REPORT

of the

2024 High Level Workshop

ON THE EUROPEAN RESEARCH AREA

Strengthening European Cohesion and Competitiveness through Research and Innovation

THE SCIENCE AGENDA FOR EUROPEAN PROGRESS IN A GLOBAL CONTEXT

Budapest, 19–20 November 2024

SCIENCE EUROPE
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HUN-REN
Hungarian Research Network

MTA HUNGARIAN ACADEMY OF SCIENCES

HU24EU
HUNGARIAN PRESIDENCY OF THE COUNCIL OF THE EU 2024

Colophon

December 2024

DOI: 10.5281/zenodo.14524552

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Acknowledgements: Science Europe extends its gratitude to the Hungarian Research Network and the Hungarian Academy of Sciences for their excellent collaboration and contributions in organising the High Level Workshop.

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Introduction

This report presents a summary of the dialogue sessions and main conclusions of the 2024 High Level Workshop that took place in Budapest on 19 and 20 November. The event was organised by Science Europe in partnership with the Hungarian Research Network (HUN-REN) and the Hungarian Academy of Sciences (MTA), under the auspices of the Hungarian Presidency of the Council of the European Union.

The 16th edition of the High Level Workshop addressed the topic of 'Strengthening European Cohesion and Competitiveness through Research and Innovation'. The event brought together 85 participants, including heads of research funding and research performing organisations, political representatives, policy makers, and researchers.

The High Level Workshop focused on four current issues in research and innovation (R&I):

- Enhancing the impact of R&I by mobilising EU-wide excellence in science
- Reducing R&I disparities in Europe
- Exploring the benefits of Artificial Intelligence in science policy to strengthen European R&I
- European research competitiveness from a global perspective

The initial outcomes of the High Level Workshop were already presented in a statement with recommendations addressed to high-level authorities, published on 4 December.

Furthermore, the outcomes of the High Level Workshop will lay the groundwork for addressing the gaps in research and innovation in Europe and build equitable and reciprocal partnerships to work towards tackling global challenges.

This report includes the main points raised in each session of the High Level Workshop. The conclusions synthesise the outcomes and are followed by a final section that outlines how these outcomes will be taken up in upcoming science policy discussions on international R&I co-operation.

Welcome Addresses

Speakers

- **Mari Sundli Tveit**, President of Science Europe and Chief Executive of the Research Council of Norway (RCN)
- **Balázs Gulyás**, President of the Hungarian Research Network (HUN-REN)
- **László Kollár**, Secretary General of the Hungarian Academy of Sciences (MTA)

Opening

Representatives of the three host organisations, **Mari Sundli Tveit**, **Balázs Gulyás**, and **László Kollár** welcomed participants. They introduced the topics that would be covered during the two days of the High Level Workshop and expressed their hope that the ideas shared in the High Level Workshop will contribute to a more resilient, inclusive, and innovative European Research Area (ERA).

Balázs Gulyás stressed the need for Europe to retain its talent and recruit more from all over the world to maintain its scientific competitiveness. This requires financial, legal, and structural support by governments. Academic freedom must also be guaranteed to support ideas and creativity. A cohesive European Research Area will provide a supportive environment to make Europe greater in science, technology, and innovation.

One of the greatest Hungarian thinkers, Count István Széchenyi, said that "a nation's strength lies in the multitude of its educated people." **László Kollár** added that the strength of a nation, and indeed a continent, is measured not only by its knowledge, but by its dedication to cultivating a community of empowered individuals. He reiterated the joint commitment of Science Europe and the Hungar-ian Academy of Sciences to foster an inclusive research landscape that values every contribution and ensures that the benefits of knowledge are shared widely.

Keynotes

Speakers

- **Signe Ratso**, Deputy Director General for Research and Innovation at the European Commission
- **Balázs Hankó**, Hungarian Minister of Culture and Innovation

Europe is at a key moment to strengthen its global competitiveness and build a coherent, integrated research and innovation ecosystem, said **Signe Ratso**. A robust and inclusive research environment is needed that promotes excellence, widens participation and reduces disparities, and exploits new technologies. In addition to the current focus on the use of Artificial Intelligence in research, there should also be attention on building the infrastructure needed to support it. To stay on the forefront of technological developments in this area, the European Commission has now set up a European AI Research Council.

A warning was raised by **Balázs Hankó**: over the past 30 years, Europe's share of the world economy has declined, and its research and innovation performance lags behind that of Asia – in particular China. This is a threat to Europe's future competitiveness, and he outlined several steps to take in the coming years to make the EU a leader in research and innovation again, including creating the best business environment for innovation and start-ups and focusing research on finding practical solutions to the most unique challenges. The phenomenon of brain drain should be counteracted, whereas creativity and academic freedom should be strengthened. He stressed the importance of equal access to EU resources for all Member States to ensure high-quality research, and expressed his hope to re-engage the Hungarian scientific community in certain EU programmes through dialogue with the European Commission and Parliament.

Enhancing the Impact of R&I

by Mobilising EU-wide Excellence in Science

Introduction

Speakers

- **Michal Pazour**, Head of Department of Strategic Studies of the Technology Centre Prague, Czech Republic
- **Krisztina Szepesvári**, Desk Officer for International Relations at the Hungarian Research Network, Chair of the Science Europe Task Force on R&I Integration
- **Krzysztof Józwiak**, Director of the National Science Centre, Poland

Different European countries and regions vary significantly in their research and innovation capacities, highlighted **Michal Pazour** in his opening address. Horizon Europe highlights those structural and functional differences at the national level. The three factors shaping inequalities across Europe are 1) the size and capacity of research systems, 2) the quality of research and 3) the mobility of researchers.

