on the objectives of the Circular Bio-Based Europe Joint Undertaking;
- (d) intensify research and innovation activities of the Circular Bio-Based Europe Joint Undertaking along the whole innovation chain from low to high Technology Readiness Levels;
- (e) mobilise and integrate research and innovation actors from rural, coastal, urban areas and regions with unexploited potential for bio-based industry development to cooperate in project activities;
- (f) ensure that research and innovation activities under the Circular Bio-Based Europe Joint Undertaking focus on issues of public interest, specifically on the environmental and climate performance of the bio-based industry, both in terms of understanding the relevant problems and developing solutions to them;
- (g) promote communication and collaboration between research and innovation actors and industrial stakeholders under the Circular Bio-Based Europe Joint Undertaking to raise awareness about rapidly evolving knowledge and technology, facilitate cross-sector collaboration and facilitate market uptake of innovative bio-based solutions;
- (h) mobilise national and regional authorities that are able to create more favourable conditions for market uptake of bio-based innovations;
- (i) set scientifically robust sustainability criteria and performance benchmarks, apply and monitor them in all research and innovation activities of the Circular Bio-Based Europe Joint Undertaking, and promote them beyond the initiative to the bio-based industry;
- (j) communicate and promote innovative bio-based solutions towards policy makers, industry, NGOs and consumers at large.

Article 46
Members

The members of the Circular Bio-based Europe Joint Undertaking shall be:

- (a) the Union, represented by the Commission;
- (b) the Bio-based Industries Consortium, a non-profit organisation established under Belgian law, with its permanent office in Brussels, Belgium, upon notification of its decision to unconditionally accede to the Circular Bio-based Europe Joint Undertaking by means of a letter of commitment;
- (c) the associated members selected in accordance with Article 7, subject to a decision of the governing board.

Article 47
Union financial contribution

The Union financial contribution from the Horizon Europe Programme to the Circular Bio-based Europe Joint Undertaking, including EFTA appropriations, to cover administrative and operational costs shall be up to EUR 1 000 000 000, including up to EUR 23 500 000 for administrative costs. The Union contribution may be increased with contributions from third countries if the latter are available.

Article 48
Contributions from members other than the Union

1. The members of the Circular Bio-based Europe Joint Undertaking other than the Union shall make or arrange for their constituent or affiliated entities to make a total contribution of at least EUR 1 000 000 000, including up to EUR 23 500 000 for administrative costs over the period set out in Article 3.
2. The contribution referred to in paragraph 1 shall consist of contributions to the Circular Bio-based Europe Joint Undertaking in accordance with Article 11(1).

Article 49
Scope of additional activities

1. Notwithstanding the Governing Board's power of decision concerning the additional activities plan pursuant to Article 16(2)(1) and within the scope of Article 2(9) and Article 2(10), the Bio-based Industries Consortium or their constituent or affiliated entities shall each year make a proposal for the additional activities. The additional activities are those directly linked to projects and activities of the Circular Bio-based Europe Joint Undertaking, including in particular:
 - (a) investments in new facilities demonstrating a new value chain, including investments in durable equipment, tools and accompanying infrastructure, in particular related to regional deployment and its sustainability verification;
 - (b) investments in a new innovative and sustainable production plant or flagship;
 - (c) investments in new research and innovation and justified infrastructure, including facilities, tools, durable equipment, or pilot plants (research centres);

- (d) standardization activities;
 - (e) communication, dissemination and awareness raising activities.
2. The investments directly linked to projects are in particular:
- (a) non-eligible investments needed for the implementation of a Circular Bio-based Europe Joint Undertaking project during the duration of that project;
 - (b) investment made in parallel with a Circular Bio-based Europe Joint Undertaking project, complementing the results of the project and bringing it to a higher Technology Readiness Level;
 - (c) investments needed for the deployment of a Circular Bio-based Europe Joint Undertaking project's results following the closure of the project until the winding up of the Circular Bio-based Europe Joint Undertaking. In justified cases, the investment related to deployment of results of projects from the predecessor partnership (BBI Joint Undertaking) may be taken into account.

Article 50
Bodies of the Circular Bio-based Europe Joint Undertaking

The bodies of the Circular Bio-based Europe Joint Undertaking shall be:

- (a) the Governing Board;
- (b) the Executive Director;
- (c) the Scientific Committee;
- (d) the States' Representatives Group;
- (e) the Deployment Groups.

Article 51
Composition of the Governing Board

The Governing Board shall be composed as follows:

- (a) five representatives of the Commission, on behalf of the Union; and
- (b) five representatives of the members other than the Union, at least one of which should represent SMEs.

Article 52
Functioning of the Governing Board

1. The members other than the Union shall collectively hold 50 % of the voting rights.
2. The Governing Board shall elect its chairperson for a period of two years.

3. The Governing Board shall hold its ordinary meetings four times a year.
4. In addition to the meetings referred to in paragraph 2, the Governing Board shall also hold a strategic meeting at least once a year with the primary objective of identifying challenges and opportunities for sustainable bio-based industry and provide additional strategic orientation for the Circular Bio-based Europe Joint Undertaking.
5. In the strategic meeting additional chief executive officers or officers with decision-making power of leading European bio-based companies and the Commission, shall be invited. The chairpersons of the States' Representatives Group, the Scientific Committee and the Deployment Groups may be invited as observers.

Article 53
The Scientific Committee

1. The Scientific Committee shall be the scientific advisory body of the Circular Bio-based Europe Joint Undertaking referred to in Article 19(1).
2. The Scientific Committee should have no more than 15 permanent members.
3. The chairperson of the Scientific Committee shall be elected for the duration of two years.
4. The Scientific Committee shall set-up a task force composed of members with the appropriate profiles to contribute towards ensuring sufficient focus on all sustainability aspects of the work programme. Whenever possible, advice of the Scientific Committee on the work programme shall include aspects related to circularity, environmental sustainability, biodiversity preservation and enhancement, as well as broader aspects of sustainability of the bio-based systems and related value chains.
5. The Scientific Committee may give its advice at the request of the Governing Board and other bodies of the Circular Bio-based Europe Joint Undertaking, or on its own initiative.

Article 54
The Deployment Groups

1. One or more Deployment Groups shall be established pursuant to Article 21. The role of the Deployment Groups is to advise the Governing Board on issues critical to market uptake of bio-based innovation and to promote deployment of sustainable bio-based solutions.
2. The composition of the Deployment Groups shall ensure appropriate thematic focus and representativeness of the bio-based innovation stakeholders. Any stakeholder other than the members of the Bio-Based Industry Consortium, their constituents or their affiliated entities may express its interest to become members of a Deployment Group. The Governing Board shall set out the envisaged size and composition of the Deployment Groups, the duration of the mandates and the possibility of renewal of

its members, and select their members. The list of members shall be publicly available.

3. The Deployment Groups shall meet at least once per year in a physical or virtual meeting. At the first meeting, the Deployment Groups shall adopt their rules of procedure. These rules of procedure shall be approved by the Governing Board. Extraordinary meetings of the Deployment Groups shall be called upon the request from the Governing Board. The Governing Board may request the participation of additional persons in the extraordinary meetings. The list of attendees to those extraordinary meetings shall be publicly available.
4. The Deployment Groups shall elect a chairperson, and a vice-chair per thematic focus, for a period of two years. The chairperson coordinates activities and represents the Deployment Group. The chairperson may be invited to meetings of the Governing Board as an observer without voting rights, and meetings of the Scientific Committee and the States Representatives Group.
5. The Deployment Groups shall provide recommendations on the issues related to the deployment of bio-based innovation upon request from the Governing Board. The Deployment Groups can also issue recommendations to the Governing Board anytime at their own initiative.

TITLE II

CLEAN AVIATION JOINT UNDERTAKING

Article 55

Additional objectives of the Clean Aviation Joint Undertaking

1. In addition to the objectives set out in Articles 4 and 5, the Clean Aviation Joint Undertaking shall also have the following general objectives:
 - (a) to contribute to reduce the ecological footprint of aviation by accelerating the development of climate neutral aviation technologies for earliest possible deployment, therefore significantly contributing to the achievement of the general goals of the European Green Deal⁴⁷, in particular in relation to the reduction of Union-wide net greenhouse gas emissions reduction target of at least 55% by 2030, compared to 1990 levels and a pathway towards reaching climate neutrality by 2050;
 - (b) to ensure that aeronautics-related research and innovation activities contribute to the global sustainable competitiveness of the Union aviation industry, and to ensure that climate-neutral aviation technologies meet the relevant aviation safety requirements,⁴⁸ and remains a secure, reliable, cost-effective, and efficient means of passenger and freight transportation;
 - (c) to advance the European aviation research and innovation capacity.
2. The Clean Aviation Joint Undertaking shall also have the following specific objectives:
 - (a) to integrate and demonstrate disruptive aircraft technological innovations able to decrease net emissions of greenhouse gasses by no less than 30% by 2030, compared to 2020 state-of-the-art technology while paving the ground towards climate-neutral aviation by 2050;
 - (b) to ensure that the technological and the potential industrial readiness of innovations can support the launch of disruptive new products and services by 2035, with the aim of replacing 75% of the operating fleet by 2050 and developing an innovative, reliable, safe and cost-effective European aviation system that is able to meet the objective of climate neutrality by 2050;
 - (c) to expand and foster integration of the climate-neutral aviation research and innovations value chains, including academia, research organisations, industry, and SMEs, also by benefitting from exploiting synergies with other national and European related programmes.

⁴⁷ Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, COM/2019/640 final.

⁴⁸ Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency.

Article 56
Additional tasks of the Clean Aviation Joint Undertaking

In addition to the tasks set out in Article 5, the Clean Aviation Joint Undertaking shall also carry out the following tasks:

- (a) publish on relevant websites all the information necessary for the preparation and submission of proposals for the Clean Aviation Joint Undertaking;
- (b) monitor and assess technological progress towards the achievement of the general and specific objectives set out in Article 55 and facilitate full access to data and information for the independent impact monitoring of aviation research and innovation carried out under the direct supervision of the Commission;
- (c) assist the Commission upon its request with the establishment and development coordination of regulations and standards supporting market uptake of clean aviation solutions, in particular by conducting studies, simulations and providing technical advice, while taking into account the need to eliminate barriers to market entry.

Article 57
Members

1. The members of the Clean Aviation Joint Undertaking shall be:
 - (a) the Union, represented by the Commission;
 - (b) the founding members listed in Annex I, upon notification of their decision to unconditionally accede to the Clean Aviation Joint Undertaking by means of a letter of commitment;
 - (c) the associated members to be selected in accordance with Article 7 subject to a decision of the Governing Board .
2. By way of derogation from the provisions in Article 7(1) and (2), the Governing Board may, during the first six months following the establishment of Clean Aviation Joint Undertaking, select associated members also from a list drawn up after an open call for expression of interest launched by the Commission prior to its establishment⁴⁹.

⁴⁹ https://ec.europa.eu/info/news/new-call-ideas-clean-aviation-partnerships-2020-aug-26_en

Article 58
Union financial contribution

The Union financial contribution from the Horizon Europe Programme to the Clean Aviation Joint Undertaking, including EFTA appropriations, to cover administrative costs and operational costs shall be up to EUR 1 700 000 000, including up to EUR 39 223 000 for administrative costs. The Union contribution may be increased with contributions from third countries if the latter are available.

Article 59
Contributions from members other than the Union

1. The members of the Clean Aviation Joint Undertaking other than the Union shall make or arrange for their constituent or affiliated entities to make a total contribution of at least EUR 3 039 223 000, including up to EUR 39 223 000 for administrative costs] over the period set out in Article 3.
2. The contribution referred to in paragraph 1 of this Article shall consist of contributions to the Clean Aviation Joint Undertaking as laid down in Article 11(1).

Article 60
Scope of additional activities

1. For the purpose of point (b) of Article 11(1), additional activities may include:
 - (a) activities covered under the indirect actions of the Clean Aviation Joint Undertaking but not funded under such indirect actions;
 - (b) activities directly linked to the Clean Aviation Joint Undertaking work programme;
 - (c) the research and innovation activities of projects with a clear link to the Strategic Research and Innovation Agenda, and funded under national or regional programmes within the Union;
 - (d) private research and innovation projects complementing projects on the Strategic Research and Innovation Agenda;
 - (e) activities leading to the deployment or uptake of project results from preceding initiatives from Clean Aviation Joint Undertaking, or from both that have not received any Union funding.
 - (f) European standardisation and certification activities related to clean aviation solutions from the Clean Aviation Joint Undertaking projects or its previous initiatives.
2. Additional activities shall have clearly defined deliverables.

Article 61
Bodies of the Clean Aviation Joint Undertaking

The bodies of the Clean Aviation Joint Undertaking shall be:

- (a) the Governing Board;
- (b) the Executive Director;
- (c) the Technical Committee;
- (d) the European Clean Aviation Advisory Body;
- (e) the States' Representatives Group.

Article 62
Composition of the Governing Board

The Governing Board shall be composed as follows:

- (a) two representatives of the Commission on behalf of the Union;
- (b) nine representatives of the members other than the Union chosen by and from the founding members and associated members ensuring a balanced representation of the aeronautical value chain such as aircraft integrators, engine manufactures and equipment manufacturers. The governing board shall establish in its rules of procedure a rotation mechanism for the allocation of the seats of the members other than the Union. The selected representatives shall include at least one representative of the European SMEs, one representative of the research organisations and one representative of the academic institutions.

Article 63
Functioning of the Governing Board

1. Each of the representatives of the members other than the Union shall hold an equal number of votes.
2. The Governing Board shall be chaired by the Commission on behalf of the Union and co-chaired by a representative from the members other than the Union.
3. The chairpersons of the European Aviation Advisory Body, of the Technical Committee and of the States' Representatives Group and one representative from the European Union Aviation Safety Agency (EASA) shall attend the meetings of the Governing Board as permanent observers. They shall have the right to participate in deliberations but shall have no voting rights.
4. The Governing Board shall ensure a direct link and coordination between the activities of the States' Representatives Group or other advisory bodies. To that effect, the Governing Board may also delegate a member to follow activities of those bodies.

Article 64
Additional tasks of the Governing Board

1. In addition to the tasks listed in Article 16, the Governing Board of the Clean Aviation Joint Undertaking shall also carry out the following tasks:
 - (a) oversee the relevance for clean aviation of the strategies for additional activities of the members other than the Union;
 - (b) promote the market uptake of technologies and solutions for contributing to achieving the Green Deal's objectives and ensure the achievement of the Joint Undertaking's specific objectives in Article 55;
 - (c) pursue synergies between research and demonstration activities at national or Union level or both and that relate to the Strategic Research and Innovation Agenda and the Clean Aviation Joint Undertaking's work programme;
 - (d) supervise the programme's monitoring and assessment of the progress compared to impact indicators and the Clean Aviation Joint Undertaking's specific objectives set out in Article 55(2);
 - (e) ensure the continued steering and management of the transition of the Clean Sky 2 programme technical priorities and research and innovation activities until their completion, in line with the objectives of the Clean Aviation Joint Undertaking and ensure, where relevant, the transfer of results to the Clean Aviation programme.

2. The Governing Board shall decide in relation to the implementation of the programme and to the delivery on the Clean Aviation Joint Undertaking objectives, including on:
 - (a) the Strategic Research and Innovation Agenda and its possible amendments and the work programme, including on open calls for proposals;
 - (b) the strategic multiannual planning of Clean Aviation calls and their alignment with the objectives of Horizon Europe and the related work programmes and the technical priorities and research actions, including the open calls for proposals;
 - (c) revisions or optimisation of the technical scope of the programme to align the work plan and the objectives of the Clean Aviation Joint Undertaking with the overall Horizon Europe and other European partnership' related work programmes;
 - (d) the recommendations by advisory bodies and specific actions from Article 56 to increase market penetration and impact of clean aviation solutions in line with the European Green Deal and related policy actions to improve it.

Article 65
The Technical Committee

1. The Technical Committee shall be composed as follows:
 - (a) an appropriate number of Commission representatives and Union bodies, as decided by the representatives of the Union in the Governing Board;
 - (b) an appropriate number of representatives from the members other than the Union, as decided by the Governing Board and as deemed necessary for a fair reflection of the technical scope of the programme and key technologies reflected therein, including ensuring the continuation and transition of the Clean Sky 2 programme until its completion;
 - (c) two senior representatives of the Clean Aviation Joint Undertaking as delegated by the Executive Director;
 - (d) one representative of the European Union Aviation Safety Agency (EASA).
2. The Technical Committee shall be co-chaired by a representative of the founding members, rotating on a two-yearly basis, and the Commission. It shall report to the Governing Board and its secretariat shall be provided by the Clean Aviation Joint Undertaking's programme office.
3. The Executive Director shall be a permanent observer in the Technical Committee. Representatives of the States' Representatives Group and the European Aviation Advisory Body may attend as observers upon invitation of the chair, or on their own request, in which case, their attendance shall be subject to the agreement of the chair and the Joint Undertaking's representatives.
4. The Technical Committee shall propose its rules of procedure and shall submit them for adoption by the Governing Board.
5. The Technical Committee shall develop and maintain the technological roadmap and strategy of the programme. It shall propose and prepare for adoption by the Governing Board, as appropriate, the scope and programming of the research actions, the technical strategy and the overall research roadmap of the Clean Aviation Joint Undertaking. A Governing Board member may be delegated to follow the activities therein.
6. The Technical Committee shall carry out the following tasks:
 - (a) prepare proposals for the amendment of the Strategic Research and Innovation Agenda as needed for deliberation and final decision by the Governing Board;
 - (b) prepare proposals for the technical priorities and research actions to be included in the work programme, including the research topics for open calls for proposals;
 - (c) provide information on research actions planned or in progress at national, regional or other non-Union levels and make recommendations on the actions

necessary to maximise possible synergies of the Clean Aviation Joint Undertaking's programme;

- (d) propose for deliberation and final decision by the Governing Board revisions or optimisation of the technical scope of the programme in order to align the work programme and the objectives of the Clean Aviation Joint Undertaking with the overall Horizon Europe and other European partnerships' related work programmes;
- (e) make recommendations on maximising the impact in line with the European Green Deal objectives and the potential market uptake of the programme's results.

Article 66
Additional tasks of the Executive Director

In addition to the tasks set out in Article 18, the Executive Director of the Clean Aviation Joint Undertaking shall also carry out the following tasks:

- (a) ensure the efficient implementation of the work programme;
- (b) take appropriate action to manage interactions between projects supported by the joint undertaking, avoiding undue overlaps between them and favour synergies across the whole programme;
- (c) ensure that deadlines are met for the transmission of necessary information to the various bodies of the Clean Aviation Joint Undertaking;
- (d) facilitate coordination by the Commission in accordance with the advice of the Technical Committee between the activities of the Clean Aviation Joint Undertaking and the relevant research and innovation activities within Horizon Europe with a view to avoiding overlaps and promoting synergies;
- (e) facilitate close cooperation and ensure coordination with other European partnerships;
- (f) ensure the programme's monitoring and assessment of the progress compared to impact indicators and the Clean Aviation Joint Undertaking's specific objectives in Article 55;
- (g) ensure that the Joint Undertaking facilitates full access to data and information for the independent impact monitoring of aviation research and innovation carried out under the direct supervision of the Commission and take any appropriate action needed to ensure the independence of this process from the Clean Aviation Joint Undertaking itself, such as by means of public procurement, independent evaluations, reviews or ad-hoc analysis. The programme's monitoring and assessment report shall be presented to the Governing Board once a year;
- (h) assist the Governing Board adaptations of the technical content and budget allocations of the work programme during the implementation of the Strategic

Research and Innovation Agenda in order to maximise the achievements of the Clean Aviation Joint Undertaking.

Article 67

The States' Representatives Group

1. The Commission representatives shall take into consideration the States' Representatives Group's opinion, if any, before voting in the Governing Board.
2. The States' Representatives Group shall hold coordination meetings with the States' Representatives Group of other relevant joint undertakings such as the Single European Sky ATM Research 3 Joint Undertaking, at least twice a year, with the aim of creating an interface between the national and regional authorities and the Clean Aviation Joint Undertaking and providing advice to the Clean Aviation Joint Undertaking on this basis.
3. In addition to paragraphs 7 and 8 of Article 20, the States' Representatives Group shall also have the following additional tasks:
 - (a) propose measures to improve the complementarity between the Clean Aviation Research and Innovation actions and national research programmes contributing to the objectives of the Strategic Research and Innovation Agenda, as well as with international and other national initiatives and projects;
 - (b) promote specific measures at national or regional level aimed at increasing the involvement of SMEs in Clean Aviation Research and Innovation, including through dissemination events, dedicated technical workshops and communication, and any other actions aimed at promoting cooperation and deployment of aeronautical technologies;
 - (c) promote research and innovation investment from Cohesion Policy funds such as the European Regional Development Funds, the European Social funds, the Just Transition Funds, and Next Generation EU Funds into the context of the Clean Aviation Joint Undertaking.

Article 68

The European Clean Aviation Advisory Body

1. The European Clean Aviation Advisory Body shall be the scientific advisory body of the Clean Aviation Joint Undertaking set up in accordance with point (a) of Article 19(1).
2. The European Clean Aviation Advisory Body shall have no more than 15 permanent members.
3. The chairperson of the European Aviation Advisory Body shall be elected for the duration of two years.

4. A representative of the European Union Aviation Safety Agency (EASA) shall be a permanent member of the European Aviation Advisory Body.
5. In carrying out its tasks the European Aviation Advisory Body shall cooperate with relevant European aviation stakeholders' fora, such as the Advisory Council for Aeronautics Research in Europe (ACARE).
6. The European Clean Aviation Advisory Body shall, pursuant to point (f) of Article 19(7), hold coordination meetings with the advisory bodies of other relevant joint undertakings such as the Single European Sky ATM Research 3 Joint Undertaking, with the aim of promoting synergies and cooperation among relevant Union research and innovation initiatives in aviation and providing advice to that effect to the Clean Aviation Joint Undertaking on this basis.
7. The European Clean Aviation Advisory Body shall also advise and support the Commission and the Clean Aviation Joint Undertaking on initiatives that promote aviation research in the European education systems, and provide recommendations on aeronautical skills and competences development and updated aeronautical engineering curricula.

Article 69
Certification of new technologies

1. The European Union Aviation Safety Agency (EASA) may be invited by applicants, beneficiaries, or the Executive Director, to advise on individual projects and demonstration activities on issues related to compliance with aviation safety, interoperability and environmental standards, to ensure that these lead to timely development of relevant standards, testing capacity and regulatory requirements for product development and deployment of new technologies.
2. Certification activities and services provided shall be subject to the provisions regarding fees and charges set out in Regulation (EU) 2018/1139 of the European Parliament and of the Council⁵⁰.

Article 70
Derogation from the rules for participation

Where actions are funded by the Clean Aviation Joint Undertaking and where it is duly justified in the description of relevant topics in the work programme, a single legal entity established in a member state or associated country or consortia not meeting the condition laid down in [Article 19(2)] of Regulation [Horizon Europe] shall be eligible to participate in indirect actions funded by the Clean Aviation Joint Undertaking.

⁵⁰ <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R1139>.

TITLE III

CLEAN HYDROGEN JOINT UNDERTAKING

Article 71

Additional objectives of the Clean Hydrogen Joint Undertaking

1. In addition to the objectives set out in Articles 4 and 5, the Clean Hydrogen Joint Undertaking shall also have the following general objectives:
 - (a) to contribute to the objectives set out in the 2030 Climate Target Plan⁵¹, and the European Green Deal⁵², by raising the EU's ambition on reducing greenhouse gas emissions to at least 55% below 1990 levels by 2030, and climate neutrality by 2050;
 - (b) to contribute to the implementation of the 2020 European Commission's Hydrogen Strategy for a climate neutral Europe⁵³;
 - (c) to strengthen the competitiveness of the Union clean hydrogen value chain, with a view to supporting, notably the SMEs involved, accelerating the market entry of innovative competitive clean solutions;
 - (d) to stimulate clean hydrogen production, distribution, storage and end use applications.

2. The Clean Hydrogen Joint Undertaking shall also have the following specific objectives:
 - (a) improve through research and innovation the cost-effectiveness, reliability, quantity and quality of clean hydrogen solutions, including production, distribution, storage and end uses developed in the Union such as more efficient and cheaper hydrogen electrolyzers and cheaper transport and industrial applications;
 - (b) strengthen the knowledge and capacity of scientific and industrial actors along the Union's hydrogen value chain;
 - (c) carry out demonstrations of clean hydrogen solutions with the view to local, regional and Union-wide deployment, addressing renewable production, distribution, storage, and use for transport and energy-intensive industries as well as other applications;

⁵¹ COM/2020/562 final.

⁵² Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions, COM/2019/640 final.

⁵³ COM(2020) 301 final: A hydrogen strategy for a climate-neutral Europe.

- (d) increase public and private awareness, acceptance, and uptake of clean hydrogen solutions, in particular through cooperation with other European partnerships under Horizon Europe.

Article 72

Additional tasks of the Clean Hydrogen Joint Undertaking

In addition to the tasks set out in Article 5, the Clean Hydrogen Joint Undertaking shall also carry out the following tasks:

- (a) assess and monitor technological progress and technological, economic and societal barriers to market entry;
- (b) notwithstanding the Commission's policy prerogatives, under the Commission's policy guidance and supervision, contribute to the development of regulations and standards with the view to eliminating barriers to market entry and to supporting interchangeability, inter-operability, and trade across the internal market and globally;
- (c) support the Commission in its international initiatives on the hydrogen strategy, such as the International Partnership on the Hydrogen Economy (IPHE), Mission Innovation and the Clean Energy Ministerial Hydrogen Initiative.

Article 73

Members

The members of the Clean Hydrogen Joint Undertaking shall be:

- (a) the Union, represented by the Commission;
- (b) the Hydrogen Europe AISBL, a non-profit organisation established under Belgian Law (registration number: 890 025 478) with its permanent office in Brussels, Belgium (the 'Industry Grouping'), upon notification of its decision to unconditionally accede to the Clean Hydrogen Joint Undertaking by means of a letter of commitment;
- (c) the Hydrogen Europe Research AISBL, a non-profit organisation established under Belgian Law (registration number: 0897 679 372) with its permanent office in Brussels, Belgium (the 'Research Grouping'), upon notification of its decision to unconditionally accede to the Clean Hydrogen Joint Undertaking by means of a letter of commitment.

Article 74

Union financial contribution

The Union financial contribution from the Horizon Europe Programme to the Clean Hydrogen Joint Undertaking, including EFTA appropriations, to cover administrative and operational costs shall be up to EUR 1 000 000 000, including up to EUR 30 193 000 for administrative

costs. The Union contribution may be increased with contributions from third countries if the latter are available.

Article 75

Contributions from members other than the Union

1. The members of the Clean Hydrogen Joint Undertaking other than the Union shall make or arrange for their constituent or affiliated entities to make a total contribution of at least EUR 1 000 000 000, including up to EUR 30 193 000 for administrative costs over the period set out in Article 3.
2. The contribution referred to in paragraph 1 of this Article shall consist of contributions to the Clean Hydrogen Joint Undertaking in accordance with Article 11(1).

Article 76

Scope of additional activities

1. For the purpose of point (b) of Article 11(1), additional activities may include activities directly linked to the activities of the Clean Hydrogen Joint Undertaking and contributing to its objectives, including the following:
 - (a) pre-commercial trials and field tests;
 - (b) proof of concept;
 - (c) improvement of existing production lines for up-scaling;
 - (d) large scale case studies;
 - (e) awareness-raising activities on hydrogen technologies and safety measures;
 - (f) uptake of results from projects into products, further exploitation and activities within the research chain either at higher Technology Readiness Levels or in parallel strands of activity.
2. Additional activities of the Clean Hydrogen Joint Undertaking shall aim at ensuring synergies with the Clean Hydrogen Alliance⁵⁴, Mission Innovation Challenge ‘Renewable and Clean Hydrogen’⁵⁵, the European Union Innovation Fund⁵⁶ and the H2 Regions S3 platform⁵⁷.

Article 77

Bodies of the Clean Hydrogen Joint Undertaking

The bodies of the Clean Hydrogen Joint Undertaking shall be the following:

⁵⁴ https://ec.europa.eu/growth/industry/policy/european-clean-hydrogen-alliance_en

⁵⁵ <http://mission-innovation.net/our-work/innovation-challenges/renewable-and-clean-hydrogen/>

⁵⁶ https://ec.europa.eu/clima/policies/innovation-fund_en

⁵⁷ <https://s3platform.jrc.ec.europa.eu/hydrogen-valleys>

- (a) the Governing Board;
- (b) the Executive Director;
- (c) the States' Representatives Group; and
- (d) the Stakeholders Group.

Article 78
Composition of the Governing Board

The Governing Board shall be composed of the following:

- (a) representatives of the Commission on behalf of the Union;
- (b) six representatives of Hydrogen Europe, having regard to geographical, gender, and sector representation;
- (c) one representative of Hydrogen Europe Research.

Article 79
Functioning of the Governing Board

1. In addition to the voting rules set out in Article 15(2), the Industry Grouping shall hold 43 % of the voting rights and the Research Grouping 7 % of the voting rights in the Governing Board.
2. The chairperson of the Governing Board shall be a representative of the private members and shall be appointed by the Governing Board.

Article 80
Additional tasks of the Governing Board

In addition to the tasks set out in Article 16, the Governing Board of the Clean Hydrogen Joint Undertaking shall carry out the following tasks:

- (a) foster synergies with relevant activities and programmes at Union, national, and regional level, in particular with those supporting the deployment of research and innovation solutions, infrastructure, education and regional development on the use of clean hydrogen;
- (b) provide pursuant to point (b) of Article 5(2) and Article 16(1) strategic orientation as regards the collaboration with other European partnerships, including the partnerships towards zero emission road transport, zero emission waterborne, Europe's rail, clean aviation, processes for the planet and clean steel in accordance with their respective Strategic Research and Innovation Agendas or other equivalent document;
- (c) encourage market uptake of technologies and solutions for achieving the European Green Deal's objectives.

Article 81
Additional tasks of the Executive Director

In addition to the tasks set out in Article 18, the Executive Director of the Clean Hydrogen Joint Undertaking shall carry out the following tasks:

- (a) propose activities that favour synergies with relevant activities and programmes at Union, national, and regional level;
- (b) support and contribute to other Union initiatives related to hydrogen, subject to approval by the Governing Board;
- (c) convene an annual European Clean Hydrogen partnership forum, which, where possible, shall be held jointly and in parallel with the European Hydrogen Forum of the Clean Hydrogen Alliance.

Article 82
The Stakeholders Group

1. The provisions of Article 21 shall apply *mutatis mutandis* to the Stakeholders Group of the Clean Hydrogen Joint Undertaking.
2. The Stakeholders Group shall consist of representatives of sectors which generate, distribute, store, need or use clean hydrogen across the Union, including the representatives of other relevant European partnerships, as well as representatives of the European Hydrogen Valleys Interregional Partnership.
3. In addition to the tasks set out in Article 21, the Stakeholders Group shall also have the following tasks:
 - (a) provide input on the strategic and the technological priorities to be addressed by the Clean Hydrogen Joint Undertaking as laid down in the Strategic Research and Innovation Agenda or any other equivalent document and associated detailed technological roadmaps, taking due account of the progress and needs in adjacent sectors;
 - (b) provide suggestions to enable concrete synergies to take place between the Clean Hydrogen Joint Undertaking and the adjacent sectors or any sector with which synergies are deemed of added value;
 - (c) provide input to the annual European Hydrogen Forum of the Clean Hydrogen Alliance.

TITLE IV

EUROPE'S RAIL JOINT UNDERTAKING

Article 83

Additional objectives of the Europe's Rail Joint Undertaking

1. In addition to the objectives set out in Articles 4 and 5, the Europe's Rail Joint Undertaking shall also have the following general objectives:
 - (a) contribute towards the achievement of the Single European Railway Area;
 - (b) ensure a fast transition to more attractive, user-friendly, competitive, affordable, efficient and sustainable European rail system, integrated into the wider mobility system;
 - (c) support the development of a strong and globally competitive European rail industry.

2. In addition to the objectives set out in paragraph 1, the Europe's Rail Joint Undertaking shall also have the following specific objectives:
 - (a) deliver an integrated European railway network by design, eliminating barriers to interoperability and providing solutions for full integration, covering traffic management, vehicles, infrastructure and services, and providing the best answer to the needs of passengers and businesses, accelerating uptake of innovative solutions to support the Single European Railway Area, while increasing capacity and reliability and decreasing costs of railway transport;
 - (b) deliver a sustainable and resilient rail system: by developing a zero-emission, silent rail system and climate resilient infrastructure, applying circular economy to the rail sector, piloting the use of innovative processes, technologies, designs and materials in the full life-cycle of rail systems and developing other innovative solutions to guided surface transport;
 - (c) develop through its System Pillar a unified operational concept and a functional system architecture for integrated European rail traffic management, command, control and signalling systems, including automated train operation which shall ensure that research and innovation is targeted on commonly agreed and shared customer requirements and operational needs is open to evolution;
 - (d) perform research and innovation activities related to rail freight and intermodal transport services to deliver a competitive green rail freight fully integrated into the logistic value chain, with automation and digitalisation of freight rail at the core;
 - (e) develop demonstration projects in interested member states including those that do not currently have a rail system established within their territory;

- (f) contribute to the development of a strong and globally competitive European rail industry.
3. In carrying out its activities, the Europe's Rail Joint Undertaking shall seek a geographically balanced involvement of members and partners in its activities. It shall also establish the necessary international connections in relation to rail research and innovation, in line with the Commission priorities.

Article 84

Additional tasks of the Europe's Rail Joint Undertaking

1. In addition to the tasks set out in Article 5, the Europe's Rail Joint Undertaking together with the Commission shall also prepare and submit for adoption by the Governing Board the Master Plan, developed in consultation with all relevant stakeholders in the railway system and rail supply industry.
2. The Commission may start the preparation of the Master Plan prior to the establishment of the Europe's Rail Joint Undertaking, in consultation with all relevant stakeholders.
3. The Master Plan shall constitute a common, forward-looking roadmap based on a system view. It shall identify the areas of intervention within the scope of the Europe's Rail Joint Undertaking. The objectives set out in the Master Plan shall be performance driven and structured around the objectives set out in Article 83.
4. The Master Plan shall be adopted by the Governing Board and endorsed by the Commission in accordance with Article 15 with the exception of the section of the Master Plan relating to the System Pillar that shall be adopted in accordance with Article 91(3). Before endorsement, the Commission shall present the Master Plan to the Council and to the European Parliament. Subsequently, any modification shall be communicated to the Council and the European Parliament.
5. The Master Plan shall constitute the Europe's Rail Joint Undertaking's Strategic Research and Innovation Agenda within the meaning of Article 2(12). It shall provide guidance for the Europe's Rail Joint Undertaking's more specific tasks, namely:
 - (a) develop in its System Pillar a system view that brings together the rail manufacturing industry, the rail operating community and other rail private and public stakeholders, including bodies representing customers, such as passengers and freight and staff, as well as relevant actors outside the traditional rail sector. The "system view" shall encompass:
 - i. the development of the operational concept and system architecture, including the definition of the services, functional blocks, and interfaces which form the basis of rail system operations;
 - ii. the development of associated specifications including interfaces, functional requirement specifications and system requirement specifications to feed into Technical Specifications for Interoperability (TSI) established pursuant to Directive (EU) 2016/797 of the European Parliament and of the

- Council⁵⁸ or standardisation processes to lead to higher levels of digitalisation and automation;
- iii. ensuring the system is maintained, error-corrected and able to adapt over time and ensure migration considerations from current architectures;
 - iv. ensuring that the necessary interfaces with other modes are assessed and validated, in particular for freight and passenger flows.
- (b) perform the research and innovation activities necessary to achieve the objectives of the Europe's Rail Joint Undertaking, including low technology readiness level (TRL) rail focused research and innovation activities. In that respect, the Europe's Rail Joint Undertaking shall:
- i. define and organise the research, innovation, demonstration, validation and study activities, to be carried out under its authority, while avoiding fragmentation of such activities;
 - ii. exploit standardisation and modularity opportunities, and facilitate the interfaces with other modes and systems;
 - iii. develop demonstration projects;
 - iv. develop close cooperation and ensure coordination with related European, national and international research and innovation activities in the rail sector and beyond as necessary, in particular under Horizon Europe, thereby enabling the Europe's Rail Joint Undertaking to play a major role in rail-related research and innovation while also benefiting from scientific and technological advances reached in other sectors;
 - v. through the cooperation referred to in point (iv), the Europe's Rail Joint Undertaking shall ensure the translation of research into effective development effort and development of pioneering innovations and ultimately into market focused innovation through demonstration and deployment.
- (c) perform any tasks necessary to achieve the objectives set out in Articles 4 and 84.

Article 85
Members

1. The members of the Europe's Rail Joint Undertaking shall be:
 - (a) the Union, represented by the Commission;

⁵⁸ Directive (EU) 2016/797 of the European Parliament and of the Council of 11 May 2016 on the interoperability of the rail system within the European Union (OJ L 138, 26.5.2016, p. 44).

- (b) the founding members listed in Annex II, upon notification of their decision to unconditionally accede to the Joint Undertaking by means of a letter of commitment;
 - (c) the associated members to be selected in accordance with Article 7. The list of the Associated Members shall be endorsed by the Commission.
2. By way of derogation from the provisions in Articles 7(1) and 7(2), the Governing Board may, during the first six months following the establishment of the Europe's Rail Joint Undertaking, select associated members from a list drawn up after an open call for expression of interest launched by the Commission prior to its establishment.

Article 86
Union financial contribution

The Union financial contribution from the Horizon Europe Programme to the Europe's Rail Joint Undertaking, including EFTA appropriations, to cover administrative costs and operational costs shall be up to EUR 600 000 000, including at least EUR 50 000 000 for the System Pillar, and up to EUR 24 000 000 for administrative costs. The Union contribution may be increased with contributions from third countries if the latter are available.

Article 87
Contributions from members other than the Union

The members of the Europe's Rail Joint Undertaking other than the Union shall make or arrange for their constituent or affiliated entities to make a total contribution of at least EUR 600 000 000, including up to EUR 24 000 000 for administrative costs over the period set out in Article 3.

Article 88
Scope of additional activities

1. For the purposes of point (b) of Article 11(1), additional activities may include:
- (a) research and innovation activities building on activities funded by the Europe's Rail Joint Undertaking or Shift2Rail Joint Undertaking;
 - (b) parallel and complementary research and innovation activities funded by the members other than the Union, having a clear Union added value and contributing to achieving the objectives of the Europe's Rail Joint Undertaking;
 - (c) activities funded by the members other than the Union in projects funded by national programmes or by regional programmes which complement activities funded by the Europe's Rail Joint Undertaking;
 - (d) uptake of results of activities funded under the Shift2Rail Joint Undertaking, further exploitation, demonstration activities and standardisation.

2. With regard to activities funded by the members other than the Union in projects funded by other European partnerships or by other Union programmes and other research and innovation efforts and investments that have a significant Union added-value and contribute to achieving the objectives of the Europe's Rail Joint Undertaking and its complement activities funded by it, the value of such activities shall be reported, indicating the type, level and source of Union funding to avoid double counting.

Article 89

Bodies of the Europe's Rail Joint Undertaking

1. The bodies of the Europe's Rail Joint Undertaking shall be:
 - (a) the Governing Board;
 - (b) the Executive Director;
 - (c) the System Pillar Steering Group;
 - (d) the States' Representatives Group;
 - (e) the Deployment Group.
2. In addition, the Europe's Rail Joint Undertaking may set up a scientific steering group or seek scientific advice from independent academic experts or from shared scientific advisory bodies.

Article 90

Composition of the Governing Board

The Governing Board shall be composed as follows:

- (a) two representatives from the Commission on behalf of the Union;
- (b) one representative from each of the members other than the Union

Article 91

Functioning of the Governing Board

1. The Governing Board shall be chaired by the Commission on behalf of the Union.
2. The chairperson or the vice-chairperson of the States' Representatives Group shall be invited on a permanent basis to attend meetings of the Governing Board as observers and take part in its deliberations, but shall have no voting rights. Representatives of

the European Union Agency for Railways and of the European Rail Research Advisory Council shall be invited to attend meetings of the Governing Board as observers and take part in its deliberation, but shall have no voting rights.

3. Notwithstanding Article 15(1) with regard to activities to be performed under the System Pillar, a decision shall be deemed adopted by a majority of at least 55% of the votes including the votes of representatives who are absent.
4. Notwithstanding Article 15(4), the Governing Board shall meet once a year in a general assembly and all participants to the research and innovation activities of the Europe's Rail Joint Undertaking shall be invited to attend. The assembly shall stimulate reflection on the overall direction of the activities of the Europe's Rail Joint Undertaking while conducting an open and transparent discussion on the progress of the Master Plan implementation.

Article 92

Additional tasks of the Governing Board

In addition to the tasks set out in Article 16, the Governing Board of the Europe's Rail Joint Undertaking shall also carry out the following tasks:

- (a) adopt the Master Plan and any proposal for its modification;
- (b) adopt the work programmes, including the budget, of the System Pillar and their amendments based on recommendations made by the System Pillar Steering Group and on the proposals of the Executive Director.

Article 93

The System Pillar Steering Group

1. The System Pillar Steering Group shall be composed of representatives of the Commission, representatives of the rail and mobility sector and of relevant organisations, the Executive Director of the Europe's Rail Joint Undertaking and representatives of the European Union Agency for Railways. The Commission shall take the final decision on the composition of the Group. When justified, the Commission may invite additional relevant experts and stakeholders to attend the meetings of the System Pillar Steering Group as observers.
2. The System Pillar Steering Group shall be chaired by the Commission.
3. The recommendations of the System Pillar Steering Group shall be adopted by consensus. Where no consensus is reached, the Executive Director of the Europe's Rail Joint Undertaking shall prepare a report for the Governing Board, outlining the key common points and diverging views.
4. The System Pillar Steering Group shall adopt its own rules of procedure.
5. The System Pillar Steering Group shall be responsible, for providing advice to the Executive Director and Governing Board on any of the following:

- (a) the approach to operational harmonisation and the development of system architecture, including on the relevant part of the Master Plan;
- (b) delivering on the specific objective set out in point (c) of Article 83(2);
- (c) carrying out the task set out in point (a) of Article 84(5);
- (d) the detailed annual implementation plan for the System Pillar in line with the work programmes adopted by the Governing Board in accordance with point (b) of Article 92.

Article 94
The Deployment Group

1. The Deployment Group shall be established pursuant to Article 21. The role of the Deployment Group shall be to advise the Governing Board on the market uptake of rail innovation developed in the Europe's Rail Joint Undertaking and to support deployment of the innovative solutions.
2. The Deployment Group shall be open to all stakeholders as the System Pillar Steering Group. The Governing Board shall select the members of the Deployment Group and set out in particular the size and composition of the Deployment Group, the duration of the mandate and the terms of renewal of its members. The composition of the Deployment Group shall ensure appropriate thematic focus and representativeness. The list of members shall be published on the website of the Europe's Rail Joint Undertaking.
3. A representative of the Deployment Group may be invited to meetings of the Governing Board as an observer without voting rights.
4. The Deployment Group shall provide recommendations on issues related to the deployment of rail innovative solutions upon request of the Governing Board. The Deployment Group may also issue recommendations on its own initiative.

Article 95
Collaboration with the European Union Agency for Railways

The Europe's Rail Joint Undertaking shall ensure a close collaboration with the European Union Agency for Railways, in particular with regard to the implementation of the Master Plan. Pursuant to Article 40 of Regulation (EU) 2016/796 of the European Parliament and of the Council⁵⁹, that collaboration shall consist of the following advisory tasks:

- (a) input on research needs relating to the realisation of the Single European Railway Area for consideration by the Europe's Rail Joint Undertaking in the Master Plan and its amendments as well as in the work programmes;

⁵⁹ Regulation (EU) 2016/796 of the European Parliament and of the Council of 11 May 2016 on the European Union Agency for Railways and repealing Regulation (EC) No 881/2004 (OJ L 138, 26.5.2016, p. 1.

