INFORMAL MEETING OF HIGHER EDUCATION AND RESEARCH MINISTERS

16-17 SEPTEMBER 2024, BUDAPEST

BACKGROUND PAPER – PLENARY 2: 'STRENGTHENING EUROPEAN COMPETITIVENESS THROUGH RESEARCH AND INNOVATION (R&I) AND REDUCING FRAGMENTATION IN THE EUROPEAN RESEARCH AREA (ERA)'

EU'S COMPETITIVENESS AND R&I PERFORMANCE IN THE GLOBAL CONTEXT

Over the past three decades, the EU's competitiveness has been weakened, with its diminishing share of the global economy. The gap in per capita GDP and GDP growth between the EU and the US is largely driven by a gap in labour productivity, which is about 15% lower in the EU compared to the US.[1] In addition, this period has been characterised by a sharp rise of Asian economies, notably China.

Research and innovation is crucial to boost Europe's competitiveness and is a main driver of productivity growth and living standards. Nevertheless, recent trends are worrying in this field: in 2021, R&D spending in the EU reached 2.3% of the GDP, compared to 3.3% in Japan, 3.5% in the US, 4.9% in South Korea and over 2.4% in China.[2] Private sector R&D investment is lower in the EU compared to other major economies, with significant variations across Member States. The EU is still very far from reaching the 3% R&D target that we set out for ourselves two decades ago and thus was reiterated in the European Council Conclusions of April 2024.[3]

Similarly, the share of scientific and innovation related performance of the EU has decreased at global level despite its solid base: the EU produces approximately 18% of the world's scientific publications (down by ~7 percentage points since 2007) while China leads in the number of top-cited publications.[4] In 2000, the EU's global share was of around 30% of all patent applications, but this has declined to 17.3% in 2021. On the contrary, Chinese performance has continued to improve, accounting in 2021 for 25.4% of all patent applications, ahead of the United States

[1] See SRIP (2024), p. 468.
[2] See SRIP (2024), p. 47.
[3] See Special meeting of the European Council (17 and 18 April 2024) – Conclusions - euco-conclusions-20240417-18-en.pdf (europa.eu)
[4] See SRIP (2024), p. 153.

with 20.7%. The EU has fewer unicorns (startups valued at over $1 billion) compared to the US and China. As of November 2023, Europe had around 90 unicorns, while the US had over 700 and China had about 290.[5] While innovation performance has increased in most EU Member States since 2016, the pace of improvement has slowed down, with only a 0.6 percentage point increase between 2022-2023.[6]

Therefore decisive policy actions are needed to boost Europe's R&I performance and raise its global competitiveness while maintaining our commitment to the concept of "sustainable competitiveness". Delivering on our commitment will require more collective efforts at the EU and national levels both from the public and private sectors. Governments will need to prioritise R&I related measures that will create the right conditions to incentivise stronger private R&I.

In light of the above, ministers are invited to give their views on the following questions:

- ***How to boost competitiveness in R&I and at the same time preserve the Union's core values and its social, economic and environmental priorities? Please share any good practices.***

THE FRAGMENTED NATURE OF THE EUROPEAN R&I ECOSYSTEM

Scoping down to the EU, it becomes evident that the R&I divide still persists with Northern and Western Europe being home to innovation leaders, while moderate and emerging innovators are mostly situated in Southern and Eastern Europe. This geographical divide has remained standing over the last 20 years, with a few notable exceptions, such as Estonia that strengthened its performance through comprehensive R&I driven agenda.[7]

R&I collaborations within the EU have been constantly increasing, but there are still considerable differences between regional and national R&I ecosystems, their levels of integration into scientific networks and R&I collaborations across Europe. The geographical divide in the EU is strong, both in terms of R&I inputs, such as R&D investment, and outputs, such as patenting activity. There is a pronounced regional concentration of R&D investment in the EU with the rise of a set of

[5] See SRIP (2024), p. 331.
[6] See EIS (2024), p.13.
[7] See EIS (2024), p.7.

innovation hubs. The regional pattern of technological production is also driven by the existing innovation divide.

EU programmes, such as the EU Framework Programme for R&I and Cohesion Policy Funds, play a vital role in enhancing and steering collaboration networks and overcoming cross-border barriers. However, fragmentation still exists: the funding absorbed by EU13 MSs[8] in H2020 was 5.81% and – up until 22 July 2024 - 8.07% in HEU,[9] whereas these countries represent 24% of the total population of the EU. The European co-publication and co-patenting networks remain more concentrated than that of R&I collaboration networks.[10]

In order to address the innovation divide, first and foremost, Member States need to boost their R&I capacity through increased and sustained investments as well as pro-innovation reforms to strengthen national and regional innovation ecosystems. In addition, boosting innovation creation and diffusion will also require stronger R&I collaborations across and within Member States, creating thicker links between ecosystems, within and across existing innovation hubs.

