EN

Horizon Europe

Work Programme 2025

1. General Introduction

IMPORTANT NOTICE:

This draft has not been adopted or endorsed by the European Commission. Any views expressed are the views of the Commission services and may not in any circumstances be regarded as stating an official position of the Commission.

This draft is made public before the adoption of the work programme to provide potential participants with the currently expected main lines of this work programme. Only the adopted work programme will have legal value.

The adoption of the work programme will be announced on the Horizon Europe website and on the Funding and Tenders Portal.

Information and topic descriptions indicated in this draft may not appear in the final work programme; and likewise, new elements may be introduced at a later stage. Any information disclosed by any other party shall not be construed as having been endorsed by or affiliated to the Commission.

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About this work programme

Horizon Europe supports research and innovation (R&I) especially through work programmes, which set out funding opportunities for research and innovation activities.¹

This introduction covers the following components of Horizon Europe for 2025:

- Marie Skłodowska-Curie actions²;
- Research infrastructures;
- Health;
- Culture, Creativity and Inclusive Society;
- Civil Security for Society;
- Digital, Industry and Space;
- Climate, Energy and Mobility;
- Food, Bioeconomy, Natural Resources, Agriculture and Environment;
- European innovation ecosystems;
- Widening participation and spreading excellence, and reforming and enhancing the European R&I system;
- EU Missions;
- New European Bauhaus Facility.

In addition to the work programme parts mentioned above, the *General Annexes* to this work programme set out the general conditions applying to the calls of the work programme such as:

- eligibility rules;
- details on how to submit an application; and
- how the Commission services evaluate applications.

Getting started

Are you interested in applying for funding through Horizon Europe? You can find the topics that are currently open for applications on the <u>Funding and Tenders Portal</u>. The network of <u>National Contact</u> <u>Points</u> stands ready to answer any questions you might have on the application process in your own language.

You can also find more about the Horizon Europe programme at the Horizon Europe web page.

Delivering on EU policy priorities

Europe's competitiveness - and its global leadership in becoming a clean and digital economy – depends on a new age of invention and ingenuity. Research and innovation are at the heart of this transformation, driving scientific breakthroughs and the development of critical technologies and innovative solutions.

With this work programme, the EU and countries associated to Horizon Europe will invest over 7.2 billion in research and innovation that delivers on the EU's ambitions to build a united, more competitive, fair and resilient Europe. A substantial part of this funding will be dedicated to targeted actions that support Europe's sustainable prosperity and competitiveness and its race to becoming a clean and digital economy.

With war inside Europe and the situation in the Middle East, this work programme will place a special emphasis on actions that contribute to build a safe and secure Europe, help reduce critical dependencies and build a more robust economic base through targeted actions.

This work programme for 2025 is a key step towards achieving the research and innovation priorities outlined in the <u>Horizon Europe strategic plan for 2025-2027</u>. Its actions are expected to substantially contribute to the three overarching, interlinked key strategic orientations: *the green transition, the digital transition* and *a more resilient, competitive, inclusive and democratic Europe*. These orientations are aligned with the EU's main policy priorities as set out in <u>the Commission's Political Guidelines for 2024-2029</u> and folded out in <u>the Competitiveness Compass for the EU</u>, all of which require significant contributions from R&I to meet their objectives.

Europe's research and innovation system depends on world-class **research infrastructures** that are open and accessible to all researchers in Europe and beyond. Through the dedicated work programme part, excellent research and breakthrough science and innovation will be supported with cutting-edge, interconnected, specialised and sustainable Research Infrastructures.

Concretely, this work programme includes actions under **Cluster 1 Health** aimed at advancing the foundations of preventive health and developing innovative therapeutic interventions for non-communicable diseases. Research opportunities range from exploring the health impacts of pollution and environmental degradation, to developing cutting-edge treatments, novel tools and technologies to address public health needs and reduce health inequities, taking into account vulnerable and marginalised populations. Several actions are dedicated to brain health, including mental health, with opportunities to address treatments for degenerative illnesses and advance research into autism.