- (b) feedback and advice on interoperability and safety to be considered in the research innovation activities and, more specifically, in the context of project activities and results for the objectives identified in point (a) of Article 84(5);
- (c) support to the Europe's Rail Joint Undertaking in identifying needs for any additional specific validation or studies to be performed by it, including via the involvement of national safety authorities;
- (d) provide advice as regards the System Pillar;
- (e) ensure that the development of specifications including interfaces, functional requirement specifications, and system requirement specifications takes into consideration the experience and feedback on TSI or standards.

Article 96
The States' Representatives Group

1. The member states shall ensure that their respective representatives present a coordinated position that reflects their member state's views expressed in:
 - (a) the Railway Interoperability and Safety Committee, established by Article 51 of Directive (EU) 2016/798 of the European Parliament and of the Council;
 - (b) the Programme Committee under Horizon Europe – Strategic Programme Committee Cluster 5;
 - (c) the Single European Rail Area Committee, established by Article 62 of Directive 2012/34/EU of the European Parliament and of the Council.
2. Notwithstanding the provisions of Article 20, the States' Representatives Group shall deliver an opinion to the Governing Board regarding the low Technology Readiness Level research topics to be included in the work programme.

TITLE V

GLOBAL HEALTH EDCTP3 JOINT UNDERTAKING

Article 97

Additional objectives of the Global Health EDCTP3 Joint Undertaking

1. In addition to the objectives set out in Articles 4 and 5, the Global Health EDCTP3 Joint Undertaking shall also have the following general objectives:
 - (a) to reduce the socio-economic burden of infectious diseases in sub-Saharan Africa promoting the development and uptake of new or improved health technologies;
 - (b) to increase health security in sub-Saharan Africa and globally by strengthening the research and innovation based capacities for preparedness and response to control infectious diseases.

2. The Global Health EDCTP3 Joint Undertaking shall also have the following specific objectives:
 - (a) to advance the development and use of new or improved health technologies for tackling infectious diseases by supporting the conduct of the clinical trials in sub-Saharan Africa;
 - (b) to strengthen research and innovation capacity and the national health research systems in sub-Saharan Africa for tackling infectious diseases;
 - (c) to facilitate better alignment of Union member states, associated countries and sub-Saharan countries around a common Strategic Research and Innovation Agenda in the field of global health to increase the cost-effectiveness of European public investment;
 - (d) to strengthen capacity in sub-Saharan Africa for epidemic preparedness through effective and rapid research response to develop essential diagnostics, vaccines and therapeutics for early detection and control of emerging diseases of epidemic potential;
 - (e) to promote productive and sustainable networking and partnerships in the area of global health research building North–South and South–South relationships with multiple private and public-sector organisations.

Article 98

Additional tasks of the Global Health EDCTP3 Joint Undertaking

In addition to the tasks set out in Article 5, the Global Health EDCTP3 Joint Undertaking shall also carry out the following tasks:

- (a) fostering productive relationships between European and African individuals, groups and institutions;
- (b) raising awareness of common interests and shared goals between institutions and research groups to facilitate and strengthen project and institutional collaborations;
- (c) contributing to facilitate alignment of global health strategies of European and African funders, institutions and authorities;
- (d) attracting additional investment involving partners in the private, public, and charitable sectors.

Article 99

Members

The members of the Global Health EDCTP3 Joint Undertaking shall be:

- (a) the Union, represented by the Commission;
- (b) the EDCTP Association, a non-profit organisation established under Dutch law, upon notification of its decision to unconditionally accede to the Global Health EDCTP3 joint undertaking by means of a letter of commitment.

Article 100

Union financial contribution

The Union financial contribution from the Horizon Europe Programme to the Global Health EDCTP3 Joint Undertaking, including EFTA appropriations, to cover administrative costs and operational costs shall be up to EUR 800 000 000, including up to EUR 29 878 000 for administrative costs, and shall consist of the following:

- (a) up to EUR 400 000 000 provided that the contribution of members other than the Union, or its constituent entities, is at least equal to this amount;
- (b) up to EUR 400 000 000 provided that the contributions from contributing partners, or from their constituent entities, are at least equal to this amount.

The Union contribution may be increased with contributions from third countries if the latter are available.

Article 101

Contributions from members other than the Union

1. The members of the Global Health EDCTP3 Joint Undertaking other than the Union shall make or arrange for their constituent entities to make a total contribution of at least EUR 439 878 000, including up to EUR 29 878 000 for administrative costs over the period set out in Article 3.

2. The contributions referred to in paragraph 1 of this Article shall consist of contributions to the Global Health EDCTP3 Joint Undertaking as laid down in Article 11(1).

Article 102
Scope of additional activities

1. Additional activities of the Global Health EDCTP3 Joint Undertaking shall be developed and implemented in an aligned, integrated and coherent manner by the EDCTP Association and its constituent entities and shall follow the Global Health EDCTP3 Strategic Research and Innovation Agenda.
2. For the purpose of point (b) of Article 11(1), additional activities may include:
 - (a) activities of constituent entities of the EDCTP Association aligned with similar activities from other constituent entities of the EDCTP Association and independently managed in accordance with national funding rules;
 - (b) activities implemented by sub-Saharan African governmental research organisations;
 - (c) activities which promote networking and partnerships building relationships with multiple private and public-sector organisations;
 - (d) any other activities necessary to achieve the objectives of the Global Health EDCTP3 Joint Undertaking.

Article 103
Bodies of the Global Health EDCTP3 Joint Undertaking

3. The bodies of the Global Health EDCTP3 Joint Undertaking shall be:
 - (a) the Governing Board;
 - (b) the Executive Director;
 - (c) the Scientific Committee;
 - (d) the Stakeholders Group.

Article 104
Composition of the Governing Board

The Governing Board shall be composed of the following:

- (a) six representatives of the Commission on behalf of the Union;
- (b) six representatives of the EDCTP Association.

Article 105
Functioning of the Governing Board

The members of the EDCTP Association shall collectively hold 50 % of the voting rights.

Article 106
The Scientific Committee

1. Pursuant to point (a) of Article 19(1), the Scientific Committee shall be the scientific advisory body of the Global Health EDCTP3 Joint Undertaking.
2. In addition to the tasks listed in Article 19, the Scientific Committee shall also perform the following tasks:
 - (a) assist in the design of the strategic and scientific planning of the activities of the Global Health EDCTP3 Joint Undertaking;
 - (b) advise on strategies to foster synergies and partnerships with all stakeholders;
 - (c) contribute to the preparation of strategic and scientific documents relevant to Global Health EDCTP3 Joint Undertaking, as required;
 - (d) provide strategic and scientific advice to the Global Health EDCTP3 Joint Undertaking and ensure the successful completion of on-going projects;
 - (e) identify strategic needs and priorities for accelerating the development of new or improved clinical interventions, including the required training, networking and capacity building to be undertaken to achieve those objectives;
 - (f) review the landscape of poverty-related and neglected diseases to identify Global Health EDCTP3 Joint Undertaking's role in partnership with other stakeholders to accelerate the development or improvement of interventions against those diseases;
 - (g) assess the state of global product development pathways and the critical path opportunities for future product development;
 - (h) provide advice on the review of any calls for proposals and other programmes;
 - (i) provide support and input on the monitoring and evaluation framework of the Global Health EDCTP3 Joint Undertaking, as well as in the monitoring of scientific outcomes and strategic impacts of the grants funded by the Global Health EDCTP3 Joint Undertaking;
 - (j) advise, assist and participate in Global Health EDCTP3 Joint Undertaking working groups, stakeholder meetings, EDCTP Forum and other relevant events.

3. The chairperson shall prepare an annual report on the previous year's activities and achievements of the Scientific Committee and submit it for approval by the Governing Board.

Article 107
The Stakeholders Group

In addition to the tasks set out in Article 21, the Stakeholders' Group shall also perform the following tasks:

- (a) provide input on the scientific, strategic and the technological priorities to be addressed by the Global Health EDCTP3 Joint Undertaking as laid down in the Strategic Research and Innovation Agenda or any other equivalent document taking account the progress and needs of the Global Health and adjacent sectors;
- (b) provide suggestions to enable concrete synergies to take place between the Global Health Partnership EDCTP3 Joint Undertaking and the adjacent sectors or any sector with which synergies will be deemed of added value;
- (c) provide input to the EDCTP Forum.

Article 108
Eligibility for funding

1. In accordance with the Article 13(1) and by derogation from [Article 19(1)] of the Horizon Europe Regulation, funding from the Global Health EDCTP3 Joint Undertaking shall be restricted to legal entities eligible for funding under the Horizon Europe programme and established in the constituent states of the EDCTP Association. Exceptionally and if provided for in the work programme, entities established in other states may be eligible for funding from the Global Health EDCTP3 Joint Undertaking in specific call topics or in case of a call addressing a public health emergency.
2. The Union shall seek to conclude agreements with third countries that allow the protection of the financial interest of the Union. Before their conclusion and in order to safeguard Union financial interests, where entities established in a third country without such an agreement participate with funding in an indirect action, the financial coordinator of the indirect action shall be established in a member state or associated country, the amount of pre-financing shall be adequately adapted and liability provisions of the grant agreement shall take due account of the financial risks.

Article 109
Identified participants

The participation of entities identified by the Global Health EDCTP3 Joint Undertaking may be an eligibility criterion in the call for proposals. It shall be duly justified in the work programme which may also provide that such identified participants shall not be eligible for funding from the Global Health EDCTP3 Joint Undertaking under the selected indirect actions.

Article 110

Ethical principles

The clinical trials and implementation research conducted under the Global Health EDCTP3 Joint Undertaking shall be implemented in compliance with fundamental ethical principles, recognised international regulatory standards and good participatory practices.

Article 111

Collaboration with the European Medicine Agency and European Centre for Disease Prevention and Control

The Global Health EDCTP3 Joint Undertaking shall ensure a close collaboration with the European Medicine Agency and European Centre for Disease Prevention and Control.

Article 112

Affordable access

Participants to indirect actions funded by the Global Health EDCTP3 Joint Undertaking shall ensure that the products and services developed based or partly based on the results of the indirect action are available and accessible to the public at fair and reasonable conditions. For that purpose, where relevant, the work programme shall specify additional exploitation obligations applicable to specific indirect actions.

TITLE VI

INNOVATIVE HEALTH INITIATIVE JOINT UNDERTAKING

Article 113

Additional objectives of the Innovative Health Joint Undertaking

1. In addition to the objectives set out in Articles 4 and 5, the Innovative Health Initiative Joint Undertaking shall also reach the following general objectives by 2030:
 - (a) contribute towards the creation of a Union-wide health research and innovation ecosystem that facilitates translation of scientific knowledge into innovations, notably by launching at least 30 large-scale, cross-sectoral projects, focussing on health innovations;
 - (b) foster the development of safe, effective, people-centred and cost-effective innovations that respond to strategic unmet public health needs, by exhibiting, in at least five examples, the feasibility of integrating health care products or services, with demonstrated suitability for uptake by health care systems. The related projects should address the prevention, diagnosis, treatment and/or management of diseases affecting the Union population, including contribution to Europe's Beating Cancer Plan;
 - (c) drive cross-sectoral health innovation for a globally competitive European health industry, and contribute to reaching the objectives of the new Industrial Strategy for Europe and the Pharmaceutical Strategy for Europe.
2. The Innovative Health Initiative Joint Undertaking shall also have the following specific objectives:
 - (a) contribute towards a better understanding of the determinants of health and priority disease areas;
 - (b) integrate fragmented health research and innovation efforts bringing together health industry sectors and other stakeholders, focussing on unmet public health needs, to enable the development of tools, data, platforms, technologies and processes for improved prediction, prevention, interception, diagnosis, treatment and management of diseases, meeting the needs of end-users;
 - (c) demonstrate the feasibility of people-centred, integrated health care solutions;
 - (d) exploit the full potential of digitalisation and data exchange in health care;
 - (e) enable the development of new and improved methodologies and models for a comprehensive assessment of the added value of innovative and integrated health care solutions.

Article 114
Additional tasks of the Innovative Health Initiative Joint Undertaking

In addition to the tasks set out in Article 5, the Innovative Health Initiative Joint Undertaking shall also carry out the following tasks:

- (a) foster close and long-term cooperation between the Union, other members, contributing partners, and other stakeholders involved in health care such as other relevant industries, health care authorities (such as regulatory bodies, health technology assessment bodies and payers), patient organisations, health care professionals and providers, as well as the academia;
- (b) effectively support pre-competitive health research and innovation, especially actions that bring together entities of several health care industry sectors to work jointly on areas of unmet public health need;
- (c) ensure that all stakeholders have the possibility of proposing areas for future calls for proposals;
- (d) regularly review and make any necessary adjustments to the Strategic Research and Innovation Agenda of the Innovative Health Initiative Joint Undertaking in light of scientific developments occurring during its implementation or emerging public health needs;
- (e) publish information on the projects, including participating entities and the amount of the financial contribution of the Innovative Health Initiative Joint Undertaking and committed in-kind contributions per participant;
- (f) organise regular communication, including at least one annual meeting with interest groups and with its stakeholders to ensure openness and transparency of the research and innovation activities of the Innovative Health Initiative Joint Undertaking;
- (g) any other task necessary to achieve the objectives referred to in Article 113.

Article 115
Members

The members of the Innovative Health Initiative Joint Undertaking shall be:

- (a) the Union, represented by the Commission;
- (b) the European Coordination Committee of the Radiological, Electromedical and healthcare IT Industry (COCIR), the European Federation of Pharmaceutical Industries and Associations, EuropaBio, MedTech Europe, VaccinesEurope, upon notification of their respective decisions to unconditionally accede to the Innovative Health Joint Undertaking by means of a letter of commitment;
- (c) the associated members to be selected in accordance with Article 7.

Article 116
Union financial contribution

The Union financial contribution from the Horizon Europe Programme to the Innovative Health Initiative Joint Undertaking, including EFTA appropriations, to cover administrative costs and operational costs shall be up to EUR 1 200 000 000, including up to EUR 30 212 000 for administrative costs, and shall consist of the following:

- (a) up to EUR 1 000 000 000 provided that that amount is matched by the contribution of members other than the Union, or its constituent or affiliated entities;
- (b) up to EUR 200 000 000 provided that that amount is matched by the additional contributions from contributing partners, or from their constituent or affiliated entities.

The Union contribution may be increased with contributions from third countries if the latter are available.

Article 117
Contributions from members other than the Union

1. The members of the Innovative Health Initiative Joint Undertaking other than the Union shall make or arrange for their constituent or affiliated entities to make a total contribution of at least EUR 1 000 000 000, including up to EUR 30 212 000 for administrative costs, over the period set out in Article 3.
2. The contributions referred to in paragraph 1 shall consist of contributions to the Innovative Health Initiative Joint Undertaking in accordance with Article 11(1).
3. In-kind contributions to additional activities shall not constitute more than 50% of in-kind contributions of members other than the Union, at the level of the Innovative Health Initiative programme.
4. Costs related to contributions provided by participants to indirect actions funded by the Innovative Health Initiative Joint Undertaking shall amount to at least 45% of an indirect action's eligible costs and related costs of additional activities. When justified, the work programme may exceptionally allow a lower proportion of contributions at the level of an individual indirect action and its related additional activities.
5. Costs incurred in indirect actions in third countries other than countries associated to Horizon Europe shall be justified and relevant to the objectives set out in Article 113. They shall not exceed 20% of the in-kind contributions to operational costs provided by members other than the Union and by contributing partners at the level of the Innovative Health Initiative programme. Costs in excess of 20% of the in-kind contributions to operational costs at the level of the Innovative Health Initiative programme shall not be considered as in-kind contributions to operational costs.
6. Work programmes of the Innovative Health Initiative Joint Undertaking may set out specific limits for in-kind contributions to operational costs incurred in third countries other than countries associated with Horizon Europe at an indirect action

level. The decisions on such specific limits shall take into account in particular the objectives and the impact sought by the actions concerned and shall not result in an excess of the ceiling set out in paragraph 5 at the Innovative Health Initiative programme level.

Article 118

Conditions related to additional activities

1. For the purpose of point (b) of Article 11(1), additional activities shall be carried out in the Union or countries associated with Horizon Europe and may include:
 - (a) activities contributing towards the achievement of objectives of actions funded by the Innovative Health Initiative Joint Undertaking;
 - (b) activities contributing towards the dissemination, sustainability or exploitation of results of actions funded by the Innovative Health Initiative Joint Undertaking.
2. Where relevant, project proposals shall include a plan for their related additional activities. Costs associated to such project-specific additional activities must be incurred between the date of submission of the proposal and up to two years after the end date of the indirect action.
3. In order for the costs to be accounted for as in-kind contributions referred to in point (b) of Article 11(1), the underlying additional activities shall be carried out in the European Union or countries associated to Horizon Europe.

Article 119

Bodies of the Innovative Health Initiative Joint Undertaking

The bodies of the Innovative Health Initiative Joint Undertaking shall be:

- (a) the Governing Board;
- (b) the Executive Director;
- (c) the Innovation Panel;
- (d) the States' Representatives Group.

Article 120

Composition of the Governing Board

The Governing Board shall be composed of the following:

- (a) five representatives of the European Commission on behalf of the Union;
- (b) one representative per member other than the Union.

Article 121
Functioning of the Governing Board

The members other than the Union shall collectively hold 50 % of the voting rights.

Article 122
The Innovation Panel

1. The Innovation Panel shall advise the Governing Board on matters relevant to the research and innovation activities of the Innovative Health Initiative Joint Undertaking in application of Article 19.
2. The Innovation Panel shall be composed of the following permanent panellists:
 - (a) four representatives of the Commission on behalf of the Union;
 - (b) four representatives of the members other than the Union;
 - (c) two representatives of the States' Representatives Group;
 - (d) two representatives of the scientific community, appointed by the Governing Board following an open selection process in application of Article 19(4);
 - (e) up to six permanent panellists, appointed by the Governing Board following an open selection process in application of Article 19(4), ensuring in particular appropriate representation of stakeholders involved in health care, covering notably the public sector, patients and end-users in general;
 - (f) the Executive Director and one additional representative of the programme office.
3. The panellists representing of the members of the Innovative Health Initiative Joint Undertaking may appoint *ad hoc* panellists where appropriate to discuss specific subjects. They may jointly appoint a maximum of six *ad hoc* panellists for each meeting.

Such *ad hoc* panellists shall be appointed based on their scientific or technical expertise on the subjects to be discussed at given meetings or taking into account the need to create synergies with other research programmes.

The panellists representing members of the Innovative Health Initiative Joint Undertaking shall appoint *ad hoc* panellists consensually for a fixed period. They shall communicate their decisions to the programme office and the other permanent panellists.
4. Notwithstanding the States' Representatives Group's tasks set out in Article 20(7), the Innovation Panel shall provide advice to the Governing Board, at its request or on its own initiative, on scientific and technological matters related to the Innovative Health Initiative Joint Undertaking's objectives, in particular about:
 - (a) scientific priorities;

- (b) the draft work programme, including the content of calls for proposals;
 - (c) the planning of additional activities of members other than the Union referred to in Article 118;
 - (d) the set up of advisory groups focused on specific scientific priorities;
 - (e) creation of synergies with other Horizon Europe activities, including other European partnerships, as well as other Union funding programmes and national funding programmes.
5. The Innovation Panel shall be chaired by the Executive Director. In duly justified cases, the Executive Director may appoint a senior member of staff of the Innovative Health Initiative Joint Undertaking programme office to chair the Innovation Panel on his or her behalf.
 6. As part of the report referred to in Article 19(8), the panellists representing the members of the Innovative Health Initiative Joint Undertaking shall adopt motions regarding the matters referred to in paragraph 4 by consensus after discussions with all panellists present at the meeting. Failing consensus, the chairperson shall report the situation to the Governing Board. Each panellist may express a dissenting opinion in the report.
 7. The Innovation Panel shall hold its ordinary meetings at least twice a year. It may hold extraordinary meetings at the request of panellists representing the Commission or a majority of the panellists representing the members other than the Union.
 8. The panellists of the Innovation Panel shall exchange any relevant information and discuss their ideas prior to the meetings in any appropriate form. They shall coordinate their activities with those of any other advisory group, as appropriate.

Article 123

Conditions applicable to indirect actions

1. For the purpose of this Regulation, an unmet public health need shall be defined as a need currently not addressed by the health care systems for availability or accessibility reasons, for example where there is no satisfactory method of diagnosis, prevention or treatment for a given health condition or if people access to health care is limited because of cost, distance to health facilities or waiting times. People-centred care refers to an approach to care that consciously adopts individuals', carers', families' and communities' perspectives and considers them as participants as well as beneficiaries of health care systems that are organised around their needs and preferences rather than individual diseases.
2. Indirect actions funded by the Innovative Health Initiative Joint Undertaking may include clinical studies where the targeted area or the intended use represents an unmet public health need, significantly affecting or threatening the Union's population.

3. Participants to indirect actions funded by the Innovative Health Initiative Joint Undertaking must ensure that the products and services developed based or partly based on the results of the indirect actions are available and accessible to the public at fair and reasonable conditions. For that purpose, where relevant, the work programme shall specify additional exploitation obligations applicable to specific indirect actions.
4. Where provided for in the work programme, legal entities identified by the Innovative Health Initiative Joint Undertaking may be required to participate in specific indirect actions. Those entities shall not be eligible for funding from the Innovative Health Initiative Joint Undertaking.
5. Any legal entities participating in specific indirect actions with the identified legal entities referred to in paragraph 4 shall not be eligible for funding where:
 - (a) they are for-profit legal entities with an annual turnover of EUR 500 million or more;
 - (b) they are under the direct or indirect control of a legal entity described in point (a), or under the same direct or indirect control as a legal entity described in point (a);
 - (c) they are directly or indirectly controlling a legal entity referred to in point (a).

TITLE VII

KEY DIGITAL TECHNOLOGIES JOINT UNDERTAKING

Article 124

Additional objectives of the Key Digital Technologies Joint Undertaking

1. In addition to the objectives set out in Articles 4 and 5, the Key Digital Technologies Joint Undertaking shall also have the following general objectives:
 - (a) reinforce the Union's open technological autonomy in electronic components and systems to support future needs of vertical industries and the economy at large. The overall target is to contribute towards doubling the value of the design and production of electronic components and systems in Europe by 2030, in line with the weight of the Union in products and services;
 - (b) establish Union scientific excellence and innovation leadership in emerging components and systems technologies with the active involvement of SMEs. SMEs should represent at least one third of the total number of participants in indirect actions and at least 20% of public funding should go to them;
 - (c) ensure that components and systems technologies address Europe's societal and environmental challenges. The target is to align with the Union policy on energy efficiency and contribute towards the reduction of energy consumption by 32.5% in 2030.

2. In addition to the objectives set out in paragraph 1, the Key Digital Technologies Joint Undertaking shall also have the following specific objectives:
 - (a) establish design and production capabilities in Europe for strategic application areas;
 - (b) launch a balanced portfolio of large and small projects supporting the fast transfer of technologies from the research to the industrial environment;
 - (c) build a dynamic Union-wide ecosystem based on digital value-chains with simplified access to newcomers;
 - (d) enhance component technologies that guarantee security, trust and energy-efficiency for critical infrastructures and sectors in Europe;
 - (e) foster mobilization of national resources and ensure a coherent alignment of Union and national research and innovation programmes in the field of electronic components and systems;

- (f) establish coherence between the Strategic Research and Innovation Agenda of the initiative and EU policies so that electronics components and systems technologies contribute efficiently.

Article 125

Additional tasks of the Key Digital Technologies Joint Undertaking

In addition to the tasks set out in Article 5, the Key Digital Technologies Joint Undertaking shall also monitor the implementation of the indirect actions and manage grant agreements and decisions of the Governing Board and Public Authorities Board.

Article 126

Members

1. The members of the Key Digital Technologies Joint Undertaking shall be:
 - (a) the public authorities consisting of:
 - (i) the Union, represented by the Commission;
 - (ii) the following participating states:
 - [...];
 - [...].
 - (b) the private members consisting of the following industrial associations and their constituent entities: the AENEAS Association, registered under French law, with its registered office in Paris, France; the ARTEMIS Industry Association (ARTEMISIA) registered under Dutch law, with its registered office in Eindhoven, the Netherlands; the EPoSS e.V. Association, registered under German law, with its registered office in Berlin, Germany.
2. Each participating state shall appoint its representatives in the bodies of the Key Digital Technologies Joint Undertaking and shall designate the national entity or entities responsible for fulfilling its obligations with respect to the activities of the Key Digital Technologies Joint Undertaking.

Article 127

Union financial contribution

The Union financial contribution from the Horizon Europe Programme to the Key Digital Technologies Joint Undertaking, including EFTA appropriations, to cover administrative costs and operational costs shall be up to EUR 1 800 000 000, including up to EUR 22 090 000 for administrative costs. The Union contribution may be increased with contributions from third countries if the latter are available.

Article 128

Contributions from members other than the Union

1. Over the period set out in Article 3, the participating states of the Key Digital Technologies Joint Undertaking shall make a total contribution of at least equal to the amount of the Union contribution to operational costs referred to in Article 127.
2. Over the period set out in Article 3, the private members of the Key Digital Technologies Joint Undertaking shall make or arrange for their constituent or affiliated entities to make contributions of at least EUR 2 511 164 000 to the Key Digital Technologies Joint Undertaking.
3. In line with Article 26(4), the private members shall make or arrange for their constituent and affiliated entities to make a financial contribution of up to EUR 22 090 000 for administrative costs of the Key Digital Technologies Joint Undertaking.
4. The contributions referred to in paragraph 1 shall consist of contributions laid down in Article 11(4). The contributions referred to in paragraph 2 shall consist of contributions laid down in Article 11(1), including at least EUR 2 489 074 000 of contributions laid down in point (a) of Article 11(1). The contributions referred to in paragraph 3 shall consist of contributions as laid down in point (c) of Article 11(1).

Article 129

Contributions from the participating states

1. Each participating state shall entrust the Key Digital Technologies Joint Undertaking with the implementation of their contributions to participants in indirect actions established in that participating state through the grant agreements concluded by the joint undertaking. They shall also entrust the Key Digital Technologies Joint Undertaking with the payment of their contributions to the participants. They shall specify the amounts dedicated to indirect actions.
2. The beneficiaries of indirect actions of the Key Digital Technologies Joint Undertaking shall sign a single grant agreement with the Key Digital Technologies Joint Undertaking. Detailed rules of the grant agreement, including the respective framework for intellectual property rights, shall follow the rules of Horizon Europe.
3. Participating states shall commit to the payment of the full amount of their contributions by means of legally binding agreements between the entities designated by each of the participating states for that purpose and the Key Digital Technologies Joint Undertaking. Such agreements shall be concluded prior to the adoption of the work programme.
4. The Governing Board shall take due account of the agreements referred to in paragraph 3 when adopting the expenditure estimates of the related research and innovation activities in order to ensure the principle of equilibrium of the budget of the Key Digital Technologies Joint Undertaking.

5. The Executive Director shall submit to the Governing Board the agreements referred to in paragraph 3 supporting the expenditure estimates of the related research and innovation activities.
6. Other arrangements for the cooperation between the participating states and the Key Digital Technologies Joint Undertaking and for the commitments regarding the contributions mentioned in paragraph 1 shall be established by means of agreements to be concluded between the entities designated by each of the participating states for that purpose and the Key Digital Technologies Joint Undertaking.

Article 130
Scope of additional activities

1. The Governing Board of the Key Digital Technologies Joint Undertaking may approve where necessary the additional activities plan referred to in point (b) of Article 11(1) following a proposal by the Private Members Board, taking into account the opinion of the Public Authorities Board.
2. For the purpose of point (b) of Article 11(1), additional activities may include:
 - (a) private investment aiming to industrialise the Key Digital Technologies and ECSEL Joint Undertakings' projects' results;
 - (b) pilots, demonstrators, applications, deployments, industrialisation, including relevant capital expenditure;
 - (c) related research and development activities not publicly funded;
 - (d) activities financed by loans of the European Investment Bank and not funded under a grant by the Union;
 - (e) activities to develop the ecosystem supporting the cooperation of technology users and suppliers.

Article 131
Bodies of the Key Digital Technologies Joint Undertaking

The bodies of the Key Digital Technologies Joint Undertaking shall be:

- (a) the Governing Board;
- (b) the Executive Director;
- (c) the Public Authorities Board;
- (d) the Private Members Board.

Article 132
Composition of the Governing Board

Each member of the Key Digital Technologies Joint Undertaking shall appoint its representatives and a lead delegate who shall hold the voting rights of the member in the Governing Board.

Article 133
Functioning of the Governing Board

1. The voting rights in the Governing Board shall be distributed as follows:
 - (a) one-third for the Commission;
 - (b) one-third for the private members collectively; and
 - (c) one-third for the participating states collectively.
2. For the first two financial years following the establishment of the Key Digital Technologies Joint Undertaking, the voting rights of the participating states shall be distributed as follows:
 - (a) one per cent for each participating state;
 - (b) the remaining percentage distributed annually among the participating states in proportion to their actual financial contributions to the Key Digital Technologies Joint Undertaking and/or to its preceding initiative over the past two years.
3. For the subsequent financial years, the distribution of the voting rights of the participating states shall be established annually and in proportion to the funds they have committed to indirect actions over the past two financial years.
4. The voting rights of the private members shall be distributed equally amongst the industrial associations unless decided otherwise by the Private Members Board.
5. Voting rights for any new member of the Key Digital Technologies Joint Undertaking that is not a member state or an associated country shall be determined by the Governing Board before that member joins the Key Digital Technologies Joint Undertaking.
6. The quorum of the Governing Board shall be constituted by the Commission, the private members and at least three Key Digital Technologies participating states' lead delegates.

Article 134
Additional tasks of the Governing Board

1. Article 16(2)(s) shall not apply to the Governing Board of the Key Digital Technologies Joint Undertaking.
2. Where the Commission so requests, eligibility to participate in specific actions shall be restricted in accordance with the provisions of the sectoral basic act applicable to the concerned Union contribution.

Article 135
Composition of the Public Authorities Board

The Public Authorities Board shall be composed of representatives of the public authorities of the Key Digital Technologies Joint Undertaking.

Each public authority shall appoint its representatives and a lead delegate who shall hold the voting rights in the Public Authorities Board.

Article 136
Functioning of the Public Authorities Board

1. The voting rights in the Public Authorities Board shall be assigned to the public authorities on an annual basis in proportion to their financial contribution to the activities of the Key Digital Technologies Joint Undertaking for that year in accordance with Article 129, and with an upper limit for any given member of 50% of the total voting rights in the Public Authorities Board.
2. If fewer than three participating states have communicated to the Executive Director their financial contribution according to Article 129(3), the Commission shall hold 50% of the voting rights and the remaining 50% shall be distributed equally amongst the participating states until such time as more than three Key Digital Technologies participating states have communicated their contribution.
3. The public authorities shall make every effort to achieve consensus. Failing consensus, the Public Authorities Board shall take its decisions by a majority of at least 75% of all votes, including the votes of the participating states that are not in attendance.
4. The Public Authorities Board shall elect its chairperson from among its members for a period of at least two years.
5. The chairperson may invite other persons to attend its meetings as observers, in particular representatives of regional authorities within the Union, representatives of SME associations and representatives of other bodies of the Key Digital Technologies Joint Undertaking.

6. The Public Authorities Board shall hold its ordinary meetings at least twice a year. It may hold extraordinary meetings at the request of the Commission or of a majority of the representatives of the participating states, or at the request of the chairperson. The meetings of the Public Authorities Board shall be convened by its chairperson and shall normally take place at the seat of the Key Digital Technologies Joint Undertaking.
7. The quorum of the Public Authorities Board shall be constituted by the Commission and at least three participating states' lead delegates.
8. The Executive Director shall attend the meetings of the Public Authorities Board meetings, unless decided otherwise by the Public Authorities Board, but shall have no voting rights.
9. Upon invitation from the Public Authorities Board, any member state or associated country that is not a member of the Key Digital Technologies Joint Undertaking may participate in the Public Authorities Board meetings as an observer. Observers shall receive all relevant documents and may give advice on any decision taken by the Public Authorities Board. All such observers will be bound by the confidentiality rules applying to the Public Authorities Board members.
10. The Public Authorities Board may appoint working groups where necessary under the overall coordination of one or more public authorities.
11. The Public Authorities Board shall adopt its own rules of procedure.
12. Article 11(7) and Article 26(6) shall apply *mutatis mutandis* to the Public Authorities Board.

Article 137

Tasks of the Public Authorities Board

The Public Authorities Board shall:

- (a) contribute to the drafting of the Strategic Research and Innovation Agenda;
- (b) provide input to the draft work programme, in particular the calls for proposals, including the rules for evaluation, selection and monitoring of indirect actions;
- (c) approve the launch of calls for proposals, in accordance with the work programme;
- (d) decide on the allocation of public funding to selected proposals on the basis of the ranking list prepared by the evaluation committee, up to the limit of the budgets available. For proposals of equivalent merit this allocation may take into consideration the proposals' contribution towards the achievement of specific policy objectives, including synergies with national priorities. Such decision shall be binding without any further evaluation or selection processes;

- (e) provide an opinion on the draft additional activities plan referred to in Article 11(1)(b).

Article 138

Composition of the Private Members Board

1. The Private Members Board shall be composed of representatives of the private members of the Key Digital Technologies Joint Undertaking.
2. Each private member shall appoint its representatives and a lead delegate who shall hold the voting rights in the Private Members Board.

Article 139

Functioning of the Private Members Board

1. The Private Members Board shall meet at least twice a year.
2. The Private Members Board may appoint working groups where necessary under the overall coordination of one or more members.
3. The Private Members Board shall elect its chairperson from among its members.
4. The Private Members Board shall adopt its rules of procedure.

Article 140

Tasks of the Private Members Board

The Private Members Board shall:

- (a) draw up and regularly update the draft Strategic Research and Innovation Agenda for achieving the objectives of the Key Digital Technologies Joint Undertaking set out in Article 4 and in Article 124 taking into account the input of the public authorities;
- (b) submit to the Executive Director the draft Strategic Research and Innovation Agenda within the deadlines set by the Governing Board;
- (c) organise an advisory Stakeholder Forum that is open to all public and private stakeholders having an interest in the field of key digital technologies to inform them about and collect feedback on the draft Strategic Research and Innovation Agenda for a given year;
- (d) where appropriate, and taking into account Article 130, draw up and submit for approval to the Governing Board the draft additional activities plan referred to in Article 11(1)(b) taking into account the opinion of the Public Authorities Board.

Article 141

Reimbursement rates

In accordance with [Article 13(1)] of the Horizon Europe Regulation and by way of derogation from [Article 30] of that Regulation, the Key Digital Technologies Joint Undertaking may apply different reimbursement rates for the Union funding within an action depending on the type of participant, namely SMEs and non-profit legal entities, and the type of action. The reimbursement rates shall be indicated in the work programme.

TITLE VIII

SINGLE EUROPEAN SKY ATM RESEARCH 3 JOINT UNDERTAKING

Article 142

Additional objectives of the Single European Sky ATM Research 3 Joint Undertaking

1. In addition to the objectives set out in Articles 4 and 5, the Single European Sky ATM Research 3 Joint Undertaking shall also have the following general objectives:
 - (a) strengthen and integrate the Union’s research and innovation capacity in the ATM sector, making it more resilient and scalable to fluctuations in traffic while enabling the seamless operation of all aircraft;
 - (b) strengthen, through innovation, the competitiveness of manned and unmanned air transport in the Union, and ATM services’ markets to support economic growth in the Union;
 - (c) develop and accelerate the market uptake of innovative solutions to establish the Single European Sky airspace as the most efficient and environmentally friendly sky to fly in the world.

2. The Single European Sky ATM Research 3 Joint Undertaking shall also have the following specific objectives:
 - (a) develop a research and innovation ecosystem covering the entire ATM and U-space airspace⁶⁰ value chains allowing to build the Digital European Sky⁶¹ defined in the European ATM Master plan, enabling the collaboration and coordination needed between air navigation services providers and airspace users to ensure a single harmonised Union ATM system for both manned and unmanned operations;
 - (b) develop and validate ATM solutions supporting high levels of automation;
 - (c) develop and validate the technical architecture⁶² of the Digital European Sky;

⁶⁰ U-space airspace’ means a unmanned airborne system (UAS) geographical zone designated by member states, where UAS operations are only allowed to take place with the support of U-space services provided by an U-Space service provider;

⁶¹ ‘Digital European Sky’ refers to vision of the European ATM Master Plan, seeking to transform Europe’s aviation infrastructure enabling it to handle the future growth and diversity of air traffic safely and efficiently, while minimising environmental impact.

⁶² “architecture of the Digital European Sky” refers to the vision of the European ATM Master Plan, seeking to address the current inefficient airspace architecture in the medium to long term by combining airspace configuration and design with technologies to decouple service provision from local infrastructure and progressively increase the levels of collaboration and automation support.

- (d) support an accelerated market deployment of innovative solutions through demonstrators;
- (e) coordinate the prioritisation and planning for the Union's ATM modernisation efforts, based on a consensus-led process among the ATM stakeholders;
- (f) facilitate the development of standards for the industrialisation of SESAR solutions.

Article 143

Additional tasks of the Single European Sky ATM Research 3 Joint Undertaking

In addition to the tasks set out in Article 5, the Single European Sky ATM Research 3 Joint Undertaking shall:

- (a) coordinate the tasks of the Single European Sky ATM Research (SESAR) definition phase⁶³, monitor the implementation of the SESAR project and amend, where necessary, the European ATM Master Plan⁶⁴;
- (b) implement the research and development aspects of the European ATM Master Plan, in particular by:
 - (i) organising, coordinating and monitoring the work of the SESAR development phase in accordance with the European ATM Master Plan, including low technology readiness levels (TRL) (0 to 2) research and innovation activities;
 - (ii) delivering SESAR solutions, which are deployable outputs of the SESAR development phase introducing new or improved standardised and interoperable operational procedures or technologies;
 - (iii) ensuring the involvement of the civil and military stakeholders of the aviation sector, in particular: air navigation service providers, airspace users, professional staff associations, airports, manufacturing industry and the relevant scientific institutions and scientific community;
- (c) facilitate an accelerated market uptake of SESAR solutions by:
 - (i) organising and coordinating large-scale demonstrations activities;
 - (ii) coordinating closely with EASA in order to enable timely development by EASA of regulatory measures that fall under the EASA Basic Regulation⁶⁵ and the relevant implementing rules;

⁶³ The SESAR definition phase means the phase comprising the establishment and updating of the long-term vision of the SESAR project, of the related concept of operations enabling improvements at every stage of flight, of the required essential operational changes within the EATMN and of the required development and deployment priorities.

⁶⁴ Endorsed by Council Decision 2009/320/EC, OJ L 300, 14.11.2009, p. 34.

- (iii) supporting the related standardisation activities, in close cooperation with standardisation bodies and EASA, as well as with the entity established to coordinate the tasks of the SESAR deployment phase⁶⁶ in line with Commission Implementing Regulation (EU) No 409/2013⁶⁷.

Article 144
Members

1. The members of the Single European Sky ATM Research 3 Joint Undertaking shall be:
 - (a) the Union, represented by the Commission;
 - (b) the European Organisation for the Safety of Air Navigation (EUROCONTROL), represented by its Agency, upon notification of its decision to unconditionally accede to the Single European Sky ATM Research 3 Joint Undertaking by means of a letter of commitment;
 - (c) the founding members listed in Annex III of this Regulation, upon notification of their decision to unconditionally accede to the Single European Sky ATM Research 3 Joint Undertaking by means of a letter of commitment;
 - (d) the associated members to be selected in accordance with Article 7.
2. By way of derogation from the provisions in Article 7(1) and (2), the Governing Board may, during the first six months following the establishment of the Single European Sky ATM Research 3 Joint Undertaking, select associated members from a list drawn up after an open call for expression of interest launched by the Commission prior to its establishment.
3. In selecting associated members, the Governing Board shall seek to ensure the proper representation of the entire ATM value chain and, where necessary, the selection of relevant players from outside the sector. Any public or private entity or body including those from third countries that have concluded at least one agreement with the Union in the field of air transport may be selected as associated members of the Single European Sky ATM Research 3 Joint Undertaking.

⁶⁵ Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018)

⁶⁶ ‘SESAR deployment phase’ means the successive phases of industrialisation and implementation, during which the following activities are conducted: standardisation, production and certification of ground and airborne equipment and processes necessary to implement SESAR solutions (industrialisation); and procurement, installation and putting into service of equipment and systems based on SESAR solutions, including associated operational procedures (implementation)

⁶⁷ OJ L 123, 4.5.2013, p. 1.

Article 145
Union financial contribution

The Union financial contribution from the Horizon Europe Programme to the Single European Sky ATM Research 3 Joint Undertaking, including EFTA appropriations, to cover administrative costs and operational costs shall be up to EUR 600 000 000, including up to EUR 30 000 000 for administrative costs. The Union contribution may be increased with contributions from third countries if the latter are available.

Article 146
Contributions from members other than the Union

1. The private members of the Single European Sky ATM Research 3 Joint Undertaking shall make or arrange for their constituent or affiliated entities to make a total contribution of at least EUR 500 000 000, including up to EUR 25 000 000 for administrative costs over the period set out in Article 3.
2. EUROCONTROL shall make a contribution to the operational and administrative costs of the Single European Sky ATM Research 3 Joint Undertaking of at least EUR 500 000 000, including up to EUR 25 000 000 for administrative costs over the period set out in Article 3.
3. The contributions referred to in paragraph 1 shall consist of contributions to the Single European Sky ATM Research 3 Joint Undertaking as referred to in Article 11(1). The contributions referred to in paragraph 2 shall consist of contributions to the Single European Sky ATM Research 3 Joint Undertaking as referred to in Article 11(5).

Article 147
Scope of additional activities

For the purposes of point (b) of Article 11(1), additional activities may include:

- (a) activities covering all the non-Union funded part of the Single European Sky ATM Research projects that contribute to the achievement of the agreed work programme of the Joint Undertaking;
- (b) industrialisation activities, including standardisation, certification and production, related to SESAR Solutions from the Single European Sky ATM Research 3 Joint Undertaking or the previous initiative, the SESAR Joint Undertaking;
- (c) communication and outreach activities related to SESAR Solutions from the Single European Sky ATM Research 3 Joint Undertaking or the previous initiative, the SESAR Joint Undertaking;
- (d) activities ensuring the global ATM harmonisation based on SESAR Solutions from the Single European Sky ATM Research 3 Joint Undertaking or the previous initiative, the SESAR Joint Undertaking;

- (e) deployment or uptake of results from projects under the Single European Sky ATM Research 3 Joint Undertaking or the previous initiative, the SESAR Joint Undertaking, which have not received any Union funding.

Article 148

Bodies of the Single European Sky ATM Research 3 Joint Undertaking

The bodies of the Single European Sky ATM Research 3 Joint Undertaking shall be:

- (a) the Governing Board;
- (b) the Executive Director;
- (c) the Scientific Advisory Body;
- (d) the States' Representatives Group.

Article 149

Composition of the Governing Board

The Governing Board shall be composed as follows:

- (a) two representatives of the Commission on behalf of the Union;
- (b) one representative from each of the members other than the Union.

Article 150

Functioning of the Governing Board

1. The Governing Board shall be chaired by the Commission on behalf of the Union.
2. The Governing Board shall have the following permanent observers:
 - (a) a representative of the European Defence Agency;
 - (b) a representative of civil users of airspace, designated by their representative organisation at European level;
 - (c) an air navigation service providers' representative, designated by their representative organisation at European level;
 - (d) an equipment manufacturers' representative, designated by their representative organisation at European level;

- (e) an airports' representative, designated by their representative organisation at European level;
 - (f) a representative from the bodies representing staff in the air traffic management sector, designated by their representative organisation at European level;
 - (g) a representative of the relevant scientific institutions or the relevant scientific community, designated by their representative organisation at European level;
 - (h) a representative of the European Union Aviation Safety Agency;
 - (i) a representative of the European standardisation organisation in aviation;
 - (j) a representative of the unmanned aerial vehicle industry, designated by their representative organisation at European level.
3. The number of votes of the members of the Single European Sky ATM Research 3 Joint Undertaking shall be in proportion to their contribution to the budget of the joint undertaking. However, the Union and EUROCONTROL shall each have at least 25% of the total number of votes and the representative of the civil users of airspace referred to in point (b) of paragraph 2 shall have at least 10 % of the total number of votes.
 4. Decisions of the Governing Board shall be adopted by a simple majority of the votes cast. Where the votes are evenly divided, the Union shall have the deciding vote.
 5. Decisions relating to the revision of the European ATM Master Plan shall require the positive votes of the Union and EUROCONTROL. Such decisions shall take into account the opinions expressed by all permanent observers referred to in paragraph 2.

