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The role of research and innovation in support of Europe's Recovery from the COVID- 19 crisis



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POLICY BRIEF

*Research and
Innovation*

The role of research and innovation in support of Europe’s recovery from the Covid-19 crisis

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Policy brief



THE ROLE OF RESEARCH & INNOVATION IN SUPPORT OF EUROPE'S RECOVERY FROM THE COVID-19 CRISIS

1 Introduction

R&I are critical levers to ensure a sustainable and inclusive recovery, while boosting the resilience of our production sectors, the competitiveness of our economies and the transformation of our socio-economic systems.

This document focuses on six axes:

- (1) **The role of R&I as essential part of the [coordinated EU response](#) to the Covid-19 outbreak;**
- (2) **R&I drive, enable and accelerate the digital and ecological transformation of our societies, with a focus on the European Green Deal;**
- (3) **In the context of the current fiscal stance as a response to Covid-19, and in view of potential future crises, public investments in R&I should be prioritised;**
- (4) **Investments in innovative SMEs (including start-ups) and midcaps are critical for the Recovery;**
- (5) **Incentives for firms to create capacity to maintain their economic activity and invest in people and in R&I during the crisis to build system wide resilience;**
- (6) **R&I funding has been among the most impactful tools at EU level to tackle the Covid-19 outbreak.**

2 The Role of R&I for the recovery from COVID-19

Research and innovation (R&I) play an essential role in the response to the Covid-19 outbreak. They are also critical levers to ensure a sustainable and inclusive recovery, while boosting the resilience of our production sectors, the competitiveness of our economies and the transformation of our socio-economic systems. Research and innovation actions are an essential part of the [coordinated EU response](#) to the public health threat of Covid-19. They channel public and private investments and align funding and investment streams

to underpin the Recovery. In the current context, we need science-driven solutions, including better scientific understanding of the virus as well as the development of vaccines, treatments and diagnostics. R&I also provides the technologies that allow for safer and faster tracking of the virus. In global emergencies, such as the Covid-19 pandemic, it is essential to remove all obstacles to the free flow of data, researchers and ideas. Full, timely and fair access to scientific information and research results during crises for researchers, journalists, medical staff and all citizens is of utmost importance for

accurate and affordable science-based responses. Moreover, openly accessible, machine-readable, interoperable data is needed to follow the spread of the epidemic, and forecast its rapid evolution. Key datasets include clinical, epidemiological and laboratory data. It is of crucial importance to invest in stronger and more resilient national health systems, capable of rapid and integrated responses drawing on the latest scientific discoveries, with equal access across the EU.



The European Commission launched the [Covid-19 data platform](#) to enable the rapid collection and sharing of available research data.

The platform is part of the [ERAvsCorona Action Plan](#) and marks a milestone in the EU's efforts to support researchers in Europe and around the world in the fight against the Covid-19 outbreak.

Building on the successful mobilisation of public and private efforts to tackle the Covid-19 outbreak, the Recovery should accelerate the digital and ecological transformation of our societies, with a particular focus on the European Green Deal and giving a clear signal to industry, investors and consumers.

Our response to the Covid-19 crisis can either amplify or mitigate the deeper and longer-term crises that our planet is facing. The fundamental systemic change towards sustainability needs to emerge from science-informed design. We should now seize the opportunity to make our societal and economic recovery truly transformative, by investing massively in solutions that address this crisis, but also accelerate the social, environmental and economic transitions that our planet and

society need. In line with the European Green Deal, the recovery should be designed with strong economic incentives for companies to phase out fossil fuels and invest in development, scale up and diffusion of disruptive technologies in the areas of renewable energy, building renovation, sustainable mobility, preservation of biodiversity and ecosystem restoration, zero pollution, toxic-free environment and sustainable food systems. We should continue to aim at shifting towards a circular and low carbon economy and securing a path to net zero emissions by 2050. At the same time, the crisis is a test for our social protections systems and European values and thus the recovery will require a set of labour market regulations and other social security solutions that reinstall a safety net for all. The Recovery is also a test for all governments and stakeholders to cooperate internationally and for the EU to promote transparency and trust and lead global response. International R&I cooperation and investment, via effective and tested platforms like Mission Innovation, as well as science diplomacy will be essential for bringing together the best of talents and ensuring clean and green impact on the post Covid-19 global value chains.



The **Horizon 2020 Green Deal call** will mobilise R&I to foster a just and sustainable societal transition. This call, with an estimated budget of around €1 billion, is foreseen to address the main priorities of the European Green Deal and establish a pathway for additional R&I initiatives in the context of Horizon Europe.

Future **Horizon Europe** missions, with a wide impact for major issues like climate, cancer, oceans, cities, soil and food, will be amongst the largest ever concentrations of the EU's financial firepower in these areas and will be tasked with supporting the recovery effort, promoting environmental, economic and societal resilience.



