



Brussels, 29.9.2021
COM(2021) 609 final

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

on European Missions

Commission Communication on European Missions

1. Introduction

The response of Europeans to extreme weather conditions in several EU countries this summer testified to the strength and importance of European solidarity and cooperation. European countries hurried to help each other fight wildfires, rebuild the damage caused by floods and provide financial support to those who lost their home. These natural disasters confirm once more the climate urgency and biodiversity crisis we are experiencing in Europe and in the world.

The COVID-19 pandemic, which has brought health and socio-economic challenges, clearly demonstrated that a crisis can best be tackled through solidarity, coordinated action and a critical role for independent science. It also was a strong reminder that no crisis stands on its own. Even though the pandemic had positive effects on, for example, air quality in cities or local engagement of neighbours stretching out a helping hand, it also impacted other health risks such as cancer by reducing activities of prevention, early detection, diagnosis and treatment.

These climate and health crises are a call to action for all societal actors to join forces in new and innovative ways. Continuing with the status quo is not an option. Europeans are aware of the urgency to act and strongly support science to find solutions. This provides a unique momentum for a new kind of research and innovation policy. With the same team spirit and readiness to cooperate that was shown in these difficult moments, we can be bold and ambitious to shape the future we want to live in.

With this in mind, the European Parliament and Council of the EU have mandated the Commission to introduce a new way of working across policy areas, fields of expertise and science, directly engaging with companies, local communities and the innovation community: EU Missions¹. Rooted in research and innovation², they aim to address societal challenges and reconnect citizens with the European Union by inspiring and empowering them to improve their lives and those of others.

¹ Missions have their legal base in Horizon Europe Regulation (article 8, REGULATION (EU) 2021/695 of The European Parliament and of the Council of 28 April 2021).

² Only budgets for Horizon Europe mission support through its Pillar 2 are shown, not including the expected substantial funding from other programmes.

This is our chance to work together towards a healthy, green and digital future. This is our mission.

2. EU Missions

EU Missions start from the idea that complex societal challenges require a coordinated effort across Europe to deliver impact. They support the ambitious priorities of this Commission and recognise that we need to go beyond the existing instruments. Missions will deliver results through a *new role for research and innovation* under the Horizon Europe programme, combined with a coordinated, *all-in approach*, and a *new relationship with citizens*. EU Missions set out bold, concrete and measurable targets in a well-defined timeframe during which results can realistically be expected. Monitoring and evaluations will be continuous. The missions will constitute a coordinated effort by the Commission to pool the necessary resources in terms of funding programmes, policies and regulations, data services and sources³, as well as other activities to achieve their objectives. They will fully mobilise and engage with public and private actors, such as EU Member States, regional and local authorities, research institutes, entrepreneurs and public and private investors, all to create real and lasting impact.

A particularly critical element of EU missions will be to reach out to local communities and engage with Europe's citizens, its people, to ensure that there is societal uptake of these new solutions and approaches.

The missions will directly support priorities such as the European Green Deal, Europe's Beating Cancer Plan, An Economy that works for people, the New European Bauhaus⁴, as well as the EU's renewed industrial competitiveness agenda and the European Space Programme, while all supporting the United Nations Sustainable Development Goals (SDGs). Five mission areas were identified and agreed by the co-legislators⁵, then further developed by dedicated Mission Boards of experts and on the basis of broad consultations

³ e.g. EU space programme, EMODnet, Climate -ADAPT

⁴ Will collaborate with missions on shared challenges to accelerate the process of transformation of places where we live and our life styles, for more sustainable, inclusive and enhanced quality of life
https://europa.eu/new-european-bauhaus/system/files/2021-09/COM%282021%29_573_EN_ACT.pdf

⁵ <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1540387631519&uri=CELEX%3A52018PC0435>

with stakeholders and citizens⁶. Now, the Commission is launching the implementation of five EU Missions:



Adaptation to Climate Change: support at least 150 European regions and communities to become climate resilient by 2030.