Furthermore, actions will support research and innovation in biotechnology and artificial intelligence (AI) to improve healthcare. This includes advancing biotechnological tools to develop advanced treatment options and leveraging Generative AI models to accelerate biomedical research and speed up the transfer of biotech-based treatments from discovery to market approval. Several actions are dedicated to supporting the competitiveness of SMEs and help secure European leadership in breakthrough technologies. In addition, Cluster 1 will support actions, including Generative AI models, to enhance the resilience, sustainability and efficiency healthcare systems. Cluster 1 will maintain a strong focus on addressing pandemic preparedness, and antimicrobial resistance in a One health perspective.

Cluster 2 Culture, Creativity and Inclusive Society will work on equipping European societies to face today's most pressing challenges, linked with technological, demographic, and climate change, as well as a changing geopolitical landscape and a growing number of threats to our democracies. Actions will target increased hatred in society, mis-/disinformation and foreign interference, the polarisation of political debate, and the isolation caused by group dynamics on social media, to reinforce our democracies. Moreover, R&I will boost sustainable growth and job creation through cultural and creative industries and sectors and promote AI for creativity and innovation. A new European partnership for Resilient Cultural Heritage will be launched, focusing on the impact of climate change. Finally, researchers will be asked to find a way to make our societies more inclusive and fairer, by tackling gender-based violence, including online, promoting mental health and protecting vulnerable groups, advancing on competencies development and addressing emerging migration challenges.

The global economic system is fractured by geopolitical and commercial tensions. Organised crime in Europe is on the rise. Spikes in terrorist attacks prevent citizens from feeling safe. In line with the Competitiveness Compass, Cluster 3 Civil Security for Society will help address these challenges and support the work towards a new European Internal Security Strategy, a new Counter-Terrorism Agenda and new European action plans, notably against drug trafficking and for cybersecurity. Research under this Cluster will focus on projects for a safer, more secure and resilient Europe, securing critical infrastructures and protecting against hybrid and cyber threats, contributing to saving lives in emergency situations and strengthening Europe's borders, making them more secure and more fluid. Cluster 3 will also continue to support actions on preventing and preparing against natural and humanmade threats, particularly those linked to chemical, biological, radiological and nuclear (CBRN) as well as risks to security from the impact of climate change.

Research to support the clean and digital transition and autonomous access to Space is key to Europe's competitiveness and open strategic autonomy³, to industrial sustainability and to setting human-centred standards. Thus, this work programme, and especially actions in **Cluster 4 Digital, Industry and Space** will support research and innovation in these areas. One of the key issues addressed is to develop safer, more trustworthy and human-centric Artificial Intelligence (AI), and in tackling the risks stemming from its misuse. Another one is the preparation of an in-space operations and services pilot mission, which will be key to ensure the sustainability of our EU space assets. All these initiatives will support the implementation of the Competitiveness Compass for the EU.

Horizon Europe will support through R&I the goals of the Clean Industrial Deal driving the decarbonisation of our economy and society, implementing the Competitiveness Compass for the EU, and promoting a more sustainable approach to production and consumption. These actions will help identify effective and efficient pathways, cross-cutting technologies, and solutions to address mitigation and adaptation to climate change, energy needs, and mobility challenges, including actions to support the **automotive sector package**. Due to the cross-cutting character of the Clean Industrial Deal, it will be supported by the climate relevant activities of Horizon Europe, in particular **Cluster 5 Climate, Energy and Transport** as well as the Industrial part of **Cluster 4 Digital, Industry and Space**.

³ 'Open strategic autonomy' refers to the term 'strategic autonomy, while preserving an open economy', as reflected in the <u>Conclusions of the European Council of 1/2 October 2020</u>. It is further set out in the Communication from the Commission *Trade Policy Review – An Open, Sustainable and Assertive Trade Policy*, <u>COM(2021) 66</u>.

Efforts will focus on ensuring affordable, sustainable, and secure energy supplies, the shift to more sustainable mobility options and transport modes, the decarbonisation of industry and circularity in manufacturing and process industries. Research and innovation will focus on leveraging digital technologies to improve productivity and help to close the skills gap, thereby improving Europe's competitiveness.