Countries with well-developed R&I systems tend to perform better in European programmes like Horizon Europe. Excellence in those cases is defined by the quality of research output, and the presence of top-ranked universities, which is considered a key factor. However, many regions struggle with producing high-quality scientific results, which limits their ability to compete in framework programmes and the ERA. When it comes to mobility of researchers, a country's innovation system determines its attractiveness as well as talent retainment. However, reducing one-way mobility from less to more developed innovation systems in Europe is a main challenge, as Pazour explained.

These challenges can be addressed at the European and national levels, as well as at the level of research organisations. At European level, synergies between different EU instruments that support R&I need to be strengthened and linked to societal challenges. At national level, increased investment in research and innovation is required, as EU funding is insufficient by itself. In addition, the quality and capacity of local research systems requires improvement. Finally, research organisations should conduct regular evaluations, and strengthen collaboration and knowledge-sharing through strategic partnerships across Europe. Overall, the ERA is as strong as its weakest member, which makes the need to address R&I disparities even more crucial.

Krisztina Szepesvári presented the results of a survey of 15 Science Europe Member Organisations, based on the six main factors at play when addressing the necessary structural reforms for a better integration of R&I systems, as identified in Science Europe's November 2022 position statement:

- Increasing national investments in R&I
- Triggering changes in research culture
- Boosting the key factors to attract and retain talent
- Strengthening support expertise and capacity for R&I
- Enhancing mutual learning and networking opportunities
- Promoting diversity as a key to success

Szepesvári also presented the key recommendations for each factor. To increase national investments, the Framework Programmes need to create more alignment and leverage of national investments, and strengthen synergies between Horizon Europe and Structural Funds. Regarding changes in research culture, the exchange of best practices on mentoring programmes could help, and EU online training programmes should strike

a balance between general and specific training (for example, on financial reporting). To attract and retain talent, rules should become more flexible. Strengthening support expertise and capacity for R&I, requires boosting the capabilities of the R&I ecosystem by recognition, training, and capacity building of research management and administrative professions. To enhance mutual learning and networking opportunities, organisations should exchange practices. The survey also found that promoting diversity is also key to success.

The recommendations included more support for underfunded disciplines at both national and EU level, and more inclusion of work packages or task leaders from the widening countries in European partnerships. More work also remains to be done to integrate gender equality into research content.

In response, **Krzysztof Józwiak** presented a successful initiative in Poland: the Dioscuri Centres of Excellence. They are an initiative by the German Max Planck Society, and are run jointly with the National Science Centre (NCN). The aim is to create centres of scientific excellence by attracting top talent to the region to carry out high-quality, outstanding research over a period of five years. The initiative is not limited to Poland, with three centres already having been established in the Czech Republic; the long-term aim is to expand it into a Europe-wide programme.

Mari Sundli Tveit noted that the presentations repeatedly highlighted the individuality of each region, contributing to the uniqueness and beauty of Europe. She stressed the importance of inclusion, diversity, and excellence in all areas of capacity building across Europe. Sharing best practices, a main goal of Science Europe, is a very important underlying message, especially in strengthening Europe. Talking about the competitiveness and future of Europe, Tveit also advocated the need to stand up for Ukraine, in the context of cohesion and inclusion.

Ministerial Input

Representatives

- **Anne Line Wold**, Director General at the Norwegian Ministry of Education and Research
- **Anna Fill**, Scientific Advisor International Research and Innovation Programmes at the Swiss State Secretariat for Education, Research and Innovation
- **Marjan van Meerloo**, Senior Policy Officer at the Dutch Ministry of Education, Culture and Science
- **Renno Veinthal**, Deputy Secretary General for Research and Development, Higher and vocational Education Policy at the Estonian Ministry of Education and Research
- **László Bódis**, Deputy State Secretary for Innovation at the Hungarian Ministry of Culture and Innovation
- **Olga Polotska**, Executive Director, National Research Foundation of Ukraine, on behalf of the Ukrainian Minister of Science Oksen Lisovyi

Moderator

- **Lidia Borrell-Damián**, Secretary General of Science Europe

High-level representatives from European research ministries were invited to the event to present the views from national governments. **Anne Line Wold** addressed Europe's competitiveness gap, as underlined by the September 2024 Draghi Report, and advocated the need to focus more on how Europe can improve its global position in the face of increasing competition and geopolitical challenges. There needs to be a fresh look at how to increase value creation and productivity in the transition to a green and digital society, while preserving our core European values. This should include scientific freedom, which is a fundamental condition for all scientific activity. The EEA and Norway grants to collaborative research projects between the EEA EFTA states and 15 EU Member States play an important role in better connecting European research ecosystems and in ensuring a more balanced absorption of EU R&I funding. This also improves the competitiveness of the participating countries.

When we talk about the European Research Area, we need to tap its full and rich potential, stressed **Anna Fill**, adding that all Member States must participate. Europe's diversity must be seen as a strength and one-size-fits-all solutions must be avoided. The promotion of open science remains a key factor and the development of research careers must continue, while insisting on the appropriate funding of important research infrastructures across Europe. This will also help to reduce inequalities. And while much can be done at European level, this is no substitute for the essential role of funding at the national level.