This mission will turn the urgent challenge of adapting to climate change into an opportunity to make Europe resilient, fair and prepared to deal with climate disruptions, such as extreme weather, wildfires and infectious diseases. The mission will support European regions to be prepared for the inevitable changes and extreme events and share experiences and solutions to prevent loss of lives and livelihoods.



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.

The mission will support Member States, regions and communities on cancer control, even more so in light of the disruptive effect of the COVID-19 pandemic. It will enhance understanding of cancer, boost prevention, optimise diagnosis and treatment, improve quality of lives of patients and their families and ensure equitable access to care across Europe. The mission will put citizens, including patients, at the centre of research and innovation, and research and innovation at the centre of policy development.



Restore our **Ocean and Waters** by 2030

Man-made, climate-driven changes are putting our ocean and waters and consequently our societies at a serious risk. The mission's new, systemic approach will address the ocean and waters as one and play a key role in achieving climate neutrality and restoring nature. The mission will help achieve the EU objectives of protecting 30% of the EU's sea area as well as restoring marine eco-systems and 25.000 km of free flowing rivers, prevent and eliminate pollution by reducing plastic litter at sea, nutrient losses and use of chemical pesticides by 50% and make the blue economy climate-neutral and circular with net-zero maritime emissions.

⁶ https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/missions-horizon-europe/citizen-events-and-specialised-missions-conferences_en



100 Climate-Neutral and Smart Cities by 2030

Producing more than 70% of global CO₂ emissions, cities play a pivotal role in achieving climate neutrality by 2050. At least 100 cities will be supported to become climate-neutral by 2030. They will develop in close cooperation with citizens, Climate City Contracts that will detail the strategy for deploying and monitoring innovative and digital solutions for reaching climate neutrality. They will lead in climate innovation and demonstrate carbon-reducing solutions that will enable all other cities to follow suit by 2050.



A Soil Deal for Europe: 100 living labs and lighthouses to lead the transition towards healthy soils by 2030

Life on Earth depend on healthy soils, but they are under threat all over the world. In Europe, 60%-70% of soils are considered to be unhealthy, making us more vulnerable to food insecurity and extreme weather events. The mission will engage with people and create effective partnerships across sectors and territories to protect and restore soils in Europe and beyond. It will contribute to Green Deal targets relating to sustainable farming, climate resilience, biodiversity and zero-pollution.

3. Delivering impact

A new role for research and innovation

Missions have a clear starting point in research and innovation: based on each mission's concrete targets, the research and innovation actions set the direction to achieve results. The scope of the missions goes far beyond that of a single research project. Each mission's objective is the basis for a portfolio of research and innovation actions, which will include basic and applied research, across sectors and domains. Missions put emphasis on demonstrating, scaling up and replicating existing and new solutions including social innovations. This will ensure a tailor-made innovation approach including social innovation, in which solutions will be fully adapted to fit local circumstances. Furthermore, incremental changes will not be sufficient. These challenges require disruption, new ideas and risk-taking. Missions fully embrace out-of-the-box thinking by stimulating experimentation and bottom-up, multiple solutions to reach their objectives, also embracing education and training institutions for their key role in developing citizens' talents, knowledge and skills. It is this

open, inclusive and innovative collaboration, bringing also a focus on social impact and transformations with the need for social investment and new curricula, that increases our chances to find solutions for the complex societal challenges the missions address, as well as boosting spin-offs, crowding in private investments and boosting researchers' skills and careers. The missions will present a unique opportunity to combine the public sector's capacity to support experimentation and accept failure, while bringing in the innovative and disruptive capacities of the private sector.