To enhance ecosystems and biodiversity on land and in waters in line with the commitments taken in the Kunming Montreal Agreement, actions in **Cluster 6 Food, Bioeconomy, Natural Resources, Agriculture and Environment** will focus on understanding and addressing the main drivers of biodiversity loss, developing innovative methods for biodiversity protection and restoration, and helping develop new biodiversity friendly practices in agriculture, forestry and aquaculture. Cluster 6 will help protect our natural world and contribute to climate action.

With a view to protect Europe's food sovereignty and to support the competitiveness of our entire food value chain, research and innovation will support long-term competitive, resilient and sustainable farming, fisheries and aquaculture. Communities in rural, coastal and urban areas will also benefit from R&I actions in this Work Programme. Actions in Cluster 6 will support the transition to a sustainable and competitive circular economy and bioeconomy and foster bio-based innovations. They will keep on focusing on increasing water resilience, sustaining a thriving blue economy and safeguarding ocean sustainability. This will contribute to the realisation of the new EU Circular Economy Act, the revised EU Bioeconomy Strategy, the new European Water Resilience Strategy and the European Oceans Pact. It will strengthen the EU lead on ocean governance, optimise the uses of the sea, protect coastal areas against climate change and enhance knowledge of emerging scientific areas such as blue carbon.

The **European Innovation Ecosystems** work programme plays an important role in putting research and innovation at the heart of our economy. It contributes to the creation of efficient and interconnected innovation ecosystems where disruptive innovation and the diffusion of digital technologies can more easily take place.

The European Research Area (ERA) envisions a single, borderless market for research, innovation and technology across the EU based on excellent, competitive, open and talent-driven research. The part "Widening participation and strengthening the European Research Area" supports the priorities set out in the Pact for Research and Innovation in Europe and is the driving instrument in the implementation of the ERA Policy Agenda. It will support a broad range of actions to unlock more of the potential of the ERA by tackling fragmentation of the R&I landscape, reducing geographical disparities in R&I performance, and building R&I capacity through institutional and structural reforms. While keeping excellence as the main feature, a wide spectrum of measures in the component "Widening participation and spreading excellence" will foster participation in the work programme actions and facilitate collaborative links. The actions in the component "Reforming and enhancing the European research and innovation system" will strengthen capacities of R&I actors in multiple areas, including institutional open access publishing, reproducibility of scientific results, reforms of research assessment, knowledge valorisation, inclusiveness and gender equality, research management, research careers, programme level collaboration, and science for policy.

In addition, out of the **nine new European Partnerships**⁴ announced in the strategic plan 2025-2027, eight are launched in this work programme aiming at federating national research and innovation efforts and increasing industry participation in Horizon Europe in key strategic areas.

EU Missions address some of the greatest global challenges that affect our daily lives. They have ambitious, clear and targeted objectives that are time-bound, realistic and measurable. They are rooted in research and innovation; they will employ a portfolio approach to tackle these challenges using instruments across diverse disciplines and policy areas in a coordinated way.

With this work programme, the Commission launches an investment of more than 652 million for 2025 in EU Missions. This investment will support research and innovation, which is expected to result in, for example, better-prepared local and regional authorities to face climate-related risks, the restoration of at least 25 000 km of free-flowing rivers, Climate City Contracts with 100 cities, the roll-out of robust soil monitoring programmes, and optimise minimally invasive diagnostic cancer interventions. These actions directly support key overarching EU priorities.

The Commission invites researchers, innovators, citizens and all interested stakeholders to take part in the following five Missions:

- Adaptation to Climate Change: support at least 150 European regions and communities to become climate resilient by 2030;
- **Cancer**: improving the lives of more than 3 million people by 2030 through prevention, cure and for those affected by cancer including their families, to live longer and better;
- Restore our Ocean and Waters by 2030;
- 100 Climate neutral and smart cities by 2030;
- **A Soil Deal for Europe**: 100 living labs and lighthouses to lead the transition towards healthy soils by 2030.

As a cross-cluster issue, the **New European Bauhaus (NEB)** will support research and innovation leveraging the power of inclusiveness, sustainability, arts and culture to advance the green transition in neighbourhoods. More specifically, it will foster research and innovative solutions connecting the green transformation, social inclusion and local democracy; circular and regenerative approaches for the built environment; and innovative funding and new business models for the transformation of neighbourhoods.