Marjan van Meerloo also believes that the best way to catalyse European competitiveness is through research and innovation. To this end, the Netherlands considers the whole value chain of R&I, from basic research to applied research, innovation, and commercialisation. She mentioned the incubation centre YES!Delft, which is effective in helping ideas to become reality, as an example. The best European research and innovation projects should continue to be supported and more attention should be paid to the sources and markets for research and innovation.

Renno Veinthal argued for a focus on optimising funding. One approach could be to broaden the ERC to allow more countries to become more competitive. Estonia has significantly increased R&D funding over the last four years, with robust private-sector support. With similar commitment and similar measures, the EU as a whole could approach the coveted R&D investment target of 3% of GDP. In addition, the Cohesion Fund could

not only be better used strategically as a tool for regional development, but could also be a bridge to help close the innovation gap across Europe, supporting targeted development in regions where it is most needed.

The need for Europe to strengthen its position as a leading knowledge centre and increase its competitiveness and capacity to address societal challenges, was also stressed by **László Bódis**. Closing the innovation gap and strengthening competitiveness are also top priorities for Hungary, which is why the latter has taken a big role in its EU Presidency. Knowledge and ideas are the engines of competitiveness; the potential of European talent needs to be tapped across the EU, regardless of the country of origin of the excellent ideas. This means better connecting Europe's research ecosystems, strengthening research funding, increasing the visibility of excellent researchers, opening up collaborative networks, and further simplifying access to resources. This will facilitate the entry of new players into research funding programmes.

Inequality of access to scientific opportunities and resources is also a pressing problem for Ukraine. Despite the still very difficult circumstances, the country has a high scientific potential and it works hard to support and develop research and innovation, as well as to integrate into European and global research areas. **Olga Polotska**, speaking on behalf of Minister **Oksen Lisovyi**, said that he is convinced that the European Research Area must become an area of equality, where resources, talents, and knowledge are shared to drive innovative development and address global challenges. She thanked Europe and all partner countries for their support to continue their work despite the Russian aggression against Ukraine.


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Reducing R&I Disparities in Europe

Best Practices to Promote the Freedom and Excellence of Research in Europe

Speakers

- **Luisa Henriques**, Policy Analyst and Advisor on Research and Innovation Policies, Foundation for Science and Technology (FCT), Portugal
- **Katalin Solymosi**, Assistant Professor at the Department of Plant Anatomy, Eötvös Loránd University, Hungary and Outgoing Chair of the Young Academy of Europe
- **Ruth Narmann**, Head of International Relations Department at Leopoldina, Germany
- **Špela Stres**, Director of the Slovenian Research and Innovation Agency (ARIS)
- **Francisco Javier Moreno Fuentes**, Vice-President for International Affairs of the Spanish National Research Council (CSIC), and Vice-President of Science Europe
- **Matthias Koenig**, Vice-President of the German Research Foundation (DFG), Member of the Science Europe Governing Board

Moderator

- **Adrian Curaj**, Director General of the Executive Agency for Higher Education, Research, Development and Innovation Funding of Romania (UEFISCDI) and Member of the Science Europe Governing Board

The first panel, guided by **Adrian Curaj**, discussed the definition of excellence, increase of stability in research careers, and brain drain.

The design of the next Framework Programme (FP10) offers a critical opportunity to influence policy makers in addressing disparities, said **Luisa Henriques** in her keynote address. Although she agreed with the relevance of the event, she explained that the innovation divide already emerged during the two previous Framework Programmes, and programmes to solve or reduce disparities were also included in Horizon 2020 *(1% of the total budget)*, as well as in Horizon Europe *(3,3% of the total budget)*. Although the interim evaluation of the latter has not yet been published, available data suggest that there is a very positive evolution in reducing the innovation divide. She examined how the concept of excellence-driven policy has evolved in the high-level reports to the European Commission. While the concept of excellence is unclear and multi-dimensional, the geographical concentration of excellence is an inevitable and global trend, if no corrective measures are taken and those measures were always suggested in those reports. EU13 countries have faced challenges in joining established research networks, and balancing free movement while retaining talent, leading to brain drain.

Additionally, she highlighted insights from the reports of Enrico Letta, Mario Draghi, and the expert group on the interim evaluation group of Horizon Europe, chaired by Manuel Heitor, on research

careers, which emphasise talent attraction, the central role of excellence-driven approaches to reduce R&I disparities, and more competitive policies to support excellence. In her concluding remarks, she shared her view on FP10 as a long-term strategy, requiring a systemic approach, and the need to put emphasis on network openness and how priority topics could be embedded into the design.

When discussing integrating countries, it is important to remember their different approaches, as well as their cultural diversity, said **Katalin Solymosi**. She advocated integrating diverse groups of stakeholders, including early- and mid-career researchers and women, into interdisciplinary networks and decision-making processes on R&I.

To attract top talent, excellence is essential, and research culture plays a major role towards that. However, one of the main barriers in attracting talent is the lack of sufficient compensation and involvement of foreign researchers in EU13 countries, elements perpetuating disparities and the unidirectional brain drain within Europe. Solymosi further argued that real EU integration is a prerequisite for technological sovereignty and industrial competitiveness, but also for political and economic stability. Finally, she added that low numbers of grant submissions from EU13 countries and their low success rates in Horizon grants (MSCA, ERC) should be addressed by open dialogues to address weaknesses, share strengths, and exchange best practices. In order to improve the competitiveness of researchers, skilled staff in grant-writing and application management is needed, as well as cutting-edge experimental infrastructures in research hubs and the involvement of early- and mid-career scientists in institutional strategic decision making.

