

## 【欧州】 【Common】

Common - Environmental issues: European Transport and mobility related partnerships candidates for accelerating the transitions towards a climate neutral and digital economy

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### 【概要 : Summary】

European Partnerships are a key implementation tool of the Horizon Europe programme and Partnerships, bringing together the European Commission and private and/or public partners. The European Partnerships will address some of the most serious and complex challenges outlined in Horizon Europe such as the transition towards climate neutrality and establishing a circular economy, while delivering on the EU priorities based on the European Green Deal and the Digitalisation. While putting an increased emphasis on synergies between Partnerships, as well as with other initiatives, they help to avoid the duplication of investments, and they contribute to reducing the fragmentation of the research and innovation by solving problems in a target-oriented way. The European Partnerships also aim at aligning research and innovation agendas to set up a more strategic and impact-oriented approach.

The final list of 49 European Partnership candidates was the result of an extensive reform and rationalisation of the previous Partnership landscape. The focus shifted from establishing a larger number of small Partnerships to focusing on fewer but larger Partnerships.

On 19 November 2021, the Council of the European Union approved 10 new European Partnerships, namely “Joint Undertakings” between the EU, Member States and/or the industry, to deliver innovative solutions in Europe for global health, technology, and climate challenges.

The approved Partnerships also include transport and mobility related Partnerships, including the Clean Hydrogen Partnership, Clean Aviation Partnership, the European Partnership for transforming Europe’s rail system, the EU Single European Sky ATM Research 3 Partnership, the European Partnership for Integrated Air Traffic Management (ATM), which will support the competitiveness and recovery of the European aviation sector in a post-coronavirus crisis Europe, as well as the Smart Networks and Services Partnership. The approved 10 new European Partnerships will now enter their implementation phase, which will include the appointment of advisory bodies and the preparation of work programmes, among others.

### 【記事 : Article】

1. The introduction of European Partnerships  
The EU has introduced European Partnerships for the transition toward a climate neutral and digital economy at first under the 6th Framework

Programme (FP6) (European Commission 2021a). The aim is to overcome the fragmentation of research efforts in the EU by aligning research and innovation agendas in European Partnerships to set up a more strategic, coherent, and impact-oriented approach by focusing Partnerships on the delivery of EU priorities, and by putting increased emphasis on synergies between Partnerships, as well as with other initiatives at EU, national or local level.

Following the interim evaluation of Horizon 2020 programme, the European Commission decided to rationalise the European Partnerships and to improve their openness and transparency. The Commission also decided to tie the European Partnerships to the EU's future policy priorities and EU missions. With this new approach, the focus shifted from establishing a larger number of small Partnerships to focusing on fewer but larger Partnerships.

The European Partnerships are key implementation tools of Horizon Europe, the EU research and innovation programme (2021-2027). European Partnerships are defined in the Article 2 of the Horizon Europe regulation, and they are set up based on Article 10. Furthermore, they are selected, implemented, monitored, and phased out according to the criteria in the Annex III of Horizon Europe Regulation (European Commission 2021a). The new European Partnerships are expected to mobilise more investments dedicated to EU priorities, such as the European Green Deal. The Partnerships are collected across 5 areas, including 1. Health; 2. Digital, industry, and space; 3. climate, energy, and mobility; 4. food, bioeconomy, natural resources, agriculture, and environment; and 5. Partnerships across themes (European Commission n.y.b). Most of the new Partnerships are built on long-standing initiatives, existing under Horizon 2020, the Framework Programme 7 and on the work of one or more European Technology Platforms. Most European Partnerships with connection to transport and GHG

emission reduction are established under the thematic clusters of Cluster 1 - Health, Cluster 4 - Digital, industry and space, Cluster 5 - Climate, energy and mobility, and Cluster 6 - Food, bioeconomy, natural resources, agriculture, and environment (European Commission 2021a).

In line with the EU priorities, most of the candidate Partnerships aim at accelerating the transitions towards a climate neutral and digital economy (European Commission 2021a). The involved EU and private and/or public partners commit to jointly support the development and implementation of a programme of research and innovation activities, including market, regulatory or policy uptake. The partners can represent industry, universities, research organisations, bodies with a public service remit at local, regional, national, or international level or civil society organisations, including foundations and NGOs (European Commission 2021b). According to the Commissioner for Innovation, Research, Culture, Education and Youth Mariya Gabriel, “...the coronavirus pandemic added urgency... to better use research and innovation to tackle health emergencies, climate change and digital transformation” economy (European Commission 2021b).

## 2. The selection of European Partnerships candidates

The EU, national authorities and/or the private sector jointly commit under the European Partnerships to support the development and implementation of a programme of research and innovation activities to significantly contribute to achieving the EU's political priorities (European Commission 2021b, European Commission 2021d). They will also contribute to the objectives of the European Green Deal and strengthen the European Research Area (European Commission 2021d).