Article 151
Additional tasks of the Governing Board

In addition to the tasks listed in Article 16, the Governing Board of the Single European Sky ATM Research 3 Joint Undertaking shall also supervise the delivery of the research and development components identified in the European ATM Master Plan.

Article 152
Additional tasks of the Executive Director

In addition to the tasks listed in Article 18, the Executive Director of the Single European Sky ATM Research 3 Joint Undertaking shall carry out the following tasks:

- (a) direct the execution of the definition and development phases of the SESAR project within the guidelines established by the Governing Board;
- (b) submit to the Governing Board any proposal involving changes in the design of the development phase of the SESAR project.

Article 153
The Scientific Committee

1. The scientific advisory body of the Single European Sky ATM Research 3 Joint Undertaking referred to in point (a) of Article 19(1), shall be the Scientific Committee.
2. The Scientific Committee shall have no more than 15 permanent members.
3. The chairman of the Scientific Committee shall be elected for a period of two years.
4. The Scientific Committee may advise on request of the Governing Board and other bodies of the Single European Sky ATM Research 3 Joint Undertaking, or on its own initiative, in particular on activities related to low Technology Readiness Levels (TRL) (0 to 2).
5. The Scientific Committee shall collaborate with the relevant advisory bodies set up under Horizon Europe.

Article 154
The States' Representatives Group

1. The States' Representatives Group shall consist of maximum two representatives of each member state and associated country, including representatives of national authorities in charge of aviation and in charge of research. The representatives of the member states shall present a coordinated position, taking into consideration the views expressed in:
 - (a) the Single Sky Committee, established by Article 5 of Regulation (EC) No 549/2004 of the European Parliament and of the Council⁶⁸;
 - (b) the Programme Committee under Horizon Europe⁶⁹.
2. The States' Representatives Group shall meet at least once a year.

Article 155
Implementing acts to establish the position of the Union concerning the amendment of the European ATM Master Plan

1. The Commission shall adopt implementing acts with the view to establish the Union's position on the amendment of the European ATM Master Plan. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 5 of Regulation (EU) No 182/2011.

⁶⁸ Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation) (Text with EEA relevance) - Statement by the member states on military issues related to the single European sky (OJ L 96, 31.3.2004, p. 1).

⁶⁹ Insert reference once the Horizon Europe Regulation is adopted.

2. The Commission shall be assisted by the Single Sky Committee established by Regulation (EC) No 549/2004. The Single Sky Committee shall be a committee within the meaning of Regulation (EU) No 182/2011 of the European Parliament and of the Council⁷⁰.

Article 156
Certification of new technologies

1. The European Union Aviation Safety Agency (EASA) may be invited by applicants, beneficiaries, or the Executive Director to advise on individual projects and demonstration activities on issues related to compliance with aviation safety, interoperability and environmental standards, to ensure that these lead to timely development of relevant standards, testing capacity and regulatory requirements for product development and deployment of new technologies.
2. Certification activities and services provided shall be subject to the provisions regarding fees and charges set out in Regulation (EU) 2018/1139 of the European Parliament and of the Council⁷¹.

Article 157
Agreement with EUROCONTROL

As founding member of the Single European Sky ATM Research 3 Joint Undertaking, EUROCONTROL's role and contribution shall be set out in an administrative agreement between the two parties (the Single European Sky ATM Research 3 Joint Undertaking and EUROCONTROL). That agreement shall describe EUROCONTROL's tasks, responsibilities and contribution to the activities of the Single European Sky ATM Research 3 Joint Undertaking as regards the following:

- (a) organising EUROCONTROL's research, development and validation activities in accordance with the work programme of the Single European Sky ATM Research 3 Joint Undertaking;
- (b) providing specialist support and advice to the Single European Sky ATM Research 3 Joint Undertaking on its request;
- (c) supporting and advising on the common developments for the future European ATM systems, in particular related to the future airspace architecture;

⁷⁰ Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by member states of the Commission's exercise of implementing powers. OJ L 55, 28.2.2011, p.13.

⁷¹ Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018R1139>.

- (d) supporting the monitoring of the implementation of SESAR Solutions in line with the European ATM Master Plan;
- (e) engaging with EUROCONTROL member states to secure wide support for the Union's policy objectives and results of research, validation and demonstration activities amongst pan-European network partners;
- (f) providing support to Programme Management;
- (g) contributing to the administrative costs of the Single European Sky ATM Research 3 Joint Undertaking and providing information technology, communications and logistics support to the Single European Sky ATM Research 3 Joint Undertaking.

Article 158
Common back office functions

Article 12 shall not apply to the Single European Sky ATM Research 3 Joint Undertaking.

TITLE IX

SMART NETWORKS AND SERVICES JOINT UNDERTAKING

Article 159

Additional objectives of the Smart Networks and Services Joint Undertaking

1. In addition to the objectives set out in Articles 4 and 5, the Smart Networks and Services Joint Undertaking shall also have the following general objectives:
 - (a) foster Europe's technological sovereignty in future smart networks and services by reinforcing current industrial strengths and by extending the scope from 5G connectivity to the broader strategic value chain including cloud-based service provisioning as well as components and devices;
 - (b) align strategic roadmaps of a wider range of industrial players, including not only the telecommunication industry, but also actors from the Internet of Things, cloud, as well as components and devices;
 - (c) advance European technological and scientific excellence to support European leadership to shape and master 6G systems by 2030;
 - (d) strengthen the deployment of digital infrastructures and uptake of digital solutions in the European markets and in particular by ensuring a strategic coordination mechanism for CEF2 Digital as well as synergies within CEF2, and with DEP and InvestEU as part of the scope and governance of the Smart Networks and Services Joint Undertaking;
 - (e) prepare the European smart networks and services supply industry for the longer term opportunities emerging from the development of vertical markets for 5G and later 6G infrastructures and services in Europe;
 - (f) facilitate digital innovation, by 2030, meeting European market needs and public policy requirements, including the most demanding requirements of vertical industries, as well as societal requirements in fields including security, energy efficiency, and electromagnetic fields;
 - (g) support the alignment of future smart networks and services with Union policy objectives including European Green Deal, Network and Information Security, ethics, privacy, as well as a human centric and sustainable Internet.

2. The Smart Networks and Services Joint Undertaking shall also have the following specific objectives:
 - (a) facilitate the development of technologies able to meet advanced communication requirements while supporting European excellence in smart networks and services technologies and architectures and their evolution towards 6G, including strong European positions on standards, essential

- patents, and identification of key requirements, such as spectrum bands needed for future advanced smart network technologies;
- (b) accelerate the development of energy-efficient network technologies with the aim of significantly reducing the energy and resource consumption of the whole digital infrastructure by 2030 and decreasing the energy consumption of key verticals industries supported by smart networks and services technologies;
 - (c) accelerate the development and widespread deployment of 5G by 2025 and later 6G infrastructure in Europe by, in particular, ensuring the coordination and strategic support of 5G deployment for Connected and Automated Mobility along cross-border corridors, using the CEF2 Digital programme and other deployment programmes under CEF2 Digital as well as DEP and InvestEU;
 - (d) foster a sustainable and diverse supply and value chain in line with the 5G Cybersecurity toolbox;
 - (e) strengthen the positioning of the Union's industry in the global smart network and services value chain by creating a critical mass of public and private actors, in particular by increasing the contribution from software and Internet of Things actors, leveraging national initiatives and supporting the emergence of new actors;
 - (f) support alignment with ethical and security requirements, including them into the Strategic Research and Innovation Agendas and provide input to the Union's legislative process as appropriate.

Article 160

Additional tasks of the Smart Networks and Services Joint Undertaking

In addition to the tasks set out in Article 5, the Smart Networks and Services Joint Undertaking shall also carry out the following tasks:

- (a) contribute to the work programmes of other Union programmes, such as CEF 2 Digital, DEP and InvestEU that are implementing activities in the area of smart networks and services;
- (b) coordinate Union piloting and deployment initiatives in the field of smart networks and services, such as pan-European 5G corridors for connected and automated mobility under CEF2 Digital, in liaison with the Commission and competent relevant funding bodies;
- (c) promote synergies among relevant Union-funded trials, pilots and deployment activities in the area of smart networks and services, such as those funded under CEF2 Digital, DEP and InvestEU, and ensure effective dissemination and leveraging of the knowledge and know-how gathered in the context of those activities;
- (d) develop and coordinate the strategic deployment agendas for pan-European 5G corridors for connected and automated mobility with the involvement of stakeholders. Those agendas shall be programming documents covering the duration

of CEF2 Digital by defining a common vision for the development of 5G-enabled ecosystems and the underpinning network and services requirements, and identifying deployment objectives and roadmaps as well as potential cooperation models.

Article 161
Members

The members of the Smart Networks and Services Joint Undertaking shall be:

- (a) the Union, represented by the Commission;
- (b) the 5G Infrastructure Association, upon notification of its decision to unconditionally accede to the Smart Networks and Services Joint Undertaking by means of a letter of commitment.

Article 162
Union financial contribution

The Union financial contribution from the Horizon Europe Programme to the Smart Networks and Services Joint Undertaking, including EFTA appropriations, to cover administrative costs and operational costs shall be up to EUR 900 000 000, including up to EUR 13 929 000 for administrative costs. The Union contribution may be increased with contributions from third countries if the latter are available.

Article 163
Contributions from members other than the Union

- 1. The members of the Smart Networks and Services Joint Undertaking other than the Union shall make or arrange for their constituent or affiliated entities to make a total contribution of at least EUR 900 000 000 over the period set out in Article 3.
- 2. The members of the Smart Networks and Services Joint Undertaking other than the Union shall make or arrange for their constituent or affiliated entities to make an annual financial contribution to the administrative costs of the Smart Networks and Services Joint Undertaking of at least 20% of the total administrative costs. They shall endeavour to increase their number of constituent or affiliated entities in order to maximise their contribution to 50% of the administrative costs of the Smart Networks and Services Joint Undertaking over its lifetime, taking due account of constituent entities that are small or medium sized enterprises.
- 3. The contributions referred to in paragraph 1 and 2 of this Article shall consist of contributions to the Smart Networks and Services Joint Undertaking referred to in Article 11(1).

Article 164
Scope of additional activities

For the purpose of point (b) of Article 11(1), additional activities may include:

- (a) spin off research and development activities;
- (b) contributions to standardisation;
- (c) contributions to regulatory processes;
- (d) activities financed by loans of the European Investment Bank and not funded under a grant by the Union;
- (e) contributions to activities of the 5G Infrastructure Association and any other group or association of stakeholders in the area of the Smart Networks and Services Joint Undertaking, not funded under a grant by the Union ;
- (f) activities to develop the ecosystem including building cooperation with verticals;
- (g) dissemination activities of results globally to achieve consensus on supported technologies as preparation of future standards;
- (h) trials, demos, pilots, go to market, early deployment of technologies;
- (i) international cooperation not funded under a grant by the Union;
- (j) activities related to the preparation of, and participation in, research and innovation projects funded by private or public bodies other than the Union.

Article 165

Bodies of the Smart Networks and Services Joint Undertaking

The bodies of the Smart Networks and Services Joint Undertaking shall be:

- (a) the Governing Board;
- (b) the Executive Director;
- (c) the States' Representatives Group;
- (d) the Stakeholders Group.

Article 166

Composition of the Governing Board

1. The Governing Board shall be composed of the following:
 - (a) two representatives of the Commission on behalf of the Union;
 - (b) five representatives of the 5G Infrastructure Association.
2. Notwithstanding the provisions of Article 40, the representatives of the private members shall disclose immediately to the Governing Board their involvement in professional activities with entities that are not established in the Union, or with

entities that are not controlled by legal persons or entities established in the Union. In such a case, the representatives of the Union may decide to request the member concerned to appoint another representative.

Article 167
Functioning of the Governing Board

The members of the 5G Infrastructure Association shall collectively hold 50 % of the voting rights.

Article 168
Additional tasks of the Governing Board

1. In addition to the tasks listed in Article 16, the Governing Board of the Smart Networks and Services Joint Undertaking shall also carry out the following tasks:
 - (a) adopt strategic deployment agendas and, if appropriate, amend them throughout the duration of CEF2 Digital programme;
 - (b) ensure that Union cybersecurity legislation and Member States' existing and future coordinated guidance are taken into consideration in all the activities of the Smart Network and Services Joint Undertaking;
 - (c) promote synergies and complementarities between the digital, transport and energy sectors of CEF2 through the identification of intervention areas and contribution to the work programmes, as well as synergies and complementarities with the other relevant Union programmes.
2. The representatives of members of the Smart Networks and Services Joint Undertaking shall consider the States' Representatives Group's opinion, if any, before voting in the Governing Board.

Article 169
The States' Representatives Group

The States' Representatives Group shall be composed of one main representative of each member state and of each associated country and, where relevant, of one alternate representative for each state to jointly cover overall strategic issues as well as all relevant activities of the Smart Networks and Services Joint Undertaking, in particular:

- (a) the research and innovation matters related to Horizon Europe; and
- (b) the deployment activities related to other Union programmes, in particular CEF2 Digital, but also activities under DEP and InvestEU that are in scope of the Smart Networks and Services Joint Undertaking.

Article 170

Security

1. When deemed relevant, the Governing Board may mandate that an action funded by the Smart Networks and Services Joint Undertaking shall ensure that network elements deployed for large-scale experimentation or piloting follow security scrutiny assessments. The assessments shall reflect Union cybersecurity legislation and policies, as well as member states' existing and future coordinated guidance.
2. Where the Commission so requests, eligibility to participate in specific actions shall be restricted in accordance with the provisions of the Horizon Europe Regulation.
3. In relation to its task referred to in point (a) of Article 160, the Governing Board shall recommend that other funding bodies apply paragraphs 1 and 2 to their actions *mutatis mutandis*, where it deems appropriate.

PART THREE

FINAL PROVISIONS

Article 171

Monitoring and evaluation

1. The activities of the joint undertakings shall be subject to continuous monitoring and periodic reviews in accordance with their financial rules, to ensure the highest impact, scientific excellence and the most efficient use of resources. The outcomes of monitoring and periodic reviews shall feed into the monitoring of European partnerships and evaluations of the Joint Undertakings as part of Horizon Europe evaluations.
2. The joint undertakings should organise continuous monitoring of their management activities and periodic reviews of the outputs, results and impacts of their projects implemented in accordance with [Article 45] and [Annex III] of the Horizon Europe Regulation. That monitoring shall include:
 - (a) time-bound indicators for the purpose of reporting on an annual basis on the progress of their activities towards the achievement of the objectives, as well as along impact pathways set out in [Annex V] of the Horizon Europe Regulation;
 - (b) information on the level of mainstreaming social sciences and humanities, the ratio between lower and higher Technology Readiness Levels in collaborative research, the progress on widening countries participation, the geographical composition of consortia in collaborative projects, the use of two stage submission and evaluation procedure, the measures aimed at facilitating collaborative links in European research and innovation, the use of the evaluation review and the number and types of complaints, the level of climate mainstreaming and related expenditures, SME participation, private sector participation, gender participation in funded actions, evaluation panels, boards and advisory groups, the co-funding rate, the complementary and cumulative funding from other Union funds, the time-to-grant, the level of international cooperation, engagement of citizens' and civil society participation;
 - (c) the levels of expenditure disaggregated at project level in order to allow for specific analysis, including per intervention area;
 - (d) the level of oversubscription, in particular the number of proposals and for each call for proposals, the average score, the share of proposals above and below quality thresholds.
3. Evaluations of the joint undertakings' operations shall be carried out in a timely manner to feed into the overall interim and final evaluations of Horizon Europe and the related decision-making process on Horizon Europe, its successor and other initiatives relevant to research and innovation, referred to in [Article 47] of the Horizon Europe Regulation.

4. The Commission shall carry out an interim and a final evaluation of each Joint Undertaking feeding into the Horizon Europe evaluations, as specified in [Article 47] of the Horizon Europe Regulation. The evaluations shall examine how each joint undertaking fulfils its mission and objectives, cover all activities of the joint undertaking and evaluate the joint undertaking's concerned European added value, effectiveness, efficiency, including its openness and transparency, the relevance of the activities pursued and their coherence and complementarity with relevant regional, national and Union policies, including synergies with other parts of Horizon Europe, such as missions, clusters or thematic or specific programmes. The evaluations shall take into account the views of stakeholders, at both European and national level and shall, where relevant, also include an assessment of the long-term scientific, societal, economic and technological impacts of the initiatives referred to in paragraphs (3) to (9) of Article 174. The evaluations shall also include, where relevant, an assessment of the most effective policy intervention mode for any future action, as well as the relevance and coherence of any possible renewal of each joint undertaking given the overall policy priorities and the research and innovation support landscape, including its positioning against other initiatives supported through the Framework Programme, in particular European partnerships or missions. The evaluations shall also take due account of the phasing out plan adopted by the Governing Board in accordance with Article 16(2)(y).
5. On the basis of the conclusions of an interim evaluation referred to in paragraph 2 of this Article, the Commission may act in accordance with Article 11(7) or take any other appropriate action.
6. The Commission may carry out further evaluations of themes or topics of strategic relevance, with the assistance of external independent experts selected on the basis of a transparent process, to examine the progress made by a joint undertaking towards the objectives set, identify the factors contributing to the implementation of the activities and identify best practices. By carrying out those further evaluations, the Commission shall fully consider the administrative impact on the joint undertaking concerned.
7. Joint undertakings shall perform periodic reviews of their activities to serve as a basis for their interim and final evaluations as part of Horizon Europe evaluations referred to in [Article 47] of the Horizon Europe Regulation.
8. Periodic reviews and evaluations shall be taken into consideration in the winding up, phasing out or possible renewal of the joint undertaking referred to in Article 43, in line with [Annex III] of the Horizon Europe Regulation. Within six months after the winding up of a joint undertaking, but no later than four years after the triggering of the winding up procedure referred to in Article 43, the Commission shall conduct a final evaluation of that joint undertaking in line with the final evaluation of Horizon Europe.
9. The Commission shall communicate the results of the evaluations of the joint undertakings, which shall include conclusions of the evaluation and observations by the Commission, to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions as part of the Horizon Europe evaluations referred to in [Article 47] of the Horizon Europe Regulation.

Article 172
Support from the host state

An administrative agreement may be concluded between a joint undertaking and the state where its seat is located concerning privileges and immunities and other support to be provided by that member state to the joint undertaking concerned.

Article 173
Initial actions

1. The Commission shall be responsible for the establishment and initial operation of the Global Health EDCTP3 Joint Undertaking and the Smart Networks and Services Joint Undertaking until they have the operational capacity to implement their own budget. The Commission shall carry out all necessary actions in collaboration with the other members and with the involvement of the competent bodies of those joint undertakings.
2. For the purpose of paragraph 1:
 - (a) until the Executive Director takes up his or her duties following his or her appointment by the Governing Board in accordance with Article 17(1), the Commission may designate a Commission official to act as interim Executive Director and exercise the duties assigned to the Executive Director;
 - (b) by derogation from point (h) of Article 16(2), the interim Executive Director shall exercise the relevant appointing authority powers in respect of any staff positions that need to be filled before the Executive Director takes up his or her duties in accordance with Article 17(1);
 - (c) the Commission may assign a limited number of its officials on an interim basis.
3. The interim Executive Director[s] may authorise all payments covered by the appropriations provided in the annual budget of the Joint Undertakings referred to in paragraph 1 after they are approved by the Governing Board and may conclude agreements, decisions and contracts, including staff employment contracts, following the adoption of the staff establishment plan of those joint undertakings.
4. The interim Executive Director shall, with the agreement of the incoming Executive Director and subject to the approval of the Governing Board, determine the date on which the joint undertaking concerned will be deemed to have the capacity to implement its own budget. From that date, the Commission shall abstain from making commitments and executing payments for the activities of that joint undertaking.

Article 174
Repeal and transitional provisions

1. Council Regulation (EU) No 560/2014⁷², Regulation (EU) No 558/2014⁷³, Regulation (EU) No 559/2014⁷⁴, Council Regulation (EU) No 557/2014⁷⁵, Regulation (EC) No 219/2007⁷⁶, Council Regulation (EU) No 561/2014⁷⁷ and Council Regulation (EU) No 642/2014⁷⁸ are repealed.
2. Actions initiated or continued under the Regulations referred to in paragraph 1 and the financial obligations related to such actions shall continue to be governed by those Regulations until their completion.
3. The Circular Bio-based Europe Joint Undertaking shall be the legal and universal successor in respect of all contracts, including employment contracts and grant agreements, liabilities and acquired property of the Bio-based Industry Joint Undertaking established by Council Regulation (EU) No 560/2014, which it shall replace and succeed.
4. The Clean Aviation Joint Undertaking shall be the legal and universal successor in respect of all contracts, including employment contracts and grant agreements, liabilities and acquired property of the Clean Sky 2 Joint Undertaking established by Council Regulation (EU) No 558/2014, which it shall replace and succeed.
5. The Clean Hydrogen Joint Undertaking shall be the legal and universal successor in respect of all contracts, including employment contracts and grant agreements, liabilities and acquired property of the Fuel Cells and Hydrogen 2 Joint Undertaking established by Council Regulation (EU) No 559/2014, which it shall replace and succeed.
6. The Europe's Rail Joint Undertaking shall be the legal and universal successor in respect of all contracts, including employment contracts and grant agreements, liabilities and acquired property of the Shift2Rail joint undertaking established by Council Regulation (EU) No 642/2014, which it shall replace and succeed.
7. The Innovative Health Initiative Joint Undertaking shall be the legal and universal successor in respect of all contracts, including employment contracts and grant agreements, liabilities and acquired property of the Innovative Medicines Initiative 2

⁷² Council Regulation (EU) No 560/2014 of 6 May 2014 establishing the Bio-based Industries Joint Undertaking Text with EEA relevance (OJ L 169, 7.6.2014, p. 130).

⁷³ Council Regulation (EU) No 558/2014 of 6 May 2014 establishing the Clean Sky 2 Joint Undertaking Text with EEA relevance (OJ L 169, 7.6.2014, p. 77).

⁷⁴ Council Regulation (EU) No 559/2014 of 6 May 2014 establishing the Fuel Cells and Hydrogen 2 Joint Undertaking Text with EEA relevance (OJ L 169, 7.6.2014, p. 108).

⁷⁵ Council Regulation (EU) No 557/2014 of 6 May 2014 establishing the Innovative Medicines Initiative 2 Joint Undertaking (OJ L 169, 5.6.2014, p.54).

⁷⁶ Council Regulation (EC) No 219/2007 of 27 February 2007 on the establishment of a Joint Undertaking to develop the new generation European air traffic management system (SESAR)(OJ L 64, 2.3.2007, p. 1).

⁷⁷ Council Regulation (EU) No 561/2014 of 6 May 2014 establishing the ECSEL Joint Undertaking Text with EEA relevance (OJ L 169, 7.6.2014, p. 152).

⁷⁸ Council Regulation (EU) No 642/2014 of 16 June 2014 establishing the Shift2Rail Joint Undertaking (OJ L 177, 17.6.2014, p. 9).

Joint Undertaking established by Council Regulation (EU) No 557/2014, which it shall replace and succeed.

8. The Key Digital Technologies Joint Undertaking shall be the legal and universal successor in respect of all contracts, including employment contracts and grant agreements, liabilities and acquired property of the ECSEL joint undertaking established by Council Regulation (EU) No 561/2014, which it shall replace and succeed.
9. The Single European Sky ATM Research 3 Joint Undertaking shall be the legal and universal successor in respect of all contracts, including employment contracts and grant agreements, liabilities and acquired property of the SESAR Joint Undertaking established by Council Regulation (EC) No 219/2007, which it shall replace and succeed.
10. This Regulation does not affect the rights and obligations of staff engaged under the Regulations referred to in paragraph 1.
11. The Executive Directors appointed under the Regulations referred to in paragraph 1 of this Article shall, for their remaining term of office, be assigned to the functions of Executive Director as provided for in this Regulation with effect from [date of Article 175]. The other conditions of the contract shall remain unchanged.
12. In its first meeting, the Governing Board of each joint undertaking shall adopt a list of decisions adopted by the Governing Board of the preceding joint undertakings referred to in paragraphs 3 to 9 that shall continue to apply for the joint undertaking concerned established by this Regulation.
13. The interim evaluations referred to in Article 171(2) shall include a final evaluation of the preceding joint undertakings referred to in paragraphs 3 to 9 of this Article.
14. Any unused appropriations under the regulations referred to in paragraph 1 shall be transferred to the corresponding joint undertaking established by this regulation. Any unused operational appropriations so transferred, shall first be used to provide financial support to indirect actions initiated under Horizon 2020. Remaining operational appropriations may be used for indirect actions initiated under this regulation. Where such operational appropriations are used for indirect actions initiated under this regulation, they shall count against the financial contribution to be provided by the Union to the respective joint undertaking under this regulation.

Article 175
Entry into force

This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.

This Regulation shall be binding in its entirety and directly applicable in all member states.

Done at Brussels,

*For the Council
The President*

LEGISLATIVE FINANCIAL STATEMENT

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

- 1.1. Title of the proposal/initiative
- 1.2. Policy area(s) concerned in the ABM/ABB structure
- 1.3. Nature of the proposal/initiative
- 1.4. Objective(s)
- 1.5. Grounds for the proposal/initiative
- 1.6. Duration and financial impact
- 1.7. Management mode(s) planned

2. MANAGEMENT MEASURES

- 2.1. Monitoring and reporting rules
- 2.2. Management and control system
- 2.3. Measures to prevent fraud and irregularities

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

- 3.1. Heading(s) of the multiannual financial framework and expenditure budget line(s) affected
- 3.2. Estimated impact on expenditure
 - 3.2.1. Summary of estimated impact on expenditure
 - 3.2.2. Estimated impact on operational appropriations
 - 3.2.3. Estimated impact on appropriations of an administrative nature
 - 3.2.4. Compatibility with the current multiannual financial framework
 - 3.2.5. Third-party contributions
- 3.3. Estimated impact on revenue.

LEGISLATIVE FINANCIAL STATEMENT - CIRCULAR BIO-BASED EUROPE

6. FRAMEWORK OF THE PROPOSAL/INITIATIVE

6.1. Title of the proposal/initiative

Circular Bio-based Europe

6.2. Policy area(s) concerned (*Programme cluster*)

Horizon Europe, Circular Bio-based systems, Cluster 6

6.3. The proposal/initiative relates to:

- a new action
- a new action following a pilot project/preparatory action⁷⁹
- the extension of an existing action
- a merger or redirection of one or more actions towards another/a new action

6.4. Grounds for the proposal/initiative

6.4.1. Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative

The objective of this initiative is to produce major contributions to the EU's 2030 climate targets and to pave the way for climate neutrality by 2050, and increased sustainability and circularity of production and consumption systems, in line with the European Green Deal.

This will be achieved by:

- a) Strengthening EU scientific capacities to deal with emerging threats and future challenges in a reinforced European Research Area;
- b) Securing sustainability-driven leadership of EU value chains and EU strategic autonomy in key technologies and industries; and
- c) Enhancing the uptake of innovative solutions addressing climate, environmental, health and other global societal challenges in line with Union strategic priorities, including to reach climate neutrality in the Union in 2050.

The initiative is expected to start operating in the second or third quarter of 2021 (depending on the adoption date of the single basic act by the Council). The Joint Undertakings are set up to operate until 31 December 2027, with their last calls launched at the latest by 31 December 2027. In line with the the criteria for European Partnerships in the Annex III of the Horizon Europe Regulation, the Single Basic Act

⁷⁹ As referred to in Article 58(2)(a) or (b) of the Financial Regulation.

includes specific provisions for their evaluation, phasing-out and renewal. This includes an obligation for the Governing Board to submit a plan for the phasing out of the Joint Undertaking from Horizon Europe funding and an assessment of the most effective policy intervention mode for any future action as part of periodic reviews and evaluations.

6.4.2. *Added value of Union involvement*

Reasons for action at European level (ex-ante):

The problems addressed by the initiative are of a nature and magnitude that EU-level concerted action will be more appropriate than individual Member States developing their own initiatives. This will enable more coherent and coordinated efforts, and avoid duplication.

EU-level intervention in this area was supported by a large majority of respondents to the online public consultation on the proposed CBE initiative.

Additionally, most of the barriers and long-term challenges to further develop the bio-based sector are not adequately addressed at national level but rest firmly upon EU-level regulation. Examples range from sustainable biomass supply to market pull via targets, product standardisation and green public procurement schemes

Expected generated Union added value (ex-post):

A clear EU added value of the proposed CBE initiative lies in its key enabling role for implementing the European Commission's updated Bioeconomy Strategy and Action Plan. A coherent EU-wide approach is also necessary to ensure that the right balance is found between growth (European industrial competitiveness) and sustainability (social and environmental) objectives.

These issues are addressed further in the Impact Assessment document attached to this proposal.

6.4.3. *Lessons learned from similar experiences in the past*

One of the unique features of the BBI JU initiative has been to foster the closer collaboration between the scientific community and industry, ascending the scale of Technology Readiness Level (TRL) and thus enabling a swifter move towards innovation mentioned in the Strategic Innovation Research Agenda 2017 . The scientific community mobilisation is evidenced by the 28.4% participation level of universities and research centres in the BBI JU projects. It is further confirmed by the annual survey directed to the BBI JU project coordinators : according to the projects' reports, 80% of them contribute to knowledge creation, 79% contribute to increasing the academia-industry cooperation, and more than half contribute to the building of

scientific community networks and to technology transfer. With regard to the mobilization of the SME community, the BBI JU has been very successful, with 41% of beneficiaries of BBI JU projects being SMEs, and 35% of funding dedicated to SMEs. This represents significantly higher level as compared to the 20% target for Horizon 2020.

The expected environmental impact from the projects other than flagships is large as two thirds of them report producing bio-based products with lower GHG emissions . More than half of them expect to contribute to waste reduction, reuse, valorisation or recycling and a decrease of their energy consumption. Finally, 40% of the projects report they expect to improve land use and seven projects report a positive impact on biodiversity, e.g. by developing a sustainable agro-forestry biomass cultivation practice .

What are the key areas for improvement & unmet challenges?

However, several issues have come up and many lessons were learnt during the implementation of the BBI JU , which have to be taken into account when setting up a new initiative in the area.

Areas for improvement / challenges to overcome:

- Better synergies with national and regional developments are needed to develop interconnections between primary producers , regional authorities and biorefinery plants, as well private operators such as brand owners , and taking into account the need for higher circularity and digitalisation , inter-sectorial cooperation , as well as improved participation of EU-13 actors , and integration of territories in need of revitalisation .
- National and regional authorities should be aware of the economic and environmental potential of bio-based solutions and supported in the deployment of bio-based solutions, and an improved exchange of best practices should be put in place .
- Programming of the initiative should take into account the public interest, especially critical for long-term impact, and avoiding the risk of industry capture , while considering win-win scenarios for international cooperation .
- At this stage of the current BBI JU initiative, for most BBI-specific KPIs, BBI JU projects are expected to largely exceed the key performance (KPI) targets set for 2020. On one hand, this shows that the BBI JU has contributed to the systemic evolution of the sector in bridging the gap between innovation and market. On the other, it also hints at the possibility that the KPIs were not assessed accurately beforehand, or lacked sufficient ambition .
- The low focus on biodiversity preservation and enhancement as part of the pursued biomass value chains has to be improved .
- The private partner of BBI JU, BIC, did not follow up on its commitment on the financial contribution for the operational costs; this led to the need to amend the establishing Regulation (thus generating also additional administrative burden). The

amended Model Financial Regulation ensures that the private partner will have to follow up its official financial commitment.

- The way of reporting the private partner's in-kind contributions to operational and additional costs has proven to be complicated and costly. Based on the lessons drawn from current experience, it is possible to mitigate this risk by following the draft legal guidelines on financial commitments, and improving on the measuring the impact .
- The BBI JU Regulation under Horizon 2020 specified that the Union and BIC were to share the JU administrative costs equally. However, a contribution of the grant amount (4%) was asked from beneficiaries that were not members of the JU to cover the private share of these costs. With the adoption of the revised model Financial Regulation and the relevant BBI JU Financial Rules, this practice was put to an end.

Recently, the Corporate Europe Observatory (CEO), a corporate NGO, criticised the existing BBI JU initiative for being captured by private interests . It is legitimate for the public to demand that the public investment in a partnership with the private industry delivers benefits for the society at large. The CEO report also reiterated some of the lessons learned during the implementation of the BBI JU. This is why any future initiative in the area needs to be based on a sound assessment of policy options from the perspective of governance, including in particular the possibility to set adequate safeguards to ensure that the public interests are duly respected in all operations. This is fully in line with the recommendations from the BBI JU interim evaluation referenced above

6.4.4. *Compatibility and possible synergy with other appropriate instruments*

According to the Horizon Europe Regulation, all European Partnerships need to ensure coordination and/or joint activities with other relevant research and innovation initiatives to secure an optimum level of interconnections and ensure effective synergies. In line with this, the Single Basic Act is developed around the key principle that close collaboration and synergies between Joint Undertakings and relevant initiatives at EU, national and regional level, in particular other European Partnerships, will be crucial in achieving greater impact and ensuring the uptake of results. In this respect, the Single Basic Act (Part One, common provisions applicable to all JUs) facilitates synergies through a multitude of operative provisions.

CBE would organise this as follows:

- At the EU level : Horizon Europe (mainly Pillar II, Cluster 6), the InvestEU instrument, the European Regional Development Fund (ERDF), the European Agricultural Fund for Rural Development (EAFRD), the LIFE programme, EU's Common Agricultural Policy (CAP) ,the European Maritime and Fisheries Fund (EMFF), the Agricultural European Innovation Partnership (EIP-Agri), the European Circular Bioeconomy Fund (ECBF), the BIOEAST initiative , and the EU Protein Strategy. Blending approaches promoted by InvestEU could combine e.g. loans for infrastructure with CBE research grants to develop especially large scale biorefineries, where infrastructure needs could be financed with sources other than

supporting programmes such as CBE. Joint transdisciplinary projects () with other partnerships , e.g. CCNI (Circular and Climate Neutral Industries; the potential successor of SPIRE), could build on the earlier successful cooperation between BBI JU and SPIRE, which succeeded in turning redundancies into synergies .

- At national and regional levels, CBE would interact with Member states and regions considering the strategies and plans such as bioeconomy strategies and programmes to advance on synergies and partnering for regional developments for example on synergies with financing instruments and programmes for infrastructure and biorefineries deployment. This will include following up on the recommendations from the BBI JU interim evaluation to increase participation of the EU-13 Member States, which is partially expected via the above-mentioned synergies with the BIOEAST initiative.

- On the international level, many stakeholders suggested that CBE could be kept open to the international players, especially to technology and research leaders and providers, in order to benefit from collaborations with them, and ensure a European leading role in the international development of the bio-based economy. CBE could follow up on the existing recommendations from the interim evaluation of the BBI JU initiative, to identify win-win strategies for a larger involvement of Third Countries while ensuring the protection of EU industry's interests .

Finally, it is worth adding that a favourable policy framework is an important factor for the viability of new bio-based value chains and innovations, especially if markets fail to provide sufficient incentives to pick them up. CBE could contribute to the regulatory aspects and contribute to harmonising standards , developing Life Cycle Assessment methodologies that could support these standards or products, and develop project assessment processes. It can also support expanding the market for bio-based products and solutions by promoting green public procurement. This could contribute to raise awareness, identify regulatory bottlenecks and provide success stories to address regulatory aspects.

Monitoring of synergies and collaboration will be done through the Annual Activity Report.

6.5. Duration and financial impact

limited duration

- in effect from 01/01/2021 to 31/12/2031
- Financial impact from 2021 to 2027 for commitment appropriations and from 2021 to 2031 for payment appropriations.

unlimited duration

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

6.6. Management mode(s) planned⁸⁰

Direct management by the Commission

- by its departments, including by its staff in the Union delegations;
- by the executive agencies

Shared management with the Member States

Indirect management by entrusting budget implementation tasks to:

- third countries or the bodies they have designated;
 - international organisations and their agencies (to be specified);
 - the EIB and the European Investment Fund;
 - bodies referred to in Articles 70 and 71 of the Financial Regulation;
 - public law bodies;
 - bodies governed by private law with a public service mission to the extent that they provide adequate financial guarantees;
 - bodies governed by the private law of a Member State that are entrusted with the implementation of a public-private partnership and that provide adequate financial guarantees;
 - persons entrusted with the implementation of specific actions in the CFSP pursuant to Title V of the TEU, and identified in the relevant basic act.
- *If more than one management mode is indicated, please provide details in the 'Comments' section.*

⁸⁰ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site:
<https://myintracomm.ec.europa.eu/budgweb/EN/man/budgmanag/Pages/budgmanag.aspx>

Comments

7. MANAGEMENT MEASURES

7.1. Monitoring and reporting rules

Specify frequency and conditions.

In line with Horizon Europe regulation, the partnership shall adopt a monitoring system that is in line with the requirements set out in Article 45, Annex III and Annex V of Horizon Europe Regulation, and feed into the same single database as the other components of Horizon Europe. The reporting and monitoring system shall provide key management and implementation data (including microdata at the level of individual entities), allow to track progress according to the Key Impact Pathways (including the progress to deliver on EU priorities), and the partnership criteria. In addition, the partnership shall report on specific indicators (that are not covered by the Key Impact Pathways) allowing to track progress made in the short, medium and long term towards delivering on the vision and specific and operational objectives of the partnership as set out in the Regulation establishing the Partnership, including on the targets set by 2030. The indicators, data sources and methodologies shall allow for an assessment over time of achievements, progress towards impacts, including delivery on EU policy objectives, and the identification of potential needs for corrective measures. It should consider both qualitative and quantitative data, identify responsibilities for data collection, and set out concrete approaches to develop realistic baseline, targets and/or benchmarks to identify progress, where relevant, and in line with Horizon Europe impact approach. All the information collected shall be provided in close to real-time to Commission services based on common data models and fed into a single database as specified in Horizon Europe Article 45.

For that purpose, appropriate reporting systems shall be put in place to support a continuous and transparent reporting, including on committed and actually provided financial and in-kind contributions, visibility and positioning in the international context, impact on research and innovation related risks of private sector investments. Reporting should be in line with the standard Horizon Europe reporting requirements. The development of the reporting systems in the context of the strategic coordinating process shall also involve Member States and partnership representatives in order to ensure synchronization and coordination of reporting and monitoring efforts, including on the division of data collection and reporting tasks. The reporting system at project level shall include detailed information on the projects funded, their results, their diffusion and use by key target groups, and the overall difference this is making for science, the economy, society and/or the environment, in line with the projects' objectives and targeted impacts. This should be complemented by relevant data on the added value and impact of the partnership at European, national and regional level. Appropriate data sharing mechanism with common Horizon Europe monitoring and reporting databases needs to be ensured.

European Partnerships shall be evaluated according to Horizon Europe evaluation framework, as set out in its Article 47.

7.2. Management and control system(s)

7.2.1. Justification of the management mode(s), the funding implementation mechanism(s), the payment modalities and the control strategy proposed

Indirect management is justified because the Circular Bio-Based Europe Joint Undertaking is a public private partnership with part of the funding brought in under form of in kind contributions by members other than the Union.

Each year, the decision on the contribution to the Circular Bio-Based Europe Joint Undertaking will be taken by virtue of the EU Budget adopted for that year.

A Delegation Agreement signed between the European Commission and the Circular Bio-Based Europe Joint Undertaking will indicate that for the tasks to be carried out each year the Commission will pay a contribution upon conclusion of a Transfer of Funds agreement with the Circular Bio-Based Europe Joint Undertaking, and the issuing, by the Joint Undertaking, of corresponding payment requests to the members other than the Union.

The Commission will ensure that the rules applicable to the Circular Bio-Based Europe Joint Undertaking fully comply with the requirements of the Financial Regulation. In compliance with Article 71 of Regulation (EU, Euratom) 2018/1046 the Joint Undertaking will respect the principle of sound financial management. The Circular Bio-Based Europe Joint Undertaking shall also comply with the provisions of the Model Financial Regulation applicable to the Joint Undertaking. Any departure from this Model Financial Regulation, required for the purpose of the Joint Undertaking's specific needs, shall be subject to the Commission's prior consent.

Monitoring arrangements, including through the Union representation in the Governing Board of the Circular Bio-Based Europe Joint Undertaking, as well as reporting arrangements will ensure that the Commission services can meet the accountability requirements both to the College and to the Budgetary Authority.

The internal control framework for the Circular Bio-Based Europe Joint Undertaking is built on:

- the implementation of the Internal Control Standards offering at least equivalent guarantees to those of the Commission;
- procedures for selecting the best projects through independent evaluation, and for translating them into legal instruments;
- project and contract management throughout the lifetime of every project;
- ex-ante checks on 100% of claims, including receipt of audit certificates and ex-ante certification of cost methodologies;
- ex post audits on a sample of claims as part of the Horizon Europe ex-post audits;
- scientific evaluation of project results

7.2.2. *Information concerning the risks identified and the internal control system(s) set up to mitigate them*

Various measures have been established to mitigate the inherent risk of conflict of interest within the Circular Bio-Based Europe Joint Undertaking, especially:

- equal votes for the Commission and for members other than the Union in the Governing Board,
- selection of the Executive Director by the Governing Board based on a proposal by the Commission,
- independence of staff,
- evaluations by independent experts based on published selection criteria together with appeal mechanisms and full declarations of any interests,
- a requirement for the Governing Board to adopt rules for the prevention, avoidance and management of conflicts of interest in the Joint Undertaking in accordance with the financial rules of the Joint Undertaking and with the Staff Regulations in respect of staff.

The establishment of ethical and organisational values will be one of the key roles of the Joint Undertaking, and will be monitored by the Commission.

The Executive Director of the Circular Bio-Based Europe Joint Undertaking, as Authorising Officer, will be required to introduce a cost-effective system of internal control and management. He/she will be required to report to the Commission on the internal control framework adopted.

The Commission will monitor the risk of non-compliance through the reporting system that it will develop, as well as by following the results of ex post audits on the recipients of EU funds from the Circular Bio-Based Europe Joint Undertaking, as part of ex post audits covering the whole of the Horizon Europe.

There is a clear need to manage the budget in an efficient and effective manner, and to prevent fraud and waste. However, the control system needs to strike a fair balance between attaining an acceptable error rate and the control burden required and avoid lowering the attractiveness of the Union's Research programme.

7.2.3. *Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)*

As the rules for participation of Horizon Europe applicable to the Circular Bio-Based Europe Joint Undertaking are similar to those that the Commission will use in its Work Programme, and with a population of beneficiaries with a similar risk profile to those of the Commission, it can be expected that the error margin will be similar to that foreseen by the Commission for Horizon Europe, i.e. to give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5 %, with the

ultimate aim to achieve a residual error rate as close as possible to 2 % at the closure of the multi-annual programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

See the Legislative Financial Statement for Horizon Europe for full details of the error rate expected with respect to participants.

7.3. Measures to prevent fraud and irregularities

Specify existing or envisaged prevention and protection measures, e.g. from the Anti-Fraud Strategy.

The Commission will ensure that procedures to fight against fraud at all stages of the management process are applied by the Circular Bio-Based Europe Joint Undertaking.

The proposals concerning the Joint Undertakings under Horizon Europe have been subject to fraud proofing and an assessment of their impact. Overall, the measures proposed should have a positive impact on the fight against fraud, especially the greater emphasis on risk based audit and reinforced scientific evaluation and control.

The Commission will ensure that appropriate measures are in place to ensure that, when actions financed under this Regulation are implemented, the financial interest of the Union is protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.