Mission Examples

- **The Adaptation to Climate Change mission** will deliver 75 large scale demonstrations of systemic transformations to prepare for major climate induced hazards, such as flooding fitted to local circumstances and combining technical measures with nature-based solutions.
- **The Cancer mission** and Europe's Beating Cancer Plan will help to create new Comprehensive Cancer Infrastructures, aimed at improving patients' access to high quality cancer care and clinical trials. Their creation requires a highly targeted EU approach that reflects the specificities of each health system as well as existing inequalities. A close collaboration between policymakers, researchers, healthcare professionals and patients is a crucial building block.
- **The Restore our Ocean and Waters mission** will foster a digital ocean and water knowledge system, which includes preparation of the Digital Twin of the Ocean to be integrated with the Destination Earth initiative of the Digital Europe Programme. The mission will pilot and test ground-breaking research and innovation to map, monitor, predict, manage and restore the ocean and waters under adverse climate change and anthropogenic pressures. It will build on and extend existing and planned European infrastructures and services such as Copernicus⁷ or and EMODet⁸.
- **The Climate-Neutral and Smart Cities mission** will support large scale R&I activities for developing, testing, demonstrating and scaling-up innovative solutions for climate neutrality in cities across sectors. This will accelerate the capacity of cities to deliver on climate neutrality and help cities become hubs focused on scaling-up of innovative solutions.

⁷ <https://www.copernicus.eu/en>

⁸ European Marine Observation and Data Network

- **The Soil Deal for Europe mission** will put communities and stakeholders at the centre of the innovation process. It will pioneer the large scale deployment of 100 living labs and lighthouses where people from all walks of life and businesses can co-create knowledge and solutions in real-life conditions and demonstrate their value.

An all-in approach

EU Missions acknowledge that societal challenges need a comprehensive, all-in approach that cuts across the boundaries of policies, programmes and different levels of governance. Missions facilitate such an approach by starting with a clear objective and shared agreement on when that objective has to be realised. Real impact will follow from the missions' ability to rally all actors – different levels of government, researchers and innovators, education institutions, small and large businesses, investors and civil society – behind these concrete and achievable objectives. From the start, it gives the opportunity to identify the necessary actors, policies and instruments and ensure a shared responsibility and commitments among all those involved. To steer the development of the EU Missions' implementation plans, a dedicated Commission governance model has been set up to ensure coordination and identify synergies in support of the mission's objectives. Close engagement of Member States and Associated Countries will be crucial in achieving the missions' objectives and align with national strategies. Complementarities with regional strategies and smart specialisation strategies will be identified, to help bridge the innovation divide between Member States and regions, with the support of the Committee of the Regions, and Europe's SME and innovation support networks.

Mission Examples

- **The Climate-Neutral and Smart Cities mission** will apply a demand-led approach and a Mission Platform will provide the necessary technical, regulatory and financial expertise to cities to move towards climate neutrality. The mission will also support a portfolio of research and innovation demonstrators and pilots responding to the needs expressed by the cities with the full involvement of all relevant actors nationally and locally.

- **The Cancer mission** will kick-off a unique collaboration with Member States and stakeholders at regional, national and EU level. A novel joint governance model⁹ with structured dialogue will ensure a systematic and effective integration of research, innovation and policy developments on cancer in Europe.
- **The Restore our Ocean and Water mission** will bring all relevant actors around the table through implementation charters. The charters will commit the partners in the setting up of basin-scale lighthouses to resolve common, transboundary problems such as marine and freshwater ecosystems restoration, pollution and to support a climate-neutral blue economy across the EU.

A new relationship with citizens

Another important novel element of the mission approach is how they engage people generally and especially the young, communities and social partners. New opportunities for participatory democracy across Europe, including digital technologies designed to be resilient against malicious actors, make it possible and necessary to rethink how citizens can help shape, implement and monitor the policies that can make a positive difference in their lives.

Missions propose a new way of finding solutions, designed to make it easier and more attractive for people to get involved. They focus on clear and concrete objectives, making the added value of action at the European Union level much more tangible, interesting and easy to engage with. Social innovation and citizens' science activities have enormous potential to contribute to achieving mission objectives. Discussions and exchanges between the Mission Boards and citizens across Europe were organised throughout 2019 and 2020¹⁰ to provide input and comments on their proposals and will continue in the implementation and monitoring phases of the missions through means designed for each mission and supporting dialogue across missions. The Conference on the Future of Europe¹¹ has adapted features to support dialogue with citizens in its panels and specific means will be created to support such dialogue over missions' life cycles.

⁹ 'joint subgroup on cancer' under the Steering Group for Health Promotion and Disease Prevention (SGPP) has been created, composed of research and health ministries; a dedicated 'stakeholder contact group' under the Commission's Health Policy Platform has been established, with more than 300 organisations registered.