The final list of European Partnership candidates was the result of an extensive reform and

rationalisation of the previous Partnership landscape, reducing their number from more than 120 Partnerships under Horizon 2020 to 49 candidates for European Partnerships (European Commission 2021a). Based on Annex III of the Horizon Europe Regulation, the Commission established the initial list of candidates of European Partnerships (COM/2018/435 final). Thereafter, the provisional list of European Partnerships was refined and confirmed in close cooperation with the EU Member States as part of the strategic planning of Horizon Europe and a complementary strategic coordinating process for Partnerships (COM/2018/435 final).

Additionally, candidate Institutionalised European Partnerships were selected, based on Article 185 and 187 TFEU and a detailed impact assessment.

Some candidate Partnerships aim to involve the private sector to decarbonise the energy, mobility, and steel sectors. Also, Member States provide solutions for the protection and sustainable management of resources (e.g., water, soil, biodiversity). Other Partnerships aim at building greater resilience of Europe's health care systems and industry and at ensuring EU's technological leadership and autonomy in critical areas, such as smart networks and services, artificial intelligence, data and robotics, photonics, hydrogen, and batteries (European Commission 2021a).

### 3. Types and aim of European Partnerships

The selected 49 candidate Partnerships include 12 Institutionalised European Partnerships, 9 candidate Partnerships are EIT (European Institute of Innovation and Technology) - Knowledge and Innovation Communities related, 12 selected candidates are co-programmed Partnerships, based on a Memorandum of Understanding, and finally, 16 are co-funded Partnerships, based on programme co-fund actions (European Commission n.y.a). Co-programmed and

co-funded European Partnerships are listed in the first Horizon Europe Strategic Plan (European Commission 2021a). Regarding the types of Partnerships, the institutionalised European Partnerships are Partnerships in the field of research and innovation between the EU, EU Member States and/or industry. These Partnerships require legislative proposals from the European Commission and are based on a Council Regulation (Article 187) or a Decision by the European Parliament and Council (Article 185). They are implemented by dedicated structures created for that purpose, and they will only be implemented where other parts of the Horizon Europe programme, including other types of Partnership, would not achieve the desired objectives or would not have expected impacts.

The co-funded European Partnerships using a programme co-funded action are Partnerships involving EU Member States, with research funders and other public authorities at the core of the consortium (European Commission n.y.b).

The co-programmed European Partnerships are Partnerships between the European Commission and mostly private and sometimes public partners. A memorandum of understanding is the basis for the cooperation in these Partnerships, as it specifies the Partnership's objectives, the commitments from both sides and the governance structure. On 14 June 2021, the European Commission adopted Commission Decision C (2021)4113 on the approval and signature of the memoranda of understanding for co-programmed Partnerships (European Commission n.y.b). The decision allows the Commission to work together with industry to boost investments in research and innovation and are intended to overcome major climate and sustainability challenges while delivering on the European Green Deal. With over €8 billion from Horizon Europe, the Partnerships will run from 2021 to 2030, allowing them to provide input into the last calls of Horizon

Europe and wrap up their final activities afterwards (European Commission n.y.b).

Partnerships will address complex challenges outlined in Horizon Europe, such as accelerating the transitions towards climate neutrality and establishing a circular economy. Furthermore, they support the achievement of EU priorities, such as the European Green Deal, the transition towards the digital age, an economy that works for people, and a stronger Europe in the world. They are impact-driven by deploying a broad range of R&I activities, from concept to demonstration and validation, to those supporting market, regulatory and societal uptake. Finally, they contribute to a stronger European Research Area (ERA) by avoiding the duplication of efforts, creating critical scales of investment, and enhancing synergies between programmes (European Commission 2021b).

There will be no other European Partnerships in the period covered by the first Horizon Europe Strategic Plan (2021-2024) beyond the 49 listed candidate European Partnerships (European Commission 2021a). It is expected that the envisaged nearly €25 billion of EU funding will mobilise at least the same amount from private partners and Member States (European Commission 2021b). Any further new co-programmed or co-funded candidate European Partnerships will have to be discussed as part of the preparation of the second Strategic Plan of Horizon Europe 2024-2027 (European Commission 2021a).

#### **4. The European Partnership candidates in the areas of climate, energy, and mobility**

In line with the EU priorities, the majority of the candidate Partnerships aim at accelerating the transitions towards a climate neutral and digital economy. Furthermore, some candidate Partnerships aim to involve the private sector to decarbonise the energy and mobility. Under Horizon Europe, the Partnerships are expected to establish formal and regular collaboration with

other research and innovation initiatives. This must be reflected in their governance models and joint actions (European Commission 2021a).

The implementation of the Partnerships runs mostly through the Horizon Europe work programmes and their calls for proposals. Each Partnership provides the Commission with input on relevant call topics. The grants resulting from these calls are fully funded by Horizon Europe. Instead, the private partners develop additional activities, which are not funded through Horizon Europe, but which are included in the Partnership's Strategic Research and Innovation Agendas. These additional activities focus on issues such as market deployment, skills development, or regulatory aspects among others. Pillar II of the Horizon Europe programme covers global challenges and European industrial competitiveness, which includes climate, energy, and mobility related candidate Partnerships of in Cluster 5.