Scientific excellence should be approached with a narrow definition that includes cutting-edge research and disruptive innovation, argued **Ruth Narmann**. She advocated the need to focus on how excellence can be fostered, rather than on its definition. To achieve that, a scientific ecosystem is required that meets two key preconditions: 1) autonomy and academic freedom, and 2) societal conditions (such as sufficient funding, scientific literacy, appreciation for science).

Autonomy and academic freedom are fundamental to the self-governing nature of science, facilitating academic excellence and maintaining scientists' motivation, emphasised Narmann. These values are not only essential for progress, but are also principles the scientific community must actively advocate. Favourable societal conditions , she argued, provide a strong foundation for scientific activities and excellence in every society. This also refers to the mindset and attitudes towards science; politicians and citizens should acknowledge and promote the value of science for society, for example as a key driver of innovation and thus of economic prosperity. She highlighted the importance of sufficient and long-term funding for universities and research systems to further strengthen science, as well as the critical roles of diversity, competitive salaries, transparent grant distribution, and supportive infrastructure in achieving research excellence. Fostering these is a task that reaches beyond the scientific ecosystem, however, such as by furthering STEM education in schools. Therefore, efforts to reduce disparities in scientific excellence should not only focus on the scientific system itself, but address the bigger picture: science must be seen as a crucial part of society at large.

Špela Stres contributed to the perspective of a narrow definition of excellence by expressing the need to further define it and advocated the inclusion of the diversity of research careers. She brought forward Slovenia's high performance in scientific outputs and in securing ERC grants, even though it ranks below the European average in areas of protecting intellectual property, and licensing.

Blue-sky research is integral in introducing new knowledge to society, but it should aim to find a path to the economy. In Slovenia, an ecosystem to drive excellence is being cultivated. Tailored financial instruments that account for diverse research career paths are considered important and Stres brought forward as an example Slovenia's new Act on Research Careers, which grants full autonomy to research organisations to finance research, provided it is assessed in qualitative rather than quantitative ways. Research organisations tend to resist change in their modus operandi, but young researchers pursue this change. She concluded, remarking that implementing the overall, overarching changes, together with focusing on the economy behind them, will bridge the gap.

Francisco Javier Moreno Fuentes adopted a political theory perspective to approach the topic of disparities in R&I, suggesting a distinction between 'structural' and 'agency' factors. Looking at national contexts does not provide the full answer, he explained; instead, it is areas of concentration of excellence and networks that are more relevant. The 'structural' factors reflect elements that exist at national level (such as natural resources, climate, demographic structure) and potentially condition a country's development or areas of specialisation, while 'agency' or 'institutional' factors are socially constructed, and may compensate for the structural aspects. Using this distinction, he asserted that R&I disparities are not 'predetermined', and therefore, the European research community could build the institutions that shape policies in addressing these inequalities.

To improve the R&I environment, research organisations may exercise their agency on three levels:

- At the **EU level**, the upcoming FP10 should prioritise Pillar 1, which supports blue-sky research, but also Pillar 2, which facilitates collaborative research. The research community should advocate a strong FP10 focusing on research and collaboration, rather than a diluted programme largely centred around competitiveness, security, or defence.
- At the **national level**, governments should build bilateral agreements to manage and promote brain circulation effectively.
- At the **institutional level**, each research organisation should continue to expand its network of scientific collaboration through bilateral partnerships with institutions in other countries.

When it comes to responding to global societal challenges, basic research should be the main ingredient across all disciplines, asserted **Matthias Koenig**. For basic research to effectively contribute to Europe's competitiveness, three key conditions must be met:

- **Freedom of research** and strong institutional autonomy are essential and should be safeguarded by all actors involved. He welcomed the Commissioner's proposal for a new legal basis on freedom of research. The autonomy of the ERC should not be reduced with a new structure of the European Competitiveness Fund, he added.
- **Promote research excellence** as the driving principle in the R&I landscape. On its definition, Koenig agreed with the need to go beyond

quantitative metrics, and advocating the need to ring-fence the FP10 budget.

- **Promoting excellence across Europe**: Increasing national research investments to 3% of GDP is vital for enhancing Europe's overall research excellence, although political realities occasionally prevent countries from realising this commitment. Widening instruments within Horizon Europe should be further developed and incorporated into FP10.

He concluded by highlighting that Diamond Open Access in academic publishing, and advancing gender equality and inclusion measures, actively remove barriers in R&I.

Possible actions to be reinforced by Science Europe Member Organisations

The following key elements on reducing disparities were raised during the panels and breakout group discussions:

- The definition of 'excellence' should be clarified, as well as whether a 'narrow' or a 'broad' definition should be used. Both recognised and novel excellence should be funded. There is no 'one-size-fits-all' solution to excellence, as every national context is different. Excellence can be built through mobility and enhanced through cross-border collaboration initiatives.
- All research funding and research performing organisations share the responsibility to safeguard Academic freedom and protect it from national interference. Freedom of scientific enquiry is a cornerstone of scientific excellence and innovation.
- Investing in national-level research environments and infrastructures is essential for effectively leveraging EU-wide schemes to achieve excellence. This includes creating a balance between specialisation and maintaining resources for other fields.
- Talent retention and mobility enhance competitiveness, which is essential for a successful and creative research ecosystem. Financial disparities are important, but working conditions, employment offers, and research freedoms also play a major role. What is healthy for research, is healthy for the countries.
- Incentives for meeting the 3% of GDP contribution on R&I by Member States are important.
- Talent retention and mobility enhance competitiveness, which is essential for a successful and creative research ecosystem. Financial disparities are important, but working conditions, employment offers, and research freedoms also play a major role. What is healthy for research, is healthy for the countries.
- Incentives for meeting the 3% of GDP contribution on R&I by Member States are important.