¹⁰ https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/missions-horizon-europe/citizen-events-and-specialised-missions-conferences_en

¹¹ <https://futureu.europa.eu/?locale=en>

Mission examples:

- **The Adaptation to Climate Change mission** will support participating regions in consulting and directly involving citizens, –including through panels or the most accessible means - authorities and businesses with the view to prepare regional climate risk plans and transformation activities.
- **In the Climate- Neutral and Smart Cities mission**, the selected cities will involve their citizens in drawing up the objectives of “Climate City Contracts” to help reach climate neutrality by 2030. The active involvement of citizens locally organised approaches will continue during the implementation, building ownership and legitimacy of the actions that the local authorities launch.
- **The Soil Deal for Europe mission** will empower citizens to become ‘soil stewards’. Citizens will benefit from opportunities to experience in practice how soil health affects their lives and will be stimulated to participate in citizen science initiatives, for example helping gather data for soil monitoring.
- Young people will be invited to help protect the planet through a planned Climate initiative under the **European Solidarity Corps**.

4. Conclusion

EU Missions are designed to do things differently. They represent an innovative way to work together, tackle challenges and improve the lives of citizens in Europe and beyond. The concrete targets of the missions and their timeline to achieve results by 2030 provide a clear path to measure success and help to rally support from Europeans across countries, sectors and disciplines.

The Commission will mobilise the appropriate instruments and resources in pursuit of the missions’ objectives. To start the implementation of the five missions the Commission will make EUR 1.89 billion available from the Horizon Europe programme for the period 2021-23. The first main tranche will be in place by the end of 2021. No later than 2023, the Commission will make an assessment of the five missions and future financial needs.

Missions must enable joint learning and experimentation across Europe to innovate to reach their objectives, by mobilising communities and governments. The active involvement of Member States, regions, local authorities, researchers, innovators, the private sector, citizens, civil society and investors is a critical success factor. Equally, the support and input of the

European Parliament, for example through the work of its Special Committee on Beating Cancer, will also be essential. Further still is the international profile to be developed. Discussions with all relevant actors will be organised in the coming months to define cooperation and set expectations for their participation in reaching the missions' objectives.

The ambitious commitments across a timespan of nearly a decade present a bold and necessary departure from traditional policy making. The nature of the challenges and the potential gains demand us to take decisive action. It is time to be bold.

Annex – Mission Factsheets



Adaptation to Climate Change to support at least 150 European regions and communities to become climate resilient by 2030

Why a European Mission?

Climate change poses an immediate threat to our **health** and our **economy** by increasing the frequency and intensity of extreme weather events like:

- Floods
- Hurricanes
- Forest fires
- Heat waves
- Droughts

In the EU, impacts of climate-change already cost at least **EUR 12 billion per year**. Estimates show that these losses will grow rapidly if we do not **act now**.

Opportunities

Supporting our regions to become climate resilient helps them to:

- **Be prepared** for inevitable changes and extreme events;
- **Share experiences** and solutions with multiple benefits;
- **Prevent** significant economic losses.

Goals

The mission will:

- Support regions to better understand, prepare for and manage their climate risks and opportunities;
- Support regions to develop transformation pathways and activities;
- Support innovative climate resilience solutions and help them find additional investments;
- Accelerate the transformation of ≥ 150 regions to a climate resilient future;
- Deploy ≥ 75 large-scale demonstrations of systemic transformations to climate resilience

Actions

- A mission Implementation Platform will be established to support and coordinate the implementation of the mission and assist participating regions;
- The Horizon Europe programme will invest **EUR 368.36 million** in the period 2021-23 to support the implementation of the mission;
- The mission will start with 60 – 100 regions and implement first actions between 2021 and 2023;

- Afterwards, the mission will sustain development of innovative climate resilience solutions and their implementation on the ground with another 50 – 100 regions.



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

Why a European Mission?

