

breathe in(novation)

UNCOVER INNOVATIONS THAT MATTER



MARIYA GABRIEL

European Commissioner for
Innovation, Research, Culture,
Education and Youth



TURNING THE EUROPEAN UNION INTO AN INNOVATION POWERHOUSE



The European Commission is the EU's politically independent executive arm. It is alone responsible for drawing up proposals for new European legislation, and it implements the decisions of the European Parliament and the Council of the EU.

Mariya Gabriel is the European Commissioner for Innovation, Research, Culture, Education and Youth. Under her leadership, the new Horizon Europe, Erasmus+, and the cultural strand of Creative Europe programmes are being implemented. Between 2017 and 2019, she was European Commissioner for Digital Economy and Society. She has been elected as Member of the European Parliament in 2009, 2014 and 2019.

Could you elaborate on your key priorities as European Commissioner for Innovation, Research, Culture, Education, and Youth?

— The areas and programmes under my responsibility embody both the talent and heart of Europe. Taken together, they can have a real positive impact on the businesses, as well as on the daily lives of citizens in all regions across Europe. Since the beginning of the mandate, with my team, we are working for a true European Education Area, a renewed European Research Area, an innovative and modern digital education that leaves no one behind, and a stimulating innovation ecosystem in which creativity, innovation and businesses can thrive.

One of my main priorities is to focus on deep-tech innovations that target global challenges, from limitless energy production to sustainable construction, to efficient agriculture and food production.

We ensured that the EU has the largest programmes, in terms of budget and time duration, like Horizon Europe (95.5 bn EUR) and Erasmus+ (28 bn EUR), which can turn our ambitions into joint actions and deliver with impact.

The new European Innovation Agenda adopted in July 2022 will create a true pan-European innovation ecosystem to ensure Europe becomes a global powerhouse for innovation, startups and talents. We focus on crowding in private investors and on creating networks of networks to build a true pan-European innovation ecosystem.



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Finally, with my team, we place excellence at the centre of our knowledge, with our aspiration to ensure access for all regions and citizens. This is crucial for making the EU more competitive and a leader in science and innovation.

What are the objectives of the EU Commission when it comes to innovation?

— Our goal is to help researchers and innovators in the most efficient way possible, to ensure they reap the greatest possible benefits. Compared to Horizon 2020, the number of Horizon Europe Partnerships has been reduced, from 135 to only 49. The intention is to be more strategic in selecting our investments and to have greater impact on technological challenges, such as developing a clean hydrogen supply or innovative medicines.

The European Commission is also looking for an innovative way to approach policymaking. Our Horizon Europe Missions embody the concept that research and innovation continuously shape our everyday lives and our future – and that we, as stakeholders and citizens, can have a say in the process.



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Innovation as a topic is associated more with private firms, startups, and academia. How is government policy pushing the innovation agenda?

— Government policy is essential in creating a favorable ecosystem for innovation stakeholders in terms of regulations, incentives, and funding. Government policy is also important in guiding innovation towards policy objectives and desired societal goals. We need to remind new innovators that, above and beyond the profit motive, there is a broader societal landscape to consider.

At EU level, we are working on one hand to provide a favorable regulatory framework for startups and scaleups, and on the other hand to ensure that innovation ecosystems provide sufficient support to innovators.

Why is innovation important for the EU Commission specifically?

— Europe is a recognized global scientific powerhouse, but we need to strengthen further our innovation potential to transform research outputs to marketable products. The green and digital transitions are key priorities that drive innovation to the forefront of political discourse. The Commission sees innovation as the key to a sustainable future.

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Is Europe investing enough in innovation?

— Three factors must be considered: investments in innovative startups; investments in the underlying education system; and investments in science.

In terms of startup investment, 2021 was a remarkable year in Europe. Private funding has tripled from last year, and unicorns [startups valued at €1 billion or more] have proliferated.

In terms of education, the New Universities Strategy encourages continuous investment in European education systems, mobilizing €80 billion for higher education in the EU. In response to the COVID-19 pandemic, the EU is channeling more funds than ever into education and training, with around €50 billion of the EU's NextGenerationEU recovery fund dedicated to the sector.

And, finally, in the area of science, in 2020, the EU Member States spent around €311 billion on research and development (R&D). The R&D intensity – R&D expenditure as a percentage of GDP – stood at 2.3 percent in 2020, up from 2.2 percent in 2019, with the goal of increasing to 3 percent of GDP.