The current H2020 Bio-Based Industries Joint Undertaking already cooperates with the Commission services in matters relating to fraud and irregularity. The Commission will ensure that this will continue and be strengthened.

The Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot checks, over all grant beneficiaries, contractors and subcontractors who have received Union funds under the Programme.

The European Anti-fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Regulation (Euratom, EC) No 2185/96 with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding. The Joint Undertakings will also need to accede to the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council of the European Union and the Commission of the European Communities concerning internal investigations by the European Anti-fraud Office (OLAF).

The European Public Prosecutor's Office (EPPO) may carry out investigations in accordance with the provisions and procedures laid down in Council Regulation (EU) 2017/193923, with a view to investigating criminal offences affecting the financial interests of the Union.

8. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

8.1. Heading of the multiannual financial framework and new expenditure budget line(s) proposed

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
	Heading 1 Single Market, Innovation and Digital – Horizon Europe	Diff./Non-diff. ⁸¹	from EFTA countries ⁸²	from candidate countries ⁸³	from third countries	within the meaning of Article [21(2)(b)] of the Financial Regulation
1	01 02 02 61 – Circular Bio-based Europe Joint Undertaking	Diff.	YES	YES	YES	YES

⁸¹ Diff. = Differentiated appropriations / Non-diff. = Non-differentiated appropriations.

⁸² EFTA: European Free Trade Association.

⁸³ Candidate countries and, where applicable, potential candidates from the Western Balkans.

* The contribution to this budget line is expected to come from:

Commitment appropriations (EUR million to three decimal places)

Budget line	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Expenditure related to officials and temporary staff implementing "Horizon Europe" — Indirect research 01 01 01 01									
External personnel implementing "Horizon Europe" — Indirect research 01 01 01 02									
Other management expenditure for "Horizon Europe" — Indirect research 01 01 01 03									
Cluster Food, Bioeconomy, Natural Resources, Agriculture and Environment 01 02 02 60	71.130	178.490	147.800	148.340	148.930	148.910	156.400	0.000	1000.00
Total expenditure	71.130	178.490	147.800	148.340	148.930	148.910	156.400	0.000	1000.00

Estimated impact on expenditure

8.2. Estimated impact on expenditure

8.2.1. *Summary of estimated impact on expenditure*

EUR million (to three decimal places)

Heading of multiannual financial framework	1	Heading Single Market, Innovation and Digital Horizon Europe
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Joint Undertaking ⁸⁴⁸⁵			2021	2022	2023	2024	2025	2026	2027 ⁸⁶	<i>Post 2027</i>	TOTAL
Title 1	Commitments	(1)	0.180	0.270	0.440	0.740	1.610	1.610	8.000		12.850
	Payments	(2)	0.180	0.270	0.440	0.740	1.610	1.610	1.600	6.400	12.850
Title 2	Commitments	(1a)	0.150	0.220	0.360	0.600	1.320	1.300	6.700		10.650
	Payments	(2a)	0.150	0.220	0.360	0.600	1.320	1.300	1.300	5.400	10.650
Title 3	Commitments	(3a)	70.800	178.000	147.000	147.000	146.000	146.000	141.700	0.000	976.500
	Payments	(3b)	1.000	43.480	129.040	149.680	151.100	147.400	147.100	207.700	976.500
TOTAL appropriations for Joint Undertaking	Commitments	=1+1a +3a	71.130	178.490	147.800	148.340	148.930	148.910	156.400	0.000	1000.00
	Payments	=2+2a +3b	1.330	43.970	129.840	151.020	154.030	150.310	150.000	219.500	1000.00

⁸⁴ Amounts in Titles 1 and 2 represent the EU contribution (up to EUR 23.5 million) to the administrative costs of the Joint Undertaking. The other remaining part comes from contributions by the other Joint Undertaking members as shown in section 3.2.4.

⁸⁵ Payment appropriations for Titles 1 and 2 are based on a yearly consumption of all corresponding commitment appropriations, while for Title 3 they are determined by taking into account the nature of the indirect actions and their payment schedule (pre-financing, interim payments and payment of the balance).

⁸⁶ Titles 1 and 2 for year 2027 contain the commitments for the year and the frontloading of the commitments for the remaining years of the JU in the period 2027-2031.

EUR million (to three decimal places)

DG RTD		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human Resources ⁸⁷ (3 officials + 2 CA)		0.491	0.503	0.513	0.523	0.533	0.544	0.555	-	3.662
Other administrative expenditure		0.128	0.130	0.133	0.135	0.138	0.141	0.144	-	0.949
TOTAL DG	Appropriations	0.619	0.633	0.646	0.658	0.671	0.685	0.699	-	4.611

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL	
TOTAL appropriations for the envelope of the Programme - Heading 1 of the multiannual financial framework		Commitments	71.749	179.123	148.446	148.998	149.601	149.595	157.099	-	1 004.611
		Payments	1.949	44.603	130.486	151.678	154.691	150.995	150.699	219.500	1 004.611

⁸⁷ Covering the administration of the Horizon Europe actions. The FTE costs are determined on the basis of the average yearly cost to be used as from January 2021 for salaries for Permanent Staff (EUR0.127), Contractual Agents (EUR0.057) and other administrative costs (EUR 0.0255) referred to buildings and IT costs for Indirect Research staff. An annual indexation of 2% has been applied for the period of 2022-27. The indication of staff needs in the Commission DGs is of indicative and non-binding nature.

Heading of multiannual financial framework	7	'Administrative expenditure'
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EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human resources										
Other administrative expenditure										
TOTAL appropriations under HEADING 7 of the multiannual financial framework	(Total commitments = Total payments)									

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations across HEADINGS of the multiannual financial framework	Commitments	71.749	179.123	148.446	148.998	149.601	149.595	157.099	-	1 004.611
	Payments	1.949	44.603	130.486	151.678	154.701	150.995	150.699	219.500	1 004.611

8.2.2. Estimated impact on JU's human resources

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

Staffing numbers (in headcounts / FTE)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Officials (AD Grades)									
Officials (AST grades)	3	3	3	3	3	3	3	3	3
Contract staff	14	16	16	16	16	16	16	16	16
Temporary staff	10	10	10	10	10	10	10	10	10
Seconded National Experts	0	0	0	0	0	0	0	0	0
TOTAL⁸⁸	27	29	29	29	29	29	29	29	29

EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Officials (AD Grades)									
Officials (AST grades)	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.6
Contract staff	0.1	0.2	0.2	0.3	0.4	0.4	0.4	1.7	3.9
Temporary staff	0.0	0.0	0.0	0.1	0.5	0.5	0.5	2.2	3.9
Seconded National Experts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

⁸⁸ The total number of FTEs of all Joint Undertakings established by the Council Regulation under Horizon Europe will be reduced by 10 FTEs between 2024 and 2027 following an assessment of the effectiveness of the JUs operations taking due account the efficiency gains resulting from the setting up of the Common Back Office. For this purpose, revised LFS covering the period 2024-2027 will be circulated by end 2023.

TOTAL	0.11	0.18	0.29	0.48	1.05	1.05	1.05	4.20	8.41
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Estimated impact on the staff (additional FTE) – establishment plan

Function group and grade	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
AD16	0	0	0	0	0	0	0	0	0	0	0	0
AD15	0	0	0	0	0	0	0	0	0	0	0	0
AD14	1	1	1	1	1	1	1	1	1	1	1	0
AD13	0	0	0	0	0	0	0	0	0	0	0	0
AD12	1	1	1	1	1	1	1	1	1	1	1	0
AD11	1	1	1	1	1	1	1	1	1	1	1	0
AD10	0	0	0	0	0	0	0	0	0	0	0	0
AD9	2	2	2	2	2	2	2	2	2	2	2	0
AD8	3	3	3	3	3	3	3	3	3	3	3	0
AD7	2	2	2	2	2	2	2	2	2	2	2	0
AD6	0	0	0	0	0	0	0	0	0	0	0	0
AD5	0	0	0	0	0	0	0	0	0	0	0	0
AD Total	10	10	10	10	10	10	10	10	10	10	10	0
AST11	0	0	0	0	0	0	0	0	0	0	0	0
AST10	0	0	0	0	0	0	0	0	0	0	0	0
AST9	0	0	0	0	0	0	0	0	0	0	0	0
AST8	0	0	0	0	0	0	0	0	0	0	0	0
AST7	0	0	0	0	0	0	0	0	0	0	0	0
AST6	0	0	0	0	0	0	0	0	0	0	0	0
AST5	1	1	1	1	1	1	1	1	1	1	1	0
AST4	1	1	1	1	1	1	1	1	1	1	1	0
AST3	1	1	1	1	1	1	1	1	1	1	1	0
AST2	0	0	0	0	0	0	0	0	0	0	0	0
AST1	0	0	0	0	0	0	0	0	0	0	0	0
AST Total	3	3	3	3	3	3	3	3	3	3	3	0
AST/SC 6	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 5	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 4	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 3	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 2	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 1	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC Total	0	0	0	0	0	0	0	0	0	0	0	0

Estimated impact on the staff (additional) – external personnel

Contract agents	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Function group IV	8	10	10	10	10	10	10	10	10	10	10	10
Function group III	6	6	6	6	6	6	6	6	6	6	6	6
Function group II												
Function group I												
Total	14	16	16	16	16	16	16	16	16	16	16	16

Seconded national experts	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Total	0	0	0	0	0	0	0	0	0	0	0	0

8.2.3. Estimated requirements of human resources Commission

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below⁸⁹:

Estimate to be expressed in full time equivalent units

Years	2021	2022	2023	2024	2025	2026	2027
• Establishment plan posts (officials and temporary staff)							
Headquarters and Commission's Representation Offices							
Delegations							
Research	3	3	3	3	3	3	3
• External staff (in Full Time Equivalent unit: FTE) - AC, AL, END, INT and JED⁹⁰							
Heading 7							
Financed from HEADING 7 of the multiannual financial framework	- at Headquarters						
	- in Delegations						
Financed from the envelope of the programme ⁹¹	- at Headquarters						
	- in Delegations						
Research	2	2	2	2	2	2	2
Other (specify)							
TOTAL	5	5	5	5	5	5	5

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	
External staff	

⁸⁹ The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.

⁹⁰ AC= Contract Staff; AL = Local Staff; END = Seconded National Expert; INT = agency staff; JPD= Junior Professionals in Delegations.

⁹¹ Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

8.2.4. Third-party contributions

The proposal/initiative:

- does not provide for co-financing by third parties
- provides for the co-financing by third parties estimated below:

– Appropriations in EUR million (to three decimal places)⁽⁹²⁾

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Financial contribution to the administrative costs of JU covered by Members other than the Union	0.33	0.49	0.80	1.34	2.93	2.91	14.70	0.00	23.5
Financial contributions to operational costs by the Private members/Associated Partners									
Financial contributions to operational costs by the Participating States									
In kind contributions by the Private members/Associated Partners ⁹³	0 ⁽⁹⁴⁾	0	0	0	0	15.000	50.000	185.000	250.000 ⁽⁹⁵⁾
In kind contributions to operational activities by Participating States									
TOTAL appropriations co-financed	0.3	0.5	0.8	1.3	2.9	17.9	164.7	185.0	273.5

As BIC did not see the SBA, this cannot be seen as an official and definitive commitment. A final commitment can only be given once BIC and the EC have an agreement and a clear view on all aspects of the final SBA and its implementation. This includes in particular the CBE's objectives and priorities, how to calculate and monitor IKOP, IKA and leverage, all final legal aspects, funding rates, distribution of the public funding over the different TRLs, financing of the admin cost, etc.

⁹² These assumptions (administrative and operational contributions) are made for a budget (public) of 1000 million €, divided as follows over a 7-year period: 20% for RIA; 45 % for demo; 35% for flagship and a CBE admin cost of EUR 47.4 million (50% to be paid by BIC)

⁹³ In-kind contributions should be shown in the table in years when they are foreseen to be incurred.

⁹⁴ For the IKOP (In kind contributions to operational activities by the Private members/Associated Partners - Art 22.3.d SBA): As the first projects will only start in 2022, and a normal project takes 4 years, the first IKOP will only be reported/certified in 2026. We expect a work programme with a smaller budget in 2021, meaning the first IKOP in 2026 will be smaller than the following years. To have a more exact prediction, the rules for reporting have to be discussed and agreed.

⁹⁵ For the IKOP (In kind contributions to operational activities by the Private members/Associated Partners - Art 22.3.d SBA): this will be proportional to the contribution expected to be received by BIC members, out of the operational budget. The exact number will depend on the funding rates (still unknown), the conditions for participation of BIC members (still unknown) and the possibilities to have additional members joining (also unknown). So depending on the final agreement, these IKOP numbers can be changed.

8.3. Estimated impact on revenue

- The proposal/initiative has no financial impact on revenue.
- The proposal/initiative has the following financial impact:
 - on own resources
 - on other revenue

please indicate, if the revenue is assigned to expenditure lines

EUR million (to three decimal places)

Budget revenue line:	Impact of the proposal/initiative ⁹⁶						
	2021	2022	2023	2024	2025	2026	2027
Article							

For assigned revenue, specify the budget expenditure line(s) affected.

[...]

Other remarks (e.g. method/formula used for calculating the impact on revenue or any other information).

[...]

⁹⁶ As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 20 % for collection costs.

LEGISLATIVE FINANCIAL STATEMENT - CLEAN AVIATION

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Proposal for a Council Regulation on the European Partnership for Clean Aviation

1.2. Policy area(s) concerned (*Programme cluster*)

Activity: Horizon Europe

Cluster 5: climate, energy and mobility

1.3. The proposal/initiative relates to:

a new action

a new action following a pilot project/preparatory action⁹⁷

the extension of an existing action

a merger or redirection of one or more actions towards another/a new action

1.4. Grounds for the proposal/initiative

1.4.1. Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative

The initiative's main objective would be to contribute to reduce the ecological footprint by accelerating the development of climate neutral aviation technologies for earliest possible deployment, therefore significantly contributing to the achievement of the general goals of the European Green Deal, i.e.: a 50% to 55% emissions reduction by 2030, and climate neutrality by 2050 .

The second general objective would be to ensure that aeronautics-related R&I activity contributes to the global competitiveness of the EU aviation industry by accelerating and optimising the R&I process. Without a strong European supply chain, Europe has no leverage to pursue an ambitious environmental policy.

The third objective would be to ensure that cleaner aviation remains safe, secure and efficient for the transportation of passengers and goods by air. This objective is aligned with several SDGs, especially SDG 9 (Industry, Innovation and Infrastructure).

The initiative is expected to start operating in the second or third quarter of 2021 (depending on the adoption date of the Single Basic Act by the Council). The Joint Undertakings are set up to operate until 31 December 2027, with their last calls

⁹⁷ As referred to in Article 58(2)(a) or (b) of the Financial Regulation.

launched at the latest by 31 December 2027. In line with the the criteria for European Partnerships in the Annex III of the Horizon Europe Regulation, the single basic act includes specific provisions for their evaluation, phasing-out and renewal. This includes an obligation for the Governing Board to submit a plan for the phasing out of the Joint Undertaking from Horizon Europe funding and an assessment of the most effective policy intervention mode for any future action as part of periodic reviews and evaluations.

1.4.2. *Added value of Union involvement*

The problems addressed by the initiative are of a nature and magnitude that EU-level concerted action will be more appropriate than individual Member States developing their own initiatives. This will enable more coherent and coordinated efforts, and avoid duplication.

The primary justification for EU public intervention in aviation R&I is to harmonise, optimise and coordinate resources at ecosystem level from all European countries towards climate neutrality in aviation – an ambitious target that cannot be achieved by one aeronautics company or country alone. As underlined above, there is a need for a holistic R&I approach towards climate neutrality.

Furthermore all research needs should be coherent with market measures, incentives as well as a robust and modern regulatory and standardisation framework, which can only be designed in the EU context and through international cooperation. This framework should be coherent and aligned with environment and climate policies, trade, defence, space, air traffic management, certification and standardisation schemes which are under the remit of the EU.

In addition, European research with open competitive calls allows participants to break away from their natural suppliers and develop new partnerships with different types of organisations (academia, research centres, industry etc.) including those from EU countries without traditional aviation industry but potentially bringing novel approaches.

The rationale for EU intervention includes risk sharing, considering the high costs of developing and demonstrating innovative technological solutions, which cannot be carried out by individual companies alone.

In the context of the specific characteristics of the aviation sector, the costs and risks of new developments depend on effective cooperation at European scale. Cooperation between different stakeholders is important, both in the development stages as well as during the maturing of innovative technologies.

With a clear climate policy and clear objectives for 2030 and for 2050, there is a strong need for directionality of European investments as well as additionality. EU action would complement the national schemes to provide a clearer policy approach, especially as innovations are urgently needed to realise the climate action plan and objectives.

The European Commission is ideally placed to strive towards cooperation between the national aviation R&I programmes and the Clean Aviation initiative, avoiding

duplication of effort and combining resources towards achieving the Green Deal targets.

At the same time, it takes the initiative on many aviation related policy measures and can ensure that policy measures, legislation and R&I efforts are aligned.

Further, The European Commission is an ad-hoc observer in many ICAO bodies (Assembly and other technical bodies) focusing on aviation safety, security, environment, air traffic management and air transportation.

These issues are addressed further in the Impact Assessment document attached to this proposal.

1.4.3. Lessons learned from similar experiences in the past

Numerous promising climate neutral solutions have been researched under former public and private research and innovation programmes, either in the EU (starting from the 4th research and development programme), national or regional programmes. A number of those technologies, that reached high maturity levels in the FP 7 Clean Sky and H2020 Clean Sky 2 research programmes, have been assessed in the FP7-Clean Sky Technology Evaluator and it was found that if taken-up in new aeroplanes, they have the potential to reduce emissions up to 30% compared to the Y2000 reference aircraft.

The Interim Evaluation of the Joint Undertakings operating under Horizon 2020 concluded that JU-based public-private partnerships (PPPs) have demonstrated efficiency improvements in comparison to FP7, despite a few identified shortcomings to be addressed.

While it is too soon to draw conclusions for CS2 (which runs until 2024), preliminary assessments show that it is well on track to achieve its objectives of demonstrating and validating technologies reducing CO₂ and NO_x emissions by 20% to 30% compared to ‘state-of-the-art’ aircraft entering into service as from 2014. A growing number of publications and patent applications support the good progress of the main demonstrators. Unfortunately, the introduction of those technologies into aeroplanes on the market is anything but certain, because this is largely determined by market forces.

1.4.4. Compatibility and possible synergy with other appropriate instruments

According to the Horizon Europe Regulation, all European Partnerships need to ensure coordination and/or joint activities with other relevant research and innovation initiatives to secure optimum level of interconnections and ensure effective synergies. In line with this, the Single Basic Act is developed around the key principle that close collaboration and synergies between Joint Undertakings and relevant initiatives at EU, national and regional level, in particular other European Partnerships, will be crucial in achieving greater impact and ensuring the uptake of results. In this respect, the Single Basic Act (Part One, common provisions applicable to all JUs) facilitates synergies through a multitude of operative provisions.

Strong synergies should be established between the two proposed aviation partnerships, Integrated Air Traffic Management and Clean Aviation. This should ensure compatibility between the solutions developed under Clean Aviation and the advanced ATM approaches developed under the Integrated Air Traffic Management initiative.

The hydrogen initiative and the batteries initiative (potentially delivering alternative energy sources to aviation) could have a huge impact as enablers of zero-emission aviation, if their deliverables respond to the needs of the aviation sector.

Creating synergies would benefit all these initiatives. It is worth mentioning that more-electric aircrafts will require advancements in high-voltage electric power systems, which at high altitudes pose additional safety risks that have to be addressed and technological solutions to be validated. That's why aircraft requirements have to be taken into consideration at initial stages of proposed solutions.

Certification is a very important aspect of bringing new technologies to maturity and in this respect, EASA's early involvement is key. Strong involvement of the European Commission and Member States should ensure alignment and synergies between the EU, national and regional priorities and funding programmes.

An increased involvement of Member States in the deployment and uptake of the most promising climate neutral technologies at EU level will promote synergies and economy of scale with the national R&I programmes as well as increase the alignment of the national educational schemes to match the future needs for corresponding skills and jobs.

Monitoring of synergies and collaboration will be done through the Annual Activity Report.

1.5. Duration and financial impact

limited duration

- in effect from 01/01/2021 to 31/12/2031
- Financial impact from 2021 to 2027 for commitment appropriations and from 2021 to 2031 for payment appropriations.

unlimited duration

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

1.6. Management mode(s) planned⁹⁸

Direct management by the Commission

- by its departments, including by its staff in the Union delegations;
- by the executive agencies

Shared management with the Member States

Indirect management by entrusting budget implementation tasks to:

- third countries or the bodies they have designated;
 - international organisations and their agencies (to be specified);
 - the EIB and the European Investment Fund;
 - bodies referred to in Articles 70 and 71 of the Financial Regulation;
 - public law bodies;
 - bodies governed by private law with a public service mission to the extent that they provide adequate financial guarantees;
 - bodies governed by the private law of a Member State that are entrusted with the implementation of a public-private partnership and that provide adequate financial guarantees;
 - persons entrusted with the implementation of specific actions in the CFSP pursuant to Title V of the TEU, and identified in the relevant basic act.
- *If more than one management mode is indicated, please provide details in the 'Comments' section.*

⁹⁸ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site:
<https://myintracomm.ec.europa.eu/budgweb/EN/man/budgmanag/Pages/budgmanag.aspx>

Comments

/

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

Specify frequency and conditions.

In line with Horizon Europe Regulation, the partnership shall adopt a monitoring system that is in line with the requirements set out in Article 45, Annex III and Annex V of the Horizon Europe Regulation, and feed into the same single database as the other components of Horizon Europe. The reporting and monitoring system shall provide key management and implementation data (including microdata at the level of individual entities), allow to track progress according to the Key Impact Pathways (including the progress to deliver on EU priorities), and the partnership criteria. The partnership shall report on specific indicators (that are not covered by the Key Impact Pathways) allowing to track progress made in the short, medium and long term towards delivering on the vision and specific and operational objectives of the partnership as set out in the Regulation establishing the Partnership, including on the targets set by 2030. The indicators, data sources and methodologies shall allow for an assessment over time of achievements, progress towards impacts, including delivery on EU policy objectives, and the identification of potential needs for corrective measures. It should consider both qualitative and quantitative data, identify responsibilities for data collection, and set out concrete approaches to develop realistic baseline, targets and/or benchmarks to identify progress, where relevant, and in line with Horizon Europe impact approach. All the information collected shall be provided in close to real-time to Commission services based on common data models and fed into a single database as specified in Horizon Europe Article 45.

For that purpose, appropriate reporting systems shall be put in place to support a continuous and transparent reporting, including on committed and actually provided financial and in-kind contributions, visibility and positioning in the international context, impact on research and innovation related risks of private sector investments. Reporting should be in line with the standard Horizon Europe reporting requirements. The development of the reporting systems in the context of the strategic coordinating process shall also involve Member States and partnership representatives in order to ensure synchronization and coordination of reporting and monitoring efforts, including on the division of data collection and reporting tasks. The reporting system at project level shall include detailed information on the projects funded, their results, their diffusion and use by key target groups, and the overall difference this is making for science, the economy, society and/or the environment, in line with the projects' objectives and targeted impacts. This should be complemented by relevant data on the added value and impact of the partnership at European, national and regional level. Appropriate data sharing mechanism with common Horizon Europe monitoring and reporting databases needs to be ensured.

European Partnerships shall be evaluated according to the Horizon Europe evaluation framework, as set out in its Article 47.

2.2. Management and control system(s)

2.2.1. Justification of the management mode(s), the funding implementation mechanism(s), the payment modalities and the control strategy proposed

Indirect management is justified because the Clean Aviation Joint Undertaking is a public private partnership with part of the funding brought in under form of in kind contributions by members other than the Union.

Each year, the decision on the contribution to the Clean Aviation Joint Undertaking will be taken by virtue of the EU Budget adopted for that year.

A Delegation Agreement signed between the European Commission and the Clean Aviation Joint Undertaking will indicate that for the tasks to be carried out each year the Commission will pay a contribution upon conclusion of a Transfer of Funds agreement with the Clean Aviation Joint Undertaking, and the issuing, by the Joint Undertaking, of corresponding payment requests to the members other than the Union.

The Commission will ensure that the rules applicable to the Clean Aviation Joint Undertaking fully comply with the requirements of the Financial Regulation. In compliance with Article 71 of Regulation (EU, Euratom) 2018/1046 the Joint Undertaking will respect the principle of sound financial management. The Clean Aviation Joint Undertaking shall also comply with the provisions of the Model Financial Regulation applicable to the Joint Undertaking. Any departure from this Model Financial Regulation, required for the purpose of the Joint Undertaking's specific needs, shall be subject to the Commission's prior consent.

Monitoring arrangements, including through the Union representation in the Governing Board of the Clean Aviation Joint Undertaking, as well as reporting arrangements will ensure that the Commission services can meet the accountability requirements both to the College and to the Budgetary Authority.

The internal control framework for the Clean Aviation Joint Undertaking is built on:

- the implementation of the Internal Control Standards offering at least equivalent guarantees to those of the Commission;
- procedures for selecting the best projects through independent evaluation, and for translating them into legal instruments;
- project and contract management throughout the lifetime of every project;
- ex-ante checks on 100% of claims, including receipt of audit certificates and ex-ante certification of cost methodologies;
- ex post audits on a sample of claims as part of the Horizon Europe ex-post audits;
- scientific evaluation of project results

2.2.2. *Information concerning the risks identified and the internal control system(s) set up to mitigate them*

Various measures have been established to mitigate the inherent risk of conflict of interest within the Clean Aviation Joint Undertaking, especially:

- equal votes for the Commission and for members other than the Union in the Governing Board,
- selection of the Executive Director by the Governing Board based on a proposal by the Commission,
- independence of staff,
- evaluations by independent experts based on published selection criteria together with appeal mechanisms and full declarations of any interests,
- a requirement for the Governing Board to adopt rules for the prevention, avoidance and management of conflicts of interest in the Joint Undertaking in accordance with the financial rules of the Joint Undertaking and with the Staff Regulations in respect of staff.

The establishment of ethical and organisational values will be one of the key roles of the Joint Undertaking, and will be monitored by the Commission.

The Executive Director of the Clean Aviation Joint Undertaking, as Authorising Officer, will be required to introduce a cost-effective system of internal control and management. He/she will be required to report to the Commission on the internal control framework adopted.

The Commission will monitor the risk of non-compliance through the reporting system that it will develop, as well as by following the results of ex post audits on the recipients of EU funds from the Clean Aviation Joint Undertaking, as part of ex post audits covering the whole of the Horizon Europe.

There is a clear need to manage the budget in an efficient and effective manner, and to prevent fraud and waste. However, the control system needs to strike a fair balance between attaining an acceptable error rate and the control burden required and avoid lowering the attractiveness of the Union's Research programme.

2.2.3. *Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)*

As the rules for participation of Horizon Europe applicable to the Clean Aviation Joint Undertaking are similar to those that the Commission will use in its Work Programme, and with a population of beneficiaries with a similar risk profile to those of the Commission, it

can be expected that the error margin will be similar to that foreseen by the Commission for Horizon Europe, i.e. to give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5 %, with the ultimate aim to achieve a residual error rate as close as possible to 2 % at the closure of the multi-annual programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

See the Legislative Financial Statement for Horizon Europe for full details of the error rate expected with respect to participants.

2.3. Measures to prevent fraud and irregularities

Specify existing or envisaged prevention and protection measures, e.g. from the Anti-Fraud Strategy.

The Commission will ensure that procedures to fight against fraud at all stages of the management process are applied by the Clean Aviation Joint Undertaking.

The proposals concerning the Joint Undertakings under Horizon Europe have been subject to fraud proofing and an assessment of their impact. Overall, the measures proposed should have a positive impact on the fight against fraud, especially the greater emphasis on risk based audit and reinforced scientific evaluation and control.

The Commission will ensure that appropriate measures are in place to ensure that, when actions financed under this Regulation are implemented, the financial interest of the Union is protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.

The current H2020 Clean Sky 2 Joint Undertaking already cooperates with the Commission services in matters relating to fraud and irregularity. The Commission will ensure that this will continue and be strengthened.

The Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot checks, over all grant beneficiaries, contractors and subcontractors who have received Union funds under the Programme.

The European Anti-fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Regulation (Euratom, EC) No 2185/96 with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding. The Joint Undertakings will also need to accede to the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council of the European Union and the Commission of the European Communities concerning internal investigations by the European Anti-fraud Office (OLAF).

The European Public Prosecutor's Office (EPPO) may carry out investigations in accordance with the provisions and procedures laid down in Council Regulation (EU) 2017/193923, with a view to investigating criminal offences affecting the financial interests of the Union.

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading of the multiannual financial framework and new expenditure budget line(s) proposed

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
			from EFTA countries 100	from candidate countries 101	from third countries	within the meaning of Article [21(2)(b)] of the Financial Regulation
	Heading 1 Single Market, Innovation and Digital – Horizon Europe	Diff./Non-diff. ⁹⁹				
1	01.020252 – Clean Aviation Joint Undertaking	Diff.	YES	YES	YES	YES

⁹⁹ Diff. = Differentiated appropriations / Non-diff. = Non-differentiated appropriations.

¹⁰⁰ EFTA: European Free Trade Association.

¹⁰¹ Candidate countries and, where applicable, potential candidates from the Western Balkans.

* The contribution to this budget line is expected to come from:

Commitment appropriations (EUR million to three decimal places)

Budget line	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Expenditure related to officials and temporary staff implementing "Horizon Europe" — Indirect research 01 01 01 01									
External personnel implementing "Horizon Europe" — Indirect research 01 01 01 02									
Other management expenditure for "Horizon Europe" — Indirect research 01 01 01 03									
Cluster Climate, Energy and Mobility 01 02 02 50	229.925	150.583	231.570	190.688	388.057	133.814	375.363		1700.000
Total expenditure	229.925	150.583	231.570	190.688	388.057	133.814	375.363		1700.000

Estimated impact on expenditure

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure

EUR million (to three decimal places)

Heading of multiannual financial framework	1	Heading Single Market, Innovation and Digital Horizon Europe
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Joint Undertaking ¹⁰²¹⁰³			2021	2022	2023	2024	2025	2026	2027 ¹⁰⁴	Post 2027	TOTAL
Title 1:	Commitments	(1)	0.139	0.497	0.765	1.489	2.540	3.021	16.035	-	24.486
	Payments	(2)	0.139	0.497	0.765	1.489	2.540	3.021	3.081	12.954	24.486
Title 2:	Commitments	(1a)	0.243	0.943	1.262	1.776	1.534	1.650	7.329	-	14.737
	Payments	(2a)	0.243	0.943	1.262	1.776	1.534	1.650	1.660	5.669	14.737
Title 3	Commitments	(3a)	229.543	149.143	229.543	187.423	383.983	129.143	351.999	0	1660.777
	Payments	(3b)	14.041	123.686	137.678	262.701	220.938	344.980	194.261	362.492	1660.777
TOTAL appropriations for Joint Undertaking	Commitments	=1+1a+3a	229.925	150.583	231.570	190.688	388.057	133.814	375.363	0	1700.000
	Payments	=2+2a+	14.423	125.126	139.705	265.966	225.012	349.651	199.002	381.115	1700.000

¹⁰² Amounts in Titles 1 and 2 represent the EU contribution (up to EUR 39.223 million) to the administrative costs of the Joint Undertaking. The other remaining part comes from contributions by the other Joint Undertaking members as shown in section 3.2.4.

¹⁰³ Payment appropriations for Titles 1 and 2 are based on a yearly consumption of all corresponding commitment appropriations, while for Title 3 they are determined by taking into account the nature of the indirect actions and their payment schedule (prefinancing, interim payments and payment of the balance).

¹⁰⁴ Titles 1 and 2 for year 2027 contain the commitments for the year and the frontloading of the commitments for the remaining years of the JU in the period 2027-2031.

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EUR million (to three decimal places)

DG RTD		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human Resources ¹⁰⁵		0.491	0.503	0.513	0.523	0.533	0.544	0.555	-	3.662
Other administrative expenditure		0.128	0.130	0.133	0.135	0.138	0.141	0.144	-	0.949
TOTAL DG	Appropriations	0.619	0.633	0.646	0.658	0.671	0.685	0.699	-	4.611

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations across HEADINGS of the multiannual financial framework	Commitments	230.544	151.216	232.216	191.346	388.728	134.499	376.062	0,000	1704.611
	Payments	15.042	125.759	140.351	266.624	225.683	350.336	199.701	381.115	1704.611

Heading of multiannual financial	7	‘Administrative expenditure’
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¹⁰⁵ Covering the administration of the Horizon Europe actions. The FTE costs are determined on the basis of the average yearly cost to be used as from January 2021 for salaries for Permanent Staff (EUR 0,127), Contractual Agents (EUR 0,057) and other administrative costs (EUR 0,0255) referred to buildings and IT costs for Indirect Research staff. An annual indexation of 2% has been applied for the period 2022-27. The indication of staff needs in the Commission DGs is of indicative and non-binding nature.

framework		
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EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human resources										
Other administrative expenditure										
TOTAL appropriations under HEADING 7 of the multiannual financial framework	(Total commitments = Total payments)									

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations across HEADINGS of the multiannual financial framework	Commitments	230.544	151.216	232.216	191.346	388.728	134.499	376.062	0,000	1 704.611
	Payments	15.042	125.759	140.351	266.624	255.683	350.336	199.701	381.115	1 704.611

3.2.2. Estimated impact on JU's human resources

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

Staffing numbers (in headcounts / FTE)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Officials (AD Grades)	32	32	32	32	32	32	32	32	
Officials (AST grades)	4	4	3	3	3	3	3	3	
Contract staff	6	6	6	6	6	6	6	6	
Temporary staff									
Seconded National Experts	2	2	0	0	0	0	0	0	
TOTAL¹⁰⁶	44	44	41	41	41	41	41	41	

EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Officials (AD Grades)									
Officials (AST grades)									
Contract staff	0.367	0.375	0.382	0.390	0.397	0.405	0.345	1.076	3.737
Temporary staff	4.353	4.440	4.446	4.535	4.625	4.718	4.812	15.021	46.949
Seconded National Experts	0.130	0.132	0.000	0.000	0.000	0.000	0.000	0.000	0.262

¹⁰⁶ The total number of FTEs of all Joint Undertakings established by the Council Regulation under Horizon Europe will be reduced by 10 FTEs between 2024 and 2027 following an assessment of the effectiveness of the JUs operations taking due account the efficiency gains resulting from the setting up of the Common Back Office. For this purpose, revised LFS covering the period 2024-2027 will be circulated by end 2023.

TOTAL	4.849	4.946	4.828	4.924	5.023	5.123	5.157	16.097	50.947
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Estimated impact on the staff (additional FTE) – establishment plan

Function group and grade	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
AD16												
AD15												
AD14	1	1	1	1	1	1	1	1	1	1	1	1
AD13												
AD12	2	2	2	2	2	2	2	2	2	2	2	2
AD11	1	1	1	1	1	1	1	1	1	1	1	1
AD10	3	3	3	3	3	3	3	3	3	3	3	3
AD9	10	10	10	10	10	10	10	10	10	10	10	10
AD8	3	3	3	3	3	3	3	3	3	3	3	3
AD7	3	3	3	3	3	3	3	3	3	3	3	3
AD6	9	9	9	9	9	9	9	9	9	9	9	9
AD5												
AD Total	32	32	32	32	32	32	32	32	32	32	32	32
AST11												
AST10												
AST9												
AST8	1	1	1	1	1	1	1	1	1	1	1	1
AST7												
AST6	2	2	2	2	2	2	2	2	2	2	2	2
AST5	1	1										
AST4												
AST3												
AST2												
AST1												
AST Total	4	4	3	3	3	3	3	3	3	3	3	3
AST/SC 6												
AST/SC 5												
AST/SC 4												
AST/SC 3												
AST/SC 2												
AST/SC 1												
AST/SC Total												

Estimated impact on the staff (additional) – external personnel

Contract agents	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Function group IV	1	1	1	1	1	1	1	1	1	1	1	1
Function group III	5	5	5	5	5	5	5	5	5	5	5	5
Function group II												
Function group I												

Total	6	6	6	6	6	6	6	6	6	6	6	6
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Seconded national experts	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Total	2	2	0	0	0	0	0	0	0	0	0	0

3.2.3. Estimated requirements of human resources Commission

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below¹⁰⁷:

Estimate to be expressed in full time equivalent units

Years	2021	2022	2023	2024	2025	2026	2027
• Establishment plan posts (officials and temporary staff)							
Headquarters and Commission's Representation Offices							
Delegations							
Research	3	3	3	3	3	3	3
• External staff (in Full Time Equivalent unit: FTE) - AC, AL, END, INT and JED ¹⁰⁸							
Heading 7							
Financed from HEADING 7 of the multiannual financial framework	- at Headquarters						
	- in Delegations						
Financed from the envelope of the programme ¹⁰⁹	- at Headquarters						
	- in Delegations						
Research	2	2	2	2	2	2	2
Other (specify)							
TOTAL	5	5	5	5	5	5	5

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	<p>Various tasks related to:</p> <ul style="list-style-type: none"> • Technical follow-up of progress within Clean Aviation operations • Monitoring of the Clean Aviation research programme progress • Monitor the respect for the Strategic Research and Innovation Agenda • Representation of the EC in the partnership Governing Board • Definition of Commission's position in the Governing Board (vote / veto right) • Administrative tasks related to the Governance of the partnership • Liaison with National States Representative Group, ACARE and Transport Programme Committee
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¹⁰⁷ The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.

¹⁰⁸ AC= Contract Staff; AL = Local Staff; END = Seconded National Expert; INT = agency staff; JPD= Junior Professionals in Delegations.

¹⁰⁹ Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

	<ul style="list-style-type: none"> • Observation of Calls for Proposal, Calls for Tender and admission of new Members • Participation in meetings of sub-groups and working groups • Organisation of mid-term and final evaluations • Perform spot checks/audits • Promote synergies between national research programmes and the Clean Aviation research and innovation programme.
External staff	

3.2.4. Third-party contributions

The proposal/initiative:

- does not provide for co-financing by third parties
- provides for the co-financing by third parties estimated below:

– Appropriations in EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Financial contribution to the administrative costs of JU covered by Members other than the Union	0.382	1.440	2.027	3.265	4.074	4.671	4.741	18.623	39.223
Financial contributions to operational costs by the Private members/Associated Partners									
Financial contributions to operational costs by the Participating States									
In kind contributions by the Private members/Associated Partners ¹¹⁰	26.683	234.097	230.109	465.520	387.181	618.556	336.278	662.353	2960.777
In kind contributions to operational activities by Participating States									
TOTAL appropriations co-financed	27.065	235.537	232.136	468.785	391.255	623.227	341.019	680.976	3000.000

Notes:

In the joint Memorandum of Commitment, signed in October 2020, the private side expressed their intention to contribute up to EUR 3bn (including UK participation) to overall Clean Aviation activities, assuming a “reasonable and proportionate funding by the European Commission” (i.e. EUR 2.5bn of EC funding) following the agreement on the MFF and which shall also include the UK’s contribution. Changing these assumptions would require a new stakeholders’ consultation.

The distribution of the in-kind contributions by the Founding Members/ Associated Members from 2021 to 2027, and post 2027, is based upon the first estimates made for the in kind contributions for operational activities (IKOP) that are themselves related to the draft work plans and Clean Aviation Strategic Research and Innovation Agenda. A revision of this distribution will be required when the roadmap for implementing the SRIA has been defined.

¹¹⁰ In-kind contributions should be shown in the table in years when they are foreseen to be incurred.

3.3. Estimated impact on revenue

- The proposal/initiative has no financial impact on revenue.
- The proposal/initiative has the following financial impact:
 - on own resources
 - on other revenue

please indicate, if the revenue is assigned to expenditure lines

EUR million (to three decimal places)

Budget revenue line:	Impact of the proposal/initiative ¹¹¹						
	2021	2022	2023	2024	2025	2026	2027
Article							

For assigned revenue, specify the budget expenditure line(s) affected.

[...]

Other remarks (e.g. method/formula used for calculating the impact on revenue or any other information).

[...]

¹¹¹ As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 20 % for collection costs.

LEGISLATIVE FINANCIAL STATEMENT - CLEAN HYDROGEN

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Proposal for a Council Regulation on the European Partnership Clean Hydrogen

1.2. Policy area(s) concerned (*Programme cluster*)

Activity: Horizon Europe

Cluster 5: climate, energy and mobility

1.3. The proposal/initiative relates to:

a new action

a new action following a pilot project/preparatory action¹¹²

the extension of an existing action

a merger or redirection of one or more actions towards another/a new action

1.4. Grounds for the proposal/initiative

1.4.1. Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative

The objective of the initiative is to accelerate development and deployment of European clean hydrogen technologies, contributing to a sustainable, decarbonised and fully integrated energy system. Focus on production, distribution and storage of clean hydrogen to supply hard to decarbonise sectors such as heavy industries and heavy-duty transport applications. Some objectives by 2030: produce clean hydrogen at ~€1.5-3/kg, allowing penetration into mass markets; reduce distribution costs to less than EUR 1/kg of hydrogen at scale.

While hydrogen is a clean fuel, with no emissions, it is still more expensive than other energy sources, and mostly comes from natural gas, generating carbon dioxide (CO₂). We need to produce ‘**clean hydrogen**’ from renewable energy resources that would eliminate CO₂ emissions from the process. Clean hydrogen applications are more expensive than competing technologies, and not yet fully reliable or of sufficient quality for up take. There is also limited large-scale deployment of clean hydrogen generation capacity. European hydrogen industrial and research

¹¹² As referred to in Article 58(2)(a) or (b) of the Financial Regulation.

stakeholders along with the power, transport, and construction industrial stakeholders are most affected.

The initiative is expected to start operating in the second or third quarter of 2021 (depending on the adoption date of the Single Basic Act by the Council). The Joint Undertakings are set up to operate until 31 December 2027, with their last calls launched at the latest by 31 December 2027. In line with the the criteria for European Partnerships in the Annex III of the Horizon Europe Regulation, the Single Basic Act includes specific provisions for their evaluation, phasing-out and renewal. This includes an obligation for the Governing Board to submit a plan for the phasing out of the Joint Undertaking from Horizon Europe funding and an assessment of the most effective policy intervention mode for any future action as part of periodic reviews and evaluations.

1.4.2. Added value of Union involvement

Reasons for action at European level (ex-ante)

The problems addressed by the initiative are of a nature and magnitude that EU-level concerted action will be more appropriate than individual Member States developing their own initiatives. This will enable more coherent and coordinated efforts, and avoid duplication.

Expected generated Union added value (ex-post) Clean hydrogen has complex and interlinked value chains which require effective cooperation and inter-sectoral collaboration at the European level to enable successful, large scale demonstration and deployment.

These issues are addressed further in the Impact Assessment document attached to this proposal.

1.4.3. Lessons learned from similar experiences in the past

- i) Funding concentration, and the need to ensure that the current geographical distribution of projects supported by the present JU is not reinforced by any lack of information/openness/transparency to entities from countries where participation is low, in particular EU13;
- ii) The involvement of Member States and in particular the role of the State Representative Group, which is not as effective as it should be;
- iii) The need for more attention to safety of FCH technologies necessary to building the confidence needed for widespread take-up. The relatively few projects introducing hydrogen in new settings (in buses, homes or in refuelling stations alongside conventional fuels) has not allowed products to be rolled-out commercially.

1.4.4. *Compatibility and possible synergy with other appropriate instruments*

According to the Horizon Europe Regulation, all European Partnerships need to ensure coordination and/or joint activities with other relevant research and innovation initiatives to secure optimum level of interconnections and ensure effective synergies. In line with this, the Single Basic Act is developed around the key principle that close collaboration and synergies between Joint Undertakings and relevant initiatives at EU, national and regional level, in particular other European Partnerships, will be crucial in achieving greater impact and ensuring the uptake of results. In this respect, the Single Basic Act (Part One, common provisions applicable to all JUs) facilitates synergies through a multitude of operative provisions.