Exploring the benefits of AI in Science Policy

to strengthen European R&I

Speakers

- **Roland Jakab**, Chief Executive Officer of the Hungarian Research Network (HUN-REN)
- **Luciana Balboa**, Institute for Biomedical Research on Retroviruses & AIDS, University of Buenos Aires – CONICET, Member of CoARA Steering Board
- **Mairéad O'Driscoll**, Chief Executive of the Health Research Board (HRB), Ireland
- **Anu Noorma**, Director General of the Estonian Research Council (ETAG)
- **Milica Đurić-Jovičić**, Director of the Innovation Centre at the Faculty of Electrical Engineering, University of Belgrade

Moderator

- **Katarina Bjelke**, Director General of the Swedish Research Council (VR), Member of the Science Europe Governing Board

The use of Artificial Intelligence has already undoubtedly transformed the way research funding and research performing organisations approach and conduct research. It is time to define the next steps, suggested session moderator Katarina Bjelke, as she set the scene for the discussion.

AI is rapidly changing the research landscape, offering tools that can accelerate discovery, analysis, and knowledge creation. Its transformative potential will decisively determine future success in research, noted **Roland Jakab**, in his keynote address. He illustrated his argument by bringing examples from the HUN-REN 'AI for Science' project, which supports researchers in navigating AI usage. The technology is unavoidable, and the research community will have to understand its use, as it has the capability to support researchers with a variety of tasks, and therefore enhance their scientific activity. However, he remarked that "AI does not generate value on its own; it's the person using it that generates value."

Drawing from Latin-America's historical tradition in collaboration with Europe, **Luciana Balboa** brought forward challenges the region currently

faces in innovation and access to technology, in particular in relation to topics such as AI. She expressed that collaborations are often affected by global dynamics and limited funding, which leads to less pursuit of innovation. Such conditions require shifting the focus to retaining talent. As AI opportunities develop, human rights, equality, and international collaboration will be the key to ensure its responsible and equitable use.

One of the sectors where AI has played a transformative role is healthcare and the pharmaceutical sector, explained **Mairéad O'Driscoll**, particularly in areas like long-term medication management. However, she stressed the need for thorough examination when it comes to reforms in the healthcare system. Significant private sector investment in AI could further widen the gap and disparities. In addressing these challenges, the OECD offers certain recommendations, including: investing in datasets, digital ecosystems, policy environments that support AI, developing human capacity, and encouraging international co-operation. Finally, she drew attention to navigating a balance between exercising caution towards new technologies and hindering innovation. Ensuring equitable data access is a key consideration.

In the topic of AI development, collaboration and co-creation play a major role, as noted by **Anu Noorma**, drawing from discussions during the 2024 European Regional Meeting of the Global Research Council in Tallinn, Estonia. She emphasised the significant input small countries can provide, if they

strategically select their focus, and discussed how Estonia incorporates AI into various sectors, including e-governance, healthcare, business, cybersecurity, and education.

AI can deliver many benefits if it can be used for good, and in a safe way, indicated **Milica Đurić-Jovičić**. To achieve that, more investment in education on AI is needed, together with greater investment in regional collaboration and European infrastructure, including the sharing of resources and data. Đurić-Jovičić also advocated standardisation, which should be pursued in parallel with its development, while ensuring that European shared values and principles are upheld. Finally, she stressed the need for diversification of funding and investments, in view of Serbia chairing the Global Partnership on Artificial Intelligence (GPAI) in 2025.

Possible actions to be reinforced by Science Europe Member Organisations

The following key elements on AI in science policy were raised during the panels and breakout group discussions:

- Research organisations could include AI thematic experts within their research support systems to promote awareness around the ethical and legal use of AI, and to achieve its full potential. Research organisations should also share tools, knowledge and resources. Education remains critical in fostering responsible AI use, though reforming higher education systems may be a slow process.
- An autonomous EU-wide AI framework could ensure that AI systems use ethical, standardised, and verified models, and that legal guidelines are established. While the guiding values must remain stable, the guidelines should be be able to be adjusted. This framework could also address fears around AI, including concerns about confidentiality and data privacy.
- Trust in science and scientific tools is fundamental and can be naturally enhanced with growing experience in technology. AI, while versatile, should be viewed as a tool to assist, rather than replace, human expertise. Validation of its outputs remains essential.
- Funding organisations could play a better role in integrating AI into research management to optimise processes, improve data-driven decision making, identify emerging scientific trends, and better allocate funding resources.
- AI can contribute to optimising energy use; however, its significant energy demands must be managed to ensure sustainable implementation.

European Research Competitiveness

from a Global Perspective

Speakers

- **Maria Leptin**, President of the European Research Council (ERC)
- **Madalena Alves**, President of the Foundation for Science and Technology (FCT), Portugal
- **Junko Hibiya**, Vice-President of the Science Council of Japan
- **Gugu Moche**, Group Executive Digital Transformation & Acting Deputy CEO RIISA at the National Research Foundation of South Africa
- **Helena Nader**, President of the Brazilian Academy of Sciences

Moderator

- **Christof Gattringer**, President of the Austrian Science Fund (FWF) and Member of the Governing Board of Science Europe

European competitiveness should be approached in a comprehensive way, as presented in the Draghi Report, explained **Maria Leptin** in her keynote address. When it comes to emerging fields, Europe is faced with the existential choice of adapting to the technological advancements or not. To achieve that, it should close the innovation gap with the United States and China. Throughout her address, she cited the Draghi report regarding the reasons Europe is behind these regions in innovation. Drawing examples from the start-up ecosystem, the problem from an industry perspective is not the lack of entrepreneurship, or even funding, but the regulatory barriers preventing start-ups from scaling up. She illustrated this by highlighting the example of ERC-funded projects that lead to patents being leveraged more by US companies than by European ones.