In the context of the currently more relaxed fiscal stance as a response to Covid-19, and in view of potential future crises, public investments in R&I should be prioritised (e.g. in the form of investments in vaccines or therapeutics). As previous crises showed, R&D investments, both public and private, have traditionally been regarded as adjustment variables to square public and private accounts, instead of as a key strategic investments to achieve long-term societal and corporate sustainable objectives. In direct proportion to the growth contraction estimated by the OECD, a loss of total public and business EU R&D investments of -1.3% (€3.9bn) in 2020 can be computed. This could be smoothed out if public R&D investments directed towards tackling the pandemic resilience were prioritised. R&I investments must also contribute to regional cohesion and inclusion. The asymmetrical impact of the crisis across sectors, regions and segments of the population, including the youth, can exacerbate regional disparities and inequalities.

The **Innovative Health Initiative** aims to enable the integration of cross-sectoral technologies, know-how, products, services and workflows for people-centred health care. Its ambition is to support the delivery of timely and well-informed prevention, diagnosis and treatment.

The partnership aims to keep EU citizens in good health, decrease disease burden for patients, care givers and health care professionals. It will contribute to the environmental and fiscal sustainability of health care systems, competitiveness of health industries and EU technological sovereignty.

Investments in innovative SMEs (including start-ups) and midcaps are critical for the Recovery. The economic downturn will undoubtedly have a negative impact on business' R&D and innovation. Yet, R&I investment remains a critical driver of productivity, economic growth, jobs and supports the EU's global competitiveness. The Recovery Package should strengthen the envisaged support under the InvestEU Programme and notably the facilities under the Research, Innovation and Digitisation and SMEs windows, which will play an important role in facilitating and accelerating access to debt and equity finance for high growth, research and innovation driven SMEs, including start-ups, and midcaps. In the same vein, particular attention should be given to emerging technologies and breakthrough innovations, notably carried out by start-ups and SMEs who should receive the necessary support via the European Innovation Council in order to scale up.

Targeting game-changing innovations by EU start-ups and SMEs, the **European Innovation Council** has a huge potential to support the recovery and the EU ambitions on digitalisation and climate.

While the survival of numerous start-ups and SMEs is threatened by the crisis, the EIC can provide access to patient capital from convertible bonds in addition to its direct equity investments.

The recovery should be supported by measures that build system wide resilience. This includes notably incentives for firms to create capacity to maintain their economic activity and invest in people and in R&I during the crisis. In the short term, it would be notably important to consider schemes that support firms in respecting social distancing and in furnishing adequate protection for workers at risk (e.g. tasks not susceptible to telework). Support schemes should also be envisaged for firms with staff that are assigned to critical sectors or tasks, so that they can effectively return to their original employer after the crisis. To increase crisis preparedness, it is also relevant to step up investments in new and safe ways of working, including through the acceleration of digital skills at enterprise and worker level. All types of innovation, including process and social innovation should be supported. It can also be timely to consider an EU Job Guarantee Programme focused on green jobs that kicks in and ramps up during the direst times and then can be easily scaled down and up again depending on the job market.

Green and circular production and industrial symbiosis. Investments in breakthrough materials and novel technologies, including through the proposed European partnership "Processes4Planet", are needed to integrate renewable energy production, storage and transportation, with industrial processes.

Large scale demonstration and industrial symbiosis driven by industry with regions and citizens can trigger the commercialization of green innovations and achieve 55% GHG emission reductions by 2030.

R&I funding has been among the most impactful tools at EU level to tackle the Covid-19 outbreak. There is scope for increased cooperation and coordination of R&I funding amongst Member States and other international partners countries, including public private partnerships. Greater public and private investment (including in research infrastructures) and public private cooperation in R&I will ensure greater preparedness to address demand peaks and become less dependent on long value chains. Science and innovation contribute to create common standards (e.g. for diagnostics tests, health data, product approvals, joint public procurement of innovation, and development of clinical guidelines). To respond quicker, European research organisations (including firms) need to have the possibility to keep their laboratories and educational facilities open during lockdowns. The difficulties many countries have faced in ensuring an adequate supply of personal protective equipment or ventilators during the Covid-19 crisis illustrates the importance of securing sufficient manufacturing capacity for this type of strategic asset within the EU. There is a clear need to explore circular economy solutions for medical equipment and personal protective equipment like mouthmasks. We will strongly engage with citizens to ensure that directionality of R&I is sensitive to society's needs.

Flexible manufacturing for rapid and resilient production. Manufacturers should be able to develop resilient and responsive factories through modularity and flexible production lines to rapidly adjust production and requalify tools and products in the face of changing global value chains. Investments in new technologies and flexible manufacturing systems to leverage business investments would be enabled by the European Partnership "Made in Europe".

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The EU Open Data Portal (<http://data.europa.eu/euodp/en>) provides access to datasets from the EU. Data can be downloaded and reused for free, for both commercial and non-commercial purposes.

This Policy Brief presents the narrative on the role of research and innovation (R&I) in response to the Covid-19 crisis and six priority areas where efforts should focus underpinned by examples.

It highlights that R&I are critical to ensure a sustainable and inclusive recovery, while boosting the resilience of our production sectors, the competitiveness of our economies and the transformation of our socio-economic systems.

Research and Innovation policy



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