The Hydrogen Partnership will work closely with other partnerships such as zero emission road and waterborne transport, transforming Europe's railway system, clean aviation, processes for planet and the clean steel partnerships. There are also links to the proposed IPCEI on hydrogen and the CEF and ETS funds.

Monitoring of synergies and collaboration will be done through the Annual Activity Report and the soon to be established Hydrogen Inter-Partnership Assembly..

1.5. Duration and financial impact

limited duration

- in effect from 01/01/2021 to 31/12/2031
- Financial impact from 2021 to 2027 for commitment appropriations and from 2021 to end of funded actions for payment appropriations.

unlimited duration

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

1.6. Management mode(s) planned¹¹³

Direct management by the Commission

- by its departments, including by its staff in the Union delegations;
- by the executive agencies

Shared management with the Member States

Indirect management by entrusting budget implementation tasks to:

- third countries or the bodies they have designated;
- international organisations and their agencies (to be specified);
- the EIB and the European Investment Fund;
- bodies referred to in Articles 70 and 71 of the Financial Regulation;
- public law bodies;
- bodies governed by private law with a public service mission to the extent that they provide adequate financial guarantees;
- bodies governed by the private law of a Member State that are entrusted with the implementation of a public-private partnership and that provide adequate financial guarantees;
- persons entrusted with the implementation of specific actions in the CFSP pursuant to Title V of the TEU, and identified in the relevant basic act.
- *If more than one management mode is indicated, please provide details in the 'Comments' section.*

¹¹³ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site:
<https://myintracomm.ec.europa.eu/budgweb/EN/man/budgmanag/Pages/budgmanag.aspx>

Comments

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

In line with Horizon Europe Regulation, the partnership shall adopt a monitoring system that is in line with the requirements set out in Article 45, Annex III and Annex V of the Horizon Europe Regulation, and feed into the same single database as the other components of Horizon Europe. The reporting and monitoring system shall provide key management and implementation data (including microdata at the level of individual entities), allow to track progress according to the Key Impact Pathways (including the progress to deliver on EU priorities), and the partnership criteria. The partnership shall report on specific indicators (that are not covered by the Key Impact Pathways) allowing to track progress made in the short, medium and long term towards delivering on the vision and specific and operational objectives of the partnership as set out in the Regulation establishing the Partnership, including on the targets set by 2030. The indicators, data sources and methodologies shall allow for an assessment over time of achievements, progress towards impacts, including delivery on EU policy objectives, and the identification of potential needs for corrective measures. It should consider both qualitative and quantitative data, identify responsibilities for data collection, and set out concrete approaches to develop realistic baseline, targets and/or benchmarks to identify progress, where relevant, and in line with Horizon Europe impact approach. All the information collected shall be provided in close to real-time to Commission services based on common data models and fed into a single database as specified in Horizon Europe Article 45.

For that purpose, appropriate reporting systems shall be put in place to support a continuous and transparent reporting, including on committed and actually provided financial and in-kind contributions, visibility and positioning in the international context, impact on research and innovation related risks of private sector investments. Reporting should be in line with the standard Horizon Europe reporting requirements. The development of the reporting systems in the context of the strategic coordinating process shall also involve Member States and partnership representatives in order to ensure synchronization and coordination of reporting and monitoring efforts, including on the division of data collection and reporting tasks. The reporting system at project level shall include detailed information on the projects funded, their results, their diffusion and use by key target groups, and the overall difference this is making for science, the economy, society and/or the environment, in line with the projects' objectives and targeted impacts. This should be complemented by relevant data on the added value and impact of the partnership at European, national and regional level. Appropriate data sharing mechanism with common Horizon Europe monitoring and reporting databases needs to be ensured.

European Partnerships shall be evaluated according to the Horizon Europe evaluation framework, as set out in its Article 47.

2.2. Management and control system(s)

2.2.1.

Indirect management is justified because the Clean Hydrogen Joint Undertaking is a public private partnership with part of the funding brought in under form of in kind contributions by members other than the Union.

Each year, the decision on the contribution to the Clean Hydrogen Joint Undertaking will be taken by virtue of the EU Budget adopted for that year.

A Delegation Agreement signed between the European Commission and the Clean Hydrogen Joint Undertaking will indicate that for the tasks to be carried out each year the Commission will pay a contribution upon conclusion of a Transfer of Funds agreement with the Clean Hydrogen Joint Undertaking, and the issuing, by the Joint Undertaking, of corresponding payment requests to the members other than the Union.

The Commission will ensure that the rules applicable to the Clean Hydrogen Joint Undertaking fully comply with the requirements of the Financial Regulation. In compliance with Article 71 of Regulation (EU, Euratom) 2018/1046 the Joint Undertaking will respect the principle of sound financial management. The Clean Hydrogen Joint Undertaking shall also comply with the provisions of the Model Financial Regulation applicable to the Joint Undertaking. Any departure from this Model Financial Regulation, required for the purpose of the Joint Undertaking's specific needs, shall be subject to the Commission's prior consent.

Monitoring arrangements, including through the Union representation in the Governing Board of the Clean Hydrogen Joint Undertaking, as well as reporting arrangements will ensure that the Commission services can meet the accountability requirements both to the College and to the Budgetary Authority.

The internal control framework for the Clean Hydrogen Joint Undertaking is built on:

- the implementation of the Internal Control Standards offering at least equivalent guarantees to those of the Commission;
- procedures for selecting the best projects through independent evaluation, and for translating them into legal instruments;
- project and contract management throughout the lifetime of every project;
- ex-ante checks on 100% of claims, including receipt of audit certificates and ex-ante certification of cost methodologies;
- ex post audits on a sample of claims as part of the Horizon Europe ex-post audits;
- scientific evaluation of project results

2.2.2. *Information concerning the risks identified and the internal control system(s) set up to mitigate them*

Various measures have been established to mitigate the inherent risk of conflict of interest within the Clean Hydrogen Joint Undertaking, especially:

- equal votes for the Commission and for members other than the Union in the Governing Board,
- selection of the Executive Director by the Governing Board based on a proposal by the Commission,
- independence of staff,
- evaluations by independent experts based on published selection criteria together with appeal mechanisms and full declarations of any interests,
- a requirement for the Governing Board to adopt rules for the prevention, avoidance and management of conflicts of interest in the Joint Undertaking in accordance with the financial rules of the Joint Undertaking and with the Staff Regulations in respect of staff.

The establishment of ethical and organisational values will be one of the key roles of the Joint Undertaking, and will be monitored by the Commission.

The Executive Director of the Clean Hydrogen Joint Undertaking, as Authorising Officer, will be required to introduce a cost-effective system of internal control and management. He/she will be required to report to the Commission on the internal control framework adopted.

The Commission will monitor the risk of non-compliance through the reporting system that it will develop, as well as by following the results of ex post audits on the recipients of EU funds from the Clean Hydrogen Joint Undertaking, as part of ex post audits covering the whole of the Horizon Europe.

There is a clear need to manage the budget in an efficient and effective manner, and to prevent fraud and waste. However, the control system needs to strike a fair balance between attaining an acceptable error rate and the control burden required and avoid lowering the attractiveness of the Union's Research programme.

2.2.3. Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)

As the rules for participation of Horizon Europe applicable to the Clean Hydrogen Joint Undertaking are similar to those that the Commission will use in its Work Programme, and with a population of beneficiaries with a similar risk profile to those of the Commission, it can be expected that the error margin will be similar to that foreseen by the Commission for Horizon Europe, i.e. to give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5 %, with the ultimate aim to achieve a residual error rate as close as possible to 2 % at the closure of the multi-annual programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

See the Legislative Financial Statement for Horizon Europe for full details of the error rate expected with respect to participants.

2.3. Measures to prevent fraud and irregularities

process are applied by the Clean Hydrogen Joint Undertaking.

The proposals concerning the Joint Undertakings under Horizon Europe have been subject to fraud proofing and an assessment of their impact. Overall, the measures proposed should have a positive impact on the fight against fraud, especially the greater emphasis on risk based audit and reinforced scientific evaluation and control.

The Commission will ensure that appropriate measures are in place to ensure that, when actions financed under this Regulation are implemented, the financial interest of the Union is protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.

The current H2020 Fuel Cells and Hydrogen 2 Joint Undertaking already cooperates with the Commission services in matters relating to fraud and irregularity. The Commission will ensure that this will continue and be strengthened.

The Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot checks, over all grant beneficiaries, contractors and subcontractors who have received Union funds under the Programme.

The European Anti-fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Regulation (Euratom, EC) No 2185/96 with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding. The Joint Undertakings will also need to accede to the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council of the European Union and the Commission of the European Communities concerning internal investigations by the European Anti-fraud Office (OLAF).

The European Public Prosecutor's Office (EPPO) may carry out investigations in accordance with the provisions and procedures laid down in Council Regulation (EU) 2017/193923, with a view to investigating criminal offences affecting the financial interests of the Union

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading of the multiannual financial framework and new expenditure budget line(s) proposed

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
		Diff./Non-diff. ¹¹⁴	from EFTA countries 115	from candidate countries 116	from third countries	within the meaning of Article [21(2)(b)] of the Financial Regulation
	Heading 1 Single Market, Innovation and Digital – Horizon Europe					
1	01 02 02 54 Clean Hydrogen Joint Undertaking	Diff.	YES	YES	YES	YES

¹¹⁴ Diff. = Differentiated appropriations / Non-diff. = Non-differentiated appropriations.

¹¹⁵ EFTA: European Free Trade Association.

¹¹⁶ Candidate countries and, where applicable, potential candidates from the Western Balkans.

* The contribution to this budget line is expected to come from:

Commitment appropriations (EUR million to three decimal places)

Budget line	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Expenditure related to officials and temporary staff implementing "Horizon Europe" — Indirect research 01 01 01 01									
External personnel implementing "Horizon Europe" — Indirect research 01 01 01 02									
Other management expenditure for "Horizon Europe" — Indirect research 01 01 01 03									
Cluster climate energy and mobility 02 02 02 50	150.000	150.000	150.000	133.413	133.875	133.987	148.725	-	1.000.000
Total expenditure	150.000	150.000	150.000	133.413	133.875	133.987	148.725	-	1.000.000

Estimated impact on expenditure

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure

EUR million (to three decimal places)

Heading of multiannual financial framework	1	Heading Single Market, Innovation and Digital Horizon Europe
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Joint Undertaking ¹¹⁷¹¹⁸			2021	2022	2023	2024	2025	2026	2027 ¹¹⁹	Post 2027	TOTAL
Title 1	Commitments	(1)	0.000	0.000	0.000	2.065	2.140	2.218	11.257		17.680
	Payments	(2)	0.000	0.000	0.000	2.065	2.140	2.218	2.298	8.959	17.680
Title 2	Commitments	(1a)	0.000	0.000	0.000	1.348	1.735	1.769	7.661		12.513
	Payments	(2a)	0.000	0.000	0.000	1.348	1.735	1.769	1.804	5.857	12.513
Title 3	Commitments	(3a)	150.000	150.000	150.000	130.000	130.000	130.000	129.807		969.807
	Payments	(3b)	75.000	77.000	85.500	88.563	128.104	143.000	128.784	243.856	969.807
TOTAL appropriations for Joint Undertaking	Commitments	=1+1a +3a	150.000	150.000	150.000	133.413	133.875	133.987	148.725		1.000.000
	Payments	=2+2a +3b	75.000	77.000	85.500	91.976	131.979	146.987	132.886	258.672	1.000.000

¹¹⁷ Amounts in Titles 1 and 2 represent the EU contribution (up to 30.193€) to the administrative costs of the Joint Undertaking. The other remaining part comes from contributions by the other Joint Undertaking members as shown in section 3.2.4.

¹¹⁸ Payment appropriations for Titles 1 and 2 are based on a yearly consumption of all corresponding commitment appropriations, while for Title 3 they are determined by taking into account the nature of the indirect actions and their payment schedule (prefinancing, interim payments and payment of the balance).

¹¹⁹ Titles 1 and 2 for year 2027 contain the commitments for the year and the frontloading of the commitments for the remaining years of the JU in the period 2027-2031.

EUR million (to three decimal places)

DG RTD		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human Resources ¹²⁰		0.491	0.503	0.513	0.523	0.533	0.544	0.555	-	3.662
Other administrative expenditure		0.128	0.130	0.133	0.135	0.138	0.141	0.144	-	0.949
TOTAL DG	Appropriations	0.619	0.633	0.646	0.658	0.671	0.685	0.699	-	4.611

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations for the envelope of the Programme - Heading 1 of the multiannual financial framework	Commitments	150.619	150.633	150.646	134.071	134.546	134.672	149.424	-	1.004.611
	Payments	75.619	77.633	86.146	92.634	132.65	147.672	133.585	258.672	1.004.611

¹²⁰ Covering the administration of the Horizon Europe actions. The FTE costs are determined on the basis of the average yearly cost to be used as from January 2021 for salaries for Permanent Staff (EUR 0.127), Contractual Agents (EUR 0.057) and other administrative costs (EUR 0.0255) referred to buildings and IT costs for Indirect Research staff. An annual indexation of 2% has been applied for the period 2022-27. The indication of staff needs in the Commission DGs is of indicative and non-binding nature.

Heading of multiannual financial framework	7	'Administrative expenditure'
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EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human resources										
Other administrative expenditure										
TOTAL appropriations under HEADING 7 of the multiannual financial framework	(Total commitments = Total payments)									

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations across HEADINGS of the multiannual financial framework	Commitments	150.619	150.633	150.646	134.071	134.546	134.672	149.424	-	1.004.611
	Payments	75.619	77.633	86.146	92.634	132.65	147.672	133.585	258.672	1.004.611

EUR million (to three decimal places)

3.2.2. Estimated impact on JU's human resources

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below

Staffing numbers (in headcounts / FTE)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Temporary Agents (AD Grades)	15	17	17	17	17	17	17	61	178
Temporary Agents (AST grades)	9	10	10	10	10	10	10	34	103
Contract staff	3	2	2	2	2	2	2	8	23
Temporary staff	0	0	0	0	0	0	0	0	0
Seconded National Experts	2	2	2	2	2	2	2	5	19
TOTAL¹²¹	29	31	31	31	31	31	31	108	323

EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Temporary Agents (AD Grades)	1.575	1.856	1.931	2.008	2.088	2.172	2.259	8.910	22.799
Temporary Agents (AST grades)	0.945	1.092	1.136	1.181	1.228	1.277	1.329	4.947	13.135
Contract staff	0.207	0.144	0.149	0.155	0.161	0.168	0.175	0.771	1.930
Temporary staff	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Seconded National Experts	0.140	0.143	0.145	0.149	0.152	0.155	0.157	0.408	1.449

¹²¹ The total number of FTEs of all Joint Undertakings established by the Council Regulation under Horizon Europe will be reduced by 10 FTEs between 2024 and 2027 following an assessment of the effectiveness of the JUs operations taking due account the efficiency gains resulting from the setting up of the Common Back Office. For this purpose, revised LFS covering the period 2024-2027 will be circulated by end 2023.

TOTAL	2.867	3.235	3.361	3.493	3.629	3.772	3.920	15.036	39.313
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Estimated impact on the staff (additional FTE) – establishment plan

Function group and grade	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
AD16	0	0	0	0	0	0	0	0	0	0	0	0
AD15	0	0	0	0	0	0	0	0	0	0	0	0
AD14	1	1	1	1	1	1	1	1	1	1	1	0
AD13	0	0	0	0	0	0	0	1	1	1	1	0
AD12	2	2	2	2	2	2	2	1	1	1	1	0
AD11	0	0	0	0	0	0	0	0	0	0	0	0
AD10	0	0	0	0	0	2	4	5	4	4	4	0
AD9	5	5	5	5	5	3	2	2	2	3	3	0
AD8	2	3	3	4	5	4	3	2	5	3	3	0
AD7	3	3	3	4	3	3	3	4	1	1	0	0
AD6	2	2	2	1	1	1	1	0	0	0	0	0
AD5	0	1	1	0	0	1	1	1	1	1	0	0
AD Total	15	17	17	17	17	17	17	17	16	15	13	0
AST11	0	0	0	0	0	0	0	0	0	0	0	0
AST10	0	0	0	0	0	1	1	1	1	1	0	0
AST9	1	1	1	2	2	1	1	1	2	2	2	0
AST8	1	1	2	1	1	1	1	1	0	0	0	0
AST7	1	1	0	0	0	0	0	0	0	1	1	0
AST6	1	1	1	2	3	3	3	3	3	2	2	0
AST5	2	2	5	4	3	3	3	3	3	2	1	0
AST4	3	3	0	0	1	1	1	1	1	0	0	0
AST3	0	1	1	1	0	0	0	0	0	0	0	0
AST2	0	0	0	0	0	0	0	0	0	0	0	0
AST1	0	0	0	0	0	0	0	0	0	0	0	0
AST Total	9	10	10	10	10	10	10	10	10	8	6	0
AST/SC 6	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 5	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 4	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 3	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 2	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 1	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC Total	0	0	0	0	0	0	0	0	0	0	0	0

Estimated impact on the staff (additional) – external personnel

Contract agents	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Function group IV	1	1	1	1	1	1	1	1	1	1	1	0
Function group III	1	1	1	1	1	1	1	1	1	1	1	0
Function group II	1	0	0	0	0	0	0	0	0	0	0	0
Function group I	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	2	2	2	2	2	2	2	2	2	2	0

Seconded national experts	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Total	2	2	2	2	2	2	2	2	2	1	0	0

3.2.3. Estimated requirements of human resources Commission

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below¹²²:

Estimate to be expressed in full time equivalent units

Years	2021	2022	2023	2024	2025	2026	2027
• Establishment plan posts (officials and temporary staff)							
Headquarters and Commission's Representation Offices							
Delegations							
Research	3	3	3	3	3	3	3
• External staff (in Full Time Equivalent unit: FTE) - AC, AL, END, INT and JED ¹²³							
Heading 7							
Financed from HEADING 7 of the multiannual financial framework	- at Headquarters						
	- in Delegations						
Financed from the envelope of the programme ¹²⁴	- at Headquarters						
	- in Delegations						
Research	2	2	2	2	2	2	2
Other (specify)							
TOTAL	5	5	5	5	5	5	5

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	Management of the Clean Hydrogen Partnership
External staff	

¹²² The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.

¹²³ AC= Contract Staff; AL = Local Staff; END = Seconded National Expert; INT = agency staff; JPD= Junior Professionals in Delegations.

¹²⁴ Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

3.2.4. Third-party contributions

The proposal/initiative:

- does not provide for co-financing by third parties
- provides for the co-financing by third parties estimated below:

– Appropriations in EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Financial contribution to the administrative costs of JU covered by Members other than the Union	0.000	0.000	0.000	3.414	3.875	3.987	4.102	14.815	30.193
Financial contributions to operational costs by the Private members/Associated Partners									
Financial contributions to operational costs by the Participating States									
In kind contributions by the Private members/Associated Partners ¹²⁵	35.000	70.000	70.000	110.000	175.000	175.000	175.000	190.000	1.000.000
In kind contributions to operational activities by Participating States									
TOTAL appropriations co-financed	35.000	70.000	70.000	113.414	178.875	178.987	178.972	204.815	1.030.193

¹²⁵ In-kind contributions should be shown in the table in years when they are foreseen to be incurred.

3.3. Estimated impact on revenue

- The proposal/initiative has no financial impact on revenue.
- The proposal/initiative has the following financial impact:
 - on own resources
 - on other revenue

please indicate, if the revenue is assigned to expenditure lines

EUR million (to three decimal places)

Budget revenue line:	Impact of the proposal/initiative ¹²⁶						
	2021	2022	2023	2024	2025	2026	2027
Article							

For assigned revenue, specify the budget expenditure line(s) affected.

[...]

Other remarks (e.g. method/formula used for calculating the impact on revenue or any other information).

[...]

¹²⁶

As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 20 % for collection costs.

LEGISLATIVE FINANCIAL STATEMENT - EUROPE'S RAIL

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Proposal for a Council Regulation on the European Partnership Europe's Rail

1.2. Policy area(s) concerned (*Programme cluster*)

Cluster 5 (Climate, Energy, Mobility)

1.3. The proposal/initiative relates to:

a new action

a new action following a pilot project/preparatory action¹²⁷

the extension of an existing action

a merger or redirection of one or more actions towards another/a new action

1.4. Grounds for the proposal/initiative

1.4.1. Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative

The European Partnership Europe's Rail will contribute to the achievement of the Single European Railway Area, to a fast transition to a more attractive, user-friendly, competitive, affordable, efficient and sustainable European rail system, and to the development of a strong and globally competitive European rail industry. More specifically, the Partnership will deliver on the following objectives:

1. Eliminate barriers to interoperability and provide solutions for full integration, covering rail control, command and signalling systems and traffic management, vehicles, infrastructure and services in order to achieve a high capacity, integrated and resilient European railway network. By exploiting the huge potential for digitalisation and automation, innovative solutions will be developed to reduce costs, increase capacity, and enhance its flexibility and reliability.

2. Increase R&I activities related to rail freight and intermodal transport services, to deliver a competitive green rail freight fully integrated into the logistic value chain. Automation and digitalisation of freight train is the core, but also its operations, yards and intermodal terminals are areas for possible further R&I.

3. Establish an ecosystem that facilitates interaction between stakeholders and makes cooperation within and across value chains more efficient. This will ensure that

¹²⁷ As referred to in Article 58(2)(a) or (b) of the Financial Regulation.

research is translated into market focused innovation through demonstration and deployment.

4. Launch large-scale projects supporting the fast transfer of the innovation to the market. These projects, such as demonstrations would bring together technology suppliers and users.

5. Strengthen EU scientific excellence and exploit the innovative potential of SMEs and start-ups. This would provide an advanced scientific knowledge base that could guide the development of policy measures and technologies essential to catalyse the transition to a climate neutral emissions economy and society.

The initiative is expected to start operating in the second or third quarter of 2021 (depending on the adoption date of the single basic act by the Council). The Joint Undertakings are set up to operate until 31 December 2027, with their last calls launched at the latest by 31 December 2027. In line with the criteria for European Partnerships in the Annex III of the Horizon Europe Regulation, the single basic act includes specific provisions for their evaluation, phasing-out and renewal. This includes an obligation for the Governing Board to submit a plan for the phasing out of the Joint Undertaking from Horizon Europe funding and an assessment of the most effective policy intervention mode for any future action as part of periodic reviews and evaluations.

1.4.2. Added value of Union involvement

The problems addressed by the initiative are of a nature and magnitude that EU-level concerted action will be more appropriate than individual Member States developing their own initiatives. This will enable more coherent and coordinated efforts, and avoid duplication.

The pooling and coordination of research and innovation efforts at EU level stands a better chance of success, given the transnational nature of the infrastructure and technologies to be developed, and also the need to achieve a sufficient mass of resources. A European integrated and complex network like rail needs a European answer: only through jointly performed rail research and innovation at Union level it will be possible to develop operational concepts and common digital solutions, create a common baseline on which to build new solutions and integrate with other modes of transport and deliver an ambitious rejuvenation of rail. This should benefit from a joint effort led by Union policy to enable collaboration among actors from across Europe and along the value chain to define an integrated programme mirroring the needs of a complex system designed to address market needs, and enable a fast and targeted delivery on the objectives.

The EU added value would come from a systemic approach to the evolution of rail, via the set up of two integrated pillars, on the one hand, to define concepts, architecture and validate solution, and on the other hand to design, explore and create the necessary technological and operational solutions answering the evolving market and policy needs. The partnership will focus on development of the systems at the heart of the network; other elements where no standardisation is required can more readily be left to competitive research at company level.

These issues are addressed further in the Impact Assessment document attached to this proposal.

1.4.3. *Lessons learned from similar experiences in the past*

A number of areas for improvement were identified in the interim evaluation of the predecessor, S2R JU, under Horizon 2020, such as the need for a more balanced research agenda, taking account of societal and operational issues facing the rail industry and better addressing the needs of freight operators.

In addition, there is a need for greater emphasis on demonstration projects to improve market take-up of R&I outputs. This requires a move towards more R&I activities at TRL 7-9, which is a significant change from the focus on TRL 1-6 under Horizon 2020. Moreover, the synergies with other initiatives should be better exploited, particularly in view of application of key technologies such as digital across the transport sector and more broadly.

Furthermore, S2R JU helped identify the areas where there is a need to better align the R&I activities with the needs of a competitive sector and confirmed the need of developing a common vision for the future technical evolution. In particular, experience has shown a need to focus in the future on system issues rather than incremental improvements to parts of the complex railway system where pan-European standardisation is vital.

1.4.4. *Compatibility and possible synergy with other appropriate instruments*

According to the Horizon Europe Regulation, all European Partnerships need to ensure coordination and/or joint activities with other relevant research and innovation initiatives to secure optimum level of interconnections and ensure effective synergies. In line with this, the Single Basic Act is developed around the key principle that close collaboration and synergies between Joint Undertakings and relevant initiatives at EU, national and regional level, in particular other European Partnerships, will be crucial in achieving greater impact and ensuring the uptake of results. In this respect, the Single Basic Act (Part One, common provisions applicable to all JUs) facilitates synergies through a multitude of operative provisions.

Links with other candidate European Partnerships could be envisaged, such as: ECSEL and 5G for digitalisation and automation, Clean Hydrogen and Batteries as alternatives for diesel trains and for a new concept of autonomous freight vehicles, ATM for the concept related to functional system architecture, Clean Aviation with regard to new materials and structures and other transport partnerships concerning interfaces with other modes and multimodality, such as the Partnership on Cooperative, Connected and Automated Mobility (CCAM).

Synergies and cooperation with the Knowledge and Innovation Communities (KIC) could be established (e.g. with the urban mobility, energy and climate KICs) to increase demonstrations and facilitate deployment of technologies. Moreover, synergies and cooperation with the Missions could be established, in particular on

Climate Change and Smart Cities. The candidate Partnership on Europe's rail should be able to explore opportunities for funding under DEP, CEF, ERDF and CF and set provisions for systemic synergies with existing funding mechanisms.

In addition, the initiative would also be able to represent the interests of the rail R&I community in discussions with other relevant European institutions, for example the European Investment Bank.

Monitoring of synergies and collaboration will be done through the Annual Activity Report.

1.5. Duration and financial impact

limited duration

- X in effect from 01/06/2021 to 31/12/2030 (tentative dates)
- X Financial impact from 2021 to 2027 for commitment appropriations and from 2021 to 2030 for payment appropriations.

unlimited duration

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

1.6. Management mode(s) planned¹²⁸

Direct management by the Commission

- by its departments, including by its staff in the Union delegations;
- by the executive agencies

Shared management with the Member States

Indirect management by entrusting budget implementation tasks to:

- third countries or the bodies they have designated;
- international organisations and their agencies (to be specified);
- the EIB and the European Investment Fund;
- X bodies referred to in Articles 70 and 71 of the Financial Regulation;
- public law bodies;
- bodies governed by private law with a public service mission to the extent that they provide adequate financial guarantees;
- bodies governed by the private law of a Member State that are entrusted with the implementation of a public-private partnership and that provide adequate financial guarantees;
- persons entrusted with the implementation of specific actions in the CFSP pursuant to Title V of the TEU, and identified in the relevant basic act.
- *If more than one management mode is indicated, please provide details in the 'Comments' section.*

¹²⁸ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site:
<https://myintracomm.ec.europa.eu/budgweb/EN/man/budgmanag/Pages/budgmanag.aspx>

Comments

/

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

Specify frequency and conditions.

In line with Horizon Europe regulation, the partnership shall adopt a monitoring system that is in line with the requirements set out in Article 45, Annex III and Annex V of Horizon Europe Regulation, and feed into the same single database as the other components of Horizon Europe. The reporting and monitoring system shall provide key management and implementation data (including microdata at the level of individual entities), allow to track progress according to the Key Impact Pathways (including the progress to deliver on EU priorities), and the partnership criteria. The partnership shall report on specific indicators (that are not covered by the Key Impact Pathways) allowing to track progress made in the short, medium and long term towards delivering on the vision and specific and operational objectives of the partnership as set out in the Regulation establishing the Partnership, including on the targets set by 2030. The indicators, data sources and methodologies shall allow for an assessment over time of achievements, progress towards impacts, including delivery on EU policy objectives, and the identification of potential needs for corrective measures. It should consider both qualitative and quantitative data, identify responsibilities for data collection, and set out concrete approaches to develop realistic baseline, targets and/or benchmarks to identify progress, where relevant, and in line with Horizon Europe impact approach. All the information collected shall be provided in close to real-time to Commission services based on common data models and fed into a single database as specified in Horizon Europe Article 45.

For that purpose, appropriate reporting systems shall be put in place to support a continuous and transparent reporting, including on committed and actually provided financial and in-kind contributions, visibility and positioning in the international context, impact on research and innovation related risks of private sector investments. Reporting should be in line with the standard Horizon Europe reporting requirements. The development of the reporting systems in the context of the strategic coordinating process shall also involve Member States and partnership representatives in order to ensure synchronization and coordination of reporting and monitoring efforts, including on the division of data collection and reporting tasks. The reporting system at project level shall include detailed information on the projects funded, their results, their diffusion and use by key target groups, and the overall difference this is making for science, the economy, society and/or the environment, in line with the projects' objectives and targeted impacts. This should be complemented by relevant data on the added value and impact of the partnership at European, national and regional level. Appropriate data sharing mechanism with common Horizon Europe monitoring and reporting databases needs to be ensured.

2.2. European Partnerships shall be evaluated according to Horizon Europe evaluation framework, as set out in its Article 47. Management and control system(s)

2.2.1. Justification of the management mode(s), the funding implementation mechanism(s), the payment modalities and the control strategy proposed

Indirect management is justified because the ER Joint Undertaking is a public private partnership with part of the funding brought in under form of in kind contributions by members other than the Union.

Each year, the decision on the contribution to the ER Joint Undertaking will be taken by virtue of the EU Budget adopted for that year.

A Delegation Agreement signed between the European Commission and the ER Joint Undertaking will indicate that for the tasks to be carried out each year the Commission will pay a contribution upon conclusion of a Transfer of Funds agreement with the ER Joint Undertaking, and the issuing, by the Joint Undertaking, of corresponding payment requests to the members other than the Union.

The Commission will ensure that the rules applicable to the ER Joint Undertaking fully comply with the requirements of the Financial Regulation. In compliance with Article 71 of Regulation (EU, Euratom) 2018/1046 the Joint Undertaking will respect the principle of sound financial management. The ER Joint Undertaking shall also comply with the provisions of the Model Financial Regulation applicable to the Joint Undertaking. Any departure from this Model Financial Regulation, required for the purpose of the Joint Undertaking's specific needs, shall be subject to the Commission's prior consent.

Monitoring arrangements, including through the Union representation in the Governing Board of the ER Joint Undertaking, as well as reporting arrangements will ensure that the Commission services can meet the accountability requirements both to the College and to the Budgetary Authority.

The internal control framework for the ER Joint Undertaking is built on:

- the implementation of the Internal Control Standards offering at least equivalent guarantees to those of the Commission;
- procedures for selecting the best projects through independent evaluation, and for translating them into legal instruments;
- project and contract management throughout the lifetime of every project;
- ex-ante checks on 100% of claims, including receipt of audit certificates and ex-ante certification of cost methodologies;
- ex post audits on a sample of claims as part of the Horizon Europe ex-post audits;
- scientific evaluation of project results

2.2.2. *Information concerning the risks identified and the internal control system(s) set up to mitigate them*

Various measures have been established to mitigate the inherent risk of conflict of interest within the ER Joint Undertaking, especially:

- equal votes for the Commission and for members other than the Union in the Governing Board, with 70% of votes required for decision: a lower threshold of 55% is proposed for the System Pillar (to allow the Commission greater flexibility of decision – this part of the programme will largely be Commission funded), and for low TRL research,
- selection of the Executive Director by the Governing Board based on a proposal by the Commission,
- independence of staff,
- evaluations by independent experts based on published selection criteria together with appeal mechanisms and full declarations of any interests,
- a requirement for the Governing Board to adopt rules for the prevention, avoidance and management of conflicts of interest in the Joint Undertaking in accordance with the financial rules of the Joint Undertaking and with the Staff Regulations in respect of staff.

The establishment of ethical and organisational values will be one of the key roles of the Joint Undertaking, and will be monitored by the Commission.

The Executive Director of the ER Joint Undertaking, as Authorising Officer, will be required to introduce a cost-effective system of internal control and management. He/she will be required to report to the Commission on the internal control framework adopted.

The Commission will monitor the risk of non-compliance through the reporting system that it will develop, as well as by following the results of ex post audits on the recipients of EU funds from the ER Joint Undertaking, as part of ex post audits covering the whole of the Horizon Europe.

There is a clear need to manage the budget in an efficient and effective manner, and to prevent fraud and waste. However, the control system needs to strike a fair balance between attaining an acceptable error rate and the control burden required and avoid lowering the attractiveness of the Union's Research programme.

2.2.3. *Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)*

As the rules for participation of Horizon Europe applicable to the ER Joint Undertaking are similar to those that the Commission will use in its Work Programme, and with a population of beneficiaries with a similar risk profile to those of the Commission, it can be expected that the error margin will be similar to that foreseen by the Commission for Horizon Europe, i.e.

to give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5 %, with the ultimate aim to achieve a residual error rate as close as possible to 2 % at the closure of the multi-annual programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

See the Legislative Financial Statement for Horizon Europe for full details of the error rate expected with respect to participants.

2.3. Measures to prevent fraud and irregularities

Specify existing or envisaged prevention and protection measures, e.g. from the Anti-Fraud Strategy.

The Commission will ensure that procedures to fight against fraud at all stages of the management process are applied by the ER Joint Undertaking.

The proposals concerning the Joint Undertakings under Horizon Europe have been subject to fraud proofing and an assessment of their impact. Overall, the measures proposed should have a positive impact on the fight against fraud, especially the greater emphasis on risk based audit and reinforced scientific evaluation and control.

The Commission will ensure that appropriate measures are in place to ensure that, when actions financed under this Regulation are implemented, the financial interest of the Union is protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.

The EDCTP Association already cooperates with the Commission services in matters relating to fraud and irregularity. The Commission will ensure that this will continue and be strengthened.

The Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot checks, over all grant beneficiaries, contractors and subcontractors who have received Union funds under the Programme.

The European Anti-fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Regulation (Euratom, EC) No 2185/96 with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding. The Joint Undertakings will also need to accede to the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council of the European Union and the Commission of the European Communities concerning internal investigations by the European Anti-fraud Office (OLAF).

The European Public Prosecutor's Office (EPPO) may carry out investigations in accordance with the provisions and procedures laid down in Council Regulation (EU) 2017/1939, with a view to investigating criminal offences affecting the financial interests of the Union.

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading of the multiannual financial framework and new expenditure budget line(s) proposed

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
			from EFTA countries 130	from candidate countries 131	from third countries	within the meaning of Article [21(2)(b)] of the Financial Regulation
	Heading 1 Single Market, Innovation and Digital – Horizon Europe	Diff./Non-diff. ¹²⁹				
1	01 02 02 53 –Europe’s Rail Joint Undertaking	Diff.	YES	YES	YES	YES

¹²⁹ Diff. = Differentiated appropriations / Non-diff. = Non-differentiated appropriations.

¹³⁰ EFTA: European Free Trade Association.

¹³¹ Candidate countries and, where applicable, potential candidates from the Western Balkans.

* The contribution to this budget line is expected to come from:

Commitment appropriations (EUR million to three decimal places)

Budget line	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Expenditure related to officials and temporary staff implementing "Horizon Europe" — Indirect research 01 01 01 01									
External personnel implementing "Horizon Europe" — Indirect research 01 01 01 02									
Other management expenditure for "Horizon Europe" — Indirect research 01 01 01 03									
Cluster Climate, Energy and Mobility - 01 02 02 50	73.000	93.000	94.000	107.000	94.000	80.000	59.000		600.000
Total expenditure	73.000	93.000	94.000	107.000	94.000	80.000	59.000		600.000

Estimated impact on expenditure

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure

EUR million (to three decimal places)

Heading of multiannual financial framework	1	Heading Single Market, Innovation and Digital Horizon Europe
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Joint Undertaking ¹³²¹³³			2021	2022	2023	2024	2025	2026	2027 ¹³⁴	Post 2027	TOTAL
Title 1	Commitments	(1)	0.909	1.816	1.852	1.891	1.928	1.965	7.418		17.779
	Payments	(2)	0.909	1.816	1.852	1.891	1.928	1.965	2.004	5.414	17.779
Title 2	Commitments	(1a)	0.259	0.541	0.552	0.574	0.609	0.659	3.027		6.221
	Payments	(2a)	0.259	0.541	0.552	0.574	0.609	0.659	0.672	2.355	6.221
Title 3	Commitments	(3a)	71.832	90.643	91.596	104.535	91.463	77.376	48.555		576.000
	Payments	(3b)	11.832	97.643	71.596	70.535	84.463	78.376	84.324	77.231	576.000
TOTAL appropriations for Joint Undertaking	Commitments	=1+1a +3a	73.000	93.000	94.000	107.000	94.000	80.000	59.000		600.000
	Payments	=2+2a	13.000	100.000	74.000	73.000	87.000	81.000	87.000	85.000	600.000

¹³² Amounts in Titles 1 and 2 represent the EU contribution (up to XX€) to the administrative costs of the Joint Undertaking. The other remaining part comes from contributions by the other Joint Undertaking members as shown in section 3.2.4.

¹³³ Payment appropriations for Titles 1 and 2 are based on a yearly consumption of all corresponding commitment appropriations, while for Title 3 they are determined by taking into account the nature of the indirect actions and their payment schedule (prefinancing, interim payments and payment of the balance).

¹³⁴ Titles 1 and 2 for year 2027 contain the commitments for the year and the frontloading of the commitments for the remaining years of the JU in the period 2027-20XX.

Heading of multiannual financial framework	7	'Administrative expenditure'
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EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human resources										
Other administrative expenditure										
TOTAL appropriations under HEADING 7 of the multiannual financial framework	(Total commitments = Total payments)									

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations across HEADINGS of the multiannual financial framework	Commitments	73.625	93.645	94.658	107.672	94.685	80.699	59.713		604.697
	Payments	13.625	100.645	74.658	73.672	87.685	81.699	87.713	85.000	604.697

3.2.2. Estimated impact on JU's human resources

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

Staffing numbers (in headcounts / FTE)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Officials (AD Grades)									
Officials (AST grades)									
Contract staff	17	17	17	17	17	17	17	11.0	
Temporary staff	10	10	10	10	10	10	10	7.0	
Seconded National Experts	2	2	2	2	2	2	2	0	
TOTAL¹³⁷	29	29	29	29	29	29	29	18.0	

EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Officials (AD Grades)									
Officials (AST grades)									
Contract staff	0.680	1.360	1.387	1.415	1.443	1.472	1.502	4.056	13.315

¹³⁷ The total number of FTEs of all Joint Undertakings established by the Council Regulation under Horizon Europe will be reduced by 10 FTEs between 2024 and 2027 following an assessment of the effectiveness of the JUs operations taking due account the efficiency gains resulting from the setting up of the Common Back Office. For this purpose, revised LFS covering the period 2024-2027 will be circulated by end 2023.

Temporary staff	0.819	1.637	1.669	1.703	1.737	1.771	1.807	5.223	16.366
Seconded National Experts	0.060	0.120	0.122	0.125	0.127	0.130	0.132	0.027	0.843
TOTAL	1.559	3.117	3.178	3.243	3.307	3.373	3.441	9.306	30.524

Estimated impact on the staff (additional FTE) – establishment plan

Function group and grade	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
AD16												
AD15	1	1	1	1	1					1	1	0
AD14						1	1	1	1			
AD13												
AD12									2	2	2	0
AD11					2	2	2	2	1	1		
AD10	2	2	2	2	1	1	1	1				0
AD9	1	1	1	1	1	1	1	1				
AD8	1	1	1	1					3	2	2	0
AD7					4	4	4	4				0
AD6	4	4	4	4	1	1	1	1				0
AD5	1	1	1	1								
AD Total	10	10	10	10	10	10	10	10	7	6	5	0
AST11												
AST10												
AST9												
AST8												
AST7												
AST6												
AST5												
AST4												
AST3												
AST2												
AST1												
AST Total	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 6												
AST/SC 5												
AST/SC 4												
AST/SC 3												
AST/SC 2												
AST/SC 1												
AST/SC Total	0	0	0	0	0	0	0	0	0	0	0	0

Estimated impact on the staff (additional) – external personnel

Contract agents	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Function group IV	15	15	15	15	15	15	15	15	10	8	6	
Function group III	1	1	1	1	1	1	1	1				
Function group II	1	1	1	1	1	1	1	1	1	1	1	
Function group I												
Total	17	17	17	17	17	17	17	17	11	9	7	0

Seconded national experts	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Total	2	2	2	2	2	2	2	0	0	0	0	0

3.2.3. Estimated requirements of human resources Commission

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below¹³⁸:

Estimate to be expressed in full time equivalent units

Years	2021	2022	2023	2024	2025	2026	2027
• Establishment plan posts (officials and temporary staff)							
Headquarters and Commission's Representation Offices							
Delegations							
Research	3	3	3	3	3	3	3
• External staff (in Full Time Equivalent unit: FTE) - AC, AL, END, INT and JED ¹³⁹							
Heading 7							
Financed from HEADING 7 of the multiannual financial framework	- at Headquarters						
	- in Delegations						
Financed from the envelope of the programme ¹⁴⁰	- at Headquarters						
	- in Delegations						
Research	2	2	2	2	2	2	2
Other (specify)							
TOTAL	5	5	5	5	5	5	5

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	<p>Various tasks related to:</p> <ul style="list-style-type: none"> • Technical follow-up of progress within the JU operations; • Monitoring of the JU research programme progress; • Monitor the respect for the Strategic Research and Innovation Agenda; • Representation of the EC in the partnership Governing Board; • Definition of Commission's position in the Governing Board (vote / veto right); • Administrative tasks related to the Governance of the partnership, including financial, legal, HR or audit-related issues; • Liaison with States Representative Group, and Transport Programme Committee; • Observation of Calls for Proposal, Calls for Tender and admission of new Members;
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¹³⁸ The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.

¹³⁹ AC= Contract Staff; AL = Local Staff; END = Seconded National Expert; INT = agency staff; JPD= Junior Professionals in Delegations.

¹⁴⁰ Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

	<ul style="list-style-type: none">• Participation in meetings of sub-groups and working groups.
External staff	

3.2.4. Third-party contributions

The proposal/initiative:

- does not provide for co-financing by third parties
 - provides for the co-financing by third parties estimated below:
- Appropriations in EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Financial contribution to the administrative costs of JU covered by Members other than the Union	1.168	2.357	2.404	2.465	2.537	2.624	2.676	7.769	24.000
Financial contributions to operational costs by the Private members/Associated Partners									
Financial contributions to operational costs by the Participating States									
In kind contributions by the Private members/Associated Partners ¹⁴¹	6.000	43.000	80.000	88.000	88.000	88.000	88.000	145.000	626.000
In kind contributions to operational activities by Participating States									
TOTAL appropriations co-financed	7.168	45.357	82.404	90.465	90.537	90.624	90.676	152.769	650.000

¹⁴¹ In-kind contributions should be shown in the table in years when they are foreseen to be incurred.

3.3. Estimated impact on revenue

- The proposal/initiative has no financial impact on revenue.
- The proposal/initiative has the following financial impact:
 - on own resources
 - on other revenue

please indicate, if the revenue is assigned to expenditure lines

EUR million (to three decimal places)

Budget revenue line:	Impact of the proposal/initiative ¹⁴²						
	2021	2022	2023	2024	2025	2026	2027
Article							

For assigned revenue, specify the budget expenditure line(s) affected.

[...]

Other remarks (e.g. method/formula used for calculating the impact on revenue or any other information).

[...]

¹⁴²

As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 20 % for collection costs.

LEGISLATIVE FINANCIAL STATEMENT - EDCTP3

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Global Health EDCTP3 Joint Undertaking

1.2. Policy area(s) concerned (*Programme cluster*)

Horizon Europe Cluster 1

1.3. The proposal/initiative relates to:

a new action

a new action following a pilot project/preparatory action¹⁴³

the extension of an existing action

a merger or redirection of one or more actions towards another/a new action

1.4. Grounds for the proposal/initiative

1.4.1. Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative

General objectives (long-term objectives) of the initiative:

- To reduce the socio-economic burden of infectious diseases in sub-Saharan Africa through the development and uptake of new or improved health technologies against infectious diseases;
- To increase health security in sub-Saharan Africa and globally by strengthening the R&I-based capacities for preparedness and response to control infectious diseases.