To understand competitiveness from a R&I perspective, it is essential to first understand the issues of European economy and society. Leptin disagreed with the 'European paradox' example, suggesting Europe still needs to support researchers, innovation, and applied research, supporting European research in its entire pipeline. In her concluding remarks, she called for the need to fully

implement the single market, reform industrial competition, trade policies, and EU governance, avoiding fragmentation, linking back her argument to a comprehensive approach.

A shared-values approach is integral to multilateral co-operation, putting academic freedom and collaboration at the centre, alongside ethics and integrity, emphasised **Madalena Alves**. She referenced Science Europe's 2022 Values Framework, explaining that researchers must have the freedom to express ideas according to their priorities and expertise. Multilateral collaboration, interdisciplinarity, and collaboration with society are cornerstones for addressing complex global challenges.

Drawing on Portugal's historical example of visionary leadership by uniting diverse talents from different regions, Alves illustrated how openness and global connectivity can drive progress, even for smaller nations. This vision must be well-thought and with solid institutional approaches, ensuring appropriate and proportional safeguards. Just as collaboration was vital in the past, it remains equally critical today in tackling global challenges that demand the collective effort of diverse actors.

The importance of interdisciplinarity and collaboration in tackling societal challenges was further reiterated by **Junko Hibiya**. In her presentation she addressed the balance between R&I policy priorities and bottom-up initiatives by drawing on

the Science Council of Japan's 'Future Academic Advancement Initiative'. Its main goal is to provide policy recommendations to the government and public. To do so, diverse proposals are evaluated into nineteen 'Grand Visions' that encompass forward-looking categories integrating various academic disciplines and linking to long-term scientific strategies. These Grand Visions could be adopted as guidelines for the promotion of various academic fields and policies in Europe.

When addressing collaboration, the context, quality of partnerships, and equity are considered central ingredients, said **Gugu Moche**. The positioning of South Africa in a discussion on Europe's competitiveness would require taking stock of existing partnerships and synergies, exploring how those could be strengthened. Important elements for collaboration include the following: first, the critical role of funding, equity of partnerships, ensuring mutual benefits and fostering meaningful engagement. Second, Moche highlighted the Horizon Europe pillar on global challenges and European industrial competitiveness as a model for addressing global interconnected challenges. She referenced Africa's experience during COVID-19, where significant scientific contributions were not being acknowledged as major academic advancements. Third, the value of Open Science policies championed by Horizon Europe, promotion of transparency and data sharing. She called for serious advocacy to ensure these practices are globally implemented.

To allow for reciprocity and mutual benefits, partnerships ought to respond to national priorities in Africa, Moche stressed. To achieve that, she urged for strategies to retain researchers and enable them to thrive within their home contexts. For talent to remain within the local research ecosystem, providing capacity building and expertise development is essential. In conclusion, she pointed out that the commonalities of the European R&I agenda are more than the differences, and turned to the question of how R&I partnerships can be formed in ways that benefit all global citizens.

In agreement with the points raised by the panellists on mobility and equitable collaboration, **Helena Nader** highlighted that circulation of knowledge is a foundational element for advancing global research and innovation. She approached the topic focusing on equitable collaboration between Europe and regions such as Latin America and the Caribbean, acknowledging their diversity of languages, cultures, and research enterprises. Initiatives targeting those countries require a tailored approach that reflects their specific contexts.

Nader called for increased efforts in capacity building and talent retention, advocating two-way collaborative initiatives, providing opportunities to researchers both in Europe and in Latin America. Reciprocal partnerships ensure that global knowledge adapts to local needs in creating sustainable and impactful innovations. Nader illustrated this point by proposing the creation of reciprocity-based funds mechanisms as a way of collaboration, referring also to the G20 through which pressure can be applied on tackling global challenges. Collaboration could include topics such as climate change, social and sustainable development, communicable diseases and pharmaceutical partnerships. She concluded by urging stronger partnerships that foster sustainable knowledge exchange and mutual progress.

The panellists were invited to reflect on possible initiatives research organisations could undertake. Responding to moderator **Christof Gattringer**, Leptin reminded the audience that it is not only what

Horizon Europe funds, but also how it does. She explained that Europe is seen as a whole when it should not be seen as such, drawing attention in parallel to the rise of right-wing narratives questioning the existence of European funds. She emphasised that national funding is the most decisive factor, compared to the European funds. Regarding the responsibly of research funding agencies, Alves highlighted an example from Portugal on revising the framework on research careers, including giving institutions the freedom and autonomy to define the best strategies. From the funders' perspective, Moche explained the need to engage in meaningful collaboration, and expressed the question of how ensure that the research performed is for social good. Hibiya reflected on the importance of mobility, which often encompasses a research security perspective drawing from mobility cases between Japan and China. As concluding remarks, speakers reiterated the need to defend the freedom and independence of research, support research careers, and foster collaborative partnerships by using the common scientific language that connects all researchers. In her concluding remarks, Leptin urged the R&I community to remain the bridge that unites the world in times of uncertainty.