Cancer is a major and **growing societal challenge** and puts an immense with increasing pressure on health systems **limiting numbers who can access diagnosis or treatment on time:**

- 2.7 million people in the EU are diagnosed each year (number will increase);
- 1.3 million people die from cancer each year (number will increase);
- **Total cost of cancer in Europe in 2018, estimated at €199 billion.**

Addressing these challenges cannot be achieved through existing, often fragmented activities at EU, national and regional levels, even more so in light of the disruptive effect of the COVID-19 pandemic.

Opportunities

These challenges present a **unique opportunity** for the Cancer mission to:

- improve cancer control across Europe;
- put citizens, including patients at the centre of research and innovation;
- ensure a systematic integration of research and innovation into policy development, supporting the implementation of Europe's Beating Cancer Plan.

Goals

The mission, jointly with Europe's Beating Cancer Plan, will:

- Implement a strategic R&I agenda for a better understanding of cancer;
- Design effective prevention strategies;
- Develop new methods for screening and early detection;
- Enable optimised diagnosis and better treatment;
- Improve the quality of life of patients and their families;
- Provide tailor-made support to countries, regions and communities;
- Establish a high level of collaboration within the cancer community.

Actions

- The Horizon Europe programme will provide **EUR 378.2 million** in the period 2021-23 to support the implementation of the mission;

- Set up the EU platform UNderstanding CANcer.eu (UNCAN.eu) and the European Cancer Patient Digital Centre, and support a network of Comprehensive Cancer Infrastructures.



Restore our Ocean and Waters by 2030

Why a European Mission?

Life on Earth depends on the **health of the connected system of the ocean, seas and inland waters**, which covers around 75% of the Earth's surface. It regulates our climate and provides oxygen, drinking water, clean energy and food. Yet man-made changes are putting our ocean and waters at a serious risk, leading to:

- Pollution;
- Biodiversity loss;
- Extreme weather events such as floods, droughts and heatwaves.

We need to **act now** to reverse the degradation of our ocean and waters.

Opportunities

A restored ocean and healthy waters can play a **key role** in achieving:

- **Climate neutrality** □ The ocean and waters are major carbon sinks and are essential for adaptation to climate change
- **Biodiversity** □ The ocean and waters are home to a rich diversity of species.
- **Economic prosperity** □ The ocean is estimated to generate €2.5 trillion per year by 2030

Goals

The mission will:

- ***Protect and restore aquatic ecosystems and biodiversity.***
 - ≥30% of EU's sea area protected
 - ≥10% of EU's sea area strictly protected
 - ≥25,000 km of free-flowing rivers restored
 - Marine and coastal ecosystems restored¹²
- ***Prevent and eliminate pollution***
 - ≥50% less plastic litter at sea

¹² The Mission will also contribute to the forthcoming nature restoration targets for the marine environment, as announced in the EU Biodiversity Strategy for 2030

- $\geq 30\%$ less micro-plastics released into the environment
- $\geq 50\%$ less nutrient losses
- $\geq 50\%$ less use and risk of chemical pesticides
- ***Make the EU's blue economy carbon-neutral and circular***
 - Net zero maritime emissions
 - Zero-carbon and low-impact aquaculture
 - Circular, low-carbon multi-purpose use of marine and water space.

Actions

- The Horizon Europe programme will provide EUR 344.16 million in the period 2021-23 to support the implementation of the mission, with other funding including from the European Maritime Fisheries and Aquaculture Fund, Invest EU and other programmes e.g. EU Space Program
- Launch 'lighthouses' in major sea and river basins to pilot, demonstrate and deploy solutions to achieve the mission objectives;
- Conclude lighthouse implementation charters to ensure governance and political commitment;
- Establish EU-wide 'Blue Parks' to provide new restoration and conservation opportunities, as well as expand networks of marine protected areas;
- Put in place a digital ocean and water knowledge system which includes preparation of the Digital Twin Ocean, an action contributing to the activities of the Destination Earth Initiative, and improved environmental monitoring of the ocean health, supporting effective water management;
- Connect, mobilize and empower European citizens and local communities to take action for the restoration of the ocean and waters in a more inclusive way.



100 Climate-Neutral and Smart Cities by 2030

Why a European Mission?