Specific objectives of the initiative:

1. Advance the development and use of new or improved health technologies for tackling infectious diseases by supporting the conduct of clinical trials in sub-Saharan Africa.

- Target: by the end of the initiative to have progressed to license at least 2 new or improved health technologies in the field of infectious diseases; to deliver evidence to be able to issue 30 guidelines for improved or extended use of existing

¹⁴³ As referred to in Article 58(2)(a) or (b) of the Financial Regulation.

health technologies; and to have progressed the clinical development of approximately 30 candidate health technologies.

2. Facilitate better alignment of R&I funders around a common strategic research and innovation agenda to increase the cost-effectiveness of European public investments.

- Target: by the end of the initiative to have launched joint actions with other public and private funders, and increased the budget of the joint actions to at least EUR 400 million compared to EUR 300 million under EDCTP2.

3. Strengthen research and innovation capacity and the national health research systems in sub-Saharan Africa for tackling infectious diseases.

- Target: by the end of the initiative to have supported at least 50 coordination and support actions and at least 250 fellowships, reinforcing the environment for conducting clinical trials in sub-Saharan countries, and in compliance with fundamental ethical principles and relevant national, Union and international legislation.

4. Strengthen capacity in sub-Saharan Africa for epidemic preparedness through effective and rapid research response to develop essential diagnostics, vaccines and therapeutics for early detection and control of (re-)emerging diseases of epidemic potential.

- Target: by the end of the initiative to have strengthened the preparedness of 100 research institutes in at least 30 sub-Saharan countries for an effective and rapid research response to develop essential diagnostics, vaccines and therapeutics to tackle re-emerging epidemics in accordance to international health regulations.

The initiative is expected to start operating in the second or third quarter of 2021 (depending on the adoption date of the Single Basic Act by the Council). The Joint Undertakings are set up to operate until 31 December 2027, with their last calls launched at the latest by 31 December 2027. In line with the criteria for European Partnerships in the Annex III of the Horizon Europe Regulation, the Single Basic Act includes specific provisions for their evaluation, phasing-out and renewal. This includes an obligation for the Governing Board to submit a plan for the phasing out of the Joint Undertaking from Horizon Europe funding and an assessment of the most effective policy intervention mode for any future action as part of periodic reviews and evaluations.

1.4.2. *Added value of Union involvement*

Reasons for action at European level (ex-ante):

The problems addressed by the initiative are of a nature and magnitude that EU-level concerted action will be more appropriate than individual Member States developing their own initiatives. This will enable more coherent and coordinated efforts, and avoid duplication.

Coordinated and coherent EU action would help overcome the current fragmentation of research and help to put together a critical mass of organisations and the investment required to address this important global health challenge. Coordinated action will increase the impact and cost-effectiveness of European activities and investments.

Expected generated Union added value (ex-post):

The candidate initiative would also facilitate collaboration and strategic response to existing and emerging infectious diseases by acting as a go-between and knowledge broker in a way that would be difficult to achieve for any national actor or initiative. Moreover, because of the strong role that the EDCTP has already played in the global health research arena since its establishment in 2003, the new initiative would have a competitive advantage by building upon the success of EDCTP.

Sub-Saharan African countries are strong stakeholders of the EDCTP, and the new initiative would offer a good platform for better pooling of resources and deepened interaction between the European and African countries.

These issues are addressed further in the Impact Assessment document attached to this proposal.

1.4.3. Lessons learned from similar experiences in the past

The predecessor of this JU, EDCTP2, was implemented as an institutionalised partnership under Article 185 during Horizon 2020. The independent interim evaluation of the EDCTP2 programme concluded that EDCTP had “made important inroads in strengthening cooperation and partnership between European and sub-Saharan African countries and developing clinical trial capacity and scientific career development in Africa”. The Global Health-EDCTP3 Joint Undertaking will further build on the capacity that is established. A SWOT analysis of the previous EDCTP program highlighted the need to extend the range of partners, collaborating with private funders such as philanthropies and pharmaceutical companies for joint funding initiatives and co-funding schemes. The establishment of the JU will make these funding approaches with private funders more flexible.

1.4.4. Compatibility and possible synergy with other appropriate instruments

According to the Horizon Europe Regulation, all European Partnerships need to ensure coordination and/or joint activities with other relevant research and innovation initiatives to secure an optimum level of interconnections and ensure effective synergies. In line with this, the Single Basic Act is developed around the key principle that close collaboration and synergies between Joint Undertakings and relevant initiatives at EU, national and regional level, in particular other European Partnerships, will be crucial in achieving greater impact and ensuring the uptake of results. In this respect, the Single Basic Act (Part One, common provisions applicable to all JUs) facilitates synergies through a multitude of operative provisions

Under H2020 this translated into cooperation with:

Joint Programming Initiative on Antimicrobial Resistance (JPAMR), Innovative Medicines Initiative (IMI) and the European Investment Bank mechanism InnovFin.

Under Horizon Europe this will translate into cooperation with:

Innovative Health Initiative (IHI), One Health AMR partnership and EIB loans provided by the future EuropeInvest

Monitoring of synergies and collaboration will be carried out through the Annual Activity Report

1.5. Duration and financial impact

limited duration

- in effect from 01/06/2021 to 31/12/2031
- Financial impact from 2021 to 2027 for commitment appropriations and from 2021 to end of activities (last payment) for payment appropriations.

unlimited duration

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

1.6. Management mode(s) planned¹⁴⁴

Direct management by the Commission

- by its departments, including by its staff in the Union delegations;
- by the executive agencies

Shared management with the Member States

Indirect management by entrusting budget implementation tasks to:

- third countries or the bodies they have designated;
- international organisations and their agencies (to be specified);
- the EIB and the European Investment Fund;
- bodies referred to in Articles 70 and 71 of the Financial Regulation;
- public law bodies;
- bodies governed by private law with a public service mission to the extent that they provide adequate financial guarantees;
- bodies governed by the private law of a Member State that are entrusted with the implementation of a public-private partnership and that provide adequate financial guarantees;
- persons entrusted with the implementation of specific actions in the CFSP pursuant to Title V of the TEU, and identified in the relevant basic act.
- *If more than one management mode is indicated, please provide details in the 'Comments' section.*

¹⁴⁴ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site:
<https://myintracomm.ec.europa.eu/budgweb/EN/man/budgmanag/Pages/budgmanag.aspx>

Comments

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

Specify frequency and conditions

In line with Horizon Europe Regulation, the partnership shall adopt a monitoring system that is in line with the requirements set out in Article 45, Annex III and Annex V of Horizon Europe Regulation, and feed into the same single database as the other components of Horizon Europe. The reporting and monitoring system shall provide key management and implementation data (including microdata at the level of individual entities), allow to track progress according to the Key Impact Pathways (including the progress to deliver on EU priorities), and the partnership criteria. In addition, the partnership shall report on specific indicators (that are not covered by the Key Impact Pathways) allowing to track progress made in the short, medium and long term towards delivering on the vision and specific and operational objectives of the partnership as set out in the Regulation establishing the Partnership, including on the targets set by 2030. The indicators, data sources and methodologies shall allow for an assessment over time of achievements, progress towards impacts, including delivery on EU policy objectives, and the identification of potential needs for corrective measures. It should consider both qualitative and quantitative data, identify responsibilities for data collection, and set out concrete approaches to develop realistic baseline, targets and/or benchmarks to identify progress, where relevant, and in line with Horizon Europe impact approach. All the information collected shall be provided in close to real-time to Commission services based on common data models and fed into a single database as specified in Horizon Europe Article 45.

For that purpose, appropriate reporting systems shall be put in place to support a continuous and transparent reporting, including on committed and actually provided financial and in-kind contributions, visibility and positioning in the international context, impact on research and innovation related risks of private sector investments. Reporting should be in line with the standard Horizon Europe reporting requirements. The development of the reporting systems in the context of the strategic coordinating process shall also involve Member States and partnership representatives in order to ensure synchronization and coordination of reporting and monitoring efforts, including on the division of data collection and reporting tasks. The reporting system at project level shall include detailed information on the projects funded, their results, their diffusion and use by key target groups, and the overall difference this is making for science, the economy, society and/or the environment, in line with the projects' objectives and targeted impacts. This should be complemented by relevant data on the added value and impact of the partnership at European, national and regional level. Appropriate data sharing mechanism with common Horizon Europe monitoring and reporting databases needs to be ensured.

European Partnerships shall be evaluated according to Horizon Europe evaluation framework, as set out in its Article 47

2.2. Management and control system(s)

2.2.1. Justification of the management mode(s), the funding implementation mechanism(s), the payment modalities and the control strategy proposed

Indirect management is justified because the Global Health EDCTP3 Joint Undertaking is a public private partnership with part of the funding brought in under form of in kind contributions by members other than the Union.

Each year, the decision on the contribution to the Global Health EDCTP3 Joint Undertaking will be taken by virtue of the EU Budget adopted for that year.

A Delegation Agreement signed between the European Commission and the Global Health EDCTP3 Joint Undertaking will indicate that for the tasks to be carried out each year the Commission will pay a contribution upon conclusion of a Transfer of Funds agreement with the Global Health EDCTP3 Joint Undertaking, and the issuing, by the Joint Undertaking, of corresponding payment requests to the members other than the Union.

The Commission will ensure that the rules applicable to the Global Health EDCTP3 Joint Undertaking fully comply with the requirements of the Financial Regulation. In compliance with Article 71 of Regulation (EU, Euratom) 2018/1046 the Joint Undertaking will respect the principle of sound financial management. The Global Health EDCTP3 Joint Undertaking shall also comply with the provisions of the Model Financial Regulation applicable to the Joint Undertaking. Any departure from this Model Financial Regulation, required for the purpose of the Joint Undertaking's specific needs, shall be subject to the Commission's prior consent.

Monitoring arrangements, including through the Union representation in the Governing Board of the Global Health EDCTP3 Joint Undertaking, as well as reporting arrangements will ensure that the Commission services can meet the accountability requirements both to the College and to the Budgetary Authority.

The internal control framework for the Global Health EDCTP3 Joint Undertaking is built on:

- the implementation of the Internal Control Standards offering at least equivalent guarantees to those of the Commission;
- procedures for selecting the best projects through independent evaluation, and for translating them into legal instruments;
- project and contract management throughout the lifetime of every project;
- ex-ante checks on 100% of claims, including receipt of audit certificates and ex-ante certification of cost methodologies;
- ex post audits on a sample of claims as part of the Horizon Europe ex-post audits;
- scientific evaluation of project results

2.2.2. *Information concerning the risks identified and the internal control system(s) set up to mitigate them*

Various measures have been established to mitigate the inherent risk of conflict of interest within the Global Health EDCTP3 Joint Undertaking, especially:

- equal votes for the Commission and for members other than the Union in the Governing Board,
- selection of the Executive Director by the Governing Board based on a proposal by the Commission,
- independence of staff,
- evaluations by independent experts based on published selection criteria together with appeal mechanisms and full declarations of any interests,
- a requirement for the Governing Board to adopt rules for the prevention, avoidance and management of conflicts of interest in the Joint Undertaking in accordance with the financial rules of the Joint Undertaking and with the Staff Regulations in respect of staff.

The establishment of ethical and organisational values will be one of the key roles of the Joint Undertaking, and will be monitored by the Commission.

The Executive Director of the Global Health EDCTP3 Joint Undertaking, as Authorising Officer, will be required to introduce a cost-effective system of internal control and management. He/she will be required to report to the Commission on the internal control framework adopted.

The Commission will monitor the risk of non-compliance through the reporting system that it will develop, as well as by following the results of ex post audits on the recipients of EU funds from the Global Health EDCTP3 Joint Undertaking, as part of ex post audits covering the whole of the Horizon Europe.

There is a clear need to manage the budget in an efficient and effective manner, and to prevent fraud and waste. However, the control system needs to strike a fair balance between attaining an acceptable error rate and the control burden required and avoid lowering the attractiveness of the Union's Research programme.

2.2.3. *Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)*

As the rules for participation of Horizon Europe applicable to the Global Health EDCTP3 Joint Undertaking are similar to those that the Commission will use in its Work Programme, and with a population of beneficiaries with a similar risk profile to those of the Commission, it can be expected that the error margin will be similar to that foreseen by the Commission for Horizon Europe, i.e. to give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5 %, with the

ultimate aim to achieve a residual error rate as close as possible to 2 % at the closure of the multi-annual programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

See the Legislative Financial Statement for Horizon Europe for full details of the error rate expected with respect to participants.

2.3. Measures to prevent fraud and irregularities

Specify existing or envisaged prevention and protection measures, e.g. from the Anti-Fraud Strategy.

The Commission will ensure that procedures to fight against fraud at all stages of the management process are applied by the Global Health EDCTP3 Joint Undertaking.

The proposals concerning the Joint Undertakings under Horizon Europe have been subject to fraud proofing and an assessment of their impact. Overall, the measures proposed should have a positive impact on the fight against fraud, especially the greater emphasis on risk based audit and reinforced scientific evaluation and control.

The Commission will ensure that appropriate measures are in place to ensure that, when actions financed under this Regulation are implemented, the financial interest of the Union is protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.

The EDCTP Association already cooperates with the Commission services in matters relating to fraud and irregularity. The Commission will ensure that this will continue and be strengthened.

The Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot checks, over all grant beneficiaries, contractors and subcontractors who have received Union funds under the Programme.

The European Anti-fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Regulation (Euratom, EC) No 2185/96 with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding. The Joint Undertakings will also need to accede to the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council of the European Union and the Commission of the European Communities concerning internal investigations by the European Anti-fraud Office (OLAF).

The European Public Prosecutor's Office (EPPO) may carry out investigations in accordance with the provisions and procedures laid down in Council Regulation (EU) 2017/193923, with a view to investigating criminal offences affecting the financial interests of the Union.

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading of the multiannual financial framework and new expenditure budget line(s) proposed

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
		Diff./Non-diff. ¹⁴⁵	from EFTA countries ¹⁴⁶	from candidate countries ¹⁴⁷	from third countries	within the meaning of Article [21(2)(b)] of the Financial Regulation
	Heading 1 Single Market, Innovation and Digital – Horizon Europe					
1	01 02 02 12 - Global Health EDCTP3 Joint Undertaking	Diff.	YES	YES	YES	YES

¹⁴⁵ Diff. = Differentiated appropriations / Non-diff. = Non-differentiated appropriations.

¹⁴⁶ EFTA: European Free Trade Association.

¹⁴⁷ Candidate countries and, where applicable, potential candidates from the Western Balkans.

* The contribution to this budget line is expected to come from:

For the EDCTP3 JU it is foreseen a conservative commitment appropriations budget in the last two years of the Horizon Europe (years 2026 and 2027) to ensure that the clinical trials projects, that are often very long and demanding activities, can be finished within the programme duration.

Commitment appropriations (EUR million to three decimal places)

Budget line	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Expenditure related to officials and temporary staff implementing "Horizon Europe" — Indirect research 01 01 01 01	-	-	-	-	-	-	-	-	-
External personnel implementing "Horizon Europe" — Indirect research 01 01 01 02	-	-	-	-	-	-	-	-	-
Other management expenditure for "Horizon Europe" — Indirect research 01 01 01 03	-	-	-	-	-	-	-	-	-
Cluster Health - 01 02 02 10	33.336	68.135	133.830	168.339	168.406	149.474	78.480	-	800.000
Total expenditure	33.336	68.135	133.830	168.339	168.406	149.474	78.480	-	800.000

Estimated impact on expenditure

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure

EUR million (to three decimal places)

Heading of multiannual financial framework	1	Heading Single Market, Innovation and Digital Horizon Europe
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Joint Undertaking ¹⁴⁸¹⁴⁹			2021	2022	2023	2024	2025	2026	2027 ¹⁵⁰	Post 2027	TOTAL
Title 1	Commitments	(1)	0.221	1.405	1.862	2.197	2.241	2.286	9.446		19.658
	Payments	(2)	0.221	1.405	1.862	2.197	2.241	2.286	2.331	7.115	19.658
Title 2	Commitments	(1a)	0.115	0.730	0.968	1.142	1.165	1.188	4.912		10.220
	Payments	(2a)	0.115	0.730	0.968	1.142	1.165	1.188	1.212	3.700	10.220
Title 3	Commitments	(3a)	33.000	66.000	131.000	165.000	165.000	146.000	64.122	-	770.122
	Payments	(3b)	0	29.000	43.000	71.800	85.000	85.000	110.000	346.322	770.122
TOTAL appropriations for Joint											
	Commitments	=1+1a	33.336	68.135	133.830	168.339	168.406	149.474	78.480	-	

¹⁴⁸ Amounts in Titles 1 and 2 represent the EU contribution (up to EUR 29.878 million) to the administrative costs of the Joint Undertaking. The other remaining part comes from contributions by the other Joint Undertaking members as shown in section 3.2.4.

¹⁴⁹ Payment appropriations for Titles 1 and 2 are based on a yearly consumption of all corresponding commitment appropriations, while for Title 3 they are determined by taking into account the nature of the indirect actions and their payment schedule (prefinancing, interim payments and payment of the balance).

¹⁵⁰ Titles 1 and 2 for year 2027 contain the commitments for the year and the frontloading of the commitments for the remaining years of the JU in the period 2027-2031.

Undertaking		+3a									800.000
	Payments	=2+2a +3b	0.336	31.135	45.830	75.139	88.406	88.474	113.543	357.137	800.000

EUR million (to three decimal places)

DG RTD	2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human Resources ¹⁵¹ (3 officials + 2 CA)	0.491	0.503	0.513	0.523	0.533	0.544	0.555		3.662
Other administrative expenditure	0.128	0.130	0.133	0.135	0.138	0.141	0.144		0.949
TOTAL DG	Appropriations	0.619	0.633	0.646	0.658	0.671	0.699	-	4.611

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations for the envelope of the Programme - Heading 1 of the multiannual financial framework	Commitments	33.955	68.768	134.476	168.997	169.077	150.159	79.179	-	804.611
	Payments	0.955	31.768	46.476	75.797	89.077	89.159	114.242	357.137	804.611

¹⁵¹ Covering the administration of the Horizon Europe actions. The FTE costs are determined on the basis of the average yearly cost to be used as from January 2021 for salaries for Permanent Staff (EUR 0.127), Contractual Agents (EUR 0.057) and other administrative costs (EUR 0.0255) referred to buildings and IT costs for Indirect Research staff. An annual indexation of 2% has been applied for the period 2022-27. The indication of staff needs in the Commission DGs is of indicative and non-binding nature.

Heading of multiannual financial framework	7	'Administrative expenditure'
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EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	Post 2027	TOTAL
Human resources										
Other administrative expenditure										
TOTAL appropriations under HEADING 7 of the multiannual financial framework	(Total commitments = Total payments)									

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	Post 2027	TOTAL
TOTAL appropriations across HEADINGS of the multiannual financial framework	Commitments	33.955	68.768	134.476	168.997	169.077	150.159	79.179	-	804.611
	Payments	0.955	31.768	46.476	75.797	89.077	89.159	114.242	357.137	804.611

3.2.2. Estimated impact on JU's human resources

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

Staffing numbers (in headcounts / FTE)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	TOTAL
Temporary staff (AD grades)	2,7	15,0	19,0	23,0	23,0	23,0	23,0	22,0	20,0	16,0	14,0	200,7

Temporay staff (AST grades)	0,3	2,0	3,0	3,0	3,0	3,0	3,0	3,0	3,0	1,0	1,0	25,3
Contract staff	0,3	6,0	8,0	8,0	8,0	8,0	8,0	6,0	4,0	3,0	1,0	60,3
Seconded National Experts	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
TOTAL¹⁵²	3,3	23,0	30,0	34,0	34,0	34,0	34,0	31,0	27,0	20,0	16,0	286,3

EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	TOTAL
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Temporay staff (AD Grades)	0.340	1.951	2.520	3.112	3.174	3.238	3.302	3.222	2.988	2.438	2,176	28.461
Temporay staff (AST grades)	0.043	0.260	0.398	0.406	0.414	0.422	0.431	0.439	0.448	0.152	0,155	3.569
Contract staff	0.019	0.343	0.467	0.476	0.486	0.496	0.505	0.387	0.263	0.201	0.068	3.711
Seconded National Experts	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

TOTAL	0.401	2.554	3.385	3.994	4.074	4.156	4.239	4.048	3.699	2.791	2.400	35.741
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¹⁵² The total number of FTEs of all Joint Undertakings established by the Council Regulation under Horizon Europe will be reduced by 10 FTEs between 2024 and 2027 following an assessment of the effectiveness of the JUs operations taking due account the efficiency gains resulting from the setting up of the Common Back Office. For this purpose, revised LFS covering the period 2024-2027 will be circulated by end 2023.

Estimated impact on the staff (additional FTE) – establishment plan

Function group and grade	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
AD16												
AD15												
AD14	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
AD13												
AD12	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
AD11	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
AD10												
AD9												
AD8	0.3	3.0	5.0	7.0	7.0	7.0	7.0	6.0	5.0	3.0	1.0	
AD7	1.3	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	3.0	
AD6	0.3	3.0	5.0	7.0	7.0	7.0	7.0	7.0	7.0	5.0	5.0	
AD5	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
AD Total	2.7	15.0	19.0	23.0	23.0	23.0	23.0	22.0	20.0	16.0	14.0	
AST11												
AST10												
AST9												
AST8												
AST7												
AST6												
AST5	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	
AST4	0.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	
AST3	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
AST2												
AST1												
AST Total	0.3	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0	1.0	
AST/SC 6												
AST/SC 5												
AST/SC 4												
AST/SC 3												
AST/SC 2												
AST/SC 1												
AST/SC Total												

Estimated impact on the staff (additional) – external personnel

Contract agents	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Function group IV	0.3	3.0	4.0	4.0	4.0	4.0	4.0	3.0	1.0	1.0	0.0	
Function group III	0.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	3.0	2.0	1.0	
Function group II												
Function group I												
Total	0.3	6.0	8.0	8.0	8.0	8.0	8.0	6.0	4.0	3.0	1.0	

Seconded national experts	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

3.2.3. Estimated requirements of human resources Commission

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below¹⁵³:

Estimate to be expressed in full time equivalent units

Years	2021	2022	2023	2024	2025	2026	2027
• Establishment plan posts (officials and temporary staff)							
Headquarters and Commission's Representation Offices							
Delegations							
Research	3	3	3	3	3	3	3
• External staff (in Full Time Equivalent unit: FTE) - AC, AL, END, INT and JED ¹⁵⁴							
Heading 7							
Financed from HEADING 7 of the multiannual financial framework	- at Headquarters						
	- in Delegations						
Financed from the envelope of the programme ¹⁵⁵	- at Headquarters						
	- in Delegations						
Research	2	2	2	2	2	2	2
Other (specify)							
TOTAL	5	5	5	5	5	5	5

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	<p>The tasks of Commission staff in conjunction with the implementation of the JU are to assure the correct budget implementation and supervision of operations. Senior managers from Commission services will serve on the JU Governing Board.</p> <p>Commission staff members will contribute to the work of the advisory groups of the JU that may be established by the Governing Board.</p>
External staff	<p>External staff will support officials and temporary staff in assuring the correct budget implementation and supervision of the operations of the JU.</p>

¹⁵³ The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.

¹⁵⁴ AC= Contract Staff; AL = Local Staff; END = Seconded National Expert; INT = agency staff; JPD= Junior Professionals in Delegations.

¹⁵⁵ Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

3.2.4. Third-party contributions

The proposal/initiative:

- does not provide for co-financing by third parties
- provides for the co-financing by third parties estimated below:
- Appropriations in EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Financial contribution to the administrative costs of JU covered by Members other than the Union	0.336	2.135	2.830	3.339	3.406	3.474	3.543	10.815	29.878
Financial contributions to operational costs by the Private members/Associated Partners									
Financial contributions to operational costs by the Participating States									
In kind contributions by the Associated Partners (Philantropiess +Industry)	20.000	50.000	70.000	80.000	90.000	50.000	50.000	-	410.000
In kind contributions to operational activities ¹⁵⁶ by a Private Member - the EDCTP Association (of which Participating States are constituent entities)	50.000	50.000	60.000	70.000	70.000	60.000	50.000	-	410.000
TOTAL appropriations co-financed	70.336	102.135	132.830	153.339	163.406	113.474	114.358	-	849,878

¹⁵⁶

In-kind contributions should be shown in the table in years when they are foreseen to be incurred.

3.3. Estimated impact on revenue

- The proposal/initiative has no financial impact on revenue.
- The proposal/initiative has the following financial impact:
 - on own resources
 - on other revenue

please indicate, if the revenue is assigned to expenditure lines

EUR million (to three decimal places)

Budget revenue line:	Impact of the proposal/initiative ¹⁵⁷						
	2021	2022	2023	2024	2025	2026	2027
Article							

For assigned revenue, specify the budget expenditure line(s) affected.

[...]

Other remarks (e.g. method/formula used for calculating the impact on revenue or any other information).

[...]

¹⁵⁷ As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 20 % for collection costs.

LEGISLATIVE FINANCIAL STATEMENT - INNOVATIVE HEALTH

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Proposal for a Council Regulation on the European Partnership for Innovative Health (IHI – Innovate Health Initiative)

1.2. Policy area(s) concerned (*Programme cluster*)

Policy Area: The von der Leyen Commission's political priorities for 2019-2024, notably 'An economy that works for people' and 'A Europe fit for the digital age', are both of high relevance to the IHI (the 'European Green Deal' is also relevant albeit to a lower degree).

Activity: Horizon Europe – The Framework Programme for Research and Innovation funded under Pillar II, Cluster 1 Health.

1.3. The proposal/initiative relates to:

a new action

a new action following a pilot project/preparatory action¹⁵⁸

the extension of an existing action

a merger or redirection of one or more actions towards another/a new action

1.4. Grounds for the proposal/initiative

1.4.1. Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative

The general objectives of IHI (long term) would be to:

1. Contribute towards the creation of an EU-wide health R&I ecosystem that facilitates translation of scientific knowledge into innovations. This is mainly aimed at addressing current inefficiencies in translating scientific knowledge generated in Europe into health and care innovations, such as new prevention strategies, diagnostics or drugs.

2. Foster the development of safe, effective, people-centred and cost-effective innovations that respond to strategic unmet public health needs currently insufficiently served by industry. It addresses the insufficient innovative products reaching health care services for unmet public health needs. Fostering the development of innovations that are not only safe and effective, but also people-centred and cost-effective will increase the likelihood of innovations being adopted

¹⁵⁸ As referred to in Article 58(2)(a) or (b) of the Financial Regulation.

by people and health care systems, and thus providing benefit to EU citizens and also strengthening the economy, if health care systems become more efficient.

3. Drive cross-sectoral health innovation for a globally competitive European health industry. This is mainly aimed at addressing the risk to the global competitiveness of the EU health industry.

The general objectives align with Horizon Europe objectives, and in particular with its objective to ‘strengthen the scientific and technological bases of the Union’ and ‘to foster competitiveness. They also align with strategic EU priorities to promote health and wellbeing for all including access to innovative, sustainable and high-quality health care, and with the Sustainable Development Goal 3 of ‘Ensuring healthy lives and promote well-being for all at all ages’.

The initiative is expected to start operating in the second or third quarter of 2021 (depending on the adoption date of the Single Basic Act by the Council). The Joint Undertakings are set up to operate until 31 December 2027, with their last calls launched at the latest by 31 December 2027. In line with the criteria for European Partnerships in the Annex III of the Horizon Europe Regulation, the Single Basic Act includes specific provisions for their evaluation, phasing-out and renewal. This includes an obligation for the Governing Board to submit a plan for the phasing out of the Joint Undertaking from Horizon Europe funding and an assessment of the most effective policy intervention mode for any future action as part of periodic reviews and evaluations.

1.4.2. *Added value of Union involvement*

The problems described in this document are of a nature and magnitude that EU-level concerted action will be more appropriate than individual Member States developing their own initiatives. This will enable more coherent and coordinated effort, and avoid duplication.

Reasons for action at European level (ex-ante):

- Current health challenges and threats are global, respecting no borders. They call for a quick and coordinated response, while health research capabilities and data are dispersed over Europe. No Member State alone could mobilise and engage the diverse range of stakeholders and companies individually and reach the required critical mass of expertise and data that are necessary to tackle these challenges.
- Actions at Member State level would be limited in terms of industrial and academic experience available in a given country. An EU-level action is much better positioned to coordinate multiple stakeholders effectively and meet the planned objectives, at the same time avoiding duplication in research.
- Most health-related companies operating in Member States have an EU-wide presence. Their activities and products are governed by EU-wide legal frameworks, e.g. on medicinal products, medical devices and cross-border health care. Therefore, it is logical to have an initiative focused on innovation in health at the EU level. Moreover, the EU is best placed to develop and implement common standards and

frameworks related to health innovations applicable for the entire EU internal market.

- Member States alone would not have the legal and financial framework to enable multi-sectoral collaboration with the scope and/or at the scale envisaged.

Expected generated Union added value (ex-post):

An EU initiative can help bring together a broad spectrum of stakeholders, both private and public in the health field. Industry participation would help to drive academic research efforts towards applicable health innovations, while the EU represented by the European Commission would guarantee that projects address important unmet health needs and deliver innovations that can be taken up by health care systems. An EU-level initiative has the potential to provide the necessary scale and scope of investment to attract additional, or shift existing, investment into R&I into strategic unmet public health needs where industry would not act on its own. Moreover, an initiative under the aegis of the EU would create a trustful and neutral environment for sharing expertise, resources and knowledge. These issues are addressed further in the Impact Assessment document attached to this proposal.

1.4.3. Lessons learned from similar experiences in the past

Based on the interim evaluation of IMI2 JU (predecessor), ‘the main achievement of IMI2 JU on which there was general consensus, was that since the JU started, collaborations between different competing global companies, SME’s and academia became possible’. Together with the available budget and long-term strategy, these collaborations were considered an important asset for European pharmaceutical research’. These collaborations created trust and triggered a mind shift as partners came to understand each other’s needs.

A lesson learned is the need to ‘**enable the active engagement of other industry sectors with the pharmaceutical industry to capitalise on their expertise in the development of new health care interventions**’. Therefore, the industry sectors need to cover the biopharmaceutical, biotechnology and medical technology sectors, including companies active in the digital area. These actors are necessary (to a varying degree, though) to achieve each of the specific objectives. **Better early engagement with regulatory bodies** would likely limit wasteful or inefficient research and speed up deployment, at the same time addressing a weakness identified in IMI2 JU interim evaluation and a recommendation from IMI2 JU Scientific Committee¹⁵⁹.

1.4.4. Compatibility and possible synergy with other appropriate instruments

According to the Horizon Europe Regulation, all European Partnerships need to ensure coordination and/or joint activities with other relevant research and

¹⁵⁹ Early dialogue with regulators was identified by IMI2 JU Scientific Committee as desirable for a successful public-private collaboration. IMI2 JU Scientific Committee recommendations regarding public private partnership funding – what makes a topic ultimately suitable for this kind of funding model, https://www.imi.europa.eu/sites/default/files/uploads/documents/About-IMI/Governance/sc/SCrecommendations_PPPfunding.pdf.

innovation initiatives to secure an optimum level of interconnections and ensure effective synergies. In line with this, the Single Basic Act is developed around the key principle that close collaboration and synergies between Joint Undertakings and relevant initiatives at EU, national and regional level, in particular other European Partnerships, will be crucial in achieving greater impact and ensuring the uptake of results. In this respect, the Single Basic Act (Part One, common provisions applicable to all JUs) facilitates synergies through a multitude of operative provisions.

There are a number of other candidate partnerships in the Health cluster that are closely related to innovative health but with a more thematic or geographical focus: personalised medicine, rare diseases, One Health AMR and Global Health EDCTP3. Results emerging from the Innovative Health Initiative could be implemented and scaled up in a complex European health environment where other health initiatives (candidate European Partnership for Health and Care Systems Transformation or EIT Health) may prove complementary. Finally, the environment also seems conducive to helping the partnership achieve its goals with candidate partnerships on (1) Key Digital Technologies; (2) Artificial Intelligence, Data and Robotics; and (3) High Performance Computing.

Monitoring of synergies and collaboration will be done through the Annual Activity Report.

1.5. Duration and financial impact

limited duration

- in effect from 01/06/2021 to 31/12/2031 (tentative dates)
- Financial impact from 2021 to 2027 for commitment appropriations and from 2021 to end of funded actions for payment appropriations.

unlimited duration

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

1.6. Management mode(s) planned¹⁶⁰

Direct management by the Commission

- by its departments, including by its staff in the Union delegations;
- by the executive agencies

Shared management with the Member States

Indirect management by entrusting budget implementation tasks to:

- third countries or the bodies they have designated;
- international organisations and their agencies (to be specified);
- the EIB and the European Investment Fund;
- bodies referred to in Articles 70 and 71 of the Financial Regulation;
- public law bodies;
- bodies governed by private law with a public service mission to the extent that they provide adequate financial guarantees;
- bodies governed by the private law of a Member State that are entrusted with the implementation of a public-private partnership and that provide adequate financial guarantees;
- persons entrusted with the implementation of specific actions in the CFSP pursuant to Title V of the TEU, and identified in the relevant basic act.
- *If more than one management mode is indicated, please provide details in the 'Comments' section.*

¹⁶⁰ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site:
<https://myintracomm.ec.europa.eu/budgweb/EN/man/budgmanag/Pages/budgmanag.aspx>

Comments

To be managed by the IHI JU Programme Office.

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

Specify frequency and conditions

In line with Horizon Europe regulation, the partnership shall adopt a monitoring system that is in line with the requirements set out in Article 45, Annex III and Annex V of Horizon Europe Regulation, and feed into the same single database as the other components of Horizon Europe. The reporting and monitoring system shall provide key management and implementation data (including microdata at the level of individual entities), allow to track progress according to the Key Impact Pathways (including the progress to deliver on EU priorities), and the partnership criteria. In addition, the partnership shall report on specific indicators (that are not covered by the Key Impact Pathways) allowing to track progress made in the short, medium and long term towards delivering on the vision and specific and operational objectives of the partnership as set out in the Regulation establishing the Partnership, including on the targets set by 2030. The indicators, data sources and methodologies shall allow for an assessment over time of achievements, progress towards impacts, including delivery on EU policy objectives, and the identification of potential needs for corrective measures. It should consider both qualitative and quantitative data, identify responsibilities for data collection, and set out concrete approaches to develop realistic baseline, targets and/or benchmarks to identify progress, where relevant, and in line with Horizon Europe impact approach. All the information collected shall be provided in close to real-time to Commission services based on common data models and fed into a single database as specified in Horizon Europe Article 45.

For that purpose, appropriate reporting systems shall be put in place to support a continuous and transparent reporting, including on committed and actually provided financial and in-kind contributions, visibility and positioning in the international context, impact on research and innovation related risks of private sector investments. Reporting should be in line with the standard Horizon Europe reporting requirements. The development of the reporting systems in the context of the strategic coordinating process shall also involve Member States and partnership representatives in order to ensure synchronization and coordination of reporting and monitoring efforts, including on the division of data collection and reporting tasks. The reporting system at project level shall include detailed information on the projects funded, their results, their diffusion and use by key target groups, and the overall difference this is making for science, the economy, society and/or the environment, in line with the projects' objectives and targeted impacts. This should be complemented by relevant data on the added value and impact of the partnership at European, national and regional level. Appropriate data sharing mechanism with common Horizon Europe monitoring and reporting databases needs to be ensured.

European Partnerships shall be evaluated according to Horizon Europe evaluation framework, as set out in its Article 47.

2.2. Management and control system(s)

2.2.1. *Justification of the management mode(s), the funding implementation mechanism(s), the payment modalities and the control strategy proposed*

Indirect management is justified because the IHI Joint Undertaking is a public private partnership with part of the funding brought in under form of in kind contributions by members other than the Union.

Each year, the decision on the contribution to the IHI Joint Undertaking will be taken by virtue of the EU Budget adopted for that year.

A Delegation Agreement signed between the European Commission and the IHI Joint Undertaking will indicate that for the tasks to be carried out each year the Commission will pay a contribution upon conclusion of a Transfer of Funds agreement with the IHI Joint Undertaking, and the issuing, by the Joint Undertaking, of corresponding payment requests to the members other than the Union.

The Commission will ensure that the rules applicable to the IHI Joint Undertaking fully comply with the requirements of the Financial Regulation. In compliance with Article 71 of Regulation (EU, Euratom) 2018/1046 the Joint Undertaking will respect the principle of sound financial management. The IHI Joint Undertaking shall also comply with the provisions of the Model Financial Regulation applicable to the Joint Undertaking. Any departure from this Model Financial Regulation, required for the purpose of the Joint Undertaking's specific needs, shall be subject to the Commission's prior consent.

Monitoring arrangements, including through the Union representation in the Governing Board of the IHI Joint Undertaking, as well as reporting arrangements will ensure that the Commission services can meet the accountability requirements both to the College and to the Budgetary Authority.

The internal control framework for the IHI Joint Undertaking is built on:

- the implementation of the Internal Control Standards offering at least equivalent guarantees to those of the Commission;
- procedures for selecting the best projects through independent evaluation, and for translating them into legal instruments;
- project and contract management throughout the lifetime of every project;
- ex-ante checks on 100% of claims, including receipt of audit certificates and ex-ante certification of cost methodologies;
- ex post audits on a sample of claims as part of the Horizon Europe ex-post audits;
- scientific evaluation of project results

2.2.2. *Information concerning the risks identified and the internal control system(s) set up to mitigate them*

Various measures have been established to mitigate the inherent risk of conflict of interest within the IHI Joint Undertaking, especially:

- equal votes for the Commission and for members other than the Union in the Governing Board,
- selection of the Executive Director by the Governing Board based on a proposal by the Commission,
- independence of staff,
- evaluations by independent experts based on published selection criteria together with appeal mechanisms and full declarations of any interests,
- a requirement for the Governing Board to adopt rules for the prevention, avoidance and management of conflicts of interest in the Joint Undertaking in accordance with the financial rules of the Joint Undertaking and with the Staff Regulations in respect of staff.

The establishment of ethical and organisational values will be one of the key roles of the Joint Undertaking, and will be monitored by the Commission.

The Executive Director of the IHI Joint Undertaking, as Authorising Officer, will be required to introduce a cost-effective system of internal control and management. He/she will be required to report to the Commission on the internal control framework adopted.

The Commission will monitor the risk of non-compliance through the reporting system that it will develop, as well as by following the results of ex post audits on the recipients of EU funds from the IHI Joint Undertaking, as part of ex post audits covering the whole of the Horizon Europe.

There is a clear need to manage the budget in an efficient and effective manner, and to prevent fraud and waste. However, the control system needs to strike a fair balance between attaining an acceptable error rate and the control burden required and avoid lowering the attractiveness of the Union's Research programme.

2.2.3. *Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)*

As the rules for participation of Horizon Europe applicable to the IHI Joint Undertaking are similar to those that the Commission will use in its Work Programme, and with a population of beneficiaries with a similar risk profile to those of the Commission, it can be expected that the error margin will be similar to that foreseen by the Commission for Horizon Europe, i.e. to give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5 %, with the ultimate aim to achieve a residual error rate as close as possible to 2 % at the closure of the multi-annual

programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

See the Legislative Financial Statement for Horizon Europe for full details of the error rate expected with respect to participants.

2.3. Measures to prevent fraud and irregularities

Specify existing or envisaged prevention and protection measures, e.g. from the Anti-Fraud Strategy.

The Commission will ensure that procedures to fight against fraud at all stages of the management process are applied by the IHI Joint Undertaking.

The proposals concerning the Joint Undertakings under Horizon Europe have been subject to fraud proofing and an assessment of their impact. Overall, the measures proposed should have a positive impact on the fight against fraud, especially the greater emphasis on risk based audit and reinforced scientific evaluation and control.

The Commission will ensure that appropriate measures are in place to ensure that, when actions financed under this Regulation are implemented, the financial interest of the Union is protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.

The IMI2 JU (predecessor initiative) already cooperates with the Commission services in matters relating to fraud and irregularity. The Commission will ensure that this will continue and be strengthened.

The Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot checks, over all grant beneficiaries, contractors and subcontractors who have received Union funds under the Programme.

The European Anti-fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Regulation (Euratom, EC) No 2185/96 with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding. The Joint Undertakings will also need to accede to the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council of the European Union and the Commission of the European Communities concerning internal investigations by the European Anti-fraud Office (OLAF).

The European Public Prosecutor's Office (EPPO) may carry out investigations in accordance with the provisions and procedures laid down in Council Regulation (EU) 2017/193923, with a view to investigating criminal offences affecting the financial interests of the Union.

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading of the multiannual financial framework and new expenditure budget line(s) proposed

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
		Diff./Non-diff. ¹⁶¹	from EFTA countries ¹⁶²	from candidate countries ¹⁶³	from third countries	within the meaning of Article [21(2)(b)] of the Financial Regulation
	Heading 1 Single Market, Innovation and Digital – Horizon Europe					
1	01 02 02 11 - Innovative Health Initiative Joint Undertaking	Diff.	YES	YES	YES	YES

¹⁶¹ Diff. = Differentiated appropriations / Non-diff. = Non-differentiated appropriations.

¹⁶² EFTA: European Free Trade Association.

¹⁶³ Candidate countries and, where applicable, potential candidates from the Western Balkans.

* The contribution to this budget line is expected to come from:

Commitment appropriations (EUR million to three decimal places)

Budget line	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Expenditure related to officials and temporary staff implementing "Horizon Europe" — Indirect research 01 01 01 01	-	-	-	-	-	-	-	-	-
External personnel implementing "Horizon Europe" — Indirect research 01 01 01 02	-	-	-	-	-	-	-	-	-
Other management expenditure for "Horizon Europe" — Indirect research 01 01 01 03	-	-	-	-	-	-	-	-	-
Cluster Health — 01 02 02 10	100,455	150,928	201,425	201,694	201,976	202,295	141,227	-	1.200,000
Total expenditure	100,455	150,928	201,425	201,694	201,976	202,295	141,227	-	1.200,000

Estimated impact on expenditure

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure

EUR million (to three decimal places)

Heading of multiannual financial framework	1	Heading Single Market, Innovation and Digital Horizon Europe
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Joint Undertaking ¹⁶⁴¹⁶⁵			2021	2022	2023	2024	2025	2026	2027 ¹⁶⁶	Post 2027	TOTAL
Title 1 (staff expenditure)	Commitments	(1)	0,300	0,611	0,937	1,115	1,300	1,511	14,100		19,874
	Payments	(2)	0,300	0,611	0,93	1,115	1,3300	1,511	2,397	11,703	19,874
Title 2 (other admin including infrastructure, expert reviews costs etc.)	Commitments	(1a)	0,155	0,317	0,488	0,579	0,676	0,784	7,339		10,338
	Payments	(2a)	0,155	0,317	0,488	0,579	0,676	0,784	1,250	6,089	10,338
Title 3 (operational)	Commitments	(3a)	100,000	150,000	200,000	200,000	200,000	200,000	119,788		1,169,788
	Payments	(3b)	-	30,000	50,000	72,000	115,000	157,000	180,000	565,788	1,169,788
TOTAL appropriations for Joint Undertaking	Commitments	=1+1a +3a	100,455	150,928	201,425	201,694	201,976	202,925	141,227	-	1.200,000
	Payments	=2+2a+3b	0,455	30,928	51,425	73,694	116,976	159,295	183,647	583,580	1.200,000

¹⁶⁴ Amounts in Titles 1 and 2 represent the EU contribution (up to EUR 30,212 million) to the administrative costs of the Joint Undertaking. The other remaining part comes from contributions by the other Joint Undertaking members as shown in section 3.2.4.

¹⁶⁵ Payment appropriations for Titles 1 and 2 are based on a yearly consumption of all corresponding commitment appropriations, while for Title 3 they are determined by taking into account the nature of the indirect actions and their payment schedule (pre-financing, interim payments and payment of the balance).