The Climate, Energy and Mobility related candidate Partnerships include the themes Clean Hydrogen, Clean Aviation, Single European Sky ATM Research 3, Europe's Rail, Cooperative, Connected and Automated Mobility (CCAM), Batteries "Towards a competitive European industrial battery value chain", Zero-emission Waterborne Transport, Zero-emission Road Transport (2ZERO), People-centric Sustainable Built Environment (Built4People), Clean Energy Transition, and Driving Urban Transitions to a Sustainable Future (European Commission 2021b).

Out of these candidate Partnerships, the themes Clean Hydrogen, Clean Aviation, Single European Sky ATM Research 3, Europe's Rail are institutionalised Partnerships under Art. 185 or 187 of the TFEU. Instead, Cooperative, Connected and Automated Mobility (CCAM), Batteries "Towards a competitive European industrial battery value chain", Zero-emission Waterborne Transport, Zero-emission Road Transport (2ZERO) and People-centric Sustainable Built Environment

(Built4People) candidate Partnerships are co-programmed candidates. Finally, Clean Energy transition and driving Urban Transition to a Sustainable Future are co-funded candidate Partnerships (European Commission 2021b).

Under PILLAR III of Horizon Europe, the Innovative Europe and the EIT (KNOWLEDGE & INNOVATION COMMUNITIES) are summarised, including Climate, and Urban Mobility. The majority of proposed candidate Partnerships aim at accelerating the transitions towards a climate-neutral, circular society and economy, and aim at achieving the Sustainable Development Goals (European Commission 2021b).

## 5. Approval of the transport and mobility related institutionalised European Partnerships

On 19 November 2021, the Council of the European Union approved the Single Basic Act, a regulation aimed at facilitating the launch of 9 new European Partnerships, namely “Joint Undertakings” between the EU, Member States and/or the industry, to deliver innovative solutions in Europe for global health, technology, and climate challenges. The Council also adopted a decision on the involvement of the EU in a 10th Partnership, the European Partnership on metrology (European Commission 2021d). This Council approval followed the Commission’s proposal of 23 February 2021, which aimed at speeding up the transition towards a green, climate neutral and digital Europe, as well as strengthening the resilience and competitiveness of the European industry.

Out of the 10 Partnerships adopted by the Council of the European Union on 19 November 2021, there are some Partnerships related to the transport and mobility area (European Commission (2021d)). The proposed institutionalised European Partnerships aim to develop efficient low-carbon aircraft for clean aviation, support the use of renewable biological raw materials in energy production, and make rail transport more

competitive, among others (European Commission 2021c).

The European Partnership on Clean Hydrogen aims to focus on production, distribution, and storage of clean hydrogen to supply hard to decarbonise sectors such as heavy industries and heavy-duty transport applications with clean hydrogen technologies. The Clean Hydrogen Partnership will also accelerate the development and deployment of a European value chain for clean hydrogen technologies, and thereby contribute to sustainable, decarbonised and fully integrated energy systems. Together with the Hydrogen Alliance, it will contribute to the achievement of the EU’s objectives put forward in the EU hydrogen strategy for a climate-neutral Europe.

The Clean Aviation Partnership is expected to put aviation on the path to climate neutrality, by accelerating the development and deployment of disruptive research and innovation solutions. It aims to develop the next generation of ultra-efficient low-carbon aircraft, with novel power sources, engines, and systems, improving competitiveness and employment in the aviation sector that will be especially important for the recovery (European Commission 2021d).

The European Partnership for transforming Europe’s rail system will speed up the development and deployment of innovative technologies, especially digital and automation ones, to achieve the radical transformation of the rail system and deliver on the European Green Deal objectives (European Commission 2021d).

The Single European Sky ATM Research 3 Partnership aims to accelerate the digital transformation of air traffic management with the goal of making Europe’s airspace the most efficient, safest, and environmentally friendly, while supporting the competitiveness and recovery of the aviation sector following the coronavirus crisis. (European Commission 2021d).

The European Partnership for Integrated Air Traffic Management (ATM) will support the competitiveness and recovery of the European aviation sector in a post-coronavirus crisis. Key areas are improving connectivity, air-ground integration, and automation, increasing flexibility and scalability of airspace management and safe integration of drones.

The Smart Networks and Services Partnership will support technological sovereignty for smart networks and services in line with the industrial strategy for Europe, the EU Cybersecurity Strategy, and the 5 G Cybersecurity Toolbox. The Partnership aims to enable the digital and green transition, as well as support technologies that will contribute to the economic recovery. It will also enable European players to develop the technology capacities for 6G systems as a basis for future digital services towards 2030 (European Commission 2021d).

Under the new legal basis, the 10 new European Partnerships will now enter their set-up and implementation phase and the preparation of work programmes. The publication of the Regulations in the Official Journal will provide the new legal basis for the 10 new European Partnerships. The implementation phase will include recruitment of staff, appointment of advisory bodies and the preparation of work programmes. Once set up, new calls for proposals will be launched, to select and finance research and innovation projects according to their respective objectives.

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