International cooperation in research and innovation plays a key role in Global Europe through building and leveraging partnerships around the world to better address EU dependencies in strategic sectors, while promoting our values and principles. It is essential for tackling global challenges more effectively and underpins all the key strategic orientations of the Horizon Europe strategic plan 2025-

- Brain Health
- Forests and Forestry for a Sustainable Future
- Raw Materials for the Green and Digital Transition
- Resilient Cultural Heritage
- Innovative Materials for the EU
- Solar Photovoltaics
- Textiles of the Future
- Virtual Worlds

⁴ The partnerships launched in this work programme are:

2027. It enables Europe to access resources, know-how, scientific excellence, value chains and markets that are developing outside the EU. All parts of the 2025 Work Programme encourage international cooperation, with particular emphasis on dedicated initiatives for cooperation with Africa, Mediterranean and Latin America and Caribbean countries.

Association of third countries to Horizon Europe is an important element in international cooperation. *Nineteen countries* are currently associated to the programme, paying into the Horizon Europe budget and participating under almost the same conditions as EU Member States. Association talks are ongoing with several other countries. Association is politically important, economically relevant and helps drive scientific excellence. As geo-political tensions continue to rise and intensify, association provides a framework to deepen our technology cooperation with those selected allies that share our concerns and values, in line with the <u>European Economic Security Strategy</u>.

Towards a simpler, less prescriptive and shorter work programme.

In line with the Commission's overarching priority to simplify EU rules and enhance competitiveness, several measures have been introduced aiming to streamline the 'main' work programme 2025 and improve the experience of applicants and beneficiaries which include:

- Reduced length of the work programme by reducing the overall number of topics, shortening topic descriptions and minimising single-project topics.
- Keeping topics more open by being less prescriptive, leaving more freedom to applicants for different pathways towards expected outcomes.
- Increased use of simplified cost options. In the 'main' Work Programme 2025, lump sum grants represents more than 35% of the budget. By 2027, the intention is to fund at least 50% of the calls' budget through lump sum funding, taking into account the suitability for the supported actions.
- the revision and simplification of a number of non-financial obligations (such as the approach to the 'do no significant harm' principle and the check on the robustness of AI tools), resulting in a shorter proposal form.
- The 'main' Work Programme 2025 will feature 29 topics using two-stage evaluation. These
 will allow applicants to submit a shorter summary proposal and only submit a full proposal
 if successful at the initial stage.
- Around 20 of these topics will be evaluated blindly to collect additional evidence for a sound assessment of the **blind evaluation methodology**, as a method to avoid potential risk for bias.

The Commission is committed to continue its efforts to make work programme 2026-2027 even more simple, shorter and impactful.

Investing in the green and digital transition, climate action and biodiversity

In order to support our commitment to make the **EU the world's first climate-neutral continent by 2050**, Horizon Europe will spend at least 35% of the funding available contributing to climate objectives. The commitment to spend at least 35% of resources on climate action and strengthen investments in biodiversity applies to the entirety of Horizon Europe including the European Research Council (ERC), the European Innovation Council (EIC) and Institutionalised European Partnerships. These are not included in this work programme.

Taking into account all work programmes and planning documents for Horizon Europe 2025⁵ it is estimated that overall 35% of funds will contribute to climate action and 8.8% to biodiversity related policy objectives.

Actions supported by the European Union budget shall not do harm to environmental policy objectives⁶. As announced in the strategic plan 2025-2027 a new approach to 'do no harm' assessments shall be implemented in Horizon Europe from 2025 easing the workload of applicants to reflect on environmental effects of their proposals while maintaining a screening of all published topics.

The parts of the present work programme dedicated to the six clusters of Pillar II, 'Global Challenges and European Industrial Competitiveness', research infrastructures, widening participation & strengthening the European research area, European innovation ecosystems, the EU Missions and the New European Bauhaus Facility together contribute with over € 3150 million to climate action, equal to 47.3 % of the present work programme budget. Furthermore, these parts will contribute € 860 million to biodiversity, equal to 12.9 % of the present work programme budget. Over € 285 million of the contributions to biodiversity are from the activities described in the EU Missions. The investment in climate action is a good approximation of investments in the green transition, monitoring of expenditure will provide more precise data also on other aspects like investments in 'clean air' or specific SDGs.