¹⁶⁶ Titles 1 and 2 for year 2027 contain the commitments for the year and the frontloading of the commitments for the remaining years of the JU in the period 2027-2031.

EUR million (to three decimal places)

DG RTD		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human Resources ¹⁶⁷		0,491	0,503	0,513	0,523	0,533	0,544	0,555	-	3,662
Other administrative expenditure		0,128	0,130	0,133	0,135	0,138	0,141	0,144	-	0,949
TOTAL DG	Appropriations	0,619	0,633	0,646	0,658	0,671	0,685	0,699	-	4,611

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations for the envelope of the Programme - Heading 1 of the multiannual financial framework	Commitments	101,074	151,561	202,071	202,352	202,647	202,980	141,926	-	1,204,611
	Payments	1,074	31,561	52,071	74,352	117,647	159,980	184,346	583,580	1,204,611

Heading of multiannual financial framework	7	‘Administrative expenditure’
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¹⁶⁷ Covering the administration of the Horizon Europe actions. The FTE costs are determined on the basis of the average yearly cost to be used as from January 2021 for salaries for Permanent Staff (EUR 0.127), Contractual Agents (EUR 0.057) and other administrative costs (EUR 0.0255) referred to buildings and IT costs for Indirect Research staff. An annual indexation of 2% has been applied for the period 2022-27. The indication of staff needs in the Commission DGs is of indicative and non-binding nature.

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	Post 2027	TOTAL
Human resources		-	-	-	-	-	-	-		-
Other administrative expenditure		-	-	-	-	-	-	-		-
TOTAL appropriations under HEADING 7 of the multiannual financial framework	(Total commitments = Total payments)	-	-	-	-	-	-	-		-

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	Post 2027	TOTAL
TOTAL appropriations across HEADINGS of the multiannual financial framework	Commitments	101,074	151,561	202,071	202,352	202,647	202,980	146,926	-	1,204,611
	Payments	1,074	31,561	52,071	74,352	117,647	159,980	184,346	583,580	1,204,611

3.2.2. Estimated impact on JU's human resources

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

Staffing numbers (in headcounts / FTE)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Officials (AD Grades)									
Officials (AST grades)									
Contract staff	15	15	15	15	15	14	14	40	143

Temporary staff (AD Grades)	33	33	34	34	34	35	35	120	358
Temporary staff (AST grades)	6	6	5	5	5	5	5	20	57
Seconded National Experts	1	1	0	0	0	0	0	0	2

TOTAL¹⁶⁸	55	55	54	54	54	54	54	180	560
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EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
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Officials (AD Grades)									
Officials (AST grades)									
Contract staff	0,841	0,858	0,875	0,893	0,911	0,867	0,884	2,656	8,787
Temporary staff (AD Grades)	4,207	4,292	4,510	4,600	4,692	4,927	5,025	18,109	50,364
Temporary staff (AST grades)	0,337	0,343	0,292	0,298	0,303	0,310	0,316	1,328	3,527
Seconded National Experts	0,061	0,062							0,124

TOTAL	5,447	5,556	5,677	5,791	5,907	6,104	6,226	22,093	62,801
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Post 2027

Staffing numbers (in headcounts / FTE)

	Year 2028	Year 2029	Year 2030	Year 2031	TOTAL
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Officials (AD Grades)					
Officials (AST grades)					

¹⁶⁸ The total number of FTEs of all Joint Undertakings established by the Council Regulation under Horizon Europe will be reduced by 10 FTEs between 2024 and 2027 following an assessment of the effectiveness of the JUs operations taking due account the efficiency gains resulting from the setting up of the Common Back Office. For this purpose, revised LFS covering the period 2024-2027 will be circulated by end 2023.

Contract staff	10	10	10	10	40
Temporary staff (AD Grades)	30	30	30	30	120
Temporary staff (AST Grades)	5	5	5	5	20
Seconded National Experts					0
TOTAL	45	45	45	45	180

EUR million (to three decimal places)

	Year 2028	Year 2029	Year 2030	Year 2031	TOTAL
Officials (AD Grades)					
Officials (AST grades)					
Contract staff	0,645	0,657	0,670	0,684	2,656
Temporary staff (AD Grades)	4,394	4,481	4,571	4,663	18,109
Temporary staff (AST Grades)	0,322	0,329	0,335	0,342	1,328
Seconded National Experts					
Total	5,361	5,467	5,576	5,689	22,093

Staff number breakdown IMI2/IHI

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031
Staff number IMI2	50	44	38	35	32	30	16	7	0	0	0
Staff number IHI	5	11	16	19	22	24	38	38	45	45	45
Total	55	55	54	54	54	54	54	45	45	45	45

Cost Title 1 and title 2 breakdown IM2/IHI

Title 1 breakdown

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031
Cost Title 1 IMI2	2,694	2,422	2,188	2,070	1,950	1,845	1,028	0,448	0	0	0
Cost Title 1 IHI	0,300	0,611	0,937	1,115	1,300	1,511	2,397	2,500	3,007	3,067	3,129
Total Title 1	2,994	3,053	3,124	3,185	3,250	3,356	3,425	2,948	3,007	3,067	3,129

Title 2 breakdown

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031
Cost Title 2 IMI2	1,401	1,270	1,138	1,076	1,014	0,960	0,535	0,233	0	0	0
Cost Title 2 IHI	0,155	0,317	0,488	0,579	0,676	0,784	1,250	1,301	1,563	1,595	1,630
Total Title 2	1,556	1,587	1,626	1,655	1,690	1,744	1,785	1,534	1,563	1,595	1,630

Total Title 1 and Title 2

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031
Cost Title 1 + Title 2 IMI2	4,095	3,712	3,325	3,146	2,694	2,805	1,563	0,681	0	0	0
Cost Title 1 + Title 2 IHI	0,455	0,928	1,425	1,694	1,976	2,295	3,647	3,801	4,570	4,662	4,759
Total	4,550	4,640	4,750	4,840	4,940	5,100	5,210	4,482	4,570	4,662	4,759

Estimated impact on the staff (additional FTE) – establishment plan

Function group and grade	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
AD16												
AD15												
AD14	1	1	1	1	1	1	1	1	1	1	1	1
AD13												
AD12	2	2	2	2	2	2	2	2	2	2	2	2
AD11	2	2	2	2	2	2	2	2	2	2	2	2
AD10	1	1	1	1	1	1	1	1	1	1	1	1
AD9	7	7	7	7	7	7	7	6	6	6	6	6
AD8	6	6	6	6	6	6	6	6	6	6	6	6
AD7	2	2	2	2	2	2	2	2	2	2	2	2
AD6	11	11	11	11	11	12	12	9	9	9	9	9
AD5	1	1	2	2	2	2	2	1	1	1	1	1
AD Total	33	33	34	34	34	35	35	30	30	30	30	30
AST11												
AST10												
AST9												
AST8	1	1	1	1	1	1	1	1	1	1	1	1
AST7												
AST6												
AST5												
AST4	4	4	3	3	3	3	3	3	3	3	3	3
AST3												
AST2	1	1	1	1	1	1	1	1	1	1	1	1
AST1												
AST Total	6	6	5	5	5	5	5	5	5	5	5	5
AST/SC 6												
AST/SC 5												
AST/SC 4												
AST/SC 3												
AST/SC 2												
AST/SC 1												
AST/SC Total	0	0	0	0	0	0	0	0	0	0	0	0

Estimated impact on the staff (additional) – external personnel

Contract agents	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Function group IV	3	4	4	4	4	4	4	2	2	2	2	2
Function group III	11	11	11	11	11	11	11	8	8	8	8	8

Function group II	1	1	1	1	1							
Function group I												
Total	15	15	15	15	15	14	14	10	10	10	10	10

Seconded national experts	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Total	1	1										0

3.2.3. Estimated requirements of human resources Commission

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below¹⁶⁹:

Estimate to be expressed in full time equivalent units

Years	2021	2022	2023	2024	2025	2026	2027
• Establishment plan posts (officials and temporary staff)							
Headquarters and Commission's Representation Offices							
Delegations							
Research	3	3	3	3	3	3	3
• External staff (in Full Time Equivalent unit: FTE) - AC, AL, END, INT and JED ¹⁷⁰							
Heading 7							
Financed from HEADING 7 of the multiannual financial framework	- at Headquarters						
	- in Delegations						
Financed from the envelope of the programme ¹⁷¹	- at Headquarters						
	- in Delegations						
Research	2	2	2	2	2	2	2
Other (specify)							
TOTAL	5	5	5	5	5	5	5

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	<p>The tasks of Commission staff in conjunction with the implementation of the IHI JU are to assure the correct budget implementation and supervision of the operations of the IHI JU. Middle or senior managers from Commission services will serve on the IHI JU Governing Board and the daily follow-up of the initiative from the EC side is ensured by AD/TA staff.</p> <p>Commission staff members will also contribute to the work of the advisory groups of IHI that may be established by the Governing Board.</p>
External staff	External staff will support officials and temporary staff in assuring the correct budget implementation and supervision of the operations of the IHI JU.

¹⁶⁹ The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.

¹⁷⁰ AC= Contract Staff; AL = Local Staff; END = Seconded National Expert; INT = agency staff; JPD= Junior Professionals in Delegations.

¹⁷¹ Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

3.2.4. Third-party contributions

The proposal/initiative:

- does not provide for co-financing by third parties
- provides for the co-financing by third parties estimated below:

– Appropriations in EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Financial contribution to the administrative costs of JU covered by Members other than the Union	0,455	0,928	1,425	1,694	1,976	2,295	3,647	17,792	30,212
Financial contributions to operational costs by the Private members/Associated Partners – <i>amounts currently not specified/available; expected to be provided during IHI implementation</i>									
Financial contributions to operational costs by the Participating States								-	-
In kind contributions by the Private members/Associated Partners ¹⁷²	100,000	150,000	200,000	200,000	200,000	200,000	119,788	-	1,169,788
In kind contributions to operational activities by Participating States									
TOTAL appropriations co-financed	100,455	150,928	201,425	201,694	201,976	202,295	123,435	17,792	1,200,000

¹⁷² In-kind contributions should be shown in the table in years when they are foreseen to be incurred.

3.3. Estimated impact on revenue

- The proposal/initiative has no financial impact on revenue.
- The proposal/initiative has the following financial impact:
 - on own resources
 - on other revenue

please indicate, if the revenue is assigned to expenditure lines

EUR million (to three decimal places)

Budget revenue line:	Impact of the proposal/initiative ¹⁷³						
	2021	2022	2023	2024	2025	2026	2027
Article							

For assigned revenue, specify the budget expenditure line(s) affected.

[...]

Other remarks (e.g. method/formula used for calculating the impact on revenue or any other information).

[...]

¹⁷³ As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 20 % for collection costs.

LEGISLATIVE FINANCIAL STATEMENT - KEY DIGITAL TECHNOLOGIES

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Council Regulation on the Key Digital Technologies Joint Undertaking

1.2. Policy area(s) concerned (*Programme cluster*)

Policy area: Horizon Europe — The Framework Programme for Research and Innovation (2021-2027)

Activity: Horizon Europe: research and innovation related to communications networks, content and technology

1.3. The proposal/initiative relates to:

- a new action
- a new action following a pilot project/preparatory action¹⁷⁴
- the extension of an existing action
- a merger or redirection of one or more actions towards another/a new action

1.4. Grounds for the proposal/initiative

1.4.1. Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative

Europe is facing several challenges in the field of electronic components and systems:

- Design and manufacturing, test and packaging of chips and assembly into systems.
- Increased global competition has intensified. This is evidenced in part by the growing numbers of acquisitions by companies, serving to build up the capacities they need to capture new markets.
- Global trade has increasingly been affected by measures serving national or regional policy agendas. The COVID-19 pandemic has further ignited geopolitical tensions, stirring up competition between regions and unleashing measures to support local industrial ecosystems while minimising dependencies on imports.

¹⁷⁴ As referred to in Article 58(2)(a) or (b) of the Financial Regulation.

- The global demand for electronic components and systems is being increasingly shaped by digital transformation as these technologies penetrate more and diverse sectors of the economy. While applications in automotive, manufacturing, healthcare, consumer, aerospace and defence account nowadays for roughly 40% of the semiconductor market, growth rates are forecast to be higher than for the computing and communications segments.
- Volume of data and energy consumption. Electronic components and systems delivering on energy efficiency will help the digital sector reduce carbon emissions and contribute to the green transformation of the using sectors.
- Safety, security and respect of privacy are fundamental objectives in the development of technologies permeating sectors such as healthcare. Secure hardware and software components will need further development to cater for increasing use of online digital identity, to prevent hacking and manipulation of data, and to ensure GDPR compliance in future networked systems.

To satisfy these challenges there are two main technological trends:

- Miniaturisation;
- emerging computing paradigms, including edge computing.

1.4.2. *Added value of Union involvement*

Evolution in technology and innovation affects the way stakeholders interact in value chains. A fast-changing environment requires coordinated initiatives that bring together suppliers and users addressing hardware and software technologies, aligning European, national and industry efforts. Companies alone or single countries cannot meet the scale and the intensity of investments by major competing regions (US, China, South Korea, Taiwan and Japan). Only a European mobilisation and coordination of investments could ensure the necessary critical mass.

Europe has many strengths at different parts of the electronics value chain which are scattered across different Member States. Consolidation would reinforce those strengths and thereby Europe's global position. Coordinated actions at EU level would stimulate the creation of ecosystems in which SMEs and start-ups can progress and grow faster.

In the case of the KDT Joint Undertaking, the tripartite model of this option with the involvement of Participating States will attract national research organisations and ensure the highest level of coordination with national research programmes. On the assumption that the Commission financial contribution would be similar to other options, the tripartite model of this option would mobilise a substantially higher volume of resources by combining Commission, national and private contributions, as proven in the existing ECSEL JU. It enables the design and implementation of a

common agenda across the EU with the necessary resources to build a dynamic European ecosystem for electronic components and systems.

Reasons for action at European level (ex-ante) [...]

Expected generated Union added value (ex-post) [...]

1.4.3. Lessons learned from similar experiences in the past

The ECSEL interim assessment¹⁷⁵ identifies areas for improvement and put forward specific recommendations:

- to place greater emphasis on a **strategic approach** with a stronger **alignment to EU priorities**. The current partnership was considered as being too bottom-up in its approach, and the Commission and Participating States were encouraged to play a stronger role in priority setting.

- a **broader coverage of electronic value chains** including participation of systems houses¹⁷⁶. This was in part intended to encourage better working together of the components and systems communities, but also that R&D is well-aligned with industrial needs – whether longer or shorter term - from day1. A slight expansion of the scope to higher layers of software would also help facilitate this.

- to aim at **better harmonisation of national** administrative practices and procedures with a view to **simplification**. This regards practices related to the rules and conditions to participants across Participating States, which can be simplified. The application and reporting processes in particular should not be more complex than they would be for the regular Horizon 2020/Europe calls.

and

- to strive for **further integration of SMEs** and start-ups in the electronics innovation ecosystem. Though participation of SMEs represented up to 30% in terms of numbers, in terms of funding share – currently 17% - there is still scope to play a more active role in the partnership and exploit their full potential.

The proposed initiative in KDT takes account of these lessons learnt in its scope, objectives and implementation. The need of a closer alignment with EU priorities, a broad coverage of value-chains and the better integration of SMEs are part of the intervention logic ('problem drivers') of this initiative and they are addressed in its specific objectives. The harmonisation and simplification of national practices and procedures is to be addressed in the setting and implementation of a potential partnership¹⁷⁷ (currently in discussion with national authorities).

¹⁷⁵ European Commission. (2018). *Interim Evaluation of the ECSEL Joint Undertaking (2014-2016) Operating under Horizon 2020*. Final report.

¹⁷⁶ End user industries with capability to design and produce systems

¹⁷⁷ An on-going EC-Member States dialogue is addressing harmonisation and simplification.

1.4.4. *Compatibility and possible synergy with other appropriate instruments*

The initiative is intended to develop synergies with complementary funding mechanisms and provides the necessary conditions for coordination and creating synergies with other internal or external initiatives and also for developing the electronic ecosystem. Concretely, the proposed initiative can be set in the context of a number of recently announced European policies and priorities:

- Artificial Intelligence;
- The Data strategy;
- Industrial Strategy;
- Recovery Plan for Europe;
- Green Deal;
- Research and Innovation under the proposed Horizon Europe programme, Pillar II Cluster “Digital, Industry and Space” aim to make concrete contributions to three overarching EU policies: ‘A Europe fit for the Digital Age’, ‘An economy that works for people’, and ‘A European Green Deal’.

Furthermore, the proposed KDT initiative covers advances (design, manufacturing, embedded systems) in the underpinning electronic components and systems technologies that can provide enhanced performance or additional functionality at the application level. The networking (Smart Network and Services), computing (EuroHPC) and integrated intelligence (AI, data technologies and robotics) functions build on these advances, thereby building and maintaining strategic links with these partnerships and their stakeholder communities.

1.5. Duration and financial impact

limited duration

- in effect from [01/01]2021 to [31/12]2031
- Financial impact from 2021 to 2027 for commitment appropriations and from 2021 to 2031 for payment appropriations.

unlimited duration

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

1.6. Management mode(s) planned¹⁷⁸

Direct management by the Commission

- by its departments, including by its staff in the Union delegations;
- by the executive agencies

Shared management with the Member States

Indirect management by entrusting budget implementation tasks to:

- third countries or the bodies they have designated;
 - international organisations and their agencies (to be specified);
 - the EIB and the European Investment Fund;
 - bodies referred to in Articles 70 and 71 of the Financial Regulation;
 - public law bodies;
 - bodies governed by private law with a public service mission to the extent that they provide adequate financial guarantees;
 - bodies governed by the private law of a Member State that are entrusted with the implementation of a public-private partnership and that provide adequate financial guarantees;
 - persons entrusted with the implementation of specific actions in the CFSP pursuant to Title V of the TEU, and identified in the relevant basic act.
- *If more than one management mode is indicated, please provide details in the 'Comments' section.*

¹⁷⁸ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site:
<https://myintracomm.ec.europa.eu/budgweb/EN/man/budgmanag/Pages/budgmanag.aspx>

Comments

Member States are co-funding indirect actions.

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

Specify frequency and conditions.

As a Union body, the Key Digital Technologies (KDT) Joint Undertaking functions under strict monitoring rules. Monitoring is performed through:

- its own internal audit capacity and the audit service of the Commission;
- the supervision of the Governing Board. The Executive Director will supervise the Joint Undertaking's operations internally;
- A set of quantitative and qualitative performance indicators which will be established to monitor the implementation of the programme and to measure its impact;
- mid-term and final evaluations of the programme by external experts, under the supervision of the Commission;
- the Joint Undertaking's Work Programme and its Annual Activity Report.

2.2. Management and control system(s)

2.2.1. Justification of the management mode(s), the funding implementation mechanism(s), the payment modalities and the control strategy proposed

Indirect management is justified because the KDT Joint Undertaking is a public private partnership with part of the funding brought in under form of in kind contributions by members other than the Union.

Each year, the decision on the contribution to the KDT Joint Undertaking will be taken by virtue of the EU Budget adopted for that year.

A Delegation Agreement signed between the European Commission and the KDT Joint Undertaking will indicate that for the tasks to be carried out each year the Commission will pay a contribution upon conclusion of a Transfer of Funds agreement with the KDT Joint Undertaking, and the issuing, by the Joint Undertaking, of corresponding payment requests to the members other than the Union.

The Commission will ensure that the rules applicable to the KDT Joint Undertaking fully comply with the requirements of the Financial Regulation. In compliance with Article 71 of Regulation (EU, Euratom) 2018/1046 the Joint Undertaking will respect the principle of sound financial management. The KDT Joint Undertaking shall also comply with the provisions of the Model Financial Regulation applicable to the Joint Undertaking. Any departure from this Model Financial Regulation, required for the purpose of the Joint Undertaking's specific needs, shall be subject to the Commission's prior consent.

Monitoring arrangements, including through the Union representation in the Governing Board of the KDT Joint Undertaking, as well as reporting arrangements will ensure that the

Commission services can meet the accountability requirements both to the College and to the Budgetary Authority.

The internal control framework for the KDT Joint Undertaking is built on:

- the implementation of the Internal Control Standards offering at least equivalent guarantees to those of the Commission;
- procedures for selecting the best projects through independent evaluation, and for translating them into legal instruments;
- project and contract management throughout the lifetime of every project;
- ex-ante checks on 100% of claims, including receipt of audit certificates and ex-ante certification of cost methodologies;
- ex post audits on a sample of claims as part of the Horizon Europe ex-post audits;
- scientific evaluation of project results

2.2.2. *Information concerning the risks identified and the internal control system(s) set up to mitigate them*

Various measures have been established to mitigate the inherent risk of conflict of interest within the KDT Joint Undertaking, especially:

- equal votes (one third) for the Commission, Participating States (collectively) and for private members (collectively) in the Governing Board,
- selection of the Executive Director by the Governing Board based on a proposal by the Commission,
- independence of staff,
- evaluations by independent experts based on published selection criteria together with appeal mechanisms and full declarations of any interests,
- a requirement for the Governing Board to adopt rules for the prevention, avoidance and management of conflicts of interest in the Joint Undertaking in accordance with the financial rules of the Joint Undertaking and with the Staff Regulations in respect of staff.

The establishment of ethical and organisational values will be one of the key roles of the Joint Undertaking, and will be monitored by the Commission.

The Executive Director of the KDT Joint Undertaking, as Authorising Officer, will be required to introduce a cost-effective system of internal control and management. He/she will be required to report to the Commission on the internal control framework adopted.

The Commission will monitor the risk of non-compliance through the reporting system that it will develop, as well as by following the results of ex post audits on the recipients of EU funds from the KDT Joint Undertaking, as part of ex post audits covering the whole of the Horizon Europe.

There is a clear need to manage the budget in an efficient and effective manner, and to prevent fraud and waste. However, the control system needs to strike a fair balance between attaining an acceptable error rate and the control burden required and avoid lowering the attractiveness of the Union's Research programme.

2.2.3. *Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)*

As the rules for participation of Horizon Europe applicable to the KDT Joint Undertaking are similar to those that the Commission will use in its Work Programme, and with a population of beneficiaries with a similar risk profile to those of the Commission, it can be expected that the error margin will be similar to that foreseen by the Commission for Horizon Europe, i.e. to give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5 %, with the ultimate aim to achieve a residual error rate as close as possible to 2 % at the closure of the multi-annual programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

See the Legislative Financial Statement for Horizon Europe for full details of the error rate expected with respect to participants.

2.3. Measures to prevent fraud and irregularities

Specify existing or envisaged prevention and protection measures, e.g. from the Anti-Fraud Strategy.

The Commission will ensure that procedures to fight against fraud at all stages of the management process are applied by the KDT Joint Undertaking.

The proposals concerning the Joint Undertakings under Horizon Europe have been subject to fraud proofing and an assessment of their impact. Overall, the measures proposed should have a positive impact on the fight against fraud, especially the greater emphasis on risk based audit and reinforced scientific evaluation and control.

The Commission will ensure that appropriate measures are in place to ensure that, when actions financed under this Regulation are implemented, the financial interest of the Union is protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.

The EDCTP Association already cooperates with the Commission services in matters relating to fraud and irregularity. The Commission will ensure that this will continue and be strengthened.

The Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot checks, over all grant beneficiaries, contractors and subcontractors who have received Union funds under the Programme.

The European Anti-fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Regulation (Euratom, EC) No 2185/96 with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding. The Joint Undertakings will also need to accede to the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council of the European Union and the Commission of the European Communities concerning internal investigations by the European Anti-fraud Office (OLAF).

The European Public Prosecutor's Office (EPPO) may carry out investigations in accordance with the provisions and procedures laid down in Council Regulation (EU) 2017/193923, with a view to investigating criminal offences affecting the financial interests of the Union.

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading of the multiannual financial framework and new expenditure budget line(s) proposed

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
		Diff./Non-diff. ¹⁷⁹	from EFTA countries 180	from candidate countries 181	from third countries	within the meaning of Article [21(2)(b)] of the Financial Regulation
	Heading 1 Single Market, Innovation and Digital – Horizon Europe					
1	01 02 02 41 – Key Digital Technologies joint undertaking	Diff.	YES	YES	YES	YES

¹⁷⁹ Diff. = Differentiated appropriations / Non-diff. = Non-differentiated appropriations.

¹⁸⁰ EFTA: European Free Trade Association.

¹⁸¹ Candidate countries and, where applicable, potential candidates from the Western Balkans.

* The contribution to this budget line is expected to come from:

Commitment appropriations (EUR million to three decimal places)

Budget line	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Cluster Digital, Industry and Space – 01 02 02 40	210,000	250,000	290,000	300,000	260,000	245,000	245,000	-	1.800,000
Total expenditure	210,623	250,635	290,648	300,661	260,674	245,687	245,701	-	1.804,628

Estimated impact on expenditure

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure

EUR million (to three decimal places)

Heading of multiannual financial framework	1	Heading Single Market, Innovation and Digital Horizon Europe
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Joint Undertaking ¹⁸²¹⁸³			2021	2022	2023	2024	2025	2026	2027 ¹⁸⁴	<i>Post 2027</i>	TOTAL
Title 1	Commitments	(1)	1,425	1,474	1,534	1,567	1,596	1,626	6,292		15,514
	Payments	(2)	1,425	1,474	1,534	1,567	1,596	1,626	1,656	4,636	15,514
Title 2 ¹⁸⁵	Commitments	(1a)	0,559	0,649	0,662	0,691	0,691	0,701	2,623		6,576
	Payments	(2a)	0,559	0,649	0,662	0,691	0,691	0,701	0,701	1,922	6,576
Title 3	Commitments	(3a)	208,016	247,877	287,804	297,742	257,713	242,673	236,085		1.777,910

¹⁸² Amounts in Titles 1 and 2 represent the EU contribution (up to 22,090,000 €) to the administrative costs of the Joint Undertaking. The other remaining part comes from contributions by the other Joint Undertaking members as shown in section 3.2.4.

¹⁸³ Payment appropriations for Titles 1 and 2 are based on a yearly consumption of all corresponding commitment appropriations, while for Title 3 they are determined by taking into account the nature of the indirect actions and their payment schedule (prefinancing, interim payments and payment of the balance).

¹⁸⁴ Titles 1 and 2 for year 2027 contain the commitments for the year and the frontloading of the commitments for the remaining years of the JU in the period 2027-2031.

¹⁸⁵ Costs of evaluation of project proposals and of project reviews are not covered under Title 2 but deemed to be covered in Title 3.

	Payments	(3b)	52,004	113,973	196,325	241,551	270,794	267,987	255,558	379,718	1.777,910
TOTAL appropriations for Joint Undertaking	Commitments	=1+1a +3a	210,000	250,000	290,000	300,000	260,000	245,000	245,000	-	1.800,000
	Payments	=2+2a +3b	53,988	116,096	198,521	243,809	273,081	270,314	257,915	386,276	1.800,000

EUR million (to three decimal places)

DG CNECT		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human Resources (3 FTE FONCT, 2 FTE AC) ¹⁸⁶		0,505	0,515	0,525	0,536	0,547	0,557	0,569		3,754
Other administrative expenditure		0,128	0,130	0,133	0,135	0,138	0,141	0,144		0,949
TOTAL DG	Appropriations	0,633	0,645	0,658	0,671	0,685	0,698	0,713	-	4,703

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations for the envelope of the Programme - Heading 1	Commitments	210,633	250,645	290,658	300,671	260,685	245,698	245,713	-	1.804,703
	Payments	54,621	116,741	199,179	244,480	273,766	271,012	258,628	386,276	1.804,703

¹⁸⁶ Covering the administration of the Horizon Europe actions. The FTE costs are determined on the basis of the average yearly cost to be used as from January 2021 for salaries for Permanent Staff (EUR 0.127), Contractual Agents (EUR 0.057) and other administrative costs (EUR 0.0255) referred to buildings and IT costs for Indirect Research staff. An annual indexation of 2% has been applied for the period 2022-27. The indication of staff needs in the Commission DGs is of indicative and non-binding nature.

of the multiannual financial framework										
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Heading of multiannual financial framework	7	'Administrative expenditure'
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EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	Post 2027	TOTAL
Human resources										
Other administrative expenditure										
TOTAL appropriations under HEADING 7 of the multiannual financial framework	(Total commitments = Total payments)									

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	Post 2027	TOTAL
TOTAL appropriations across HEADINGS of the multiannual financial framework	Commitments	210,633	250,645	290,658	300,671	260,685	245,698	245,713	-	1.804,703
	Payments	54,621	116,741	199,179	244,480	273,766	271,012	258,628	386,276	1.804,703

3.2.2. Estimated impact on JU's human resources¹⁸⁷

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

Staffing numbers (in headcounts / FTE)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL

¹⁸⁷ The reflected staffing numbers do not take into account a potential implementation of a central management of all financial contributions. In case such a system is put in place, an increase of staff may need to be considered.

Officials (AD Grades)	0	0	0	0	0	0	0	0	0
Officials (AST grades)	0	0	0	0	0	0	0	0	0
Contract staff	16	16	16	16	16	16	16	58	170
Temporary staff	14	14	14	14	14	14	14	32	130
Seconded National Experts	0	0	1	1	1	1	1	1	6

TOTAL	30	30	31	31	31	31	31	91	306
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EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
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Officials (AD Grades)									
Officials (AST grades)									
Contract staff	0,897	0,915	0,933	0,952	0,971	0,991	1,011	3,829	10,499
Temporary staff	1,785	1,821	1,857	1,894	1,932	1,971	2,010	4,781	18,051
Seconded National Experts			0,065	0,066	0,068	0,069	0,070	0,072	0,410

TOTAL	2,683	2,736	2,855	2,913	2,971	3,031	3,091	8,682	28,960
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Estimated impact on the staff (additional FTE) – establishment plan

Function group and grade	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
AD16												
AD15												
AD14	1	1	1	1	1	1	1	1	1	1	1	1
AD13	1	1	1	1	1	1	1	1	1	1	1	1
AD12	3	3	3	3	3	3	3	3	1	1	0	0
AD11	1	1	1	1	1	1	1	1	1	0	1	1
AD10	2	2	2	2	2	2	2	2	1	1	0	0
AD9	5	5	5	5	5	5	5	5	3	2	1	1
AD8	1	1	1	1	1	1	1	1	0	0	0	0
AD7												
AD6												
AD5												
AD Total	14	14	14	14	14	14	14	14	8	6	4	4
AST11												
AST10												
AST9												
AST8												
AST7												
AST6												
AST5												
AST4												
AST3												
AST2												
AST1												
AST Total	0	0	0	0	0	0	0	0	0	0	0	0
AST/SC 6												
AST/SC 5												
AST/SC 4												
AST/SC 3												
AST/SC 2												
AST/SC 1												
AST/SC Total	0	0	0	0	0	0	0	0	0	0	0	0

Estimated impact on the staff (additional) – external personnel

Contract agents	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Function group IV	5	5	5	6	6	6	6	6	7	5	2	2
Function group III	10	10	10	9	9	9	9	9	12	10	3	3
Function group II	1	1	1	1	1	1	1	1	1	1	1	1
Function group I	0	0	0	0	0	0	0	0	0	0	0	0

Total	16	16	16	16	16	16	16	16	16	20	16	6	6
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Seconded national experts	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Total	0	0	1	1	1	1	1	1	0	0	0	0

3.2.3. Estimated requirements of human resources Commission

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below¹⁸⁸:

Estimate to be expressed in full time equivalent units

Years	2021	2022	2023	2024	2025	2026	2027
• Establishment plan posts (officials and temporary staff)							
Headquarters and Commission's Representation Offices							
Delegations							
Research	3	3	3	3	3	3	3
• External staff (in Full Time Equivalent unit: FTE) - AC, AL, END, INT and JED ¹⁸⁹							
Heading 7							
Financed from HEADING 7 of the multiannual financial framework	- at Headquarters						
	- in Delegations						
Financed from the envelope of the programme ¹⁹⁰	- at Headquarters						
	- in Delegations						
Research	2	2	2	2	2	2	2
Other (specify)							
TOTAL	5	5	5	5	5	5	5

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	<ul style="list-style-type: none"> - Union representation in the JU Governing Board and Public Authorities Board; - Cooperation with industry associations (private members) on key actions at R&I level; - Follow up and maintenance of key JU deliverables, e.g. the Work Plan, the Strategic Research and Innovation Agenda, etc.; - Cooperation with Participating States on all matters relating to the KDT Joint Undertaking, including on synergies with national programmes; - Legal support in relation to all issues relating to the KDT Joint Undertaking; - Administrative tasks, e.g. related to the preparation of Calls and results implementation; - Tasks related to the internal and external reporting, including discharge (European
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¹⁸⁸ The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.

¹⁸⁹ AC= Contract Staff; AL = Local Staff; END = Seconded National Expert; INT = agency staff; JPD= Junior Professionals in Delegations.

¹⁹⁰ Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

	Parliament and the Court of Auditors); - Support to organisation of key events (high level conferences, international cooperation, etc.) and - Communication concerning the KDT Joint Undertaking activities.
External staff	-

3.2.4. Third-party contributions

The proposal/initiative:

- does not provide for co-financing by third parties
- provides for the co-financing by third parties estimated below:

(1) Appropriations in EUR million (to three decimal places)

[Guidance:]

- Information should be included about the frontloaded (in 2020) contribution to the running costs by the EU for 2021+, showing the contributions to be matched by the partners.

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Financial contribution to the administrative costs of JU covered by Members other than the Union ¹⁹¹	1,984	2,123	2,196	2,258	2,287	2,327	8,915	-	22,090
Financial contributions to operational costs by the Private members/ Associated Partners	-	-	-	-	-	-	-	-	-
Financial contributions to operational costs by the Participating States	208,016	247,877	287,804	297,742	257,713	242,673	236,085	-	1.777,910
In kind contributions by the Private members/ Associated	291,222	347,027	402,926	416,839	360,798	339,743	330,519		2.489,074

¹⁹¹ In the case of the KDT Joint Undertaking apart from the Commission, only the private members, and not the Participating States, will contribute to the administrative costs.

Partners									
In kind contributions to operational activities by Participating States	-	-	-	-	-	-	-	-	-
TOTAL appropriations co-financed	501,222	597,027	692,926	716,839	620,798	584,743	575,519	-	4.289,074

3.3. Estimated impact on revenue

- The proposal/initiative has no financial impact on revenue.
- The proposal/initiative has the following financial impact:
 - on own resources
 - on other revenue

please indicate, if the revenue is assigned to expenditure lines

EUR million (to three decimal places)

Budget revenue line:	Impact of the proposal/initiative ¹⁹²						
	2021	2022	2023	2024	2025	2026	2027
Article							

For assigned revenue, specify the budget expenditure line(s) affected.

[...]

Other remarks (e.g. method/formula used for calculating the impact on revenue or any other information).

[...]

¹⁹² As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 20 % for collection costs.

LEGISLATIVE FINANCIAL STATEMENT - SINGLE EUROPEAN SKY ATM RESEARCH

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Proposal for a Council Regulation on the European Partnership for Single European Sky ATM Research (SESAR) 3.

1.2. Policy area(s) concerned (*Programme cluster*)

Activity: Horizon Europe, Cluster 5 (Climate, Energy, Mobility)

1.3. The proposal/initiative relates to:

a new action

a new action following a pilot project/preparatory action¹⁹³

the extension of an existing action

a merger or redirection of one or more actions towards another/a new action

1.4. Grounds for the proposal/initiative

1.4.1. Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative

The main objectives of the SESAR 3 Joint Undertaking are the following:

(a) Strengthen and integrate the EU's research and innovation capacity in the ATM sector, helping bring the European ATM into the digital age to make it resilient, scalable to fluctuations in traffic while enabling the seamless operation of all aircraft,

(b) Strengthen through innovation the competitiveness of manned and unmanned EU air transport, and ATM services' markets to support economic growth in the EU;

(c) Develop and accelerate the market uptake of innovative solutions to establish the Single European Sky airspace as the most efficient and environmentally friendly sky to fly in the world.

The initiative is expected to start operating in the second or third quarter of 2021 (depending on the adoption date of the Single Basic Act by the Council). The Joint Undertakings are set up to operate until 31 December 2027, with their last calls launched at the latest by 31 December 2027. In line with the criteria for European Partnerships in the Annex III of the Horizon Europe Regulation, the Single Basic Act

¹⁹³ As referred to in Article 58(2)(a) or (b) of the Financial Regulation.

includes specific provisions for their evaluation, phasing-out and renewal. This includes an obligation for the Governing Board to submit a plan for the phasing out of the Joint Undertaking from Horizon Europe funding and an assessment of the most effective policy intervention mode for any future action as part of periodic reviews and evaluations.

1.4.2. *Added value of Union involvement*

The problems addressed by the initiative are of a nature and magnitude that EU-level concerted action will be more appropriate than individual Member States developing their own initiatives. This will enable more coherent and coordinated efforts, and avoid duplication.

Reasons for action at European level (ex-ante)

The complexity and the challenges faced by the ATM system in Europe prompted the Union's intervention over the last two decades:

- The Single European Sky established in 2004 defines the policy context;
- R&I is coordinated by the SESAR Joint Undertaking and;
- Synchronised deployment is ensured through Common Projects.

Recent European Court of Auditors reports^{194,195} found that under the current policy, the R&I and deployment initiatives have generated a change process, but that more efforts are needed in order to realise the full benefits of ATM modernisation: *“It is therefore necessary to accelerate and better focus efforts on transforming the European ATM system into a digital, scalable and resilient network, through an approach coordinated at EU level”*.

This can only be achieved by defragmenting the European airspace and thereby allowing more efficient airspace management, capable of tackling the lack of capacity, reduce delays and detrimental environmental effects such as emissions and noise¹⁹⁶, evolving from bespoke, product-based systems to a service, collaborative and adaptable network approach. Achieving an interoperable infrastructure is a prerequisite to unbundling the physical infrastructure from service provision and a fluid and secure access to ATM data. In this way air navigation services will be able to be provided irrespective of their physical location, at any moment and to any part of airspace. This requires significant R&I funding to develop and validate

¹⁹⁴ Single European Sky: a changed culture but not a single sky, Special Report 18/2018, ECA.

¹⁹⁵ The EU's regulation for the modernisation of air traffic management has added value – but the funding was largely unnecessary, Special Report 11/2019, ECA.

¹⁹⁶ Commission Amended proposal for a regulation of the European Parliament and of the Council on the implementation of the Single European Sky COM(2020)579

transformative technologies with a high degree of consensus from both Member States and the industry¹⁹⁷.

Expected generated Union added value (ex-post)

A modern, digital and efficient ATM system will support sustainable aviation growth in line with EU policies, namely the European Green Deal¹⁹⁸ and achieving a Europe fit for the digital age.

If implemented timely and successfully, the main impact of the initiative are the following: an improved ability to handle flights more efficiently, the development of a new unmanned air vehicles market, a strengthened position for European industry at global level, an improvement of scientific knowledge and reinforced R&I capacities, reduced aviation noise and gas emissions, as well as improving passenger experience, by reducing travel delays and costs.

These issues are addressed further in the Impact Assessment document attached to this proposal.

Overall, it is estimated that by 2050, a harmonised European ATM system could generate over EUR 1,800bn in benefits for Europe¹⁹⁹ that will boost EU competitiveness, innovation capacity and the position of its industry in the global market.

1.4.3. Lessons learned from similar experiences in the past

A number of systemic challenges already identified in the interim evaluation of the current SESAR JU²⁰⁰ risk derailing the progress already achieved and will have to be better addressed in a new ATM research initiative. These challenges include:

- i) Defining and maintaining stable long-term objectives
- ii) Reinforcing the accountability of the JU and prioritising EU support to R&D solutions that promote defragmentation and a competitive environment.
- iii) Shortening the long research and industrialisation cycles, to secure a faster deployment and entry into operations of SESAR solutions;
- iv) Addressing funding concentration, and the need to ensure transparency and openness to new participants, especially to entities from countries where participation was so far low;
- v) Improving knowledge management and transfer, links to academia and research institutes to improve the scientific base on ATM in the EU.

¹⁹⁷ Further details on the necessary transformational technologies are provided Annex 6.

¹⁹⁸ COM(2019) 640 final

¹⁹⁹ Based on the economic analysis and projections made to support the recent European ATM Master Plan edition 2020.

²⁰⁰ Commission Staff Working Document - Interim Evaluation of the Joint Undertakings operating under Horizon 2020, {SWD (2017) 339 final}

1.4.4. *Compatibility and possible synergy with other appropriate instruments*

According to the Horizon Europe Regulation, all European Partnerships need to ensure coordination and/or joint activities with other relevant research and innovation initiatives to secure optimum level of interconnections and ensure effective synergies. In line with this, the Single Basic Act is developed around the key principle that close collaboration and synergies between Joint Undertakings and relevant initiatives at EU, national and regional level, in particular other European Partnerships, will be crucial in achieving greater impact and ensuring the uptake of results. In this respect, the Single Basic Act (Part One, common provisions applicable to all JUs) facilitates synergies through a multitude of operative provisions.

According to the European ATM Master Plan, the next generation of ATM systems should be more automated and take greater advantage of digital technologies such as big data and artificial intelligence (AI). Future ATM R&I therefore needs to be connected with wider R&I on:

- Air Transport (e.g. link with the candidate partnership on Clean Aviation). Traffic data from Eurocontrol shows that CO₂ emissions from aviation have grown by a higher percentage than the traffic growth. Improvements in the environmental efficiency of aircraft may thus be negatively balanced by a fragmented ATM infrastructure. Therefore, the R&I roadmaps for ATM and Clean Aviation must be coordinated to maximise benefits, in particular on the environment.
- Multi-modal transport: ATM systems should be synchronised and exchange data with other transport modes (e.g. rail) to increase predictability and to enable through-ticketing or luggage reconciliation.
- Digital technologies (e.g. link with Key Digital Technologies, Smart Networks and Services, AI, Data and Robotics) and climate science including the latest information on climate change and its impacts”. In particular ATM needs to be aware of and adapt to the evolution of technologies for data manipulation and distribution, cyber security, legal aspects (e.g. on data ownership, responsibility and liability issues), advanced decision making, including big data and artificial intelligence as well as scientific understanding of climatic impacts.

Monitoring of synergies and collaboration will be done through the Annual Activity Report.

1.5. Duration and financial impact

limited duration

- in effect from 01/01/2021 to 31/12/2031 (start date depending on the entry into force of this Regulation)
- Financial impact from 2021 to 2027 for commitment appropriations and from 2021 to 2031 for payment appropriations.

unlimited duration

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

1.6. Management mode(s) planned²⁰¹

Direct management by the Commission

- by its departments, including by its staff in the Union delegations;
- by the executive agencies

Shared management with the Member States

Indirect management by entrusting budget implementation tasks to:

- third countries or the bodies they have designated;
- international organisations and their agencies (to be specified);
- the EIB and the European Investment Fund;
- bodies referred to in Articles 70 and 71 of the Financial Regulation;
- public law bodies;
- bodies governed by private law with a public service mission to the extent that they provide adequate financial guarantees;
- bodies governed by the private law of a Member State that are entrusted with the implementation of a public-private partnership and that provide adequate financial guarantees;
- persons entrusted with the implementation of specific actions in the CFSP pursuant to Title V of the TEU, and identified in the relevant basic act.
- *If more than one management mode is indicated, please provide details in the 'Comments' section.*

²⁰¹ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site:
<https://myintracomm.ec.europa.eu/budgweb/EN/man/budgmanag/Pages/budgmanag.aspx>

Comments

Unlike the current case with SESAR JU, the new Union body will be set up under Article 71 of the Financial Regulation.

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

Specify frequency and conditions.