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Although Europe is investing significantly in innovation, we can do more. Most importantly, we need to connect the programs dedicated to education, science, and innovative startups.

How is the European Innovation Council (EIC) supporting the growth and commercialization of high-impact technologies in the EU?

— As Europe's flagship innovation program for identifying, developing, and scaling game-changing technologies and innovations, the EIC was created to overcome the major barriers to Europe fulfilling its innovation potential.

The first of these is the 'European Innovation Paradox,' which states that, while Europe is a world leader in science, other regions lead in innovation. In 2022, €350 million will be made available to EIC Pathfinder projects to develop cutting-edge technologies, as well as more than €130 million for EIC transition funding to turn research findings into well-designed innovation opportunities. Startups originating in the EIT have priority access to EIC assistance.

The 'valley of death' is a second barrier for deep tech startups looking to scale up high-risk innovations.¹ The EIC will provide close to €1.7 billion for an accelerator in 2022, with around half of that amount invested in equity via the EIC Fund. The EIC Fund is already one of Europe's leading early-stage

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technology investors.

Five EIC-supported startups have already become unicorns, but we want to get more out of the EIC. For this reason, in 2022 the new ScaleUP 100 program will select the 100 most promising scaleups, supporting them in reaching unicorn status by ensuring they have the right connections with investors, customers, industry, and public procurement opportunities.

What are the major focus areas for innovation in Europe?

— Deep-tech innovation will be one of Europe's primary focus areas. We are focusing on deep-tech startups that are trying to solve our most pressing problems in areas such as energy, food security, and the circular economy.

In the New European Innovation Agenda, we have identified five areas: attracting more institutional investment; providing an innovation-friendly regulatory framework; connecting local innovation ecosystems across Europe; enhancing policymaking on innovation at both European and member state level; and strengthening Europe's attractiveness to entrepreneurial talent.

How will the NEIA be working to create a single, borderless market for innovation and technology across the EU?

— The NEIA will work to improve cross-border access to finance for innovative businesses; connect local innovation hubs across national borders, and promote talent mobility across the continent. It will also focus on the Listing Act, which aims to simplify both initial and ongoing listing requirements for companies. This action should facilitate cross-border capital flows, give companies more options for their IPOs, and reduce investor home bias.

¹ Period in the life of a startup in which it has begun operations but has not yet generated revenue.

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The NEIA will also propose actions to increase the inclusion and interconnection of less well represented regions and actors into a more tightly knit European ecosystem, capitalizing on the experience, needs, vision, and perceptions of an increasingly diverse range of people, businesses, and places.

What are the main challenges you face to drive the innovation agenda at EU level? How can we accelerate the pace of innovation in the EU?

— We face several challenges to innovation in Europe. First, there are innovation divides between and within member states that impede a balanced and inclusive social and economic recovery in Europe. Second, European innovation requires the accelerated transfer of new technologies from research to market. Third, there is a lack of risk finance for companies to scale quickly. Finally, internal-market fragmentation and the regulatory burden are another challenge.

One of our most important tasks now is to reverse these trends, boosting Europe's innovation performance, and addressing these long-standing issues. The NEIA aims to position Europe as a leading player on the global innovation scene. It includes five flagship initiatives that will:

- improve access to finance for European startups and scale-ups, for example, by mobilising untapped sources of private capital and simplifying listing rules;
- improve the rules to allow innovators to experiment with new ideas; for example, we are considering the creation of regulatory sandboxes to aid us in our green and digital transitions in areas such as wind, hydrogen, and geothermal energy;
- help create “regional innovation valleys” that will strengthen and better connect our innovation players through Europe, including in regions that need to improve their innovation potential;
- attract and retain talent in Europe, for example by training 1 million deep tech talents, increasing support for women innovators and innovating with start-up employees' stock options;
- improve innovation policy-making through clearer terminology, indicators and data sets, as well as policy support to Member States.