In light of the above, ministers are invited to give their views on the following question:

- ***How can the EU facilitate the effective cooperation among all Member States, where all talent and creativity is mobilized as well as innovation ecosystems are better interconnected to enable the European competitiveness?***
- ***What strategies and measures could ensure that EU level R&I funding is absorbed in a more balanced manner among Member States?***

THE STATE OF PLAY OF THE EUROPEAN RESEARCH AREA (ERA)

The ERA is one of the objectives of the European Union where researchers, scientific knowledge, and technology circulate freely (Article 179 TFEU). The aim of the ERA is to enable the EU to strengthen its scientific and technological bases, its competitiveness, and its capacity to support other Union policies. Four years after the relaunch of the European Research Area in 2020, it is time to take stock of the progress made. This review shall identify any gaps of the implementation and

[8] EU13 Member States include countries joined the EU since 2004, namely Bulgaria, Czechia, Cyprus, Estonia, Croatia, Hungary, Lithuania, Latvia, Malta, Poland, Romania, Slovakia and Slovenia.
[9] Data retrieved from Horizon Dashboard on 22 July 2024.
[10] See SRIP (2024), pp. 271-274.

assess the ERA's ability to equip the European research and innovation ecosystems with the necessary policies, tools, and mechanisms to enhance EU competitiveness and address new EU priorities and initiatives.

As regards the practical implementation of the ERA Policy Agenda 2022-2024, it can be noted that several actions had been proposed and realised within the ERA framework to achieve the core objectives. They address various aspects of the research and innovation ecosystems, such as open science, research infrastructures, careers, knowledge valorisation, research management, gender or international cooperation. The implementation of the ERA actions is expected to break down barriers and to create a more integrated research landscape, making Europe an attractive destination for R&I talents. The next ERA Policy Agenda 2025-2027 is currently under discussion, and is expected to be adopted next year and should reflect on the challenges highlighted by the Letta report: "to transform existing dispersed knowledge, fragmentations and disparities into unified opportunities for growth, innovation, and inclusivity."[11]

In light of the above, ministers are invited to give their views on the following question:

- ***What is needed to ensure that the ERA contributes in a more significant manner to Europe's competitiveness and the creation of a more integrated research landscape in the EU?***
- ***What should the next ERA Policy Agenda focus on to deliver impact?***

MINISTERS ARE INVITED TO SPEAK FOR 3 MINUTES ON THE ABOVE QUESTIONS.

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[11] Letta (2024), p. 19.

MAJOR RELATED DOCUMENTS

- Why Europe needs a systemic R&I policy: Redefining competitiveness for long-term sustainability. ESIR Policy brief, May 2024. ISBN 978-92-68-17656-6. Available at https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/systemic-ri-policy-europe-redefining-competitiveness-long-term-sustainability-2024-06-21_en
- Combining Regional Strengths to Narrow the EU Innovation Divide. ESIR Policy brief, June 2024. ISBN 978-92-68-17655-9. Available at https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/combining-regional-strengths-narrow-eu-innovation-divide-2024-06-20_en
- Enrico Letta (2024), Much more than a market – Speed, Security, Solidarity. Empowering the Single Marker to deliver a sustainable future and prosperity for all EU Citizens. https://www.consilium.europa.eu/media/ny3j24sm/much-more-than-a-market-report-by-enrico-letta.pdf
- European Commission (2024), European Innovation Scoreboard 2024.
- European Commission (2023), European Innovation Scoreboard 2023. ISBN 978-92-68-04715-6. Available at https://research-and-innovation.ec.europa.eu/document/download/9ddcbd43-fdca-41f4-8a5d-d0e5633803f4_en
- Report from the Commission to the European Parliament, the Council, and European Economic and Social Committee, and the Committee of the Regions – On the implementation of the New European Innovation Agenda. Brussels, 18.3.2024, COM(2024) 121
- European Commission, Directorate-General for Research and Innovation, *Science, research and innovation performance of the EU – A competitive Europe for a sustainable future*, Publications Office of the European Union, 2024, https://data.europa.eu/doi/10.2777/965670
- European Commission, Directorate-General for Research and Innovation, Steeman, J., Di Girolamo, V., Mitra, A. et al., *Why investing in research and innovation matters for a competitive, green, and fair Europe – A rationale for public and private action*, Publications Office of the European Union, 2024, https://data.europa.eu/doi/10.2777/01237
- European Commission, Directorate-General for Research and Innovation, Mitra, A., Canton, E., Ravet, J. et al., *The added value of European investments in research and innovation*, Publications Office of the European Union, 2024, https://data.europa.eu/doi/10.2777/682623