In line with Horizon Europe Regulation, the partnership shall adopt a monitoring system that is in line with the requirements set out in Article 45, Annex III and Annex V of the Horizon Europe Regulation, and feed into the same single database as the other components of Horizon Europe. The reporting and monitoring system shall provide key management and implementation data (including microdata at the level of individual entities), allow to track progress according to the Key Impact Pathways (including the progress to deliver on EU priorities), and the partnership criteria. The partnership shall report on specific indicators (that are not covered by the Key Impact Pathways) allowing to track progress made in the short, medium and long term towards delivering on the vision and specific and operational objectives of the partnership as set out in the Regulation establishing the Partnership, including on the targets set by 2030. The indicators, data sources and methodologies shall allow for an assessment over time of achievements, progress towards impacts, including delivery on EU policy objectives, and the identification of potential needs for corrective measures. It should consider both qualitative and quantitative data, identify responsibilities for data collection, and set out concrete approaches to develop realistic baseline, targets and/or benchmarks to identify progress, where relevant, and in line with Horizon Europe impact approach. All the information collected shall be provided in close to real-time to Commission services based on common data models and fed into a single database as specified in Horizon Europe Article 45.

For that purpose, appropriate reporting systems shall be put in place to support a continuous and transparent reporting, including on committed and actually provided financial and in-kind contributions, visibility and positioning in the international context, impact on research and innovation related risks of private sector investments. Reporting should be in line with the standard Horizon Europe reporting requirements. The development of the reporting systems in the context of the strategic coordinating process shall also involve Member States and partnership representatives in order to ensure synchronization and coordination of reporting and monitoring efforts, including on the division of data collection and reporting tasks. The reporting system at project level shall include detailed information on the projects funded, their results, their diffusion and use by key target groups, and the overall difference this is making for science, the economy, society and/or the environment, in line with the projects' objectives and targeted impacts. This should be complemented by relevant data on the added value and impact of the partnership at European, national and regional level. Appropriate data sharing mechanism with common Horizon Europe monitoring and reporting databases needs to be ensured.

European Partnerships shall be evaluated according to Horizon Europe evaluation framework, as set out in its Article 47.

Monitoring is performed through:

- DG MOVE will put in place a supervision strategy. More specifically, MOVE will monitor risks regarding the functioning of the JU, the use of resources, the cost of control, the compliance with internal control procedures, anti-fraud measures, etc.

- The top-level supervision will be ensured by the Governing Board of the JU, chaired by the Commission. The Executive Director will supervise the operations of the JU internally.
- Interim and final evaluations will be performed with the assistance of independent experts based on a transparent process and under the supervision of the Commission.
- A set of quantitative and qualitative indicators will be established to monitor the implementation of the Joint Undertaking and measure its impacts.
- The assessment of the Single Programming Document and of the Consolidated Annual Activity Report (CAAR).
- Regular (every 3 months) coordination meetings between DG MOVE and the management team of the Joint Undertaking to discuss both administrative and content-related issues.

2.2. The audit service of the Commission, the Internal Auditor, the European Court of Auditors, and independent External Auditors, where it is the case Management and control system(s)

2.2.1. Justification of the management mode(s), the funding implementation mechanism(s), the payment modalities and the control strategy proposed

Indirect management is justified because the SESAR 3 Joint Undertaking is a public private partnership with part of the funding brought in under form of in kind contributions by members other than the Union.

Each year, the decision on the contribution to the SESAR 3 Joint Undertaking will be taken by virtue of the EU Budget adopted for that year.

A Delegation Agreement signed between the European Commission and the SESAR 3 Joint Undertaking will indicate that for the tasks to be carried out each year the Commission will pay a contribution upon conclusion of a Transfer of Funds agreement with the SESAR 3 Joint Undertaking, and the issuing, by the Joint Undertaking, of corresponding payment requests to the members other than the Union.

The Commission will ensure that the rules applicable to the SESAR 3 Joint Undertaking fully comply with the requirements of the Financial Regulation. In compliance with Article 71 of Regulation (EU, Euratom) 2018/1046 the Joint Undertaking will respect the principle of sound financial management. The SESAR 3 Joint Undertaking shall also comply with the provisions of the Framework Financial Regulation applicable to the Joint Undertaking. Any departure from this Framework Financial Regulation, required for the purpose of the Joint Undertaking's specific needs, shall be subject to the Commission's prior consent.

Monitoring arrangements, including through the Union representation in the Governing Board of the SESAR 3 Joint Undertaking, as well as reporting arrangements will ensure that the Commission services can meet the accountability requirements both to the College and to the Budgetary Authority.

The internal control framework for the SESAR 3 Joint Undertaking is built on:

- the implementation of the Internal Control Standards offering at least equivalent guarantees to those of the Commission;
- procedures for selecting the best projects through independent evaluation, and for translating them into legal instruments;
- project and contract management throughout the lifetime of every project;
- ex-ante checks on 100% of claims, including receipt of audit certificates and ex-ante certification of cost methodologies;
- ex post audits on a sample of claims as part of the Horizon Europe ex-post audits;
- scientific evaluation of project results

2.2.2. *Information concerning the risks identified and the internal control system(s) set up to mitigate them*

Various measures have been established to mitigate the inherent risk of conflict of interest within the SESAR 3 Joint Undertaking, especially:

- the number of votes of the members of the JU in the Governing Board being in proportion to their contribution to the budget of the JU, however, the Union and Eurocontrol (international organisation) will each have at least 25% of the total number of votes; where the votes are equally divided the Union shall have the deciding vote;
- selection of the Executive Director by the Governing Board based on a proposal by the Commission,
- independence of staff,
- evaluations by independent experts based on published selection criteria together with appeal mechanisms and full declarations of any interests,
- a requirement for the Governing Board to adopt rules for the prevention, avoidance and management of conflicts of interest in the Joint Undertaking in accordance with the financial rules of the Joint Undertaking and with the Staff Regulations in respect of staff.

The establishment of ethical and organisational values will be one of the key roles of the Joint Undertaking, and will be monitored by the Commission.

The Executive Director of the SESAR 3 Joint Undertaking, as Authorising Officer, will be required to introduce a cost-effective system of internal control and management. He/she will be required to report to the Commission on the internal control framework adopted.

The Commission will monitor the risk of non-compliance through the reporting system that it will develop, as well as by following the results of ex post audits on the recipients of EU

funds from the SESAR 3 Joint Undertaking, as part of ex post audits covering the whole of the Horizon Europe.

There is a clear need to manage the budget in an efficient and effective manner, and to prevent fraud and waste. However, the control system needs to strike a fair balance between attaining an acceptable error rate and the control burden required and avoid lowering the attractiveness of the Union's Research programme.

2.2.3. *Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)*

As the rules for participation of Horizon Europe applicable to the SESAR 3 Joint Undertaking are similar to those that the Commission will use in its Work Programme, and with a population of beneficiaries with a similar risk profile to those of the Commission, it can be expected that the error margin will be similar to that foreseen by the Commission for Horizon Europe, i.e. to give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5 %, with the ultimate aim to achieve a residual error rate as close as possible to 2 % at the closure of the multi-annual programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

See the Legislative Financial Statement for Horizon Europe for full details of the error rate expected with respect to participants.

2.3. Measures to prevent fraud and irregularities

Specify existing or envisaged prevention and protection measures, e.g. from the Anti-Fraud Strategy.

The Commission will ensure that procedures to fight against fraud at all stages of the management process are applied by the SESAR 3 Joint Undertaking.

The proposals concerning the Joint Undertakings under Horizon Europe have been subject to fraud proofing and an assessment of their impact. Overall, the measures proposed should have a positive impact on the fight against fraud, especially the greater emphasis on risk based audit and reinforced scientific evaluation and control.

The Commission will ensure that appropriate measures are in place to ensure that, when actions financed under this Regulation are implemented, the financial interest of the Union is protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.

The EDCTP Association already cooperates with the Commission services in matters relating to fraud and irregularity. The Commission will ensure that this will continue and be strengthened.

The Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot checks, over all grant beneficiaries, contractors and subcontractors who have received Union funds under the Programme.

The European Anti-fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Regulation (Euratom, EC) No 2185/96 with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding. The Joint Undertakings will also need to accede to the Inter-institutional Agreement of 25 May 1999 between the European Parliament, the Council of the European Union and the Commission of the European Communities concerning internal investigations by the European Anti-fraud Office (OLAF).

The European Public Prosecutor's Office (EPPO) may carry out investigations in accordance with the provisions and procedures laid down in Council Regulation (EU) 2017/193923, with a view to investigating criminal offences affecting the financial interests of the Union.

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading of the multiannual financial framework and new expenditure budget line(s) proposed

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
		Diff./Non-diff. ²⁰²	from EFTA countries ²⁰³	from candidate countries ²⁰⁴	from third countries	within the meaning of Article [21(2)(b)] of the Financial Regulation
	Heading 1 Single Market, Innovation and Digital – Horizon Europe					
1	01 02 02 51 – Single European Sky ATM Research 3 Joint Undertaking	Diff.	YES	YES	YES	YES

²⁰² Diff. = Differentiated appropriations / Non-diff. = Non-differentiated appropriations.

²⁰³ EFTA: European Free Trade Association.

²⁰⁴ Candidate countries and, where applicable, potential candidates from the Western Balkans.

* The contribution to this budget line is expected to come from:

Commitment appropriations (EUR million to three decimal places)

Budget line	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Expenditure related to officials and temporary staff implementing "Horizon Europe" — Indirect research 01 01 01 01									
External personnel implementing "Horizon Europe" — Indirect research 01 01 01 02									
Other management expenditure for "Horizon Europe" — Indirect research 01 01 01 03									
Cluster Climate, Energy and Mobility 01 02 02 50	40,000	88,576	88,648	93,721	93,794	93,871	101,390	-	600,000
Total expenditure	40,000	88,576	88,648	93,721	93,794	93,871	101,390	-	600,000

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure

EUR million (to three decimal places)

Heading of multiannual financial framework	1	Heading Single Market, Innovation and Digital Horizon Europe
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Joint Undertaking ²⁰⁵²⁰⁶			2021	2022	2023	2024	2025	2026	2027 ²⁰⁷	Post 2027	TOTAL
Title 1	Commitments	(1)		2,392	2,440	2,489	2,538	2,589	7,899		20,347
	Payments	(2)		2,392	2,440	2,489	2,538	2,589	2,641	5,258	20,347
Title 2	Commitments	(1a)		1,184	1,208	1,232	1,256	1,282	3,491		9,653
	Payments	(2a)		1,184	1,208	1,232	1,256	1,282	1,307	2,184	9,653
Title 3	Commitments	(3a)	40,000	85,000	85,000	90,000	90,000	90,000	90,000		570,000
	Payments	(3b)	20,000	60,000	70,000	80,000	90,000	100,000	100,000	50,000	570,000

²⁰⁵ Amounts in Titles 1 and 2 represent the EU contribution (up to EUR 30 million) to the administrative costs of the Joint Undertaking. The other remaining part comes from contributions by the other Joint Undertaking members as shown in section 3.2.4.

²⁰⁶ Payment appropriations for Titles 1 and 2 are based on a yearly consumption of all corresponding commitment appropriations, while for Title 3 they are determined by taking into account the nature of the indirect actions and their payment schedule (pre-financing, interim payments and payment of the balance).

²⁰⁷ Titles 1 and 2 for year 2027 contain the commitments for the year and the frontloading of the commitments for the remaining years of the JU in the period 2027-2031.

TOTAL appropriations for Joint Undertaking	Commitments	=1+1 a +3a	40,000	88,576	88,648	93,721	93,794	93,871	101,390	-	600,000
	Payments	=2+2 a+3b	20,000	63,576	73,648	83,721	93,794	103,871	103,948	57,442	600,000

EUR million (to three decimal places)

DG MOVE		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human Resources (3 officials, 2 CAs) ²⁰⁸		0,493	0,503	0,513	0,524	0,534	0,545	0,556		3,368
Other administrative expenditure		0,127	0,129	0,132	0,134	0,137	0,140	0,143		0,942
TOTAL DG	Appropriations	0,620	0,632	0,645	0,658	0,671	0,685	0,699		4,610

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations for the envelope	Commitments	40,620	89,208	89,293	94,379	94,465	94,556	102,089	-	604,610

²⁰⁸ Covering the administration of the Horizon Europe actions. The FTE costs are determined on the basis of the average yearly cost of AD (EUR 152 000) and CA (EUR 82 000) staff. The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.

of the Programme - Heading 1 of the multiannual financial framework	Payments	20,620	64,208	74,293	84,379	94,465	104,556	104,647	57,442	604,610
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Heading of multiannual financial framework	7	'Administrative expenditure'
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EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human resources										
Other administrative expenditure										
TOTAL appropriations under HEADING 7 of the multiannual financial framework	(Total commitments = Total payments)									

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations across HEADINGS of the multiannual financial framework	Commitments	40,620	89,208	89,293	94,379	94,465	94,556	102,089	-	604,610
	Payments	20,620	64,208	74,293	84,379	94,465	104,556	104,647	57,442	604,610

3.2.2. Estimated impact on JU's human resources

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

Staffing numbers (in headcounts / FTE)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	
Officials (AD Grades)									
Officials (AST grades)									
Contract staff	1	1	1	1	1	1	1	1	
Temporary staff	37	37	37	37	37	37	37	37	
Seconded National Experts	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	
TOTAL²⁰⁹	40	40	40	40	40	40	40	40	

EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Officials (AD Grades)									
Officials (AST grades)									

²⁰⁹ The total number of FTEs of all Joint Undertakings established by the Council Regulation under Horizon Europe will be reduced by 10 FTEs between 2024 and 2027 following an assessment of the effectiveness of the JUs operations taking due account the efficiency gains resulting from the setting up of the Common Back Office. For this purpose, revised LFS covering the period 2024-2027 will be circulated by end 2023.

Contract staff	0,082	0,084	0,085	0,087	0,089	0,091	0,092	0,388	0,998
Temporary staff	5,624	5,736	5,851	5,968	6,088	6,209	6,334	26,626	68,437
Seconded National Experts	0,172	0,175	0,179	0,183	0,186	0,190	0,194	0,814	2,093
TOTAL	5,878	5,996	6,115	6,238	6,363	6,490	6,620	27,829	71,528

Estimated impact on the staff (additional FTE) – establishment plan

Function group and grade	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
AD16												
AD15	1	1				1	1	1	1	1	1	1
AD14			1	1	1							
AD13	1	2	2	2	2	2	2	2	3	3	3	3
AD12	4	4	4	4	4	4	4	4	6	6	6	6
AD11	3	4	4	4	4	3	4	5	2	3	3	5
AD10	2	2	3	4	5	7	8	7	7	8	8	7
AD9	6	7	7	8	7	6	6	6	6	7	6	5
AD8	7	7	7	6	6	6	5	5	5	4	4	4
AD7	4	5	5	4	4	4	3	3	3	2	2	2
AD6	3	1										
AD5												
AD Total	31	31	31	31	31	31	31	31	31	31	31	31
AST11											1	1
AST10						1	1	1	1	1		
AST9	1	1	1	1	1				1	1	1	1
AST8					1	1	1	1				
AST7	1	1	1	1				1	1	1	1	2
AST6				1	1	1	1	1	1	1	1	1
AST5				4	3	3	3	2	2	2	2	1
AST4	2	3	4									
AST3	1	1										
AST2	1											
AST1												
AST Total	6	6	6	6	6	6	6	6	6	6	6	6
AST/SC 6												
AST/SC 5												
AST/SC 4												
AST/SC 3												
AST/SC 2												
AST/SC 1												
AST/SC Total												

Estimated impact on the staff (additional) – external personnel

Contract agents	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Function group IV	1	1	1	1	1	1	1	1	1	1	1	
Function group III												
Function group II												
Function group I												
Total	1	1	1	1	1	1	1	1	1	1	1	

Seconded national experts	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Total	2	2	2	2	2	2	2	2	2	2	2	

3.2.3. Estimated requirements of human resources Commission

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below²¹⁰:

Estimate to be expressed in full time equivalent units

Years	2021	2022	2023	2024	2025	2026	2027
• Establishment plan posts (officials and temporary staff)							
Headquarters and Commission's Representation Offices							
Delegations							
Research	3	3	3	3	3	3	3
• External staff (in Full Time Equivalent unit: FTE) - AC, AL, END, INT and JED ²¹¹							
Heading 7							
Financed from HEADING 7 of the multiannual financial framework	- at Headquarters						
	- in Delegations						
Financed from the envelope of the programme ²¹²	- at Headquarters						
	- in Delegations						
Research	2	2	2	2	2	2	2
Other (specify)							
TOTAL	5	5	5	5	5	5	5

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	<p>Various tasks related to:</p> <ul style="list-style-type: none"> • Technical follow-up of progress within the JU operations • Monitoring of the JU research programme progress • Monitor the respect for the Strategic Research and Innovation Agenda • Representation of the EC in the partnership Governing Board • Definition of Commission's position in the Governing Board (vote / veto right) • Administrative tasks related to the Governance of the partnership, including financial, legal, HR or audit-related issues.
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²¹⁰ The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.

²¹¹ AC= Contract Staff; AL = Local Staff; END = Seconded National Expert; INT = agency staff; JPD= Junior Professionals in Delegations.

²¹² Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

	<ul style="list-style-type: none"> • Liaison with States Representative Group, and Transport Programme Committee • Observation of Calls for Proposal, Calls for Tender and admission of new Members • Participation in meetings of sub-groups and working groups • Organisation of mid-term and final evaluations
External staff	<p>Various tasks related to:</p> <ul style="list-style-type: none"> • Technical follow-up of progress within the JU operations • Monitoring of the JU research programme progress • Monitor the respect for the Strategic Research and Innovation Agenda • Representation of the EC in the partnership Governing Board • Definition of Commission's position in the Governing Board (vote / veto right) • Administrative tasks related to the Governance of the partnership, including financial, legal, HR or audit-related issues. • Liaison with States Representative Group, and Transport Programme Committee • Observation of Calls for Proposal, Calls for Tender and admission of new Members • Participation in meetings of sub-groups and working groups <p>Organisation of mid-term and final evaluations</p>

3.2.4. Third-party contributions

The proposal/initiative:

- does not provide for co-financing by third parties
- provides for the co-financing by third parties estimated below:
- Appropriations in EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Financial contribution to the administrative costs of JU covered by Members other than the Union	6,000 ²¹³	6,113	6,235	6,360	6,487	6,617	6,749	11,489	50,000
Financial contributions to operational costs by the Private members/Associated Partners									
Financial contributions to operational costs by the Participating States									
In kind contributions by the Private members/Associated Partners ²¹⁴	50,000	100,000	120,000	130,000	150,000	150,000	150,000	100,000	950,000
In kind contributions to operational activities by Participating States									
TOTAL appropriations co-financed	50,000	106,113	126,235	136,360	156,487	156,617	156,749	111,439	1 000,000

²¹³ Administrative costs in 2021 are covered by contributions under the current H2020 programme. Hence, this figure does not contribute to the calculations under the Horizon Europe budget.

²¹⁴ In-kind contributions should be shown in the table in years when they are foreseen to be incurred.

3.3. Estimated impact on revenue

- The proposal/initiative has no financial impact on revenue.
- The proposal/initiative has the following financial impact:
 - on own resources
 - on other revenue

please indicate, if the revenue is assigned to expenditure lines

EUR million (to three decimal places)

Budget revenue line:	Impact of the proposal/initiative ²¹⁵						
	2021	2022	2023	2024	2025	2026	2027
Article							

For assigned revenue, specify the budget expenditure line(s) affected.

[...]

Other remarks (e.g. method/formula used for calculating the impact on revenue or any other information).

[...]

²¹⁵ As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 20 % for collection costs.

LEGISLATIVE FINANCIAL STATEMENT - SMART NETWORKS AND SERVICES

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

European Institutional Partnership for Smart Networks and Services

1.2. Policy area(s) concerned (*Programme cluster*)

Policy area: Horizon Europe — The Framework Programme for Research and Innovation (2021-2027)

Activity: Horizon Europe Cluster 4 - Digital, Industry, and Space

Policy Area: Connecting Europe Facility (CEF2)

Activity: CEF2 Digital.

1.3. The proposal/initiative relates to:

a new action

a new action following a pilot project/preparatory action²¹⁶

the extension of an existing action

a merger or redirection of one or more actions towards another/a new action

1.4. Grounds for the proposal/initiative

1.4.1. Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative

The proposal addresses European autonomy in a technological domain recognised as strategic for Europe, notably in the 29 January Communication of the Commission related to a cybersecurity toolbox for 5G networks. The strategic nature of connectivity (smart networks and services towards 6G) infrastructures has been further demonstrated through the COVID-19 crisis which has clearly shown the dependency of our economies and societies to connectivity and service platforms. In that context, the objectives on the initiative include:

- the consolidation of European industrial capabilities in the connectivity domain and for future generation of systems (6G) in a context of fierce competition from Asia and the US;

- the support to the emergence of alternative suppliers, as called for in the cybersecurity toolbox communication;

²¹⁶ As referred to in Article 58(2)(a) or (b) of the Financial Regulation.

- the development of European technological capabilities in related domains (connected devices and service platforms) where European industry is less prominent but which are vital to ensure a secure and autonomous European supply chain;
- the support to the Green Deal initiative, through innovative technologies enabling very low energy connectivity platforms and very low energy digital use cases running on top of these platforms.
- the deployment of connectivity platforms for strategic use cases (automotive) paving the way towards future 6G systems.

To reach this objective the following activities are foreseen:

- Provide a Europe wide cooperative framework covering all scientific and industrial value chain segments (communication, IoT devices, services clouds, components, vertical industry users) to research, develop and trial technologies for next generation connectivity and service platforms
- Provide a Europe wide cooperative framework to deploy connectivity infrastructures across cross border corridors for automotive applications;
- Provide a cooperation framework with member States to synergise EU level and national level initiatives, to maximise additionality and directionality
- Prepare for downstream actions, deployment related and beyond the partnership to exploit results, notably in the regulatory, standardisation and spectrum domains.

The ultimate aim is to enable European players to develop the Research and Innovation capacities for 6G technologies as basis for future digital services towards 2030. The initiative also aims to support that lead markets for 5G infrastructure and services can develop in Europe by 2025. Both set of activities for 5G infrastructure deployment and 6G R&I in the context of Horizon Europe from 2021 to 2027 will be fostering the alignment of future smart networks and services with EU policy and societal needs including energy efficiency, privacy, ethics, and cybersecurity.

1.4.2. *Added value of Union involvement*

Reasons for action at European level (ex-ante): SNS play a critical role for the competitiveness of the European industries. In Europe, the mobile communication sectors only generates an output of €550 billion (2017 figures) with an employment level of 2.5 million persons. The sector drives the competitiveness of multiple vertical industries (connected cars, smart factories) and has become key for social life.

The challenges faced by the sector are huge: massive and risky investments needed to develop new generation of SNS infrastructures, massive competition from non-European players in a domain considered strategic, emergence of new business actors and new business models, increased need of public actors to co-create future

systems that will increasingly support areas of public interests (connected healthcare, smart energy grids, connected cars), raising societal concerns of European citizen. These add to the classical issue justifying actions at EU level in the field, such as global consensus on future standards, spectrum and EU wide deployment scenarios.

These issues suggest a rapid and coordinated response of the EU to keep and further improve its competitive position in SNS technologies and related industries. The positive experience from H2020 contractual 5G-PPP is not sufficient to mobilise the larger spectrum of required stakeholders whilst avoiding fragmentation and duplications of resources at national level.

Expected generated Union added value (ex-post): EU level can clearly drive European actors towards common visions, common technological roadmaps transforming eventually into global standards. This is key to generate economies of scale and economies of scope, limiting if not avoiding EU fragmentation of efforts and national solutions. In the SNS domain, the last 40 years have demonstrated with GSM, 3G, 4G and 5G that a European approach is the only approach that makes sense to cater for citizen obvious requirements, such as interoperability and service portability across multiple providers' domains.

With the move towards industrial domains and vertical use cases, the value of common and standardised technologies translates into cost savings and capex optimisation.

In this domain, which is highly R&I and capex intensive, the European level is the best solution to keep pace with the investments in other regions, notably in Asia. It is also a must if Europe wants to keep a strong industry in this domain, in the context of US efforts to build their own alternative solutions and industrial champions .

The partnership will address challenges of cross-border/transnational nature, pooling of resources, strategic road maps, need for critical mass to meet policy objectives, need to coordinate different types of actors across different sectors of the digital economy, which cannot be tackled to the same degree by Member States alone, in particular for the research and innovation (R&I) towards 6G systems.

1.4.3. Lessons learned from similar experiences in the past

Previous partnership like the contractual 5G-PPP under H2020 focussed mainly on the development of technology building blocks for the global 5G standard and its validation for a range of target use cases. Its review showed the need to respond to new strategic challenges. As smart networks and services (SNS) become increasingly critical for the functioning of all parts of the economy and society, mastering technologies for SNS and having European players well positioned on a global scale becomes a key issue of public policy such as technology sovereignty, cybersecurity or low carbon emissions.

Such public policies concerns are not necessarily given the same priority by industry and, certainly, cannot be addressed by industry on their own. Therefore, a co-programmed structure such as the 5G-PPP cannot be expected to deliver on the broad

range of policy objectives that are increasingly crucial. Addressing these issues from a holistic and coordinated perspective notably requires a closer partnership of an institutional character and with the strategic involvement of Member States.

Finally, the 5G-PPP was not designed to prepare and coordinate deployment programmes.

[...]

1.4.4. *Compatibility and possible synergy with other appropriate instruments*

Synergy with the CEF2 Digital part is planned through contribution of the initiative to the European deployment roadmap of 5G for CAM (Connected Automated Mobility). Synergies with InvestEU and DEP programme have also been identified.

Considering the complementarity of the issues addressed, cross partnership synergies have been identified as important, notably with the European Partnerships: KDT, Cybersecurity, Photonics, AI.

Involvement of Member States as strategic advisory body to the initiative will also allow to optimise complementarity and additionality of programmes led at EU and national level.

1.5. **Duration and financial impact**

limited duration

- in effect from [01/01]2021 to [31/12]2027
- Financial impact from 2021 to 2027 for commitment appropriations and from 2021 to 2030 for payment appropriations.

unlimited duration

- Implementation with a start-up period from YYYY to YYYY,
- followed by full-scale operation.

1.6. **Management mode(s) planned²¹⁷**

Direct management by the Commission

- by its departments, including by its staff in the Union delegations;
- by the executive agencies

²¹⁷ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site:
<https://myintracomm.ec.europa.eu/budgweb/EN/man/budgmanag/Pages/budgmanag.aspx>

- Shared management** with the Member States
- Indirect management** by entrusting budget implementation tasks to:
 - third countries or the bodies they have designated;
 - international organisations and their agencies (to be specified);
 - the EIB and the European Investment Fund;
 - bodies referred to in Articles 70 and 71 of the Financial Regulation;
 - public law bodies;
 - bodies governed by private law with a public service mission to the extent that they provide adequate financial guarantees;
 - bodies governed by the private law of a Member State that are entrusted with the implementation of a public-private partnership and that provide adequate financial guarantees;
 - persons entrusted with the implementation of specific actions in the CFSP pursuant to Title V of the TEU, and identified in the relevant basic act.
 - *If more than one management mode is indicated, please provide details in the 'Comments' section.*

Comments

No funding from Member States but role of strategic advisors given to MS through appropriate governance mechanisms in view of ensuring coherence and mutual reinforcement of EU and national funding in the field.

CEF2 budget implemented through the successor of EASME, partnership role is related to strategic coordination of stakeholders to define the roadmap and the subsequent work programmes.

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

Specify frequency and conditions.

As a Union body, the Small Network and Services (SNS) Joint Undertaking functions under strict monitoring rules. Monitoring is performed through:

- its own internal audit capacity and the audit service of the Commission;
- the supervision of the Governing Board. The Executive Director will supervise the Joint Undertaking's operations internally;
- A set of quantitative and qualitative performance indicators which will be established to monitor the implementation of the programme and to measure its impact;
- mid-term and final evaluations of the programme by external experts, under the supervision of the Commission;
- the Joint Undertaking's Work Programme and its Annual Activity Report.

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2.2. Management and control system(s)

2.2.1. Justification of the management mode(s), the funding implementation mechanism(s), the payment modalities and the control strategy proposed

Indirect management is justified because the SNS Joint Undertaking is a public private partnership with part of the funding brought in under form of in kind contributions by members other than the Union.

Each year, the decision on the contribution to the SNS Joint Undertaking will be taken by virtue of the EU Budget adopted for that year.

A Delegation Agreement signed between the European Commission and the SNS Joint Undertaking will indicate that for the tasks to be carried out each year the Commission will pay a contribution upon conclusion of a Transfer of Funds agreement with the SNS Joint Undertaking, and the issuing, by the Joint Undertaking, of corresponding payment requests to the members other than the Union.

The Commission will ensure that the rules applicable to the SNS Joint Undertaking fully comply with the requirements of the Financial Regulation. In compliance with Article 71 of Regulation (EU, Euratom) 2018/1046 the Joint Undertaking will respect the principle of sound financial management. The SNS Joint Undertaking shall also comply with the provisions of the Model Financial Regulation applicable to the Joint Undertaking. Any departure from this Model Financial Regulation, required for the purpose of the Joint Undertaking's specific needs, shall be subject to the Commission's prior consent.

Monitoring arrangements, including through the Union representation in the Governing Board of the SNS Joint Undertaking, as well as reporting arrangements will ensure that the Commission services can meet the accountability requirements both to the College and to the Budgetary Authority.

The internal control framework for the SNS Joint Undertaking is built on:

- the implementation of the Internal Control Standards offering at least equivalent guarantees to those of the Commission;
- procedures for selecting the best projects through independent evaluation, and for translating them into legal instruments;
- project and contract management throughout the lifetime of every project;
- ex-ante checks on 100% of claims, including receipt of audit certificates and ex-ante certification of cost methodologies;
- ex post audits on a sample of claims as part of the Horizon Europe ex-post audits;
- scientific evaluation of project results

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2.2.2. *Information concerning the risks identified and the internal control system(s) set up to mitigate them*

Various measures have been established to mitigate the inherent risk of conflict of interest within the SNS Joint Undertaking, especially:

- equal votes for the Commission and for members other than the Union in the Governing Board,
- selection of the Executive Director by the Governing Board based on a proposal by the Commission,
- independence of staff,
- evaluations by independent experts based on published selection criteria together with appeal mechanisms and full declarations of any interests,
- a requirement for the Governing Board to adopt rules for the prevention, avoidance and management of conflicts of interest in the Joint Undertaking in accordance with the financial rules of the Joint Undertaking and with the Staff Regulations in respect of staff.

The establishment of ethical and organisational values will be one of the key roles of the Joint Undertaking, and will be monitored by the Commission.

The Executive Director of the SNS Joint Undertaking, as Authorising Officer, will be required to introduce a cost-effective system of internal control and management. He/she will be required to report to the Commission on the internal control framework adopted.

The Commission will monitor the risk of non-compliance through the reporting system that it will develop, as well as by following the results of ex post audits on the recipients of EU funds from the SNS Joint Undertaking, as part of ex post audits covering the whole of the Horizon Europe.

There is a clear need to manage the budget in an efficient and effective manner, and to prevent fraud and waste. However, the control system needs to strike a fair balance between attaining an acceptable error rate and the control burden required and avoid lowering the attractiveness of the Union's Research programme.

2.2.3. *Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)*

As the rules for participation of Horizon Europe applicable to the SNS Joint Undertaking are similar to those that the Commission will use in its Work Programme, and with a population of beneficiaries with a similar risk profile to those of the Commission, it can be expected that the error margin will be similar to that foreseen by the Commission for Horizon Europe, i.e. to give reasonable assurance that the risk of error over the course of the multiannual expenditure period is, on an annual basis, within a range of 2-5 %, with the ultimate aim to achieve a residual error rate as close as possible to 2 % at the closure of the multi-annual programmes, once the financial impact of all audits, correction and recovery measures have been taken into account.

See the Legislative Financial Statement for Horizon Europe for full details of the error rate expected with respect to participants.

2.3. Measures to prevent fraud and irregularities

Specify existing or envisaged prevention and protection measures, e.g. from the Anti-Fraud Strategy.

The Commission will ensure that procedures to fight against fraud at all stages of the management process are applied by the SNS Joint Undertaking.

The proposals concerning the Joint Undertakings under Horizon Europe have been subject to fraud proofing and an assessment of their impact. Overall, the measures proposed should have a positive impact on the fight against fraud, especially the greater emphasis on risk based audit and reinforced scientific evaluation and control.

The Commission will ensure that appropriate measures are in place to ensure that, when actions financed under this Regulation are implemented, the financial interest of the Union is protected by the application of preventive measures against fraud, corruption and any other illegal activities, by effective checks and, if irregularities are detected, by the recovery of the amounts wrongly paid and, where appropriate, by effective, proportionate and deterrent penalties.

The 5G Infrastructure Association already cooperates with the Commission services in matters relating to fraud and irregularity. The Commission will ensure that this will continue and be strengthened.

The Court of Auditors shall have the power of audit, on the basis of documents and on-the-spot checks, over all grant beneficiaries, contractors and subcontractors who have received Union funds under the Programme.

The European Anti-fraud Office (OLAF) may carry out on-the-spot checks and inspections on economic operators concerned directly or indirectly by such funding in accordance with the procedures laid down in Regulation (Euratom, EC) No 2185/96 with a view to establishing whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the Union in connection with a grant agreement or grant decision or a contract concerning Union funding. The Joint Undertakings will also need to accede to the Interinstitutional Agreement of 25 May 1999 between the European Parliament, the Council of the European Union and the Commission of the European Communities concerning internal investigations by the European Anti-fraud Office (OLAF).

The European Public Prosecutor's Office (EPPO) may carry out investigations in accordance with the provisions and procedures laid down in Council Regulation (EU) 2017/193923, with a view to investigating criminal offences affecting the financial interests of the Union.

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading of the multiannual financial framework and new expenditure budget line(s) proposed

Heading of multiannual financial framework	Budget line	Type of expenditure	Contribution			
			from EFTA countries 219	from candidate countries 220	from third countries	within the meaning of Article [21(2)(b)] of the Financial Regulation
	Heading 1 Single Market, Innovation and Digital – Horizon Europe	Diff./Non-diff. ²¹⁸				
1 - Single Market, Innovation and Digital	01 02 02 43 – Smart Networks and Services Joint Undertaking	Diff.	YES	YES	YES	YES

²¹⁸ Diff. = Differentiated appropriations / Non-diff. = Non-differentiated appropriations.

²¹⁹ EFTA: European Free Trade Association.

²²⁰ Candidate countries and, where applicable, potential candidates from the Western Balkans.

* The contribution to this budget line is expected to come from:

Commitment appropriations (EUR million to three decimal places)

Budget line	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Expenditure related to officials and temporary staff implementing "Horizon Europe" — Indirect research 01 01 01 01									
External personnel implementing "Horizon Europe" — Indirect research 01 01 01 02									
Other management expenditure for "Horizon Europe" — Indirect research 01 01 01 03									
01 02 02 40 –Cluster Digital, Industry and Space	121,128	121,929	134,445	131,015	130,15	130,9	130,433	-	900,000
Total expenditure	121,128	121,929	134,445	131,015	130,15	130,9	130,433	-	900,000

Estimated impact on expenditure

3.2. Estimated impact on expenditure

3.2.1. Summary of estimated impact on expenditure

EUR million (to three decimal places)

Heading of multiannual financial framework	1	Heading Single Market, Innovation and Digital Horizon Europe
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Joint Undertaking²²¹²²²			2021	2022	2023	2024	2025	2026	2027²²³	Post 2027	TOTAL
Title 1	Commitments	(1)	1,030	1,143	1,192	1,129	1,063	0,994	2,797		9,348
	Payments	(2)	1,030	1,143	1,192	1,129	1,063	0,994	0,922	1,875	9,348
Title 2	Commitments	(1a)	0,505	0,560	0,584	0,553	0,521	0,487	1,371		4,581
	Payments	(2a)	0,505	0,560	0,584	0,553	0,521	0,487	0,452	0,919	4,581
Title 3 ²²⁴	Commitments	(3a)	119,593	120,226	132,669	129,333	128,566	129,419	126,265		886,071
	Payments	(3b)		163,001	134,99	123,841	140,101	133,343	126,802	63,993	886,071
TOTAL appropriations for Joint Undertaking	Commitments	=1+1a +3a	121,128	121,929	134,445	131,015	130,15	130,9	130,433		900,000
	Payments	=2+2a +3b	1,535	164,704	136,766	125,523	141,685	134,824	128,176	66,787	900,000

²²¹ Amounts in Titles 1 and 2 represent the EU contribution (up to EUR 13.929.000) to the administrative costs of the Joint Undertaking. The other remaining part comes from contributions by the other Joint Undertaking members as shown in section 3.2.4.

²²² Payment appropriations for Titles 1 and 2 are based on a yearly consumption of all corresponding commitment appropriations, while for Title 3 they are determined by taking into account the nature of the indirect actions and their payment schedule (prefinancing, interim payments and payment of the balance).

²²³ Titles 1 and 2 for year 2027 contain the commitments for the year and the frontloading of the commitments for the remaining years of the JU in the period 2027-2031.

²²⁴ Costs of evaluation of project proposals and of projects reviews are not covered under title 2 but deemed to be covered in title 3.

EUR million (to three decimal places)

DG CNECT	2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human Resources ²²⁵	0,491	0,503	0,513	0,523	0,533	0,544	0,555	-	3,662
Other administrative expenditure	0,128	0,130	0,133	0,135	0,138	0,141	0,144		0,949
TOTAL DG	0,619	0,633	0,646	0,658	0,671	0,685	0,699	-	4,611

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations for the envelope of the Programme - Heading 1 of the multiannual financial framework	Commitments	121,747	122,562	135,091	131,673	130,821	131,585	131,132		904,611
	Payments	2,154	165,337	137,412	126,181	142,356	135,509	128,875	66,787	904,611

²²⁵ Covering the administration of the Horizon Europe actions. The FTE costs are determined on the basis of the average yearly cost to be used as from January 2021 for salaries for Permanent Staff (EUR 0.127), Contractual Agents (EUR 0.057) and other administrative costs (EUR 0.0255) referred to buildings and IT costs for Indirect Research staff. An annual indexation of 2% has been applied for the period 2022-27. The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.

Heading of multiannual financial framework	7	'Administrative expenditure'
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EUR million (to three decimal places)

DG CNECT		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
Human resources ²²⁶										
Other administrative expenditure										
TOTAL appropriations under HEADING 7 of the multiannual financial framework										

EUR million (to three decimal places)

		2021	2022	2023	2024	2025	2026	2027	<i>Post 2027</i>	TOTAL
TOTAL appropriations across HEADINGS of the multiannual financial framework	Commitments	121,747	122,562	135,091	131,673	130,821	131,585	131,132		904,611
	Payments	2,154	165,337	137,412	126,181	142,356	135,509	128,875	66,787	904,611

²²⁶ The FTE costs are determined on the basis of the average yearly cost to be used as from January 2021 for salaries for Permanent Staff (EUR 0.127), Contractual Agents (EUR 0.057) and other administrative costs (EUR 0.0255) referred to buildings and IT costs for Indirect Research staff. An annual indexation of 2% has been applied for the period 2022-27.

3.2.2. Estimated impact on JU's human resources

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

Staffing numbers (in headcounts / FTE)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Officials (AD Grades)									
Officials (AST grades)									
Contract staff	9	10	10	10	10	10	10	23	
Temporary staff	5	6	7	7	7	7	7	12	
Seconded National Experts									
TOTAL	14	16	17	17	17	17	17	35	

EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Officials (AD Grades)									
Officials (AST grades)									
Contract staff	0,523	0,593	0,605	0,617	0,629	0,642	0,655	1,570	5,834
Temporary staff	0,648	0,793	0,943	0,962	0,982	1,001	1,021	1,840	8,19
Seconded National Experts									
TOTAL	1,171	1,386	1,548	1,579	1,611	1,643	1,676	3,41	14,024

Estimated impact on the staff (additional FTE) – establishment plan

Function group and grade	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
AD16												
AD15												
AD14												
AD13	1	1	1	1	1	1	1	1	1	1	1	
AD12												
AD11	1	1	2	2	2	2	2	1	1	1	1	
AD10	1	2	2	2	2	2	2	1	1	1	1	
AD9	2	2	2	2	2	2	2					
AD8												
AD7												
AD6												
AD5												
AD Total	5	6	7	7	7	7	7	3	3	3	3	
AST11												
AST10												
AST9												
AST8												
AST7												
AST6												
AST5												
AST4												
AST3												
AST2												
AST1												
AST Total												
AST/SC 6												
AST/SC 5												
AST/SC 4												
AST/SC 3												
AST/SC 2												
AST/SC 1												
AST/SC Total												

Estimated impact on the staff (additional) – external personnel

Contract agents	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Function group IV	4	5	5	5	5	5	5	5	3	2	2	
Function group III	4	4	4	4	4	4	4	4	1	1	1	
Function group II	1	1	1	1	1	1	1	1	1	1	1	
Function group I												

Total	9	10	10	10	10	10	10	10	10	5	4	4	
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Seconded national experts	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Year 2028	Year 2029	Year 2030	Year 2031	Post 2031
Total												

3.2.3. Estimated requirements of human resources Commission

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below²²⁷:

Estimate to be expressed in full time equivalent units

Years	2021	2022	2023	2024	2025	2026	2027
• Establishment plan posts (officials and temporary staff)							
Headquarters and Commission's Representation Offices							
Delegations							
Research	3	3	3	3	3	3	3
• External staff (in Full Time Equivalent unit: FTE) - AC, AL, END, INT and JED ²²⁸							
Heading 7							
Financed from HEADING 7 of the multiannual financial framework	- at Headquarters						
	- in Delegations						
Financed from the envelope of the programme ²²⁹	- at Headquarters						
	- in Delegations						
Research	2	2	2	2	2	2	2
Other (specify)							
TOTAL	5	5	5	5	5	5	5

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	<ul style="list-style-type: none"> - Union representation in the JU bodies (Governing Board, States Representatives Group), EC desk representing the JU; - Cooperation with industry association (private member) on key actions at R&I and deployment levels; - Follow up and maintenance of key JU deliverables including e.g. the work plans, the
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²²⁷ The indication of staff needs in the Commission DGs is as well of indicative and non-binding nature.
²²⁸ AC= Contract Staff; AL = Local Staff; END = Seconded National Expert; INT = agency staff; JPD= Junior Professionals in Delegations.
²²⁹ Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

	<p>strategic research and innovation agendas, the strategic deployment agendas, etc;</p> <ul style="list-style-type: none"> - Legal support in relation to all issues relating to the SNS Joint Undertaking; - Steering of private member for non R&I spin off actions, valorisation and deployment - Interface with Member States and negotiations on synergies with national programmes; - Administrative tasks, e.g. related to calls preparations and results implementation - Tasks related to the internal and external reporting, including discharge (European Parliament and the Court of Auditors); - Support to organisation of key events (high level conferences, international cooperation) - Communication relating to the SNS JU activities.
External staff	

3.2.4. Third-party contributions

The proposal/initiative:

- does not provide for co-financing by third parties
- provides for the co-financing by third parties estimated below:

– Appropriations in EUR million (to three decimal places)

	Year 2021	Year 2022	Year 2023	Year 2024	Year 2025	Year 2026	Year 2027	Post 2027	TOTAL
Financial contribution to the administrative costs of JU covered by the Private members	0,383	0,568	0,761	0,906	1,056	1,212	1,373	2,794	9,053
Financial contributions to operational costs by the Private members/Associated Partners									
Financial contributions to operational costs by the Participating States									
In kind contributions by the Private members/Associated Partners		53,95	46,363	95,837	146,662	131,159	130,422	286,554	890,947
In kind contributions to operational activities by Participating States									
TOTAL appropriations co-financed	0,383	54,518	47,124	96,743	147,718	132,371	131,795	289,348	900,000

3.3. Estimated impact on revenue

- The proposal/initiative has no financial impact on revenue.
- The proposal/initiative has the following financial impact:
 - on own resources
 - on other revenue

please indicate, if the revenue is assigned to expenditure lines

EUR million (to three decimal places)

Budget revenue line:	Impact of the proposal/initiative ²³⁰						
	2021	2022	2023	2024	2025	2026	2027
Article							

For assigned revenue, specify the budget expenditure line(s) affected.

[...]

Other remarks (e.g. method/formula used for calculating the impact on revenue or any other information).

[...]

²³⁰ As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 20 % for collection costs.