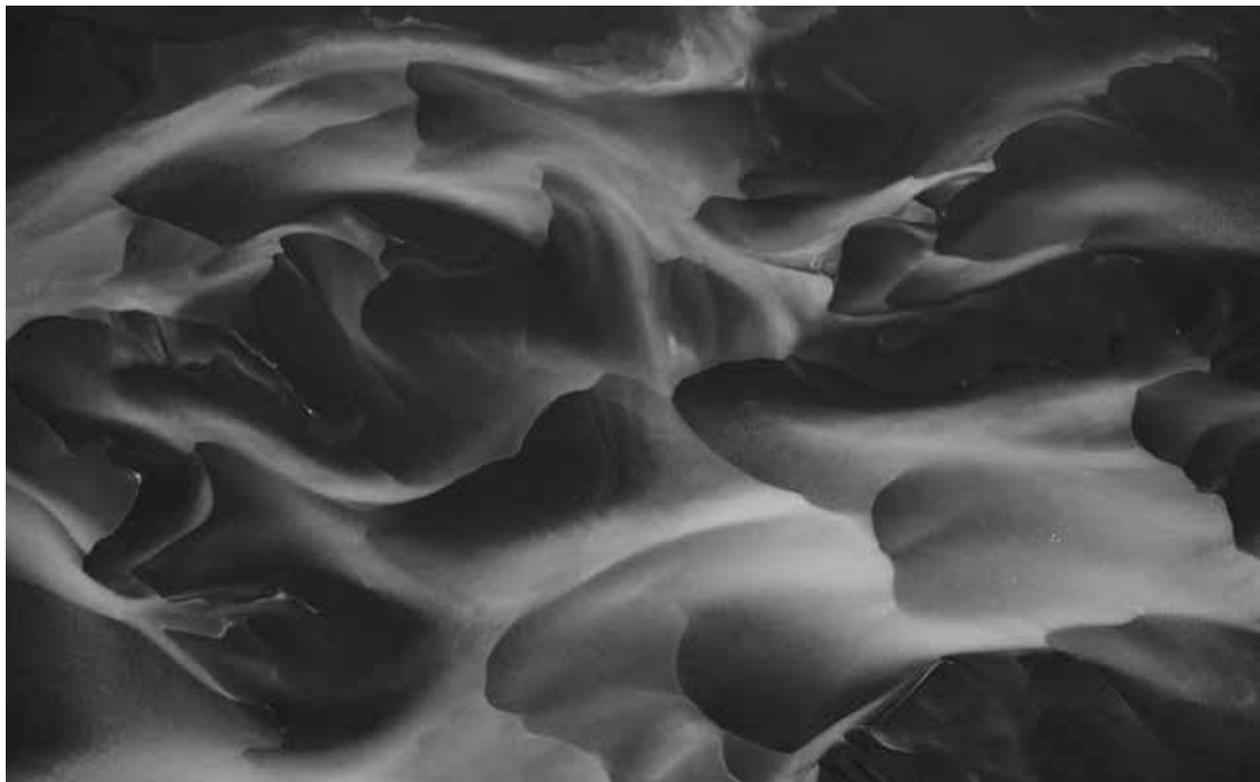
Only by focusing on these five dimensions will Europe become an innovation leader.

What are your thoughts on innovation as a driver of the sustainability agenda?

— Our objective is to deliver an innovation policy that can drive sustainable, resilient recovery and accelerate the green transition. Research and innovation are enablers for key sectors of the European Green Deal – from new energy sources to efficient heating of buildings and creating circular industrial processes, to implementing sustainable transport and mobility and food systems, and defending the biodiversity of our ecosystems. European research and innovation will drive the transformative Green Deal agenda, with 35% of Horizon Europe’s budget devoted to climate-related activities.

Horizon Europe EU Missions are set to deliver concrete results by 2030, four of which will address key Green Deal areas: adaptation to climate change; restoring our oceans and waters; the transition towards healthy soils; and the highly ambitious Cities Mission, aiming to transform 100 cities into climate-neutral smart cities by 2030.

Another key tool to delivering the green and digital transitions is the new



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wave of European 'research and innovation partnerships' with industry and/or EU Member States. Under the Horizon Europe Cluster 5: Climate, Energy and Mobility, the Commission is investing €7.1 billion into these partnerships. Our partners, the private sector and Members States, have committed an additional €11.6 billion.

Finally, the recently created EU-Catalyst partnership brings together the Commission, the European Investment Bank (EIB) and Breakthrough Energy Catalyst to mobilize up to €820 million in 2022–26 to accelerate the deployment and commercialization of innovative technologies that will help deliver on European Green Deal ambitions and the EU's 2030 climate targets. Investments will be directed towards a portfolio of EU-based projects with high potential in four areas: clean hydrogen, sustainable aviation fuels, direct air capture, and long-duration energy storage.

€7.1 BILLION

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