Possible actions to be reinforced by Science Europe Member Organisations

The following key elements on Europe's competitiveness in science policy were raised during the panels and breakout group discussions:

- All research funding and research performing organisations share the responsibility to safeguard academic freedom and protect it from national interference.
- Constraints on eligibility for ERC funding should be eliminated, and the grants or offers should include provisions for permanent positions to facilitate integration into the European research system.
- Bureaucratic burdens on researchers should be minimised, with institutions taking responsibility for managing administrative processes. This approach would foster successful and equitable partnerships while enabling more effective sharing of resources.
- Expand mobility initiatives and research career opportunities to attract and retain young talent. That would require transferable social benefits across Europe, better work–life balance, and sustainable salaries, competitive with the private sector.
- European industry and private sector should increase their support.
- European defence should be linked to scientific knowledge, ensuring that the protection of sovereignty is informed by evidence-based insights, rather than being solely driven by political perspectives.

Conclusions

The High Level Workshop shed light on how research organisations can foster excellence, safeguard academic freedom, effectively integrate AI in research processes, and advance Europe's competitiveness in science policy. The following messages can be extracted from the dialogues among Science Europe Member Organisations, who are Europe's foremost research funding and research performing institutions, and who are committed to creating the optimal conditions for researchers and research activities:

- All research funding and research performing organisations share the responsibility to further foster and protect academic freedom. The researchers' main focus should remain the pursuit and production of knowledge.
- For researchers to thrive, freedom of scientific enquiry is essential, along with supportive working conditions, stable and fair work contracts, and appropriate financial remuneration.
- Research should be seen as a long-term economic and societal investment. Basic research should be prioritised, as it remains the foundation, while global collaboration can amplify the impact.
- Research actors at the EU level should facilitate emerging 'islands of excellence' and improve research efficiency, creating an attractive environment to retain EU start-ups within Europe.
- For research organisations and researchers, education is key to understanding the specific purposes of AI, which can increase efficiency of practical processes (such as the evaluation process). Infrastructures will be crucial in incorporating AI-supported research.
- People should maintain oversight of AI outputs, especially to address biases embedded in datasets and tackle concerns of researcher organisations regarding confidentiality. Building trust in science and its tools can be achieved through hands-on experience with such technologies.
- Connecting Centres of Excellence could promote collaboration, innovation, and develop a robust AI ecosystem, thus addressing intellectual property issues, and mitigating the monopolistic influence of private companies. It can also address Europe's fragmentation and advance AI's role in research and science policy effectively.
- Funding agencies should avoid setting specific research topics, as it is crucial to keep research open to all disciplines, allowing innovative and diverse results. Competitive research ecosystems flourish when they remain flexible and open.
- Research agencies should consider the broader political landscape in defining their research priorities, to address global challenges with societal implications (for example, climate change). A more structural understanding of how science and political systems interact is required; considering collaboration across countries and sectors is vital in this process.
- Funding agencies can play a strategic role in advising governments to align research policies with future competitiveness goals. They can also follow a high-risk, high-reward approach to boost competitiveness by supporting bold and innovative projects through long-term investments, including start-ups and breakthrough initiatives.
- Funding through the ERC often benefits specific institutions and researchers, leaving many excellent researchers unfunded, which affects European competitiveness. The ERC could call for the introduction of alternative co-funding initiatives for excellent proposals that cannot be funded due to the lack of resources.
- Researchers should not be overburdened with bureaucracy (including visa processes), which should be taken on by organisations with the appropriate capacity. That would facilitate more effective bilateral collaboration, ensuring adaptability to fast-changing global challenges.


2024


2024


and Wrap-up of
2024


EAN RESEARCH AREA

Annex – Programme

Tuesday 19 November

08.15–09.00 *Registration and Welcome Coffee*

09.00–09.50 Opening session

Welcome speeches

Mari Sundli Tveit
Chief Executive of the Research Council of Norway (RCN), President of Science Europe

Balázs Gulyás
President of the Hungarian Research Network (HUN-REN)

László Kollár
Secretary General of the Hungarian Academy of Sciences (MTA)

Keynote Speeches

Signe Ratso
Deputy Director-General for Research and Innovation, European Commission

Balázs Hankó
Hungarian Minister of Culture and Innovation

09.50–10.50 Enhancing the impact of R&I by mobilising EU-wide excellence in science

Introduction on the nature of disparities

Michal Pazour
Head of Department of Strategic Studies of the Technology Centre Prague, Czech Republic

Presentation of R&I integration interview results

Krisztina Szepesvári
Science Europe Task Force on R&I Integration

Responses

Krzysztof Jóźwiak
Director of the National Science Centre (NCN), Poland

Mari Sundli Tveit
Chief Executive of the Research Council of Norway (RCN), President of Science Europe

Contributions by national ministers and/or government representatives

Anne Line Wold
Director General at the Norwegian Ministry of Education and Research

Anna Fill
Scientific Advisor International R&I Programmes at the Swiss State Secretariat for Education, Research and Innovation

Marjan van Meerloo
Senior Policy Officer at the Dutch Ministry for Education, Culture, and Science

Renno Veinthal
Deputy Secretary General for Research and Development, Higher and Vocational Education Policy at the Estonian Ministry of Education and Research

László Bódis
Deputy State Secretary for Innovation at the Hungarian Ministry of Culture and Innovation

Lidia Borrell-Damián
Secretary General of Science Europe

Message from Ukrainian Minister of Education and Science **Oksen Lisovyi** *(delivered by Olga Polotska, Executive Director of the National Research Foundation of Ukraine)*