Cities play a pivotal role in **achieving climate neutrality** by 2050. They:

- Take up only 4% of the EU's land area;
- Are home to 75% of EU citizens;
- Account for > 65% of global energy consumption;
- Produce >70% of global CO₂ emissions.

While a number of cities have made commitments to reduce greenhouse gas emissions, only a handful of cities have adopted a target of climate neutrality by 2030.

Opportunities

Climate Neutral and Smart Cities will:

- Substantially contribute to the EU’s 55% emission reduction targets;
- Offer cleaner air, safer transport and less congestion to citizens;
- Lead in climate and digital innovation, making Europe attractive for investments from innovative companies and qualified workers;
- Be places where “policy meets people”, where the European Green Deal comes alive in the daily lives of Europeans;
- Inspire remaining cities in Europe and beyond to become climate neutral

Goals

The mission will involve local authorities, citizens, businesses, investors as well as regional and national authorities in:

1. **Delivering 100 climate neutral and smart cities by 2030;**
2. Ensuring that these cities act as experimentation and innovation hubs to **enable all European cities to follow suit by 2050.**

Actions

- The Horizon Europe program will invest **EUR 359.29 million** in the period 2021-23 to support the implementation of the mission;
- A Mission Platform will provide technical, regulatory, and financial assistance to cities (2021);
- Cities will prepare, sign and implement Climate City Contracts, co-created with citizens and local stakeholders and signed by their Mayor or political representative.
 - 2021: Call for Expression of Interest
 - 2022: Selection of cities and preparation of first Climate City Contracts;
- A portfolio of R&I projects will be launched (2023);
- A Global Knowledge Exchange Centre will facilitate knowledge exchange between cities inside and outside Europe (2023);
- A mission label will give visibility and create funding and financing opportunities, e.g. in cooperation with the European Investment Bank Group;
- A network with national, local and regional authorities will help increase preparedness for the transition towards climate neutrality of cities in their respective countries.



A Soil Deal for Europe – 100 living labs and lighthouses to lead the transition towards healthy soils by 2030

Why a European Mission?

Life on Earth depend on healthy soils, but they are under threat in Europe and around the world:

- Soils are the basis of 95% of our food and other essential ecosystem services such as clean water, biodiversity and climate regulation. However, 60-70% of soils in the EU

are considered to be “unhealthy”, making us more vulnerable to food insecurity and extreme weather events;

- about 70% of agricultural land in the EU shows excess levels of nutrients with adverse effects on water quality and biodiversity;
- about 25% of land in Southern, Central and Eastern Europe is at high or very high risk of desertification;
- the costs associated with soil degradation in the EU are estimated to exceed 50 billion € per year.

It is time to act so that future generations inherit clean, productive and resilient soils.

Opportunities

These challenges present a unique opportunity for the Soil Deal for Europe mission to:

- Engage with people and create effective partnerships for soil protection and soil restoration across sectors and territories;
- Contribute to sustainable farming and forestry, healthy and safe food systems, climate resilience, biodiversity, zero-pollution, vibrant rural areas and other Green Deal ambitions;
- Support the EU’s ambition to lead on global commitments, notably the Sustainable Development Goals (SDGs).

Goals

To lead the transition towards healthy soils by 2030, the mission will:

- Fund an ambitious R&I programme with a strong social science component;
- Put in place an effective network of 100 living laboratories and lighthouses to co-create knowledge, test solutions and demonstrate their value in real-life conditions;
- Develop a harmonized framework for soil monitoring and reporting in Europe;
- Raise people’s awareness on the vital importance of soils.

Actions

- The Horizon Europe programme will invest **EUR 320 million** in the period 2021-2023 to support the implementation of the mission;
- Launch of the first wave of living labs in regions all over Europe (2023-2024);
- Establish a coordination platform to oversee the network of 100 living labs and lighthouses;
- Support targeted networks for engagement with regions and regional stakeholders, businesses and citizens (2023 – 2027);
- Launch a campaign on soil health by the European Innovation Partnership on Agriculture (EIP-AGRI) with a focus on the farming and forestry sectors.
- Set-up an international research consortium on soil carbon sequestration.