Contributions to climate action are made by 93.5% of resources spend⁷ by cluster 'Climate, energy, transport' (\in 1.14 billion), 64.5 % by the cluster 'Food, Bioeconomy, Natural Resources, Agriculture and Environment' (\in 833 million), 32.5 % by the cluster 'Digital, Industry and Space' (\in 517 million), 28.3% by the cluster 'Culture, Creativity and Inclusive Society' (\in 101.8 million), and 6.3% by the cluster 'Health' (\in 50.8 million).

To ensure a contribution over 35% of the expenditure to climate objectives in the lifetime of the Horizon Europe programme, the expenditure estimates will be updated continuously. The methodology to generate these estimates is based on the 'EU-coefficients' methodology⁸.

In support of the digital transition, this work programme will foster research and innovation to make this decade **Europe's digital decade and** lay the groundwork to ensure that all actors in our society, including enterprises, master the complex interplay of technology and humankind, for a better, saver and inclusive society and life, fully respecting universal human rights and planetary boundaries. Using an EU- coefficient type calculation systems it is estimated that 40.4% of funds in the presented work programme equal to 2.7 billion, and 36 % of funds across all parts of Horizon Europe contribute to the

digital transition. The overall investment in topics that encourage the development of AI in 2025 is estimated at € 1.6 billion in 2025, this will be complemented by amounts deriving from projects that chose to develop AI-based approaches to conduct their research and innovation activities.

What you will find in this work programme

Each part of this work programme, except for this Introduction and the General Annexes, is designed around a series of coherent packages of calls for proposals and impact-driven destinations and topics.

Each **destination** describes socio-economic challenges to be addressed and the related expected impacts that R&I activities will contribute to.

In many cases, destinations correspond directly to an expected impact identified in the Horizon Europe strategic plan 2025-2027. Together, the destinations of this work programme cover the 32 expected impacts in the Horizon Europe strategic plan 2025-2027.

Under each destination, one or more **topics** describe the expected outcomes and the scope of the research and innovation activities to be supported. The **expected outcomes** are the desired effects of the project in the medium term such as the uptake, diffusion, use and/or deployment of the project's results by direct target groups. The **scope** describes the area of research/innovation that needs to be tackled if the expected outcomes are to be successfully addressed, without prescribing the method to achieve them. It is therefore up to the creativity and skill of the applicants to design a project that will generate results and substantially contribute to the expected outcomes and impacts.

Each topic also sets out the general conditions, deadlines, budget, and any specific conditions that may apply. The topics are grouped under calls for proposals, which is a technical term for a number of topics that share the deadline for the opening of the topic for submission of applications.

⁵ The Horizon Europe components European Research Council, Marie Sklodowska Curie Actions, the European Innovation Council, the European Institute of Innovation and Technology, as well as the Institutionalised European Partnerships based on Articles 185/187 TFEU and the direct actions by the Joint Research Centre have a combined budget of 12.043 billion equal to 46.81% of Horizon Europe total.

⁶ The relevant environmental policy objectives are defined in the <u>'EU taxonomy regulation'</u>

⁷ To note: the work programme includes commitment to co-funded partnerships to be served by around €588 million from 2026 and 2027 budgets, of which €392 million in Cluster 6, €93 million in Cluster 1 and €68 million in 'European Innovation Ecosystems'.

⁸ EU-coefficients are based on the internationally recognized Rio-markers methods originally developed by OECD (see further information here.) The EU coefficients assigns 0-40-100% markers to actions and their budgets depending on climate action having a major impact (100%), a significant impact (40%) or a marginal impact (0%) of an activity. In this work programme the - coefficients are applied to every topic described for climate action, biodiversity, clean air, digital transition and artificial intelligence. For other parts of Horizon Europe they are applied to larger groups of actions and in general to awarded projects for expenditure monitoring and documentation. Actions can be assigned more than one coefficient if they contribute substantially to more than one of the related objectives.