10.50–11.20 *Coffee Break and Group Photo*

11.20–12.30 **Reducing R&I disparities in Europe: best practices to promote the freedom and excellence of research in Europe**

Keynote speech

Luísa Henriques
Policy Analyst and Advisor on Research and Innovation Policies at the Foundation for Science and Technology (FCT), Portugal

Panel Discussion on Best Practices

Katalin Solymosi
Assistant Professor at the Department of Plant Anatomy, Eötvös Lórand University, Hungary

Ruth Narmann
Head of International Relations Department at Leopoldina, Germany

Špela Stres
Acting Director of the Slovenian Research and Innovation Agency (ARIS)

Matthias Koenig
Vice-President of the German Research Foundation (DFG), Member of the Science Europe Governing Board

F. Javier Moreno Fuentes
Vice-President for International Affairs of the Spanish National Research Council (CSIC), Vice-President of Science Europe

Adrian Curaj
Director General of the Executive Agency for Higher Education, Research, Development and Innovation Funding of Romania (UEFISCDI), Member of the Science Europe Governing Board

12.30–14.00 *Lunch*

14.00–15.10 **Exploring the benefits of Artificial Intelligence in Science Policy to strengthen European R&I**

Keynote speech

Roland Jakab
Chief Executive Officer of the Hungarian Research Network (HUN-REN)

Panel discussion

Luciana Balboa
Institute for Biomedical Research on Retroviruses & AIDS, University of Buenos Aires – CONICET, Member of CoARA Steering Board

Anu Noorma
Director General of the Estonian Research Council (ETAG)

Mairéad O'Driscoll
Chief Executive of the Health Research Board (HRB), Ireland

Milica Đurić-Jovičić
Director, Innovation Centre, Faculty of Electrical Engineering, University of Belgrade

Katarina Bjelke
Director General of the Swedish Research Council (VR), Member of the Science Europe Governing Board

15.10–15.30 *Coffee Break and move to Breakout Groups*

15.30–16.40 **Discussion in Breakout Groups**

Group 1

MODERATOR **Hans Willems**, Research Foundation Flanders (FWO)
RAPPORTEUR **Marton Kottmayer**, Science Europe

Group 2

MODERATOR **Anna Di Ciaccio**, National Institute of Nuclear Physics (INFN)
RAPPORTEUR **Barbara Ning Bálint**, Hungarian Research Network (HUN-REN)

Group 3

MODERATOR **Sibylle Wentker**, Austrian Academy of Sciences (OeAW)
RAPPORTEUR **Andrea Balla**, Hungarian Academy of Sciences (MTA)

16.40–17.15 **Reports from the Breakout Groups and Wrap-up of Day 1**

Wednesday 20 November

08.30–09.00 *Welcome Coffee*

09.00–10.10 **European Research Competitiveness from a Global Perspective**

Keynote Speech

Maria Leptin
President of the European Research Council (ERC)

Panel Discussion

Gugu Moche
Group Executive Digital Transformation & Acting Deputy CEO RIISA at the National Research Foundation of South Africa

Junko Hibiya
Vice-President of the Science Council of Japan

Helena Nader
President of the Brazilian Academy of Sciences

Madalena Alves
President of the Foundation for Science and Technology (FCT), Portugal

Christof Gattringer
President of the Austrian Science Fund (FWF), Member of the Science Europe Governing Board

10.10–10.30 *Coffee Break and move to Breakout Groups*

10.30–11.30 **Discussion in Breakout Groups**

Group 1

MODERATOR **Hans Willems**, Research Foundation Flanders
RAPPORTEUR **Gabriella Verbovszky**, Hungarian Research Network

Group 2

MODERATOR **Lidia Borrell-Damián**, Secretary General of Science Europe
RAPPORTEUR **Krisztina Szepesvári**, Hungarian Research Network

Group 3

MODERATOR **Sibylle Wentker**, Austrian Academy of Sciences
RAPPORTEUR **Krisztina Péntekné Gecsényi**, Hungarian Research Network

11.30–11.45 **Report from Breakout Groups and Wrap-up**

11.45–12.00 **Conclusion**


2021 HIGH LEVEL WORKSHOP ON THE EUROPEAN RESEARCH AREA
19-20 NOVEMBER, BUDAPEST
Contributions from National Ministries
Anne Line Wold
Director General at the Norwegian Ministry of Education and Research
Anna Fill
Marjan van Meerloo
Senior Policy Officer at the Dutch Ministry for Education, Culture, and Science
Renno Veinthal
High Level
ON THE EUROPEA


Workshop
N RESEARCH AREA
Contributions from National Ministries
Anne Line Wold
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Lidia Borrell-Damián
Secretary General of Science Europe
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HU24EU

The ERA refers to a unified European Research Area in which researchers are free to move around, perform their research, and work together with researchers from other countries.

Creating the ERA requires the harmonisation of various rules, requirements, and regulations, and closer international collaboration within the EU.

The High Level Workshop on ERA offers an annual platform for Science Europe Member Organisations, national ministries, and EU institutions to discuss progress, specific aspects, and future development of the ERA.

Science Europe, HUN-REN, and the Hungarian Academy of Sciences organised the 2024 edition of the High Level Workshop on the European Research Area under the auspices of the Hungarian Presidency of the Council of the EU, and with the support of the Hungarian Ministry of Culture and Innovation as the co-host of the event.

SCIENCE EUROPE
Shaping the future of research

HUN-REN
Hungarian Research Network

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